

# Safe Drinking Water and Sanitation for All – A G20-Led Initiative

Background Discussion Paper  
For  
The G20 Water Policy Workshop  
Alexandria, Egypt, December, 2004

Ralph J. Daley, Zafar Adeel, Colin I. Mayfield, Caroline King and Velma I. Grover  
United Nations University - International Network on Water, Environment and Health  
Hamilton, Canada



## Contents

Foreword:.....	3
Abstract:.....	4
1. Introduction: .....	4
2. The Safe Drinking Water and Sanitation (SDS) Imperative: .....	5
2.1 Overview of the Challenge: .....	5
2.2 The SDS Imperative for Global Development: .....	6
3. Why Safe Drinking Water and Sanitation for G20 Action?.....	7
4. The G20's Comparative Advantages: .....	8
4.1 Capacity to Implement Within the G20 Member States: .....	9
4.2 Powerful Leadership to Galvanize Action: .....	9
4.3 Flexibility to Act: .....	9
5. Essential Elements of Action: .....	10
5.1 Engaging the Public and Stakeholders at all Levels: .....	10
5.2 Monitoring and Assessing Progress:.....	11
5.3 Strengthening Implementation Capacity: .....	11
5.4 Accelerating Service Provision:.....	12
5.5 Mobilizing Finances for SDS: .....	13
5.6 Creation of Networks to Facilitate Action: .....	14
6. Range of Scenarios for G20 Action: .....	15
6.1 <i>Scenario A</i> : Global Advocacy and Social Marketing: .....	16
6.2 <i>Scenario B</i> : Directed Global Facilitation:.....	17
6.3 <i>Scenario C</i> : Joint Multilateral Global Implementation: .....	18
6.4 <i>Scenario D</i> : G20-Led Global-Scale Implementation: .....	19
6.5 <i>Epilogue</i> : Challenges to SDS Deployment:.....	19
References.....	23

Foreword:

### **The G20 at Leaders' Level?**

The following document is a contribution from UNU-INWEH to a research project designed to stimulate debate on the future role of a G20 at leaders' level in addressing the critical global challenges. The initiative, commissioned by the Prime Minister of Canada, is being undertaken by the Centre for Global Studies (University of Victoria), the United Nations University and the Centre for International Governance Innovation (University of Waterloo), at the request of the Canadian Department of Foreign Affairs.

The main idea is to examine, through the lens of specific issues, whether a G-20 Leaders' Forum can help resolve issues that are intractable in existing multilateral Ministerial fora or Summits. Also to be considered are questions on the future composition of the G20, its impact on existing fora, the best means to engage the major powers and future roles for civil society.

Throughout 2004 and early 2005, project partners will host a series of meetings on a range of topics relevant to global governance:

- Agricultural Subsidies & the WTO (June 2004)  
Oxford University, United Kingdom
- Post Kyoto Architecture (September 2004);  
Council on Foreign Relations, New York, USA
- Infectious Diseases (November 2004)  
University of Peace, Costa Rica
- Safe Drinking Water & Sanitation (December 2004)  
Al Ahram Center for Political and Strategic affairs, and the Alexandria Library  
Alexandria, Egypt
- Terrorism & WMD (December 2004)  
Princeton University, Princeton, USA
- Financial Crises (January 2005)  
ITAM, Mexico City
- Responsibility to Protect (March 2005)  
United Nations University, Tokyo

## Abstract:

This paper provides background information related to global drinking water and sanitation challenges in order to facilitate the discussion during the Alexandria Workshop (December 2004). Working on the assumption that a G20 Leaders' Forum agrees to lead a global initiative for "***provision of safe drinking water and sanitation (SDS) to all by 2025***," we summarize the tools needed for achieving this goal and explore four plausible scenarios for implementation. We argue that meeting this urgent global challenge is pragmatically achievable, politically feasible and ethically important. Although universal SDS provision has hitherto eluded the international community under "business as usual," we argue that the G20 countries can successfully overcome the political and institutional challenges through their combined leadership and by capitalizing on their comparative advantages as a group.

## 1. Introduction:

The purpose of this background paper is to stimulate debate on the unique role that a G20 Leaders' Forum could play in meeting the global drinking water and sanitation challenge. In the context of existing fora and multilateral mechanisms, this urgent global challenge has so far remained intractable. If "business as usual" continues, a vast proportion of the human population will remain without these basic services for decades to come.

We propose that the inaugural Leaders' G20 meeting should focus on this challenge and declare its commitment to "***provision of safe drinking water and sanitation (SDS) to all by 2025***." By "safe drinking water" we mean the provision of adequate quantities of drinking water that is free of pathogens, chemical pollution and visible impurities; "sanitation" refers to provision of adequate disposal facilities that can effectively prevent human, animal, and insect contact with sewage. Water supplies for other purposes, such as irrigation, industrial use, etc., are not considered in this discussion, although these services may be interlinked at some level to the provision of SDS.

We explore the rationale for selecting this critical, global challenge and its relevance to a G20 Leaders' Forum. The expert workshop in Alexandria, Egypt (December 2004) will examine the international political architecture for addressing the global water crisis, in particular the provision of SDS services. The focus will be on the political viability for a G20 Leader's forum – bringing together leaders from major developed and developing countries – to serve as a vehicle to help broker innovative and effective action. The discussion will address political feasibility, and whether the proposed scenarios advance realistic responses to the problems at hand.

To facilitate discussion, this paper outlines a range of specific actions the G20 leaders might take to meet the SDS challenge by 2025; four feasible implementation scenarios are also discussed in the later sections. These scenarios are "visioning" exercises exploring the possible combination of action elements and practical constraints to implementation. We also touch on the impact of a G20 commitment on existing fora, the best means to engage the major powers and possible future roles for civil society.

For context, much of the factual information provided in this paper is drawn from previous work; most significantly from the report of the World Panel on Financing for Water Infrastructure (Camdessus Report<sup>1</sup>) and the report by the Task Force 7 of the UN Millennium Project<sup>2</sup>.

## 2. The Safe Drinking Water and Sanitation (SDS) Imperative:

### 2.1 Overview of the Challenge:

Lack of access to safe drinking water and adequate sanitation is perhaps the world's greatest humanitarian, social and developmental challenge. Global failure to manage water effectively seriously hampers efforts to alleviate poverty worldwide and threatens progress towards sustainable development. The crisis is enormous in scale and brutal in consequences, especially for the poorest of the poor. One may argue, without exaggeration, that of all our social, developmental and environmental crises, the water crisis has the greatest impact on planetary survival.

Failure to provide SDS worldwide is simply indefensible in a time of great wealth and technological capability. Water shortages and water quality degradation lead to water-borne diseases that kill or seriously harm more people on a global basis than any other health problem. In developing countries:

- Over 1.1 billion people lack access to safe drinking water
- Over 2.3 billion lack access to adequate sanitation
- As a result, 2 million deaths occur annually; 80% of all illnesses are water-related, and at any given time, half the population suffers from water-related diseases.

Urgent recognition of the severity of the water and sanitation crisis has led the United Nations, at its Millennium Summit and at the 2002 World Summit for Sustainable Development, to declare the Millennium Development Goals (MDGs) for safe water and sanitation. These call on the global community to halve the proportion of people without access to safe drinking water and basic sanitation by 2015.

Taking population growth into account, the number of people that must be provided with safe drinking water and sanitation services to meet the MDGs are 630 million and 1.4 billion, respectively. These are minimal, best-case estimates. For safe drinking water, this means providing service for an additional 63 million people per year, or an average of 175,000 every day for the next 10 years! The sanitation challenge is even more daunting; services must be provided for almost 145 million additional people every year until 2015, or an average of 400,000 per day<sup>3</sup>.

Furthermore, even if these targets are met by 2015, the other half of the people without SDS services will still not have been served. To bring service levels to 100% by 2025, an additional 800 million must be provided with safe drinking water and an additional 1.7 billion people must receive sanitation services (Evans et al., 2004<sup>4</sup>).

In addressing the SDS challenge, it is essential to understand why we lag so far behind in meeting the MDGs. Such understanding is also central to the argument that the G20 Leaders' Forum may be better suited to address this challenge. The Camdessus Report<sup>5</sup> cites three broad and inter-linked reasons for our inability to meet the obviously critical challenges underlying the MDGs for water and sanitation: inadequacy of political will at all levels of government, ranging from national to local; problems in governance approaches for implementing this goal, ranging from inadequacy of legal frameworks to poor management structures to inappropriate participation of stakeholders; and a shortage of financial resources to meet the goals.

We contend that in addition to these challenges, another major short-coming is the lack of human, technological, infrastructural and institutional capacity to undertake the necessary actions. Even when other challenges are resolved, capacities in developing countries will need to be greatly enhanced to undertake the necessary, on-the-ground action. As a

consequence, actions and commitments for capacity building must be scaled up by at least an order-of-magnitude if there is to be any chance of success.

## 2.2 The SDS Imperative for Global Development:

Access to safe drinking water and sanitation lies at the heart of human well-being and is rightly labeled as a “moral and ethical imperative” by Lenton and Wright (2004) in their Interim Task Force 7 Report<sup>6</sup>. It is also a fundamental challenge to human security - an issue area that also resonates with G20 members, who are committed to developing a foreign policy and international action template based on human security.

There is now broad consensus that SDS is a key element of the so-called “global development agenda” and that it interacts with development actions at various levels. Most prominently, provision of SDS can form the basis for reducing poverty – by improving livelihoods, creating jobs for local communities in developing countries engaged in the initiative, removing the cycle of disease that reduces productivity of those without access to SDS, and by re-directing the savings in the health sector to other imperatives. Thus, the Task Force 7 report<sup>7</sup> proposes that investment in water infrastructure and services can and should serve as a catalyst for economic activity and development<sup>8</sup>.

Equally important are the health benefits derived from adequate access to SDS services. These include significant reductions in infant mortality and morbidity, as well as vector-borne diseases. These effects are not trivial, considering that the World Health Organization (WHO) attributes most of the global disease burden to water-borne pathogens. Impacts of industrial, domestic and agricultural pollutants found in drinking water are no less alarming; for example, in China each year, 64,000 deaths can be attributed to water pollution-related diseases, while 7 million Chinese children lose on average 6.5 points on the IQ scale due to lead, mercury and other heavy metal contamination of food and water<sup>9</sup>. Removing these health barriers to development is central to the SDS initiative.

The linkages between SDS and health are now more clearly quantified. A cost-benefit analysis of water and sanitation improvements, conducted by WHO (Hutton and Haller, 2004<sup>10</sup> and Evans, Hutton and Haller, 2004<sup>11</sup>), identified significant savings through the following avoided health costs:

- Reduced health sector investment due to avoided illness
- Patient expenses avoided due to avoided illness
- Value of time savings due to access to water and sanitation
- Value of productive days gained of those with avoided illness
- Value of days of school attendance gained for children with avoided illness

The unequal burden placed on women for provision of drinking water, particularly in rural areas of developing countries, can also be significantly reduced by adequate provision of SDS services. Effective and sustained engagement by women can, in turn, bring about much-needed social and economic change.

Local governments and community organizations that prove their capacity to respond to the basic need for water and sanitation can effectively address other key issues that hinder development:

- Improved confidence in local authorities can encourage them to expand their use of participatory methods and local accountability.
- Where communities can raise credit to improve water and sanitation, financing opportunities become available for other projects

- The creation of responsibilities for water and sanitation construction and maintenance brings skills, employment and collective pride to communities.
- Where landlords and tenants can resolve problems relating to tenure in order to achieve improvements in water and sanitation services, property values increase.
- Women who make practical improvements in provision of water and sanitation for their families can then bring about further changes in their communities.

### 3. Why Safe Drinking Water and Sanitation for G20 Action?

Beyond its pre-eminence as a global issue, there are a number of compelling reasons why this issue should be chosen by the G20 leaders. Successful implementation of the SDS initiative would yield a “win-win” outcome of enormous significance for its members, both developing and developed, and for the world at large. Key arguments include:

- **SDS challenge greatest among G20 members:** In its current composition, the G20 contains 70% of the world’s population without adequate sanitation and 55% of those without safe drinking water. If the group’s composition was enlarged to include Nigeria and Egypt, as some have proposed, the proportions rise to 73% and 58% respectively (see Table 1). It is thus a “home grown” issue of enormous relevance for the G20.
- **A non-contentious issue:** Framed as a human health issue that threatens millions of lives, the merits of addressing the SDS challenge are accepted universally. It can be presented to developed countries as an act of enlightened self-interest and an investment in future economic growth, while in developing countries it will be seen as saving lives, reducing human misery and freeing up enormous economic growth potential.
- **Tremendous gains in health:** There can be a great improvement in health standards and millions of lives can be saved. This will result in lower overall expenditures on health and congruent improvements in existing public health services, outcomes that will be strongly supported by the general public and local communities.
- **Manageable costs:** The annual average cost to reach the sanitation MDG is an estimated *US\$ 9.5 billion*, while the comparable estimate for safe drinking water is *US\$ 1.8 billion* (based on preliminary estimates by Evans et al, 2004<sup>1</sup> reworked for this paper). If funded entirely by developed country citizens, the cost would represent 4 cents per day per capita.
- **Enormous economic benefits:** Current analyses indicate exceptional returns on the investments in SDS. A crude estimate puts the economic gain from meeting the MDG sanitation target alone at around **US\$ 63 billion** per year (Evans *et al.*, 2004), with most benefits accruing in perpetuity. Most of the economic value of these benefits is associated with time savings, primarily from closer access to sanitation and water, increased adult productivity, school days gained, and reduced medical diagnostic and treatment frequency.
- **Eminently attainable:** Resolving the SDS crisis has a high probability of success. The means to successfully accomplish the targets are well understood and are either already in place in the G20 countries, or can be developed in the time required. To a large extent, action can be mobilized in households and within communities that have an enormous vested interest in improving their health standards.

**Table 1.** Numbers of people without safe drinking water and sanitation within the G20 and prospective G20 countries (2000 data, in millions; UNICEF, 2001<sup>12</sup>)

G20 Country	Sanitation Unserved	Safe Water Unserved
	(Millions of People)	
China	765.1	318.8
India	726.4	161.4
Indonesia	95.4	46.7
Brazil	40.9	22.2
Mexico	25.7	11.9
Korea	17.3	0
Turkey	6.7	12.0
South Africa	5.6	6.0
Russia	0	1.5
Saudi Arabia	0	1.0
Australia	0	0
Canada	0	0
USA	0	0
EU	0	0
UK	0	0
Nigeria	52.3	43.3
Egypt	1.4	2.0
<b>Total</b>	<b>1736.8</b>	<b>626.8</b>
<b>% of World</b>	<b>72.7%</b>	<b>58.4%</b>

- **Congruent with United Nations priorities:** Addressing the water crisis is fully compatible with UN priorities, as it has already selected water as a global priority to be addressed in the first two sessions of the UN Commission on Sustainable Development (CSD) following the Johannesburg Summit. The UN has also recently declared 2005-2015 as the International Decade “Water for Life”, in recognition of the severity of the crisis. The UN can be a strong ally in planning, implementation and capacity development, and is well-positioned to provide independent monitoring and tracking of progress.
- **A “Development Multiplier” Issue:** Once SDS is no longer a “suffocating impediment” to progress, other important aspects of the water crisis, such as water supply, water for agriculture, integrated water resource management, trans-national water issues, water and peace issues, can be dealt with more effectively. With the SDS log-jam broken, global energies can also be more effectively channeled towards a longer-term global vision for freedom from want and fear.

#### 4. The G20’s Comparative Advantages:

The comparative advantages of the G20 as a group of states to undertake the SDS initiative stem from its composition - its unique mix of developed and developing countries that are broadly representative yet still compact enough to form an efficient decision-making body, its economic capacity and its freedom from complicated bureaucratic structures. Combining the



power and flexibility inherent to the group, it can take a decisive leadership role in the global arena on this non-controversial issue.

#### 4.1 Capacity to Implement Within the G20 Member States:

The G20 is superbly equipped to address the SDS problem, given the economic and technological capacity of its member states. In its current composition, the gross national income of the G20 countries is estimated at more than US\$ 25 trillion (2001 figures<sup>13</sup>). The G20 developed countries (Australia, Canada, France, Germany, Italy, Japan, UK and US) provide about US\$ 40 billion in official development assistance (ODA) and about US\$ 50 billion in foreign direct investment (FDI) into developing countries each year. Such economic capacity pre-eminently qualifies the group for action on the SDS initiative, which has a modest financial requirement and can lead to significant, long-term, economic benefits.

The G20 developed countries also lead the world in the number of scientists, engineers and technicians, estimated to be over 3 million (2001 figures<sup>14</sup>). This wealth of human resources is linked to state-of-the-science research, technology and field implementation in water and sewage treatment. Many cases of successful North-South transfer of technology for provision of water and sanitation services can be cited. Collectively, the academic and training institutions in the G20 can also address the capacity building challenge; although it will, at first, require institution-building in developing countries.

#### 4.2 Powerful Leadership to Galvanize Action:

The presence of the US, EU, Brazil, China and India gives the G20 enormous political, economic and moral impetus, when taken together as a group. Given that a predominant factor in the current impasse to meet the MDGs is the lack of political commitment by governments, collective G20 action can break the deadlock. However, achieving a political consensus will be the greatest challenge to the successful implementation of the SDS initiative. Perhaps the current international emphasis on cooperation to address security matters can be conducive to consensus-building on water and sanitation, despite the apparent polarization around Middle East politics.

A G20 decision to “fast track” the SDS would have a pre-emptive effect on global priority setting and would help to allay the current pessimism about addressing “intractable” global problems. Presuming that the G20 has adequate representation from rich and poor countries, particularly around the SDS issue, its global initiatives can be implemented from a position of political strength.

#### 4.3 Flexibility to Act:

The G20 is uniquely positioned, in both a political and organizational sense, to develop new and innovative mechanisms for delivering SDS services. Importantly, it would be unencumbered by the complex, bureaucratic organizational structures commonly found among international development partners (such as the UN system and multilateral and bilateral aid donors). Indirectly, and in some cases directly, the G20 could also muster the support of these same multilateral partners to increase the overall impact of the SDS initiative through development of synergies and elimination of redundancies.

Consequently, the proposed G20 Leader’s Forum can operate very flexibly and would be free to organize its SDS initiative without adhering to outmoded or complex existing structures. Through personal interaction and the leaders’ political stewardship, the G20 could challenge the relevant governmental institutions to develop innovative delivery options.

This would hasten delivery on both the MDGs and the SDS challenge; outlines of possible implementation scenarios are outlined in Section 6.

## 5. Essential Elements of Action:

This section briefly highlights the essential elements for successful global provision of SDS services. These include stakeholder engagement, monitoring and evaluation, capacity development, service delivery approaches, and mobilization of finances and action networks. Using these elements as tools, likely scenarios are assembled in Section 6 below.

It should be emphasized that these elements of G20 action need to be: country-based; have annual targets; begin realistically, but ramp up progressively; address capacity development needs and financing in an explicit and planned manner; include transparent monitoring, evaluation and reporting of progress; and be replicable from the community to the global level.

### 5.1 Engaging the Public and Stakeholders at all Levels:

A critical element of the SDS initiative is fully engaging the general public, as well as the various stakeholders, from global to local levels. Such engagement, leading to positive public opinion, would largely guide the actions of politicians as well as governments. In this context, social marketing to describe opportunities, rights, and processes for action can create a groundswell of understanding and demand for action.

There are two key fora for the engagement of stakeholders: horizontally within the community to ensure ownership and to fill the roles needed for integrated service provision; and vertically from community to global level to provide technical, institutional, financial and political assistance for effective action. The *modus operandi* for such engagement would essentially include development and deployment of networks – both “horizontally” and “vertically”. Integrated, well-performing “communities of interest” must be created on a large scale around the world to create and sustain such engagement (this networking concept is described in greater detail in Section 5.6).

Stakeholder engagement is not an end in itself, but an essential means for successful implementation. Thus, community buy-in and demand for SDS are as essential as infrastructure, financing and effective institutions. An alternative way to view stakeholder involvement is through the principle of subsidiarity, where responsibility for management is undertaken at the most local level through collective stakeholder action.

Local stakeholders can play a major role in designing and building infrastructure solutions to meet the SDS challenges. Community stakeholders are diverse, including local governments, local business people, community banks and credit brokers, suppliers of water infrastructure (engineers, managers, laborers etc), consumers, NGO's, and academic institutions. This group has a distinct advantage in sharing locally-acceptable solutions and best management practices to deliver safe drinking water and adequate sanitation. Best management practices can be combined and improved to serve local needs, thus building public buy-in. These improved practices, for instance, may use more sustainable materials, be more cost-effective, or encourage community cooperation through the use of shared systems.

Local government and municipalities can also build demand for sanitation through regulation, and can support non-governmental and community-based organizations, who in turn can often deliver services at lower costs. Local credit brokers and banks can be used to mobilize local investment, or to distribute federal or international subsidies.

## 5.2 Monitoring and Assessing Progress:

Monitoring and evaluation are essential elements of the global SDS initiative, both to chart its progress and to understand its impacts. Although considerable progress in monitoring household access to SDS has been made in recent years through the UN Joint Monitoring Programme (JMP), we still do not have accurate figures for the total number of people who are un-served. Monitoring must start with the *status quo* to better understand the composition and situation of the population that is currently un-served. This can provide key information about the challenges and lead to applied research needed for innovations in technologies and management approaches. Continued monitoring would also become an integral part of the evaluation process.

As implementation may be phased in, and proceed at different rates in different regions and countries, it is essential that targets, as well as robust systems to monitor them, be established. Targets and milestones should, of course, be set in a transparent fashion, thus challenging countries to plan explicitly and carefully. Only when progress is assessed periodically can adjustments in strategy be made to sustain progress.

The SDS initiative will need to be evaluated at regular intervals during its 20-year life span. Such evaluations should be systematic, independent assessments of the design, implementation, and impacts of the initiative. These become an aid to learning and enable planners and decision-makers to draw lessons for the future. Such monitoring and evaluation would also optimize the use of available financial and human resources through improved implementation (UN, 1984<sup>15</sup>).

## 5.3 Strengthening Implementation Capacity:

As discussed in previous sections, lack of human, technological, infrastructural and institutional capacity is the foremost impediment to universal access to SDS services. Yet even now there are no reliable estimates of the global capacities needed to meet the MDGs, or to provide SDS services to 100% of the global population, as envisioned in the SDS Initiative. Developing such scientifically reliable, global estimates should be an early priority.

The magnitude of the SDS challenge is so immense that hundreds of thousands of professionals, technicians and managers will be needed at all levels. With only a 10-year window to achieve the MDGs, many argue that the focus of capacity building must be on *adult education* directed to the *current* generation of water practitioners. Relying solely on education of the next generation – undoubtedly essential in its own right – may be too little, too late.

To successfully undertake the SDS initiative, it is essential that all components or “pillars” of the capacity development process be addressed in an integrated fashion. We propose an interdependent “Four-Pillar” framework for such capacity building, namely:

- Pillar 1 - the capacity to educate and train, including community awareness building, adult training and formal education, so as to provide sufficient and competent human resources to develop and apply enabling systems,
- Pillar 2 - the capacity to measure and understand SDS implementation, through monitoring, applied research, technology development and evaluation, so that reliable data are used for analysis and decision-making.

- Pillar 3 - the capacity to legislate, regulate and achieve compliance through effective governmental, non-governmental and private sector institutions and through efficient enforcement and community acceptance.
- Pillar 4 - the capacity to provide appropriate, affordable water infrastructure, services and products through sustained investment and management by both public agencies and private enterprise.

#### 5.4 Accelerating Service Provision:

One of the key challenges for success will be to overcome global inertia to the provision of new services and infrastructure at greatly expanded rates. To meet the MDGs, it is estimated that annual servicing capacity will need to be increased, on average, four- to six-fold. Recognizing that most countries cannot abruptly increase their present rate of service delivery to these levels, an incremental approach is likely to be much more effective.

For example, if the yearly increase in the sanitation provision were set at about 20%, the cumulative impact is such that the MDG goals would be met on time. Further, if countries were to continue the (high) 2015 delivery target for an additional 5-10 years, they can easily reach 100% coverage by 2025, or sooner, depending on population growth (UNEP, unpublished; R. Munro, personal communication<sup>2</sup>). This “incremental targeting” approach would facilitate national planning, ensure disciplined implementation and simplify monitoring of progress over time.

The same strategic, incremental template and annual planning process can be used from the local community to the national level. These “nested” plans would specify budgets and capacity development goals at each level. Institutions can then be explicitly challenged to identify the service technologies to be used, the number of staff of each type that must be provided, and the costs. In turn, educational and training institutions can be challenged to define how they will provide such expertise, and then external assistance can be marshaled to help them meet their targets.

There is now broad consensus that service provision – in concert with stakeholder engagement – must be based on the principle of subsidiarity, whereby implementation occurs at the most local level with appropriate capacity. Comprehensive community development (including economic, social and institutional progress) ensures best results from long-term cooperation between the public, laborers, business people, governments and local lending institutions. The focus of effort should be on rural areas and peri-urban and urban slums.

Service provision at the local level requires the selection of appropriate, low-cost, drinking water and sanitation systems. The many ‘white elephant’ systems of the past stand as testimony to the inappropriateness of external “ownership” and inadequate local buy-in. Greater participation in project design permits communities to choose alternative, lower-cost measures, involving in-kind contributions to implementation. For example, appropriate sanitation options can be selected from the “ladder of options” now available (Table 2; from (UNEP, cited in Millennium Project, Interim Report of Task Force 7, 2004).

Great care must be taken in selection of local SDS systems. Informed choices on water and sanitation options need to be made at the local level, based on local needs and capacity, from a full range of options and financing methods.

**Table 2. Incremental cost for various wastewater collection and treatment options by 2015**  
(Source: UNEP)

Service level	Extra cost per annum (US\$ billion)	Total extra cost for 2015 targets (US\$ billion)
<b>Rural sanitation options:</b>		
1. Improved traditional practice & hygiene promotion	0.8	11
2. Simple pit latrine	4	48
3. Ventilated improved pit latrine	5	70
4. Poor flush latrine	6	76
5. Septic tank system	13	174
<b>Urban/peri-urban sanitation options:</b>		
6. Sanitation & hygiene promotion	2	27
7. Sewer connection based on low-cost labor	12	150
8. Connection to conventional sewer	15	190
9. Connection to conventional sewer (Estimate 2)	25	325
10. Connection to sewer and secondary treatment	37	490
11. Tertiary wastewater treatment	67	870

### 5.5 Mobilizing Finances for SDS:

The most critical challenge for financing of SDS is the scale and continuity of investment. Whatever financing mechanisms are used – taxation at the local and national levels, user charges, cross-subsidies, private investment or targeted ODA and FDI – a very large absolute increase in funding is essential, at least to the levels agreed in the Monterrey Consensus, or beyond, if deemed necessary.

In the recent past, most of the financing for water-related infrastructure has been raised at the local level. This is likely to continue. During the 1990s, for example, most financing of water and sanitation originated from the domestic public (65-70%) and private sectors (5%), with only 10-15% from international donors and 10-15% from international private companies (Prynn & Sunman, 2000<sup>16</sup>). If one observes the economic development in China and India, which have over half of the global un-served population, it can be argued that the source of funds for SDS would very likely stay domestic; similar arguments can be made for other rapidly-developing economies.

For the poorer countries, ODA must be greatly increased, targeted more strategically, and used more effectively and sustainably. Over the last decade, investment in SDS through ODA channels has been low and declining, a trend that must be reversed. As an example, ODA should be better targeted at the 30% of the world's population making little or no progress on SDS. It is in these poorest countries, primarily in Africa, where funding shortfalls and need are the greatest. Lastly, ways must be found to sustain these investments over the long term, both for infrastructure and, of equal importance, for SDS operations and maintenance.

Once funding is mobilized, it must be effectively channeled to the local level where the SDS initiatives would be implemented. Camdessus and Winpenny (2003) have proposed a number of measures to effect this change, including:

- Multilateral Financial Institutions (MFI) lending directly to sub-sovereign entities
- National, regional or international Funding Facilities to pre-finance disbursements to sub-sovereigns
- Decentralized Funds for local initiatives and “Catalytic” Funds to mobilize other flows, empower players and report on impacts, aid efficiency and leverage
- Use of financial intermediaries, e.g., national development banks, to channel external and central government funds and to raise funds in local markets
- Credit pools with an option of joint and several liability
- Revolving funds using grants to finance the public preparation and structuring costs of complex projects, such as private participation projects
- ODA finance for water project start-up costs
- Removal of current constraints on government and MFI guarantees
- Micro-credit schemes to provide seed capital, initial reserves and guarantees
- Revising tariff structures to create cross-subsidies
- Raising Export Credit Agency limits for local costs for water projects as high as 50%

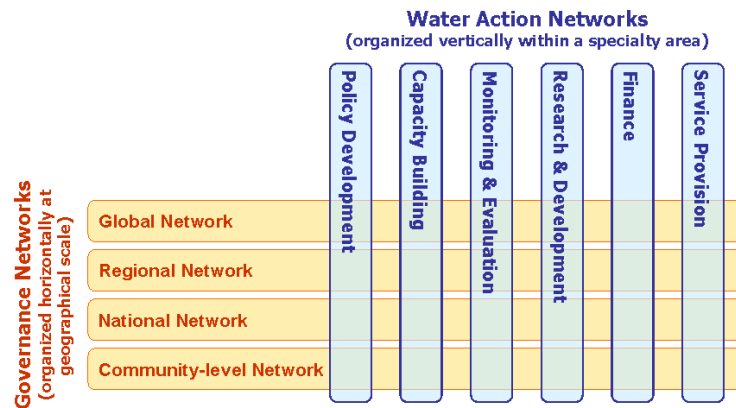
To ensure that SDS resources are effectively used at the local level, the local capacities to design, finance and manage improved service delivery must be greatly enhanced. To this end, the Camdessus Panel and others have urged that corruption, managerial capacity, sustainable cost recovery and legal and contractual aspects of SDS management within developing countries be addressed.

It should be noted that the developed world, through the G8, has already made a commitment through its 2003 summit to an Action Plan for Water, addressing many of the financing issues, including a pledge to provide targeted subsidies for the poorest communities. The G8 also announced its commitment to help mobilize domestic resources for water infrastructure financing through the development and strengthening of local capital markets and financial institutions, including revolving funds in local currency, risk guarantee schemes and support for the development of efficient local financial markets. These commitments, met in a comprehensive manner, can be an effective first step towards SDS implementation.

#### 5.6 Creation of Networks to Facilitate Action:

For discussion purposes, we propose the creation of multi-stakeholder Governance Networks (GNs) and Water Action Networks (WANs) to better engage stakeholders and to improve capacity development. The former networks (geographically horizontal) would serve communities, countries, regions and the world in ensuring that all elements and aspects of the SDS initiative are appropriately integrated. The latter networks (thematically vertical) would ensure that any given action area is fully capitalizing on the knowledge available from community to global scales. In this context, “community” is arbitrarily defined as the lowest scale of operation, whether a rural region, village, town, peri-urban development, urban area, or part of a city.

The goals of GNs and WANs would be: information diffusion and archiving, exchange of best practices, coordination, trust building, professional socialization, mutual governance and technical assistance, advocacy and oversight, and norm setting. Schematically, the inter-relationship of these networks is shown in Figure 1.



**Figure 1.** A schematic description of the multi-tiered thematic and geographic networks; WANs and GNs, respectively.

The membership of GNs at the local level would include: local governments, local business people, community banks/credit brokers, suppliers of water/infrastructure (engineers, managers, laborers etc), consumers, NGOs, and academic institutions, as appropriate. They would address, *inter alia*: integrated “learning by doing”; accountability of service providers; local coalition building; incorporation of gender considerations into policy and program design; establishment of national standards; and local-level evaluation of impacts and effectiveness. The GNs would operate as four-tiered networks focused on each specialty action area; the four tiers being:

- Community-level networks comprising village, town, peri-urban and urban representatives;
- National networks of local community representatives, chaired by national governments;
- Regional networks of national representatives, chaired by a selected G20 nation; and
- Global networks, comprising regional chairs, plus the G20 representatives.

The WANs would diffuse knowledge to the GNs on critical process functions, e.g., policy development, capacity building, monitoring & evaluation, research & development, financing, and service provision. The interaction of these networks will offer a comprehensive and very powerful institutional capacity for facilitating SDS implementation. Autonomous, non-intergovernmental organizations, such as the Global Water Partnership (GWP) or United Nations University (UNU), could coordinate and offer intellectual leadership in their creation.

Some components of this “network of networks” already exist, but the coverage is fragmented and varying in scale and quality. The proposed G20 Leaders’ Forum could use its influence, financing and flexibility to expand and systematize the existing elements to produce a comprehensive global fabric of interacting “caucuses”, ensuring structured scientific inputs and common organization, processes and outcomes.

## 6. Range of Scenarios for G20 Action:

Implementation of the SDS initiative, particularly service provision, is a profoundly “disaggregated” and primarily local process, occurring in rural districts, small communities, peri-urban areas and cities, or portions of cities of various sizes. G20 action, whatever form

and scale it takes, must acknowledge and respond to this reality. Scaling up and aggregating these local processes to the global level, in a responsive and effective manner, is an enormously complex challenge. As noted earlier, the flexibility, innovation potential and the sheer size and political influence of the G20, gives it outstanding comparative advantage in addressing this integration challenge.

Based on the background information and the various approaches discussed above, a range of possible tools and modes of operation are available for the G20 to select from and adopt for action on SDS. This section presents a series of configurations taken from this “menu” of G20 approaches, describing them as four distinct, but cumulative, G20 scenarios. Each of the scenarios is presented as a discrete set of actions, although they are more a continuum of actions, often multi-dimensional in nature. Scenarios are organized in order of increasing political, financial and implementation commitment. Indicative budget estimates are average annual figures over a 20-year period from 2005 to 2025; they are intended as rough guides only. Projecting forward from the present situation, a significant portion of the incremental costs will be borne by developing countries themselves both within and external to the G20 grouping.

It is hoped that workshop authors can use these scenarios as they develop mock G20 communiqués – amplifying or simplifying as needed, or suggesting completely new approaches based on their own knowledge and perspectives. Questions raised in the epilogue of this section are also relevant for the preparation of the communiqués.

The scenarios take into account previous reports such as the World Panel on Financing Water Infrastructure and the UN Task Force 7 on Water and Sanitation, and build upon the G8 commitments already made in the 2003 Water Action Plan from Evian. These commitments include promotion of good governance, effective use of financial resources, empowerment of local authorities for infrastructure development, expansion of monitoring, evaluation and research and engagement with international organizations.

Please note that each scenario envisions global-scale action, led by the G20. If needed, the geographical scope of each scenario can be scaled back for implementation only in the G20 member countries; in most cases, such down-scaling would be linear and proportional to unserved populations.

A tabular summary of the key actions in all four scenarios is given in Table 3, where actions accumulate from left to right for each action element.

#### 6.1 *Scenario A: Global Advocacy and Social Marketing:*

This scenario envisions the G20 group leading a worldwide campaign to convince the public and a spectrum of stakeholders, from policymakers to community leaders, that meeting the SDS goals is a critical and imminent challenge. The simplified goal is for people worldwide to understand the importance of SDS and the need for commitment to resolving it. Using the political and economic influence of the G20 member states, a major re-shaping of international, national and local agendas regarding SDS can be crystallized.

This scenario builds on, and extends from, the MDGs to include active advocacy and social marketing. The cornerstone of this scenario would be a global awareness campaign - “Water for All – Now!” It would highlight the health, economic and social benefits from every person on the globe having access to safe drinking water and sanitation. The popular media (radio, television, movies, the Internet) and targeted production of printed and electronic media would serve as the main tools for the campaign.



A clear distinction would be maintained between the proposed actions in the North versus the South. For example, this campaign in the developed (or G8) countries would mobilize public support and facilitate allocation of human, technological and financial resources needed. In developing countries, it would help educate various stakeholders on the actions needed to provide SDS services to all.

Limited, but focused, capacity building would be undertaken to showcase North-South technology transfer, South-South information exchange and local-scale implementation. The primary targets for this exercise would be local and national governments and their agencies. Broader-scale capacity building, as well as service provisioning, would be undertaken by other international, multilateral mechanisms and implemented locally.

Of equal importance would be the need to develop a mechanism for monitoring and evaluating the societal impact of the advocacy campaign. This would need to be done at both the global policy level – evaluating changes in policies of development partners, for example – and at the local level in terms of increased on-the-ground provision of SDS facilities and services.

In this scenario, the financial and organizational involvement of the G20 would be rather limited. A small, dedicated secretariat similar to that for the current G20 Finance Ministers' Forum could guide implementation. It is estimated that the global advocacy campaign and the related limited-scale capacity building would require US\$ 30-50 million a year. A "Global Water Awareness Fund" could be created to ensure proper disbursement of funds at various levels.

Although considerable efforts have been expended by the UN system and other multilateral and bilateral institutions to highlight the importance of the water MDGs, impacts in developing countries at the national and local levels remain minimal. This, in part, relates to the political perceptions of the relevance of providing SDS services and facilities. It also manifests itself in the form of grossly insufficient allocation of funds and low priority for SDS in national Poverty Reduction Strategy Papers (PRSPs). By undertaking a strong political commitment at a Leaders G20 Summit, a clear message is conveyed to politicians and "establishment" alike at the national level. And by speaking with one voice in the global development dialogue, in international trade negotiations and at the UN specialized agencies, the G20 group can bring about a major change in the profile and weight accorded to the SDS agenda and policies. Such a change in opinion and perception – as envisioned in this scenario – is essential to achieve full SDS servicing and would constitute a major accomplishment for the G20 Leaders' Forum.

#### 6.2 *Scenario B*: Directed Global Facilitation:

The goal in this scenario is to provide the "tools" and capacities needed to enable the developing countries to fully implement the SDS initiative. Building on the advocacy campaign outlined in Scenario A, the G20 would commit to a global capacity-building program and a series of networks to facilitate exchange of information, knowledge and technologies. SDS service provisioning would be expected to continue via the existing mechanisms and programmes, but would grow and improve over time as capacity was enhanced.

In addition to the advocacy campaign, creation of geographically horizontal, multi-stakeholder Governance Networks (GNs) and thematically vertical Water Action Networks (WANs) would be undertaken on a global scale, as described in Section 5.6.

The global capacity-building program would primarily focus on human resource development through training of professionals needed for on-the-ground implementation of the SDS initiative. This would also indirectly enable effective transfer of knowledge and technologies from North to South and South to South. Capacity building should encourage and challenge national-level implementation and educational institutions, as discussed earlier in Section 5.3.

A parallel effort to facilitate development of institutions, particularly at the community and national level, to accelerate implementation must also be undertaken. Such institutions are critical to ensure sustainability over the 20-year life of the SDS initiative.

The G20 would likely need to create a G20 Water Secretariat to oversee the planning and management of the advocacy, networking, capacity building and monitoring & evaluation exercises. This secretariat would facilitate the flow of resources for these activities and provide an interface to the multilateral and/or national partners. It would also monitor and evaluate the effectiveness of the advocacy program, as well as the horizontal and vertical networks. The work of the G20 Water Secretariat could be further reinforced by the creation of an expert panel, particularly focusing on the public and private financing of the SDS initiative. The global-scale advocacy program, capacity-building initiative and associated secretariat are together estimated to cost about US\$ 300-600 million per year for the duration of the SDS initiative.

As in Scenario A, service provisioning would be undertaken through other international, multilateral mechanisms and implemented locally, with minimal involvement of the G20 Water Secretariat.

The G20 group is ideally suited to provide the directional guidance and facilitation envisioned in this scenario. On the one hand, state-of-the-science technologies and management practices are available in its developed-country members, and on the other, its developing member countries have a wealth of experiences (successes and failures) in working with poor communities to provide them with SDS. Combining the two can become a powerful educational and motivational force worldwide.

As noted earlier, more than two-thirds of the SDS challenge lies in the G20 countries. Thus, the capacity building and networking envisioned in this scenario would also be seen as a politically favorable and "marketable" undertaking for the G20 governments.

### 6.3 *Scenario C: Joint Multilateral Global Implementation:*

In this scenario, the G20 would serve as the engine to drive the effective global-scale implementation of the SDS scenario through its own commitment and funding. It envisions implementation by the G20 acting directly and setting a stronger pace, and by enhancing the actions of multilateral and bilateral development entities. The partners would include Bretton-Woods institutions, the UN System, regional development banks and bilateral aid agencies. Such an approach would likely have a strong multiplier effect by capitalizing on synergies and minimizing conflicts.

The multilateral partners would be challenged through an action-oriented global agenda, by provision of funds for joint implementation and by creation of an action forum for recipient countries. This means that development and deployment of initiatives for advocacy, stakeholder engagement, capacity development, monitoring and evaluation and service provisioning will be undertaken jointly with the multilateral partners. Through G20 coordination, multilateral partners can be actively engaged as players in the GNs and WANs. Such joint implementation can complement the ongoing work for the World Water Development Report (WWDR) and other initiatives that will likely be developed under the

aegis of the UN International Decade for “Water for Life” (2005–2015), as it becomes operational.

The G20 countries would also assume a more direct role in provision of SDS services at the grass-roots level. Through a more coherent and directed G20 effort, expertise can be channeled from one country to another, stakeholders complaints can be taken up systematically and addressed, and factors currently inhibiting progress on SDS, at whatever level, can be identified and resolved. Working in support of national and local institutions, and in collaboration with multilateral partners, on-the-ground implementation can be boosted, both to ensure and to effectively monitor the incremental growth needed in service provisioning.

A comprehensive G20 Water Secretariat, backed with the appropriate financing mechanisms, would be needed for successful implementation of this scenario. Required funding is estimated to be in the order of US\$ 2-4 billion a year throughout the duration of the SDS program.

#### 6.4 *Scenario D: G20-Led Global-Scale Implementation:*

This scenario involves full-scale, comprehensive, integrated implementation of the SDS initiative by the G20. All elements will be tackled simultaneously, with a very substantial commitment of funds. The elements include an accumulation of all the actions outlined earlier in Scenarios A through C, with the G20 assuming full implementation responsibility with due collaboration and support from multilateral partners. For this purpose, we suggest it would be necessary to create a global-scale, G20-based Water Agency.

The G20 Water Agency would manage and finance the preparation and promulgation of a “Global Master Action Plan” (GMAP) within 12 months of inauguration of the SDS initiative. It should include the basic implementation strategy, leaders’ communications plan, institutional delivery mechanisms, a robust financing framework, capacity development strategy and monitoring and assessment methodologies. It is estimated that the annual budget of the Water Agency would be around US\$ 10-15 billion year (using the crude estimates provided in Section 3). Creation of a decentralized “Global Water Facility” – as part of the Water Agency – would likely also be necessary to ensure effective disbursement of funds for all activities.

By integrating global- to local-scale actions, the Water Agency would effectively overcome inertia and impediments to service provision and infrastructure development. Needless to say, the G20 leaders are well positioned to deploy such a Water Agency, which would be nearly impossible under the current inter-governmental, bureaucratic settings within the UN system.

Once agreed upon, the same strategic template and annual planning process can be used from the local community to the national and even region level. These “nested” plans would specify budgets and capacity development goals at each level. Without duplicating functions, the Water Agency would work in partnership with national Ministries of Health and Environment, contributing to overall institutional strengthening across the globe.

#### 6.5 *Epilogue: Challenges to SDS Deployment:*

Implicit in the gradient of increasing commitment shown in Table 3 – which summarizes key actions under each scenario – is also the increasing degree of complexity and challenge for successful deployment. This section identifies some of these challenges.

There are some key questions that must be answered before any of the scenarios can be successfully deployed. It is anticipated that an initial response to these questions may emerge from the mock communiqués and the discussions during the Alexandria workshop. However, some of these may yield answers only as a result of a G20-led political dialogue within the member states. The questions are:

- What is the best way to achieve agreement of a G20 Leaders' Forum on the SDS initiative?
- In practical terms, how could a G20 Leaders' Forum be galvanized to act in the SDS arena?
- How should such a forum effectively engage civil society and expert groups?
- What further work is necessary to promote the proposed approaches outlined in the four scenarios? What kind of actors could take on that work and in what time frame?
- What is the appropriate scope and membership of a Leaders G20 dealing with water? For example, adding Nigeria and Egypt and perhaps Bangladesh, would strengthen the G-20, as all three have large numbers of unserved for SDS. However, even such a recomposed G20 would still be missing several countries with major SDS challenges, notably Ethiopia, Pakistan, the Congo, Afghanistan and Vietnam. Some may also argue that certain regions with unique water challenges also need to be represented (e.g., Central Asia, or the small island developing states - SIDS).

**Table 3: Suggested scenarios for implementation of the SDS initiative by a G20 Leaders' Forum.**

Scenario Action Elements	A Global Advocacy & Social Marketing	B (+A) Directed Global Facilitation	C (+A+B) Joint Multilateral Global – Scale Implementation	D (+A+B+C) G20 - led Global - Scale Implementation
<b>Political Goals</b>	<ul style="list-style-type: none"> <li>▪ G20 commits to build massive global public awareness of SDS water crisis</li> </ul>	<ul style="list-style-type: none"> <li>▪ G20 commits to providing the developing countries all the tools they need for meeting the SDS goal</li> </ul>	<ul style="list-style-type: none"> <li>▪ G20 takes a leadership role in marshalling the multilateral partners on the SDS initiative</li> <li>▪ G20 commits to implement, expand, and fully fund the G8 2003 Water Action Plan</li> </ul>	<ul style="list-style-type: none"> <li>▪ G20 commits to lead and fund a massive global effort to provide: “<i>Safe Water and Sanitation for All by 2025</i>”</li> </ul>
<b>Stakeholder Engagement</b>	<ul style="list-style-type: none"> <li>▪ Conduct a sustained global public-awareness campaign - “<i>Water for All – Now!</i>” - with clear messages for North and South</li> </ul>	<ul style="list-style-type: none"> <li>▪ Create “horizontal” multi-stakeholder global <i>Governance Networks</i> (GN’s - one each for rural, community and urban SDS), to facilitate local service provision</li> <li>▪ Create “vertical” global “<i>Water Action Networks</i>” (WANs) to exchange best management practices and diffuse knowledge to GN’s on critical processes</li> </ul>	<ul style="list-style-type: none"> <li>▪ Support, augment existing programs for stakeholder engagement, in conjunction with multilateral partners</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ensure global dissemination of knowledge of local participatory water management, facilitated through the global SDS matrix of networks (including GN’s and WAN’s)</li> </ul>
<b>Capacity Development,</b>	<ul style="list-style-type: none"> <li>▪ Create a global, decentralized training programme on social SDS marketing, directed to local and national governments and water practitioners</li> </ul>	<ul style="list-style-type: none"> <li>▪ Create a global program to train professionals needed for SDS implementation, particularly service provisioning.</li> <li>▪ Facilitate institution building at national and community-scale.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Partner with existing UN, NGO, training and professional organizations to offer integrated local capacity building, facilitated through the global SDS horizontal/vertical “matrix of networks”</li> </ul>	<ul style="list-style-type: none"> <li>▪ Create a global G20 -led “<i>North-South Capacity Assistance Partnership</i>”, routed through the global SDS matrix of networks</li> </ul>
<b>Monitoring &amp; Evaluation</b>	<ul style="list-style-type: none"> <li>▪ Monitor impact of advocacy and awareness campaign</li> <li>▪ Conduct applied research on social marketing tools for SDS</li> </ul>	<ul style="list-style-type: none"> <li>▪ Design and cost a comprehensive, sustainable global SDS monitoring program, based on unbiased local service provision data</li> <li>▪ Monitor the effectiveness of the Governance and WAN networks</li> </ul>	<ul style="list-style-type: none"> <li>▪ Establish a trust fund to expand and sustain the WHO JMP and the UN WWDR to comprehensively monitor and assess global progress in meeting the water MDGs</li> </ul>	<ul style="list-style-type: none"> <li>▪ To enable GMAP planning, assess the full “upreach” costs to achieve 100% SDS coverage and ensure these are reflected in country PRSPs</li> <li>▪ Conduct a large-scale, continuing R&amp;D program on alternative, low-cost, local SDS schemes</li> </ul>
<b>SDS Service Provision</b>	<ul style="list-style-type: none"> <li>▪ No G20 support, but expansion of service as awareness rises</li> </ul>	<ul style="list-style-type: none"> <li>▪ No G20 support, but expansion of service through the support of the SDS matrix of</li> </ul>	<ul style="list-style-type: none"> <li>▪ Continue existing UN, multilateral, regional and bilateral provision of</li> </ul>	<ul style="list-style-type: none"> <li>▪ Commit to create, fund and implement an SDS “Global Master Action Plan”</li> </ul>

		networks and capacity building	SDS services and infrastructure, but with augmented resources from G20 countries	(GMAP), focusing on “nested” country-level plans, rolled up from the local to national level and facilitated by the global SDS matrix of networks
<b>Mobilizing Finances</b>	<ul style="list-style-type: none"> <li>▪ Commit dedicated new funding of US <b>\$30-50 million</b> for social marketing through a G20 “Global Water Awareness Fund”</li> </ul>	<ul style="list-style-type: none"> <li>▪ Commit to dedicated new funding of US <b>\$300-600 million</b> for facilitation program</li> <li>▪ Establish a global experts panel on enabling public-private financing for SDS</li> </ul>	<ul style="list-style-type: none"> <li>▪ Commit to dedicated new funding of US <b>\$2-4 billion</b> for joint implementation</li> <li>▪ Collaborate with partners and countries to systematically remove institutional and legal barriers to local-level financing (e.g., sub-sovereign MFI lending, start-up funding, loan guarantees, tariffs, credit limits, banking intermediaries)</li> <li>▪ Facilitate allocation of a significant portion of funding amongst the multilateral partners to the SDS initiative</li> </ul>	<ul style="list-style-type: none"> <li>▪ Commit dedicated new funding of US <b>\$10-15 billion</b> to fund GMAP</li> <li>▪ Create a global “enabling fund” to catalyze national and global SDS investments (e.g., pre-financing, credit pools, micro-credit schemes, etc)</li> <li>▪ Create a large, decentralized “Global Water Facility” to provide revolving funds and infrastructure grants to poor communities</li> </ul>
<b>Organizational Strategies</b>	<ul style="list-style-type: none"> <li>▪ Create a small, temporary financial secretariat for funding dispersal and support of national campaigns</li> </ul>	<ul style="list-style-type: none"> <li>▪ Create a small, separate “G20 Water Secretariat” to plan and manage the facilitation program</li> <li>▪ Managerial focus on ensuring effective matrixing of horizontal and vertical global networks</li> </ul>	<ul style="list-style-type: none"> <li>▪ Expand the “G20 Water Secretariat” to manage capacity development and multilateral interaction</li> </ul>	<ul style="list-style-type: none"> <li>▪ Create a major global “Water Agency” to oversee implementation of GMAP</li> </ul>

## References

---

1. Camdessus, M., and Winpenny, J. (2003) "Financing Water For All" - Report of the World Panel on Financing Water Infrastructure, WWC, 3<sup>rd</sup> World Water Forum and Global Water Partnership.
2. Lenton, R. and Wright, A. (2004) Interim Report of Task Force 7 on Water and Sanitation, Millennium Project
3. <http://www.lboro.ac.uk/well/resources/well-studies/full-reports-pdf/satp.pdf>
4. Evans, B., G. Hutton and L. Haller. 2004 "Closing the Sanitation Gap - the Case for Better Public Funding of Sanitation and Hygiene". OECD Report SG/SD/RT(2004)2.
5. *ibid.*
6. *ibid.*
7. *ibid.*
8. See De Mello, L. (2002) Public finance, government spending and economic growth: the case of local governments in Brazil. *Applied Economics* 34, 1871±1883  
*And Glaeser et al. (1995) find a positive impact of local investment in sanitation on growth in a panel of 260 US cities: Glaeser, E. L., Scheinkman, J. A. and Shleifer, A. (1995) Growth in a cross-section of cities, Journal of Monetary Economics, 36, 117±43. citation in De Mello, 2002*
9. Hansen, S. and Bhatia, R. (2004) Water and Poverty in a Macro-Economic Context, MoE Norway, CSD12
10. Hutton, G. and Haller, L. (2004) Evaluation of the Costs and Benefits of Water and Sanitation Improvements at the Global Level, WHO, Geneva
11. Evans, B., G. Hutton and L. Haller. 2004 "Closing the Sanitation Gap - the Case for Better Public Funding of Sanitation and Hygiene". OECD Report SG/SD/RT(2004)2
12. United Nation's Children's Fund (UNICEF). 2001. State of the World's Children 2002. New York: UNICEF. Data available on-line at <http://www.unicef.org/sowc02/>. Improved Sanitation data were collected under the UNICEF-World Health Organization (WHO) Joint Monitoring Programme.
13. The World Bank, (2003). World Development Indicators.
14. *ibid.*
15. United Nations, (1984). "Guiding Principles for the Design and Use of Monitoring and Evaluation in Rural Development Projects and Programmes." The United Nations ACC Task Force on Rural Development, Panel on Monitoring and Evaluation, Rome.
16. "Getting the water to where its needed and getting the tariff right", by P. Prynne & H. Sunman, 2000. reference cited in Report of the World Panel on Financing Water Infrastructure – Financing Water For All James Winpenny, Kyoto, March 2003