VALUING WATER FOR BETTER GOVERNANCE

HOW TO PROMOTE DIALOGUE TO BALANCE SOCIAL, ENVIRONMENTAL, AND ECONOMIC VALUES?

Sponsored by

CEO PANEL

BUSINESS AND INDUSTRY

JACK MOSS - GARY WOLFF - GRAHAM GLADDEN - ERIC GUTTIERIEZ

10TH. MARCH 2003

CEO PANEL
BUSINESS AND INDUSTRY

VALUING WATER FOR BETTER GOVERNANCE

HOW TO PROMOTE DIALOGUE TO BALANCE SOCIAL, ENVIRONMENTAL, AND ECONOMIC VALUES?

CONTENTS

1 Authors' Note 5
2 Preamble 6
3 Executive Summary 7
4 Introduction 9
5 The Problem 10
Figure 1 Investment needs to meet the MDGs 10
Figure 2 World Water Investment Needs 11
Figure 3 Water's Low Attractiveness for Investment 12
Figure 4 The Vicious Downward Spiral 13
Box 1: The Downward Spiral in Agricultural Irrigation Water Supply 14
6 Solution Approach 14
Figure 5 Unsustainable versus Sustainable Value Positions 14
7 Clarifying Values 16
7.1 Two Levels of Value 16
7.1.1 Market Values 16
Figure 6 Market Values 16
7.1.2 Non-market Values 17
7.2 Value Drivers and Value Signals 17
7.3 Recurrent Value Issues 18
Box 2: Values and Time Horizons 19
Figure 7 Submissions Response Hierarchy 19
7.4 Who's Values? 20
7.5 Perceptions of Value Evolve 21
Figure 8 How Perceptions Change 21
8 Value Differences, Divides, Perspectives, and Conflicts 23
8.1 Value Differences and Divides 23
8.2 Value Perspectives 23
8.2.1 Environmental Value 24
8.2.2 Social Values 26

8.2.3 Economic Values 27
8.2.4 Public Health Values 28
8.2.5 Gender Values 29
8.2.6 The Value of Water in Production and Product Use 29
8.2.7 Political value of low-priced water or water services. 30
8.3 Value Conflicts and Governance Failures 30
8.3.1 A Water Allocation Value Divide 31
8.3.2 A Water Supply Value Divide 31
9 Delivering Value 32
9.1 Governance 32
Box 3 Principles of Effective Governance 33
9.2 Wealth and Values 34
9.3 Value in Decision-Making Processes 34
9.3.1 Formal Political Processes 34
9.3.2 Market Processes 35
9.3.3 Consensus Processes 35
9.4 Dialogue Space 36
Figure 9 Dialogue Space and Value Perspectives 36
Figure 10 Dialogue Space and Stakeholders 37
9.5 The Problem of Up-scaling 37
Box 4: The Dilemma of Water Development for a Mega-City 38
9.6 Success Stories 39
9.6.1 Bridging Economic, Health, and Social Perspectives 39
9.6.2 Bridging Individual and Collective Value Perspectives 40
9.6.3 Bridging Economic and Environmental Perspectives 41
9.6.4 Bridging the Gender Divide 41
9.6.5 Engaging "All" Value Perspectives 42
10 Suggested Next Steps 44
11 Conclusion 46
12 Acknowledgements 47
12.1 Workshop Participants 47
12.2 Peer Reviewers 47
12.3 Logistics and Administration 47
13 List of References 48
14 Appendices 50

14.1 Appendix A: The Process Used and Lessons Learned 50
14.2 Appendix B: Stakeholder Mapping 52
14.3 Appendix C: The Specific Challenge of Water and the Poor 55
14.3.1 Poverty Reduction Strategy Papers 55
14.3.2 Invisibility of the Poor 56
14.3.3 The Poor as mere Recipients, Rather than Active Participants in Development 56
14.3.4 Tools for Measurement Used Usually Don't Capture the Complexities of Poverty 57
14.3.5 The Imperative of Serving the Poor 57
14.4 Appendix D: Water as a Human Right 57
14.4.1 Human Right to Water and License to Water Use 59

VALUING WATER FOR BETTER GOVERNANCE

HOW TO PROMOTE DIALOGUE TO BALANCE SOCIAL, ENVIRONMENTAL, AND ECONOMIC VALUES?

Sponsored by the Business and Industry CEO Panel for Water

Jack Moss - Gary Wolff - Graham Gladden - Eric Guttieriez -

Abstract

Solving the freshwater crisis requires significantly more investment and spending in the water sector. But getting more money requires broader agreement among stakeholders than exists at present. A powerful way of obtaining broader agreement is to clarify through dialogues our values, value differences, and common ground. When this is done, people and businesses are willing to pay more for water systems and their governance, which in turn enables water systems and their managers to deliver more value to people and businesses. Dialogue about values also strengthens the legitimacy and sustainability of formal political decisions; many of which have been reversed or deferred at great cost because underlying value issues were ignored. Dialogue about values is essential to create a "virtuous circle" of progress in the water sector. This paper develops an initial intellectual framework for such dialogue.

1 Authors' Note

This "white"[1] paper has been written jointly in the context of a collaborative project sponsored by the Business and Industry CEO Panel for water www.ceopanel.org. It is intended to be presented during the CEO Panel plenary session of the Third World Water Forum in Osaka, Japan in March 2003.

The authors who work for different organisations have found the collaboration a fruitful and stimulating experience. We have discovered much common ground and learned a great deal from sharing different perspectives on a complex subject. We hope that this white paper will make a constructive contribution to thinking about water and that it will lead to positive action that will benefit the way water is viewed and governed.

The views expressed are those of the authors and not necessarily endorsed by the CEO Panel or the authors' employers. Each individual writer may not agree with all that has been written in this paper. This is also the case for the participants of the two workshops

Jack Moss, M.A. is Senior Water Advisor at SUEZ in Paris, France.

Gary Wolff, P.E., Ph.D., is Principal Economist and Engineer at the Pacific Institute in Oakland, California, USA.

Graham Gladden, BSC, Ph.D. is Senior Programme Co-ordinator for the Unilever Sustainable Water Initiative Manager based in Port Sunlight, UK.

[1] Whilst we refer to this paper as a "white paper" it is perhaps more accurately an initial position paper.

Eric Gutierriez, MSC, is Chief Policy Officer at WaterAid in London, UK.

The authors and CEO Panel would like to thank all those who contributed to the thinking behind this paper and especially those who participated so actively in the two multi-stakeholder workshops. These people are listed in section 11.

The authors and CEO Panel would also like to thank:

- The United Kingdom Department for International Development for its financial support, which made the independent participation of a number of NGO members at the workshops possible.
- WaterAid for administering the disbursement of these funds to the NGOs who attended.

2 Preamble

This white paper has been written as part of the output of a project initiated by the Business and Industry CEO panel for Water. The aim of the project is to begin a process of clarifying issues that need to be resolved to accelerate progress to:

- Meet the water and sanitation targets of the United Nation's Millennium Development Goals (see www.un.org/millenniumgoals/index.html).
- Meet similar goals for the whole of the water sector, including but not limited to agricultural, industrial, and environmental demands for water, and runoff management and flood control.
- Developing sustainable long-term outcomes in water allocation and management.

The project takes as its starting point the output of the Second World Water Forum. Three of the issues raised at The Hague were "the value of water", "water governance" and "dialogue". The CEO Panel companies, as legitimate stakeholders in water issues, believe that there may be a strong link between these three elements. They therefore set out on an experiment (appendix A) to see if this supposed linkage exists and if so what could be done about it to improve on the currently unsatisfactory situation where millions suffer as a result of lack of water and sanitation.

The purpose of the white paper is to summarise and explain the broad concepts that have emerged. We present it to the Third World Water Forum to seek support for continuing this dialogue and to develop tools that will help improve performance in real situations. We are looking for appropriate partners and a structure to support further efforts in this direction.

3 Executive Summary

"Can somebody answer me the question why?
You don't miss your water till the well runs dry"[2]

Water has been recognised for a long time as an essential factor in development. Growing difficulties surrounding water scarcity, water based poverty, and the management and allocation of water are gradually catching the world's attention. Politicians and leaders are beginning to take the challenge more seriously. Targets have been set and declarations made and yet real progress remains elusive. The gap between those who have water and those who do not appears as wide as ever. Those who have adequate access to water appear to give it low value. Individuals and businesses that do not have adequate access know the high value of what they are lacking. They pay for this lack with hardship, lost opportunity, and ill health on a daily basis.

Closing this gap is desirable for society as a whole. Contributing to meeting the MDGs and going beyond them to procure sustainable water development are key objectives. Members of the CEO Panel agree and support these objectives. Recognising that working alone is not enough, they have embarked on a broader based holistic approach. Working through stakeholder workshops and with non-industry partners they have undertaken a preliminary examination of how the process of valuing water might contribute to better governance of water and thus a way to meet some of the challenges.

Societies need to attach more importance to water, yet in recent times they have been reluctant to do so. In part this problem is due to different people or groups of people valuing water in different ways. In addition people's perceptions of the issues can alter very dramatically as conditions change. Also the time horizons in water decisions are much longer than the "influence time span" of some of the key players. All these factors confuse and distort the signals that decision-makers need to interpret in order to implement good governance of water. The result is that it is not possible to achieve real consensus on appropriate management systems or adequate levels of investment. This leads to very serious consequences, for example the vicious circle of low tariffs leading to degraded service leading to the perverse perception that tariffs are too high.

Part of the solution to water governance problems is to understand why these different perceptions occur. This requires different stakeholders who hold different positions to be able to express the aspects of water that are valuable to them clearly and convincingly to others. It also requires that they should understand where and why their perception is different from that of other stakeholders.

A key to this solution is to ensure meaningful multi-stakeholder dialogue that allows all the players (weak/strong/non verbal) to participate. This is an essential underpinning for effective governance.

---

[2] Blues song – Craig David – You Don't Miss Your Water

Many people, over many years have tried to find their way through this highly complex set of issues. There are some value issues that keep coming up. Despite their prevalence, value issues are often unclear and often go unresolved. This occurs because not all the stakeholders have been involved and not all the conversations needed have taken place. The solution requires the range of valuing perspectives to be identified.

The range of value perspectives will vary to some extent on a case-by-case basis and on the stakeholder groups involved. (Note that value perspectives are not the same as stakeholder perspectives, and in fact are often shared across stakeholder groups.) Some example value perspectives are:

- Environmental Values
- Social Values
- Public Health Values
- Economic Values
- Production (Including Agriculture) and Product Use Values
- Political Values
- Gender Values

Differences in value perspectives can be communicated and "aggregated" into social decisions through markets, through formal political processes, or through multi-stakeholder dialogues that lead to consensus. In many cases all three means for resolving value differences are useful. The one we focus on in this paper is dialogue, because the consensus that results from it is the best "inoculation" against value conflicts that lead to negative outcomes. When consensus on high-level value issues is established, people will work together even when they disagree on lower level issues. Building consensus requires clarifying the values of stakeholders and finding creative ways to bridge across any large value differences that may exist. It requires personal interactions that markets don't provide, and informality that is impossible in formal political processes.

4 Introduction

"We must hang together or surely we shall hang separately."[3]

The importance of the role of water in development is becoming more widely recognised. For example, two important events occurred in 2002 that could and should have a positive impact on poverty alleviation. They were firstly the addition of sanitation to the Millennium Development Goals (MDGs) that was decided at the Johannesburg World Summit on Sustainable Development (WSSD) and secondly the publication on November 29th, 2002 of the United Nations Committee on Economic, Social, and Cultural Rights 'General Comment No 15'[4] which makes the human right to access to water explicit.

Taking action on these declarations and previous international commitments would have a hugely beneficial effect. Lack of access to water and sanitation is at the heart of poverty. Conversely water has the potential to be the single most important 'weapon of mass salvation' (Sachs, 2002).[5] Effective management of water contributes enormously to better health, economic growth and stable societies, and promises to close the gap between the countries of the North and those of the South.

Will this potential be realised? We believe that it can be. However this requires that some things are changed, some attitudes altered and that different interests come together. We believe that this paper -- which initiates an examination of the links between valuing water and governance -- can make a contribution to making these changes come about.

[3] Benjamin Franklin (1776)

[4] UN Committee on Economic, Social and Cultural Rights – 29Th. Session 11-29 November 2002 – General Comment No. 15

[5] Sachs, Jeffrey, October 26th, 2002, Weapons of Mass Salvation, The Economist, pp. 101-102

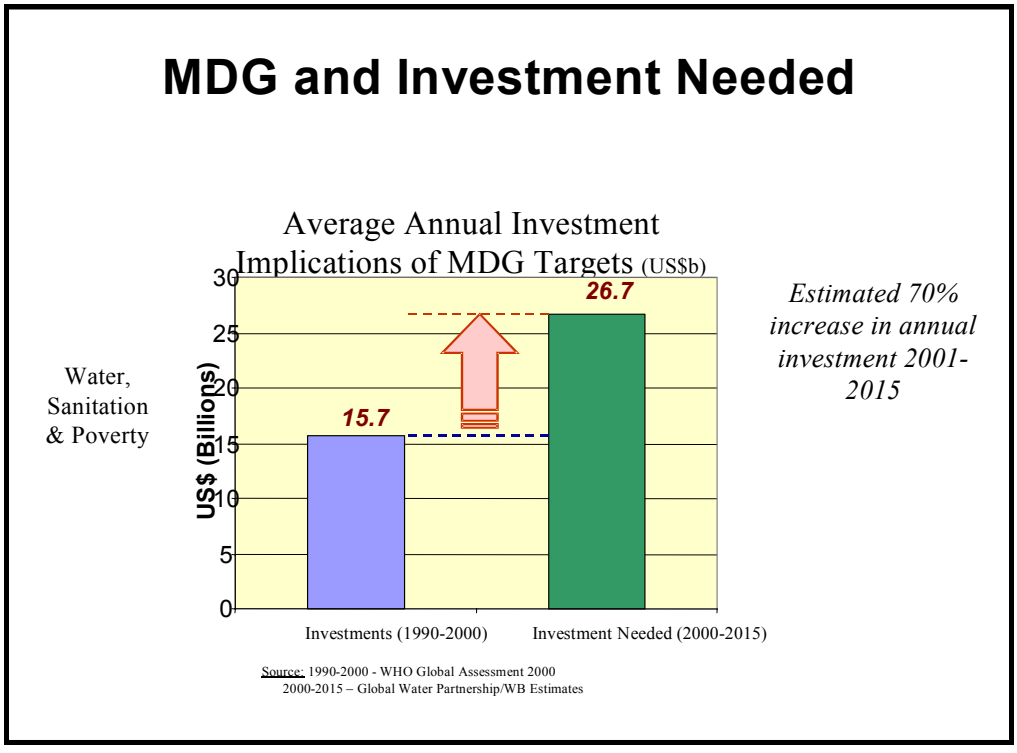
5 The Problem

"Real understanding of the challenges we face is alarmingly low"[6]

In attempting to define what the world's water problems are, we are immediately struck by the paucity of information and data. Some countries have well articulated water strategies, water laws and institutions that manage water and collect meaningful data, but these are a minority. This situation in itself reflects the low political and organisational value that is placed on water. The value of water must be made more evident if the real crisis facing us all is to be averted.

Achieving the MDGs requires large capital investments and large increases in on-going budgets for water system operation and maintenance (Figure 1). Water systems include water for agriculture, urban and environmental uses; sewerage and wastewater treatment; and runoff and flood control. These systems deliver water itself, protection and restoration of natural water resources, and water services. By water services we mean the services that result from the existence of water infrastructure (e.g., availability of piped water within a service area, sanitation, or flood control).[7]

Figure 1 Investment needs to meet the MDGs[8]



[6] Kofi Annan 2000

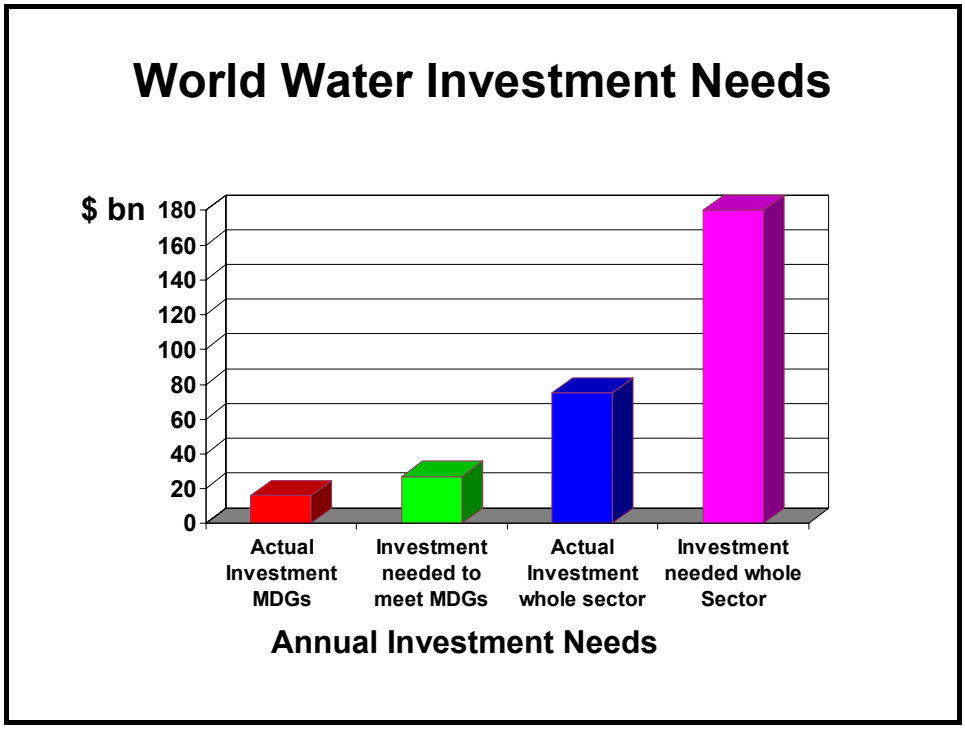
[7] To keep our language as simple as possible, we don't include ecosystem services that result from aquatic ecosystems within the phrase "water services."

[8] Source World Bank

It should be remembered that the MDGs only set out to meet half the water supply and sanitation problem. In addition, there are other urgent water problems besides these which extend to water for irrigation, energy production, decay of existing infrastructure in developed countries (for example the USA[9]) and the preservation of the aquatic environment.

The "Framework for Action[10]" of the Second World Water Forum (2000) estimated that total investments in the water sector need to increase to $180 billion a year. All these figures are very suspect and can only be used to give an order of the magnitude of the problem. We believe that by placing more emphasis on the value of water a better measure of the problems will be achieved. This in itself will contribute to better governance and better results.

Figure 2 World Water Investment Needs



The 'Framework for Action' of the Second World Water Forum called for an increased private sector funding from the present (in 2000) 10% of new investment in water systems. This has subsequently been interpreted by some as meaning very high levels of private investment. In the current circumstances we question whether this

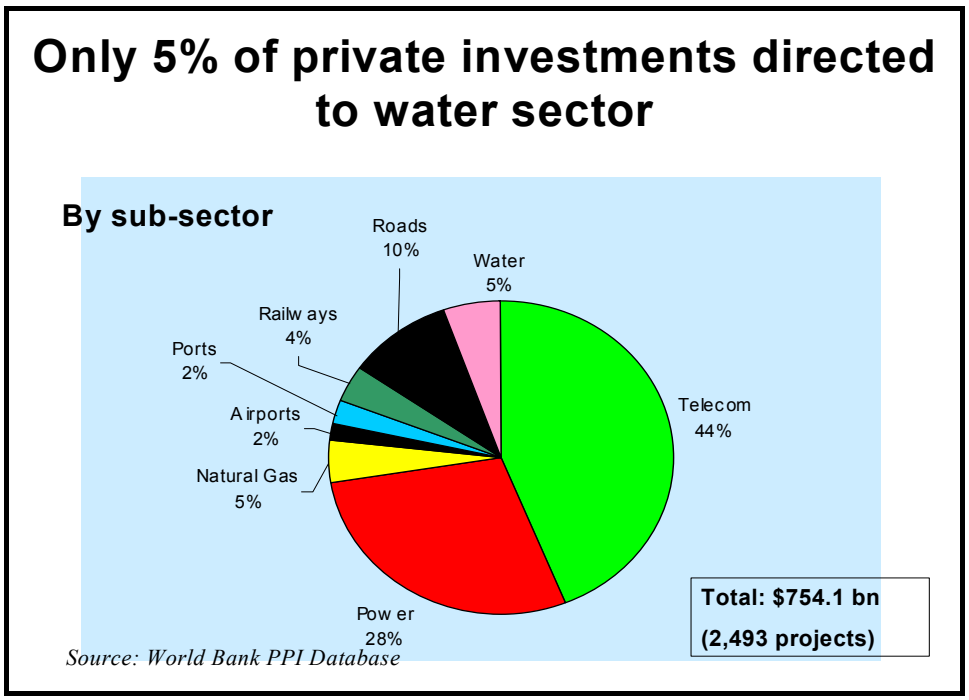
[9] Estimates of water infrastructure investment needs in the US vary enormously with at least one credible estimate of $1.5 trillion over the next 20 years (WIN, 2000). The US Environmental Protection Agency has estimated that drinking water infrastructure needs total about $151 billion over the next 20 years (EPA, 2001) and that wastewater infrastructure investment needs are about $140 billion over that same time period (EPA, 1996).

[10] Global Water Partnership – Towards Water Security: Framework for Action 2000 Pages 75,76

level of private investment is a realistic solution to under investment in water systems..

Figure 3 shows that other opportunities for private capital investments tend to capture the vast majority of such investments. The private investment strategy may founder on the same obstacles as the unsuccessful effort to massively increase public investment during the Water and Sanitation Decade of the 1980s. We believe that both public and private expenditure needs to increase significantly to stave off the water crisis.

Figure 3 Water's Low Attractiveness for Investment[11]



This paper addresses several inter-related causes of under investment and operational neglect, whether public or private. All contribute to the relative unattractiveness of the water sector for public and private investment. They are:

- Failing to recognise the full value of water services. In particular, indirect benefits such as reduced incidence of infectious diseases, lost economic opportunities, and environmental quality tend to be given insufficient recognition.
- Inability of groups that do recognise the value of water services to convince political leaders to give these services a high enough priority. For example, the un-served urban poor know very well that piped water for drinking and sanitation are valuable, but are often unable to get political leaders to address the problem.
- The belief of many people, businesses, and political leaders that increased expenditure will not actually lead to delivery of services that are valued. Even if the value of water services is recognised and political leaders prioritise it, people

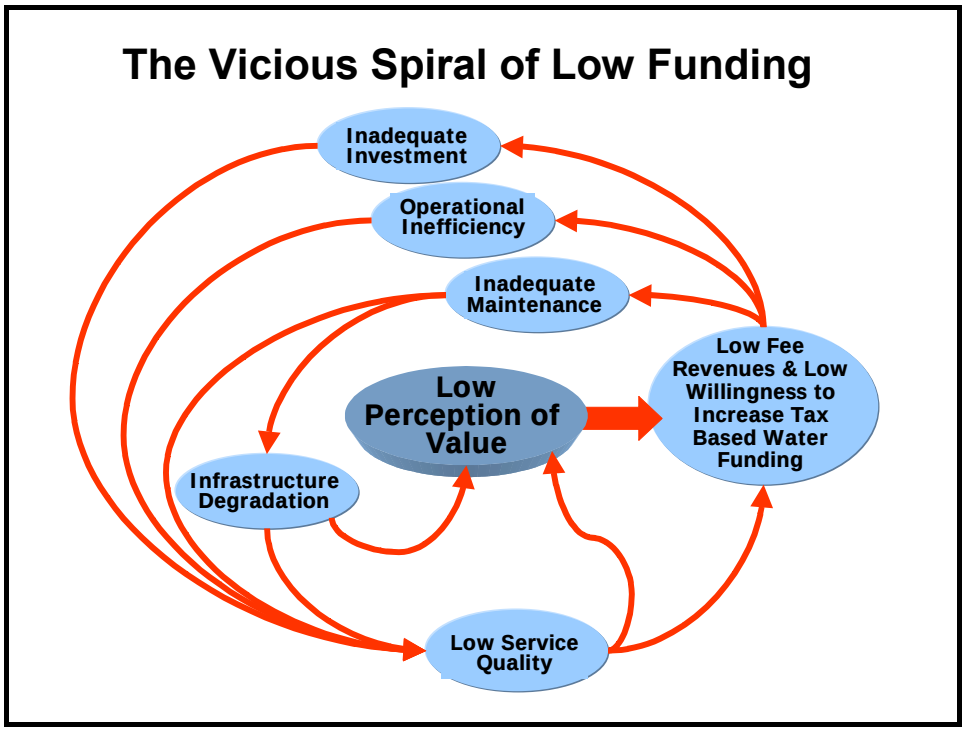
[11] Source World Bank

will not be willing to pay more for services (either through rates or taxes) unless they believe they will get what they pay for.

These causes, together with others, lead to water governance that is not successful and sustainable because perceived spending limitations have become a prime driving force. Obviously, water governors will not increase rates or taxes for services their constituents don't value. Similarly, they won't increase rates or taxes unless water services are a higher priority than other services. Finally, ratepayers and taxpayers won't allow water governors to increase rates or taxes if they believe the money will be badly spent.

These causes collectively lead to the problem: under investment in infrastructure, inadequate operation and maintenance, and inadequate funding for protection of natural water resources. The result is lack of access, low quality or failed service provision, and infrastructure or environmental degradation. These in turn can and often do create a downward spiral of unsustainable decay (Figure 4 and Box 1). This spiral is equally true for rural and urban settings, and applies to water used in agriculture, transport, energy production, industry, recreation, fishing, tourism, and so on.

Figure 4 The Vicious Downward Spiral



Box 1: The Downward Spiral in Agricultural Irrigation Water Supply

The predominantly agricultural State of Andhra Pradesh in India has engaged in extensive irrigation system reform commencing in 1996 because prior to that time its irrigation sector was grossly under performing. The majority of farmers among the 73 million residents of Andhra Pradesh are small rural landholders, with an average holding of less than 2 hectares each.

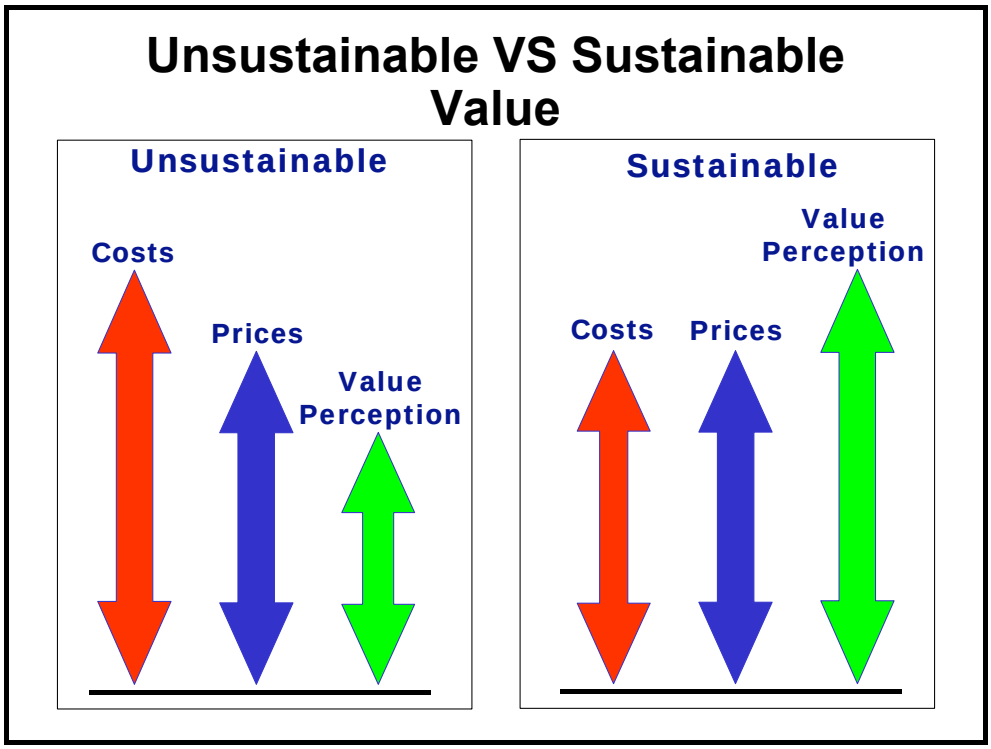
Low performance (Oblitas and Peter, 1999) resulted from a poorly performing irrigation department that delivered low quality irrigation services and inadequate agricultural and water use extension services. These in turn caused low yields and incomes. The consequence was farmer dissatisfaction, unwillingness of farmers to pay for irrigation water (even at low water prices), inadequate funding of system operations and maintenance, leading to even worse system operations and maintenance and even worse irrigation system performance. At the same time, farmers do not have sufficient stake in ensuring that a high proportion of the crop is beneficially consumed. As a consequence wastage is high.

6 Solution Approach

"The people are willing to pay, the problem is that we politicians are not willing to charge them" [12]

A sustainable solution would create a 'virtuous' spiral. "Full" costs and benefits would be recognised and recovery systems established that show ratepayers and taxpayers that the real value to them exceeds what they are being asked to pay. (Figure 5)

Figure 5 Unsustainable versus Sustainable Value Positions



The contribution this paper makes is to demonstrate the importance of values when addressing each of the problem causes listed above. In summary these are:

[12] Statement of an Indian Minister delivered at the World Economic forum Davos 2000

- Clarifying the issues that make value discussions difficult. This helps people to know better what they value and how much they value it. This increases the willingness to pay for water systems through water rates or taxes or both.
- Showing that continuous dialogue between stakeholders is needed. This enables people to express their values and to find areas of agreement and ways of bridging their differences. Politicians tend to prioritise solutions that have broad support. For example, universal urban water service exists in communities that widely agree that it is valuable, even when those communities are relatively poor. Thus, finding and expanding areas of agreement makes it easier for politicians to support sustainable financing of water systems.
- Showing that improved information and communications about what people value can build understanding and trust between those who pay for, deliver, and regulate water systems. We provide some examples of improved funding for water systems that were possible because sufficient understanding and trust were created through clear communication and dialogue.

At the end of this paper, we suggest further steps to advance this effort to utilise value considerations as a tool for effective governance leading to increased funding and more effective spending for water systems.

7 Clarifying Values

"How do we understand our relationship with water? …it enters our lives in so many different ways that we are always immersed in its complexities. ….and we are all involved in the issues, either actively or passively. Yet our vision of these is usually partial, focused on facets of the whole picture"[13]

7.1 Two Levels of Value

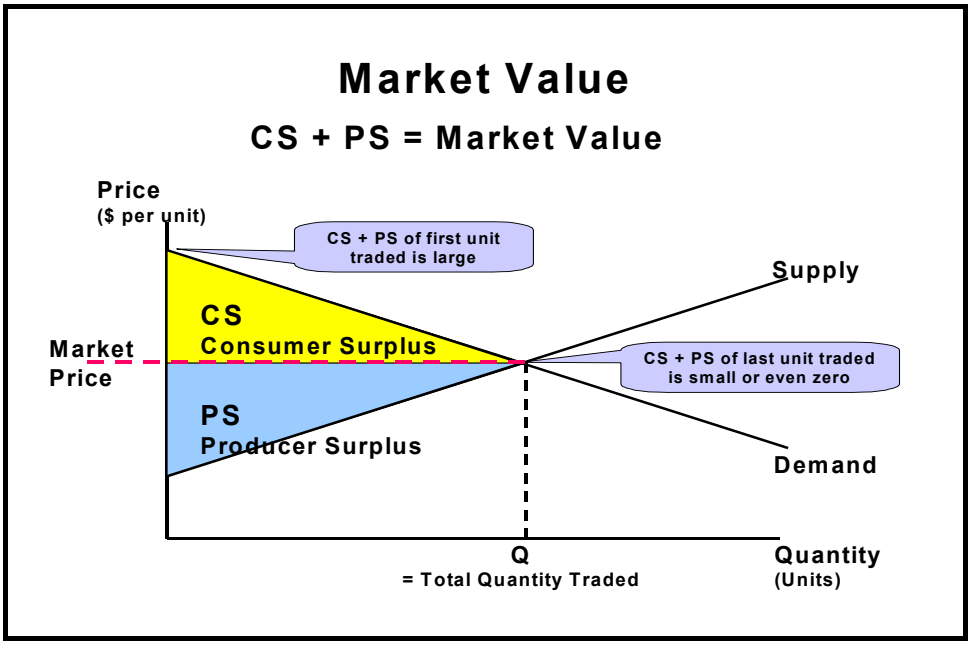
In this paper we refer constantly to' value' and 'values'. These terms can be confusing. In economics, two levels of value are recognised. These are 'market' values and 'non-market' values.[14] In many water decisions and discussions, non-market values often play a much larger role than people recognise. The difference between market values and non-market values is extremely important for practical reasons.

7.1.1 Market Values

Market values are revealed in exchanges of goods and services. We "see" people's values to some extent in their market behaviour. Willingness to pay a great amount for something indicates that it is valuable. Unwillingness to part with something even when offered a substantial sum of money for it also indicates that it is valuable.

Market value should not be confused with 'price'. Price represents the marginal value or exchanges in a particular market – the value at which the last (or next) exchange occurs. In contrast, market value refers to the total value of goods and services exchanged in each market (Figure 6)

Figure 6 Market Values



[13] Veronica Strang – Evaluating Water: Cultural beliefs and Values about Water Quality, Use and Conservation. Water UK publications 2001

[14] Value in economics is defined in a variety of ways. See for example, Freeman (1993) and Sen (1997). We could have used the widely accepted phrase "net benefits" rather than "market value." But among the many terminologies available, we chose the "market" and "non-market" distinction because it helps to illuminate one of the central value differences that people have: how well or poorly market outcomes represent what is most important to us.

For example, the first units of water a person purchases may be of much greater value than the price they pay, even if the value of the last units purchased is just equal to the price they pay. Similarly, the first units of water a supplier sells may cost much less to deliver than the price received, even if the last units delivered cost about the same as the price received. The total value received by purchasers above the total amount they pay is called "consumer surplus (CS)." Similarly, the value received by a service provider is the difference between total revenue and the (presumably lower) total cost of service. Economists call this producer surplus (PS). The sum of consumer and producer surplus in each market is the value in that market.[15]

7.1.2 Non-market Values

Non-market values are one underlying determinant of market value.[16] They are like the entire iceberg, while market values are like the part of the iceberg that is visible above water level. The "frontier" between market and non-market values is constantly changing as markets expand or as people decide to ban or restrict certain types of market transactions (e.g., slavery or prostitution).

Non-market values are a category within what economists refer to as preferences (or tastes). But unlike common preferences or tastes – like a preference for chocolate as compared with vanilla – non-market values are "deep" preferences. They include things like family values, the value of freedom, the value of relationships, cultural values and so on.

Non-market values are expressed and revealed in market transactions and in other ways. Voting and political action are another channel for expressing non-market values. So also are military service and a willingness to die for one's country: these express the value of living in an independent country or of preserving a valued way of life against outside forces.

Much of the tension around the value of water is due to this deeper level of values, and to the fact that people hold very dearly to the non-market values that they fear will get lost if water systems are managed through market approaches.

7.2 Value Drivers and Value Signals

Value drivers are the underlying forces that each stakeholder consciously or subconsciously takes into account in reaching their perspective of the value of something in a given set of circumstances. As we shall see in the following section the components of value drivers for water are complex.

In order for these value drivers to be taken into account in the processes of governance they need to be communicated to the governors and shared with other stakeholders. This is done through value signals. Prices are one value signal.

---

[15] The money received by producers (suppliers) that is not producer's surplus is spent by producers to purchase factors of production (e.g., labour, machinery, energy). This spending is represented by the demand curves in factors markets, and therefore is counted as part of the market value in those other markets.

[16] Other determinants of market value are technology, the distribution of property rights and income, and the social rules and institutions that govern society and markets.

People's statements about what they value, political actions, votes, and other behaviour also communicate value signals.

We believe that more work needs to be done to understand value drivers and to understand how people communicate their value priorities to decision-makers.

7.3 Recurrent Value Issues

There are a number of attributes of water that make clarifying one's own values or the values of others difficult. We believe that achieving successful outcomes in water governance requires that effective dialogue about water values take place, and effective dialogue in turn is only possible if stakeholders are clear about the following recurrent value issues. These issues were raised during our initial meeting in The Netherlands and are described in more detail in the notes from that meeting. (See appendix A)

I. What is being valued? - 'water, the substance'; 'water resources,'[17] or 'water services?'[18] For example, operators of public water supplies, especially those from the private sector, are very clear that they do not sell 'water the substance', (they do not own the water and therefore can't sell it). They sell 'water services'. However their customers, be they individuals, industry or a municipality usually believe that they are buying water 'the substance'.

II. Geography and Scale. Water has different values at different scales: hydrological basins; the state; the municipality; the household; and others. For example are we looking at a 'big' cycle of water resources, or a 'little' cycle of urban water services? By asking ourselves which water cycle are we looking at in each case, value issues start to become clearer. The Integrated Water Resources Management (IWRM) approach helps clarify these value issues.[19] [20]

III. Dynamics – Water moves through time and space and water systems (e.g., a watershed) change over time. Many values depend on the times and places involved. Today's drought often ends with tomorrows flood.

IV. Time horizon is another dimension of value discussions. The time horizons that preoccupy 'political' governors and those that are necessary for appropriate water management are often not the same. Political time horizons tend to be short and the cycles of investment and environmental response tend to be long. One example of the "value confusion" that can result from this mismatch of time horizons is provided in Box 2.

---

[17] By water resources, we mean natural water systems such as watersheds or groundwater aquifers that can serve as sources of water and usually provide ecosystem services that can be impaired by excessive water withdrawals or water pollution.

[18] Water services include a variety of items. For example, making water available at specific locations is a service regardless of how much or little water "the substance" is actually used at that location. Similarly, flood control is a water-related service with value distinct from the value of water "the substance."

[19] See Global Water Partnership IWRM Toolbox (www.gwpforum.org/iwrmtoolbox/)

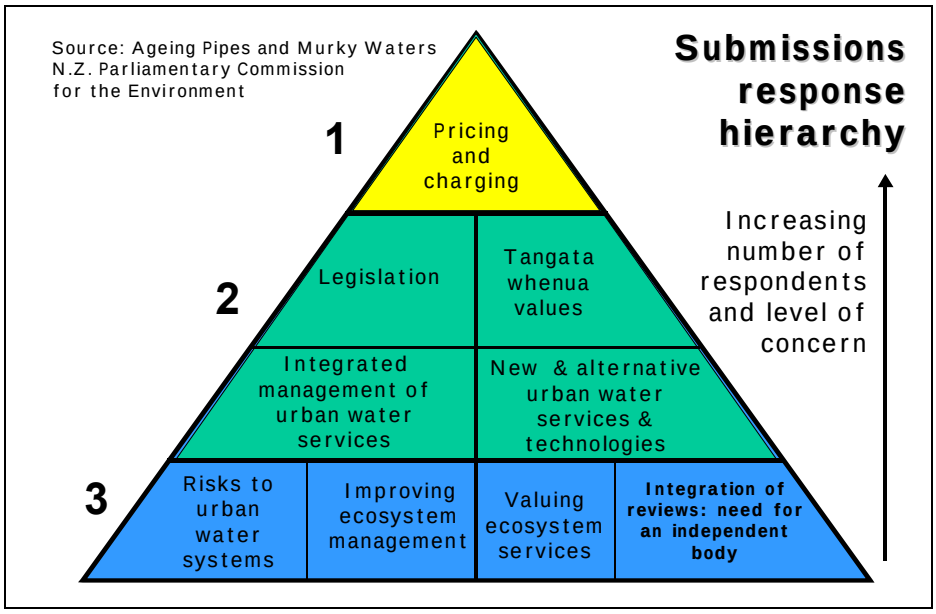
[20] Refer to CEO Panel project on IWRM

Box 2: Values and Time Horizons

Spending on any good or service is limited by people's willingness to pay. However, politicians often misunderstand the public's willingness to pay for water services. The over reliance on 'cheap' that has emerged is an important cause of under investment in these systems, the key problem this paper attempts to address.

An urban example is illustrated in the Figure below. The Figure is drawn from a recent public consultation conducted in New Zealand.[21] The signal a politician might extract from this information alone is that cost limitation is a higher priority than all other issues. But cost limitation over what time horizon? Politicians, most of whom depend on being re-elected, often make decisions about least-cost over the time horizon between elections.

Figure 7 Submissions Response Hierarchy



The figure only tells us that the public wants water services to be delivered efficiently and cost-effectively. That might involve paying more now to obtain the lowest-cost, long-term solution. The time horizon of the value decision needs to be clarified.

V. Quality. Water the substance obviously differs in value depending on its quality. Quality is not easy to define, however. There are many water quality measures and systems of water quality classification.

VI. Water as a Human Right. This has recently been confirmed through the UN 'General Comment' referred to above. The right to water that has hitherto been implicit has thus been made explicit. How does one value this right? What is the value of the human right to food or the right of free speech? Are the values of these rights quantifiable, or impossible to quantify, or quantifiable in some circumstances but not in others?

VII. Individual and collective rights. The management of water is a fundamental reason for governance arrangements to exist. There are many occasions when

[21] Ageing Pipes and Murky Waters N.Z. Parliamentary Commission for the Environment http://www.pce.govt.nz/reports/allreports/0_908804_91_1.shtml

it is necessary to make choices between individual rights and collective rights. Which is more valuable in each time and place?

VIII. Human rights and property rights. These are different uses of the word "rights." The first is an entitlement that can't be traded or sold. The second is an asset that earns income and can (usually) be sold. Value discussions need to clarify which meaning of the word "rights" is being used.

IX. The relative "position" and relationships between people. For example those who are upstream create impacts on those who are downstream, but the reverse is not true. Asymmetries like this, whether real or merely perceptions, are recurrent in value discussions.

X. Natural monopoly, competition, and regulation. The very high proportion of fixed costs sunk in infrastructure compared with the variable costs of operation make the provision of water-related services in most cases a natural monopoly. This means that competition, when it exists,[22] is limited to competition "for the market" rather than competition "in the market." How does the value of promoting competition for the market vary from place to place and time to time? Similarly, since regulation is necessary for natural monopolies (whether publicly or privately operated) how do values influence the regulatory system?

XI. Profit. The concept of profit is difficult in many value discussions because people hold widely different views about the appropriateness of earning profits from managing an essential, vital resource like water. Some people think that the rate of return on investments is the same as profit. Accountants define profit as the difference between revenue and expenses. Economic regulators of public utilities often use formulas that implicitly rather than explicitly define acceptable profit levels.

7.4 Who's Values?

One of the features of water management that make it so challenging is the large number of stakeholders involved. These are the people whose values need to be clarified and discussed. Their values need to be understood, accommodated and acted upon. Achieving coherence in such a situation is unlikely to be completely attainable, but at least operable compromises can be sought and sustained. This is a central issue of governance systems.

Stakeholder relations are further complicated by the numerous and intricate points of contact between them, their uses of water, and the interactions between these uses. It is not unusual for an individual stakeholder to have several different points of view regarding water. A person can effectively be several different stakeholders in their own right, depending on the issue, time, and place. Individuals and stakeholder groups need help clarifying and prioritising their own values even before they interact with others.

Furthermore, values can change as a result of "conversations" between stakeholders. (This point is discussed in more detail in appendix B). Many conversations that should take place in order to arrive at good social decisions probably do not. We believe that

[22] Today the vast majority of water systems are operated through 'uncontested' government monopolies in a way that means there is neither of these forms of competition.

one of the keys to a more collaborative way of managing water is to find ways to stimulate these missing conversations to take place.

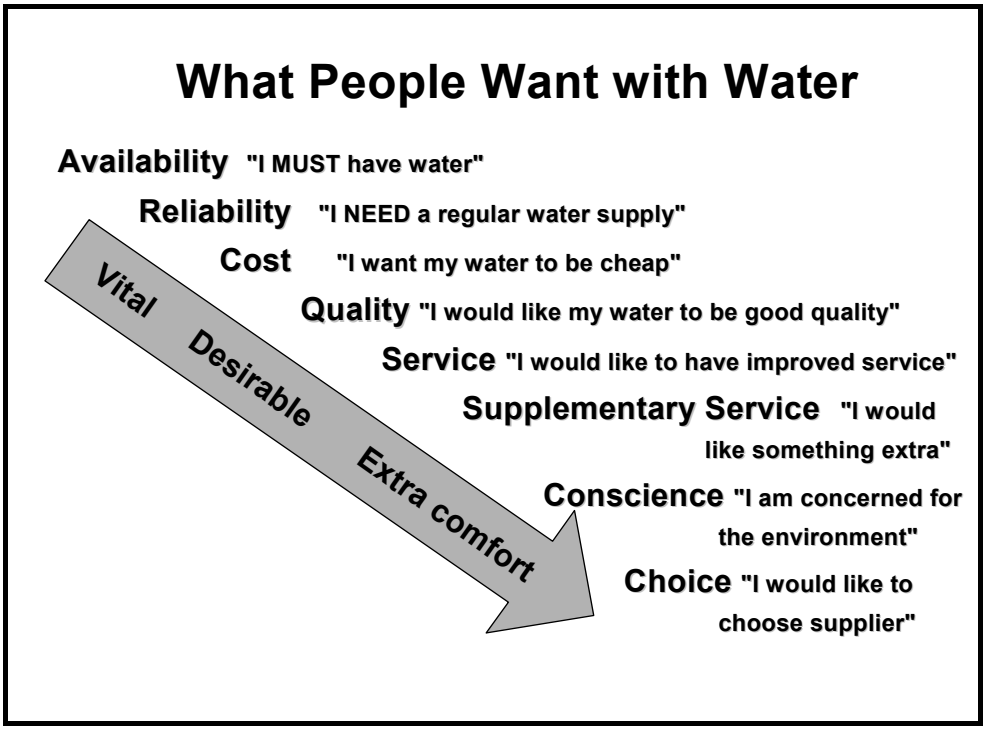
Conversations can also be "missing" because of the absence of key stakeholders from the discussions. It is important to have the right people talking about the right things at the right time in the right way. To ensure that all the stakeholders are involved and that all the conversations that should take place do so, a stakeholder mapping process is needed. We offer some preliminary thinking on this point in Appendix B.

7.5 Perceptions of Value Evolve

The following illustration (Figure 7) draws on the concepts of Maslow.[23] It is an attempt to show how peoples' perceptions of the value of water and sanitation evolve as a function of the level of service they receive. This is critical because, all too often, those who already enjoy the benefits of something have forgotten what it would be like to live without it. The more successfully a good or service is delivered, the more likely it is that beneficiaries will take it for granted.

The diagonal arrow indicates how needs progress from the vital necessities to support life, through aspects that are desirable to things that might be considered as attractive extras. The phrases listed across the page are an indication of how people might express this. As one moves from the needs to the extras more discretion becomes involved, and individuals will probably not always chose the same characteristics or place them in the same priorities. For example some may place concern for the environment higher than choice. In general, however, people are concerned with water supply before sanitation because the vital need aspect of water and cleanliness taboos play a strong role.

Figure 8 How Perceptions Change



[23] Abraham MASLOW 1908-1970, for a brief description of his theory of Hierarchy of needs see http://www.ship.edu/~cgboeree/maslow.html or http://www.connect.net/georgen/maslow.htm

There is strong evidence to suggest that people have a tendency to forget the value of the higher order vital benefits once these become readily and reliably available. However this does not negate the value of the “vital” benefits that will re-emerge quickly in a crisis situation.

More importantly it explains why those who do not have the water they need value it highly, whilst those who do have it value it less.

In addition, differences in one part of the list of benefits tend to be seen by stakeholders much more readily than similarities. Recognising that a significant amount of common ground exists can make progress in resolving or clarifying differences easier to achieve. We discuss this point further in the section on value differences, below.

8 Value Differences, Divides, Perspectives, and Conflicts

"The water crisis is mainly a crisis of governance."[24]

8.1 Value Differences and Divides

The value of water varies from use to use, user to user, and place to place. Markets might be used to allocate and bring the price at which water is exchanged into closer alignment across different uses, users, and places, just as in theory a single price of capital (rate of return on investments) would exist if international capital markets were perfect. But because market value is not the same as price, and because non-market values are not represented perfectly in markets, people will always have value differences to some extent.

These differences can be large or small. We refer to large value differences as 'value divides'. Value divides between important stakeholder groups need to be "bridged" in some way if sustainable water management solutions are to be found. Extensive experience shows that supposed "solutions" that are not supported by ALL important stakeholder groups eventually fail. They can and are undermined by the disgruntled stakeholders, or reversed entirely when political power shifts (e.g., the water concession in Tucaman Argentina).

A simple example of a value divide is between those who advocate more water markets and those who are worried about possible inequities from using market mechanisms to allocate water. Markets are a way of promoting economic efficiency; which some people value highly. They are not a good means for making equity decisions; political processes are better for that purpose. Consequently, those who value efficiency more highly than equity tend to support development of water markets; those who value equity more tend to oppose extension of water markets. These are not absolute positions, but tendencies that arise from an underlying, important value difference.

8.2 Value Perspectives

Can consensus be built across such vastly different non-market value perspectives? We think so. Consensus is achieved when people with differing perspectives agree to governance processes under which their perspectives can co-exist. The following sections of this paper describe some of the most commonly heard value perspectives about water systems. These are not ALL of the perspectives on the value of water; they are merely examples.

It must be recognised that there is a strong degree of 'rightness' in each of these perspectives and they should not be viewed as being mutually exclusive. **An important task as this work goes forward is to define more comprehensively the variety of perspectives that exist, the common ground, and the value divides**

[24]The Dialogue on Effective Water Governance, Update (2002) (A joint initiative of the United Nations Development Program, the Global Water Partnership, and the Institute for Local Environmental Initiatives)

between them. For example, we initially categorised perspectives in the traditional "triple bottom line" categories of environmental, social, and economic. Further discussion, however, led to the realisation that there are many possible subcategories within these three and there are many other valid categorisation schemes as well. When affordable and available 'water the substance' allows agriculture or an essential industry to thrive, is that purely an economic value? Food security is clearly a social concern, so labelling water for agriculture as an "economic value perspective" is problematic.

Consequently, we acknowledge that our list of value perspectives is a "work in progress" and that many people would classify perspectives differently. In that spirit, some examples of value perspectives are:

- The environmental value of healthy aquatic ecosystems and the things that depend on them (fisheries, tourism, recreation, survival of all species (including humans), etc.).
- The social values of water the substance, water resources, and water services. This includes sub-categories such as the value of universal water supply service (100% coverage) or subsidised water supplies for the poor. These issues are also clearly related to the concept of a human right to water that we discuss more fully in appendix D.
- The value of public health. Although this could be categorised as a social or economic value, we choose to list it separately since it is central to social and economic development and the quality of human life.
- Economic values such as operational and allocational efficiency.
- The value of water in production and product use, especially for water dependent industries and agriculture.
- The value of low priced water (and other basic services) to politicians whose re-election or hold on power depends on the perception they are serving their constituencies.
- Values related to gender.

There are clearly many other value perspectives that need to be analysed and researched carefully.

8.2.1 Environmental Value

Water resources are part of the life support system of the planet. This role is often difficult to value quantitatively but must not be ignored. For example, if too much water is taken from a river the natural purification services provided by the river downstream will be lost.

Water the substance has value even when left in the environment. These "in-situ" values have been relatively neglected in economic analyses. Fortunately, the last decade has seen enormous progress in the recognition that these benefits exist and must be, to the extent feasible, quantified. An important and emerging perspective on the value of water is the one that focuses on the value of in-situ water as an essential input for the production of so-called "ecosystem services." (e.g., Ehrlich & Mooney, 1983; Jansson, et.al., 1994; Daily,1997; Heal, 2000;). Table 1, reproduced from McNally and Tognetti, 2002, provides numerous examples and references that discuss

and quantify such values (see their paper for discussion of and full citations for the studies).

Table 1: Some examples of the economic benefits of healthy river basins[25]

Location of Benefits	Economic Benefit	Watershed Service	Economic Valuation Study
Upstream	Reduced crop losses	Soil quality maintenance: reduced soil erosion and loss of soil depth and fertility	Morocco, Loukkos: Brooks et al (1982)
	Value of goods – e.g. forest products	Land/water productivity: conservation strategies: e.g. afforestation	
	Improved livestock and produce	Land/water productivity: conservation strategies: e.g. pasture management	Nepal, Phewa Tal: Fleming et al (1986)
	Increased crop yields	Soil quality maintenance: ecological benefits: increased soil organic matter, moisture retention	Mali: Bishop & Allen (1989)
Downstream	Improved water availability	Water yield: intersectoral reallocation of surface and groundwater	US, Colorado: Howe (2000)
	Irrigation benefits	Water quality maintenance: improved yields through water quality improvement and reservoir yield	Java: Repetto et al (1989)
	Hydropower generation	Water quality/sediment retention and water yield: reduced siltation of storage dams, increased inflow	El Salvador, Acelhuete catchment: Wiggins & Palma (1980)
	Flood damage prevention	Water flow smoothing: reduced run off in high rainfall periods	US, North Carolina: Freund & Tolley (1966)
	Drought mitigation	Water storage: increased groundwater for drought years	Indonesia, Manggarai. Pattanayak & Kramer (2001)
	Fisheries benefits	Water quality and quantity: increased yields from improved water quality and quantity	Australia, New South Wales: Sinden (1990)
	Domestic and industry users	Water yield and quality: improved water quality, reduced treatment costs, increased yield	Morocco, Loukkos: Brooks et al (1982)
	Amenity	Environmental/ecological: recreation, tourism, ecological, habitat	Cyprus, Kouris: Swanson et al (2001b)

[25] Swanson et al (2001b)

There are real challenges to understanding the environmental value of water resources. For example, a healthy environment is clearly valuable to people via direct and indirect uses such as those listed in the table, and options for future use. But some people believe that nature has value apart from its usefulness to humans. This is an non-market value held by "deep ecologists" and other groups. Such groups often oppose market or conventional economic approaches to estimating the environmental value of water resources.[26]

Another difficulty is that we often can't quantify very accurately the full chain of consequences of actions that degrade or restore ecosystems. Without this knowledge, how can we quantify the benefits or costs of such actions? Work in this area must be encouraged.

8.2.2 Social Values

Water is referred to as a social good in numerous international documents (e.g., the Dublin Principles). However, there does not seem to be any single, universally accepted definition of social goods and services.[27] One widely used definition is that social goods are those that have significant “spillover” benefits or costs. Literacy is a social good, for example, because it benefits not just literate individuals but also makes possible a higher level of civilisation for all members of a society. Widespread availability of clean and affordable water is a social good under this definition because such availability improves both individual and social well-being.

Some people also see universal water supply and sanitation services as socially desirable and valuable because they represent a civilised way of living collectively, and are important for human dignity. In Ghana, poor rural communities became more confident in receiving visitors and talking to government officials when they are able to provide clean cups and serve tea. In Karachi, Pakistan, slum dwellers were able to socialise more with each other when their sanitation system was built. In Tanzania, access to water allowed people to meet their religious duties when they can wash up before they pray. This is clearly related to the concept of a human right to water that we discuss more fully in appendix D.

Making water supply available to everyone (universal service) doesn’t automatically ensure that people can afford to purchase water. Many societies take further steps to ensure that their poorest members can afford enough water to meet their basic needs. This is yet another social value. Implementing this social value may involve subsidies supported by general taxes or cross-subsidies between wealthier and poorer water

---

[26] Economic theory acknowledges a type of value that is similar to that claimed by deep ecologists. Existence value is the value to people of the mere existence of something, even if they are fully convinced they will never experience or use it. The value of preventing the extinction of a far-off, little known species is an example of existence value.

[27] Even the definitions of public and private goods in economics, which are far more clearly defined, are argued by some. A private good is generally defined as one that is rival or "subtractible" in consumption at any given time and place: you use it and I cannot. A public good by contrast is non-rival: we can both use it without interference (Stiglitz, 1988). Unless water pressure drops, a piped water delivery system is a public good while water "the substance" is a private good. But some definitions (MIT 1992) assert that private goods must also be "excludable;" that is, the benefits of use don't spillover to anyone other than the user. In any case, public and private goods as defined in economics have no relationship to public and private ownership: private goods can be publicly owned, and the reverse.

users. One of the values that is most often mentioned in arguments about private operation or ownership of water supply systems is that the poor may be denied enough water to meet basic needs. Similarly, this issue is raised when politicians or managers discuss moving toward full cost pricing in publicly owned and operated water supply systems. Deeply held non-market values are involved here: the value of caring for the poor, the value of human dignity, and the value of social solidarity across income divisions. This is also clearly related to the concept of a human right to water that we discuss more fully in appendix D.

Yet another aspect of the social value of water systems is related to their status as essential, natural monopoly public assets. The fear of loss of local or social control is an important value driver in most discussions of private sector involvement. Similarly, it prevents municipal water districts (whether supplying water, wastewater, or flood control services) from merging or co-operating more effectively to capture economies of scale or scope. Stated in the reverse, the perceived value of having "your own" municipal system has led many municipalities to pay a premium for having a system that fits their political boundaries rather than the most economically or environmentally advantageous boundaries.

8.2.3 Economic Values

Frustration over the failure to meet basic needs for water has been growing over the past decade after the massive effort of the International Drinking Water Supply and Sanitation Decade (1981-1990). Despite an impressive increase in the number of people with access to clean water, the number without access remains unacceptably high. During the 1990s, mobilisation of the financial, engineering, and physical resources required to supply clean water to those without it was recognised to be unfeasible without more efficient use of water and a rethinking of national and international water priorities and policies. Among these was the potential value of applying economic tools and principles. Consequently, the International Conference on Water and Environment, held in Dublin, Ireland in January 1992, included the following principle among the four so-called “Dublin Principles:”

> “Water has an economic value in all its competing uses and should be recognised as an economic good” (ICWE 1992).

The potential benefit of this principle is that increasing economic efficiency is equivalent to increasing in the size of the economic "pie." As the example below demonstrates, value can be "created" through exchanges of water the substance or the rights to that water. Value creation through new or expanded markets is perceived as desirable by many people. On the other hand, many people are worried that the pursuit of economic efficiency in the water sector will lead to inequitable outcomes. Consequently, of the four “principles” enunciated in Dublin, this one has stirred the most debate and confusion. What does it mean?[28] Managing water as an economic good, broadly speaking, means that water will be allocated across competing uses in a way that maximises the net benefit from that amount of water. Allocation of water can take place through markets, through other means (*e.g.*, democratic or bureaucratic allocations), or through combinations of market and non-market processes.

---

[28] Much has been written on this subject (see, for example, Perry et al. 1997, Rogers et al. 1998, McNeill 1998, Briscoe 1996, 1997, Garn 1998). Rogers et.al., (1998) discuss this issue at length, including examples from Thailand and India.

In turn, what does “water will be allocated across competing uses in a way that maximises its value to society" mean, in practice? This is where differing interpretations and vocabulary have caused, and continue to cause, considerable confusion and debate in the international water community. An illustration helps to see the meaning of this phrase:

Suppose that a group of fishermen have the choice between leaving an additional volume of water in a river to enhance fisheries or selling that water to a nearby factory. If the factory is willing to pay more than the fishermen will benefit by leaving the water in the river, the fishermen can make money by selling the water. The factory makes money after buying the water, or they wouldn’t purchase it. This means that a water trade would increase the combined net benefits of water use to the fishermen and the factory. Unless there are adverse effects from the water trade on third parties, or “external costs” that haven’t been accounted for (and we note that there usually ***are*** such costs, such as the oft-ignored ecological values of leaving the water in the river), the fishermen and factory lose, economically, if the water is not sold (allocated) to the factory. Similar logic applies if there is another party who would pay more than the factory for the water. Then the water should be sold (allocated) to that party. When all opportunities to increase net benefits by re-allocating water have been captured, water will have been “allocated across competing uses in a way that maximises its value to society."

While these principles and the value of implementing them are clear in theory, the real world is far more complex. Such transactions often entail third-party impacts, and there are many benefits of water the substance, water resources, and water services that can never be adequately measured in economic terms. Thus, in our example above, the fishermen may not be able to reasonably assess the value to them of leaving the water in the river, affected downstream users may not be consulted about the negotiations or may be unable to voice their concerns politically, and unexpected chains of ecological impacts may result.

8.2.4 Public Health Values

Good water supply and sanitation is probably the most cost effective form of preventive medicine that exists. The ‘economic burden’ of disease is becoming better understood and more readily measured. Water related diseases do not impact the developing and the developed world in the same way. The WHO has estimated that the disease burden of water related diseases can be up to 240 times higher in developing countries than in industrialized ones. This reflects the fact that universal water and sanitation services are available in the developed world and not in large parts of the developing world.

Effective water services management can translate into considerable reductions in cost of provision of health services by governments. They also reduce dramatically the costs incurred by households, either directly or indirectly, as a result of ill health or even death of family members. The capital investment needed to establish an extensive water system may be higher than building hospitals and establishing health infrastructure, but its benefits last much longer and have other advantages as well. The operating costs are also probably lower. Thus the economic yields due to good health that can be gained from effective water services represent an enormous value to communities and governments.

8.2.5 *Gender Values*[29]

Both men and women shoulder responsibilities relating to water. But the gender division of labour and decision making within societies determines who has control over its use in a wide range of activities: agriculture, domestic water supply and waste disposal, industrial use, aquaculture, transport, energy and ecosystem maintenance. It is often women who have to deal with all the issues of domestic supply, while men deal with water for agriculture and economic production. Balanced attention to the gender-dimension can optimise social and economic development and reduces competition and conflicts over water.

However, women are not a homogenous social group. Class, age, religion and ethnicity create important variations in the conditions under which women live, influencing the needs they express, as well as their priorities and demand for water. In general, women comprise an above -average percentage of those designated as poor, but the physical and social realities governing rural, peri-urban and urban water supply are often markedly different. The problems connected with women's roles can therefore vary radically because of geographical context.

Lack of water is a determinant of poverty. This has a devastating effect on millions of households throughout the rural developing world, as well as in rapidly expanding towns and cities. A high proportion of those households are headed - or primarily sustained - by women. In millions of others, lack of water and waste management - for which women are principally responsible - inhibits women's capacity to protect their families' health and to enhance their productivity. Since women are significantly over-represented among the poor, lack of water and of a clean, safe environment, contributes to the feminisation of poverty and to the entrenchment of poverty generally.

In many societies, water is considered a 'woman's' work and men who are frequently responsible for the governance of the community refuse to take any interest in it. These deeply seated, differing value perspectives are present in many developing countries and a surprising number of "developed" countries as well.

8.2.6 *The Value of Water in Production and Product Use*

Another type of economic value – but worthy of a separate category for the purposes of this paper – is related to the fact that many businesses depend on water either as a raw material or as an aid in the process of manufacturing products (cooling, heating, cleaning). The historical perspective of the value of water to businesses was focused on its instrumental use in production processes. Reliability and a supply of consistent quality, at an acceptable price, was the paramount value concern.

However, businesses have recently begun to realise that their customers cannot use their products without water or without other water-dependent products. Examples include products used in cooking, personal hygiene, washing, and cleaning. The profile of product-related water use (the imprint) varies dramatically between different sectors. For example, consumer use of water dominates the imprint of household products. In contrast, the water embodied in the ingredients (due to their agricultural source) dominates the imprint of most food products.

---

[29] A special thanks to Jennifer Francis of the Gender and Water Alliance for her contribution to this section

Food production is a necessity. Agriculture is the largest single category of water use worldwide and in many countries and regions. The efficiency of agricultural water use varies widely. Where inefficient practices are commonplace these have potentially serious implications for other users. Leading practitioners increasingly are implementing more sustainable practices with targeted use of water and fertilisers and reduced soil loss.

Understanding how products are used will be a basis for future products that need less water (e.g. rinse more easily) or have less impact in use (smaller imprints). What happens after use is also becoming an important part of the "product and production" perspective on the value of water. The biodegradability of ingredients and the possibilities for materials to be transported throughout the water cycle (or to accumulate in living tissues) are increasingly part of product design and incorporated into product development processes. This is even more important in developing countries where growing populations and inadequate (or no) wastewater treatment contribute to high levels of water resource stress and scarcity.

In summary, water has value as a productive input and in product use in ways that we are just beginning to understand. Businesses involved in multi-stakeholder dialogue about water system development and management may offer some unexpected value perspectives. The old days where businesses cared only about reliable, inexpensive water supplies and inexpensive ways to dispose of waste are passing. The value perspectives of the business sector with respect to value issues are changing and need much further discussion and elaboration as part of an on-going multi-stakeholder dialogue about water systems and their values.

8.2.7 Political value of low-priced water or water services.

Politicians understand that re-election depends in many cases on their having "delivered" something to their constituents in general or interest groups they are aligned with. Consequently, there is enormous immediate political value in keeping water prices and the direct fees associated with other water services (e.g., sewer connection fees) as low as possible. This value is an enormous contributor to the problem we describe at the outset of this paper. Understanding and respecting it is necessary if particular societies are to find a way to solve the problem of under funded and under performing water systems.

Fortunately, the political value of low-priced water or water services is instrumental. Other options ways that politicians can "deliver" for their constituents and interest groups exist. But respectful dialogue about this value perspective is necessary if these other options are to be developed and made available to politicians in specific situation.

8.3 Value Conflicts and Governance Failures

We conclude Section 8 of this paper with two very brief examples of value divides. We believe that these divides could have been bridged before they became conflicts via appropriate dialogue (missing conversations). Positive examples of value divides that have been bridged to avoid or manage conflict and achieve "win-win" outcomes are presented in Section 9.

8.3.1 A Water Allocation Value Divide

The Owens Valley in the south-eastern part of California in the United States was once a healthy farming community and rural valley ecosystem. It was dramatically changed for the worse when most water rights were purchased and water was exported to the City of Los Angeles. The farming economy collapsed, both directly when farmers who sold their rights initially stopped farming, and indirectly as the remaining farmers who did not want to sell found that the rural economy and infrastructure of their community (equipment suppliers, grocers, etc.) could not continue once the number of farmers was reduced dramatically. Cultural and social values were lost because the value of local water rights and local uses was not recognised. Water allocation decisions were made without consideration of their local, social and cultural significance.

On the other hand, the financial value of Owens Valley water used in Los Angeles was many times greater than if left in the Valley for agriculture. This transfer of water resources increased the size of the economic "pie" in Southern California significantly. It was economically efficient.

8.3.2 A Water Supply Value Divide

One example is the failed water system concession in Cochabamba, Bolivia. Water supply in Cochabamba has been inadequate for decades due to weak government water utilities and ineffective water governance processes. The attempted privatisation of 1999-2000, however, was a spectacular failure in which millions of dollars and up to seven lives were lost (reports vary). Few of the inadequacies of the water supply system were solved. An excellent recent analysis of the causes of the Cochabamba failure by a professor of public policy at the University of Birmingham, England, and the Superintendia of Aguas in La Paz, Bolivia (Nickson and Vargas, 2002) provides more detail about the failure.

Their analysis makes clear that many value perspectives collided in Cochabamba. The water concession agreement and associated rate hikes were detonators but not creators of the underling value divides. One divide was between the many Bolivians who believe in the importance of economic efficiency and private sector participation (PSP) in reform of Bolivian water supply systems, on the one hand, and on the other hand the many Bolivians who believe that the pursuit of efficiency and PSP reflected lack of concern for equity and the proper role of the state/ community in managing an essential resource like water. Another divide was between those who felt that an exclusive concession for all water supply was efficient and those who believed that an exclusive concession was inefficient and inequitable because it would put local water vendors out of business and prevented owners of existing domestic wells from using those wells. These value perspectives came into conflict and perpetuated the ineffective water governance and associated human suffering that historically and currently exist in Cochabamba. The fundamental problem was and remains one of ineffective governance, which is in turn at least partially the result of value differences that have not been clarified and bridged.

9 Delivering Value

"Income levels differ dramatically across countries. According to the best available measures, per capita incomes in the richest countries are more than 20 times as high as in the poorest. … Though rich and poor countries do not usually share common boundaries, sometimes there are great differences in per capita income on opposite sides of a meandering river, like the Rio Grande, or where opposing armies happened to come to a stalemate, as between North and South Korea, or where arbitrary lines were drawn to divide a country, as not long ago in Germany.

At the highest level of aggregation, there are only two possible types of explanations of great differences in per capita income across countries that can be taken seriously. … The first possibility is that … national borders mark differences in the scarcity of productive resources per capita: the poor countries are poor because they are short of resources. … The second possibility is that national boundaries mark the borders of public policies and institutions that are not only different, but in some cases better and in other cases worse. Those countries with the best policies and institutions achieve most of their potential, while other countries achieve only a tiny fraction of their potential income.

Mancur Olsen Jr. (1996)

We noted in the problem description (Section 4) that low perceptions of the value of water resources, water services, or water the substance often lead to under funding for water systems and ineffective governance of those systems. Ineffective governance of water systems also leads to or reinforces low perceptions of value. In this section of the paper we describe and provide examples of how societies and water managers can escape this vicious circle through dialogue about value perspectives used along with formal political processes and (when appropriate) markets.

9.1 Governance

Governance is about setting an equitable policy framework and then using it to balance and accommodate these diverse wants. Effective governance satisfies stakeholder groups enough that they can "live with" the outcome, even when it is not what they would like ideally. Trade-offs and compromises are part of effective governance. So is creative bridge building.

Achieving effective governance depends on many factors (see Box 3). Causes of ineffective governance include corruption, inadequate financial resources, inadequate labour and managerial skills, low prioritisation and poor communication.

The last two items in this list are the focus of this paper. If they can be overcome the others are likely to be less troublesome. We believe that better valuation processes can make a significant contribution to both prioritisation and communication. This is one of the reasons we believe that the work initiated in this experiment needs to be taken forward. This should be done in both a theoretical and an empirical manner.

Box 3 Principles of Effective Governance[30]

Effective governance has 8 major characteristics. It is participatory, consensus oriented, accountable, transparent, responsive, effective and efficient, equitable and inclusive and follows the rule of law. It assures that corruption is minimised, the views of minorities are taken into account and that the voices of the most vulnerable in society are heard in decision-making. It is also responsive to the present and future needs of society.

Participation - Participation by both men and women is a key cornerstone of good governance. Participation could be either direct or through legitimate intermediate institutions or representatives. It is important to point out that representative democracy does not necessarily mean that the concerns of the most vulnerable in society would be taken into consideration in decision-making. Participation needs to be informed and organised. This means freedom of association and expression on the one hand and an organised civil society on the other hand.

Rule of law - Good governance requires fair legal frameworks that are enforced impartially. It also requires full protection of human rights, particularly those of minorities. Impartial enforcement of laws requires an independent judiciary and an impartial and incorruptible police force.

Transparency - Transparency means that decisions taken and their enforcement are done in a manner that follows rules and regulations. It also means that information is freely available and directly accessible to those who will be affected by such decisions and their enforcement. It also means that enough information is provided and that it is provided in easily understandable forms and media.

Responsiveness - Good governance requires that institutions and processes try to serve all stakeholders within a reasonable timeframe.

Consensus oriented - There are several actors and as many view points in a given society. Good governance requires mediation of the different interests in society to reach a broad consensus in society on what is in the best interest of the whole community and how this can be achieved. It also requires a broad and long-term perspective on what is needed for sustainable human development and how to achieve the goals of such development. This can only result from an understanding of the historical, cultural and social contexts of a given society or community.

Equity and inclusiveness - A society's well being depends on ensuring that all its members feel that they have a stake in it and do not feel excluded from the mainstream of society. This requires all groups, but particularly the most vulnerable, have opportunities to improve or maintain their well being.

Effectiveness and efficiency - Good governance means that processes and institutions produce results that meet the needs of society while making the best use of resources at their disposal. The concept of efficiency in the context of good governance also covers the sustainable use of natural resources and the protection of the environment.

Accountability - Accountability is a key requirement of good governance. Not only governmental institutions but also the private sector and civil society organizations must be accountable to the public and to their institutional stakeholders. Who is accountable to whom varies depending on whether decisions or actions taken are internal or external to an organization or institution. In general an organization or an institution is accountable to those who will be affected by its decisions or actions. Accountability cannot be enforced without transparency and the rule of law.

CONCLUSION - Effective governance is an ideal that is difficult to achieve in its totality. Very few countries and societies have come close to achieving effective governance in its totality. However, to ensure sustainable human development, actions must be taken to work towards this ideal with the aim of making it a reality

People value water the substance, water resources, water services, and the characteristics of their water systems in various ways. As discussed in section 7 and Box 2 above, value perceptions change according to a variety of factors. Effective governance needs to respond to and also influence these changes. To do this the

[30] Source What is Good Governance UN - ESCAP http://www.unescap.org/huset/gg/governance.htm

decision-maker needs to receive, decode and react effectively to the value signals people send about their value perceptions.

We believe that one of the problems of water governance is that the signals are too weak to command the influence needed. This is because water values are not sufficiently strongly held or articulated by some of the stakeholders. Our work begins to address this deficiency, but much more needs to be done (see Section 10).

The other problem arises from value differences. In many cases value differences don't substantially interfere with the effectiveness of the water system. But in some cases, as the examples in section 8.3 above show, they become value divides. These eventually erupt into value conflicts that prevent the system from functioning adequately or from being improved or expanded. In those cases, people and businesses suffer unnecessarily, either directly or as a result of environmental degradation.

9.2 Wealth and Values

There is extensive economic evidence that societies that work out their differences peaceably are wealthier than those that are unable or unwilling to resolve such questions (Eggertsson, 1990; North, 1993, Olsen, 1996). After all, co-operation is necessary to capture economic opportunities unavailable to one group alone, and resources used in conflict are diverted away from production. This section is about methods for bridging value divides successfully. It begins with a short discussion of decision-making processes and concludes with selected examples of value divides that were overcome through dialogue.

9.3 Value in Decision-Making Processes

Value differences are perennial. People have developed various strategies for working out their differences productively. We briefly mention three strategies here. This is to help the reader understand why we feel that the third strategy is important to solving problems in the water sector. Historically it has been important, but has been under-utilised in recent times. In an ideal world, all three strategies would have a role in decision-making. The roles might vary greatly from place to place and time to time, however.

9.3.1 Formal Political Processes

Formal political processes are one way of reaching compromises and trade-offs between different value perspectives. These processes operate through structured institutions and are essential when a decision outcome is needed that may impinge on the interests of certain parties against their will. This is why political processes are usually formalised: they often create "winners" and "losers." The formal rules of the process are pre-specified and pre-agreed upon. The rules address who is permitted to vote or participate, advance notice provisions or requirements for public hearings, a decision rule (e.g., simple majority or 2/3 majority), and so forth. These formalities are necessary if the outcomes are to be accepted as legitimate by stakeholders who "lose." There is a real danger that political processes favour the powerful or influential members of society.

These formalities make it difficult for people to communicate clearly about their differences. Hiding one's ultimate objectives from other stakeholder groups is often

strategically advantageous. Admitting one's vulnerabilities or past errors or "worries" is seen as a sign of weakness, or perhaps worse, as irrelevant. But these actions may be essential to clarifying the values of stakeholder groups, identifying common ground and differences, and working out solutions that are acceptable. Consequently, political processes benefit when other processes that don't have these limitations are used to supplement and inform them.

9.3.2 Market Processes

Market processes are another way of reaching compromises and trade-offs between different value perspectives. People express their values in buying and selling decisions and obtain information about the values of other market participants. People learn what they can get (purchase) by giving up (selling) things they own. This information about substitution possibilities helps people to make trade-offs and compromises among the many choices they face. A weakness of markets in this respect, however, is that market outcomes give higher priority to the non-market values of those who are wealthy than to the non-market values of those who are poor.

In addition, markets don't work for all goods and services, or may work imperfectly. Goods or services have to be tradable (discrete enough to be exchanged). A marketplace where buyers and sellers can come together must also exist. Markets with poor quality information or asymmetries in information may lead to poor pricing decisions or may prevent such decisions from being made at all. In the majority of cases water services and resources are natural monopolies. They thus lack at least some of these essential market characteristics and this makes markets an imperfect and incomplete tool as far as water is concerned.

Of course competition for the market (for exclusive service contracts for example), as opposed to competition in the market (between non-exclusive service providers), is possible. In limited circumstances, markets for water the substance can be established successfully, as in the irrigation water market in the Murray Darling Basin in Australia and the drought bank in California.

9.3.3 Consensus Processes

Historically consensus forms of governance have existed and been very effective ways of organising the functioning of common interest activities in communities. A modern form of this is the multi-stakeholder dialogue that potentially leads to consensus. These are a third avenue through which people can and do express their values and try to work out conflicts between them (prioritise and reconcile their values). Such dialogues tend to be relatively informal and time consuming. They usually have the advantage of being inclusive and driven from the bottom up and less driven by wealth or power considerations. They are also well adapted to situations like water governance that requires regular review and adjustment.

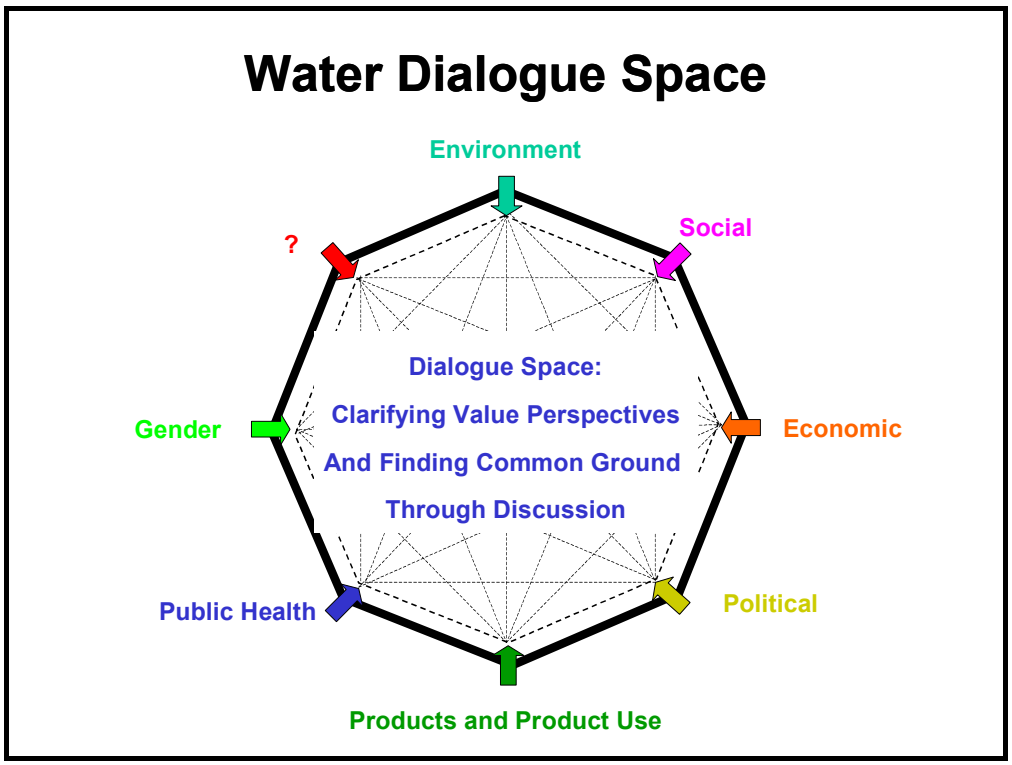
We believe, as do many others these days, that stakeholder dialogue is an important but neglected adjunct to market and political decision-making processes. The processes need to be more widely developed and integrated better with the other processes so that the strengths of markets, political and dialogue process can operate in a complementary manner.

9.4 Dialogue Space

The seven value perspectives that we outlined above and others are the sources of value differences and divides. Two or more perspectives may seem to be inconsistent or actually be inconsistent. Dialogue is necessary to sort out which value divides can be bridged to achieve "win-win" outcomes and which ones require that one value be subordinated to another.

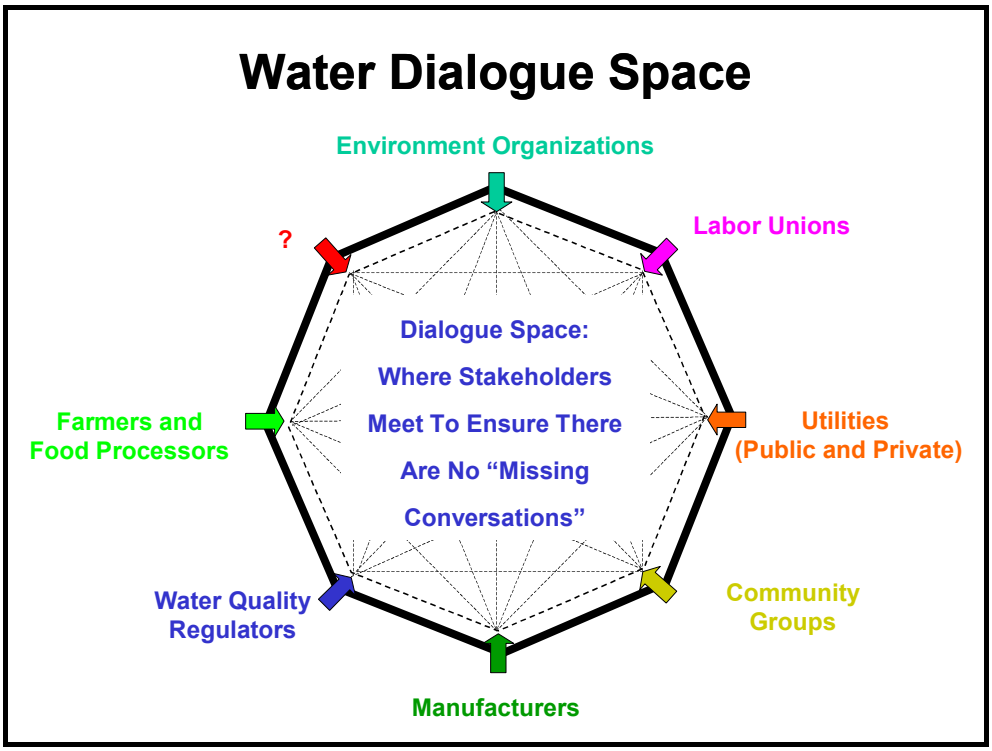
We represent the "space" within which dialogue should take place as an octagonal “Dialogue Space” (Figures 9 and 10). Figure 9 represents value perspectives. Figure 9 represents stakeholder groups. Recall that value perspectives are not the same as the perspectives of stakeholders. In fact, value perspectives often cut across stakeholder groups. One of the benefits of dialogue is that it can identify common ground, such as value perspectives shared by many stakeholder groups.

Figure 9 Dialogue Space and Value Perspectives



In Figure 9 we've listed the seven example perspectives from Section 8 of this paper. We've labelled the eighth corner in the figure with a question mark to indicate that our work identifying value perspectives is incomplete. It is almost certainly the case that eight points are not sufficient. However in specific situations, perhaps only some of the value perspectives will be critically important. The dotted lines represent the conversations that should take place between each perspective. Developing the concept of the dialogue space and ways to use it in practice is an aspect of this study that we suggest needs to be developed in the future.

Figure 10 Dialogue Space and Stakeholders



What should take place in the dialogue space is an organized and regular multi-stakeholder dialogue. Figure 10 shows seven stakeholder groups and a question mark, which indicates that our list is incomplete and provided as an example only. Multi-stakeholder dialogue can and often will lead stakeholders to reach their own balanced solutions to many of the problems facing them. When solutions are not achieved or achievable on an informal, voluntary basis, multi-stakeholder dialogue still simplifies the questions that require formal, political decisions.

9.5 The Problem of Up-scaling

Work done by non-governmental organisations (NGOs) and by the private sector in recent years shows clearly the power of dialogue and community involvement at the local level (see appendix C). This is particularly clear in establishing water and sanitation services in peri-urban slum areas and also rural settlements. To some extent it has also been shown to work at a larger scale in some irrigation schemes.

These schemes have been successful in part because the scale has been contained within the 'span' of human experience. By this we mean the ability of the people involved to see and associate themselves with all the issues to be addressed. In a disadvantaged peri-urban area water and sanitation are major preoccupations. They can easily be understood by the residents who can see what they can do from a practical point of view to assist in obtaining these services.

However the larger the scale of the problem, the more numerous, remote and disparate are the stakeholders and their interests. The difficulty of establishing and maintaining dialogue between them increases and the ability of the majority to participate directly decreases. The need for a flow of reliable and up-to date information becomes more important. The complexity of decisions increases and so

does the time taken to implement those decisions. People can no longer achieve most of what needs to be achieved through their own actions and their own neighbourhood governance.

In much of the developing world explosive population growth and rampant urbanisation are serious challenges. This problem of scale is fundamental. (See Box 3)

Box 4: The Dilemma of Water Development for a Mega-City

Visiting one of the water authority managers for a zone of an Asian mega-city of ten million one quickly saw that all was not well. She was responsible for a zone with a population of 500,000. In the control room, equipped with the very latest technology and information systems, alarms were ringing showing empty reservoirs and pumps that have stopped. The control room overlooks the reservoir for the community, a reservoir for 50 000, not for 500 000!

We were witnessing a classic case of the difficulties of water governance. This can be seen repeated countless times throughout the developing world.

Fifteen years ago this community was a small town separated from the main city. Rapid urbanisation In the last few years has caused the town to be surrounded by shanties, factories and high-density dwellings. Demand has escalated and public water systems have not kept up. The city's pumps break down as they try to draw water from the depleted aquifer. The unreliability of the supply is made worse as factories and property developers sink increasing numbers of illegal and deeper boreholes. These also cause subsidence and saline intrusion. In the old town the system struggles on but without sufficient water to maintain pressure in the pipes. The rich get some water, but the poor none.

A major scheme taking water from the river was started, but never completed. Poor planning and failed procurement are partly to blame. In addition, over abstraction from the river caused the flow to decrease so the water became brackish as seawater from the estuary moved upstream.

Finding new water sources water from a more distant river raises new issues. Farmers need the water for irrigation, and environmentalists resist taking the water, which will impair natural habitats.

In this situation we see a multitude of different water uses all having special value to a particular sector of the population. Most of them are intermingled with each other. The factories need water to survive; the housing needs water for the factory to have workers. The metropolis needs food from the farmers but also water in the river.

Based on the realities facing several Asian Mega-cities.

Perhaps there is no alternative to relying on more formal governance that is delegated -- often by default -- to others. In practice, the role of dialogue in decision-making declines when larger scales are involved while the role of political and market processes increases. But whether that is inevitable or not remains to be seen. Ways to overcome this difficulty need to further exploration. **In summary, although we believe firmly that creating dialogue spaces within which at least some value differences are worked out can greatly help to solve water-related problems, we**

are also aware that dialogue tools need to be adapted and strengthened to cope with water problems at the scale often experienced in the modern world.

9.6 Success Stories

The next section of the paper presents examples of stakeholder dialogues about values that allowed potential conflicts to be avoided and facilitated upward movement along the virtuous spiral of increased funding and improved governance of water systems described in Section 6. Moving up the spiral means that water systems will deliver more value to people who will therefore be willing to fund them at higher levels. That in turn makes it possible to actually meet all human basic water needs while simultaneously protecting the environment and promoting social equity.

The following success stories demonstrate that values can be clarified, conflicts avoided or solved, and effective funding of water systems and their governance greatly increased. The details of the "success formulas" behind these examples are not entirely clear yet. They may never be. But at the highest level, every success story involved people talking about what they value and why they value it, and a belief by all significant stakeholder groups that water governors respect their values (especially when decisions that involve compromises and trade-offs between value perspectives were necessary).

9.6.1 Bridging Economic, Health, and Social Perspectives

Dodoma, one of Tanzania's 20 mainland regions, is located on dry, upland plains with a population of about 1.7 million. Over 10 years ago, a collaborative partnership started that helped 86 communities (initially) to provide themselves with improved water supply and sanitation systems. For the construction of a water system, it was typical for villagers to provide cash contributions and labour; government to provide qualified staff, and construction equipment; and for a Northern non-government organisation, to provide funding that paid for the purchase of locally-procured materials and other costs. Once a water system is constructed, water user committees take over its management and operation. After extensive community discussions, most committees would make an important decision: to charge users for the water they use while maintaining subsidies for at least some of those who can't afford to buy water.

Today, this programme has become progressively self-sustaining and has generated funds worth a remarkable US$120,000 kept in banks. The programme has been credited for improving water coverage in Dodoma to 75%. This is one of the highest in Eastern Africa, when ten years ago the region had one of the lowest coverage rates in Tanzania. Other countries and regions in Tanzania have sent delegations to Dodoma to learn from and possibly replicate the experience elsewhere. (Jarman and Johnson, 1997; Gomme, 2002)

There are many principles at work that contributed to the success at Dodoma – e.g. partnership, community empowerment, local government capacity building, and so on. But perhaps the most interesting is the practice of charging user fees to poor people that includes a cross-subsidy for some of those who are even poorer. This makes the value of water immediately visible and quantified. The user who pays a fee immediately becomes conscious of the value of the resource he or she is using as well as the value of the system that has made this resource easily available. And the value of the system in the minds of the users apparently also includes public health and social equity benefits. Why else would poor people pay for water for the even less

fortunate when they need more money for their own health needs, to contribute to the education of their children, or for buying more inputs for agricultural production? Apparently, the experience in Dodoma illustrates one way that multiple value perspectives have been reconciled: public health and social equity benefits are valued while the economic efficiency of a self-supporting system is also valued. Small-scale dialogues have helped people to see that water systems are valuable in many ways. Recognising these multiple values creates a situation in which many stakeholders take responsibility for continued operation of the system.

9.6.2 Bridging Individual and Collective Value Perspectives[31]

The Beauce aquifer, which underlies a very fertile agricultural area in central France spans parts of two major river basins and numerous different administrative areas (6 departments, 2 Regions and 2 water agencies). Irrigation of crops has expanded enormously over the last 25 years to the extent that serious problems became evident in the successive droughts of the early 1990s. The aquifer level dropped over 5 meters in 3 years; of the upstream courses of some rivers dried up and municipal water supplies were seriously threatened.[32]

A classic "tragedy of the commons" situation existed in which maximum financial value in the short term (by growing as much crop as possible) is in conflict with the long-term value healthy aquatic ecosystems and a sustainable level of agricultural production. Individuals who value the sustainable outcome, however, cannot achieve it without coercing or convincing all farmers to control groundwater pumping. However, controlling the use of over 3,300 private irrigation boreholes with conventional, historic administrative processes proved ineffective and the idea of using economic instruments was rejected. The solution now in place is based on three elements. The first is stakeholder participation in an ‘aquifer committee’. The second was an independent study of the sustainable yield of the aquifer. The third is support of the local agencies of the state to guide the consultation process and to assist enforcement of the allocation decisions.

Allocation of water has been achieved through individual permits that embody the following rules:

- for each irrigation well, a reference volume was fixed for annual water allocation, totalling 450 million m^3 for the whole territory
- the real allocation of a given year is a percentage of the reference volume as mentioned above; for instance in 1999, a reduction factor of 20% was applied
- an irrigator is allowed to go beyond his allocation by 20% for one year, but this “credit” will be deducted from his allocation for the following year
- each well must be metered, and the water consumption recorded by the farmer himself (auto control). The state officials carry out controls on a sample basis to ensure the procedures agreed are followed.

The farming community was reluctant to accept this process, but a consensus was achieved by creatively involving the Chambers of Agriculture. These represent the

[31] A special thanks to Jacques Labre of SUEZ for his contribution to this section

[32] See Didier le Coz in La Houille Blanche No. 7/8 2000 for more details

interests of farmers at a manageable scale (the *département*). The most important negotiations were conducted at this level, which is not related to natural hydrologic conditions but was the best one for the political debate. The Chambers were able to explain the issues to their constituency and also disseminate information about efficient water use practices in irrigation.

As a result the farmers accepted the principle of allocating quotas for each of the 6 *départements* (within the 450 Mm3 total envelope). The rules for sharing this quota among individual farmers were decided by their Chambers. This made it possible for the farming community to introduce its own criteria, reflecting the values of their group (e.g. priority for young farmers facing a heavy debt burden). The permits issued by the *préfets* validated those collective choices.

Three lessons from this experience are important for this paper:

- a relatively informal stakeholder process helped to solve a problem that was not solvable using formal political processes, alone.
- consultation of stakeholders was necessary but not sufficient. A legitimate authority was needed to guarantee enforcement of the rules accepted by the representatives of conflicting interests. This is true even though auto-control of consumption by farmers is also very strong. One of major incentives to respect the rules is the vigilance of the population in the valleys, who will not tolerate a repetition of the situation of the '90s at the next drought.
- scientific analysis and models are very useful to explain the issues, bring more objectivity to the discussions, and describe scenarios. However crises require fast action and it is not possible to wait for "perfect" simulation tools. Near enough is good enough.

9.6.3 Bridging Economic and Environmental Perspectives

When manufacturing takes place in water scarce regions, the potential exists that economic efficiency and bottom-line business needs will conflict with the water needs of people or the environment. In India one of the CEO panel member companies found a way to bridge the economic efficiency, human need, and environmental value perspectives by turning wastewater into an input for another process. Liquor generated by scrubbing exhaust gases from one of its processes is entirely reused in the manufacturing processes of one of their suppliers. This reduces demand for water, freeing up water for people, and eliminates discharge of polluted water.

At another of their sites rainwater is harvested to improve water availability. An integrated model was developed for collecting rainwater, regenerating soil, and creating a green belt by addressing the issues of high surface water run-off and soil erosion. The run-off was restricted by building a series of trenches and earthen bunds along contour lines and by reinforcing the bunds with "vetvier" grass. This programme has raised the water table and transformed a waste land into a green belt with over 8,000 trees.

9.6.4 Bridging the Gender Divide

Limaï, a community in the DED project in Cameroon, had a relatively well functioning water service. It had a more demand-responsive approach, more equitable contributions, and a stronger, more capable and more autonomous water

management organisation. The history of Limaï's water service has to be seen in the context of its location in the region of Bassa. Women in this region marry into the village of their husbands and continue to be considered strangers, although they belong to the same ethnic group as their in-laws. The shared experience has caused high solidarity among them and has stimulated them to unite and organise around their most pressing need, a better domestic water supply. The women formed a women's group that initiated the water project, chose the locations and raised the initial capital by cultivating a communal field. Having got the project off the ground, they then invited men into the local water committees that manage the service. The management work is divided along gender lines: a man is in the chair at village level and a woman is the village water treasurer. Women chair water committees at neighbourhood level. Men committee members clear the paths and sites from vegetation, open and close the water points and manage conflicts, spending in total about three times as much time as women members. Previously, the women's group raised all income to maintain the service. Recently they have been able to convince the men to also contribute financially as the domestic water benefits all members of the households, and not just the women.[33]

9.6.5 Engaging "All" Value Perspectives

The Pasig River is the critical lifeline for the ecological health of Laguna de Bai to the east of Manila, the Philippines. The river flows from the lake westwards into Manila Bay and out to the South China Sea. It has traditionally been the source of livelihood for thousands of fishermen who depended on the migration of fish up-river to the lake.

Throughout the 20th century the Pasig's health deteriorated. By the 1930s fish were unable to make their easterly migration. By 1950 bathing or clothes washing was impossible. Ten years later the smell from the river was so offensive that those who could, abandoned the ferryboats. By the 1980s there was almost no river tourism and fishing was non-existent. The Pasig River was declared biologically dead. In 1993, the Pasig River Rehabilitation Programme (PRRP) was launched. Its aim was to improve water quality to Class C (i.e. with thriving aquatic life, and clean enough for boating) and to improve the environmental state of the entire river system by 2008. Endorsed by the President, PRRP was backed by the United Nations Development Programme, government agencies, industry and business, private organisations, the World Bank, Japan International Cooperation Agency, as well as numerous non-governmental organisations (NGOs).

PRRP's agenda is bold and spans 15 years. It includes ridding the water of solid waste, redeveloping the waterfront and renovating bridges as well as supporting community based programmes and promoting Clean River Zones. In 1999 PRRP and other associated organisations evolved into the Pasig River Rehabilitation Commission (PRRC) which today coordinates a US$1 billion Pasig River Development Plan. Numerous value perspectives have been harnessed in support of this effort. For example, environmental values, economic values via restored fishing and increased waterfront property value, and public health values are clearly involved, as well as

[33] Wijk, Christine van (2001). The Best of Two Worlds? Methodology for Participatory Assessment of Community Water Services. IRC Technical Paper Series 38, IRC International Water and Sanitation Centre, Delft, Netherlands.

aesthetic and cultural values. Without such a wide range of value perspectives aligned together, the PRRC would probably be ineffective.

Although the issues are daunting, cooperation between, government, NGOs, industry and the local community have produced steady improvement with benefits to the whole community. All groups recognize that no one group can achieve lasting change on their own.

The collaborative approach -- involving numerous dialogues and partnerships between stakeholder groups -- has achieved impressive results. Projects include composting market wastes that were previously thrown in the river, a "Who Cares? … We Do." campaign that has engaged numerous community groups, and a tree-planting program intended to restore 25 hectares of land over the next four years.

With a biological oxygen demand (BOD – a scientific measure of river health) down to 230 in 2001, the river is no longer classed as 'dead'. So far, four Clean River Zones have been identified. Each zone is built around local communities – industrial, residential, commercial, markets and schools – who manage waste sustainably and work on cleaning and greening the river and adjacent areas. Two of the Zones are fully developed and have adopted a goal of reducing their BOD to 50. A focused contribution by industry as part of a wider programme is beginning to show improvements that benefit wider civil society as well as company employees and their families.

10 Suggested Next Steps

If you want to predict the future, take part in its construction yourself

This work has lead us to believe that clarifying values, value differences, and tools that deliver more value are important efforts to improve water governance, finance, and performance. We have only scratched the surface and believe that the work should continue. We suggest the following next steps:

- Publicise more widely the ideas in this paper.
- Expand participation of the network of people who have begun to discuss these ideas. This could be done independently or as part of existing dialogue networks. For example, the Dialogue on Water, Food, and Environment[34]; Dialogue on[35] Water and Climate Change; and the Dialogue on Effective Water Governance[36].
- Develop a better understanding of value drivers and how people communicate their value priorities to decision makers. (Section 7.2)
- Look at ways to stimulate missing conversation to take place. (Section 7.4)
- Comprehensively define the range of value perspectives that exist, the common ground and divides between them (section 8.2)
- Encourage local, "on-the ground" efforts to use the power of dialogue about values to guide policy, operational, maintenance, and investment decisions.
- Develop the concept of the 'dialogue' space and ways to use it as a practical tool. (Section 9.4)
- Foster applied and practical research on value measurement. Although there is already a substantial body of literature on the value of public health, for example, much of it is academic and difficult for laymen to interpret.
- Foster research on the value of information sharing and exchange. For example, a water operator began real-time monitoring of water quality on the River Seine in the mid 1980s to protect intake water quality for services it operates under contract in the Paris Region. The operator decided to make the data available to the river basin agency. This information proved to be so valuable that other operators and public authorities began similar efforts. The sharing of this data is now extremely useful and valuable for many aspects of water management and governance in the region.
- Encourage each country to detail its own targets for its contribution to meeting the MDGs. Use these to enable the monitoring and measuring of progress to wards meeting the MDGs for water and sanitation on a country-by-country basis. Set up a global system for consolidating and comparing this information.

[34] www.iwmi.org/dialogue

[35] www.wac.ihe.nl/

[36] www.gwpforum.org/

- Encourage a programme of measurement of the value and benefits of good water service provision in a way similar to that started in the mid 1980s in health by WHO.[37] This programme had a significant effect in improving public health through demonstrating its contribution to development. We believe that doing the equivalent for water would have significant long-term benefits.
- Encourage development of process guidelines for dialogues in the water sector. These guidelines will probably vary by location, key participants, and the scale and scope of the problem. Before people are willing to engage in dialogue they often want to know what the process will be and what the expected outcomes are.

[37] Global Water Supply and Sanitation Assessment – WHO, UNICEF, WSSCC Joint Monitoring Programme

11 Conclusion

This paper has shown that an understanding of value, value drivers and value signals can contribute to better, more participative governance of water. It indicates the importance of permanent and balanced dialogue between all the stakeholders in any particular set of water problems. Identifying the stakeholders through a 'mapping' process and creating a meaningful 'dialogue space' appear key elements.

The complexity of the interfaces between many different stakeholders and the tendency for water to raise strong emotions frequently leads 'value differences' to become 'value divides'. Value divides are particularly difficult to overcome because they lead to polarisation that blocks dialogue and prevents reasonable governance solutions.

The most effective governance is that which arises from voluntary arrangements set in place through the shared adherence to common value perspectives. These arrangement are reached through dialogue and understanding between stakeholders. Nevertheless some tradeoffs need to be imposed and enforced by the governors who have formal political jurisdiction and power over each particular situation. The governors need to receive clear signals from the stakeholders so that they can see clearly the issues and implications on which they need to act. Values substantiated by data provide good signals in this context.

This 'experiment' gives the CEO Panel and those who have worked with it a strong sense that this approach has considerable merit. The ideas and lessons that we have outlined here need to be developed in more depth. For this reason the CEO Panel and its collaborators call for the community of water professionals, civil society, and politicians to take up this initiative in a wider truly multi-stakeholder dialogue.

The participants who have contributed to this exercise believe that it is worthwhile and wish to remain associated with it. They are convinced that a wider forum is necessary to achieve two key outcomes. These are:

- to continue to develop case studies that substantiate the link between better valuation of water and good governance, and
- to find ways to put these lessons into practice at the appropriate levels in the field.

It is our firm belief that in doing this a significant contribution can be made to meeting the Millennium Development Goals for water and also in overcoming many other water related problems beyond these targets.

12 Acknowledgements

We would like to thank the following people and the organisations they represent for their contribution to this endeavour.

12.1 Workshop Participants

John Ballard	Department Environment Food and Rural Affairs
Robert Bos	World Health Organisation
Eric Gutierrez	WaterAid
Richard Holland	World Wide Fund for Nature
Raphaël Ramirez	Templeton College Oxford, HEC, Shell Scenarios
Gary Wolff	Pacific Institute
Ron Bohlmeijer	Heineken
Tony Dearsley	Thames Water
Graham Gladden	Unilever
Jan Hoffer	NUON
Charles-Louis de Maud'Huy	Vivendi Water
Jack Moss	SUEZ
Anne Weir	Unilever
Albert Tuinhof	Royal Haskoning
Dave Everard	Sappi Paper
Peter Spillett	Thames Water
Alan Hall	Global Water Partnership
Malcolm Langford	Centre for Housing Rights and Evictions
Josh Bishop	International Union for Conservation of Nature
Jennifer Francis	Gender and Water Alliance
Roland Steinmann	Swiss Re
Robin Simpson	Consumers International
M. Sohail	Loughborough University
Dominique Hautbergue	Agence Francaise de Developpement
Orhan Esen	Istanbul Water initiative
Ken Caplan	Building Partnerships for Development
Graham Brown	Unilever
Olivier Bommelaer	Agence de l'Eau Seine Normandie
Jacques Labre	SUEZ
Caroline Clopet	SUEZ
Pierre Goirand	Pierre Goirand Conseil
Chris Schoc	Changeworks

12.2 Peer Reviewers

Professor Eibe Riedel	University of Mannheim
Professor Chuck Howe, Ph.D.,	University of Colorado at Boulder
Richard Sandbrook	

12.3 Logistics and Administration

Gaëlle Guiset	SUEZ
Délphine Ricros	SUEZ
Sandra van Schaik	Unilever

13 List of References

Briscoe, John, 1996, Water as an economic good: the idea and what it means in practice, a paper presented at the world congress of the international commission on irrigation and drainage, Cairo, Egypt, September, available at: www.esd.worldbank.organization/rdv/training/icid16.htm

Daily, Gretchen, editor, 1997, Nature's services (Island Press: Washington, D.C.)

Eggertsson, Thrainn, 1990, Economic behavior and institutions (Cambridge University Press: Cambridge, England)

Ehrlich, P. & H. Mooney, 1983, Extinction, substitution, and ecosystem services, BioScience 33: 248-254

Freeman, A. Myrick, 1993, The measurement of environmental and resource values (Resources for the Future: Washington)

Garn, M., 1998, Managing water as an economic good, paper presented at a conference on community water supply and sanitation, May 5-8, 1998, Washington D.C., available at: www.wsp.organization/english/focus/conference/managing.html

Gleick, Peter H., Gary Wolff, Elizabeth L. Chalecki, Rachel Reyes, 2002, The new economy of water: risks and benefits of globalization and privatization of fresh water (Pacific Institute: Oakland)

Hausermann, Julia (September 1999) "A Human Rights Approach to Development:

Some Practical Implications for WaterAid's Work." WaterAid: London.

Heal, Geoffrey, 2000, Nature and the marketplace: capturing the value of ecosystem services (Island Press: Washington)

Jansson, Ann Mari, Monica Hammer, Carl Folke, and Robert Costanza, editors, 1994, Investing in natural capital (Island Press: Covelo, California)

Jarman, Julie and Catherine Johnson (March 1997) "WAMMA: Empowerment in

Practice." WaterAid: London.

McNally, Richard and Sylvia Tognetti, 2002, Tacking poverty and promoting sustainable development: key lessons for integrated river basin management (World Wildlife Fund: United Kingdom)

McNeil, D., 1998, Water as an economic good, Natural Resources Forum, Vol. 22, No. 4

North, Douglass, 1993, Economic performance through time, prepared for presentation as the Prize Lecture in memory of Alfred Nobel, in Empirical Studies in Institutional Change, 1996, edited by Lee Alston, Thrainn Eggertsson, and Douglass North (Cambridge University Press: Cambridge, England)

Olsen, Mancur Jr., 1996, Big Bills Left on the Sidewalk: Why Some Nations are Rich, and Others Poor, The Journal of Economic Perspectives 10 (2): 3-24

Ostrom, E., 1990, Governing the Commons: The Evolution of Institutions for Collective Action (Cambridge University Press: Cambridge, England)

Perry, C.J., M. Rock, and D. Seckler, 1997, Water as an economic good: a solution or a problem? International Irrigation Management Institute Research Report 14

Rogers, P., R Bhatia, and A. Huber, 1998, Water as a social and economic good: how to put the principle into practice (Global Water Partnership/ Swedish International Development Cooperation Agency: Stockholm)

Rischard, Jean-Francois, 2002, High Noon: Twenty Global Problems, Twenty Years to Solve Them (Basic Books: New York)

Sen, Amartya, 1997, Resources, values, and development (Harvard University Press: Cambridge)

Stiglitz, J., 1988, Economics of the Public Sector (W.W. Norton & Company: New York)

WaterAid (June 2001) "Looking Back: The Long-Term Impacts of Water and

Sanitation Projects." WaterAid: London.

WaterAid-Tanzania (2002) "Private Sector Participation and Water Reforms in

Dar es Salaam" (draft case study).

14 Appendices

14.1 Appendix A: The Process Used and Lessons Learned

The process that has been followed in this 'experiment' is outlined below. We use the word experiment because this seems to most aptly describe what we have attempted to do. It has been an exercise of discovery through discussion and exchange. The process has been as follows.

The first step was discussion between the member companies of the CEO Panel around the hypothesis itself. This enabled the ideas to be outlined. The benefits of participation of people coming from different industrial backgrounds became immediately evident.

The next step was to organise a workshop on a small scale to bring in a few experts from other backgrounds. This first workshop was held in Schipol Holland on 19-20 September 2002. The meeting was conducted using a facilitator, and the output was carefully recorded[38]. During the conclusion of this meeting it was decided that the white paper should be produced. It was also decided that the authorship of this paper should be shared between members of the CEO Panel and external partners from the Pacific Institute and WaterAid. It was also decided that the draft of the white paper should be presented at a second workshop at which a wider range of stakeholders should be invited.

The white paper drafting process was conducted with the participants discussing on a regular basis the progress of their ideas in both physical and telephone meetings. The resulting incomplete draft was sent to all the participants in the second workshop prior to their attendance.

The second workshop was held at the Fief des Epoisses in France on 6-8 January 2003. At this meeting a 'Future Search™' process (www.futuresearch.net) was used to concentrate on the issues of governance. The output was again carefully recorded, as were the comments and contributions of the participants on the white paper.

The output of both workshops was then used to conduct a complete re-writing of the white paper. This version was then submitted to a small panel of peer reviewers. Their contributions and comments have been invaluable in completing the paper.

We stress that the process has been extremely rich in the way that people from different backgrounds and different interests and points of view have come together and contributed in a very constructive way. We make no claim to have conducted a fully representative multi-stakeholder dialogue. We are conscious of the absence of a number of key stakeholder groups, notably local government and politicians, agriculture, the financial sector, and public sector water system operators. We would like to include people from these groups in any further development of this project.

We are also concerned that in spite of efforts to avoid it, our discussions and the white paper contain two biases. The first is one towards urban water problems. The other is an over-reliance on experience, opinions and vision based on developed countries. We would have preferred to have overcome this second bias in particular.

[38] The notes from both the workshops are available for consultation on the CEO Panel web site.

The key lesson from this process is the value of discussing complex and at times contentious issues like these in a wide-ranging but structured dialogue. Whilst our discussion have been mostly theoretical, we are convinced that this kind of dialogue "the new paradigm of partnership" does have real potential in its ability to solve complex practical problems.

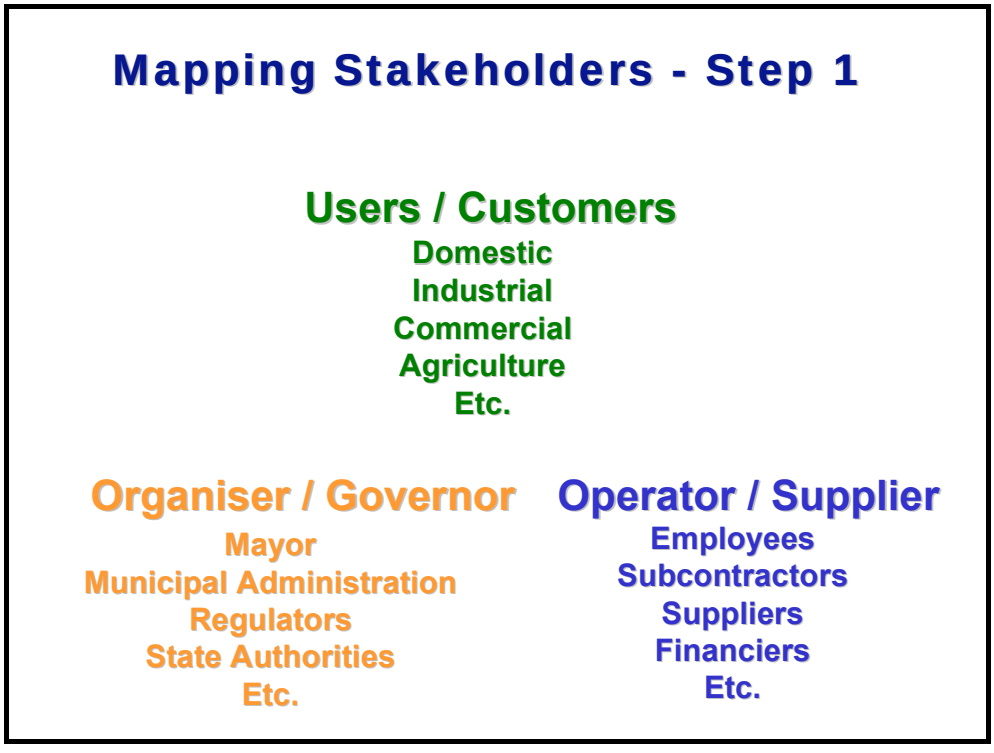
14.2 Appendix B: Stakeholder Mapping

As indicated in the body of the paper, the number of stakeholders and the range of their interests is a central issue to understanding the relationships between processes for valuing water and water governance. In this appendix we propose an approach for mapping and clarifying some of these questions. This is a necessary step to identifying missing conversations and stimulating constructive dialogue.

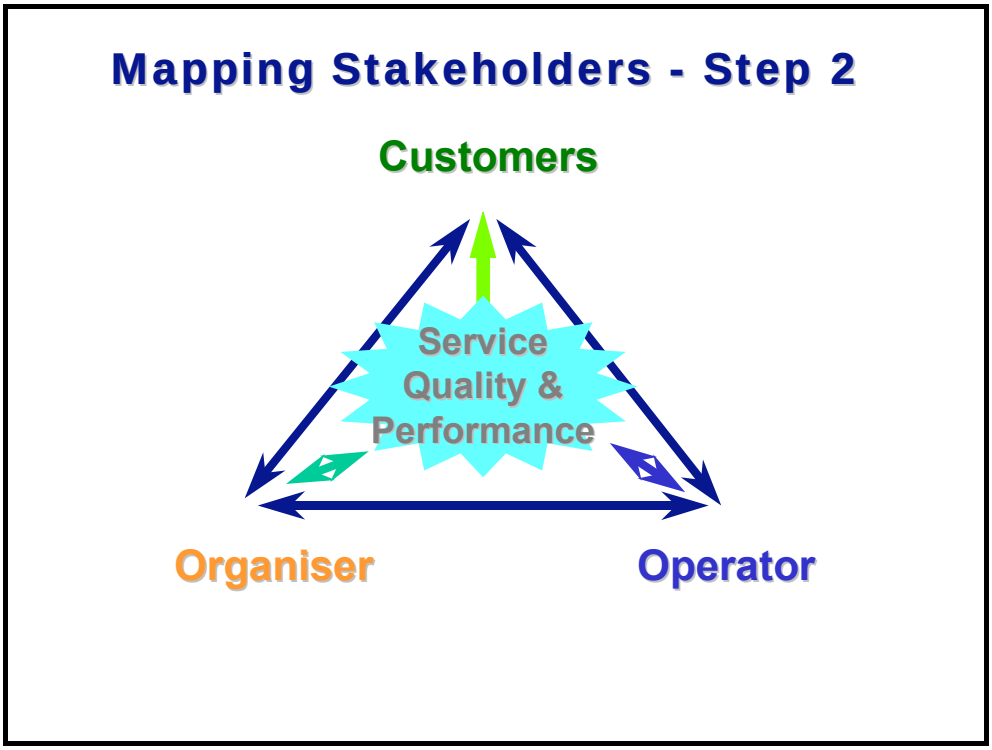
The first step in attempting to map the variety and interests of stakeholders is to select the scale at which the exercise is to be conducted. This can range from the micro-dimension of the neighbourhood up to an interstate hydrological basin. There is a whole range of appropriate scales that can be considered in between these two extremes.

To further simplify the process it is also helpful to restrict the particular field of interest, for example to a municipal water service, industrial water, or agriculture. In the discussion that follows, we use the example of a municipal water service. The process can be adapted for other situations.

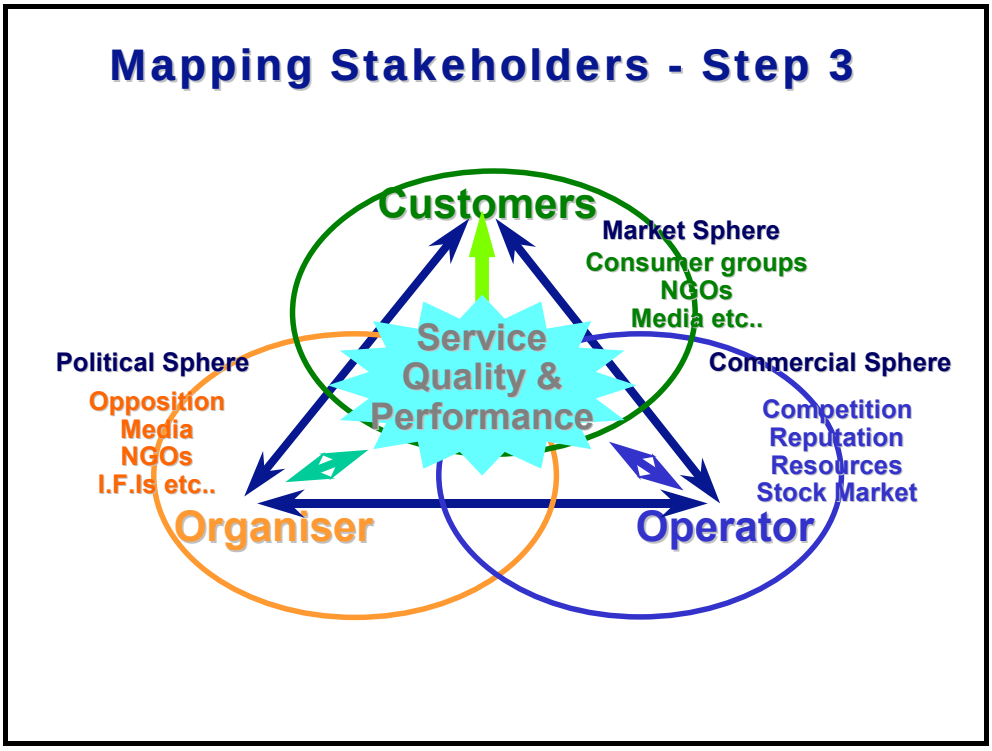
In the first step stakeholders are categorised under three headings. The first is to identify if they are in the role of water user or service customer, in the role of an organiser or governor, or in the role of operator or supplier. Each of these roles can be further segmented to focus on a more specific role. As has been done in the attached illustration.



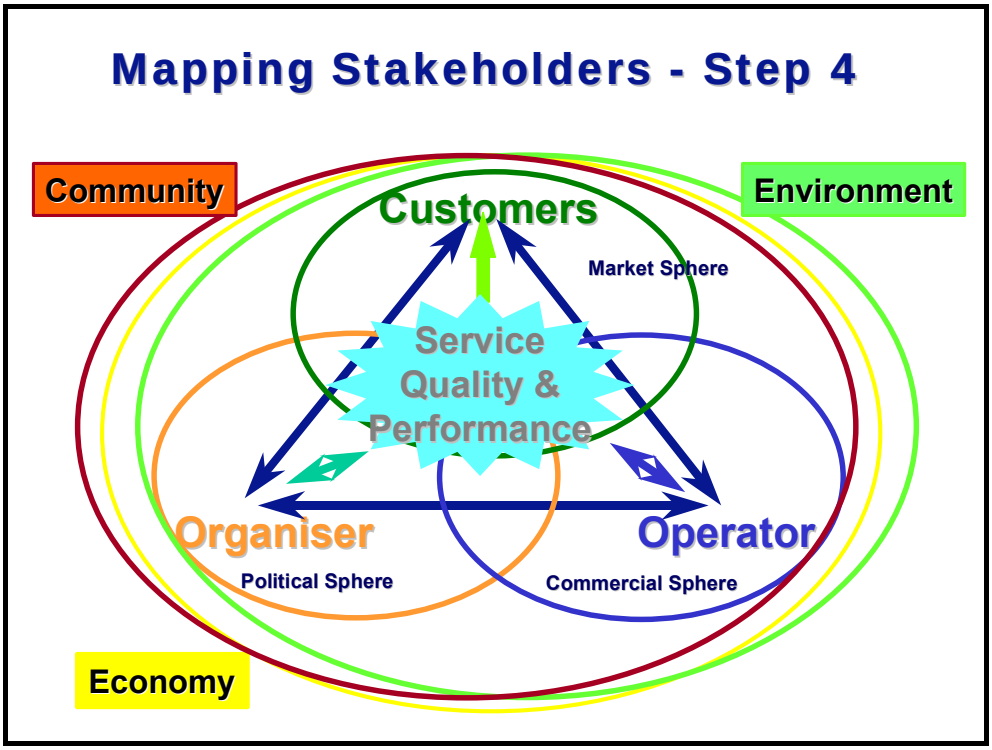
In the second step the service or activity is positioned. It will be seen that each stakeholder or stakeholder group has an interface with the other two. They all have an interface with, and impact on, the subject that has been selected for the analysis (in this case the quality and performance of the service of water supply to the municipal customer)



In step three we see that each of the major stakeholder groups is subject to ideas, tendencies and pressures coming from a sphere of interest around it. We have identified a market sphere impacting the customers, a political sphere that effects the organisers and a commercial sphere that bears on the operator. Examples of the players that constitute these spheres are indicated in the diagram. There are clearly areas where one or more of these spheres overlap. This can indicate shared interest, but also zones of potential conflict. The challenge for improved dialogue is to increase understanding to strengthen the common interest and eliminate conflict.



In the final step all stakeholders find themselves, or should find themselves, coming within three other spheres. Equally they are all part of the same environment and through this interact with the natural and modified environment around them. Finally they are all part of a shared economy. These three spheres, social, environmental and economy are the essential pillars of sustainable development. They also are the basis for a variety of value perspectives. For example, water sufficient for all people to survive is highly valuable in the social sphere; enough water for healthy aquatic systems is highly valuable in the environmental sphere; enough water to sustain jobs and economic activity is highly valuable in the economic sphere.



We believe that it is useful to use a process like this as it helps to identify which parties need to be included in the dialogue. It also gives a platform for identifying the relative rights, roles and responsibilities of each stakeholder.

This process is helpful in so far as it permits a simplification of a very complex set of relationships. There are dangers however. Firstly, making a conceptual mapping does not in itself increase the number of conversations that take place or the quality of understanding that is achieved. Secondly, it is much easier to do at a small scale than a large one. As the scale and scope increases, so does the complexity. Thirdly, it portrays a static view, which in the field of water can be very limiting. Finally, simplification can be a dangerous trap because it makes complexity appear to be a false simplicity.

In the real world, numerous models of this kind are superimposed one above another. There is a mixture of different scales and different central interests. Everything is interrelated and constantly changing with time.

14.3 Appendix C: The Specific Challenge of Water and the Poor

While global attention on delivering water and sanitation services to the poor has been increasing in the past years, little is known about whether progress is being made in achieving Millennium Development Targets of halving the proportion of those without access by 2015. These targets are simplified below.

Table C-1: Targets to meet Millennium Development Goals

	Water	**Sanitation**
UN global estimate of those without access	1.2 billion	2.5 billion
By 2015, this number would grow to at least	1.5 billion	3 billion
The International Development Target is to reduce this by half by 2015	750 million	1.5 billion
This means that each year for the next 13 years, the following have to be connected	57.692 million	115.385 million
This means that roughly each day for the next 13 years, the following have to be connected	158,601	316,122

Meeting these targets for water and sanitation is critical for poverty reduction. Studies have shown that water and sanitation provision has a number of impacts on the lives of poor people:

In Sub-Saharan Africa, poor people spend at least a third of their incomes for the treatment of water-borne diseases like malaria or diarrhoea. This does not include the value of productive time lost a result of disease. The impact of water and sanitation provision goes beyond health to economic benefits.

In rural areas in developing countries, women spend up to 6 hours a day on water collection chores. This is not only productive time lost, but also reduces the time available for families to be together for social activities or recreation.

Water and sanitation provision has a direct impact on the quality and quantity of school attendance. In rural areas in Africa, only 10% of school-age children are sent to school. The rest are needed by their families for water collection duties, including bringing livestock to water sources. Of those that are able to reach school, only 15% are girls. Women bear most of the burden of lack of water. Teachers are willing to be assigned to schools where there is a water source and sanitation facilities.

14.3.1 Poverty Reduction Strategy Papers

The irony is that despite its importance on the lives of the poor, water and sanitation provision often does not figure out as a priority in poverty reduction strategies of poor countries. Research on Poverty Reduction Strategy Papers (PRSPs) confirms this

observation. In Zambia for example, the rural and urban poor emphasise that water is a critical resource for their livelihoods. Yet water only ranks eighth, meaning that it gets only 3.5% of the total allocations. A further problem is that there are no clear benchmarks established on what ideal spending should be.

A more complex institutional problem is the fragmentation of responsibility. In most developing countries, there is typically a plethora of ministries and government bodies entrusted with responsibilities for water supply and sanitation. However, there is little co-ordination among these bodies, which leads to, in some instances, considerable confusion. Donor countries also have no clear tracking of their water and sanitation aid spending – it is typically dispersed across health or infrastructure programs. Hence, the difficulties of tracking whether the Millennium Development Targets are effectively being met.

14.3.2 Invisibility of the Poor

Another problem often overlooked is that the poor all too often remain invisible. For example, informal, unregistered or 'illegal' communities in developing countries who are without land tenure most often remain invisible in city planning. They are not in voter registration lists nor included in national statistics. Consequently, they are not identified or are consciously left out of planning for urban water and sanitation services. They cannot even have a voice, because officially, they do not exist. These informal settlements are a typical feature of urban areas in developing countries. They are usually migrants from rural areas who supply cities with the labour needed by its industries. Municipalities often refuse to supply services to these communities because they lack land tenure. There is resistance to supplying services because the installation of water pipes, for example, may be seen as a political acceptance of what the government considers as an illegal occupancy of land. Other reasons often given include that the land is not fit for habitation (it is flood prone, part of a street, etc.), inaccessibility, overcrowding, or the perception that the poor are not able to pay for the services.

Community mapping exercises conducted in Temeke, the poor area in Dar es Salaam, Tanzania revealed that where water points exist, they are often located where the relatively better off reside. The poorest are further away physically from the water sources, again because of their 'invisibility' especially in decision-making.

In rural areas in Uganda, Mozambique and Ghana, it has been observed that private contractors tend to construct water points where it is easier and cheaper for them to do so, and not where the communities may want the water points to be located. One result is that poorer communities – i.e. those living on marginal, inclined or rocky areas – are shunned by the contractors.

There is a great deal of lip service paid to serving the poor. But in reality, they often remain invisible in planning. These examples illustrate the limits of the political process of water governance.

14.3.3 The Poor as mere Recipients, Rather than Active Participants in Development

In rural areas there have been many instances of villages waking up one morning to the sound of vehicles from construction companies contracted by government and donors to build water points. On one hand, it is a welcome development – proof of

some movement breaking through red tape to meet millennium development targets in water and sanitation. But on the other hand, it is cause for concern. It is not known whether the villages have been adequately consulted on what type of technology they want and need for their community water point, or whether they have the capacity to maintain and maximise the use of the infrastructure so that it will have far greater economic impact on their lives. It has been proven many times that sustainable development, or that type of development that benefits the poor occurs where the poor themselves are active participants, not mere recipients of the munificence of others.

14.3.4 Tools for Measurement Used Usually Don't Capture the Complexities of Poverty

One tool that is increasingly being used by donors when deciding on support for water and sanitation projects is the willingness to pay study. The study evaluates the relative 'willingness' of users to pay for water and sanitation services, and from there computes whether projects can be financially viable and therefore worthy of support. Generally, the rule is that the greater the willingness to pay, the better the prospects for cost recovery and therefore better viability for a project.

The problem is that "willingness" takes on a totally different dimension in the context of poverty. Poor families in developing countries spend up to 25% of their incomes on water expenses, as compared to 0.22% for typical families in capitals in Europe. One thing that willingness to pay studies does not capture is the "substitution effect" on poor families. It may be that poor families are not sending a child to school, or they are not spending enough for preventive health care, because they are already using their 25% of their meagre income on water expenditure. In order to 'afford' the costs of water, the poor have to substitute or sacrifice spending on other essentials.

14.3.5 The Imperative of Serving the Poor

Also, while the recovery of costs is meticulously measured, the costs of not providing for water and sanitation services are not considered. The cholera epidemic in Peru is a case in point. Peru used up to US$1 Billion to fight off and treat the effects of this epidemic. It is estimated that a US$100 million investment in adequate sanitation could have prevented the epidemic in the first place.

Focusing and delivering water and sanitation services in poor communities are a global imperative. A number of steps appear to be needed, like recognising that water and sanitation provision is crucial for poverty reduction; prioritising government and donor spending on the services; or improving the co-ordination between various public bodies tasked to ensure the provision of the services. Poverty is a complex phenomenon. Care should be taken that technocratic tools used are sensitive to the complexities of poverty, and that the poor are made more visible in development planning. Finally an important principle that has to be observed is that the poor should always be seen as active partners and participants in development, not mere recipients of the charity of others.

14.4 Appendix D: Water as a Human Right

The frequently used expression "water is life" is an indisputable truism. It reflects the fact that water is essential for survival. It is unlikely that anybody seriously denies that this makes water a human right. Indeed it is probably for this reason that the human right to water has until recently only been an 'implicit' right. Access to water was

something so obviously vital that it was not expressed clearly as an 'explicit' right in the human rights charter.

The General Comment has now made the right explicit. This explicit right is recognising the 'survival' value of water, its importance in contributing to human dignity and also the value of externalities in terms of the health benefits, improved equality, better education and greater productivity that are yielded by reliable access to water and sanitation.

The UN committee that worked on the General Comment had to face and to resolve many of the complex questions that flow from this apparently simple concept. Its deliberations brought it up against many of the difficult and apparently contradictory issues that this paper is trying to address.

Some may say that by not being specific on questions such as how much water an individual is entitled to under the right, the committee is 'ducking' the issues. The committee took the view that there are an enormous number of variables that need to be taken into account in answering such apparently simple questions. It attempted not simply to define the right in an explicit manner, but also to be practical in indicating what aspects of water governance states should concentrate on. This was done to make sure that the right can be delivered to those who need it. It recognised the very local nature of water management and the importance of both national and local government sovereignty in effective governance. It also recognised that water is essential to enable people to enjoy other basic human rights. Lack of access to adequate water is a major component of poverty. Improving access is therefore a clear target in the Millennium Development Goals for poverty alleviation.

One of the central challenges of this "valuing water' project is to see how improved understanding of value and more effective dialogue can help communities and their leaders. A valuing approach can ensure that they take decisions that permit delivery of the right to water in their specific circumstances.

The explicit right is an individual right to water and sanitation. This means that it is a right to water as both an input to and an output from basic existence, health and dignity of each individual. How much water and under what conditions is very difficult to determine in a practical way. The question of the interface between the individual's right to water and collective rights also arises. The disposal of 'used' water with all the negative impacts that this can have is an example of this kind of problem.

In relation to the human right many people raise the question of payment. Some say that because water is a human right it should be free. Others say that many people who do not enjoy the right suffer so because lack of recovery of the cost in providing water to others prevents water supply and sanitation infrastructure and services being provided and maintained for all.

This kind of divide is exacerbated because there is constant confusion between water 'the substance', water 'resources', and water 'services'. The text of the general comment makes one specific reference to 'water for subsistence agriculture' where we presume it is referring to the 'resource'. For the most part it appears to be implicitly referring to drinking quality water in a manner that is a mixture of the 'substance' and the 'service'. It also refers to sanitation, which can only practically be the 'service'.

It is perfectly logical to consider water the 'substance' to be free. However the provision of both water resources and water services inevitably incur real costs. It is

therefore a misconception to think that such services are or can be free. The challenge in providing water services is to do so as efficiently as possible, so that these costs are as low as can be, and that they are recovered completely. They can be provided at subsidised prices as part of a solidarity policy, but they still impose a cost on the society that provides them. In a sustainable system, the reality is that a free supply is just the ultimate stage of a cross-subsidy.

In a system where there is no effective cost recovery system it is a route to system failure. There are only two sustainable ways to recover costs for water services. It can be done through user charges or through taxation. These can of course be combined. A third way is Overseas Development Assistance. ODA can be very useful in the short term, but is not sustainable over the long term because it is, after all, charitable aid. Even if sustained over a long time period, such aid is supported by taxes outside the country where aid is paid; hence it is a form of tax finance.

14.4.1 Human Right to Water and License to Water Use

In many discussions on water a word that causes considerable confusion is 'Right'. This word is used with two very different meanings. A clarification therefore needs to be made between these two types of 'rights'. We will call the first type *human right-to-water, which* refers to the entitlement of individuals to have access to water for the basic needs of life. We will call the second type a *license to water use right*, which is a form of property ownership, a usufruct in legal terminology. A *license to water use right* is similar to the mining or timber licenses given by government to companies or individuals who exploit these resources for their own use or for a profit.

This distinction is important. There is considerable confusion because these two types of rights are often mistaken for each other. The first is an entitlement, which states have the obligation to respect, protect and fulfil. The second refers to the license or authorisation given to a person (whether real or legal)) or an organisation (either public or private) to use and enjoy the profits from a water source.

International law (now confirmed by the General Comment referred to above) says that states and governments have three kinds of obligations relative to the *human right-to-water* the entitlement. The first obligation is *to respect* – states and governments must not create laws or actions that will threaten this right. The second is *to protect* – states and governments should act as if this right is threatened by other parties. The third is *to fulfil* – which means that states and governments have the obligation to ensure the delivery of water services to all their people. The third obligation is the most important, and also the most problematic because in order to fulfil, huge costs are always incurred.

All human beings are entitled to have access to water, but not all can be given a license to use water from a river or an aquifer for private or commercial purposes. Human rights to water are inalienable rights; "licence to use water" rights are alienable rights. In some countries (like in parts of the United States), water rights the license are treated in nearly the same way as land and other property rights – they can be traded, sold, inherited, transferred, used as a collateral for loans, and so on. In cases of extreme water scarcity, rights-to-water (the entitlement) may coincide with water rights (the license), as the entitlement may be not fulfilled unless one has the license to access a water source.

In recent years, a growing number of development and legal experts have started advocating a 'human rights approach to development'. This approach, according to legal expert Julia Hausermann, tackles the issues and problems related to securing and delivering that entitlement of individuals, especially the poor, to water. It looks at the obligations of states and state agencies to deliver this right, how they can be compelled not to abdicate on these responsibilities, how they can be empowered and capacitated to deliver those rights sustainably. Hausermann underscores the importance of the rights-based as opposed to a needs-based approach, because 'basic needs' fails to emphasise that individuals have an inherent *right* to access to the basic requirements of life. The approach is a tool for analysis, since "viewing the circumstances of poor people through the lens of human rights can provide insights into the causes of poverty – it forces us to look behind the lack of access to water and sanitation and ask why poor people are deprived". It is also a holistic approach to development, one that does not measure progress simply in terms of economic growth, but more importantly, also in terms of equity. The outcome desired is "the empowerment of individuals to achieve their full potential, and the freedom to take up opportunities." (Hausermann, 1999)

The difference between the individual entitlement to water and the license to access and profit from water sources structures much of the debate going on in the world on how water ought to be managed. Because the individual entitlement to water is an inalienable human right, it cannot be commodified – that is, it cannot be transformed into a commodity that can be sold with a value attached to it. On the other hand, water right (the license) can be subject to the rules of the market. This is also where much of the confusion begins. When free market economists argue that water ought to be managed as an economic good with a value attached to it, it is not clear in what sense they are looking at water. If they are making this statement while looking at water within the frame of water licenses, then there is less of a problem. But if what they mean is that the entitlement should be transformed into a commodity, this is where the fundamental problem emerges. Our understanding is that this is not what they are suggesting, but that this can only be clarified if the boundary between human rights and license to use rights can be determined.

When a question is raised relating to rights and water, what can be done is to ask whether the problem is a 'license to use' problem' or whether it is a 'human right-to-water' problem'. The regular application of this test in water dialogues would probably go a long way to improving understanding, reaching consensus and assisting good governance.