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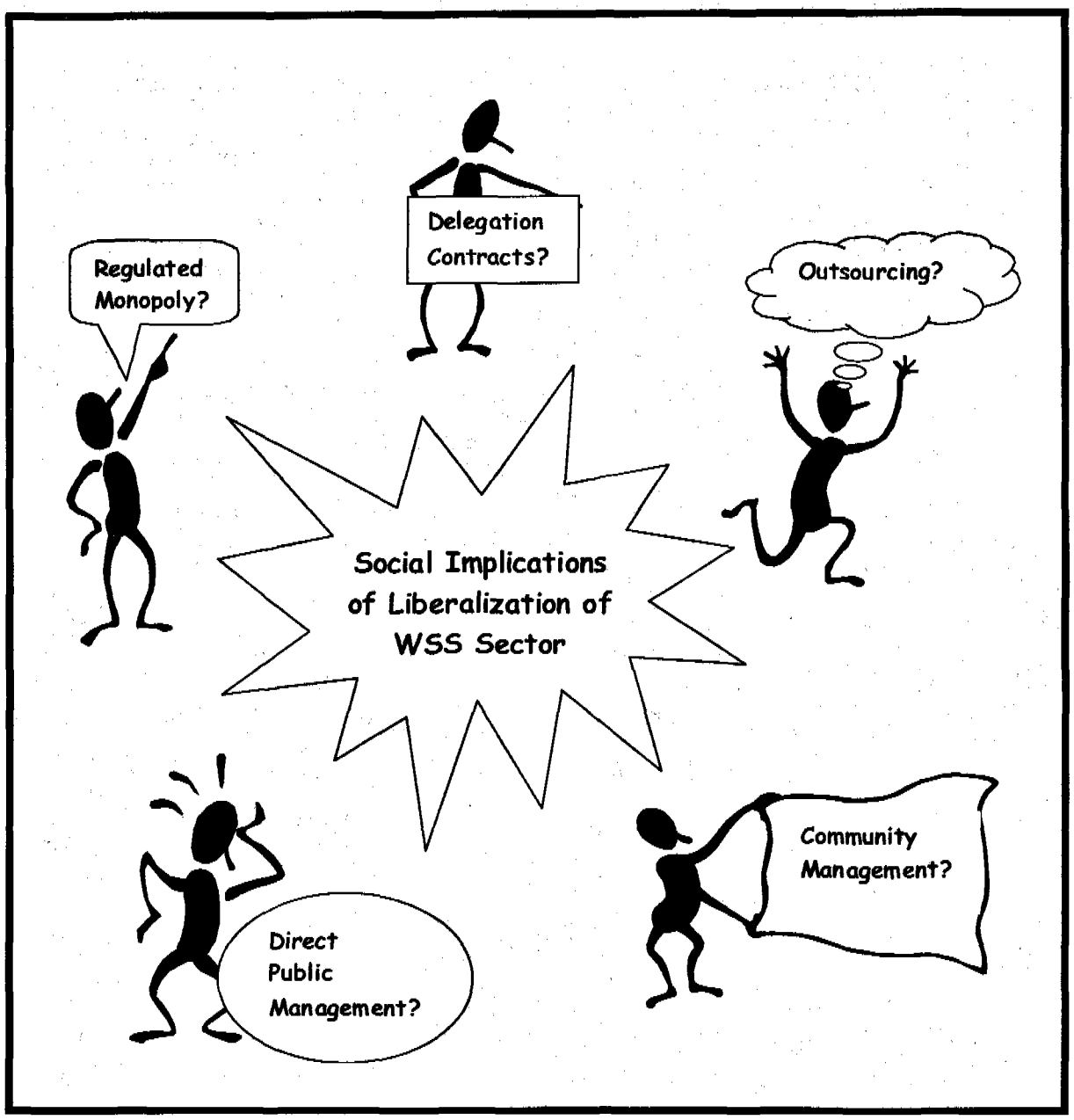

Analysis of social implications of two liberalisation scenarios for European Water Supply and Sanitation sector

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Master of Science Thesis
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Abstract

The increasing pressure on public services to perform more efficiently have led to challenges of liberalisation, privatisation and restructuring of these services. These reforms are widely accepted all over the world. These are also changing the role of state in a context of globalisation and liberalisation. A large number of state services like telecommunication, gas and electricity have already been opened up to market competition during the last couple of years. This is putting immense pressure to liberalise water supply and sanitation sector, but can it be liberalised is still a big question.

Associated with liberalisation are many implications in terms of economic, social, environmental etc. Most of the times economic implications are analysed but hardly any attention is given to social implications. In this research an attempt is being made to analyse social implications of liberalisation of WSS sector in terms of workforce and accessibility to universal services. There are two hypotheses in this research. The first is that liberalisation of WSS sector will lead to reduction in number of employees. The second is that liberalisation of European WSS sector will have no effect on the issue of accessibility to WSS services. To establish whether these hypotheses are true or not is the primary aim of this research. The project develops on large-scale liberalisation scenarios for European WSS sector. Out of these scenarios two specific scenarios i.e. outsourcing and community management were used for analysis. Additionally the research strives to answer the question as to what are the social implications of the two (outsourcing and community management) identified liberalisation scenarios. Due to lack of imperial evidence the methodology adopted in this research is based on literature review, review of different reports related to liberalisation of other network services and semi structured interviews.

Findings of this research indicate that liberalisation in the form of outsourcing has many implications such as savings of costs, access to modern technology and expertise, reduction in number of employees, risk of brain drain, less job security and deterioration of working conditions. Outsourcing has no effect in terms of accessibility to universal services especially in the present EU countries. Liberalisation in the form of community management has implications such as high job security, but other implications are difficult to measure as there is difference in perception of community management in developed and developing countries. For accessibility, community management has no effect.

The main aim of the research was to test the hypotheses. The first hypothesis was not rejected for outsourcing scenario but rejected for community management scenario. In other words liberalisation of water supply and sanitation sector in the form of outsourcing will most likely lead to a reduction in the number of employees whereas liberalisation in the form of community management does not seem to lead to a reduction in the number of employees. The second hypothesis was not rejected for both the scenarios. In other words liberalization of water supply and sanitation sector in the form of outsourcing and community management will have no effect on the issue of accessibility to WSS services.

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List of abbreviations

BOT	Build Operate Transfer
CEE	Central and Eastern Europe
CM	Community Management
DBFO	Design Build Finance Operate
EC	European Commission
EIA	Environmental Impact Assessment
EU	European Union
ILO	International Labour Organisation
NGO	Non Governmental Organisation
OECD	Organisation for Economic Cooperation and Development
O&M	Operations and Management
PSP	Private Sector Participation
SIA	Social Impact Assessment
TNC	Trans National Companies
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UK	United Kingdom
WFD	Water Framework Directive
WP	Work Package
WSM	Water Services Management
WSS	Water Supply and Sanitation

1 Introduction

1.1 Background

The overwhelming majority of water supply and sanitation (WSS) services is provided by the public sector. The inadequacies of the public sector in providing these services due to increasing demand, prolonged economic crisis and hardships have led to the challenges of the liberalization, privatisation and restructuring of these sectors. In addition, new technologies, environmental and consumer concerns have increased the pressure on the utilities to deliver services, which need to be efficient, clean and above all affordable to all. Utilities either trans-nationals or multi-utilities are also becoming increasingly common, creating new structures, that are pressurising to restructure and liberalise themselves, in order to deliver more efficient services (ILO, 1999).

During last two decades, public service reforms have been widely accepted all over the world but is a matter of concern to governments and international agencies. Due to these reforms the roles of the state in a context of globalisation and liberalisation has been redefined. Policies of liberalisation have been and still are, the main challenge in the reform process. With acceptance of liberalisation policies, come uncertainties about the extent to which liberalisation has been adopted and the degree to which their implementation has been effective. Usually undertaken with the aim of increasing efficiency and boosting productivity but also due to the threat of economic collapse and budget deficits, restructuring and liberalisation can take many and varied forms. Europe is no exception to this phenomenon. A number of former state services, such as telecommunication, postal services, electricity and gas services, have been opened up to the market competition during the last couple of years. This development is closely linked to the European integration process and to achieve economic improvements that are expected from increased competition. For example, efficiency gains from these competitions are finally passed on the European consumers. The continuous increasing liberalisation of former state services together with specific developments in some member states have provoked a European discussion about liberalisation of water sector. When assessing the reforms in network services, it is necessary to identify the consequences of each of the sector in question, which in this case is water supply and sanitation sector.

Liberalisation of water sector is very much a matter of dispute in terms of yes or no, as water sector has always been the monopoly of the public sector. Liberalisation can be defined as, "A process by which competition is introduced in sectors (in this case water sector) where generally a natural monopoly exists"(Euromarket, 2005). To understand this trend of liberalisation, privatisation and restructuring a research project called "Euromarket" is undertaken at the European Union (EU) level, which is trying to address this main issue, i.e. "Is there any possible and even likely liberalisation of the emerging water supply and sanitation sector (WSS)". The European Commission (EC) till date does not have any official policy on liberalisation of the WSS sector, as is the case with the other network industries. The absence of any stance by the EC has left the future of the WSS sector, in the EU, rather open-ended. It is therefore of paramount importance to understand the likelihood, the nature and the forms of water liberalisation that may take place in Europe in the foreseeable future which is the overall objective of

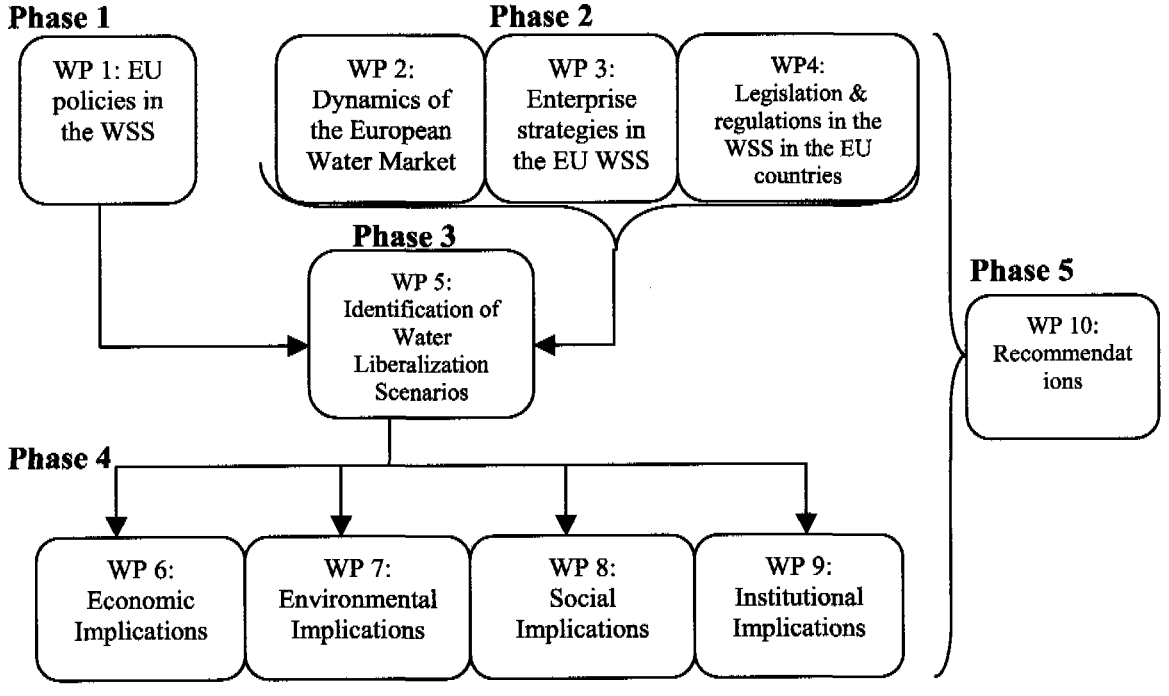
the Euromarket research project. The overall aim of the Euromarket project is to analyse the consequences of liberalisation of WSS sector in economic, ecological, social, institutional and organisational and legal terms (Euromarket, 2005).

On the basis of the overall aim and objectives of the Euromarket project part of, this research study has been taken up to analyse the consequences/implications of plausible liberalisation in social terms. In other words the main aim of this research project is to analyse the social implications of the plausible liberalisation of WSS sector. While analysing social implications a conscious effort has been made to understand what is a social impact assessment, what is the present status of the water supply and sanitation sector in Europe, and how the scenarios are build. The scenarios form the basis of analysis.

1.2 Scope of research

It is important to define the scope of research, which for this study will be considered under the overall research framework of Euromarket project. The Euromarket project is divided in five phases with ten different work packages (WP), which are as shown in the figure 1.1.

Figure 1.1: Euromarket Phases



Within the overall Euromarket framework, the thesis will concentrate on WP5 and WP 8. These WP's deal with identification of the scenarios and analysis of the social implications of these scenarios respectively. In phase three of the project (WP 5), five different liberalisation scenarios are identified (explained in detail in chapter 4) which will be used for analysing economic, environmental, social, and institutional implications of liberalisation of water supply and sanitation sector. Presently the project is in phase four where the implications of the scenarios will be analysed. This research

study (thesis) is undertaken as a part of WP8, which is to analyse the social implications of liberalisation scenarios. These scenarios are:

- Delegation Contracts,
- Outsourcing,
- Regulated Monopoly,
- Direct Public Management, and
- Community Management

In the Euromarket project, different institutes/ partners are involved to undertake this study for proper distribution of work. Similarly in work package 8, there was distribution of work. Out of five scenarios, two scenarios i.e. outsourcing and community management were assigned to UNESCO-IHE, which defines the scope of the work for the thesis. Under each WP, a set of criteria is given in advance, which will be used to analyse social implications.

A brief description of the chapters to follow is as listed below:

- Chapter 2; the theoretical framework. It explains the theoretical principles and/or assumptions, which are used to undertake the research.
- Chapter 3; the research framework. It explains the background based on which the hypothesis has been formulated and states the research questions. It also explains the indicators used and the methodology used for analysing the social implications.
- Chapters 4; the Euromarket liberalisation scenarios. Different liberalisation scenarios are explained in brief with two scenarios i.e. outsourcing and community management explained in details.
- Chapter 5 and 6; analyse the social implications of the two-selected liberalisation scenarios, outsourcing and community management respectively. Each of these chapters concludes with observations on the research questions mentioned in the chapter 3.
- Chapter 7 summarises and discusses the observations made in the chapters 5 and 6 and conclusions are presented.

2 Theoretical Framework

This chapter will form the theoretical background for analysing the social implications of plausible liberalisation scenarios of the European WSS sector. For analysing the implications it is important to first understand what do we mean by social implications. An effort is also made to look at available guidelines, which can be used for undertaking a research, how impact assessments are carried out in practice, and what are the tools and techniques available. It is also equally important to understand the WSS sector at EU level. The study will be incomplete without looking at how the different plausible liberalisation scenarios are build, which forms the basis for this research.

2.1 Social impact assessment

2.1.1 What is social impact assessment?

One of the sub fields of impact assessment is Social Impact Assessment (SIA). In general impact assessment is a distinct type of policy oriented social research, which has evolved over time for pre-testing human actions. It has a chequered history, mainly because the predictability of future impacts is often relatively low. But what exactly do we mean by impact assessment? According to Becker, "Impact assessment can be defined as the process of identifying the future consequences of a current or proposed actions". In other words this kind of research is also called ex-ante evaluation, the pre-testing of actions or the analysis of consequences (Becker, 1997).

There is no single universal definition of social impact assessment, as it means different things to different people. According to Becker " SIA is the process of identifying the future of consequences of a current or proposed action which are related to individuals, organisations and social macro systems" (Becker, 1997). The following definitions are cited by Borrow, which shows the variation in the perception of different people towards SIA and are as follows:

- Efforts to assess or estimate, in advance, the social consequences those are likely to follow from specific policy actions (including programs and the adoption of new policies), and specific government actions (Inter organizational committee of guidelines and principles for social impact assessment, 1995).
- The study of the potential effects of natural physical phenomena, activities of government and business or of any succession of events on specific groups of people (Wolf, 1983).
- The systematic advance appraisal of the impacts on the day-to-day quality of life of persons and communities when the environment is affected by development or a policy change (Burdge, 1994a).
- The process of assessing or estimating, in advance, the social consequences that is likely to follow from specific policy actions or project development (Burdge and Vanclay, 1996).
- Effort to identify and assess the social impacts of a proposed project, program or policy on individual and social groups within or an entire community or communities in advance of any decisions to proceed.

- A process examining proposed projects, programs and policies for their possible effects on individuals, groups and communities (Buchan and Rivers, 1990).
- To predict and evaluate the social effects of a policy, program or project while in the planning stage – before the effects have occurred (Wolf, 1980).
- Assessment of the effects of physical change and /or socio-economic changes on peoples, institutions and communities.
- A process which seeks to assess in advance the impacts of legislative changes, technological innovation, development projects, hazards and risks, policy or program implementation, aid donation or social movements.
- Application of social science methodology to assist social planning.
- A sociopolitical process (like planning), which facilitates bargaining, and negotiation among interest groups.

In general terms, SIA is a process of analyzing, monitoring and managing the intended and unintended social implications, both positive and negative, of planned interventions (policies, programs, plans and projects) and any social change processes involved by those interventions. Thus SIA can be expressed as an umbrella where it has a strong links with a wide range of specialist sub fields involved in the areas such as: aesthetic impacts (landscape analysis); archeological and cultural heritage impacts (both tangible and non tangible); community impacts; cultural impacts; demographic impacts; development impacts; economic and fiscal impacts; gender impacts; health and mental health impacts; impacts on indigenous rights; infrastructural impacts, institutional impacts; leisure and tourism impacts; political impacts (human rights, governance, democratization, etc); poverty; psychological impacts; resource issues (access and ownership of resources); impacts on social and human capital; and other impacts on societies (Vanclay, 2003).

SIA is a field of research and a paradigm or practice consisting of a body of knowledge, techniques and values. It can be undertaken in different context and for different purposes. This creates difficulties in defining or evaluating it. This forms the perfect basis for understanding what guidelines, along with tools and techniques are available for undertaking the SIA. In the next few sections these are explained in detail.

2.2.2 International Principles, guidelines and core values

For evaluation of environmental impact assessments during 1970s' in the United States, a need for better understanding of the social consequences of policies, plans, programs and projects were recognised. In response to this need an International Principles and Guidelines were proposed to assist public and private sector to carry out SIAs' and make decision makers aware of the consequences of their actions before they commit themselves. The guidelines are based on the principles and the principles are based on the core values. Therefore it is important to first look at the core values, on the basis of which the principles are formulated, which help to provide guidelines for conducting social impact assessments. Vanclay has explained these core values, principles in detailed, which will be discussed in the subsequent sections.

2.2.2.1 Core values

The SIA community of practice believes that core values of SIA are:

- There are fundamental human rights that are shared equally across cultures, and by males and females alike.

- There is a right to have those fundamental human rights protected by the rule of law, with justice applied equally and fairly to all, and available to all.
- People have a right to live and work in an environment which is conducive to good health and to a good quality of life and which enables the development of human and social potential.
- Social dimensions of the environment – specifically but not exclusively peace, the quality of social relationships, freedom from fear, and belongingness – are important aspects of people's health and quality of life.
- People have a right to be involved in decision making about the planned interventions that will affect their lives.
- Local knowledge and experience are valuable and can be used to enhance planned interventions.

These are fundamental, ideal, enduring statements of belief that are strongly held and accepted as premises. On the basis of these core values, principles of SIA are derived (Vanclay, 2003).

2.2.2.2 Principles

The SIA community of practice has divided the principles under two different headings as principles for development and principles specific to SIA practice. These are as follows:

Fundamental principles for development:
- Respect for human rights should underpin all actions.
- Promoting equity and democratisation should be the major driver of development planning, and impacts on the worst off members of society should be a major consideration in all assessment.
- The existence of diversity between cultures, within cultures, and diversity of stakeholder interests need to be recognised and valued.
- Decision-making should be just, fair and transparent and decision makers should be accountable for their decisions.
- Development projects should be broadly acceptable to the members of those communities likely to benefit from, or be affected by, the planned intervention
- The opinions and views of the experts should not be the sole consideration in decision about planned intervention
- The primary focus of all development should be positive outcomes, such as capacity building, empowerment, and the realisation of human and social potential.
- The term, 'the environment' should be defined broadly to include social and human dimensions and in such inclusion, care must be taken to ensure the adequate attention is given to the realm of the social.

Principles specific to SIA practice:
- Equity considerations should be a fundamental element of impact assessment and of development planning.
- Many of the social impacts of planned interventions can be predicted.
- Planned interventions can be modified to reduce their negative social impacts and enhance their positive impacts.
- SIA should be an integral part of development process, involved in all stages from inception to follow-up audit.

- There should be a focus on socially sustainable development, with SIA contributing to the determination of best development alternative(s) – SIA (and EIA) have more to offer than just being an arbiter between economic benefit and social cost.
- In all planned interventions, and their assessments, avenues should be developed to build the social and human capital of local communities and to strengthen democratic processes.
- In all planned interventions, but especially where there are unavoidable impacts, ways to turn impacted people into beneficiaries should be investigated.
- The SIA must give due consideration to the alternatives of any planned intervention, but especially in cases when there are likely to be unavoidable impacts.
- Full consideration should be given to the potential mitigation measures of social and environmental impacts, even where impacted communities may approve the planned intervention and where they may be regarded as beneficiaries.
- Local knowledge and experience and acknowledgement of different local cultural values should be incorporated in any assessment.
- There should be no use of violence, harassment, intimidation or undue force in connection with the assessment or implementation of the planned intervention.
- Development processes that infringe the human rights of any section of society should not be accepted.

These principles are general statements of either a common understanding or an indication as to a course of action what ought to be done. These principles lead to formulise guidelines.

2.2.2.3 Guidelines

Guidelines are statements, which provide advice or direction for course of actions. They are statements of instructions about what to do and/or how to do it. Since guidelines will be different for different situations/contexts, they need to be addressed to a specific audience. The guidelines need also to be developed in conjunction with the relevant parties and rather be accepted, than being imposed. There are no universal guidelines, no fit for all, which can be applied to undertake SIAs'.

2.2.3 Use of SIA in practice

Even with early recognition of SIA (during US National Environmental Policy Act, 1967), it was either neglected or given a low priority in any planned intervention. SIA is generally accepted as a moderate part of a wider environmental impact assessment or environmental audits. It is also called as cousin of environmental impact assessment. But according to Lockie, "SIA must take a significantly more prominent role in setting the agenda for all aspects of impact assessment if impact assessment is to maintain, if not increase, its relevance to the decisions of 21st century" (Lockie, 2001).

SIA includes a broader range of things, and to do so comprehensively and accurately is not easy. In practice, size and the nature of plan, policy, program or project will have an impact, which can be felt at individual, family, community, regional, national or even international level (Barrow, 1997). The extent of these impacts generally spills over to more than one level not necessarily at the same time. The impacts can be spontaneous but can also be felt in the future. These are also known as differential impacts where a given impact might quickly advantage one group, slowly damage another and leave others unaffected (Borrow, 2000). The most studied SIAs are at family, community and

regional level where undesirable and irreversible impacts are assessed. Like most of environmental impact assessments, social impact assessments has mainly been applied at project level i.e. with a site specific and limited time span focus, rather than program, plan or policy level (Barrow, 1997, 2000). Social impact assessment of policies always faced a number of hurdles in seeking to be given adequate considerations by policy makers as it was always seen as a residual welfare issues. But according to Finsterbusch et al, (cited by Borrow, 2000) "as a policy tool SIA is seen to offer a means of evaluating and enhancing selection between available policy options with respect to pre defined objectives. It may also help make policy by identifying alternatives".

SIA constitute of many disciplines like sociology, anthropology, social psychology and social economics. In spite of diversity of SIA approaches adopted as far as aims are concerned it is possible to recognize some generic similarity between most. Barrow described some of the important variables from very many that are generally considered for SIA and are of general interest to social scientists around the world. They are:

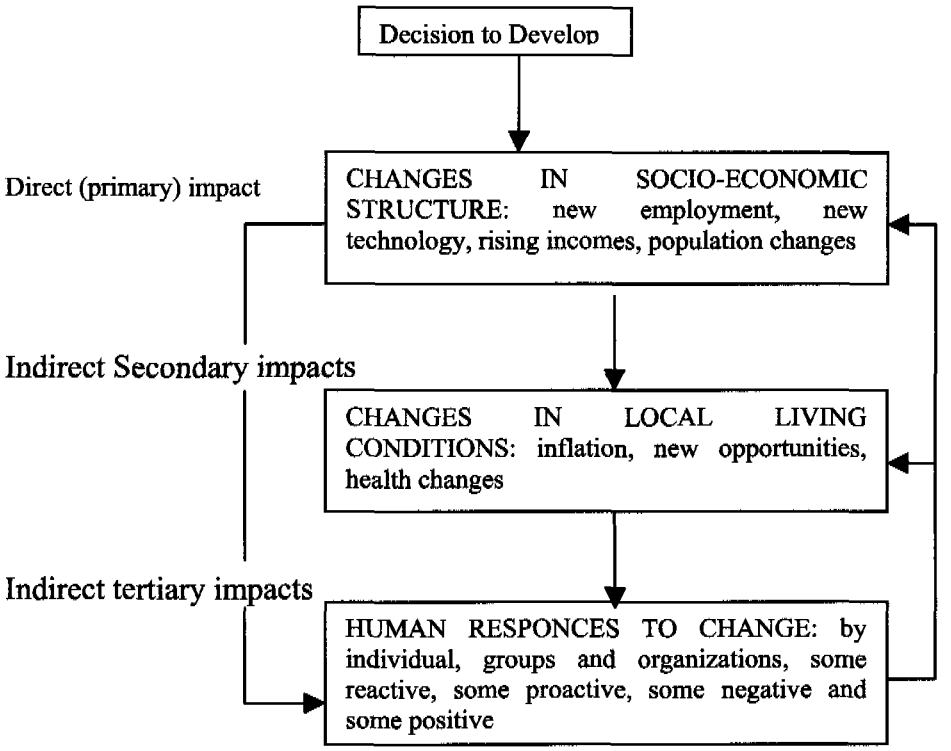
- Assessment of who benefits and who suffer: locals, the region, the developer, urban elites, a multinational company's shareholders etc;
- Assessment of the consequences of development actions on community structure, institutions, infrastructure, etc;
- Predictions of changes in behaviour of the various groups in a society or societies to be affected;
- Predictions of changes in established social control mechanisms;
- Predictions of alterations in behaviour, attitude, local norms and values, equity, psychological environment, social processes, activities;
- Assessments of demographic impacts;
- Assessment of whether there will be reduction or enhanced employment and other opportunities
- Predictions of alterations in mutual support patterns (coping strategies, etc,);
- Assessment of mental and physical health impacts;
- Gender impact assessments have been developed – a process that seeks to establish what effect development will have on gender relations in society.

To do these assessments suitable indicators must be identified, monitored and assessed. According to Borrow, frequently social impact assessment relies on 'social indicators', but these are not perfect. Indicators may be single or complex, composite indicators – like United Nations Development Programmes Human Development Index or a quality of life index or social well-being account. Sometimes when the SIA is applied for targeted group it is also possible to identify the indicators, which can be analysed (Barrow, 1997).

During 1970s more efforts were made to show impact assessment as a 'hard' rather than 'soft' science by adopting more empiricist and technocratic stance. But in last couple of decades, these approaches have changed to more participatory approaches, which lead to have a more central 'Integrative' approach. In integrative approach both technocratic and participatory approaches are combined. These approaches did not restrict only to technocratic, participatory or integrative but Becker (as cited by Barrow, 2000) preferred to simply classify them as 'analytical' and 'interpretative' approaches. Also Torgerson (cited by Barrow, 2000), provided more types as empiricist, theorist and ethnographic with more additions from Craig (cited by Barrow, 2000) as adversarial model, straightforward research methods and collaborative model. These approaches

were used to shape the conceptualise framework to undertake social impact assessments. A more broader framework is shared by all is as shown in the figure 2.1. But according to Barrow, efforts should be made to select the most appropriate combination to create framework for each situation (Barrow, 2000).

Figure 2.1: A conceptual framework for SIA



Source: Adopted from Barrow, 2000

2.2.4 Techniques and methods of social impact assessment

In practice, SIA is under pressure to obtain baseline data and make assessments fast, cheaply and as far as possible, of quantitative nature. But with the introduction of a participatory approach, SIA often coped with factors that are 'unmeasurable' or that must be assessed in non-quantitative ways or that are so little understood that useful measurement is unlikely. Gold (as cited by Barrow, 2000) made the point that data analysed quantitatively is often seen as objective, where as qualitative analysis is often seen as subjective. Different techniques are used to analyse qualitatively and quantitatively with a different set of data, which will be required in different steps in assessment. In other words methods and techniques suitable for SIA at one point in the development process – say, during project construction – may not be appropriate at another (Barrow, 2000).

There are broadly two types of techniques: conceptual or theoretical which seek to discover how and why things happen and methodological or practical which aim to be of applied values (Barrow, 2000). Various techniques such as Delphi technique, scenario predictions, brainstorming and various forms of modelling are applied when the extrapolative method is used, where as techniques such as contextual mapping, decision theory and various matrix methods are used for normative method of assessment i.e. a process that ranks or selects 'what ought to be' according to prescribed

goals or evaluation criteria. SIA often makes use of social evaluation, social development evaluation, social analysis and social cost benefit analysis to gather information and assess how things are valued. According to Marsden et al (cited by Barrow, 1997), social development evaluation was described as "a learning process" usually retrospective and interpretive, often reliant on indicators, yet holistic. This approach offers little ex ante assessments, Marsden et al argued that social impact assessment and social cost benefit analysis have been unable to accurately and adequately reflect the dynamics of change involved in social development (Barrow, 1997). On the basis of above mentioned literature one can conclude that there are no universal techniques and methods which will be used in different projects, policies, plans and programs. Another point important to mention here is that the assessment is done in terms of both qualitative and quantitative terms to get the complete picture.

2.3 Water supply and sanitation sector in the EU

2.3.1 Introduction

In the previous chapter it was observed that how the liberalisation of other network services is putting enormous pressure for liberalisation of WSS sector. The question was also raised "Is there any possible or even likely liberalisation of the emerging water sector?" To answer this question one must try to understand the WSS sector in terms of main structural characteristics, which are unlikely to change for next 10-15 years. Present trends that are currently affecting WSS sector and consequences of the possible future events that could change the scenarios for the future need also to be looked at. An analysis of these trends will be presented stating where these trends lead us?

2.3.2 Structural characteristics

Four major structural characteristics can be identified for WSS sector which until now has not been questioned. The first characteristic is being a natural monopoly by the WSS sector, the reason being that it is very costly to have a duplication of the distribution network and it makes no sense in economic terms. The second characteristic is that WSS sector has local characteristics. Although there are possibilities of economics of scale but transportation of water and quality aspects raise some questions, which is not the case with other network services for e.g. gas and electricity. The third major characteristic is that water supply and sanitation have strong merit and finally characteristic is that water being a vital element that has no substitute.

2.3.3 Present status of WSS sector

Presently there are a variety of different institutional arrangements that can be found all across the Europe to provide WSS services. Even within each member state there are different institutional arrangements, which can be broadly categorised in four main generic types as follows:

- Direct public management (by municipalities operated utilities)
- Delegated public management under public or private law (e.g. corporatised public management, multi-municipal associations, co-operative companies, public trading companies, including companies with minority private shareholdings).
- Delegated public management (contracts with private parties) and
- Direct private management (full divestiture)

Although the majority of the population (about 55%) is served by the public owned

companies, private companies makes a considerable contribution by serving 35% of the population and the remaining 10% of the population is served by mixed owned operators. Also in terms of the size of the operators, medium size operators (i.e. supplying between 100'000 and 10'000'000 inhabitants) supplies 45% of population followed by small size operators contribution about 35% even though their number is high and finally, large operators account for 20 per cent of the inhabitants. In terms of regulations, environment is still the most important issue. The paradigm did not shift yet and the eco-systemic vision of water resources management is still developing. The implementation of the Water Framework Directive (WFD) should reinforce this trend. (Euromarket, 2005)

2.3.4 Present trends

A picture on some emerging trends at the European Union can be established by comparing different actors' interest, strategy and policy. These trends can be seen in the form of large management structures, more transparency, more autonomisation, more competition, liberalisation of other network industries and private sector participation in sanitation. All these trends are briefly described in the following sections.

2.3.4.1 Large management structures

For water supply and sanitation, the different local political units have traditionally managed water; usually municipalities and each of these units were responsible for supplying water. The strong urbanisation process and the subsequent increasing proximity between municipalities have led to question the traditional mode of management by different local political units (usually municipalities) and favoured in large management structure. The reasoning relies in the financial benefits from the economics of scale. One can observe that there are many examples of strong growth of inter-municipal structures in Belgium, France, Germany and Italy on one hand and on the other there is growth in regional structures, e.g. Netherlands, Portugal, England and Wales. This trend is especially for supplying water, but this trend is less clear in the sanitation sector.

2.3.4.2 Transparency

For local and national public authorities as well as regulatory agencies, the main objective is to access financial, economic, social and technological information from the operator in case of delegation of contracts. The consumers do not have much information and knowledge about the sector. Corruptions scandals in some countries have led consumers to be more suspicious about the sector and they are pushing for more transparency for two reasons. The first one is to understand the way the sector is managed and the second one is to have a better control over the price mechanism. Both of them are interrelated. Although in some countries like France and UK they have tried to involve more consumers in decision-making process through consultative bodies but these are still very limited.

There are also the operators who want more transparency by anticipating the regulatory policy in short-mid term to better plan their management strategies. Secondly with respect to EU competition rules, as there is a competition for the bids for WSS contracts and that information on the state of the water systems should be made available. Finally, operators are also inclined towards more transparency as part of their public relation strategy to enhance the confidence of the clients, whether the municipalities, the

governments or the consumers.

2.3.4.3 Autonomisation

There is a definite trend of giving more autonomy to operators as the WSS sector is clearly dominated by non-autonomous direct public management. Factors like high technicality, professionalism and larger management structures are the driving forces behind more autonomy. Methods like new public management are used to give more autonomy as the organisations are growing in size.

2.3.4.4 Competition

Competition in WSS sector is very limited and is not the case like other network services. Competition for the market is the main form of competition. Possibilities and dynamics of the possible competition are very limited as can be experienced form the example of UK. There is a competition for the market and the trend is to award the contracts for shorter period so that more competition can be introduced. Another trend is the introduction of benchmarking (quasi competition) measures in many European countries like Netherlands, Germany, Italy and UK, so as to create competition and also at the EU level. Although benchmarking measures are available they are applied only to water supply sector and not to sanitation sector at EU level.

2.3.4.5 Liberalisation of other network industries

One of the important aspects of taking up this project is liberalisation of other network industries like gas and electricity, which is the major trend across Europe. This liberalisation process of other network services has a definite influence on the water supply sector. However the impact may go in two opposite directions, either it can reinforce the specificity of the water supply sector or it may trigger some transformation in the legal status of water operators, and very much towards more autonomy.

2.3.4.6 Private sector participation in water supply and sanitation

There has been, there is and there will be a private sector participation in water supply and sanitation sector. However the high capital needs for wastewater treatment plants are attracting more private sector funding and the countries like Austria, Belgium, Netherlands, Ireland, and Scotland are encouraging private sector participation in sanitation.

2.3.5 Impacts of future events

There are current events, which have a direct impact on the liberalisation of the WSS sector. The first of which is the implementation of the Water Framework Directives, which calls for more public information at the river basin level. The other main aspect of the implementation of the Water Framework Directive is the application of the full cost recovery principal, which will raise the water prices across Europe. It is difficult to evaluate currently the impact of such a measure.

Another event is the introduction of more competition in the water sector by the general directorates for internal market and competition. However, the European parliament voted against the fact that water should be included in this strategy. The main reason behind this is the debate at the European level on the nature of water service, whether

they should consider this as a service of general interest or a service of general economic interest. Depending on the outcome, it will have consequences in terms of application of competition rule in the water supply sector.

The end of EU cohesion funds will also have some impact as most of the southern European countries and Ireland benefits from large subsidies coming from EU funds, and there is again a pressing need for capital. Competition rules of WTO, GATS has also influenced water supply sector and if the agreement (to include WSS services as commodities) gets accepted, it will have an important consequences on the way water supply sector is managed.

These trends have evolved through series of events in the past and assessment of these trends gives us the better understanding of present structure of the WSS sector. These trends were evaluated to assess the performance / impact of the existing management models in the WSS sector, which was a challenging job. Historic events also helped to identify the driving forces and the dynamics of the present WSS sector. On the basis of these trends and the future events, the scenarios were developed, which will be discussed in the subsequent section, but before discussing that it is important to understand how these scenarios were build.

2.4 Scenario building

2.4.1 Introduction

A scenario is a story that describes a possible future. It identifies some significant actors and their motivations, and it conveys how the world functions (Shell, 2003). Scenarios describe processes, representing sequences of events over a period of time. Scenarios are also hypothetical, describing future pathways and containing elements that are judged with respect to importance, desirability, and/or probability. Although the concept was first introduced as 'La Prospective', by Berger' in 1964, the first person to use the word 'Scenarios' was Herman Kahn, who used scenarios to develop military strategies for Rand Corporation. The first and mostly cited definition is "Scenarios are hypothetical sequences of events constructed for the purpose of focusing attention on casual processes and decision points" (Kahn and Weiner, 1967). These models of military strategic planning entered business environment only in early seventies, where they were used by two distinct groupings. The first group was a clear quantitative oriented while the other was more qualitatively oriented. The representatives of the first group were the "Club of Rome", which published their studies "The limits of growth" in 1972 and "Mankind at the Turning Point" in 1974 using the quantitative approach and the second group was the Shell group, which attempted trail-and-error approach to include qualitative aspects in their planning (Reibnitz, 1988).

2.4.2 What are scenarios?

Ged Devis, vice president of Shell group, described scenarios as "Coherent, credible stories about alternative futures. They are plausible, pertinent, alternative stories of the future. They are not projections, predictions or preferences". He also stated scenarios as *a future*, not *the future*. No one can definitively map the future but the possibilities can be explored in the form of scenarios (Devis, 2002). A multitude of scenario definitions exists in the scientific literature, some of which are as follows:

Scenarios describe "a possibility space – a set of plausible futures that span a range of conceivable outcomes" (Malcolm Eames). Scenarios are vivid descriptions of plausible futures (Gill Ringland). According to Godet, "the description of a possible future (or futureless) plus the path to that future makes up a scenario. On similar lines Porter (cited by Godet) mentioned a scenario as "an internally consistent view of what the future might turn out to be – not a forecast, but one possible future outcome". The scenario line of thinking suggests a perception of the future as a space. The scenarios fill this space. Scenarios are not the static images of the future but are dynamic images consisting of present states, driving forces, events, actions and future consequences that are linked together to form an end state. The use of images can help to make scenarios more comprehensible. Scenarios cannot predict, but they paint pictures of possible futures and explore the different outcomes associated with 'what if' questions (EEA, 2000).

One can say that scenarios are a combination of science and imagination. It is important to realise that "scenarios are not projections, predictions or preferences, but alternative futures. They are purposely challenging, being designed to help us confront the assumptions we are making about the present and future" (Watts, 2003). Thus one can conclude that scenarios are coherent and plausible stories about a path into the future, ending with an image of the future. Scenarios as a tool should provide sufficient information for recipients to imagine being in a particular future, and to think about how they might behave in it. Good scenarios are the ones that explore the possible, not just the probable – providing a relevant challenge to the conventional wisdom of their users, and helping them prepare for the major challenges ahead (Devis, 2002). They are the most effective tools currently available for systematically considering the future, which is the main objective of Euromarket project, i.e. "to study the likelihood nature and forms of water liberalisation that may take place in the foreseeable future".

2.4.3 Why scenarios?

Scenario analysis has been used primarily in long-term forecasting. According to Schnaars, there are many methods of forecasting but scenario approach is different in two important ways. First, it usually provides a more qualitative and contextual description of how the present will evolve into the future, rather than one that seeks numerical precisions. Second, scenario analysis usually tries to identify a set of possible futures, each of whose occurrences is plausible, but not assured. This combination of offering more than one forecast, and offering it in the form of a narrative, is deemed by advocates of scenarios, to be a more reasonable approach than trying to predict (to four decimal places) what will happen in the future (Schnaars, 1987).

Scenario approach enables qualitative and quantitative influences to be processed on an equal footing, and also take into account the external influences that affect the future. Scenarios are very useful when there is a high uncertainty and there are changes in historical relationships which is the case for the WSS sector in Europe i.e. uncertainty whether the WSS sector can be liberalised or not. Also it changes in the way WSS sector is managed presently as compared to the past. Scenarios direct attention to the unfolding of alternatives and to branching points at which human actions can significantly affect the future. They are particularly useful in the situations where changes in the business environment are recognised but are not well understood. Scenarios help to reveal to their users an understanding about what is important, how those elements will evolve in the future, and the linkages between different elements.

The purpose of scenarios is not to pinpoint future events but to highlight large-scale forces that push the future in different directions. It's about making these forces visible, so that if they do happen, they can be recognised in the future. It's about helping make better decisions today. Thus scenarios can help in following manner:

- To articulate the key considerations and assumptions; scenarios can help us to imagine a range of possible futures if we follow a key set of assumptions and considerations
- To identify gaps, inconsistencies, dilemmas, uncertainties and indeterminacies and to understand complexities;
- Expand and improve our thinking, take on and explore possibilities that are new or challenge conventional thinking. (EEA, 2000)

The issue of liberalisation of the European water supply and sanitation sector is therefore well suited to the scenario approach. The liberalisation process, by its political nature, is complex and poorly understood. The use of scenarios in this context will reveal some of the underlying complexities. Four fundamental purposes for scenario building can be identified:

- For planning and /or strategy development (by various actors in the WSS sector)
- For evaluation (e.g. to access the performance/ impact of existing management models in WSS sector)
- For innovation (to identify new management models possibly compare and contrast their performance with existing management models in the WSS sector)
- For learning (to challenge the existing paradigms within the WSS sector) (Euromarket, 2005).

2.4.4 Types of scenarios

Scenarios can be divided into three major types – contrasted, trend based and normative scenarios and can be linked to possible (or plausible), probable and desirable/undesirable scenarios. These scenarios can be further sub divided into various types. First subdivision can be made between forecasting and back-casting scenarios. They are also known as inductive and deductive scenarios. Forecasting scenarios (i.e. inductive scenarios) starts with the current situation, with or without expected/desired policy efforts and tries to explore the alternative developments by linking chains of events into a plausible storyline; whereas back-casting scenarios (i.e. deductive scenarios) starts from the desired future situation and then offers a number of different strategies to reach the same desired future.

Deductive scenarios can further be classified according to how the future end states are determined and how the associated storylines are developed. There are a number of different proprietary approaches to deductive contrasted scenarios (e.g. la prospective, intuitive logics, future mapping etc). Each proprietary approach tends to rely on a different set of scenario building tools. La prospective tends to adopt tools from all of the above methods to develop and describe the scenarios. The French school particularly favours complex system methods (e.g. cross impact analyses to analyse the driving forces, morphological analyses to develop and describe scenarios) and detailed actor oriented methods (e.g. actor analyses to validate the scenarios). Intuitive logics tend to rely on the generative methods (e.g. brainstorming, future imaging) and simple system methods (e.g. four field analysis, otherwise known as the scenario cross) to develop the initial outline scenarios. Morphological analyses may be used to describe

the initial outline scenarios in detail. Future mapping approaches tend to rely on generative methods (e.g. future imaging) to develop the outline future end states. Consequence methods – particularly future event production – are typically used to describe the pathways to the possible end states (Euromarket, 2005).

Second, we can distinguish between descriptive and normative scenarios. Descriptive scenarios sketch an ordered set of possible events irrespective of their desirability or undesirability, while normative scenarios take values and interests into account. This is not to say that trends and normative processes do not play a role in the development of descriptive scenarios. We must take note of existing trends and typically the scenarios produced will be based on the scenario developer's own values. Hence descriptive scenarios can be both trend influenced and semi normative (in the social science sense rather than the future studies one). Thirdly, we distinguish quantitative and qualitative scenarios. While quantitative scenarios are often model based, qualitative scenarios are based on narratives. Pathways into the future are then qualitatively described. Another distinction often made is the one between trend and peripheral scenarios. A trend scenario is a scenario that represents the extrapolation of the current trends, while a peripheral scenario includes unlikely and extreme events like the surprises in order to break with old stereotypes. Many scenarios have a 'business as usual' character, assuming that current conditions will continue to exists for decades, which is highly implausible (EEA, 2000). The selection of the type of scenario depends on the objective of the scenario development and also on the values considered by the scenario developer.

2.4.5 Characteristics of scenario

Various characteristics can be identified for scenarios, like scale at which the scenarios are developed, time frame for which the scenarios are developed, what should be the content of the scenarios, what are the different stages in scenario building and difficulties in building scenarios. Each of these characteristics is described in the following sections.

2.4.5.1 Geographical scale

Scenarios are possible at various geographical scales – global, international regions, national regions, regional, sub-regional, or local level. The scale depends on the requirements of the project. For example, in the Euromarket project scenarios are made for Europe, including global trends and eight European regions i.e. UK, France, Germany, Italy, Spain, Belgium, The Netherlands and Switzerland. The explicit aim of the project is to develop scenarios for Europe, an integration of European and regional scenarios. The WP5 proposal highlights existing generic management models in seven of the eight pre selected EU member states:
The Dutch Model – as an example of delegated public management
The French (and Spanish) model – as an example of concession
The English model – as an example of strong regulator
The Welsh model – as an example of community management
The German (and Swiss) model – as an example of mixed management

The Euromarket scenarios are focused at the European scale (Euromarket, 2005).

2.4.5.2 Time horizon

Scenarios differ according to the time horizon addressed. They can be worked out on a short (less than 20 years, one generation) and long term scale (two generations and beyond). The timescale for scenario building are normally judged according to the dynamics of the sector under investigation and is specific to industry along with product market under consideration. The WSS sector is traditionally risk averse and quite slow moving and hence the Euromarket project team decided that the time horizon for the scenario would be 15 years. The scenarios will therefore be for 2020. The project team has decided for 15 years horizon to reduce the level of uncertainty within the project (Euromarket, 2005).

2.4.5.3 Stages in scenario building

Stages in the scenario building process will differ from one set of scenarios to another depending on the objectives for which the scenarios are developed. For Euromarket project an Iceberg analysis is used. At the peak of the iceberg are observable events. Trends and patterns are just below the waterline. This reinforces the point that events are not random but are related to one another and give rise to trends and patterns in the events observed. Finally at the bottom of the iceberg there is the underlying casual structure – the driving forces behind the trends and events.

Scenario building can be conceived as a process of diving to observe the bottom of the iceberg (i.e. from an understanding of historic events and historic trends develop an understanding of the causal structure), from which one can (hopefully) resurface (building scenarios by identifying the key driving forces and identifying the main future trends and future events that will characterise these scenarios). The scenario building process can be conveniently split into four stages:

1. Defining the problem and the approach
2. Building the base by understanding the dynamics.
3. Developing the outline scenarios.
4. Describing the scenarios in detail.

The process of producing and using scenarios is just as important as the scenarios themselves. The process was therefore designed to widen the project teams perspectives and help us understand the issues and events that are significant (Euromarket, 2005).

2.4.5.4 Project difficulties

Before moving on to discuss the different scenario building approaches and the different scenario building tools it is important to recognise a major difficulty with the scenario building exercise in the Euromarket project. It is that the European water supply and sanitation services market does not consist of one uniform current status from which alternative (future) scenarios will develop. Each country has different status and we are, in effect, dealing with multiple current statuses, which vary enormously across the EU. This makes the scenario building exercise, which normally embraces both descriptions and pathways from an existing status particularly difficult (Euromarket, 2005).

2.4.6 Tools and Techniques for scenario building

There is no single tool or technique for the scenario building process. Different tools

can be applied at different stages of the scenario building process such as, for identifying key driving forces, the tool used is generally casual loop diagram, picturing future outline scenarios/ end states (e.g. scenario cross, future imaging), and describing in detail the selected outline scenarios (e.g. story telling, future event production). Kleiner grouped all of these scenario-building tools under five method headings:

- *Time line methods* embracing tools that focus on the past (e.g. analogues, historical analyses, and trend extrapolation).
- *Consequences met*hods embracing tools that focus on the future (e.g. probability effects, future history, future event production, and consequence tree)
- *Actor oriented methods* embracing positioning tools such as actor analyses and competitor analyses.
- *System methods* embracing analytical tools such as STEEP analysis, cross impact analyses (possibly adopting casual loop diagrams and four field analysis to simplify the results), morphological analyses and system modelling
- *Generative methods* embracing narrative tools such as future imaging, story telling (future history and story bordering) and future headline production.

Although it is impossible to describe all the tools and techniques for scenarios building an attempt is being made to explain some of these tools in the following sections.

2.4.6.1 Delphi technique

Delphi technique is used specially to determine how uncertain a driving force might be during the scenario building, especially when data are scarce. Scenario builders ask the experts to poll and to indicate the probability of something happening by a specified year. The comments or answers are divided in four ranks and sent back to experts, who must justify the quartile they choose. The reasons for choosing the quartile are complied and recirculated with a request that the experts note omissions or mistakes in positions different from theirs. Finally, the scenario builders circulate the new information and ask everyone to provide new estimates.

2.4.6.2 History or precursor analysis

The tool is used to build scenarios on the basis of the historical experiences for similar kind of situations. The question that is asked while using this tool is "Can history teach us anything?" After building scenarios testing them by reviewing similar moments in the history, can add richness, complexity and understanding to final strategies.

2.4.6.3 Trend analysis

Trend analysis is the commonest tool used for scenarios. It draws line up to the present moment and then extending it into optimistic, business as usual, and pessimistic futures. The method has difficulty, as the trend could break from a "wildcard" event or an unforeseen change in the total system. Trend analysis frequently doesn't pan out because of incomplete data and wrong feedback loops.

2.4.6.4 Cross impact analysis

The basic philosophy of cross impact analysis is that no development occurs in isolation. Rather, it is rendered more or less likely by the occurrence of other events. Cross impact

attempts to capture these cross-impacts from the judgmental estimates of experts. According to Kleiner this is simply an elaborate matrix drawn to highlight factors that might be very relevant or irrelevant to thinking about the future. These matrices can be very elaborate. They are commonly part of the scenario logistics stage. Planners pair each driving force or indicator with another. Making a box "+" means that they help each other; "++" that they force each other in the same direction; "- " that they hinder each other; "- -" that they block each other; "o" that they are disconnected from each other (Kleiner, 1999).

2.4.6.5 STEEP analysis

STEEP analysis is done to look at the possible drivers, which affect the scenarios at the broader contextual environment and their direct and indirect impact. STEEP analysis is basically an assessment of five themes i.e. Social, Technological, Economic, Environmental and Political. The approach that is used to analyse these themes is brainstorming. Different groups are formulated consisting of members from all disciplines, which identifies the possible driving forces for each of these themes, some of which are outlined below:

2.4.6.5.1 Social

Current demographic trends (aging population, migration, infertility, life expectancies); degree of social freedom; changing attitudes to the roles and responsibilities of governments; enhanced inter-connectedness; growth of individual values; international awareness and national identity, family structures, role of the media in shaping perceptions, importance of brand and image.

2.4.6.5.2 Technology

IT, other technologies (biotechnology, nano-technology, artificial intelligence, genetic engineering, new materials, new energy sources, etc.)

2.4.6.5.3 Economic

Economic globalisation, global economic growth; balance between rich and poor; changes in business, trade and work forces.

2.4.6.5.4 Environmental

Climate and atmospheric change; pollution; energy demands; water and food resources; urbanisation; diseases; deforestation.

2.4.6.5.5 Political

Includes control of states boarders; interaction between states; interaction between NGOs and the state; internal and external threats to state security; proliferation of military technology; shifts in global power; internal domestic issues for state governance.

Brainstorming workshops can be organised to identify plausible hypotheses for each theme that could impact on WSS liberalisation. These hypotheses illustrate key-driving forces in the macro environment, which drive changes and underpin observable events

in the world. Although STEEP analysis lacks integration, it has been chosen to help identify the inter-connectedness of seemingly random events and multiple trends, leading to an understanding of the unseen underlying structure that ultimately drives events in water liberalisation. This systems approach can effectively lead to new insights and perspectives: which challenge our mental models of how the world works and stimulate the contemplation of changes that previously would have been out of our frame of reference. It effectively allows us to dive to the bottom of the iceberg, delve into the underlying structure and re-surface with new insights and perspectives relevant to future events. Often our mental models contain deep-rooted assumptions, guiding ideas, and recipes that exist in our mind and determine 'how' we interpret events going on around us. They predispose us to expect certain results and ultimately guide action.

This can cause a "lock-in" process within organisations, whereby managers and employees interpret events in the world through a common lens, creating a shared mental model of how the future will unfold. What they know, determines what they see, and what they see determines what they know. Our minds often construct plausible explanations and mistake connections made in the mind with reality. This is why an important element of the morphological analysis is to challenge existing mental models, and stimulate new thinking into new directions (Euromarket, 2005).

2.4.6.6 Morphological analysis

A major fault with STEEP analysis is the lack of integration and systematic insight. The analysis of individual themes, such as political or economic developments, as stand alone elements, is problematic. Often societal and ecological trends can be downplayed or ignored in respect to the other themes. This can lead to the exclusion of key underlying trends and driving forces; which are critical to an understanding of the larger contextual environment.

In an attempt to draw these themes together a morphological analysis has been chosen to illustrate the apparent inter-connectedness of each theme. (Zwicky, 1947) Morphological analysis often proves useful because it stimulates the imagination, helping to identify unknown factors and considerations that may otherwise have been left out of equation. It is also useful in scanning a range of possible future scenarios: giving preference to those configurations that appears more propitious than others.

To summarise, morphological analysis is a proven ideation method that leads to "organized invention." The technique allows for two main elements:

- Systematic Analysis
- Invention of New Alternatives

The morphological space represents the hypotheses of possible future events for each of the five given themes of STEEP analysis. We can see that the interaction of these hypotheses can be exhaustive, for example, a system made up of four components, each having four hypotheses, will in principle have 256 (4 X 4 X 4 X 4) possible states. What is key in this analysis is to determine those combinations, which are most likely, whilst not excluding those combinations that may have originally been out of our frame of reference or beyond what is conceived within our mental map of the world.

The aim is to end up with a few scenarios that will be perceptively different to that of the decision maker. It effectively assists in transforming "messes" into "problems"

(Ackoff, 1979 and Pidd, 1996). In the analysis of scenario building it has been necessary to reduce some of the hypotheses by clustering some of the key trends, this enables a more clearly morphological analysis to follow (Euromarket, 2005).

3 Research framework

3.1 Hypotheses

When talking about the liberalisation and privatisation, a number of organisations like the World Bank track the progresses of private sector participation and public sector reforms in economic terms only. A considerable amount of data have been collected on economic performance in terms of increased investment, higher factor productivity and economic growth due to liberalisation processes. There is still a lack of accurate and transparent methodology for establishing a clear picture of cost and benefits of various liberalisation processes in social terms. In the same way, although a greater attention has been paid to find out the impact on the reaction of consumers, little emphasis has until recently been placed on documenting and redressing the various social implications of these processes. These social implications are in particular as regards to employment, human resource development or in a way in which the workforce can influence the restructuring or privatisation process.

Utility industries (water, gas, electricity) do not usually account for more than 2 per cent of the total national workforce, with a low presence of women (except in clerical jobs). Employment levels and working conditions in the utilities have a proportionally much wider impact, since employment opportunities in other sectors depends on a smooth supply of water, gas and electricity. The traditional public service creed ensured the existence of much common ground between "employer" and "employee", which is now subject to new and conflicting pressures. This pressure comes from the management and shareholders in the privatised utilities by endeavouring maximum profits, enhance dividends and keep costs down (ILO 1999). The increasing complexities of the task of WSS need to realise. Greater efficiencies, the need for innovative technologies and techniques are being adopted to solve the WSS problems. Based on the above stated evidence one can conclude that workforce reduction in the water sector has not been as severe as the numbers in electricity because of very public nature of utilities. But nonetheless the tendency of cutting labour costs to enhance profits will continue in the future. This leads to the first hypothesis as:

"Liberalisation of water supply and sanitation sector will lead to a reduction in the number of employees."

Another aspect, which is important to look at, is accessibility. Accessibility to universal services (in this case water supply and sanitation services) can be understood as rate of connection to network services, which differs from one country to another. This is really not an issue in Europe. The objective of access to all has been made compulsory by the European union under EU policy since early 1980's and all members confirm to the rule. The rate of connections in most of the EU states varies between 90 to 100 percent (OECD, 2002). This very fact leads to the second hypothesis as:

"Liberalisation of water supply and sanitation sector will have no effect on the issue of accessibility to WSS services."

3.2 Research question

The main research question for this study is *"what are the social implications of the two (Outsourcing and Community Management) identified liberalisation scenarios?"* By indicating the liberalisation scenarios it becomes clear that scenarios will form the basis for the study. The main question, is further divided into two sub questions as:

1. How are the liberalisation scenarios interpreted for analysing social implications?
2. Which social indicators will be considered for the study?

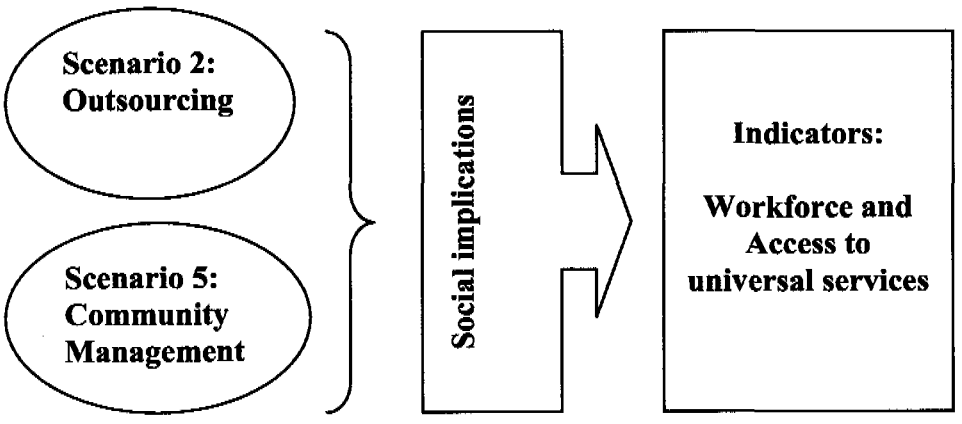
3.3 Methodology

The methodology used in this research is divided in four parts. The first part will focus on the conceptual framework, which is used to understand the basic concept for undertaking the research. The second part is selection of indicators, which will be used for analysis. The third part is a research framework, explaining how the research was carried out and in the last part different methods used for carrying out this research are explained.

3.3.1 Conceptual framework

The main objective of the thesis is to analyse the social implications of identified liberalisation scenarios using indicators. The basic concept used for the study will start by understanding the characteristics of two identified liberalisation scenarios, which will act as an independent variable or triggering factors. These triggering factors will have a direct cause and effect relationship on the social indicators. The two scenarios will then be analysed to recommend the positive and negative implications of these scenarios, which will be used by policy makers for decision-making. The indicators will act as dependent variables or the impacts.

Figure 3.1: Conceptual Framework



3.3.2 Selection of Indicators

Work package 8 defined the criteria's, which were very broad to be analysed. Therefore it was necessary to identify indicators that can be used for analysis. The selection of indicators was quite difficult, as they should fit the criteria and can be used to analyse the scenarios. Indicators were selected using various literatures available, in

consultation with other partner involved in work package and also all the partners in the project. The indicators were pre-examined by all the partners before they were used for analysis. The indicators are divided based on the criteria for analysis i.e. workforce and access to universal services, and are as shown in table 3.1.

Table 3.1: Selection of Indicators

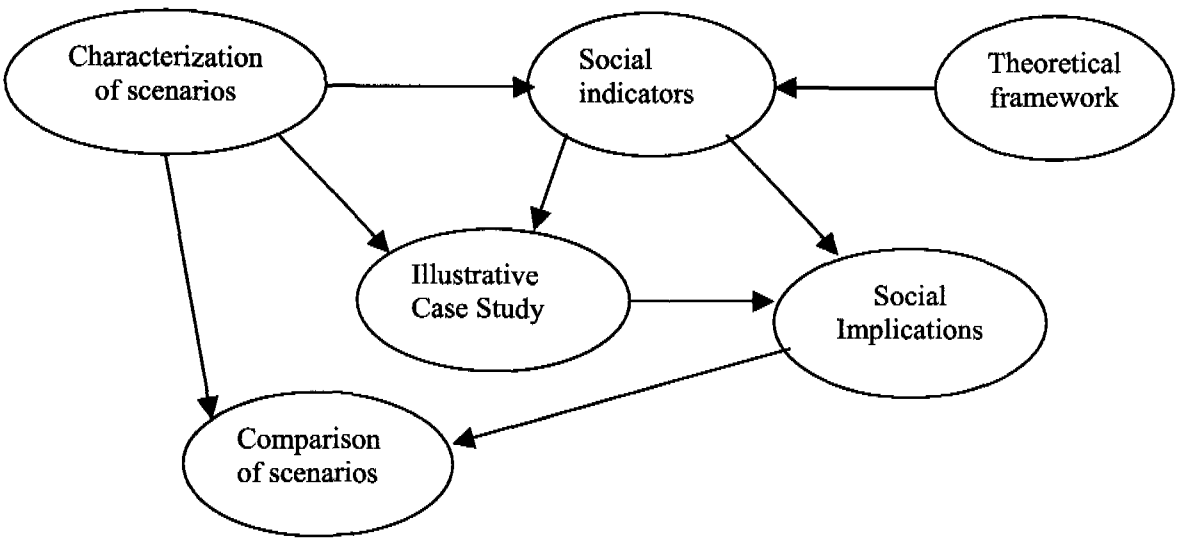
Work Force	Accessibility to Universal services
1. No of employees 2. Working conditions a. Working hours b. Occupational health and safety c. Training d. Charities for workers 3. Status of employees 4. Nature of contract 5. Salary 6. Degree of unionisation	1. Accessibility 2. Social tariffs 3. Social funds 4. Corporate social responsibility

Six indictors for workforce and four indicators for accessibility to universal services have been identified. The indicators will be used to analyse the possible social implications of liberalisation of WSS sector.

3.3.3 Research framework

Figure 3.2 shows the research framework. The research work, starts with the characterisation of the scenarios. The characteristics are the theoretical characteristics that best suit the scenarios. The implications of these characteristics is then analysed against all the indicators in the matrix form. The matrix is in the form of Annexure. These indicators are identified on the basis of theoretical framework. Characteristics along with indicators are then applied to find illustrative case studies, which are also used to analyse social implications. In the end conclusions are drawn based on comparing the scenarios, although not to indicate which is best, but to indicate positive and negative implications of both scenarios.

Figure 3.2: Research framework



The research method used for this study was rapid assessment method. Rapid assessment method was used for this study because it helped collecting qualitative information in a relatively short period using literature and also by a series of semi structured expert interviews.

3.3.4 Research methods

The following methods were used while conducting the research:

1. Literature review; this included a comprehensive review of various literature available dealing with scenario building, social impact assessment, and also the implications of liberalisation of different network services like gas and electricity.
2. Review of reports; a thorough review of reports on the scenario building was carried out to have a better understanding of how the scenarios in Euromarket are build which form the basis for analysing the implications. It helped to gain knowledge in understanding how heuristic process it is to come to a certain scenarios and how well future developments have been anticipated.
3. Interviewing; this was used to gain the opinions of experts in WSS sector. With limitation of time and also number of key people, qualitative semi-structured research interviews were conducted.

4 Euromarket water liberalisation scenarios

4.1 Introduction

The lack of liberalisation policy for WSS sector by European Commission leads to a situation where changes in the business environment are recognised, but are not well understood. Therefore the scenario approach is well suited to reveal some of the underlying complexities of liberalisation process of WSS sector. These processes are poorly understood due to its very political nature. These scenarios will be used not only by the 'Policy Makers', but also by water professionals, to understand how different (liberalisation) processes can be managed. These scenarios will also enable assess the economic, social, environmental and institutional implications of the selected scenarios. It is important to realise that "scenarios are not projections, predictions or preferences, but alternative futures. They are purposely challenging, being designed to help us confront the assumptions we are making about the present and future. Scenarios are valuable because they stimulate questions rather than because they provide answers" (Euromarket, 2005).

This chapter contains a summary of all the scenarios, which forms the basis for analysing the implications in social terms. The liberalisation scenarios are based on competitive modalities and management modalities. Competitive modalities should be thought as competition options for the municipalities as they are the responsible agents in most member states. Management modalities are ownership structures (public or private), and /or the degree of separation between the responsible and management entity (direct or delegated) are also considered. On the basis of these modalities five liberalisation scenarios are identified. The extent of liberalisation gradually decreases from scenario 1 to 5. These scenarios are *Delegation Contracts, Outsourcing, Regulated Monopoly, Direct Public Management and Community Management*, which will be considered for year 2020. Each scenario comprises of two parts, the first part is EU end state that will be achieved in year 2020 and the second, EU storyline with chain of events, which will lead to achieve the end state. Each end state for scenario are characterised by nature of competition, market, operators, institutional arrangements, economic, social and environmental aspects and other factors. Similarly, each story line for 15 years is divided in three parts of five years to have more realistic events to lead to end state. Since the implication of only two scenarios will be analysed, these two scenarios will be explained in detail while end states of all five scenarios will be presented. The end states are derived from Euromarket project WP 5 and are explained in the following section.

4.2 Scenario – end states

4.2.1 End state 1: Delegation contracts

In this end state a long-term contract generally concession or affermage (10-15 years) specifying very large objectives on integrated service is awarded to private or public enterprise. These types of contracts can be seen in the countries like France and UK especially for water supply sector. The choice of the most appropriate form of delegation by the public authority depends on its economic and political objectives. The

selection of the enterprise is based on the "Best Bid", i.e. the best combination of a quality of service and an affordable price. Although in practice it is very difficult to compare the bids a compromising solution of a combination of competitive bidding and direct negotiations is generally used. Awarding this kind of contracts will lead to consequence that it remains some monopoly power with the operator and it appears clear that there is a strong need of control of the operators activities through ex post regulations. This can be done by regulation of service by regional / national regulatory bodies.

4.2.2 End state 2: Outsourcing via Public procurement

In this end state, several short-term (1-5 years) well-specified contracts for different activities of WSS sector could be given. These can be specifically for network repairing, billing, management, etc. and can possibly be combined with long-term contracts like Design Build Finance Operate (DBFO), Build Operate Transfer (BOT) etc. for specific infrastructure maintenance/ construction. But before giving some activities or specific tasks to external firms, local authorities should consider what is the best arrangement for its water service. The main benefit of these types of arrangement is that they take advantage of professional firms with high expertise for technical tasks and open these tasks to competition. However, revenue risk and responsibilities for service provision remains with public body, which is typically responsible for the integrated service. It is crucial that only one authority controls the whole service in order to coordinate the different activities and firms. No formal regulations are required to control the activities of the operators. The criteria used for the selection of the enterprise are based on the best price.

4.2.3 End state 3: Limited Direct competition – strong regulation

The end state describes that the operation of the utility can be with the private companies or it remains in public hands, but in both the case the utility is strongly regulated by an independent agency. In both the case it is an unlimited monopoly (or a license for 50 years) but are typically autonomous. The municipality owned utility could operate as a public enterprise i.e. delegated public management and would be regulated by a distinct "regulatory agency" and will be managed along corporate principles. In this model, the public authority is responsible for provision of the services, but could raise the money on capital market to operate it. The independent authority of regulation has a great power to set the price and/or control profits and investments, by comparative competition. Non-monopolistic markets are deregulated but are closely monitored by the well-resourced regulatory authority.

4.2.4 End state 4: Direct public management

In this end state there is no competition on service aspects that are wholly managed by the public body. There is a small amount of competition, which is largely restricted to public procurement of specific large-scale infrastructure developments. These enterprises are typically non-autonomous local public water service companies under local municipal control. Public ownership and in particular the direct management of utilities by the authority makes it more efficient in conservation of water resources as well as providing the services at a very low price. The finance is generated through the taxpayers' money for the development of the infrastructure and the local electorate regulates the utility.

4.2.5 End state 5: Community management

In this end state, the water sector is kept in public hands by way of direct management by the local community and without any competitive pressure. The basic principal used is to keep the 'general interest' of the people. These types of systems can be useful when the local authorities fail to provide the water supply especially in rural areas. Although the chances of this end state to be implemented are very bleak, as this type of management is not common in Europe.

5 Scenario: Outsourcing

One of the forms in which liberalization can take place is by outsourcing. Outsourcing can be done for different activities and it introduces more competition in the provision of the services, but it can also lead to the creation of few very large monopolies in certain activities. The competition is induced in the market and for the market. This chapter is divided in five sections. The first section deals with outsourcing scenario, which is divided in two parts i.e. end state and storyline respectively. The second section is about understanding outsourcing from different perspective. In the third section different types of outsourcing are identified. Characterisation of outsourcing is done in section four and in the last section implications are analysed with conclusions.

5.1 Euromarket scenario: Outsourcing

5.1.1 End state: Outsourcing

Nature of competition

There is still a high degree of variation in Europe in respect of the competitive character of the consumer markets; ranging from a free supply to large industrial and rural consumers, to consumer competition and common carriage. Common among all European operators is that they all have decided to outsource part of their tasks to external sub-contractors. A large variation developed in respect of the width of these outsourcing contracts. Under the pressure to achieve enhanced efficiencies and innovation, outsourcing has come be seen as a promising means to internalize scale and scope advantages where partly internalized via the use of sub-contractors, which serviced a number of operators and areas. Consultancies and subcontractors with a high expertise offer their services, in competition with each other. Nevertheless, unlike under delegation contracts, revenue risks are generally not transferred to the winning bidder; "it is the criterion of the right of exploitation and its corollary, the transfer of the risks inherent in the exploitation, which distinguish public contracts ('or outsourcing') from concessions". There was no real shift in the water use rights.

Market

We argue that this storyline is one of non-events: NO dramatic and critical events have happened and the main economic drivers are a function of the long term underlying trends, already present in the first decade of the 21st century. This implies that overall water use has remained more or less stable. Yet excessive rain, water precipitation and draught, requiring the separation of the waste- and the rainwater systems.

Operators

As stated above already, a variety of different arrangements can be found in the EU with all kinds of different scopes and scales. The four generic types are: Direct public management (by municipalized operated utilities). Delegated public management under public or private law (e.g. corporatized public, multi-municipal associations, co-operative companies, public trading companies, including companies with minority

private shareholding), Delegated private management (contracts with private parties), Direct private management (full divestiture).

Institutional Arrangements

The EU lowered the threshold values beyond which contracts have to be awarded through public tendering. The high level of competency in respect of technological, economic, legal and other issues, from the tendering operators and bidding firms has supported the development of (international) cooperation and generally applicable indicators and benchmarks. As in the energy and telecom sectors, consultants show a tendency to concentrate, combining the different knowledge aspects in the field and reducing the number of players available. Depending on the structure and organization of the sector, various regulatory concepts are being applied. Competition authorities have their responsibility in fighting the potential oligopolies tendencies in the supplier market.

Economic Factors

No dramatic and critical events have happened and the main economic drivers are a function of the long term underlying trends. Weak economic growth, in combination with the EU stability pact and a drying up of the EU structure funds for the 'old' member states has maintained a considerable pressure upon the public budget. Moreover, as argued above, in most member states considerable investments had to be made to implement the requirements of the EU WFD and to fight the consequence of excessive water precipitation or draught. As a consequence, a continuous political pressure existed to enhance the efficiency of the public sector at large and to offer public services at a lower, cost-related tariff. In respect of outsourcing, it is crucial that the operators remained in charge of the risk of exploitation. Price setting should cover all costs associated with provision of WSS services, but the authorities could freely decide to cross-subsidize segments of the water sector, consumers or specific geographic regions. Transaction costs were high because of the need for coordination over a number of actors with conflicting interests and to the growth in the number of contracts, each of which with different design.

Social Factors

Social aspects are balanced within the political domain and included in the 'marching orders' to the operators and concessionaries. Efficiency improvements inspired the establishment of consumers' organizations for the several segments of consumers, operating as lobby groups vis á vis the several authorities and other parties

Environmental Factors

Environmental impacts of water use, diffuse pollution, water hygiene and safety, flood control and the avoidance of over-extraction of water have remained important issues, in the context excessive rain and water precipitation or draught. Member states approaches depend on their being affected by these effects.

Other Factors

The general success of the use of outsourcing contracts in other governmental and

former utility sectors are an important driver for the implementation of these practices in the water sector.

5.1.2 Storyline: Outsourcing

Start 2005-2010: 'Business as usual'

The institutional make up of the WSS in the member states varies considerably. Some of the member states have kept their water services under direct public management, other member states work with concessions to private operators, and other member states are mainly characterized by regulated monopolies. Whatever the differences of the current state of the WSS market may be, all have two underlying trends in common namely the drive to: Efficiency and Specialization.

The drivers behind efficiency are, firstly, that more investments are needed. The need for investment is a result of: 1) Modernization of the WSS sector, 2) EU directives (WFD, DWD, UWWTD); 3) The shift from ground water to surface water; 3) Increase in scale which requires investment in physical infrastructure; 5) Investments in sanitation; 6) Making the WSS terrorist-proof A second driver towards efficiency is that, in some member states, this need for investment is combined with financial stress of the municipalities. Thirdly, governments and the WSS develop benchmarking initiatives to increase the transparency in performances. Specialization is connected to the first trend, gains in efficiency, but also technological complexity. Member states adopt outsourcing in different degrees and in different ways. In some member states, outsourcing is already quite far at the end of this period, in other member states, there is much discussion on improving efficiency and the need for outsourcing, but these discussions have not yet been materialized.

Middle 2010-2015: More outsourcing

Outsourcing is extended to more operators of water and sanitation services, and, within operators, to more areas beyond customer services. There are five driving forces behind this expansion. The first is benchmarking, secondly early successes of member states that have adopted extensive forms of outsourcing, thirdly, new EU legislation on outsourcing, which expands outsourcing from the area of customer services to that of management, and, finally, the increase in demand for specialization. This results in an expansion of outsourcing in two ways. In the first place, more member states adopt outsourcing. Secondly, outsourcing is not only adopted in customer services, but also in other activities: for example, tasks where a high level of know-how or specialist equipment is required, or highly labour intensive tasks; and both for the tasks that require management know how (such as drawing up the concession bids) and technological know how. This development towards more outsourcing, together with accession of the new member states to the EU leads to internationalization of the WSS. Low cost companies from CEE move into water outsourcing market in a big way. They have highly technical engineering staff with good language skills. Dynamics in outsourcing shape the WSS market. WSS becomes more technical; Climate change starts to play an important role, as does diffuse pollution. Another dynamic is that subcontractors develop services not just for the WSS sector, but also for other utilities. One could say that they have developed into multi-utility subcontractors. Another dynamic is that the TNCs, instead of focusing on full-blown concessions start engaging

in outsourcing.

End 2015-2020: Definitive choice for competition instead of regulation

The trust in regulatory bodies in a number of member states is put to the test after disappointing results in terms of efficiency and effectiveness of the regulatory framework. The cost of regulation increases continuously as a result of the tendency to involve the regulator increasingly with operational decisions and also as a result of the fine-tuning of the benchmarking system. The general disappointment is supported by series of smaller and more serious regulatory failures. Private companies were able to build excessive profits and in member states with common carriage, the. Politicians followed the general public opinion that outsourcing was the favorable solution. After all, it combined direct public oversight with efficiency, whereas most member states had experienced the disadvantages of direct public management, especially those associated with a lack of efficiency. But outsourcing is not a cure to all either. There is a clear demand for specialized insights and knowledge and need arises for overview in order to overcome the information asymmetry between the tendering operators and the specialized sub-contractors and consultancies. In combination with various regulatory concepts, a European body for support to public procurement procedures is established, in order to secure comparability among the sub-contractors: the Expertise Centre.

Another recurring problem of outsourcing relates to the risk of non-performance of subcontractors, underlining the vulnerability of the operators: they remain responsible for the output of the subcontractor, whether they fail or succeed. Government set up frameworks in which water companies operated in clearly defined legal responsibilities towards service provision and outsourcing contracts. The procedure of outsourcing becomes smoothened and contract officers feel more confident in involving private parties. The standardized outsourcing model also gains worldwide attention after a series of articles in major opinion makers as the Economist, the New York Times, and the Water Policy Magazine. The legal product is exported world wide and heavily propagated by also the World Bank in developing member states.

5.2 What is outsourcing?

Different people perceive outsourcing in different ways and there are many definitions available. According to 'The Outsourcing Institute', outsourcing can be defined as "the strategic use of outside resources to perform activities traditionally handled by internal staff and resources" (Outsourcing Institute, 1998). Johnson defines outsourcing as buying in components that a manufacturing company used to make itself (cited by Sansom et al, 2003). It is similar to the "Make versus Buy" decision (Sansom et al, 2003). Outsourcing is perceived differently by government agencies. The consultancy firm Accenture defines outsourcing specifically for the governments as "contracting with a private sector firm to take responsibility for a function or process, for which the government remains accountable" (Accenture, 2002). Another definition of outsourcing is "where governments hire private firms to provide services in place of government agencies and/or operate government owned facilities" (Segal and Moore, 2003).

To properly characterize outsourcing it is important to note that there are many other terms that are used as synonyms to outsourcing:

- **Outsourcing and self-service**: For some, outsourcing is whenever a private sector does a job or an activity that was once done by the public sector. For others outsourcing is when customers self serve in a way that reduces the government's overall workload. A good example of self-service is that of the United States Postal Service where customers pre-sort their own mail to take advantage of rate discounts.

- **Outsourcing and contracting-out**. Some draw a clear distinction between ad hoc "contracting out" and "outsourcing" where they use contracting out for short-term assignments or specific projects, but they use the term outsourcing for multi year contracts covering entire processes or functions. Contracting is when the company purchases goods or services from another company (supplier or vendor). In this situation the buyer controls the process, while in outsourcing, the supplier controls the process. One can say that when a particular service is contracted out the buyer tells the supplier how to do the work. In outsourcing instead, the focus is on the results; the process of accomplishing those results is left to the supplier.

- **Outsourcing and delegation**. There is some overlap between delegation contracts and outsourcing, but still there are differences between the two terms. The delegation contract can be concluded as a whole package of activities to operate water systems including financing and in some cases strategic planning. In outsourcing, the partitioning or segmentation of activities at operational level can be done and given to different contractors. In outsourcing the competition is more because of the duration of the contract is shorter whereas in delegation contracts the duration is longer. In delegation contracts the competition exists only when the contract is awarded, the competition after the signature is very limited. Another difference in delegation and outsourcing is the transfer of revenue risks. In delegation contracts the revenue risk is transferred to a contracted party whereas in outsourcing revenue risks are not transferred. In both the cases responsibility for service provision remains within the hands of public body. There is another significant difference in delegation and outsourcing, which is in terms of regulations. In delegation there is a need for formal regulation whereas in outsourcing there is no need for formal regulation.

Within the framework of the Euromarket project outsourcing is envisaged as "Several short term (1-5 years) well specified contracts for different activities of WSS services (e.g. network repairing, billing, management) possibly combined with long term contracts (e.g. DBFO, BOTs', Partnering) for infrastructure specific maintenance / construction. However, revenue risk and responsibility for service provision remains within the hands of public body – which is typically responsible for the integrated service" (Euromarket, 2005). In other words all services of WSS sector are outsourced and WSS sector is a sum of unbundled sub services.

5.3 Types of outsourcing

There is a wide spectrum for outsourcing. The kind of outsourcing agreement depends on the relationship with the contractor. At one end of the spectrum it is entirely transactional – the contractor gets paid for what is done, for example, to sweep four times a day and get paid for it. At the other end of the spectrum, there is a relationship where it is agreed that the aim is to keep the end customer satisfied – the partnership replaces clear specification linked to payment on delivery with some notion of

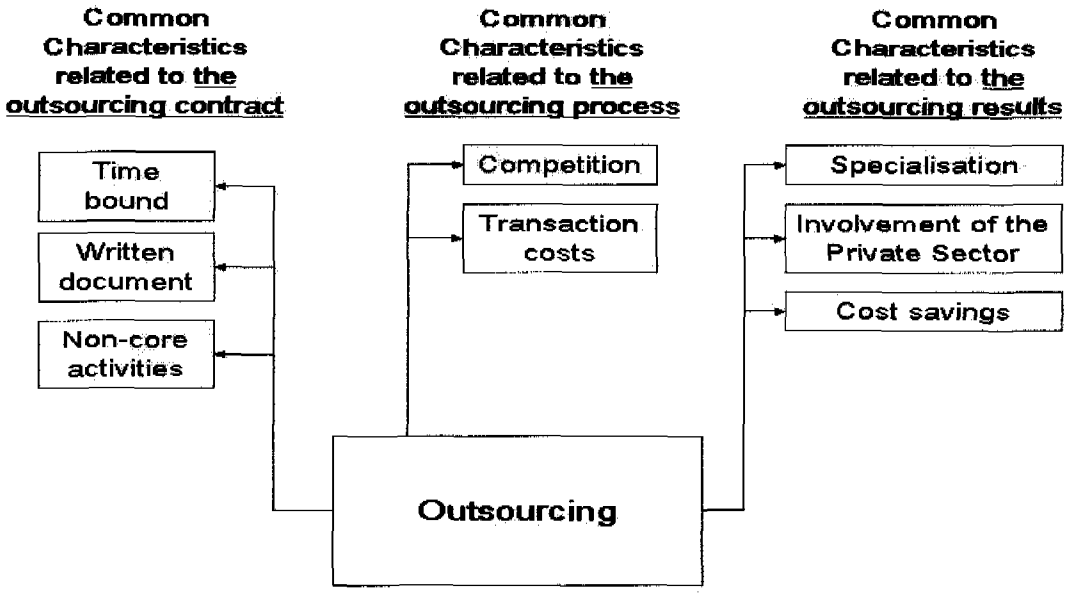
relationship. That will involve issues concerning trust and openness and a willingness to be flexible about the terms of the contract provided the end result is perceived as satisfactory to the customers (Sansom, et al, 2003).

Outsourcing can be done by the utilities keeping in mind which problems to solve and the contracts then can take different forms such as, service and management contract, Design Build Finance Operate (DBFO), Built Operate Transfer (BOT), etc. These modes of outsourcing can also be classified on the basis of length of the contract as short and long contracts. The short contract can be as short as 1 year to 5 years and the long contracts can vary between 8 years to 30 years. When the activities are outsourced it is not necessarily involving private sector as outsourcing can also be done between two public departments.

5.4 Characteristics of scenarios

Although outsourcing covers a wide spectrum of different forms, it still has many common characteristics. Figure 5.1 illustrate the different characteristics identified based on the outsourcing contract, outsourcing process and the outsourcing results.

Figure 5.1: Common characteristics outsourcing



The common characteristics related to the outsourcing contract are:

5.4.1 Time bound

All the outsourcing contracts are defined for a limited period of time. Being time bound results can be achieved more effectively and more efficiently.

5.4.2 Written document

Outsourcing contracts are always in written form for better accountability and monitoring. In case of breach of contract both the parties can refer to the written

document to impose penalties.

5.4.3 Non core activities

The reason for outsourcing non-core activities by the utilities is to concentrate on core activities (although the definition of core and non-core varies from utility to utility) and to get access to strategic resources of the private sector. Outsourcing is generally done for the non-core activities as the length of the contracts are short in duration. Figure 5.2 shows the classification of core and non-core activities of urban water system suggested by Hukka et. al., 2003.

The common characteristics of outsourcing related to the process in which outsourcing established are:

5.4.4 Transaction costs

Transaction cost includes expenses resulting from two or more parties entering into business relations. Transaction costs can be defined as the legal, consulting and financial costs of structuring an infrastructure project. It is also necessary to add transactions costs borne by host governments, from different stages like, planning, decision-making, negotiations, contract supervision, arbitration and also the costs of setting up and running a regulatory agency.

5.4.5 Competition

Outsourcing generates competition in the market and for the market to provide the services. Competition leads to 'value for money' to get the tasks done.

The common characteristics of outsourcing related to the aim and the results of outsourcing are:

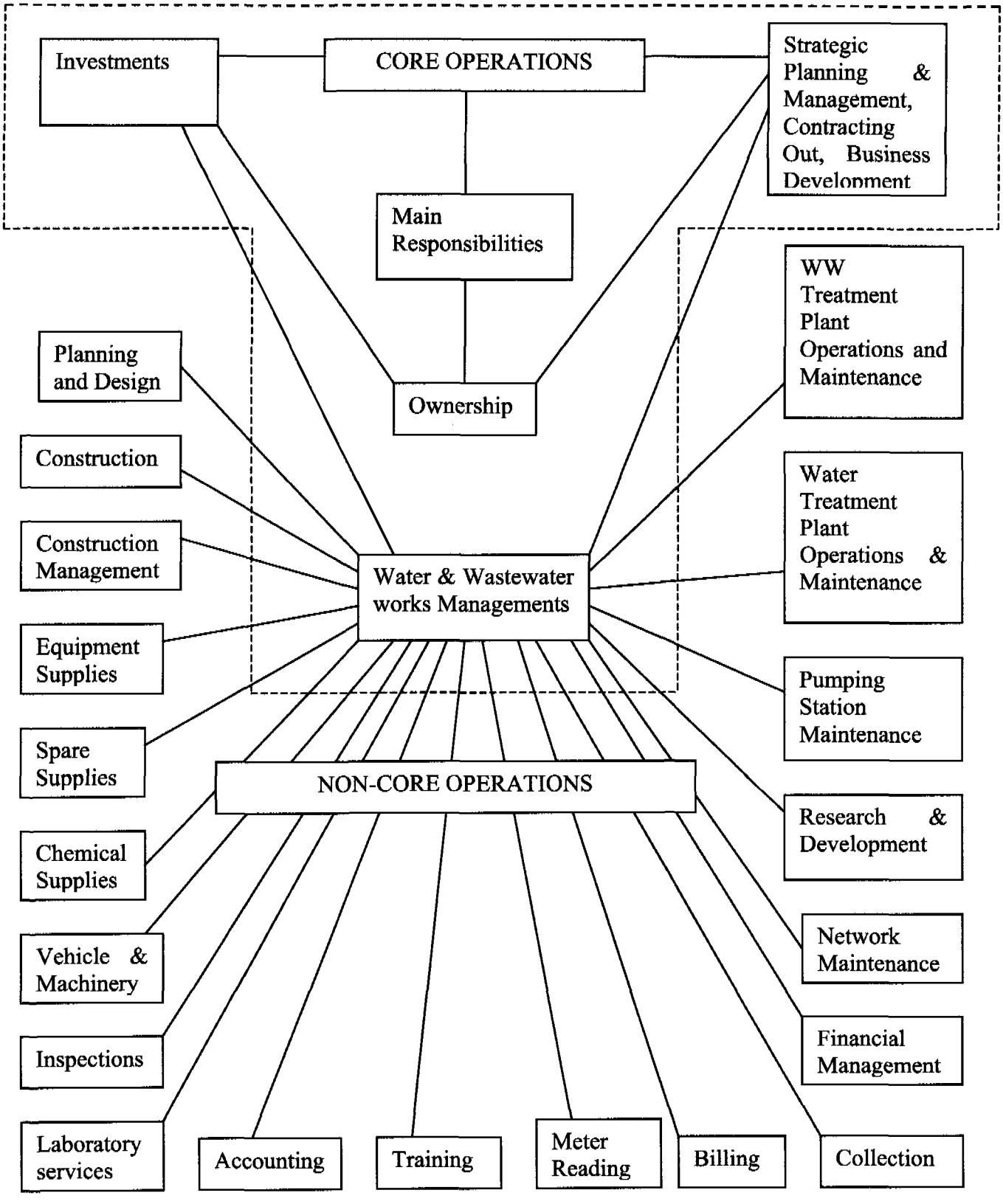
5.4.6 Private sector involvement

When the activities are outsourced there is always private sector involvement as they have the expertise and access to new more innovative technologies to do the job more effectively.

5.4.7 Cost savings

Due to outsourcing there are generally savings in costs. Outsourcing can bring specialists with a high degree of practical experience and competence along with the resources of the outsourcing company, which tend to be dedicated to the task and to be functionally efficient. It is believed that an outsourcer, by virtue of sheer transaction volume and repetition, will be able to deliver the service at a much lower cost than one provided in-house.

Figure 5.2: Suggested Classification of essential Core and Non-core Operations of Urban Water System



Source: Adopted from Hukka et. al. 2003

5.4.8 Specialization

When considering outsourcing the most promising thing to get is access to highly specialized companies in terms of technology and also in terms of skilled labor to do specific tasks which otherwise will be very expensive to develop in house. When right outsourcing company is hired then deliverables can be expected as operational solutions rather than just the products. This again is the case of letting the outside experts to do the work and using the results.

5.5 Social implications of outsourcing

The possible social implications of outsourcing are divided in two parts, implications on workforce and on universal service aspects. Each of these implications is then further elaborated on the basis of various identified indicators to give a complete picture about implications.

5.5.1 Implications on Workforce

Two factors play an important role that determine if and to what extent, there are implications on number of employees. These two factors are duration of the contract and transfer of employees. When the duration of the contract is long and the employees from public utility are transferred to the new company, the chances of reduction in number of employees over a long period of time are higher rather than when the duration of the contract is short. The reason most often cited for downsizing is that the public utilities are overstaffed with low productive staff, five to seven times compared to other utilities and also having more hierarchical structure (Haarmeyer, 1998). When the same is transferred to the new company; the chances of downsizing are more. The new company would always like to be more cost effective by having a less hierarchical structure and productive staff. Less hierarchical structure because the decisions are taken more faster and productive staff who takes more initiatives and responsibilities.

In many cases of outsourcing, when there is a transfer of employees internally from one department to another to perform different functions, usually after a period of training, there are risks of a "brain drain" in key positions where specific know how is required. Most companies believe that the primary risk of long-term outsourcing resides in loss of technical know how (ILO, 2001). The core objective of outsourcing is increased profits by lower costs – crucially labour costs (Thomas, 2003). Another reason for outsourcing is that the public utilities cannot generally lay off workers from the job due to many reasons. So with outsourcing utilities can get rid of inefficient work force, by transferring them to the new company.

With increased reliance on outsourcing, another significant reason for job cuts is replacement of manpower by labour saving machinery. The above-mentioned point is very well illustrated by case of Dutch water industry. Considering that the Dutch water industry is quite stable in terms of size, the significant labour productivity gains have at the expense of employment by the water companies. In the 15 years between 1985 and 2000, employment in the companies has dropped by nearly 20% from 8500 to 6803 (Van Dijk, 2003). There are many examples all over the world, where there is decline in number of employees especially in water sector through outsourcing. With private sector involvement in *Guinea* through a leasing contract awarded to a foreign private consortium in 1989 led to little change in employment levels, from 512 employees in

1986 to 503 in 1996. In *United Kingdom,* during 1980's there has been an increase in outsourcing and the use of contractors, which resulted in a decline in number of core employees by almost 17 percent, from 41,126 employees in 1990 to 34,174 employees in 1996. However, over the same period, there has been enormous increase in number of non-core employees from 1,237 in 1990 to 24,239 in 1996. But there is a significant overall increase in the number of employees in ten water companies, from 42,363 in 1990 to 58,413 in 1996 (ILO, 1999). The increase in number of employees can be associated with significant increase in large infrastructure projects during the same time.

There is further evidence of significant work reduction due to outsourcing of activities in water industry in some other countries like Czech Republic; where there is a reduction of almost 34 percent. The increase in outsourcing can be a result of shift from socialistic role of government to more democratic role in the early 90's. Similarly, in Hungary there was reduction of 46 percent in staff in one of the water companies. The following table shows the details about change in number of employees in Czech Republic and Hungary.

Table 5.1: Change in employment in CEE privatised water companies

Country	Location	Company	Multinational	No of employees before outsourcing	No of employees after outsourcing	Percentage change (%)
Czech Republic	Brno	Brno Vak	Lyonnaise des Eaux	762	624	18
	Karlsbad	Vodarny Karlovy Vary	Lyonnaise des Eaux	416	361	13.2
	North Bohemia	Severoceske Vak	Hyder	3550	2350	33.8
	South Bohemia	VaKJC	Anglian Water	1642	1300	20.8
	Plzen	Vodarna Plzen	Generale des Eaux	370	350	5.4
Hungary	Kaposvar	Eaux de Kaposvar	Lyonnaise des Eaux	120	118	2
	Szeged	Szegedi Vizmu	Generale des Eaux	-	-	-
	Pecs	Pecsi Vizmu	Lyonnaise des Eaux	1000	540	46

Source: Adopted from ILO, 1999

With introduction of private sector comes an associated issue of 'employer and employees' relationship. The relationship or nature of contract depends on the human resources strategies adopted by these companies (Hall, 1997). If there is any transfer of employees, it can lead to more flexible, fixed term employment contracts. These fixed term contracts will then lead to further possibilities of having strained relations between employer and employees, but can also among the different groups of employees. This can lead to high degree of employment uncertainty among workers. If there is no transfer of employees, then the nature of contract between employer and employee is of permanent nature. The employer in most cases will be public entity and workers will enjoy the benefits other than just the salary.

Outsourcing of activities often result in changes, although in varying proportions and degrees, in terms of salary and other working conditions. When outsourced, the

companies generally adopt their own wage policies to be more cost effective and achieve greater productivity along with being more efficient. Salaries differ depending on the type of job carried out in the enterprise and there are major difference between salaries paid to different categories of people depending on experience, status and level. Although there is a lack of data for an analysis to be made of salary differences between manual workers, engineers and managerial staff, the example of the United Kingdom does highlight some aspects of this phenomenon. With increased outsourcing there was an increase in the salaries of the directors of the water and electricity enterprises at a time when there were massive redundancies at lower end. This is just an illustrative example where a discrepancy in the policies adopted by the companies towards different workers is shown, but this might not be the case all the time. The following table shows the change in the salaries of the directors in the water companies.

Table 5.2: Directors' remuneration in regional water companies in the United Kingdom

Regional water companies	No of directors	Board pre-privatisation (£)	Board 1999 (£)
Anglian	11	345000	814000
Seven Trent	10	397000	1249900
Southern	9	N/a	857000
South West	11	106000	947000
Thames	9	103000	1051000
Wessex	10	159000	682000
Yorkshire	11	214000	874000
Total	71	1324000	6474900

Source: Adopted from ILO, 1999

Another example can be seen from Czech republic where two out of five outsourced companies have withdrawn from the employers association and so are not obliged to follow the national agreement. Lyonnaise des Eaux in the Czech republic has a policy of allowing local managers to decide whether or not to follow the national agreement (in Hungary, all companies are legally obliged to follow national agreements, and so this is not a policy option in that country). However, the company does not pay attention to labour costs in the companies' budget, but says that it does not give any specific directions on pay and conditions. This has resulted in higher pay for managerial staff in outsourced companies than their counterparts in public companies (Hall, 1997). Even when the basic pay rates are protected, hours of work are often reduced (thereby decreasing pay) and bonuses, holiday and sick pay entitlements deteriorate as well, with important implications for work (ILO, 2001). A clear trend over last couple of years in the water, gas and electricity distribution services is towards individualization of salaries, a technique that is designed to create greater workers involvement in the company. Box 5.1 is a clear example of individualized performance related salary pay scheme, which is adopted in one of the water companies in the United Kingdom.

When an activity is outsourced, the changes that new employer brings with itself are new methods such as team work, the merging or splitting of units, job cutbacks or addition of workforce etc. are more, which will affect the working hours of employees. The competitive pressures for better performance and productivity in limited working hours may lead to increased psychological pressure on employees. This may have negative implications in terms of working conditions. One of the aspects of the working conditions is also health and safety of workers, though often underrated issue while considering outsourcing. As stated in ILO report, in addition to the classical hazards

associated with most large industrial plants, workers may also face dangers of occupational illness caused by working in proximity to unidentified pollutants, drowning, underground work, work in confined spaces, risk of explosion and working with under high pressures (ILO, 1999). When the activity is outsourced one of the obvious target of the new employer company is to reduce expenses and to be more profitable which comes at an expense of allocating less funds towards health and safety of workers. Although this will depend on length of contract as for short-term contracts the employer will have no incentive to do so. But on the contrary when the length of the contract is long the employer will invest to protect the trained employees. There are examples where there is an improvement in working conditions due to outsourcing and one such example is of Latvijas Gaze. It has led to an improvement in work organization and safety at the workplace with the introduction of modern individual protective equipments, measuring instruments, and the presence of a doctor or doctors assistant and the provision of consulting rooms in some workplaces (ILO, 1999).

Box 5.1: Thames Water pay structure

The British enterprise Thames Water has operated a performance related pay scheme since 1992 for certain staff and since 1994 for manual and craft employees. Employees are allocated to performance categories, after assessment. The range of salary increase for each performance category in 1997 was as follows:

Performance Category	Guarantee (%)	Range of Increases (%)	Total (%)
Unaccepted	0	0	0
Accepted	1.6	0	1.6
Good	1.6	1.4	3.0
Very Good	1.6	2.4	4.0
Excellent	1.6	3.4	5.0

Employees who already have reached 115 per cent of their scales (i.e. above "excellent") received a full-consolidated increase based upon their assessed performance. In addition, the company's profit share scheme allows employees to be paid up to an additional 5 per cent of the pay budget against the achievement of operational and financial targets.

Thames water pay structure as of 1 July 1997

Grade	Job examples	Minimum (£ p.a.)	Maximum (£ p.a.)
A	Operator, clerical assistant, messenger	9861	13341
B	Operator, Sewerage operator, main and service layer, receptionist, meter clerk, laboratory assistant,	11341	15343
C	Technician 1, technician 1 (sewerage), operator (water supply), building maintenance technician, driver (large special vehicle)	13042	17644
D tech	Technician 2 (mechanical), technician 2 (electrical)	14021	18969
D	Sewerage inspector, network service technician, technician 3, technician 1 (working supervisor), personal assistant, shift controller, administration officer	14998	20292
E	Technician 4 (mechanical/electrical), technician 4 (control and automation), field supervisor (network services), technician 3 (working supervisor), personnel officer, analyst programmer, scientist	18246	24686
F	Senior scientist, hydro geologist, area personnel officer, system analyst	20982	28388
G	Senior system analyst, operations manager, planning manager	24130	32646

Note: employees on bands E to G are not eligible for overtime payments.

Source: Adopted from ILO, 1999

One of the characteristics as to why outsourcing is done is to have access to modern technology and experts knowledge. The outsourced company provides skills and management expertise to deliver public services more efficiently at lower costs (Seppala et. al., 2001). Replacement of manpower by labour saving machinery through contractors/outsourcing, the positive implications can be observed. There will be reduced working hours and also improvements in the health and safety of workers. Machines will carry out most of the works and there will be no directs contact with harmful pollutants by employees. Outsourcing can also change the training environment either in positive or negative way. The process of outsourcing means that generally the water company expects contractors to be cheaper and training costs are one obvious target for the contractors to reduce. The chances to do this are high because a contractor on a short-term basis has no incentive to build and maintain a stable workforce or to train workers whom a competitor may then poach. But this might not be the case for a contractor on long-term basis (Thomas, 2003). There are examples where employees in posts affected by outsourcing of water connections and the extensions of distribution in Tunisia initially received training and were redeployed to jobs involving monitoring of subcontracted work (ILO, 1999).

Box 5.2: Private sector involvement and Layoffs: The Real Story

The perception exists across the United States that private sector involvement in public services results in massive layoffs as private companies get rid of highly-compensated public employees and replace them with lower paid, non-union workers with fewer benefits to perform the same services. This has generated intense opposition to private sector involvement from public employee unions at all levels of government. However, there is much evidence to show that private sector involvement has resulted in few, if any, layoffs and that public employee can actually benefit in the long term from private-sector management. Several studies demonstrate that the fears of many have been overblown:

A 1995 study of privatisation in Illinois municipalities found that only three percent of the 516 responding cities reported layoffs due to outsourcing. Nearly two-thirds (64.9 percent) of the cities reported no displacement of affected employees, while 10.8 percent transferred workers to other government jobs, 5.4 percent reported that employees were hired by the private contractors, 5.1 percent said the affected employees retired, and 9.8 percent reported a combination of these results. In late 1999, a follow-up survey of 220 Illinois cities of more than 5,000 in population found roughly the same percentage (only 3.8 percent) of cities reporting that employees were laid off as a result of outsourcing.

In fact, strategies to lessen the impact of private sector involvement on public employees are now the rule, not the exception, among governments that contract services. Recent long-term contracts in water and wastewater services in Atlanta, Buffalo, Milwaukee, and Indianapolis included provisions that all existing public employees would be hired by the private firm at comparable wages and with comparable benefits. In these examples, employees were unionised and the private contractor bargained in good faith with the union.

Source: Adopted from e - brief by Johnson R, 2001

While considering job securities, the working conditions in public enterprises are generally quite favourable and these enterprises have highly formalized internal structures with high degree of employment security and benefited from the availability of internal labour market. As regards to impact of outsourcing there are changes in the employment relationships, away from full time secured job to part time, fixed term and temporary employment. Much of the shift towards non-standard from and unsecured employment has taken place in relation to the outsourcing activities (ILO, 2001). When considering outsourcing, question arises as to what extent employees are transferred from public sector to new employer and what will be their subsequent status. If employees are transferred, then in most cases, transferred employees are subject to private sector contractual arrangements, which may entail the loss of certain benefits

granted by public sector workers, in particular job security. Yet there can be certain positive outcomes, depending on the company, labour protection laws and the industrial relations climate (ILO, 1999).

The degree of unionisation plays an important role in outsourcing. In a number of water utilities labour policies have been contributing to inefficiencies in services provision. Management is unnecessarily constrained by over powerful labour unions and labour legislation, and outsourcing can begin to redress the balance (Sansom et. al., 2003). The existence of trade unions resulting from organisation of a large number of workers into a unit capable of negotiating with management is one of the cornerstones of any good industrial relations system (ILO, 1999). When an activity is outsourced the workers of that department are generally transferred to new employer, which leads to reduction in strength of a unit for negotiations with management. The smaller unit formed due to outsourcing is also not in a position to negotiate with management and may lead to compromises in the decisions taken with regards to job security, a decent wage and better working conditions.

5.5.2 Implications on accessibility to universal service

Universal service aspects here are understood as access to network services (in this case water supply and sanitation services), availability of social tariffs and funds for the poor. Access to public water supply and sanitation services is no longer a serious problem in most of European Union countries. Rate of connections varies from country to country in EU and it is situated between 90 to 100 percent. The following table shows the rate of connections of the EU countries

Table5.3: Rate of water supply connections in EU member states

Country	Rate of connections in percentage
Belgium	98
Netherlands	100
France	99
Switzerland	100
Italy	98
Germany	99
Spain	90

Source: OECD, 2002

EU has made the objective of access to all compulsory since early 1980s and all the member states confirm to the rule. But since the new countries will join EU as member states access to network will be an issue as in few countries or regions the extent of coverage of water supply and sanitation is still sub optimal, due to incomplete infrastructure development and/or uneven availability of resources (OECD, 2002). A World Bank study (by Clarke et al, 2004) clearly shows that there is no evidence of any public or private management impact on coverage of drinking water and sewerage.

Box 5.3: Social Funds in France and Wallonia, Belgium

Social fund: solidarity funds have been created by a national convention on water solidarity (Charte nationale "solidarité eau") defining concrete measures enabling the continuity and availability of water services for disadvantaged people. Conventions at departmental level can be established between prefects, water distributors (who can engage themselves in not cutting water supply for unpaid water) and municipalities. This can enable disadvantaged people to receive financial support to help them pay their water bills (support is financed through the water bill). Regarding solidarity funds, unpaid water bills supported by the social funds only represent 1/1000th of the water bill. Information on the possibility to benefit from these funds is not sufficiently provided to disadvantaged people.

A social fund for water, fed with a contribution of all water consumers, is used to help people in financial difficulties to pay their water bill. At the second call for payment, the distributor proposes a financial support to the consumer and sends the information to the public assistance that takes the problem at charge. The Regional Water Management Company (SPGE) manages the fund. The Government with the advice of the SPGE determines the level of intervention.

Source: OECD, 2002

Social funds and tariffs from country to country and has specificities, which might not have implications from outsourcing to poorer households. Although there are examples where income support to poorer households is sometimes channelled through social welfare systems or linked to housing benefit programmes, and there are numerous examples of local authority assistance arrangements. Evidence was also found of funds established at departmental level to help write off water debt (France), a social funds for needy households financed by a small levy on water charges (Belgium's Wallonia region), and charitable trusts established by privatised water companies to pay off water debts (England and Wales). Various tariff rebates and discount programmes, usually involving monitory value for individual households fixed in advance (and thus like an income assistance measure in effect), are found in Australia, the Flanders region of Belgium, and the United States. Other assistance to low-income households occurs through flexible payment and debt recovery programme, water vouchers, and assessment of needs by external welfare agencies.

On the basis of above analysis one can conclude that outsourcing has either positive or negative implications. When activities are outsourced it can result in cost savings. These savings in the cost are usually from labour costs, which is the outcome of flexible working hours and short-term contracts for employees. Outsourcing allows firms to offer services more efficiently and effectively without risking large investments in labour. Another reason for the cost savings is due to competition between private contractors to provide services cheaply. Outsourcing has positive implications in terms of access to modern technology and experts knowledge. Replacement of manpower by labour saving machinery will reduce the working hours. Another implication is that with outsourcing, the utilities can concentrate on their core activities and provide services in more efficient and effective manner.

Outsourcing has many negative implications such as reduction in number of employees, risk of brain drain, loss of job security, to name a few. Reduction in number of employees is because the private sector wants to be more profitable by having less number of employees but productive employees. It is also because private sector is involved to layoff excess employees from public utilities, which public utilities generally find difficult to do, due to various reasons. With this loss of employees there

is also a possible risk of 'brain drain' of experts due to outsourcing to the new company for better remuneration. In outsourcing, with private sector involvement, the security of job is also less, as the employment contracts are generally temporary and short term. Outsourcing also has implications in terms of degree of unionization. With increased outsourcing there is reduction in the negotiation power of unions as generally employees are transferred to private sector leaving less employees in unions.

For accessibility to universal services, most EU countries are connected to piped network services like water supply and sanitation. It is for those new member states that will join EU will have to comply with EU policy for rate of connections.

6 Scenario: Community Management

This is another management mode in which the liberalisation can take place. The chances of representation of this end state in 2020 as main management mode are not more than 10 percent. This chapter is divided in five sections. The first is about Euromarket scenario. In second section an attempt is made to understand the meaning of community management by looking at perceptions of different people. Third section explores the different forms of community management. Characteristics of community management have been identified in fourth section and the fifth section deals with implications of community management with final conclusions.

6.1 Euromarket scenario: Community management

6.1.1 End state: Community Management

The community management model in its "traditional" form differs from the public management model in the sense that the community participation includes ownership of the services, cost sharing, operation and maintenance of WSS. It helps to decentralize decisions concerning water services management, by transferring responsibilities to communities. It can be a way for an effective water management when centralized water provision is not efficient.

Nature of Competition

In the case of community management, there is no competition in/for the customer market or for various service inputs. For some activities (such as design, construction and provision of some services) the community has not a sufficient know how. In this case, competition can either directly occurs "in" the market, for some inputs, such as materials for long term O&M, or "for" the market by the way of limited contracting out, in designing and built services. However, contracting out is generally restricted to infrastructure provision or for technological expertise demanding tasks. Communities retain strategic control over the water system and private partners bring efficiency and technical know how, on the basis of contractual arrangements. In the British CM model WSS management is outsourced. The community has control over the raw water and is able to provide the service autonomously. Problems could arise when the quality of the raw resource deteriorates or the number of users increases (without a sufficient increase in the supply). Some institutional mechanisms could be introduced to regulate the access to the resource (i.e. water markets).

Market

The local community does not forcedly operate the whole integrated services, i.e. water supply and sanitation services. Normally sanitation services are managed by individuals (i.e. septic tanks) but, at present, and more in the future, these communities or industrial firms have decentralized systems with new technologies available in the market.

Operators

The community retains the ownership of the infrastructure and takes strategic decisions, concerning the level of service and financing, as it is responsible for investments needed for pipe maintenance. Regarding the operation and maintenance of WSS, there are two alternatives: the community may be involved in the day-to-day operation and maintenance or it can delegate this task or some other aspects to a professional (Schouten and Moriarty, 2003). In the extreme versions of Community Management, the WSM is based on voluntary work. Normally O&M entails the contracting out of some activities.

Institutional Arrangements

The CM is based on the participation of the community in the provision of WSS, in different manners:
- WSS is organized in voluntary organizations (i.e. user co-operatives);
- Customers own water asset or can contribute to WSS management through representation in water company boards;
- WSS is a responsibility of water management associations formed by landowners, private enterprise or public corporations.

Economic Factors

The role of the community is stronger for infrastructure finance (through ownership and financial decisions). However, as stated in the "nature of competition" section, some forms of outsourcing are experienced in the secondary market. Financing of WSM depends upon the community organizational arrangements. The community is collectively responsible for cost recovery. This could mean that all expenses are divided between the members. A volumetric system, especially for small communities, could be expensive to be introduced. Both possibilities of a volumetric system with individual meters and a shared payment in proportion to owned property could be introduced.

Social Factors

Public Participation in strategic decision-making is a distinctive element of the community management. It is not easy to implement and could entail transaction costs.

Environmental Factors

The community has to comply with EU and national standards, for what concerns drinking water standards and sanitation. With respect to environmental standards related to the conservation of aquatic ecosystems the WFD establishes public control through basin authorities. Furthermore, Public Regulators can control the basic quality of the service, public health and environmental aspects.

6.1.2 Storyline: Community Management

Start 2005-10: "Technology opens new possibilities"

Concerning rural and disperse population, in these cases the provision of good WSS

presents problems for public institutions or private operators, since it does not present a high degree of profitability. This, together with the relatively technical simplicity of these services, led to the spread of Community Management Model. Users were directly involved in WSS management.

Concerning water treatment, the increasing level of water quality demanded by the citizens is questioning the chlorination for drinking water. A useful alternative for improving the water quality, then, could be to use domestic inverse osmosis. For what concerns large industrial users or groups of firms settled in the same area, the supply comes very often from underground resources through private wells. Under the tradition of this self-supply model many of these industrial users can use the market option to get raw water or drinking water for improving the price or the quality of the service. Regarding wastewater treatment, the interest of working under separated sanitation systems (for improving depuration efficiency) leads to increase the autonomous industrial sanitation systems under Community or self-management. Another reason that pushes the spread of the CM steams from the rapid growth of urban areas. This is particularly true, especially along the coastal areas (tourist development) where the demand for infrastructure growth faster than the municipal networks. Under this circumstance many of these new urbanizations have assumed the option of building the own systems under common management. In all these cases, the communities have the complete responsibility for the operation of the water services and for the financing. Until 2010, apart from rural or industrial settlements (or for self-supply and sanitation), a community management model can be identified also in case of centralized water services. In England and Wales, there has been a great debate on the opportunity to separate O&M from capital expenditures, eventually selling the asset by creating a non-for-profit "community mutual" (Bakker, 2003).

Middle 2010-2015: "The community mutual is widening in form of user ownership and involvement"

The decentralized solutions described above put the WSS service even closer to citizens. In practice, citizens (directly or through associations) became the owners of water systems or responsible for strategic decisions (through involvement in water companies governance). Transfers from the Central Government to local authorities no longer represented the financial sources. At the same time, private investors were not willing to enter into the water service primary market, as tariff increases (necessary to cover investments) were opposed by citizens. The limited financial sources boosted the search for cost effective solutions, both in public or private management entity case. Some water private companies and public owned companies decided to transfer ownership of water services to citizens. Public institutions decided to involve citizens in water company governance. This direct ownership allowed the decrease of the capital costs (through a long term depreciation of asset and through the avoidance of remuneration for capital invested). Apart from the financial aspects, the search for cost effective solutions led to development of decentralized technologies that in some cases allowed less investments in water infrastructure. Some local communities started to express a strong preference towards the development of decentralized systems, which made possible to avoid the construction of new systems (thus reducing investments in water infrastructure). This preference was also boosted by the mistrust towards public institutions. Citizens felt that both public authorities and private companies, for different reasons, were not able to provide a good quality service at affordable price. As underlined above, the development of decentralized systems pushed the water systems

closer to citizens, who at the same time show a higher willingness to pay to maintain water systems.

The citizen involvement in WSS strategic decisions is determined by the crisis of individualism, which entails that people feel satisfaction in engaging in public activities (rather than only in private consumption). As a consequence, individuals wish to have a word on decisions regarding the provision of water services.

End 2015-2020: "Community Management as an effective way of implementing the Framework Directive"

Whilst in the previous years the CM model developed as a residual form of WSS management in areas not served by centralized water services, in 2020 a development of this form of management is experienced in all the situations in which an increasing involvement of users is experimented at local level, through ownership or participation in decision making. The rationale for this increasing involvement of users is for make responsible all users about the decisions concerning WSS management. Moreover, the learning process (experienced in environmental decision making in the last years) eased citizen involvement. The implementation of the Water Framework Directive and of the Aarhus Convention increased citizens' interest in being involved in environmental decision-making (thus in WSS decisions) and their ability to participate actively in participatory planning procedures. As a result we saw the better coordination at local level of the different social groups. Finally, the opposition to private sector involvement entailed that they preferred to remain responsible for strategic decisions regarding WSS management. In conclusion, community management, in 2020, is introduced or maintained for several reasons: because traditionally WSS has been managed in this way; because the community opts for this kind of WSS management, due to inefficient WSS management (both public or private) and mistrust in public institutions; because in many cases the diseconomies of scale in large and growing urban areas make cheaper and more efficient decentralized systems with new technologies, favoring the growth of community management models; because of ideological reasons. The intellectual interest for this kind of management had rather an unexpected success and community management started to expand in urban areas (following the British CM model), as well as in rural areas (following the traditional CM model). Alternatively, this could be the result of a return to associations or co-operatives formed at local level, responsible for service provision and asset maintenance.

While building these scenarios, it was recognised that there will be overlap in the competition processes (which is used as a primary means of differentiating the five proposed end states) therefore other secondary means of separation of the end states was used where the end states are quite close together. This need for further end state differentiation occurred with:

- The two main "Private sector participation (PSP)" EU end states (i.e. Delegation contracts and outsourcing) where competition "for" the consumer/ supplier market predominates; and
- The two EU end states that incorporate a more central role for the public sector (i.e. Direct Public Management and Regulated Monopoly) and where there is more reliance on comparative competition (formal via benchmarking and informal via professional competition), and competition "in" some customer/supplier markets.

Each of these end state when applied at the EU level will have a different economic,

social, environmental and institutional implications. Three of the identified future end states (No 1,2 and 3) involve greater liberalisation at European scale whereas two of the future end states (4 and 5) represent a retreat from liberalisation. These five identified end states will be used as the basis to find the social implication at EU level.

6.2 What is Community management?

The word 'community' originates from the Latin words 'cum', meaning 'together', and 'munus', meaning 'gift'. According to Oxford dictionary community is described as "a body of people living in one district or having common interests or origin" whereas Wikipedia described it as, a community is a group of people that shares gifts amongst themselves. A community is a group of people living in the same town or neighbourhood, organized into a municipal or social entity. Community management is a form of community participation in which the community takes the final decision on all the important aspects in the planning and implementation of the water and wastewater services and in which the responsibilities for operation and maintenance of the constructed system lies with the community (Wegelin-Schuringa, 1998).

Participation is usually defined as the process of people being involved in and sharing a variety of activities with a communal goal. But the term 'community participation' is often abused and needs to be precisely defined (Lammerink and Bolt, 2002). Community participation can be distinguished at four levels, see table 1 (Wegelin and Schuringa, 1998):

1. Participation as a form of 'cheap labour'.
2. Participation as 'cost sharing'.
3. Participation as responsibility in decision-making.
4. Participation as a 'contractual arrangement'.

Table 6.1: Degree of community participation

	Participation as a form of 'Cheap labor'	**Participation as 'Cost sharing'**	**Participation in 'Decision making'**	**Participation done as a 'Contractual arrangement'**
Community's Contribution	• Free construction labour • Free local raw material	• Token contribution in cash or in kind towards maintenance	• Community fully in charge with possible subsides for capital investments; part of running costs/ support	• Volunteers in committee • Volunteer as caretaker • Commitment by leaders • Contributors
Community Involvement	• Only carrying out work	• Only some community members	• Of all community members, including women	• Not all community members; contract can be commented
Role of Outsiders	• Idea, planning and design	• Decide on contribution level	• Facilitation; advice	• Develop ideas and contract

	Participation as a form of 'Cheap labor'	Participation as 'Cost sharing'	Participation in 'Decision making'	Participation done as a 'Contractual arrangement'
Aim/Benefit	• Lower cost	• Lower cost, Cost recovery	• Genuine commitment and support from whole community through participatory community education and involvement in decision making from the start	• Minimal local management infrastructure (local leadership, local committee, local maintenance volunteers)
Assumption	• Pride will lead to maintenance	• Contribution indicates service is valued and shows commitment	• Long term benefits and increased use and sustainability justify high investment (staff, time, cost)	• Legitimizes the project; local management; technology transfer through contract
Limitation	• Not community priority, contribution not voluntary, use and maintenance may vanish	• Commitment only from some, not all involved: e.g. Women: the users; system rejected if major break downs	• Requires highly trained and motivated staff; difficult, time consuming, expensive.	• Not all villagers may be involved in decision. Contract not fully understood. Selection of committee and care taker too hastily; willingness to pay can be poor after some time

Source: Adopted from Wegelin-Schuringa, 1998

Interpreted as such, community management in the water sector relates to a situation when the members of the society share together the responsibility for the tasks to manage water services. These tasks include setting tariffs and collecting payments, carrying out routine maintenance, and making decisions about system expansion." (Schouten and Moriarty, 2003). It needs to be noted that community management does not imply that communities must take care of all aspects or pay full costs by them.

Community management is a potential vehicle for achieving a broad range of development goals, which should lead to more efficient, sustainable water supply development. The idea of partnership allows scope for sharing responsibilities between supporting agencies and communities. Moreover, since a more prominent management role is given to communities, greater participation by the private sector in both the installation and management of water and sanitation services is sometimes necessary. The participation is generally required for capacity building of communities and/or having more expertise knowledge.

6.3 Forms of community management

There are different forms of community management, which vary according to the size of the community, the technology used, the local context and national legislation (Wegelin-Schuringa, 2004). Basically, community management operates through a Committee whose members are elected by a General Assembly of users. Some of these forms of community management are as follows:

- **A Tap or Neighborhood Committee:** Responsible for operation and maintenance of specific water point

- **A Water Committee:** Responsible of all activities (managerial, operational, technical, and financial) of a particular scheme, covering a larger area than a neighborhood, possibly the whole community

- **A Village Association:** The village association is responsible for all development activities, and is also overlooking water and sanitation

- **A "Coordinating" Water Committee:** The committee coordinates several other smaller tap/ stand post or neighborhood committees. The water committee is responsible for managerial and financial matters, while the other committees are responsible for operation, maintenance and collection of fees.

- **A Water Committee Contracting a Private Body:** A water committee contracts a private body, an individual, a mechanic, a group of artisans, or a firm to operate and maintain the system, while it keeps the general management and control role.

- **Delegated responsibility by local authority:** While ownership and decision making is done by local authority, a water committee operates and manages the system

- **Inter-Community Federation of Communities:** Several communities share the same pipe and water source; each community has a water committee, which operates, and maintains its own water point and collects fees. Part of the collected fees goes to an association of committees for maintenance of the whole system (pipes, source) (Wegelin-Schuringa, 2004).

Box 6.1: Wittenbach: A case of Community Management

Wittenbach, a village of 8000 inhabitants situated in north east of Switzerland. Historically, people relied on local springs and hand dug wells for farming and providing water for cattles. More intensive farming practices towards end of 19th century along with a period of dry years was the main push that initiated the development of a common supply network for drinking water. The initiative came from only 26 elite landowners who covered the cost of first project by setting up a cooperative- a private association with public purpose. Subsequently, more house connections were added and the cooperative was obliged to accept new members.

The main uses of water were domestic consumption, water for cattle, and fire fighting. The main stakeholders also are the users, the corporation, the Group Water Supply, the service provider, the municipality, the fire protection assurance and canton. Their roles may be summaries as follows:

- The households pay the fees to the corporation. The fee consists of a fixed charge and a volumetric charge. The fees are set by the executive board of the corporation and supervised by canton. Every adult inhabitant of Wittenbach is member of the corporation and has the right to elect the members of the executive board, or to be elected in the board.

Box 6.1 continued...

- The corporation was founded in 1897 as a private association. In 1932, it was forced to become a public body to be able to receive subsidies. The legal and organizational framework of the corporation is defined bylaws. The corporation consists of three bodies: the members, the executive board and the accounting control unit. The executive board takes decision in monthly meetings. All positions are voluntary. Only the president receives a small salary. Executive board members often stay for 20 years but have to be re-elected every year. The president supervises the management of the water supply. A private service provider carries out day-to-day business. Because of the high status of functions in water supply management, there has never been a problem to attract community people for the executive board.
- The Group Water Supply was founded in 1971. The group owns all infrastructures from springs to meters. The water suppliers of the group (corporations or municipalities) are responsible for operation and maintenance of their part of the network. The seven members of Group Water Supply each delegate a representative to the board of representatives of the group.
- The service provider in the Wittenbach is family run private company. The original founder was a blacksmith who specialized in the construction of pipes. The duties are listed in a contract and executive board of the Wittenbach Corporation controls the company. The company is a member of national association of service providers. The association provides training and is a platform for the exchange of knowledge and experiences.
- Another private company is responsible for operation and maintenance of the Group Water Supply network. They also read the meters in all households and are responsible for an emergency plan.
- Formally the municipality is responsible for the water supply of the villages, but this task is completely delegated to the corporation.
- The fire protection assurance is unique stakeholder. Its role may be described as a para-governmental as it is provided with a regional monopoly, but at the same time regulated by a set of laws. The assurance is an important provider of technical knowledge and financial support. Projects that the assurance does not approve are not supported financially. House owners provide the financial funds for the assurance.
- The canton controls water quality, checks and approves the tariff structure of the corporation and takes care of source protection.

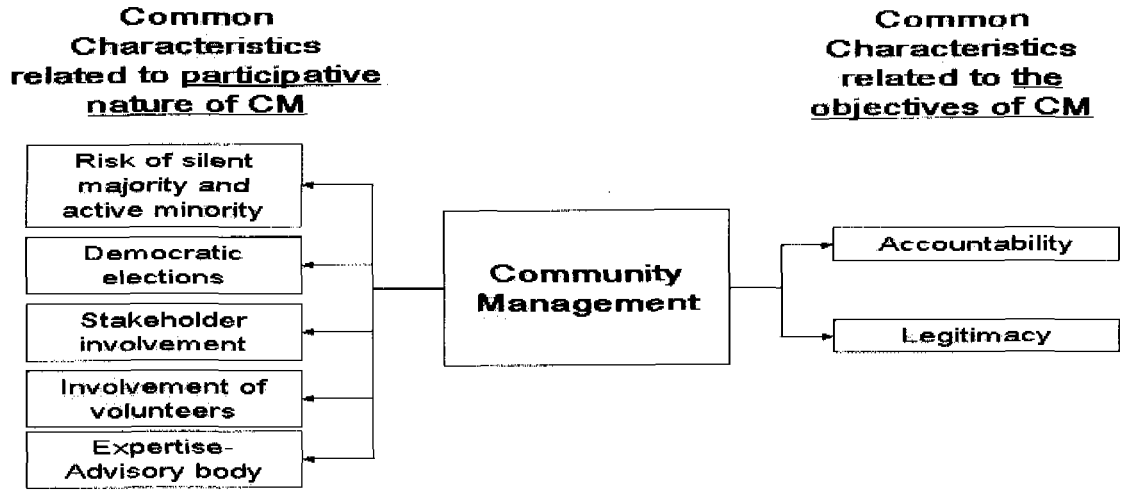
The evolution of the Wittenbach water supply management is an example of balance development. Balance between the interests of different stakeholders. Balance between private and public interests. Balance between local, intermediate and national administrative levels. Balance between local skills and capacities at intermediate levels. The management systems is dynamic, it changed in the course of a century. It is rooted in a strong sense of ownership and local control.

Source: Adopted from Saladin M (undated)

6.4 Characteristics of community management

Critical features are identified that typify community management, based on different experiences described in the literature. These experiences, one or several of them, which are considered, play an important role to characterize this particular arrangement. Figure 6.1 illustrate the characteristics of community management based on participative nature of community management and the related objectives of community management.

Figure 6.1: Common characteristics Community Management



The common characteristics selected, related to the participate nature of Community management are:

- **The risk of the silent majority and the active minority:** This characteristic relates directly to the participatory character of community management. In many community management cases, it can be observed that only a small part of the stakeholders take the time and effort to make use of the participatory character of community management.

- **Democratic elections:** In community management, the selection of members for boards/committees should be done on the basis of democratic elections where every person has a right to nominate his/her candidature for elections. This is very important, as every person will have opportunity to choose the candidate, which they feel appropriate for taking up the tasks of community management.

- **Stakeholder involvement:** For effective community management to be in place a cross-section of the community must participate in the development process. This means involvement of various stakeholders such as water users, farmers etc. who have an interest in execution of tasks fulfilling the overall goal of a community.

- **Involvement of volunteers:** One of the basic principles of the community management is involvement of the community in form of volunteers, which can be used, in direct execution of work. Involvement can be in form of management of system or as a caretaker of system depending on the requirement of the community.

- **Expertise advisory body:** Mostly the communities are not capable enough in managing their own network system in most efficient way. The purpose of expertise advisory board is to build capacities at all management levels within the community for sustainable use of the systems.

The common characteristics related to the objective of community management are:

- **Accountability:** The community must be in direct or indirect control over the

operation and management of its own water supply and wastewater systems, where control is understood to mean the ability to make strategic decisions about the process, from the design phase to long-term operation and maintenance. With control of system will come the sense of accountability where members will be held responsible for fulfilling their duties and justify their actions towards community.

- **Legitimacy:** Although formal legal ownership of physical infrastructure is highly desirable, it may not always be possible in existing legal frameworks. Of equal importance is the perception of ownership by the user community. The community should also have legal status to exert legal actions when entering any form of contract with private party.

The use of most of these characteristics can be seen in almost all examples of community management. They act as a foundation for community management.

6.5 Social implications of community management

6.5.1 Implications of Community Management on workforce

When community management is seen as one of the management options there are two possible situations to look at the implications. First situation is when the workforce in community management is basically the local people who manage everything for community i.e. typical community management model. The people are generally volunteers or they are people within the community; and appointed by the community. These people are always compensated to do the job. The advantage of having such a workforce is that being from the community, the employment opportunities are generated within the community. Since the communities own the system they are more committed towards the management of the system and are easier to control. There are also certain negative aspects, like more chances of cheating and poorly managed systems. Following is the good example to illustrate that even when appointed by the community, commitment is important to keep system running.

Box 6.2: From employee to volunteer

Nyen and Mbemi are two communities sharing the same gravity water supply system. Jhon Muno was first caretaker as he was involved in building the system and was also elected by communities as caretaker. Although he was elected, he was on state payroll. This kept him satisfied and motivated to work well. After working for sixteen and half years he retired from the caretaker job. But 4 years before retiring the government stopped paying him although these 4 years were also used to train another young caretaker, whom the communities did elect. Apart from that the new caretaker was also not paid; and the young man couldn't concentrate on the job or react promptly to complaints because he has to do other paying jobs to survive. Muno regrets the situation because he says the caretaker is not motivated enough.
The point to be made here is that even when the employees are from within the community they should be motivated enough to do the job.

Source: Adopted from T. Schouten et. al. 2004

Involvement of volunteers does influence the number of employees. As participation can be in the form of free construction labour or as caretaker of the system, it will result in less number of employees. There will be no need to hire the people to do the job from outside the community. In this type of community management external agencies in the

form of experts' advisory body plays an important role in terms of capacity building. It is for those involved in the management of the system who will benefit. These experts can be government, community workers, NGO's or even private sector depending on the intervention needed for capacity building. There are examples where NGO's played an active part in the provision of the services to communities. Box 6.3 illustrates one such example where NGO activities have helped provide water to communities.

Box 6.3: Guatemala: Provision of water through NGO activities

NGOs can also play an important role in the provision of improved water and sanitation services, as illustrated by the activities of Aqua del Pueblo (ADP) in Guatemala. About 90 percent of the population of Guatemala lives in dispersed highland communities. Although water is abundant in these areas, it is difficult to deliver whenever and wherever needed, and therefore the supplies are limited. At least three national agencies are involved in implementing water schemes in rural areas, but ultimately these schemes are administered and monitored by local water committees. COPECAS, an association formed by these agencies, can do little more than provide general guidance since it lacks an institutional mandate and adequate human resources. As a result NGOs have traditionally been used as executing agencies for water projects.

ADP has gained a deserved reputation in pioneering self-help community water projects. It has developed projects in collaboration with small villages. ADP makes effective and appropriate use of simple technologies and calls upon its workers to incorporate local materials, techniques and ideas into the design. It responds to the requirements of villages and has established a system to develop community participation from the outset. A technician works with the inhabitants to identify the preferred level of service and community inputs in terms of labour and finance. At the same time, ADP's education group instructs the community in basic organisation, accounting and communication. The group also helps organize a voluntary committee that will take responsibility for the construction, operation and maintenance of projects. Health and hygiene campaigns are conducted in the schools and with groups of women, using films, demonstrations and lectures. ADP has also made sanitation a rigid requirement for all water project it builds: the community must build pit latrines before works on the water system begins.

An integral part of ADP's extension approach is the training of intermediate level technicians from local villages- Technicians in Rural Water Supplies (TARS)- who are taught onsite planning, surveying, design, organisation, supervision, administration and O&M skills over a six-month period. After training, TARS are expected to design and supervise at least two projects per year.

ADP subsidizes about 40-60 percent of the cost materials for each project. Each village committee enter into contract with ADP, but not until the entire community agrees to supply the labour necessary for the project. The contract stipulates that the community will pay back a soft loan amounting to an average of 60 percent of the cost of material over six year period

Source: Adopted from McCommon et. al.1990

In case of community management, job security is generally high. It is one of the basic principles of community management that people in the communities have to be involved in the management of most of the work, which gives them security of job. With this sense of responsibility and commitment, the status of employees do not change generally in case of community management, as the employees are mostly chosen by the communities to do the job.

The second situation is when community management outsource the operation and maintenance of the system. Outsourcing and number of employees depends on the size of the community and the complexity of the WSS system. For example in the case of Dutch water boards, the size of the water board has many implications in terms of participation and also the process of selecting representatives of different stakeholders. With an increase in the size of water boards, people are not aware anymore of the candidates for the elections in the water board assembly. This has also a negative implication in terms of participation, as only 20% of the people participate in the voting process for selection of stakeholders' representatives.

According to Ton Schouten, when private sector is involved in community management the risk (in terms of breach of contract) involved is higher as most community management forms do not have a legal status (Schouten, 2004). Under such circumstances i.e. without legal status it is difficult to manage the contract with private party. The implications on workforce is analysed based on illustrative case from Wittenbach, where the operation and maintenance of the system is given to a private party and that private party is one of the members of the community. This is the case where employment is generated within the community but since the size of the community is small and the system is not very complex the workforce required is also very limited. The indicator like degree of unionization has fewer implications, as it does not fit in the overall concept of community management. But corporate social responsibility as an indicator is very important as it protects the social values of the community management and has implications in terms of democratic elections, involvement of stakeholders in decision-making and increased level of accountability towards community.

6.5.2 Implications on Accessibility to universal services

Universal service aspects here are understood as access to network services (in this case water supply and sanitation services), availability of social tariffs and funds for the poor. Access to public water supply and sanitation services is no longer a serious problem in most of European Union countries. Another aspect, which is looked at in the community management, is collection of the funds for the sustainable operation and management of system where stakeholders' involvement can have some positive implications in terms of social tariffs. For better collection a targeted group generally poor people are provided with a facility of having social tariffs. There can be a positive implication on social tariffs with an increased level of accountability as the members of committee or boards will be held responsible for provision of basic services to all the people in the community. In doing so they may institutionalize a social tariff.

Based on above analysis following conclusions can be drawn. Social implications of community management especially for workforce are difficult to measure because the perception of workforce varies from place to place. Some general conclusions can be drawn, such as, in community management job security is generally high. The reason being that the employees is elected by communities to do the job. Another reason for high job security is lack of competition and also less availability of workers who can do the job properly. Community management is generally an alternative when the authorities fail to provide services to the community. Under such circumstances the question of accessibility does not arise, as all the members of the community will have access to water supply and sanitation services.

7 Discussions and Conclusions

This chapter is divided in three sections. The first section will be about discussions. The discussions are general giving a broader picture about the scenarios, outsourcing and also about community management. In the second section, conclusions are drawn based on the analysis made in chapter 5 and 6 for outsourcing and community management respectively. The third section is about testing the hypotheses, which is the aim of the research study and also to conclude the chapter.

7.1 Discussions

7.1.1 Scenarios

One of the objectives of the Euromarket project is "to study the forms of water liberalisation that may take place in Europe in the foreseeable future". The Euromarket project is based on exploring five scenarios, which are used to reduce a large range of possibilities to a handful of plausible directions. Scenarios are helpful in understanding what is important, how the future would evolve and the linkages between different elements. Therefore, the scenario technique is well suited to study liberalisation of European WSS sector, as the sector is complex and poorly understood. As per the Euromarket project documents, scenario technique is assumed to be most appropriate tool, although it is very early to comment on the suitability of scenarios as a tool. It could be discussed or subject of further research to find out to what extent the scenarios are indeed the most appropriate tool to study the liberalisation of European water supply and sanitation sector.

7.1.2 Outsourcing

Different people perceive outsourcing in different ways. Outsourcing is one of the forms in which private sector is generally involved to do the job either for public sector, private sector or even for community management. The nature of outsourcing contract and the implications varies with management mode. These management modes can be delegation contracts, regulated monopoly, direct public management or even community management. Outsourcing can be a part of each of these management modes and the implications of the same cannot be assessed in isolation. Therefore to assess the implications of outsourcing on liberalisation of European WSS sector, requires consideration of the management mode under which outsourcing is taking place.

7.1.3 Community management

Community management is generally an alternative when the authorities fail to provide services to the community. While analysing the social implications of community management on workforce, a difference of opinion has been observed in the literature. The difference of opinion is about what constitutes workforce in community management? The concept of workforce differs in developing and developed countries. In developing countries the community members constitute workforce whereas in developed countries generally workforce is related to all people employed through the particular activity. In developing countries resources are scarce and therefore

community management programs are foreign donor driven, while in most of the developed countries financing is not a problem. Due to this factor sustainability of community-managed systems in developing countries is questionable but is not the case in the developed countries. This raises the point for discussion, whether, community management is perceived in the same manner in both developed and developing countries.

7.2 Conclusions

The main aim of this research study is to answer the research question, which read as:

"What are the social implications of the two (Outsourcing and Community Management) identified liberalisation scenarios?"

Social implications were analysed based on two criteria: workforce and accessibility to universal services. For this research study universal services are understood as water supply and sanitation services. Implications were analysed in terms of what will be the effect of the scenarios (outsourcing and community management), on the employability and accessibility. Since the criteria were very broad, indicators were identified for each criterion based on the literature review, to analyse the social implications. The social implications of two scenarios: outsourcing and community management cab be summarized below.

Social implications of outsourcing

The implications of outsourcing can be positive or negative. Positive implications would be in the form of saving costs if there is true competition. This can put pressure on the labour force to improve their efficiency. Outsourcing should lead to more access to modern technology and expertise. They may provide special skills and innovative methods of work and management. Outsourcing helps utilities to concentrate on core activities and provide services in more efficient and effective manner.

There are certain negative implications as well of outsourcing. Firstly it could lead to the reduction in number of employees. Secondly, with outsourcing there is also a risk of a 'brain drain' from the key positions in the utilities to get the more remuneration in the private sector jobs. Thirdly, a less job security when transferred to new employer due to short contracts.

Therefore outsourcing has social implications for workforce in terms of reduced workforce, risk of brain drain, less job security, savings in costs and access to modern technology and expertise. For accessibility, outsourcing will have no effect especially for EU member states.

Social implications of Community Management

Social implications of community management especially for workforce are difficult to measure because the perception of workforce varies from place to place. Some general conclusions can be drawn, such as, in community management job security is generally high. The reasons being that the employees are elected by communities to do the job. Another reason for high job security is lack of competition and also fewer workers are

availability to do the job properly. Since community management is an alternative for service provision, all the members of the community will have access to water supply and sanitation services. The question of accessibility does not arise, in community management.

7.3 Hypotheses testing

The research question was formulated based on the hypotheses, which were also tested. Due to lack of empirical evidence methods used to test the hypotheses were literature review, reading different reports related to liberalisation of other network services and interviewing experts. Each hypothesis is tested for two scenarios: outsourcing and community management, which leads to four possibilities. The hypotheses read as:

Hypothesis 1: "Liberalisation of water supply and sanitation sector will lead to reduction in number of employees".

Based on the analysis done in chapter 5 and 6, the hypothesis was not rejected for outsourcing scenario, but rejected for community management scenario. In other words liberalisation of water supply and sanitation sector in the form of outsourcing will most likely lead to a reduction in the number of employees whereas liberalisation in the form of community management does not seem to lead to a reduction in the number of employees.

Hypothesis 2: "Liberalisation of water supply and sanitation sector will have no effect on the issue of accessibility to WSS services."

Based on the analysis, the hypothesis was not rejected for both the scenarios. In other words liberalization of water supply and sanitation sector in the form of outsourcing and community management will have no effect on the issue of accessibility to WSS services.

The hypotheses testing can be summarised in the following table.

	Outsourcing	**Community Management**
Hypothesis 1	Not Rejected	Rejected
Hypothesis 2	Not Rejected	Not Rejected

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Annexure 1: Matrix of Social Implication Of Outsourcing

Characteristics / Indicators	Time Bound	Private Sector Involvement	Transaction Cost	Non Core Activities	Competition	Cost Savings	Access to specialized expertise and innovative technology	Written Document
	Contracts are usually defined for a limited period of time	**Activities are usually contracted out with private companies**	**All costs for indulging in the contract between two or more parties.**	**Generally non core activities are outsourced**	**Competition in the market and for the market for getting the task done**	**Savings of costs due to outsourcing**		**Written document for accountability and monitoring**
	Criteria 1: Workforce							
1. Number of Employees	⇒ **Depends** on the length of the contract ⇒ Short term contract: When the workers are not transferred to private sector ⇒ **No direct implications** on number of employees When workers are transferred ⇒ No direct implications on number of employees ⇒ Long term contract:	⇒ Overstaffed public utilities ⇒ Low productivity With private sector involvement: ⇒ Creation of few large monopolies with specialised activities ⇒ Less hierarchy ⇒ More initiatives and responsibilities ⇒ **Reduction in**	⇒ Limited administrative capabilities leads to hiring more experts to do the job. ⇒ **Positive implications as number of employees goes up**	⇒ Competitive pressure and need to cut costs leads to employment reduction specially low skilled or manual workers for non-core activities. ⇒ **Negative implications** as there is reduction in number of employees	⇒ Open competition in market for provision of services ⇒ Competitive pressure and need to cut costs leads to employment reduction specially low skilled or manual workers for non-core activities. ⇒ **Negative implications** as there is reduction in number of employees	⇒ Greater efficiency and cost savings leads to downsizing mainly unskilled and semi skilled employees. ⇒ **Negative implications** as there is reduction in number of employees	⇒ Depends on expertise and technological development ⇒ Positive implications as number of employees goes up ⇒ Generation of highly expertise manpower for development of new technologies. ⇒ Negative implications as there is reduction in number of employees ⇒ **Reduction in number of manual workers** due to development of technology.	**Depends** on the contractual conditions. ⇒ The employees are transferred to new company without reduction or Even with transfers with protection; there is a reduction in number of employees over a long period of time.

Characteristics / Indicators	Time Bound	Private Sector Involvement	Transaction Cost	Non Core Activities	Competition	Cost Savings	Access to specialized expertise and innovative technology	Written Document
	Contracts are usually defined for a limited period of time	**Activities are usually contracted out with private companies**	**All costs for indulging in the contract between two or more parties.**	**Generally non core activities are outsourced**	**Competition in the market and for the market for getting the task done**	**Savings of costs due to outsourcing**		**Written document for accountability and monitoring**
	When the workers are not transferred to private sector ⇒ **No direct implications on number of employees** When workers are transferred ⇒ **May result in reduction in number of employees** over a period of time	**number of employees**						
2. Nature of contract	⇒ **Depends** on whether the employees are transferred or not When the employees are not transferred ⇒ Permanent contract (long term employment) When the employees are transferred ⇒ Temporary	⇒ **Depends** on whether the employees are transferred or not When the employees are not transferred ⇒ Permanent contract (long term employment) When the employees are	⇒ **No direct implications**	⇒ **Negative implications** as the contracts may be generally short term with flexible jobs	⇒ **Negative implications** ⇒ Generally Short term contracts due to availability of large number of workers	⇒ **No direct implications**	⇒ **Negative implications** ⇒ Generally Short term contracts, as the specialists will be called only when needed.	⇒ **No direct implications**

Characteristics / Indicators	Time Bound	Private Sector Involvement	Transaction Cost	Non Core Activities	Competition	Cost Savings	Access to specialized expertise and innovative technology	Written Document
	Contracts are usually defined for a limited period of time	**Activities are usually contracted out with private companies**	**All costs for indulging in the contract between two or more parties.**	**Generally non core activities are outsourced**	**Competition in the market and for the market for getting the task done**	**Savings of costs due to outsourcing**		**Written document for accountability and monitoring**
	contracts (short term employment)	transferred ⇒ Temporary contracts (short term employment)						
3. Working conditions (depends on following four factors)	⇒ **Depends** on type of contract and also on whether the employees from public are transferred to private party or not	⇒ More R & D is done to provide services more efficiently ⇒ More precaution for trained workers ⇒ **Positive implication** in terms of better working conditions	⇒ **No direct implications**	⇒ **Depends** on type of contract. ⇒ Short term contract: ⇒ Deterioration, as money will not be allocated for safety measures of the workers exposed to all sorts of pollutants. ⇒ With long-term contract there can be improvement of working conditions.	⇒ Better performance and productivity ⇒ Lead to strong pressure and increase in working hours & psychological pressure ⇒ **Negative Implication** Deterioration, in working conditions	⇒ **Overall Deterioration** in working conditions as the costs are not allocated for the health and safety measures of the workers ⇒ **Negative implications**	⇒ Due to expertise knowledge, chances of getting benefit package and generous salaries, which may lead to overall improvement in working conditions. ⇒ **Positive implications**	⇒ **Depends** on the contractual arrangement with private party. ⇒ Can improve as private party can be held accountable for health and safety of the workers or can deteriorate as no care will be taken for the workers safety and health
i) Working hours	⇒ **Depends** on the length of the contract ⇒ Short term contract: When the workers	⇒ **Depends** on the length of the contract ⇒ Short term contract: ⇒ Increase in	⇒ **No direct link** between working hrs and hence no direct implications	⇒ **Depends** on the length of the contract ⇒ Short term contract: ⇒ Increase in	⇒ **Negative implication** ⇒ As increase in working hrs to increase	⇒ **No direct implications**	⇒ **Positive implication** ⇒ Less working hrs as modern technology will be used to do the jobs.	⇒ **No direct implications**

Characteristics / Indicators	Time Bound	Private Sector Involvement	Transaction Cost	Non Core Activities	Competition	Cost Savings	Access to specialized expertise and innovative technology	Written Document
	Contracts are usually defined for a limited period of time	**Activities are usually contracted out with private companies**	**All costs for indulging in the contract between two or more parties.**	**Generally non core activities are outsourced**	**Competition in the market and for the market for getting the task done**	**Savings of costs due to outsourcing**		**Written document for accountability and monitoring**
	are not transferred to private sector ⇒ No direct implications on working hrs of employees When workers are transferred ↑↑ In working hrs of employees ⇒ Due to pressure of performance in time ⇒ Long term contract: When the workers are not transferred to private sector ↓↓ In working hrs When workers are transferred ⇒ May result in ↑↑ in working hrs ⇒ To increase productivity	working Hours due to pressure of performance in time ⇒ Long term contract: ⇒ Less working hours due to use of high technology and proper management of activities		working Hours due to pressure of performance in time ⇒ Long term contract: ⇒ Less working hours due to use of high technology and proper management of activities	productivity			
ii) Occupational Health and	⇒ **Depends** on the length of the	⇒ **Depends** on the length of the	⇒ **No direct**	⇒ **No direct**	⇒ **Deteriorates** as less money	⇒ **Deterioration**	⇒ Improvement as most	⇒ **Depends** on

Characteristics / Indicators	Time Bound	Private Sector Involvement	Transaction Cost	Non Core Activities	Competition	Cost Savings	Access to specialized expertise and innovative technology	Written Document
	Contracts are usually defined for a limited period of time	**Activities are usually contracted out with private companies**	**All costs for indulging in the contract between two or more parties.**	**Generally non core activities are outsourced**	**Competition in the market and for the market for getting the task done**	**Savings of costs due to outsourcing**		**Written document for accountability and monitoring**
Safety	contract ⇒ Short term contract: When the workers are not transferred to private sector ⇒ No direct implications When workers are transferred ↓↓ In health and safety of workers ⇒ No money allocated, to be more cost effective ⇒ Long term contract: When the workers are not transferred to private sector ↓↓ In health and safety of workers ⇒ No money allocated, to be	contract ⇒ Short term contract: ⇒ Negative implication ⇒ Deterioration in health and safety of workers, as no money is usually allocated ⇒ Long term contract: ⇒ Positive implication ⇒ Less working hours due to use of high technology and proper management of activities	**implications**	**implications**	will be spent on health and safety of workers ⇒ Negative implications as the main intention of competition to be more cost effective	in situation as less money will be spent on health and safety of workers ⇒ Negative implications	of the works is carried out by machines and by the experts. ⇒ There will be less use of the manual workers and direct contact with harmful pollutants. ⇒ **Positive implications**	the contractual arrangement.

Characteristics / Indicators	Time Bound	Private Sector Involvement	Transaction Cost	Non Core Activities	Competition	Cost Savings	Access to specialized expertise and innovative technology	Written Document
	Contracts are usually defined for a limited period of time	**Activities are usually contracted out with private companies**	**All costs for indulging in the contract between two or more parties.**	**Generally non core activities are outsourced**	**Competition in the market and for the market for getting the task done**	**Savings of costs due to outsourcing**		**Written document for accountability and monitoring**
	more cost effective When workers are transferred ↑↑ In health and safety of workers ⇒ To protect the trained workers from accidents							
iii) Training	⇒ **Depends** on the length of the contract ⇒ Short term contract: When the workers are not transferred to private sector ⇒ Negative implications ⇒ No training given to keep up to date with latest technology When workers are transferred ⇒ Negative implications ⇒ No training	⇒ **Depends** on the length of the contract ⇒ Short term contract: ⇒ Negative implication ⇒ No training is given to staff to keep up to date with technology ⇒ Long term contract: ⇒ Positive implication ⇒More training to operate the	⇒ **No direct implications**	⇒ **No direct implication**	⇒ **Negative implications** in terms of less training as competition leads to provision of services in cost effective manner.	⇒ **Negative implications** as less training will be given to the staff for saving costs.	⇒ **Positive implications** as the modern technology will demand for more training to keep up to date with latest technology ⇒ Will also depend on the needs of individual employee to perform tasks efficiently.	⇒ **No direct implications**

Characteristics / Indicators	Time Bound	Private Sector Involvement	Transaction Cost	Non Core Activities	Competition	Cost Savings	Access to specialized expertise and innovative technology	Written Document
	Contracts are usually defined for a limited period of time	**Activities are usually contracted out with private companies**	**All costs for indulging in the contract between two or more parties.**	**Generally non core activities are outsourced**	**Competition in the market and for the market for getting the task done**	**Savings of costs due to outsourcing**		**Written document for accountability and monitoring**
	given to keep up to date with latest technology ⇒ Long term contract: When the workers are not transferred to private sector ⇒ Depends on the contract between utility and private party When workers are transferred ⇒ Positive implication ⇒ Proper training given to keep up to date with latest technology and increase productivity	new technologies and keep up to date with technology also depends on skills of individual						
iv) Charities for workers	⇒ **Depends** on the length of the contract ⇒ Short term contract: When the workers	⇒ **Negative implication** ⇒ Reduction or complete elimination of	⇒ **No direct implications**	⇒ **No direct Implications**	⇒ **Negative implications** ⇒There can be reduction of the	⇒ **No direct implications**	⇒ **No direct implications**	⇒ **No direct implications**

Characteristics / Indicators	Time Bound	Private Sector Involvement	Transaction Cost	Non Core Activities	Competition	Cost Savings	Access to specialized expertise and innovative technology	Written Document
	Contracts are usually defined for a limited period of time	**Activities are usually contracted out with private companies**	**All costs for indulging in the contract between two or more parties.**	**Generally non core activities are outsourced**	**Competition in the market and for the market for getting the task done**	**Savings of costs due to outsourcing**		**Written document for accountability and monitoring**
	are not transferred to private sector ⇒ No direct implications When workers are transferred ⇒ No direct implications ⇒ Long term contract: When the workers are not transferred to private sector ⇒ No direct implications When workers are transferred ⇒ May result in reduction in number of Charities as it is no more responsibility of private party	the charities for workers as most of these charities are part of the contract between employee and public utility, which once outsourced is no longer the responsibility of the private contractor			charities due to more competition for efficient and cost effective performance.			
4. Job Security	⇒ **Depends** on the length of the contract	⇒ **Negative implication** ⇒ Less security	⇒ **No direct implications**	⇒ **Negative Implication**	⇒ **Negative implication** ⇒ To be more	⇒ **Depends** on the length of the contract	⇒ **Positive implication**	⇒ **Depends** on the contract formulated

Characteristics / Indicators	Time Bound	Private Sector Involvement	Transaction Cost	Non Core Activities	Competition	Cost Savings	Access to specialized expertise and innovative technology	Written Document
	Contracts are usually defined for a limited period of time	**Activities are usually contracted out with private companies**	**All costs for indulging in the contract between two or more parties.**	**Generally non core activities are outsourced**	**Competition in the market and for the market for getting the task done**	**Savings of costs due to outsourcing**		**Written document for accountability and monitoring**
	⇒ Short term contract: When the workers are not transferred to private sector ⇒ Positive implications as the job is secured When workers are transferred ⇒ **Negative implications** in less security of jobs ⇒ As private sector wants to make more profits ⇒ Long term contract: When the workers are not transferred to private sector ⇒ Depends on the policy of the utility When workers are transferred ⇒ **Negative implications** in	of jobs as the private party wants to make workers more productive and reduce the costs by not hiring more people.		⇒ As the basic principal non-core activities are generally outsourced and workforce related to those activities are more vulnerable group to lose the jobs.	competitive the private party will reduce the costs of the provision of services and in tern will save from having fewer employees with greater efficiencies and more productivity.	⇒ Short term contract: When the workers are not transferred to private sector ⇒ **Positive implications** as the job is secured When workers are transferred ⇒ **Negative implications** in less security of jobs ⇒ As private sector wants to make more profits ⇒ Long term contract: When the workers are not transferred to private sector ⇒ Depends on the policy of the	⇒ More job security for experts even with technological developments.	

Characteristics / Indicators	Time Bound	Private Sector Involvement	Transaction Cost	Non Core Activities	Competition	Cost Savings	Access to specialized expertise and innovative technology	Written Document
	Contracts are usually defined for a limited period of time	**Activities are usually contracted out with private companies**	**All costs for indulging in the contract between two or more parties.**	**Generally non core activities are outsourced**	**Competition in the market and for the market for getting the task done**	**Savings of costs due to outsourcing**		**Written document for accountability and monitoring**
	less security of jobs ⇒ As private sector wants to make more profits					utility When workers are transferred ⇒ Negative implications in less security of jobs ⇒ As private sector wants to make more profits		
5. Status of employee	⇒ **Depends** on the length of the contract ⇒ Short term contract: When the workers are not transferred to private sector ⇒ No direct implications When workers are transferred ⇒ No direct implications ⇒ Long term contract:	⇒ **Depends** on the length of the contract ⇒ Short term contract: i) When the workers are not transferred to private sector ⇒ No direct implications ii) When workers are transferred ⇒ No direct implications ⇒ Long term	⇒ **No direct implication**	⇒ **No direct implications**	⇒ **No direct implication**	⇒ Changes in status of employees in the utility from actually implementing the activity to management of the same. ⇒ **Positive implication**	⇒ **No direct implication**	⇒ **Depends** on the contract formulated

Characteristics / Indicators	Time Bound	Private Sector Involvement	Transaction Cost	Non Core Activities	Competition	Cost Savings	Access to specialized expertise and innovative technology	Written Document
	Contracts are usually defined for a limited period of time	**Activities are usually contracted out with private companies**	**All costs for indulging in the contract between two or more parties.**	**Generally non core activities are outsourced**	**Competition in the market and for the market for getting the task done**	**Savings of costs due to outsourcing**		**Written document for accountability and monitoring**
	When the workers are not transferred to private sector ⇒ Can change the status from provider of services to manager of the same When workers are transferred ⇒ Depends on the policy of the company	contract: i) When the workers are not transferred to private sector ⇒ Can change the status from provider of services to manager of the same ii) When workers are transferred ⇒ Depends on the policy of the company						
6. Salary	**⇒ No direct implications**		**⇒ No direct implications**	**⇒ Depends** on the wage policy adopted. But generally has a rudimentary mechanisms with fixed or relatively fixed wage with flexible jobs	**⇒ Depends** on the availability of manpower of required calibre. If the available manpower is more than the salaries may be low but if the manpower is less than the salaries	**⇒ No direct implications**	**⇒ Positive implications** as the salaries are generally high for specialist who can operate new technologies.	**⇒ No direct implications**

Characteristics / Indicators	Time Bound	Private Sector Involvement	Transaction Cost	Non Core Activities	Competition	Cost Savings	Access to specialized expertise and innovative technology	Written Document
	Contracts are usually defined for a limited period of time	Activities are usually contracted out with private companies	All costs for indulging in the contract between two or more parties.	Generally non core activities are outsourced	Competition in the market and for the market for getting the task done	Savings of costs due to outsourcing		Written document for accountability and monitoring
					might be high depending on the calibre of person.			
7. Degree of unionisation	⇒ No direct implications	⇒ Negative implications as private sector involvement may lead to end of unions and the bargaining power of workers	⇒ No direct implications	⇒ No direct implications	⇒ No direct implications	⇒ No direct implications	⇒ No direct implications	⇒ No direct implications
	Criteria 2: Accessibility to Universal Services							
1. Accessibility	⇒ No direct implications	⇒ No direct implications	⇒ No direct implications	⇒ No direct implications	⇒ No direct implications	⇒ No direct implications	⇒ No direct implications	⇒ No direct implications
2. Social Tariff	⇒ No direct implications on social tariffs	⇒ No direct implications on social tariffs	⇒ No direct implications on social tariffs	⇒ No direct implications on social tariffs	⇒ No direct implications on social tariffs	⇒ No direct implications on social tariffs	⇒ No direct implications on social tariffs	⇒ No direct implications on social tariffs
3. Social funds	⇒ No direct implications on social funds	⇒ No direct implications on social funds	⇒ No direct implications on social funds	⇒ No direct implications on social funds	⇒ No direct implications on social funds	⇒ No direct implications on social funds	⇒ No direct implications on social funds	⇒ No direct implications on social funds
4. Corporate social responsibility	⇒ No direct implications corporate social responsibility	⇒ No direct implications corporate social responsibility	⇒ No direct implications	⇒ No direct implications corporate social responsibility	⇒ No direct implications corporate social responsibility	⇒ No direct implications responsibility	⇒ No direct implications corporate social responsibility	⇒ No direct implications corporate social responsibility

Characteristics / Indicators	Time Bound	Private Sector Involvement	Transaction Cost	Non Core Activities	Competition	Cost Savings	Access to specialized expertise and innovative technology	Written Document
	Contracts are usually defined for a limited period of time	Activities are usually contracted out with private companies	All costs for indulging in the contract between two or more parties.	Generally non core activities are outsourced	Competition in the market and for the market for getting the task done	Savings of costs due to outsourcing		Written document for accountability and monitoring

Annexure 2: Matrix of Social Implication Of Community Management

Characteristics / Indicators	Participation	Democratic elections	Stake holder involvement	Expertise adviser Body	Involvement of volunteers	Increase level of accountability	Increase level of legitimacy
	Participation of community in elections, looking at the risk of participation of only the minority of stakeholders.	The elections and decision are performed in a real democratic system.	Involvement in decision making of all relevant stakeholders, which may balance interests on an integral base.	External, independent institution that give support for capacity building in the utility	Participation of volunteers on task execution, labour.	Of the utility, fulfilling its duties and justifying properly their actions, and equally applies for the community and its own duties	The authority is having to exert legal action against users in case of breaching the law/conditions set by the committee
	Criteria 1: Workforce						
1. Number of Employees	↑↑ Participation: ⇒Proper selection of the representatives from each stakeholders group. ⇒Equal control of all stakeholders in decision making ⇒ **No direct**	↑↑ Democracy ⇒More transparency and accountability ⇒Balanced stakeholders interests ⇒ **No direct implication** on the Number of	↑↑ Involvement of stakeholders ⇒ More balanced interest of all stakeholders ⇒ **No direct implication** of involvement of stakeholders, but will have implications on	⇒ **No direct implications** on the Number of employees	↑↑ Sense of commitment ⇒ Low skills ⇒ Need for capacity building to improve skills ⇒ Number of employees can be low as volunteers	⇒ **No direct implications** on the Number of employees	⇒ **No direct implications** on the Number of employees

Characteristics / Indicators	Participation	Democratic elections	Stake holder involvement	Expertise adviser Body	Involvement of volunteers	Increase level of accountability	Increase level of legitimacy
	Participation of community in elections, looking at the risk of participation of only the minority of stakeholders.	**The elections and decision are performed in a real democratic system.**	**Involvement in decision making of all relevant stakeholders, which may balance interests on an integral base.**	**External, independent institution that give support for capacity building in the utility**	**Participation of volunteers on task execution, labour.**	**Of the utility, fulfilling its duties and justifying properly their actions, and equally applies for the community and its own duties**	**The authority is having to exert legal action against users in case of breaching the law/conditions set by the committee**
	implications on the Number of employees ↓↓ Participation: ⇒ Control and governance of the utility will be on hands of minority stakeholders ⇒ Community loose their trust and confidence in the system ⇒Less Legitimacy and accountability ⇒ No direct implications on the Number of employees	employees ↓↓ Democracy ⇒ Community loose their trust and confidence in the system ⇒Less transparency and accountability ⇒ No direct implication on the Number of employees	decision taken by stakeholders. For ex. Decisions regarding outsourcing will have implications on number of employees ↓↓ Involvement of stakeholders ⇒ Control and governance of the utility will be on hands of minority stakeholders ⇒ No direct implication of involvement of stakeholders, but will have implications of decision taken by stakeholders. For ex. Decisions regarding outsourcing will have implications on number of employees		can do a particular task for which there is no need to hire other people. ↓↓ Sense of commitment ⇒Number of employees can be high as there will be less people from community to do the task and external people needs to be hired to do the task.		

Characteristics / Indicators	Participation	Democratic elections	Stake holder involvement	Expertise adviser Body	Involvement of volunteers	Increase level of accountability	Increase level of legitimacy
	Participation of community in elections, looking at the risk of participation of only the minority of stakeholders.	**The elections and decision are performed in a real democratic system.**	**Involvement in decision making of all relevant stakeholders, which may balance interests on an integral base.**	**External, independent institution that give support for capacity building in the utility**	**Participation of volunteers on task execution, labour.**	**Of the utility, fulfilling its duties and justifying properly their actions, and equally applies for the community and its own duties**	**The authority is having to exert legal action against users in case of breaching the law/conditions set by the committee**
2. Nature of contract	⇒ **No direct implications**	⇒ **No direct implications**	⇒ **No direct implications**	⇒ **No direct implications**	⇒ **No direct implications**	⇒ **No direct implications**	⇒ **No direct implications**
3. Working conditions	↑↑ Participation: ⇒Proper selection of the representatives from each stakeholders group. ⇒Equal control of all stakeholders in decision making ⇒More transparency and accountability ⇒ No direct implication on working condition of employees ↓↓ Participation: ⇒ Control and governance of the utility will be on hands of minority stakeholders ⇒ Community loose their trust and	↑↑ Democracy ⇒More transparency and accountability ⇒Balanced stakeholders interests ⇒ Might improve the working conditions of employee ↓↓ Democracy ⇒ Community loose their trust and confidence in the system ⇒Less transparency and accountability ⇒ **No direct implication** on the working condition	⇒ **No direct implication** of involvement of stakeholders, whether high or low, but decision taken by stakeholders will have positive or negative implications on working conditions for different issues. For ex. Decisions regarding outsourcing will have implications on working conditions of employees	⇒ **No direct implications** on working conditions of employees	⇒ **No direct implication** on working condition of employees	↑↑ Accountability ⇒ Good working conditions as elected members will be held responsible for decisions taken regarding working conditions of workers ↓↓ Accountability ⇒ **Working conditions may not be good**	⇒ **Depends** on various laws and regulations available and proper implementation of the same

Characteristics / Indicators	Participation Participation of community in elections, looking at the risk of participation of only the minority of stakeholders.	Democratic elections The elections and decision are performed in a real democratic system.	Stake holder involvement Involvement in decision making of all relevant stakeholders, which may balance interests on an integral base.	Expertise adviser Body External, independent institution that give support for capacity building in the utility	Involvement of volunteers Participation of volunteers on task execution, labour.	Increase level of accountability Of the utility, fulfilling its duties and justifying properly their actions, and equally applies for the community and its own duties	Increase level of legitimacy The authority is having to exert legal action against users in case of breaching the law/conditions set by the committee
	confidence in the system ⇒Less Legitimacy and accountability **No direct Implications** on working conditions of employees						
i) Working hours	⇒ **No direct implications on working conditions of employees**	⇒ **No direct implications on working conditions of employees**	⇒ **No direct implications on the Number of employees**	⇒ **No direct implications on the working hours**	⇒ **Flexible working hours as volunteers may not be on pay role of utility**	⇒ **No direct implications on the Number of employees**	⇒ **No direct implications on the Number of employees**
ii) Occupational Health and Safety	⇒ No direct implication on working conditions of employees	⇒ No direct implications on working conditions of employees	⇒ No direct implication of involvement of stakeholders, whether high or low, but decision taken by stakeholders will have positive or negative implications on occupational health and safety of workers depending on various issues.	⇒ No direct implications on the Occupational health and safety of workers	⇒ No direct implications on the Number of employees	↑↑ Accountability ⇒ Good working conditions as elected members will be held responsible for decisions taken regarding health and safety of workers ↓↓ Accountability ⇒ Working	↑↑ Legitimacy ⇒ Can have positive implication as the utilities will have to comply with laws regarding health and safety of workers ↓↓ Legitimacy ⇒ Can have negative implication as the utilities will not comply with laws regarding health and

Characteristics / Indicators	Participation Participation of community in elections, looking at the risk of participation of only the minority of stakeholders.	Democratic elections The elections and decision are performed in a real democratic system.	Stake holder involvement Involvement in decision making of all relevant stakeholders, which may balance interests on an integral base.	Expertise adviser Body External, independent institution that give support for capacity building in the utility	Involvement of volunteers Participation of volunteers on task execution, labour.	Increase level of accountability Of the utility, fulfilling its duties and justifying properly their actions, and equally applies for the community and its own duties	Increase level of legitimacy The authority is having to exert legal action against users in case of breaching the law/conditions set by the committee
						conditions may not be good specially with respect to health and safety of workers	safety of workers
iii) Training	⇒ **No direct implications** on working conditions of employees	⇒ **No direct implications** on working conditions of employees	⇒ **No direct implication** of involvement of stakeholders, whether high or low, but decision taken by stakeholders will have positive or negative implications on trainings given to the workers.	⇒ Communities are not capable to take up the jobs themselves ⇒ Positive implications as the experts from outside will help communities to build capacities at all levels	⇒ **Depends** on various factors such as skill level, qualification, etc. ↑↑ Skilled ⇒ No need for further training to take up the particular task. Less capacity building is needed ↓↓ Skilled ⇒ Need for further training to take up the particular task. More capacity building is needed	⇒ **No direct implications** on the Number of employees	⇒ **No direct implications** on the Number of employees
iv) Charities for workers	⇒ **No direct implications** on working conditions of employees	⇒ **No direct implications** on working conditions of employees	⇒ Same as above	⇒ **No direct implications** on charities for employees	⇒ **No direct implications** on charities for employees	⇒ **No direct implications** on the Number of employees	⇒ **No direct implications** on the Number of employees

Characteristics / Indicators	Participation	Democratic elections	Stake holder involvement	Expertise adviser Body	Involvement of volunteers	Increase level of accountability	Increase level of legitimacy
	Participation of community in elections, looking at the risk of participation of only the minority of stakeholders.	**The elections and decision are performed in a real democratic system.**	**Involvement in decision making of all relevant stakeholders, which may balance interests on an integral base.**	**External, independent institution that give support for capacity building in the utility**	**Participation of volunteers on task execution, labour.**	**Of the utility, fulfilling its duties and justifying properly their actions, and equally applies for the community and its own duties**	**The authority is having to exert legal action against users in case of breaching the law/conditions set by the committee**
4. Job Security	↑↑ Participation: ⇒Proper selection of the representatives from each stakeholders group. ⇒Equal control of all stakeholders in decision making ⇒More transparency and accountability ⇒ **More job security of employees** ↓↓ Participation: ⇒ Control and governance of the utility will be on hands of minority stakeholders ⇒ Community loose their trust and confidence in the system ⇒Less Legitimacy and	↑↑ Democracy ⇒More transparency and accountability ⇒Balanced stakeholders interests ⇒ Might have positive implication in job security as the candidates for the boards/ committee can have job security as agenda for their campaign for elections ↓↓ Democracy ⇒ Community loose their trust and confidence in the system ⇒Less transparency and accountability	⇒ Same as above	⇒ **No direct implications** on the job security of workers	⇒ **No direct implications** on Job security as they are not officially enrolled on pay roles of the utility	⇒ **High Job security** as the basic principle of the community management is that most of the work is done by the communities	⇒ **Depends** on the national policies and laws regarding job security and also on the basis of policies decided by members/ committees

Characteristics / Indicators	Participation	Democratic elections	Stake holder involvement	Expertise adviser Body	Involvement of volunteers	Increase level of accountability	Increase level of legitimacy
	Participation of community in elections, looking at the risk of participation of only the minority of stakeholders.	**The elections and decision are performed in a real democratic system.**	**Involvement in decision making of all relevant stakeholders, which may balance interests on an integral base.**	**External, independent institution that give *support* for capacity building in the utility**	**Participation of volunteers on task execution, labour.**	**Of the utility, fulfilling its duties and justifying properly their actions, and equally applies for the community and its own duties**	**The authority is having to exert legal action against users in case of breaching the law/conditions set by the committee**
	accountability **Less job security** of employees	⇒ **No direct implication** on the job security					
5. Status of employee	⇒ **No direct implications** on Status of employees	⇒ **No direct implications** on working conditions of employees	⇒ **No direct implication** of involvement of stakeholders, but will have implications on decision taken. For ex. Decisions regarding outsourcing will have implications on status of employee	⇒ **No direct implications** on status of employees	⇒ **No direct implications on status of employees**	⇒ **No direct implications on status of employees**	⇒ **No direct implications on status of employees**
6. Salary	⇒ **No direct implications**	⇒ **No direct implications**	⇒ **No direct implications**	⇒ **No direct implications**	⇒ **No direct implications**	⇒ **No direct implications**	⇒ **No direct implications**
7. Degree of unionisation	⇒ **No direct implications**	⇒ **No direct implications**	⇒ **No direct implications**	⇒ **No direct implications**	⇒ **No direct implications**	⇒ **No direct implications**	⇒ **No direct implications**
	Criteria 2: Universal services						
1. Accessibility	⇒ **No direct implications**	⇒ **No direct implications**	⇒ **Increased accessibility** as the stakeholders will be held responsible for the provision of the services.	⇒ **No direct implications**	⇒ **No direct implications**	⇒ **Increased accessibility** as the management will be held responsible for the provision of the services.	⇒ **No direct implications**
2. Social Tariff	⇒ **No direct implications** on Social tariffs	⇒ **No direct implications** on Social tariffs	⇒ Can have **positive implication** if one of the stakeholders can	⇒ **No direct implications** on Social tariffs	⇒ Can have **positive implication** as the task carried out by	↑↑ Accountability ⇒ Can have positive	⇒ **No direct implications** on Social tariffs

Characteristics / Indicators	Participation	Democratic elections	Stake holder involvement	Expertise adviser Body	Involvement of volunteers	Increase level of accountability	Increase level of legitimacy
	Participation of community in elections, looking at the risk of participation of only the minority of stakeholders.	**The elections and decision are performed in a real democratic system.**	**Involvement in decision making of all relevant stakeholders, which may balance interests on an integral base.**	**External, independent *institution that* give support for capacity building in the utility**	**Participation of volunteers on task execution, labour.**	**Of the utility, fulfilling its duties *and justifying* properly their actions, and equally applies for the community and its own duties**	**The authority is having to exert legal action against users in case of breaching the law/conditions set by the committee**
			be *representatives* of those who cannot afford to pay normal tariff		volunteer can be treated as a part of social tariff	implications as the management will be held responsible for the provision of the services to all people and in doing so they can provide some social tariffs to those who cannot afford ↓↓ Accountability ⇒ Can have negative implications as management can go for cost recovery principle without considering affordability of people	
3. Social funds	⇒ **No direct implications on Social Funds**	⇒ **No direct implications** on Social Funds	⇒ **Depends** on the country situation whether there is a provision of social *funds or not.*	⇒ **No direct implications** on social funds	⇒ **No direct implications** on social funds	⇒ **Depends** on the country situation whether there is a provision of social funds or not.	⇒ **No direct implications** on social funds
4. Corporate social responsibility	⇒ **No direct implications** on Corporate social responsibility	⇒ Will have a **positive implication** as the democracy will lead to protect	⇒ Will have a **positive implication** as all the stakeholders will	⇒ **No direct implications** on corporate social responsibility	⇒ **No direct implications** on corporate social responsibility	⇒ Will have a **positive implication** as increased accountability will	⇒ **No direct implications** on corporate social responsibility

Characteristics / Indicators	Participation	Democratic elections	Stake holder involvement	Expertise adviser Body	Involvement of volunteers	Increase level of accountability	Increase level of legitimacy
	Participation of community in elections, looking at the risk of participation of only the minority of stakeholders.	**The elections and decision are performed in a real democratic system.**	**Involvement in decision making of all relevant stakeholders, which may balance interests on an integral base.**	**External, independent institution that give support for capacity building in the utility**	**Participation of volunteers on task execution, labour.**	**Of the utility, fulfilling its duties and justifying properly their actions, and equally applies for the community and its own duties**	**The authority is having to exert legal action against users in case of breaching the law/conditions set by the committee**
		the social values of the community	have to protect the social values of the community which is the basic aim of community management			lead to fulfilling the duties towards the community and will be held responsible for all actions.	