

Islamic University – Gaza
Deanship of Graduate Studies
Faculty of Engineering
Civil Engineering Department
Water Resources Management



Prospects of Private Sector Participation for
Sustainable Water and Sanitation Services in
The Gaza Strip

آفاق مشاركة القطاع الخاص في استدامة خدمات المياه والصرف الصحي بقطاع غزة

By

Ahmed A.SH. Mohammed

Supervised By

Prof. Samir Afifi

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بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ

"أولم ير الذين كفروا أن السموات والأرض كانتا رتقا ففتقناهما وجعلنا من الماء

كل شيء حي أفلا يؤمنون" - (30)

Verses of the Holy Quran

Abstract

Gaza Strip is considered one of the poor and limited water resources areas in the region. According to PWA strategy, water and wastewater services provision requires large investments in order to secure sustainable development and meet future needs. Municipalities of Gaza Strip as the main water service provider suffered from financial and managerial problems including lack of financial resources, deficiency in operation and maintenance and high level of water losses. Despite of large donations directed to the water and wastewater infrastructure, Gaza Strip is still facing a chronic deficiency in water resource and wastewater treatment and disposal.

Until now the regulating bodies in the Palestinian Authority do not have clear picture about the private sector options of involvement and participation in the water sector development and management to achieve sustainable water and wastewater services. This study highlights all aspects and options related to private sector participation in the water sector in the Gaza Strip in the light of the international trends for water sector privatization and the existing water and wastewater service situation.

The study also reviewed and discussed the Management Contract of "Gaza I project" practiced between the years 1996-2001 which was considered an indicative exercise for PSP in the study. The instruments of the study are reviewing the international literature and field survey using questionnaire and interviews with key persons in the water sector.

The study resulted in a conclusion that, in the prevailing unstable economic and political situations, the potential successful forms of PSP in the Gaza Strip are short or medium term contracts (e.g. Management Contracts). Enforcing of water regulations and enhancing the role of the regulating bodies are essential to overcome many constraints hindering the development of a successful PSP in the water sector. Finally, from the analysis of the PSP in the Gaza Strip the study concluded some recommendations oriented to the decision makers in the related authorities and institutions.

الخلاصة

2001-1996

"2"

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List of Abbreviations

BOT	Build, Operate and Transfer
BOOT	Build, Operate Own and Transfer
CMWU	Coastal Municipalities Water Utility
DC	Direct Contract
EQA	Environmental Quality Authority
ICB	International Competitive Bid
LEKA	(Lyonnaise des Eaux/ Khatib & Alami -)
MC	Management Contract
MOLG	Ministry of Local Government
MOP	Ministry of Planning
NGO^s	Non Governmental Organizations
NCB	National Competitive Bid
NWC	National Water Council
PA	Palestinian Authority
PCBS	Palestinian Central Bureau of Statistics
PCU	Palestinian Contractors Union
PMU	Project Management Unit
PNA	Palestinian National Authority
PPP	Public Private Partnership
PS	Private Sector
PSP	Private Sector Participation
PWA	Palestinian Water Authority
RA	Regulatory Authority
VAT	Zero value added tax
WB	World Bank
WHO	World Health Organization
WSS	Water and Sanitation Services
NIS	New Israeli Shekel

Chapter (1)

Introduction

1.1 Background

Gaza strip suffered years of occupation, negligence and infrastructures destruction. This caused rapid deterioration of all aspects of life including the fragile environment. Continuous closure of the Palestinian territories and the presence of permanent checkpoints disrupt civil society problems. Water is a crucial resource of life. Therefore ensuring sustainable supply of potable water and the environmentally acceptable disposal of wastewater is already a key issue throughout the world.

Quality of the groundwater is a major problem in Gaza strip. The aquifer is highly vulnerable to pollution. The domestic water is becoming more saline every year and average chloride concentrations of 500 mg/L or more is no longer an exception (**PWA, 2004f**). The permissible limits for nitrate are exceeded by a factor of eight for a number of public wells. Most of the public water supply wells don't comply with the drinking water quality standards and concentrations of chloride and nitrate of the water exceed the World Health Organization (WHO) standards in most drinking water wells of the area and represent the main problem of groundwater quality. Over pumping of groundwater and salt water intrusion are the main reasons behind high chloride concentration (**CAMP, 2000**). The uncontrolled discharge of untreated sewage to the ground surface and excessive use of fertilizers led to high nitrate levels in certain areas.

Service of water is covering about 90% of the population, while wastewater services covers only about 75% of the population (**Inframan, 2006a**). The total number of water house connection having subscriptions is 112,600 and the total number of wastewater house connection having subscriptions is 73,918 (**Inframan, 2005**).

In the last years, municipalities in Gaza Strip suffered from several financial and managerial problems, which include lack of resources, deficiency in operation and maintenance, bad level of service in terms of quantity and quality, customer dissatisfaction, and high level of water losses. These lead to deficiencies in providing this vital service to the public. Tens of Millions US\$ have been invested in the water sector by different donations,

which aimed at improving the service in terms of water resources and distribution systems in addition to wastewater collection, treatment and disposal. Between the years 1997 and 2003 the total donations was estimated at 6.55 billion US\$, 14% in the form of loans. The portion of infrastructure was about 30% (1.965 billion US\$) including all types of infrastructure sectors: energy, housing, transportation and communications, water and wastewater. (**Abu Shaaban, 2006**)

In order to solve these critical problems, various organizational forms have been developed, all based on a structure in the public domain. One of the important tools for water sector development and reform is the private sector participation (PSP) and become an international trend. Generally, there are four main branches into which water sector are divided:

- water resources assessment and planning
- Basic water supply and sanitation services
- Municipal water and wastewater services
- Agricultural water use and management.

Any water service provider is supposed to undertake all measures and means to achieve protection of public health, uninterrupted supply of good quality water, sustainable and efficient water and waste water services. Figure 1.1 shows the triangle of sustainable water service management (**Burgger, 2003**).

In the Gaza Strip, water and sanitation services are provided and managed by public institutions. In 1996 PWA signed a management contract – financed by the World Bank. This project aimed at improving water and sanitation services in the Gaza Strip. An international specialized operator was selected to perform a wide range of management and operations tasks. The project succeeded in improving the level of service and was a prominent exercise for private sector participation in water and sanitation services on the course of sustainability. One of the main objectives of the Management contract was to pave the way for the creation of water utility called “**Coastal Municipalities Water Utility**” which will introduce wide involvement of private and international PSP.

The term private sector participation (PSP) is used as a general term covering a range of options for involving the private sector in water service provision. These options differ in

their allocation of risks and responsibilities between public and private sectors, in their duration, and in where they assign asset ownership. But all of them involve a partnership between the government and the private sector. In Palestine, application of PSP shall be restricted by certain constraints: PNA water policy, legal framework, enforcement of law, socio-economic situation, political and security instability. This study will focus on the prospects of PSP in the Gaza Strip, recommend the best model and opportunities of success.

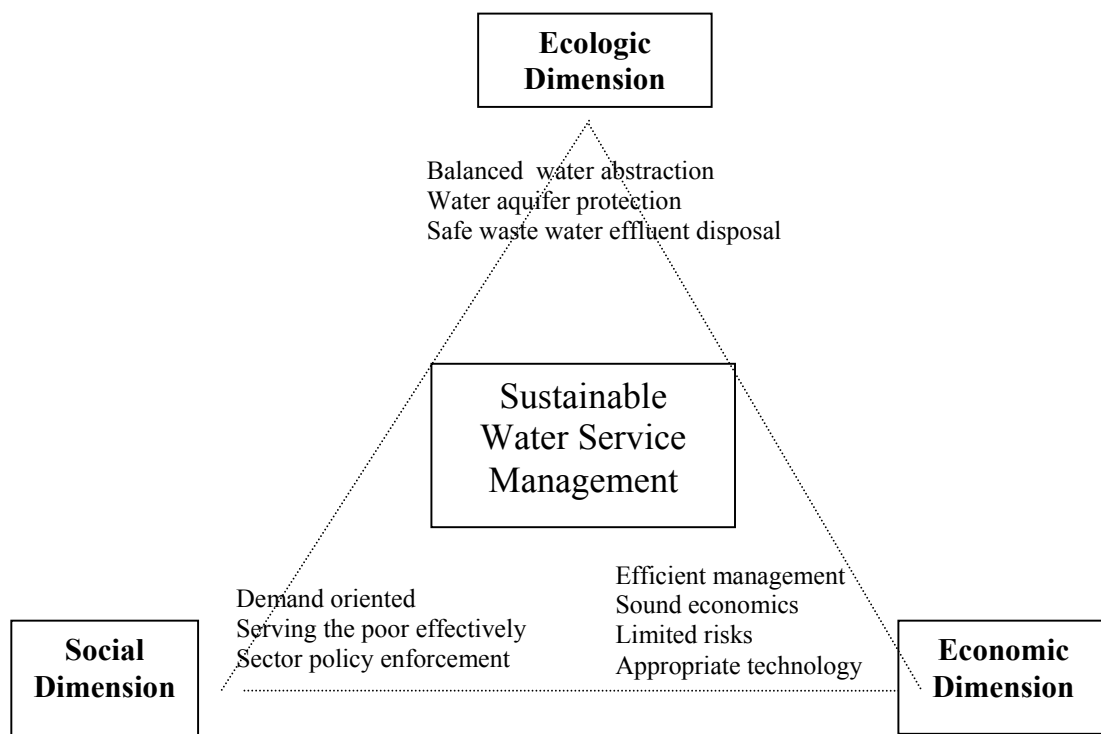


Figure 1.1 Triangle of sustainable water service management (Burgger, 2003)

1.2 Research justifications

After Oslo agreement, Gaza Strip municipalities and village councils lost the limited but regular budget allocated during the Israeli occupation period. More than two years lasted before the newly born Palestinian Authority established the Water Authority to be responsible of planning for the water sector. PWA established the National Water Policy in which future overall water master plan has been set. According to this plan, large investments are required yearly up to the year 2020 in order to achieve sustainable water service with acceptable minimum standards (**PWA, 2000**). As the public sectors - represented by municipalities - do not have the financial capacity to cover these large investments, water sector in the Gaza Strip depended mainly on the external donations. The Palestinian Authority theoretically encouraged private sector participation to participate in the economical development (**PA, 1998**) but did not set up the proper regulations to encourage the private sector to participate strongly in water development programs.

During the last years, private sector represented by contracting companies, engineering consulting offices, participated in water and wastewater development projects. Until now the regulating bodies in the Palestinian Authority do not have clear picture about the private sector options of involvement and participation in the water sector development and management. The capacity building program study carried by PWA is a very important step towards regulating the private sector involvement in the water sector.

This study will highlight all aspects related to private sector participation in the Gaza Strip in the light of the international trends and experiences of private sector participation in the water sector in addition to local PSP practices. All forms and aspects of PSP will be discussed including possible benefits and risks, factors of success exploring views of key persons selected from the main players in the water sector.

1.3 Study area

The Gaza strip is situated in the southeastern coast of Palestine with Longitudes of 34:21:38 E and Latitudes of 31:29:45 N. The area is bounded by the Mediterranean in the west, the 1948 cease-fire line in the north and east and by Egypt in the south. The total area of

the Gaza strip is 365 km² with approximately 40 km long and the width varies from 8 km in the north to 14 km in the south (UNEP, 2003). The estimated population in 2005 is 1.39 million inhabitants (PCBS, 2005). That means a very high populated area. The Gaza Strip is located in a semi-arid zone. The annual rainfall rate in the area ranges from 200 mm in the south to 400 in the north.

The District has very limited water resources. The groundwater is the main source for domestic, industrial and agricultural purposes. Salinity of the groundwater increases by time due to seawater intrusion and mobilization of incident deep brackish water, caused by over-abstraction of the groundwater. Water tariffs are two low – between 0.30 US\$ and US\$ 0.40 a cubic meter. Demand for water is increasing rapidly while water resources are deteriorating in terms of quantities and quality.

Gaza Strip is divided administratively into five Governorates: North, Gaza, Middle, Khan Yunis and Rafah. The area has 25 municipalities, which forming the service area (Figure 1.2). The area is classified as a developing and one of the low income countries. The average family expenditure is estimated at 498 Jordanian Dinar and 36% of this amount is disbursed by food. Standards of living decreased in the Gaza Strip in 2004 by 27% of what it was in the year 1998 (PCBS, 2005).

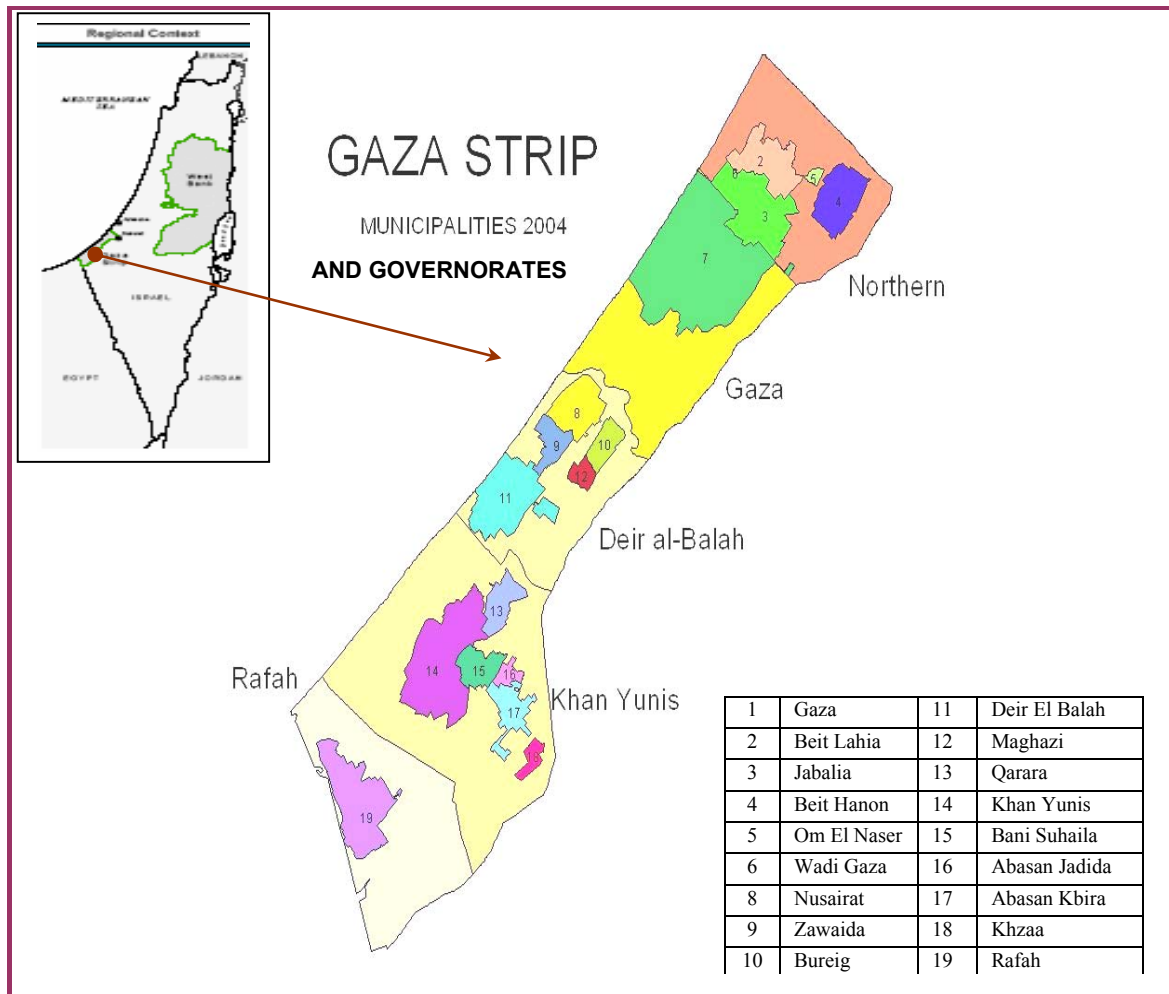


Figure 1.2: Map of Gaza Strip location and Governorates including main cities.

1.4 Objectives

The main goal of the research is to contribute in the efforts devoted to improve the water and sanitation services in Gaza Strip. The study will focus on the most convenient model of PSP that may cope with the political, economic and social situation and identify anticipated impacts of applying different forms of PSP in the Gaza Strip pointing out strength and weakness in each model. One of the main objectives of this thesis is to explore the response of the main key persons acting in the water sector and finally, to find out useful recommendations for the water sector decision makers to help in enhancement of PSP based on clear and sound basis. Objectives of the study can be summarized by:

- Study different models of PSP, strength and weak points in each model.
- Define the main constraints against PSP success.
- Identify the key factors for PSP success e.g. legal and regulatory framework, stakeholders' involvement, cost- recovery tariff against affordability and willingness to pay.
- Contribution in enhancement of PSP based on clear and sound basis.

1.5 Methodology

The instruments of the study are reviewing the data collected for the literature review and field survey using questionnaire. The study explored the following aspects:

- The existing situation of water and sanitation services provided in the Gaza Strip.
- Theoretical aspects of PSP were collected from the well known international practices and case studies.
- The Management Contract implemented between 1996 and 2001 by PWA and financed by the World Bank as a comprehensive typical example for PSP.
- Interviews with key players and representatives of stakeholders of the water sector. Questions of the interviews are being prepared carefully to cover relative aspects of the private sector participation and to serve the goals of the study.
- Feedbacks from interviewees and the results of the questionnaire were analyzed using the SPSS program and used to support the inductive approach of the study.

1.6 Study limitations

The thesis focus on PSP is limited to water and wastewater services provision which are managed by municipalities as a semi-governmental public sector. It is difficult to separate water and sanitation problems from other municipal problems and activities. The interviews with key persons have some limitations:

- In certain cases it was difficult to carry the interview with selected number of key persons of certain category.
- Sometimes the selected persons are not the best representative of the stakeholder group.

- It was possible that some interviewees might have been inaccurate due to poor recall, or that they have tried to stress only one side of the story.
- One major limitation of the study is that the consumers have been poorly represented in the interviews due to time constraints. The study was only interesting in the key representatives of consumers because of time limitation and the special composition of questions.

1.7 Organization of the study

The thesis has eight chapters. Chapter one provides a general background for the study introducing the problem and the study justification, objectives, and study area. Chapter two provides a theoretical background on private sector participation within water and sanitation sector from different international literature. Chapter Three focuses on the present water and sanitation situation in the Gaza Strip. Chapter Four presents the practice of private sector participation in the Gaza Strip represented by the Management Contract implemented between 1996 and 2001. Chapter Five explains the methodology adopted in this study. Chapter Six is presenting the output of interviews carried out with key persons in the water sector by analyzing the questionnaire and presenting its results. Chapter seven is discussing the results of questionnaire and related aspects in the study. Finally, Chapter eight is containing the conclusions and recommendations.

Chapter (2)

Present Situation of Water and Wastewater Services in the Gaza Strip

The chapter presented the existing water condition in study area and highlighted the water quality and quantity, financial aspects, the legal framework and the main players in the regulatory framework of water sector.

2.1 Municipalities as the public service providers

In the Gaza Strip, water and wastewater services are still managed by 25 municipalities, which forming the service area (figure 1.2). Service of water is covering more than 90% of the population, while wastewater services covers only about 75% of the population (**Inframan, 2006a**). The total number of water house connection having subscriptions is 112,600, the total number of wastewater house connection having subscriptions is 73,918 and the total value of water and wastewater dues up to the end of Jan. 2006 is 89,008,689 NIS (**Inframan, 2005**). Appendix (B) summarizes water and waste water facilities in the Gaza strip including water production facilities, wastewater facilities, and water & wastewater networks.

2.1.1 Water supply system:

Based on Inframan, 2005, the municipal water supply system in the Gaza strip consists of 115 water wells located within the coastal water aquifer with a production rate varies between 50 and 220 m³/hr. In addition, there are three brackish water desalination plants and small sea water desalination plant. The distribution system depends mainly on direct pumping from the wells to the distribution network. The total production of water wells is estimated at 74 million cubic meters in 2005 (**Inframan, 2005**). In some municipalities part of the distribution system depends on pumping stations taking from ground reservoirs. The UNRWA wells contributed by about 1.75% (1.19 Million Cubic meters) of the total domestic water production in the Gaza strip (PWA a, 2004). Mekorot Company (Israeli National Carrier) supplies the Gaza strip with about 4.7% (3.25 Million cubic meters) out of the five millions confirmed in Oslo Agreement (**PWA, 2004a**).

2.1.2 Water quality:

The coastal aquifer is the main source of water supply in the area. Qualities of most of the produced water do not comply with the World Health Organization (WHO) standards. Chloride concentration exceeds 300 mg/liter in most wells except for part of the northern wells where the nitrate problem is the prevailing problem (**PWA, 2004f**). Palestinian Water Authority (PWA) studies show the continuous deterioration of water quality in terms of chloride concentration particularly in the near coast areas within two km from the shoreline which demonstrates the sea water intrusion (**PWA, 2004f**).

2.1.3 Wastewater system

Wastewater systems consist mainly of sewerage network, pumping stations, treatment plants and discharge or infiltration lagoons. Some municipalities have a separate storm water collection and disposal system consisting of collection network, pumping stations and discharge or infiltration lagoons. At 11 of the 25 municipalities in the Gaza Strip, the wastewater and storm water facilities are existed. The Middle area governorate has a complete collecting system but without any treatment plant; raw wastewater is discharged directly to Wadi Gaza. KhanYunis governorate is still without any operating wastewater system and depends on septic tanks (**Inframan, 2006a**).

2.1.4 Hydraulic overall system efficiency

During the period between July 2005 and January 2006 the total production of water was calculated at 41,674,591 m³, while the billed quantities in the same period was calculated at 24,970,994 m³. This means that the water losses were about 40% (**Inframan b, 2006**).

2.1.5 Tariff of water services

The Municipal service providers have the authority to set their tariffs for water and sanitation services. Tariff structure is almost unchanging except for minor adjustments in some municipalities. Table 2.1 shows the existing water tariff for all Gaza Strip Municipalities (**PWA, 2004e**). Until now PWA doesn't play its role in tariff setting or monitoring. PWA collects tariff information from the municipalities, but there is no systematic reporting

concerning tariff adjustments. In February 2002, PWA completed a comprehensive document on tariff regulations and guidelines. Article 5.1 of the draft regulation mentioned that tariffs should be based on cost recovery and that cost recovery shall be achieved in three stages (PWA, 2004e).

In the future, PWA role in tariff setting will be influenced by several regulatory, legal and commercial instruments. The newly established Coastal Municipalities Water Utility (CMWU) acted by the operator is requested to review, evaluate the current tariff structures and then set a unified tariff system.

Municipality	Fixed charge NIS/month	Monthly water use in m ³					
		0-10	11-20	21-30	31-40	41-50	50+
		Cost in addition to fixed charge (NIS per m ³)					
Gaza	6	0.3	0.5		0.9		
Rafah	30				1.5	2	
KhanYunis	40					1.5	2
Bani Suhaila	18	1.8	2	2.2	2.5		
Abasan/K	18	1.8	2				
Abasan/J	18	1.8	2				
Khzaa	16		1.7	1.8	2		
Qarara	25		1.27				
Deir El Balah	15			1.2	1.75		
Zawaida	27		2.7				
Nuseirat	16		1.8	1.9	2		
Maghazi	17		1.8	1.9	2		
Bureig	17		1.8	1.9	2		
Jabalia	40					0.8	
Beit Lahia	30				0.8		
Beit Hanon	30				0.8		

Table 2.1: The existing water tariff for all Gaza Strip municipalities.

2.1.6 Cost and revenue of water and wastewater services

All municipalities financial reports submitted to PWA figured out that the cost of service is sufficient only for the first level of cost recovery – Operation and Maintenance. It is important to note that data received from municipalities do not include O&M costs which have been financed by donors.

2.2 The regulatory framework of the water sector

In the following paragraph, the different aspects of existing and historical framework of water sector will be highlighted. Based on existing regulation, PWA has the full responsibility for managing the water resources and wastewater in Palestine.

2.2.1 Historical background

The Gaza Strip like the rest of Palestine was under the Othman rule until the end of World War I. After that, Palestine fell under the British Civil Administration (1920-1922) and subsequently became part of the British Mandate proclaimed in 1922 by the League of Nations. (PWA, 2004c). Till the end of British Mandate the West Bank and Gaza Strip formed a singular geographical unit under the same legal system. After the war of 1948 the West Bank became under the Jordanian Military Rule and formally incorporated in the Hashemite Kingdom. The Gaza Strip became under the Egyptian Military Rule without any type of incorporation with Egypt and maintained as a separate legal unit. The laws of Egypt were not applied to Gaza Strip and the pre-existing legal norms were applicable beside the Egyptian Military orders proclaimed by the military commander (PWA, 2004c).

Following the 1967 War Gaza strip came under the Israeli Military Rule. The pre-existing norms were maintained beside the Israeli Military orders proclaimed by the Israeli military Commander.

2.2.2 Palestinian legislation (1995 and upward)

During the Israeli occupation period roles and responsibilities in the water sector were fragmented and unclear. This situation led to inefficient management and uncoordinated investments. After Oslo agreement and the creation of the Palestinian Authority, the Palestinian legislation in the water sector passed the following

1. Presidential Decree 5/1995 declared the establishment of the Palestinian Water Authority (PWA).
2. Law No. 2/1996: Regarding the establishment of PWA and defined its objectives, functions and responsibilities. This law gave PWA the mandate to regulate the water

sector including management of water resources, setup and implementing the water policy, and to initiate the coordination between the stakeholders in the water sector.

3. Presidential Decree No. 66/1997: Established the internal regulation of the PWA and defined the rules of procedures.
4. Law No. 3/2002: The law complied the whole water sector and aims to manage and develop the water resources. The law provides also legal basis for the PWA.
5. Law No. 3/2002 gave the PWA the right to supervise and regulate regional utilities (art 28) and to carry out control tasks including water usage and licenses. The law also sets the composition, tasks and responsibilities of the National Water Council (NWC), chaired by the Chairman of the Palestinian Authority (PA) and members of most involved ministers and selective representative stakeholder groups. The Council will set up policies and plans, ratify and approve the PWA reports, guidelines and regulations.

2.2.3 PWA and water regulations

The internal regulations of the Palestinian Water Authority and rules of procedures were defined in the Presidential Decree No.66/1997. The Water law No.3/2002 formed the overall legal basis of PWA. The organization chart of PWA (Figure 2.1) shows that the key directorates are the regulatory and technical directorates. The following points are the most relevant tasks and responsibilities of PWA stated in Article 7 of the Water Law:

1. PWA has full responsibility for managing the water resources and wastewater in Palestine.
2. Setting the general water policy and working to implement it in coordination with the relevant parties, and presenting periodic reports concerning the water status to the NWC.
3. Surveying the different water resources and suggesting allocations of water and determining the priorities of usage.
4. Licensing the exploitation of water resources including the construction of public and production wells, regulating them.

5. Setting design standards, and quality assurance, and technical specifications, and work to control its implementation.
6. Rehabilitating and developing water departments for the bulk water supply, setting their tasks and responsibilities.
7. Coordination and cooperation with relevant parties to set plans and programs for regulating the use of water, preventing wastage and conserve consumption.
8. Working towards achieving a fair distribution and optimal utilization of water resources.
9. Participation in setting approved standards for the water quality for the different usages in cooperation with the relevant parties.
10. Preparing draft laws and regulations and issuing directives concerning water resources and executing them, and giving opinions with regard to the technical aspect in all disputes relating to water resources.

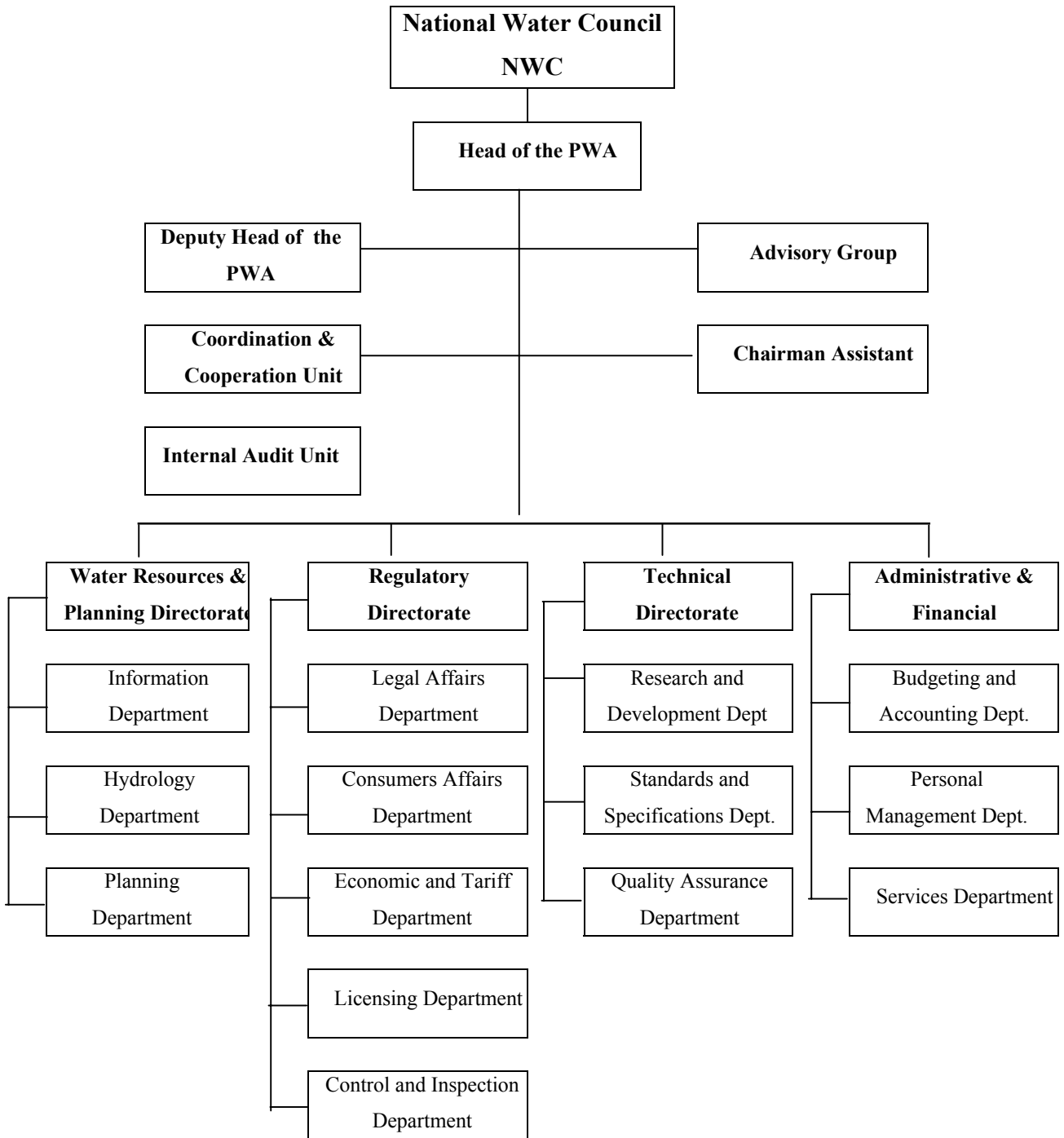


Figure 2.1: PWA Organization chart (PWA, 2004b)

2.2.4 Regulation for service providers

In accordance with the Water Law, PWA has the right to develop regulations to support the execution of its responsibilities. According to the final report of the institutional capacity building program (**PWA, 2004b**) the following draft regulations have been established:

- ⇒ Regulation for licensing wells and well drilling services.
- ⇒ Regulation for groundwater abstraction.
- ⇒ Regulation for groundwater pollution control.
- ⇒ Regulation for Authorized service providers.

The outline regulation for authorized service providers has been developed to govern the relationship between PWA and Authorized Service Providers. The main points addressed in the regulation are:

1. Application of the regulation, and identification of service providers that are governed by the regulation.
2. The licensing process, including possibilities for waivers, process for cancellation and suspension of license, licensing fees and modifications to a license.
3. Service obligation and other obligations of the service providers.
4. Setting of tariff mechanisms and related procedures.
5. Supervision, monitoring based on the Individual Performance Agreement, and PWA's right to access to information.
6. Enforcement and penalties.
7. Reporting requirements related to business and operational performance, including Performance Indicators.

2.3 Other players in the regulatory framework of water sector:

The Ministry of Health (MOH) and Environmental Quality Authority (EQA) have a significant role in the regulatory framework of water sector beside the PWA (Al –Jamal & Shoblak, 2000).

2.3.1 Ministry of Health

The Ministry of Health (MOH) plays an important role in the water sector regulation. This includes setting the standards which are related to the public health such as:

1. Drinking water quality.
2. Disposal of treated sewage in bathing waters.
3. Disposal of treated sewage in environments which affects the quality of some products like fish.
4. Disinfection and drinking water storage.

2.3.2 Environmental Quality Authority

The Environmental Quality Authority plays a complementary role to the MOH. This covers setting the standards, which are related to the conservation and protection of the environment such as:

1. Minimum water requirement to preserve the environment.
2. Disposal of treated sewage in wadis, streams, rivers, lakes and seas.
3. Disposal of treated sewage in environments, which affects the bio-diversity.
4. Regulation of the industrial wastewater which is not treated by the utility.
5. Disposal of brine from the desalination plants.

Figure 2.2 shows the Strategic Institutional Setup for the Water Sector in Palestine including both Ministry of health and the Environmental quality authority (**Al Jamal and Shoblak, 2000**).

2.4 Key stakeholders in the water sector

The main other stakeholders in the water sector are summarized below:

2.4.1 Local authorities:

After the Cairo Agreement 1994, water services continued to be carried out by the water departments of the 16 Municipalities and 9 Village Councils (**Al-Jamal, and Shoblak, 2000**). In the first of January 2004, the minister of Local Government declared the nine village councils as municipalities. Figure 2.3 illustrates allocation of different municipalities within each governorate.

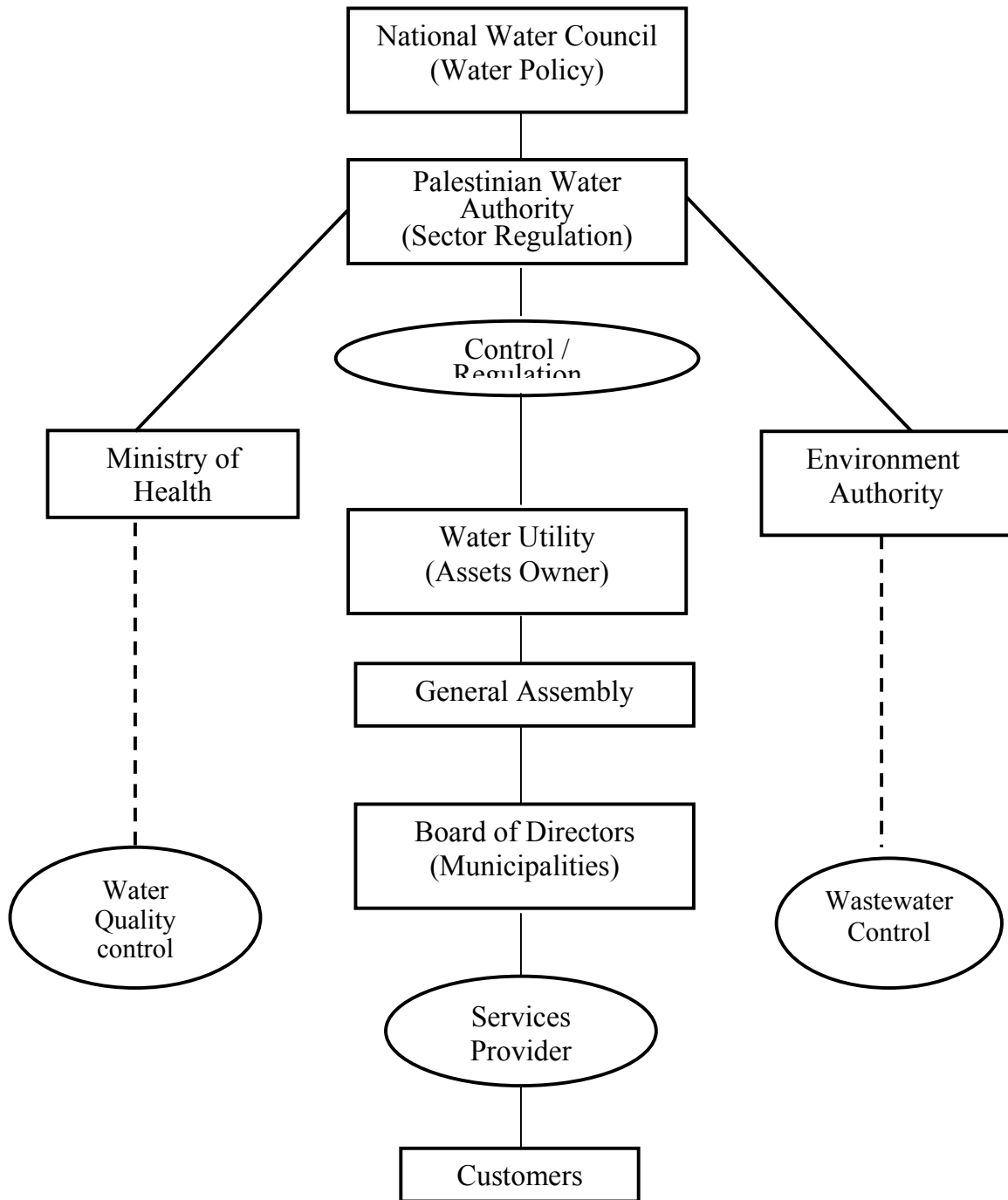


Figure 2.2: Strategic institutional setup for the water sector in Palestine

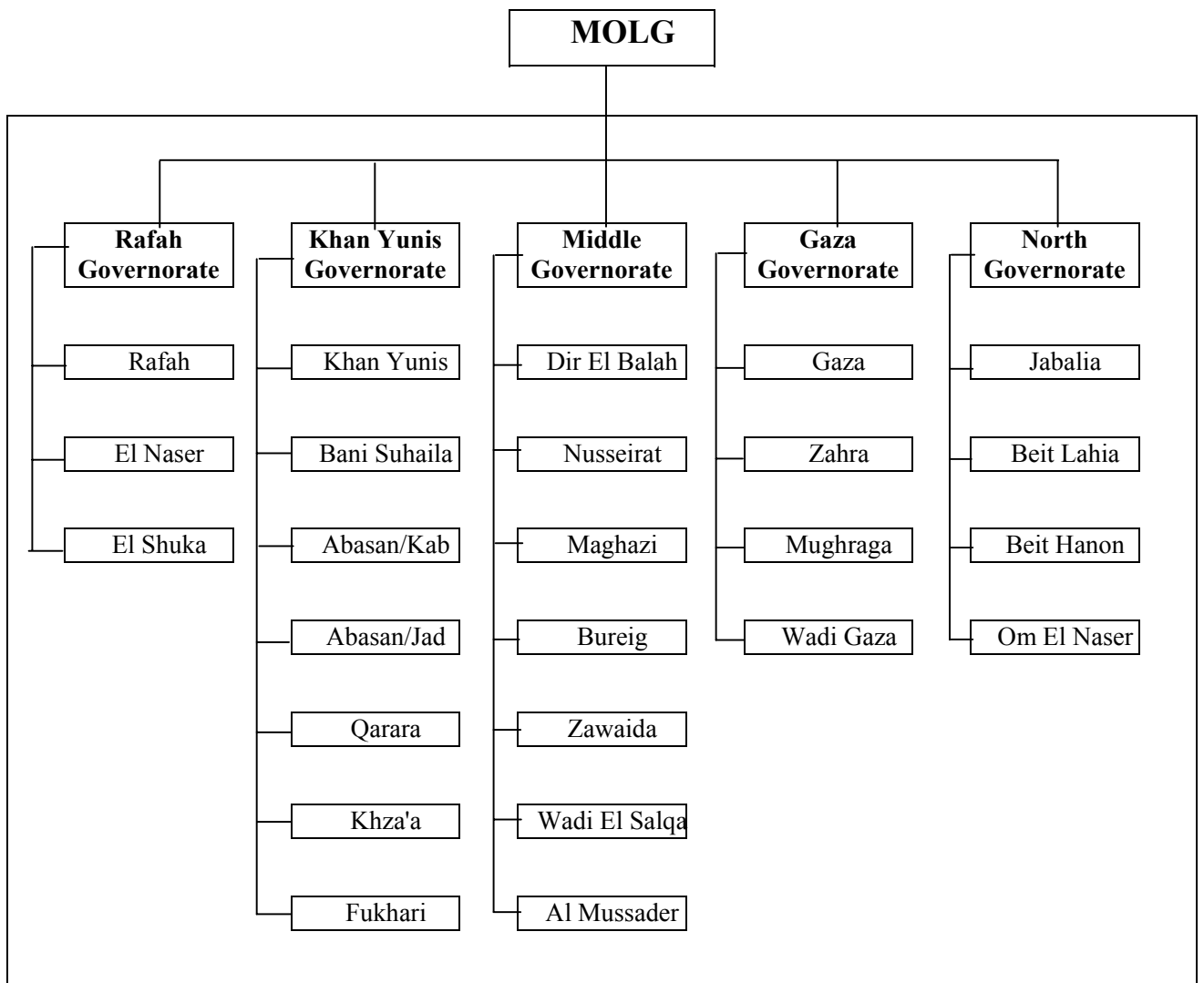


Figure 2.3: Allocation of different municipalities within each governorate

2.4.2 Ministry of Local Government (MOLG)

MOLG is the governmental umbrella of municipalities. Its role regarding the water sector can be summarized according to the law of local authorities in 1997 by:

- Assisting municipalities in solving their water problems and identifying priorities for water and wastewater projects.
- Coordination between municipalities and PWA and other relative Ministries.
- Monitoring the water services and collecting monthly reports about production and consumption.
- Approval of water department organization chart and annual budget.
- Representing municipalities in assigning water agreements.

2.4.3 The National Water Council (NWC)

The National Water Council consists of 13 members chaired by the Chairman of the Palestinian Authority (PA) and members of most involved ministers and selective representative stakeholder groups as follows:

1. The Chairman of the Palestinian Authority – Chairman
2. Minister of Agriculture – Member
3. Minister of Finance – Member
4. Minister of Health – Member
5. Minister of Local Government – Member
6. Minister of Planning and International Cooperation – Member
7. Head of Environmental Quality Authority – Member
8. Head of the Water Authority – Secretary
9. The lord Mayor of the Capital – Member
10. Representative for Chairman of the Union of Local Authorities – Member
11. Representative for the Palestinian universities – Member
12. Representative for the Water Unions and Societies – Member
13. Representative for the Regional Utilities – Member
14. The main tasks and responsibilities of (NWC) are defined in the water law as follows:
 1. Adoption of national water policy.
 2. Ratify plans and programs aimed at organization of water usage, preventing wastage.

3. Ratify the tariff policy.
4. Confirming the allocation of funds for investment in the water sector.
5. Approval of the Water Authority's guide lines and confirming the internal regulations that governs PWA administration and operations.
6. Confirming the appointment of the board of directors of the regional utilities.

2.4.4 Coastal Municipalities Water Utility (CMWU)

CMWU has been created by the Ministerial Decree dated 30 October,2000. Articles 5 and 7 of the Decree state that all municipalities will transfer their tangible and intangible water and wastewater assets and related staff to the CMWU. Article 3 of the Decree states that CMWU is an autonomous enterprise and will define its own business plans. After the full transfer of assets, staff and responsibilities to the newly created CMWU it shall be the main stakeholder in the water sector.

2.4.5 International organizations

The United Nation organizations are the main international institutions working in water sector. The UNRWA is still providing an important assistance to the refugee camps. In addition to education and health services the agency is providing free water services to parts of the refugee camps in Rafah, KhanYunis and Jabalia. UNRWA contributed in the last ten years in vital water and wastewater projects in the refugee camps in coordination with the relevant municipalities. In addition, water and wastewater project is of a top priority of UNDP program.

2.4.6 NGOs

Some local and international NGOs are acting in Gaza strip and providing support to water sector. Save the Children Federation (SCF) is operating in the Gaza Strip since 1978 and supported the community projects in areas of water, sewerage, income generation and health care services. CHF and ANERA are funded by the USAID. They are financing small scale projects in water supply, wastewater and storm water in addition to public and environmental health sector.

The Palestinian Hydrology Group (PHG) is a non-profit, non-government organization that protects and develops the water resources in Palestine. It started its activity in the West Bank in 1987 and moved to Gaza Strip in 1990. After 1994 the PHG focused on water resources rehabilitation and development, water network rehabilitation and rain water harvesting.

2.5 Capacity of local private sector in the water and wastewater services

The local private sector plays a significant role in supporting the water and wastewater issues in Gaza Strip. The private sector includes: (1) contracting companies, (2) consulting and engineering offices and (3) potable water private service providers.

2.5.1 Private contracting companies:

All private companies should be registered and classified in the Palestinian Contractors Union (PCU) in the Gaza Strip. Procedures of registration and classification are coordinated with the syndicate of engineers. Classification of contracting companies is controlled by simple procedures and depends mainly on three parameters:

1. Experience record of the company;
2. Staff experience in the company; and
3. Total amount of turnover of related projects in the field of specialization.

Up to 14th November, 2005 (170) companies are registered and classified (PCU records). 51.7% are classified in the field of water and wastewater works (**PCU, 2005**).

2.5.2 Consulting and engineering offices:

Classification and registering the engineering offices is the responsibility of syndicate of engineers in Gaza. The classification is carried out according to the regulations of engineering offices No. 1/2003 ratified by syndicate of engineers. Up to 31 December 2005, 47 consultancy offices are registered only 17 consultancy offices are classified for water and wastewater (**Syndicate of Engineers, 2005**).

2.5.3 Potable water private service providers:

As a result of the high salinity of drinking water supplied by the municipal network in most areas of the Gaza strip, the private sector contributed in the delivery of good quality potable water to the customers for drinking purposes. About thirty five small scale private desalination plants have been constructed all over the Gaza Strip (PWA, 2006). 21 plants are registered at the PWA as licensed water provider while 14 plants are still unregistered. PWA estimated the daily capacity of these plants at 1242m³/day. There is no private network for distribution so desalinated water is distributed via portable tankers (PWA, 2006).

Chapter (3)

Privet Sector Participation (PSP) in Water Issues

International Literatures

All institutions public, private or in between undertake water and wastewater services and provide these services to the customer should seek the following goals and responsibilities (**Blackwell Science, 1997**):

- Protection of public health. This is the primary objective which should be in the forefront for any water and sanitation system.
- Reliability: The system must deliver an uninterrupted supply of good quality water in sufficient quantities to meet all types of customer's needs and environmentally acceptable wastewater treatment and disposal.
- Improvement of services: Customers always demand continuous improvement in the level of service and water quality and environmental protection.
- Efficient operations: An efficient cost – effective operations are necessary in order to achieve continuous improvement in the level of service.

Governments seeking to take advantage from involving the private sector in water and sanitation and hope to achieve all or some of the following objectives (**World Bank, 1997**):

- Bring technical and managerial expertise and new technology into the sector.
- Improve the sector in both operating performance and the use of capital investment.
- Introduce additional investment capital into the sector.
- Reduce the public subsidies or redirect them to the poor and not now served groups.
- Make the sector more responsive to consumer's needs and preferences.

Developing countries have experienced a long neglect of the infrastructure systems or, in some cases just construct the most necessary water and sanitation facilities. They are experiencing rapid population growth, urbanization and an increasing number of poor people. At the same time water supply is becoming increasingly limited in a growing number of countries. It has become apparent that public water agencies have been unable to satisfy the most basic needs of water for all humans. Thus, in order to solve the problem governments

have turned to the private sector in the management and operation of water and sanitation on the assumption that they would manage better with the task **(United Nations, 2003)**.

Why does the public sector neglect to invest in water utilities? The public sector declares that part of the problem is the special characteristic of “sunk” infrastructure, i.e. that the infrastructure is invisible for most customers. Because investments in water supply and wastewater infrastructure don't result in tangible and visible benefits, public priorities are so placed elsewhere, particularly when budgets are limited. Furthermore, short-term political cycles may sometimes work against the long-term planning and development strategies necessary for well-run water systems **(Holmqvist, 2004)**.

3.1 Key factors for successful and sustainable PSP in the water sector

The main key factors for successful and sustainable PSP in the water sector are the legal framework of water service providing, contract design and contract type selection, the financial setup of PSP, pricing and tariff, and the Role of the regulatory body.

3.1.1 Legal framework of water service providing

Type and quality of the legal environment motivate or hinders the private sector participation or can make it even impossible. The stable legal environment means effective enforcement of legislations and independent court system. Stable legal environment decides weather the situation is favorable for PSP and foreign investors and influences the possibility join ventures and share with local companies.

The proper sector legislation should covers all areas of water management and also secures the coordination of involved bodies on all levels (local, regional, and national) in order to achieve an integrated approach of allocation, use and protection of water resources. In the same time, regulation in the water sector should cover all performance aspects of water services delivery **(Webster; Sansom, 1999)**. These include the following:

- Setting or adjusting the allowed prices of services.
- Monitoring performance and making intervention where necessary.
- Representing customers and taking up complaints with the service providers.
- Monitoring and enforcement of standards.

- Setting the appropriate and affordable standards for service providing and setting the overall water policy and strategy.

The Regulation Authority (RA) plays a key role in the system. It has to monitor and to enforce the implementation of the contracts, to establish penalties and corrective measures, to set prices and tariffs and to deal with customer claims. So that, the regulation authority is a crucial element in the power balance between government, private sector and the public. Acceptance and recognition of the regulatory authority by the private companies and other key players is essential for successful PSP.

Reform of water sector legislation is necessary in the area of water sector management. This reform aims at setting and defining the roles of different actors: who has to play which role? How are the responsibilities and duties distributed between municipalities, regional governments, central government, ministries, etc.? With PSP, the role of the government changes from service provider to decision maker. This requires a new regulatory framework for the sector. The contractual relationships and roles of different agencies have to become transparent setting tools and mechanisms to secure transparency and independence of the regulation authority (**Wood; Jhonstone, 1998**).

The acceptance and success of PSP depends also on the question, whether the consumers feel confident with the RA and feel that their interests are protected. Hence, the public has to be informed, decisions and means of RA have to be comprehensive and the customers should be able to put forth their concern to the RA (**Burgger, 2003**). Governments usually create individual regulator for each sector. This approach may allow individual regulators to focus on their specific issues. In other cases the regulating body (authority) may be one organization combining several regulatory partners (e.g. public health, environment, and general economic development) under the same single umbrella. This regulatory arrangement requires powerful institutional capacity but may become bureaucratic while implementing standards and polices with water service providers (**Wood; Jhonstone, 1998**).

3.1.2 Contract design and contract type selection

- Good preparation of the contract including sufficient information of the current situation, selection of the appropriate model and well preparation of the bid are essential parts of

successful PSP. Social and environmental concern should be on the agenda when setting the objectives, gathering information and designing the contract. The following considerations should be taken into consideration during the bidding procedures and contract design (**Wood; Jhonstone, 1998**).

- The criteria on which contracts are awarded – such as the lowest tariff rate, the largest payment to public authorities or the great levels of investment should not be introduced in complex formulas. This may result in a loss of transparency in decision making process and adds to the cost of the bidding procedure.
- Economic and political preconditions must be met before the international firms are involved in developing countries. The firm wants to ensure that it is satisfied with contractual details such as technical objectives, tariff policies, competition environment, security environment and other terms before it submits an offer.
- It is in everybody's interest to ensure that the process is transparent, and reliable information is available. Uncertainty and loss of information increase the risk and offer price and most likely lead to renegotiation of contracts.
- Proper and clear geographical definitions of the PSP service area protect from problems usually occur later when investment priorities have to be set within a service area.

How to deal with the existing liabilities in the PSP contract? Unclear definition will influence the financial burden of the private company and may lead to renegotiation of contracts. (**Burgger, 2003**).

3.1.3 Financial setup of PSP

One of the main reasons for PSP is to bring more investments in the water sector. The private sector has to be paid back by the consumers or by the government directly or through soft loans and grants from the donors. Investments in the water sector infrastructure are long term investments which mean higher risk for the investors. The following considerations should be taken into account when working on the financial setup of PSP contracts:

- ◆ **Investment plan and delay:** delaying the implementation of agreed investments leads to disputes about the causes and who is responsible for the delay the government or the concessionaire company (in case of concession contracts).

- ◆ **Securing the loans or grants:** Private companies tend to invest small portion into infrastructure projects and goes to the borrowers. For rehabilitation and operation the required money is generated from tariff collection namely the consumers. Most projects are financed from donors or lenders e.g. World Bank (EBRD), EIB, USAID. The question is to which partner the loans have to be awarded? The company, the government, or municipalities and water utilities? Problems may occur when the concessionaire doesn't take the risk on its own equity. This means that the loan is assumed to be secured from the receivables of the project itself.
- ◆ **Dealing with existing debts:** the terms of the PSP should specify how to deal with existing debts and the role of each party and the responsibilities.
- ◆ **Minimizing investments:** Private companies may be required to concentrate on projects that improve the water conservation and system efficiency. This approach may protect the consumers but the challenge is how to balance between outputs based on performance indicators and minimizing the investments (**Burgger, 2003**).

3.1.4 Pricing and tariffs:

It is really a big challenge to attain an accurate and efficient price structure. In one hand the calculation of the price has to be done based on the effective costs (cost recovery) and on the other hand should address the social aspects including affordability through certain forms of subsidies. The main elements of fair and effective tariff structure can be summarized as follows:

- Simple and transparent tariff structure instead of complex formula. It is preferred for consumers to become aware and satisfied with the tariff system. Consumers of water are usually willing to pay for improvements in service when they are participated in the decision and when these improvements are actually delivered.
- Subsidies for connection rather than for water consumption. New connections can be financed through funds given from the government or donors.
- Price adjustments are likely part of PSP contracts, for example tariff revision every five years. This period is subject to negotiation earlier to the end of previous period.

- Currency risk: In addition to price adjustment, currency risk should be considered. Private company may claim that they are paying in foreign currency for their loans and compensation for currency devaluation is necessary.

3.1.5 PSP and the poor - Role of the regulatory body

Regulation is a necessary component of any private sector participation in water and sanitation sector as a monopoly services. It aims to secure the proper performance of the obligations and commitment for each side, the regulator and service providers and also protection of customers.

The effective regulation is essential in order to successfully get the full benefits of private sector participation in delivering water services. This requires a clear definition of roles and responsibilities of each party, the regulator, the customer and the private sector with transparent relationship between the parties. Successful regulation seeks balanced outcomes, on one hand protecting the customers at large, and on the other hand do not bring the private sector to an under-funded situation and unable to perform properly. **(Webster; Sansom, 1999)**.

The Gaza Strip is classified as a developing and one of the low income countries. Tariffs are two low – between 0.30 US\$ and US\$ 0.40 a cubic meter. Demand for water is increasing rapidly while water resources are deteriorating in terms of quantities and quality. The investment requirements in the sector are beyond the capacity of the Authority. The private sector will not be happy to take the financial risk and invest in long term programs in the water sector. Penelope J.Brook, private sector development specialist proposes options for solving part of the problem **(Penelope, 1997a)**.

Option 1: Taking a stepwise approach

Beginning with a management contract and building up to a concession. The virtue of the stepwise approach is that it allows benefits from private sector involvement while providing the government time to address tariff, regulatory, or information problems in the sector. For example, the government may introduce gradual tariff increase over the life of the

management contract, use the time to build up regulatory capacity and implement regulation, or require the contractor to build a database on the state of the water system.

The stepwise approaches may be an attractive way to secure some private sector involvement in risky countries, but there is no guarantee that they will go beyond the first step. Government may be unwilling to take the next step beyond the management contract, especially if they have raised the tariff to cost recovery levels during the term of the contract. In stepwise processes that replace low - responsibility, low – risk contracts with high – responsibility, high risk, the question of re-bidding necessarily arises. During the transition to a lease or concession contracts the competition becomes difficult. The company that wins the management contract will have an advantage in bidding for subsequent contracts, and the opportunity of winning for other potential bidders is weak.

Option 2: Simplifying contracts:

Simplifying contracts can do much to simplify monitoring and reduce uncertainty. One of the attractions of management contract is that they don't require that level of regulatory and monitoring infrastructures. To yield real improvement from the management contract, a good system of incentives and monitoring is essential. But it is difficult to setup indicators that offer a fair and indisputable basis for performance incentives. For example, success in improving collections may depend on the government paying its own bills and supporting a policy of disconnection for nonpayment. Two factors are necessary for the good system: first, clear and indisputable performance indicators, second, an independent monitoring agency with skill and budget to do the job.

Option 3: Contracting out parts of the regulatory function

When the government has limited administrative capacity and little regulatory experience it is preferred to assign parts of the regulatory functions to an independent auditing company. For example, contracting out the performance auditing function, gathering and processing the detailed information necessary to carry out the regulatory function can reduce the government's administrative burden.

Option 4: Increasing predictability:

Provisions must be specified to deal with unexpected events over the life of the contract. These provisions are important in the renegotiating aspects of the contract and for adjusting contractual terms over time. Such provisions need to specify at least four elements:

- The conditions under which adjustment of terms or negotiation may take place.
- When and under what conditions a contract must be renegotiated.
- The process for initiating and conducting renegotiating
- The process to be followed and the authorities to be appealed to in the event that the parties of the contract cannot agree on how to resolve an issue (arbitration provisions).

Some points should be considered when PSP is applied to serve the poor:

- Political commitment: Serving the poor is considered a political and not a financial question. The existence of large number of poor people in small areas invites the interest of political actors. Without a political commitment to serve the poor this problem cannot be solved.
- Structured approach PSP contracts: to secure the willingness' to serve the poor first, targets have to be allocated by areas taking into account that the progress is achieved across the entire service area equally. Second, no input standards have to be prescribed, so that targets can be met in innovative and cost saving ways. Third, targets could be achieved directly by the concessionaires or indirectly by a third party whereas the concessionaire keeps the responsibility for contract (**Burgger, 2003**).
- Governments should be realistic towards the private sector while designing private participation arrangement. In one hand the government should guard against possible abuses of monopoly. In the other hand private companies should be allowed to earn a reasonable return and be rewarded for the risks that they hold (**Penelope, 1997a**).

3.2 PSP and risk management

PSP is correlated with different forms and levels of risks. Risk to public sector, to private sector and also risk to other stakeholders: the society and poor consumers. All possible

types of risks should be addressed during the formulation of PSP policy and contracts with detailed analysis for each case of risk and mitigation measures.

3.2.1 Risks to the private sector:

PSP is associated with various types' risks. The risks to private sector can be financial, political and/ or institutional risks. The financial risks could be:

- Difficulty in assets quality assessment.
- Currency fluctuations and depreciation.
- Investments are made in advance especially with BOO- type projects.
- Low revenue collection.
- Change of economic legislations e.g. taxing system.

The political and institutional risks incorporated with:

- Political interference through overruling of decisions or frequent appointment of new leaders in key positions conform a major risk for private sector and affecting quality levels targets.
- Excessive restrictions by local government.
- Lack of government credibility as regulator or contractual partner.
- Political instability and lack of security.
- Increases in the prices of basic water supply may cause social conflict and unrest.

3.2.2 Risks to the public sector

PSP could be connected with risks to the public sector. The following points summarized the main concerns:

- Job security of public employees
- Insolvency and failure of private operator. Failure of private operator may lead to serious sequences (deterioration of service levels, problem in service recovery and governmental changes). There is an increased risk of corruption due to the commercialization of water supply and operations.
- Financial risks when loans are awarded to the public utility (municipalities) and not to the private company

- Weak regulatory framework Agreements may fail to protect public ownership of water and water rights.
- Privatization often fails to include public and community participation.
- When international operator is involved some jobs and profits may go to outside parties in other countries.

3.2.3 Risks to the poor

The private sector may provide water on ability to pay rather than actual need. This will have risks on the poorest members of society such as:

- Unaffordable service
- Health risk (cut off, bad service, bad quality etc.)
- Regulatory frame work may be formulated for the benefit of big consumers and not to protect smaller ones and the poor. PSP may threat the existing benefits presently enjoyed by poor households.

3.2.4 Environmental and public health risks:

- Securing enough quantities of water may put pressure on private operator to violate ground water abstraction restrictions.
- Agreements may lessen protection of water quality and relax the range of acceptable standards.
- Privatization efforts may neglect the potential for water-use programs and conservation improvements.
- Waste water treatment and collections may not acquire enough attentions from private sector as customers do not realize the actual cost and they are not willing the correspondent charges. The result is less attention from the operator to meet waste water effluent standards.

3.3 PSP options and types of contracts

All forms of PSP aim to improving technical and managerial capacity of the sector and improving the service delivery and gain new finance for new investments. The first step is

choosing the most appropriate PSP option or options best suited to local circumstances. Government should evaluate how well different options solve the existing problems and challenges in service provision.

Before the judgment which PSP options are feasible a government should carry out a wide analysis for the followings:

- Present status of the water utility and service provision: current level of service and standards, assets conditions and there serviceability, utility human resources capacity, financial performance, accuracy of data especially that about buried infrastructure.
- The existing regulatory framework: laws that may influence the participation of private sector e.g. water pricing, commercial investment, water quality standards, roles and responsibilities and capacity of the regulatory body.
- Define all relevant stakeholders and their position and concern of PSP, who support and who against PSP.
- Analysis of the financial viability of each PSP option: tariffs and cost, willingness to pay when tariffs increase, capacity of government for financing subsidy, expected financial supports from grants and donations (**Penelope, 1997b**).

3.3.1 Gaza and West Bank water sector reform options:

In April 1994, many institutional reform options for the water sector had been raised in the seminar held at the University of Bir Zeit and organized under the auspices of the UNDP (**LYSA, 1995**). In this seminar, participants ware ranked the different institutional choices. The Regional Public Utility followed by Private Management of Regional water Utility has the highest scores. Municipal Water Department and National water department choices have the lowest rank. Table 3.1 present the main results of the meeting. The main criteria for the comparison between different choices are:

- Quality of service
- Cost effectiveness
- Ability to attract high level senior executives
- Meeting water policy objectives
- Concern for environment

- Accountability to and participation of the community
- Flexibility, ability to adaptation to economic changes or polices.

Table 3.1: Options of institutional reform as ranked by participants of Bir Zeit seminar in 1994.

Institutional choice	Weight (/4)	Strong points	Weak points
1- Regional Public Utility	3.22	Cost effectiveness – attractiveness for executives - efficiency	
2- Private Management of a Regional water Utility	3.18	Ditto + compliance with national policy	Less flexible – less transparent than 1
3- Municipal Public Utility	2.87	Flexibility	Inadequate size – submitted to local pressure – financing capacity
4- National Public Utility	2.73	Compliance with national policy	Quality of service (bureaucratization)
5- Municipal Water Department	2.34		Efficiency – cost effectiveness
6- National water department	1.66		Quality of service – efficiency – cost effectiveness

3.3.2 Different forms of private sector participation

The privatization of water encompasses a large variety of possible water-management arrangements. Privatization can be partial, leading to so-called public-private partnerships, or complete, leading to total sell-out of water utilities (full privatization). Privatization at its most harsh level, i.e. the total sale of publicly owned water rights to private companies, is rare. Most countries adopt some kind of public-private partnership. Figure 3.1 shows private sector participation models against Contractor Risk/ Investment.

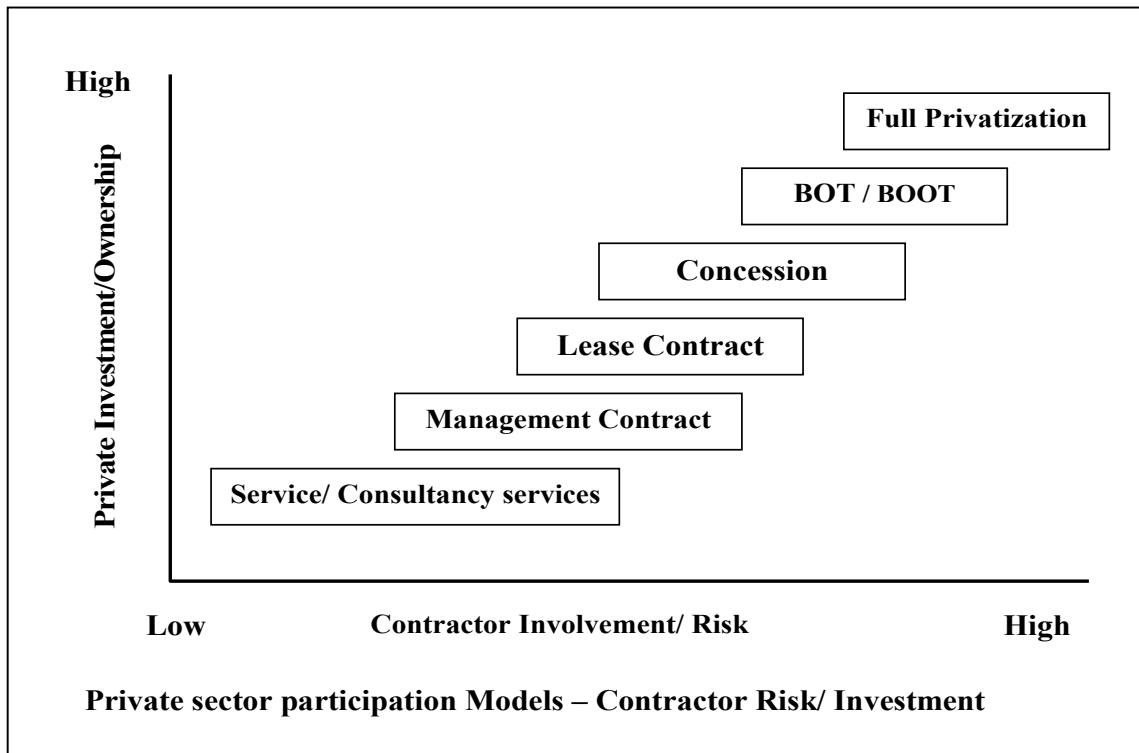


Figure 3.1: Forms of private sector participation in terms of public and private involvement.

3.3.2.1 Service contract:

Service contracts are single function contracts, which designed to perform a specific service for a fee, for example installation of water meters, supply of consumable materials, specific routine repairs and maintenance, meter reading, accounts collection etc. Service contracts are a cost-effective cost way to meet special technical needs for the public utility. They are typically for short periods, from six months to two years (**World Bank, 1997**).

In service contracts functions, transferred to the private sector are limited. There are no barriers to entry into the business and the risk on private sector is very low. Since the skills and resources needed for these contracts are likely to be found in a potentially large group of firms and the competition is increased (**Holmqvist, 2004**). Under the service contract, the public sector remains the primary service provider and only owner of assets.

3.3.2.2 Management contract

In this type of contracts, the operations and maintenance responsibilities are transferred from public utility to the private sector. Since contracts are set at relatively short intervals, the private firms are under almost continuous pressure to cut cost. The optimum duration of Management contracts is in the range of 2 to 4 or 5 years (**World Bank, 2002**). Recent project experience in Latin America shows that the essential performance indicators had been reached within this short period. Most operators and International Financing Institutions (IFIs) takes up that a period of 4 to 5 years is better; it takes time to build up trust with municipalities (**World Bank, 2002**).

In management contracts, it is very important for the operator to be fully authorized to manage the operational staff and to have full access to technical information to enable him to implement his investment decisions and plans. Management contracts are useful where:

- The main objective is to rapidly improve the utility's capacity and efficiency for specific tasks.
- Tariffs are too low to support operation and maintenance and the government needs time to increase tariffs.
- The regulatory framework needs time to be reformed before a long- term private sector arrangement.
- The country has no good record in public private partnerships and faces difficulties in getting key stakeholders to agree to long-term involvement of private sector (**World Bank, 1997**).
- Management contracts are useful to improving services for utilities having already good coverage of water and sanitation connections.
- But management contracts are not good option if a government one of main objectives is accessing private sector finance for new investments. The risk in management contracts is the tendency to accept the lowest bid for the work without taking sufficient account of the company's ability to provide quality. The effectiveness in improving operating performance can also be limited if the public sector fails to provide the financing needed for rehabilitation.

3.3.2.3 Lease contract

Leases are long-term contracts, usually 10-20 years, but it can be longer. The authority finances and constructs the facilities then makes them available to the private company, which becomes responsible for operations and maintenance and sometimes for asset renewals as stipulated in the contract. Leases have been widely used in France, Spain, Guinea and Senegal. Despite increasing the responsibility of the private sector in the lease contract, there is still no major investment involvement. More responsibility is passed to the private sector who carries out some commercial risks and he is in direct interaction with the customers in collecting charges. But the public sector still owns the assets and carrying the major risks (**Blackwell Science, 1997**).

Leases are normally competitively set and because of their more limited scope, they are usually simpler to regulate than concessions or full divestiture. They can be an effective option where existing public suppliers have low productivity and poor revenue collection. However, contract terms and the system of economic regulation incorporated within the contract affect the outcome. To reduce the pressure on private companies to provide service at least cost, leases reduce private company risk by guaranteeing that allowable price rises will cover all cost of service increases (**Holmqvist, 2004**).

3.3.2.3 Concession

Under concession, governments set a long-term contract, normally 25-30 years (**World Bank 1997**) to a private company, which is responsible for all capital investment, operations and maintenance. The assets themselves remain public sector property, while the private company has full usage rights over them. Gains may only occur if there is genuine, free and fair competition. This has not always been the case in the water and sanitation sector. Vertical mergers are common in the concession market, which have resulted in a few dominant firms. It has also been suggested that the winner firm may have knowledge and experience that enable it to operate at lower costs, thus giving it a higher chance of retaining the contract (**Holmqvist, 2004**).

Concessions create absolute monopolies and it is impossible to predict changing economic, social and technical conditions over a 20-30 year period and incorporate these

within contract terms. Therefore, whatever explicit and detailed the contract is, it still needs to be renegotiated frequently in the absence of competition benefits. Moreover, mechanisms need to be in place to ensure that companies are responsive to customer demands, do not practice discriminatory pricing and have incentives to provide a good value service.

On the government side, because of administering a long-term concession contracts, the quality of regulation is important in the success of the concession – balance of benefits between the concessionaire and consumers (**World Bank, 1997**). There is a risk that concessions reduce the regulatory burden on government agencies by using the contract itself as the chief regulatory mechanism. So that regulation is crucial, particularly in the drafting of the contract, which must be oriented to the interests of the public all the time.

Another problem arises on termination of contract. The valuation of assets is complex and often an expensive process and has a significant impact on the potential competitors to bid for the contract when reassessed. If the valuation of the assets is underestimated, the bids will be lower than they should. This might lead to under-investment from the operator's side, or the operator might invest but claim that he needs to be paid more money for his concession contract since the initial asset assessment was faulty. Overvaluation, on the other side, will lead to over-investment (**Holmqvist, 2004**).

3.3.2.4 BOT (Build-Operate-Transfer)

BOT contracts are designed to attract private investment into the construction of specific major items of infrastructure. The private sector finance, designs, constructs and operates the new facility. For example a new bulk water supply or water and wastewater treatment plant. Normally, the private sector is responsible for all capital investment and owns the assets until they are transferred to the public sector. However, in BOO schemes (Build-Operate-Own), private ownership is retained (**Holmqvist, 2004**).

Although the public sector retains ownership of the infrastructure facilities, BOT contracts allocate more commercial risk to the private sector. So, the private sector will incorporate certain conditions in the contract to ensure their profit levels. On the other side, governments have to be very careful during setting the contract conditions.

BOT options introduce some competitive incentives for efficiency as companies normally compete to win the contracts. Similar to concession contracts, the risk to lose the benefits if specifications are changed after the contracts are set, since the renegotiated terms are not competitively set. Also it is normal to reduce private sector risks by providing cost reasonable guarantees. In this case the public sector is sometimes bound to pay for certain quantities of water or sewerage treatment regardless of the actual demands. The utility – public sector – might pay for capacity and actual demands through agreed formula to share the risk between the utility and the private sector (**World Bank, 1997**).

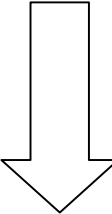
3.3.2.5 Full privatization (Divestiture)

Divestiture involves transfer of the ownership of infrastructure assets into private hands through asset sales, share sales or management buyouts (**World Bank, 1997**). The government retains the regulatory role only. The private sector now has complete responsibility for operations, maintenance, and investment in the sector. The form of divestiture can vary from 100% for the private ownership or join ventures with public sector.

For the divestiture to be effective for the public sector, regulation of the private sector activities should be of the up most importance and necessary to protect public interests and should be active in the major decisions. Advantages of divestiture may be that access to finance is made available and, if regulation is effective, efficiency gains may occur and innovation is expected. Divestiture is likely to be most effective in countries where the public water and sanitation services have technically competent staff, where private companies, with experience of providing infrastructure services exist and where local/national financial markets are reasonably well-developed. Divestitures in the water and sanitation sector have been limited to England and Wales.

Divestitures are criticized for eliminating competition, as the water and sanitation markets are natural monopolies. Without effective regulation, this will reduce efficiency. Other problems with divestiture include that the model is difficult to reverse and the cost of capital for the private company may be higher than for other privatization models. The prices might therefore increase. Table 3.2 gives a general overview of the different forms of private sector participation in terms of public and private involvement

Table 3.2: Overview over different forms of private sector participation in terms of public and private involvement.

Option	Asset ownership	Operation & maintenance	Capital investment	Commercial risk	Duration	Provision by Government
Public provision	public	public	public	public	Indefinite	<p style="text-align: center;">MAX</p>  <p style="text-align: center;">MIN</p>
Service contract	public	Public and private	public	public	1-2 years	
Management contract	public	private	public	public	3-7 years	
Lease	public	private	private	private	10-20	
BOT	private	private	private	private	20-30	
Concession	public	private	private	private	25-30	
Divestiture	private	private	private	private	Indefinite	

3.4 Constraints to be overcome

To have an effective and safety PSP, many pectoral constraints and barriers should be overcome.

3.4.1 General constraints

- Lack of finance for contract preparation process, capacity building and regulatory capacity.
- Conflict of interests and lack of consensus between stakeholders in the water sector.
- Lack of awareness and understanding among stakeholders and the society.
- Lack of organized and systematic communication among stakeholders.
- Absence of strong leadership in the decision making institutions.
- Cultural problems (e.g. understanding of contract conditions, billing structure and policy and absence of cultural compatibility between public and private sectors)

3.4.2 Public sector constraints

- Weak institutional and human resources capacity
- Lack of governmental commitment and political will
- Fragmentation of responsibilities

- Impact of next elections and unexpected changes

3.4.3 Private sector constraints

- Lack of reliable information to prepare the bid which is reflected in the time and cost involved in the bidding.
- Absence of cultural dimension from the technical expertise when dealing with social issues.
- No enough attention to local problems and concerns
- Lack of competition

3.4.4 Society constraints

- Fragmentation and miss coordination between civil society institutions
- Lack of access to information

3.4.5 Donors constraints

- Conditions imposed for donation
- Time pressure and field frame work of donation
- Procedure of donation, which is donor driven may restrain the PSP process.

3.5 Advantages and disadvantages of PSP

Actually there are both advantages and disadvantages with public and private provision of water and sanitation services respectively. The advantages and disadvantages differ in level of seriousness between developed and developing countries, as the situations they are facing are very different. Furthermore, situations between developed countries also differ, as do situations between utilities within the same country. Consequently, private sector participation in the water and sanitation sector is not the unique solution. Furthermore, different sets of choices (about the relative roles of the public and private sectors, form of privatization, industry structure, and regulatory regime) are likely to affect the outcomes of private sector participation. It is clear that the impact of choices will not be equal and will depend upon specific local socio-economic and political conditions (**Holmqvist, 2004**).

Whichever model is chosen, private or public, professional management, appropriate regulation, environmental and socio-economic issues, and the political stability are key determinants of performance.

The main **advantages of privatization** are:

- The private sector is more likely than the government to possess sufficient financial resources to invest and maintain the water infrastructure.
- The private sector has the technical expertise and aptitude to efficiently manage water operations.
- Financial incentives are built into private sector contracts to encourage improved performance and service.
- Increased investment in water systems would improve access and availability, particularly in rural areas.
- Consumer user fees encourage responsible usage of water, which is a scarce resource.

In the same time the **Disadvantages of privatization** can be:

- Privatization strips a basic responsibility of governments. Water is an essential basic need; therefore the government should subsidize the water system to ensure that everyone, regardless of financial circumstances, has adequate access.
- The private sector may provide water on ability to pay rather than actual need; therefore the poorest members of society may be deprived of adequate water supplies. Privatization can thus worsen economic inequities.
- Poverty stricken rural areas may suffer as it may not be profitable and economically viable for the private sector to invest in water systems.
- Increases in the prices of basic water supply may cause social conflict and unrest or force the poor to rely on traditional (often polluted) water sources.
- There is an increased risk of corruption due to the commercialization of water supply and operations.

A few more **risks with privatization** should be noted:

- Agreements may fail to protect public ownership of water and water rights.
- Privatization often fails to include public participation and contract monitoring.

- Inappropriate privatization efforts ignore impacts on ecosystem or downstream water users.
- Privatization efforts may neglect the potential for water-use efficiency and conservation improvements.
- Agreements may lessen protection of water quality.
- Agreements often lack dispute-resolution procedures.
- Privatization of water systems may be irreversible.
- Privatization may lead to the transfer of assets out of local communities. These assets include jobs that may go to outside parties and the profits from operations that go to corporate entities in other countries.

Table 3.3 summarizes the main advantages and disadvantages of different private sector participation models.

Table 3.3: Summary of advantages and disadvantages of different PSP models

PSP Model	Advantages	Disadvantages
Service Contract	<ul style="list-style-type: none"> • Simple to process and re-tender 	<ul style="list-style-type: none"> • Public sector retains all commercial and investment risks
Management Contract	<ul style="list-style-type: none"> • Simple to tender • Very good competition • Efficient in technology transfer and capacity building 	<ul style="list-style-type: none"> • Lack of strong, sustained private incentives • Risk of the tendency to accept the lowest bid • Effectiveness in improving operating performance can also be limited if the public sector fails to provide the capital investments
Lease Contract	<ul style="list-style-type: none"> • Larger operational efficiency gains • Easy to regulate • Good competition 	<ul style="list-style-type: none"> • Public sector retains investment risk • Needs more supervision
BOT Contract	<ul style="list-style-type: none"> • Attract private investments • Efficient delivery of bulk water/sewage treatment service with private investment 	<ul style="list-style-type: none"> • the public sector is sometimes bound to pay for set quantities of water or sewerage treatment irrespective of actual demands
Concession Contract	<ul style="list-style-type: none"> • Efficiency gains in O&M and assets management • Reduce the regulatory burden on the governmental agencies 	<ul style="list-style-type: none"> • Concessions create absolute monopolies • Complex tendering process • Needs steady commitment and strong regulatory capacity • Competition is restricted during the course of concession • Termination of the contract is highly risky to the public sector
Full privatization	<ul style="list-style-type: none"> • Access to finance is made available • Efficiency gains may occur and innovation is likely 	<ul style="list-style-type: none"> • Privatization of water systems may be irreversible • The prices might increase, unaffordable in the developing countries • Competition is weak or eliminated • Requires balanced regulations

Chapter (4): The Management Contract

Service Improvement Project - Gaza I Project

4.1 Background

At the time of Management Contract (MC) project preparation 1995-1996, the situation of water sector in the Gaza Strip was critical and one of the most serious in the world. Ground water is the main available source of water and continuously deteriorating. The Palestinian Authority placed a high priority on the improvement of water and wastewater services in Gaza Strip. The donors provided investment and technical assistance support through several projects. These projects aimed at:

- Improve water distribution and sewage collection facilities.
- Extend the provision of water services.
- Provide healthy environment for inhabitants, and
- Attract the business for economic development.

The management contract "Service improvement program for water and wastewater systems in the Gaza Strip" financed by the World Bank and administrated by PWA aimed at continuing and reinforcing the aforementioned effort for improvements.

4.2 Project summary:

The following points summarized the main aspects of the Management contract of Gaza I project, Service Improvement Project (**PWA,1996b**).

- Borrower: Palestine Liberation Organization (PLO) for the benefit of the Palestinian Council
- Implementing Agency: Palestinian Water Authority (PWA)
- The operator: (Lyonnaise des Eaux/ Khatib & Alami -LEKA)
- Beneficiaries: 16 Municipalities and Village Councils in Gaza; and the Palestinian Water Authority
- Credit Amount: US\$25.0 million equivalent
- Terms: IDA credit terms with 40 years' maturity, including 10 years' grace
- Local contribution: 4 millions US\$

4.3 Overview of water and waste water sector before the MC

4.3.1 Water resources:

The coastal aquifer is the main water source in the Gaza Strip. Estimates of abstraction and recharge vary considerably. Recharge is about 60 million cubic meters (MCM) per year, while the estimated abstraction is more than 130 MCM per year (**World Bank, 1996**). Consequently, the water table is falling and the quality is deteriorating as a result of over abstraction, sea water intrusion and up-coning of deeper saline water in addition to seepage of pollutants from the surface (**World Bank, 1996**).

The current effective per capita use (water actually delivered to households and industries) of about 70 liters per day is expected to increase due to expected improved network efficiency, with this project by about 35 percent (**World Bank, 1996**). Developments and additional supplies are far from sufficient to cover unmet demand for municipal water, the improvements resulting from the project will progressively increase sector revenues and may allow exploration of more expensive, alternative water resources (**World Bank, 1996**).

4.3.2 Institutional structure:

After the Cairo Agreement in August 1994, water department which was under the Israeli Civil administration had been placed under the Ministry of Agriculture when it was established. But the responsibility for regulatory matters in the water sector was supposed to be transferred to the newly created Palestinian Water Authority (PWA). The PWA was established by Decree 90/1995 in April 1995. The present water and wastewater service responsibilities divided between 16 municipalities and were incompatible with efficient service delivery (**World Bank, 1996**).

4.3.3 Operational and financial constraints:

Before the MC, water sector in Gaza Strip face several constraints. Un-metered and illegal connections, weak tariff and cost recovery system and limited services in field wastewater collection, treatment and disposal.

- **Unaccounted for water:** Based on data given by LYSA, 1995, there were about 1000 km of transmission and distribution mains provide water service to about 75,000 house connections. Around 20,000 houses were un-metered and illegal connections. The volumes of produced and consumed water were not recorded with any accuracy due to blocked meters at part of the wells. Overall estimation indicated that about 50% of

water in municipal water networks was lost through leakage, illegal connections and inaccurate or lack of metering. Table 4.1 shows the monthly production and network efficiency for all municipalities in the year 1995 (LYSA, 1995).

Table 4.1: Water production and network efficiency (LYSA, 1995)

Municipality	Average production M ³ /month	Network Efficiency %
Beit Hanon	96000	Apptox 50%
Beit Lahia	145000	Apptox 50%
Jabalia	378000	37.6%
Gaza	1500000	55.8%
Nuseirat	83535	53.1%
Bureij	49678	52.5%
Maghazi	42750	52.3%
Zawaida	27346	44.9%
Deir El Balah	151500	Approx 50%
Khan Yunis	405000	No meter Readings
Bani Suheila	91100	43.3%
Abasan K	49541	53.6%
Abasan S	14500	51.8%
Khzaa	24000	53.1%
Rafah	393000	36.6%
Whole Gaza Strip	3538750	52%

- **Tariff and Cost recovery:** The 16 municipalities have 12 different tariff systems. Tariffs have mostly flat structure and do not encourage customers for water conservation. Many municipalities have large "social blocks" allowing water use of up to 20 or 30 cubic meters monthly without variation in price. Average tariff is between 0.30 US\$ and 0.40US\$ per cubic meter (World Bank, 1996). No accounting separation between different operational departments in the 16 municipalities was existed. The cost of water and waste water services cannot be clearly identified, as many financial accounts are shared between different departments. Accounts receivable were estimated at 32%, based on 1994 figures and estimates and overall financial deficit was estimated at 2%. However, maintenance expenditure was far below the level necessary to maintain adequately water and waste water facilities.

Further more, no provision was made for depreciation or capital cost recovery (**World Bank, 1996**).

- **Wastewater Collection, treatment and disposal:** Wastewater coverage was about 25 percent in the Gaza Strip and the rest of the population used septic tanks. The three treatment plants were operating in a very poor condition (Jabalia, Gaza City, and Rafah) and the effluents of treatment plants discharged to the sea without sea outfall (Gaza and Rafah) or in open lagoons, causing coastal and aquifer pollution (**World Bank, 1996**).
- **Water quality:** Over water abstraction from the shallow coastal aquifer causes tremendous decline of water quality due to sea water intrusion and up – coning of deeper brackish water. Salinity of most ground water exceeds by five times the WHO standards except for the north and south parts of the coastal aquifer. In addition, the microbiological contamination was registered in many areas due to very bad chlorination installations for system disinfection and the properties of chlorine were low and seems not adequate to protect the network from accident pollution (**LYSA, 1995**).

4.4 Objectives of the MC project

Private sector MC was designed to achieve the following key objectives:

- Improvement of quality, quantity and management of water and wastewater services in the Gaza Strip.
- Strengthening and restructuring the institutional framework for service delivery.
- Creating the operational, institutional and managerial conditions for priority rehabilitation, upgrading and extension of projects financed by other donors.

4.5 Management contract components

The Main management contract components are:

1. The operator (Lyonnaise des Eaux/ Khatib & Alami -LEKA): An international well known private company was selected to help and improve the capacity of water departments in municipalities and village councils and to get better service delivery in terms of quality and quantity. 15 US\$ million is the value of operating investment funds to enable the private operator to implement the improvement program.

2. Provision of technical assistance and developing the institutional capacity: The total cost for this activity is 1.2 US\$ million and will be distributed for: i) improve the capacity of PWA; ii) support the implementation of the project overall activities; and iii) finance the independent auditors who monitored the Operators' technical and financial performance.
3. Management Contract Fees: 11.8 million US\$ for the provision of the international Operator under four – year Management Contract. The base fee was 8.8 US\$ million, incentive fee was 3 US\$ million.
4. The original Trust Fund was extended for the first time from 31 December 2000 to the 31st December 2001. Then the supplemental Credit agreement was extended until December 31,2002. the Supplemental Credit of US\$ 6.0 million was necessary to finance the emergency needs and to maintain the service improvements achieved in the first four years of the contract due to the new unforeseen circumstances of 2nd Intefada.
5. The MC was designed to have well defined targets with assigned performance indicators for the level of improvement in each target (Appendix D). The incentive was set using a formula containing weighted scores for selected tasks. The amount incentive was calculated yearly as a percentage of the threshold value (750,000US\$) depending on the level of quantitative targets.
6. The operator will be paid an Incentive Fee based on the following formula:
Annual Incentive Payment = 750,000 US\$ x (3.5 – Composite Score)/2.4
7. PWA Project Management Unit (PMU) rule: It was in charge of supporting and monitoring the implementation of the whole components of the project and to facilitate the role of the operator. One of the important PMU tasks was to prepare for the next step, creation of the Coastal municipalities Water Utility (CMWU). The PMU is composed of the Project Manager, the water and/or wastewater engineer, accountant and secretary.
8. The Steering Committee (SC): Representing the major stakeholders in the water sector. It includes representatives from PWA, Ministry of Agriculture, Finance, Planning, Industry, Municipalities, Universities, and private sector. The main role of SC was the advice of the operator and PWA on the priority issues, endorsement of the work plan and procurement plan.

9. Technical Counterpart Team (TCT): This team was selected from the main key persons in water departments in the 16 municipalities. Their role was important to facilitate the role of the operator and lead the progress of project implementation.

4.6 Outcome and achievement of MC

The MC framework is considered - according to the World Bank (WB) completion report - an example of best practice within the Bank despite the difficult sociopolitical conditions (**World Bank, 2003**). Table 4.2 summarizes some key outputs of the MC project.

Table 4.2: Summary of some key outputs indicators and achievements of the MC project.

	Output indicator	Base year	End of the 4th year
1	Per capita use of water	70 l/c. d	100 l/c. d
2	Leak detection		
	• Number of service connection replaced		
	• Km of pipes surveyed	-	1050
	• Number of pipe repairs	-	1137
3	Meters repaired / replaced		
	• Meters repaired	-	20,000
	• Meters replaced	-	30,700
4	Overall system efficiency	52%	70%
5	Water Quality/ % of network disinfected	50%	100%
6	Illegal connections identified/converted to legal	-	8400
7	Level of Accounts receivable	32-40%	Reduced by 10%

The project achieved the key targets of water and sanitation services improvements in spite of the complicated political and economic circumstances. Here are the main outputs and achievements derived from the WB and PWA completion report (**World Bank, 2003**) of the project:

1. **Disinfection of water:** Close to 100 percent of the delivered water in the distribution networks was chlorinated which surely contributed to reducing health hazards associated with poor water quality.

2. **Improvement of wastewater services:** The operator had quick response to issues related to repair and rehabilitation of sewage treatment plants which kept a reasonable level of treatment and prevented an environmental degradation by effluent wastewater.
3. **Improvement of water quantities:** The overall hydraulic system efficiency (Total consumption from consumer's meters/ total production from bulk meters) increased from 53% at the start of Contract to 70% by the end of the fourth year of the contract (**Jme'an and Jamal, 2004**). This have been achieved through adopting water losses control procedures by means of:
 - ⇒ Leak detection and repair of water networks;
 - ⇒ Water meters repair and replacement;
 - ⇒ Illegal connections detections and convert to legal status.
4. **Technical assistance and institutional development:** The project provided technical assistance for the PWA during the drafting of the water law. The project also through the PMU prepared the legal and regulatory framework for the creation of CMWU. The CMWU will take over the service delivery responsibilities from all municipalities and village councils in all Gaza Governorates. During the course of the MC the operator organized and implemented training programs to strengthen the technical and managerial capacity of the TCT municipal team.

4.7 PSP in the Management contract

The management originally was awarded to a well known international firm (Leka) with a wide experience in water and sanitation management. Throughout the project, Leka on behalf of PWA conducted hundreds of contracts of different types of activities, procedures and different values. Procurement of goods, works and consultancy services are managed based on the World Bank procurement guidelines. Appendix C is a detailed table shows the number and value of each type of contract performed during the course of the project by national or international enterprises. Figure 4.1 shows the total number of different types of contracts performed by national and international companies in the project duration. Figure 4.2 presents total values of different types of contracts in \$US performed by national and international companies in the project duration.

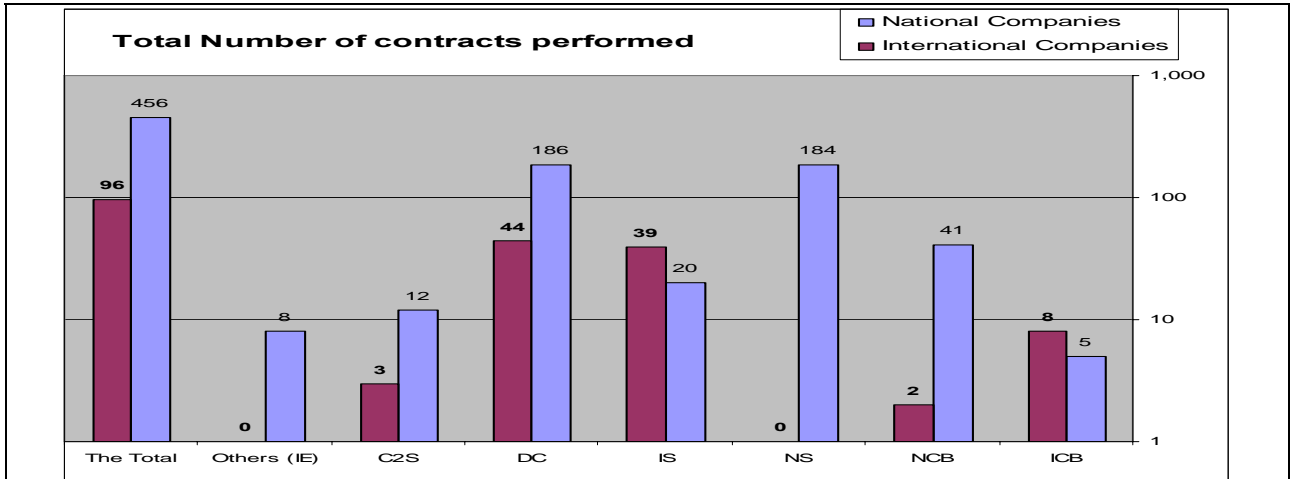


Figure 4.1: Number of different types of contracts performed by national and international companies in project duration.

<i>IE = Incremental Expenses</i>	<i>NS= National Shopping</i>
<i>CS= Consultancy Services</i>	<i>NCB= National competitive bid</i>
<i>DC= Direct contract</i>	<i>ICB= International competitive bid</i>
<i>IS= International Shopping</i>	

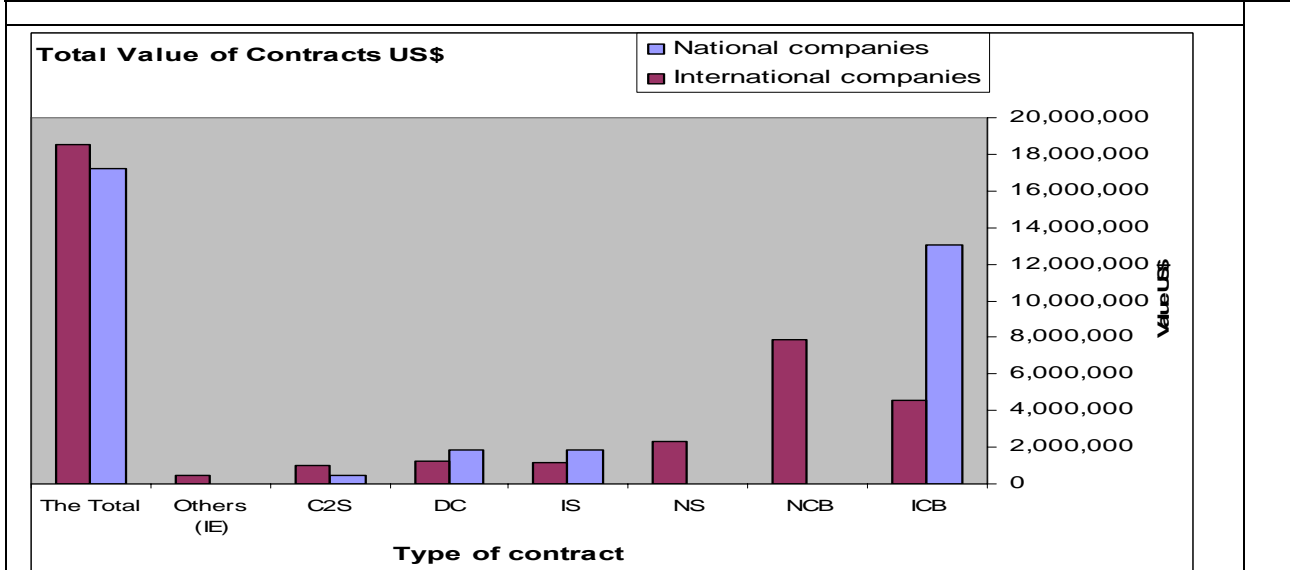


Figure 4.2: Values of contracts in \$US of different types of contracts performed by national and international companies in project duration.

<i>IE = Incremental Expenses</i>	<i>NS= National Shopping</i>
<i>CS= Consultancy Services</i>	<i>NCB= National competitive bid</i>
<i>DC= Direct contract</i>	<i>ICB= International competitive bid</i>
<i>IS= International Shopping</i>	

Chapter 5

Methodology

This chapter discusses the methodology adopted in this research. A novel approach to this research has been proposed and adopted. The instruments of the study are field survey using questionnaire and reviewing the data collected for the literature review, which explored the following aspects:

- The existing situation of water and sanitation services provided in the Gaza Strip. Level of service has been identified according to the main performance indicator adopted in the water industry e.g. overall hydraulic system efficiency, water and sanitation quality and coverage and collection efficiency. The existing regulatory and institutional framework of the water sector was explained thoroughly.
- Theoretical aspects of PSP were collected from the well known international practices and case studies. The more relevant issues which deemed to be applicable in our situation were presented in this study. Different models of PSP practiced in similar countries were discussed, identifying strength and weakness points. Data collection for the theoretical part of the study is based on relevant scientific literature.
- The Management Contract implemented between 1996 and 2001 by PWA and financed by the World Bank was selected as a comprehensive typical example for one of the PSP practices in the Gaza Strip. The Management Contract – Gaza I project was introduced here as an integral and practical application for private sector participation. Data collected for the MC is based mainly on the PWA project management unit reports, Leka (the operator) reports and the World Bank reports.

5.1 Study period

The study started on June 2005 after the approval of the thesis proposal. Data collection started immediately after the approval. Questions for the key players in the water section has been drafted on November 2005 and made available for the selected participants (target groups) on February 2006. Interviews have been conducted through two months March and April 2006. Data collection and review continued along with interviews results collection and entry, and then followed by data analysis and presenting results, discussion, conclusion and recommendations.

5.2 Field survey

The type of the study is quantitative cross-sectional study and it is selected due to its advantages like saving money and time, and it is used for evaluating studies (**Burns and Grove, 1997**). Cross-sectional studies are generally quick and economical and it's carried out in a population at certain point of time or over a short period. This method is selected also due to the various advantages of using questionnaire technique like wide coverage, facilitating analysis, saving resources, keeping confidentiality and limited researcher effect on the study (**Polit and Hungler, 1999**).

5.2.1 Interviews with key players

Interviews with key players and representatives of stakeholders of the water sector have been conducted. Questions of the interviews are being prepared carefully to cover relative aspects of the private sector participation and to serve the goals of the study. Questions took the form of questionnaire addressing predefined clear questions to facilitate the statistical analysis of answers.

5.2.2 Formulation of questions

Questions of the interviews were selected to support the subjects of the main objectives of the study. They were drafted and presented to the supervisor for review and recommendation. Then presented to a group of specialists for comments and advise. Final questions have been formulated taking into account all recommendations and notes such as grouping and arranging questions, adding some questions, omitting or merging others. Questions have been translated to Arabic because part of the interviewees is not familiar with the English language.

The questions included three parts each part mostly consists of quintuplet gradual questions. The first part raised general questions about the present situation of water and wastewater services currently provided. The second part consists of questions reflected the factors affecting the success or failure of PSP in the water sector. The third part includes the risk possibilities and consequences of PSP application. The English and translate Arabic version of the questionnaire is presented in **Appendix E**.

5.2.3 Interview population and sample size

The interviewees were selected to be representative of the main players and stakeholders of the water sector in the Gaza Strip and those having wide experience in the field. Answers of the interviewees were analyzed using the SPSS program and used to support the inductive approach of the study.

The sampling technique used in the field survey is the stratified sampling to make sure that all groups are represented in our sample. Advantages of this technique are:

- We can have more precise information inside the subpopulations about the variables we are studying.
- We can raise precision of the estimators of the variables of the whole population **(Barreiro.P and Albandoz.j, 2001)**.

The population of the target groups was estimated about 340 persons representing municipalities, related ministries, PWA, universities, donors, non-governmental organizations, locality committees and private sector. 67 of them were selected from different locations. Sample percentage as an average is 20% of the population size. It varies according to the target group population size from 12% for community representatives (the largest target group) to 25% for regulatory bodies. Table 5.1 describes the sample distribution for each target group.

5.2.4 Data coding, data entry and reliability analysis

Data was entered and analyzed using SPSS "Statistical Package for the Social Sciences" as follows:

- Questions were numerically coded to facilitate data entry and to avoid possible mistakes.
- Check and review the entered data
- Producing frequency tables for all variables
- Cross tabulation of part of results

Each group of the questions has been tested for reliability using Alpha scale. Questions number 4, 5, 10, 11, 15 and 28 have been recoded to reverse the direction of answers order. Reliability factor using Alpha scale ranges between 0.615 and 0.75 which is an acceptable value.

Table 5.1: Sample size and distribution for interviews participants

Target group	Target group break down	Population size	Sample size	Remarks
Regulatory bodies	PWA Ministry of Agriculture Environment quality Authority Legislative council	40	10	Deputy head of PWA - Head of department Head of Department Head of Department
Service providers	Municipalities CMWU	60	15	Managers of water & wastewater departments Project management unit
Private sector	Consultancy and contractors companies	60	14	Company manager and senior engineers
Community representatives	Localities committees	100	12	Head or members of committee
Civil society and non-governmental institutions	Universities Local non-governmental societies International institutions	50	10	Water and environment specialists WHO, UN, Save the Children, CHF , CARE , PHG
Financing and donation agencies		30	6	USAID ,World Bank, UNRWA, CANADA Aid, etc
	Grand Total	340	67	

5.3 Methodology chart

The methodology of the research can be simply presented by the flow chart indicated in figure 5.1.

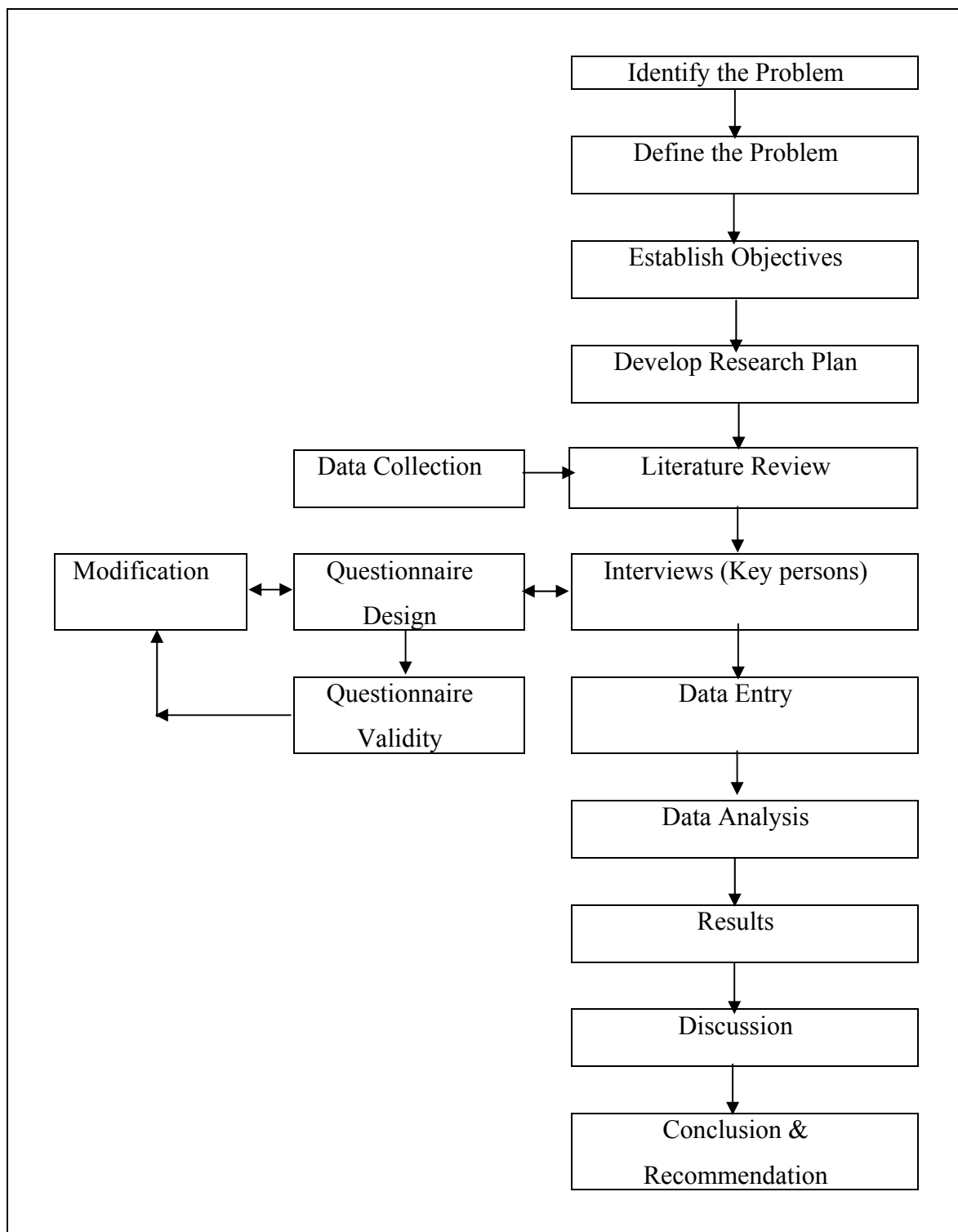


Figure 5.1: Flow chart of research methodology

Chapter (6)

Results of Field Survey

The results focus on analyzing the different aspects of the output of the field survey carried out with key players in water sector in the Gaza Strip. The results spotlight the response of interviewed group on existing water and wastewater services and need for improvements. In addition the results address the advantages and risks of PSP application in Gaza Strip.

6.1 Study sample

Figures 6.1, 6.2 and 6.3 illustrate the different aspects of the study sample of the study. The total number of interviews was 67 persons and includes six different target groups with close relation with water issues. Figure 6.1 shows the percentage of various participated groups. The target groups, regulator, serves providers, non-governmental institutions and privet sector were represented with a percentage of about 15% for each. The donors and community representative have the percentage of 7% and 5.12% respectively.

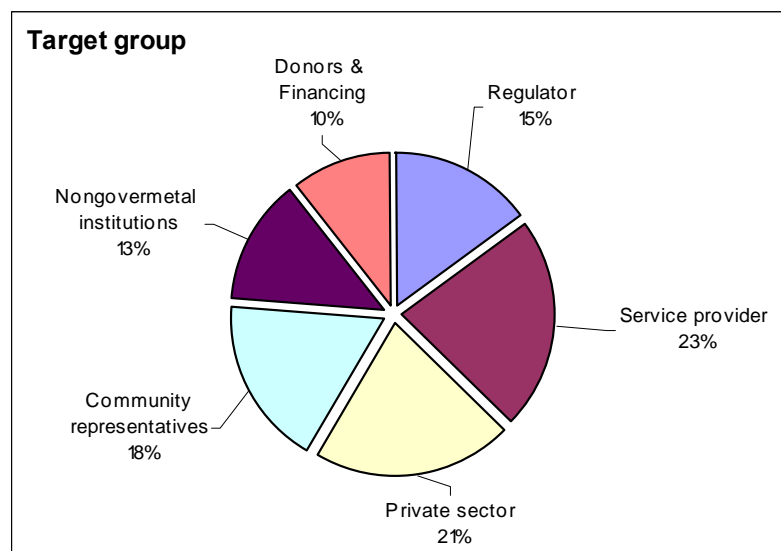


Figure 6.1: Distribution of study sample by target group

Figure 6.2 presents the specialization of the study sample. The results show that 65% of the target group were from water and environment area. The field social and commercial activities were 6% and 4% respectively.

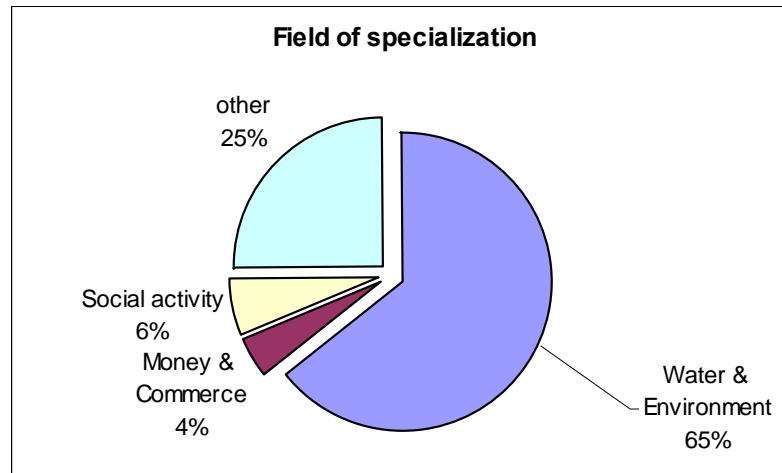


Figure 6.2: Distribution of study sample by field of specialization

The majority of interviewed persons were in the age category between 41 and 50 years with 75% as given in figure 5.3. The age categories above 50 years and less than 40 years are 6% and 19% respectively.

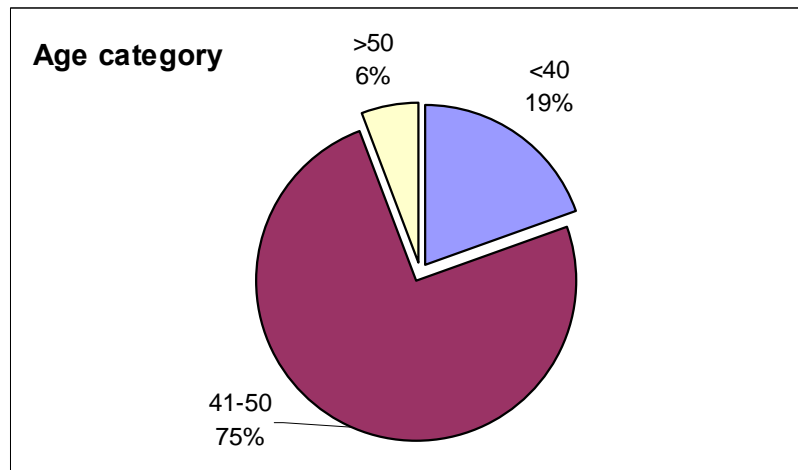


Figure 6.3: Distribution of study sample by age category

6.2 Level of water and wastewater service and the need for improvement

Figure 6.4 shows that 75% of the participants consider the level of service good or fair. While 25% consider the level of service is bad or very bad. In the same context figure 6.5 indicates that all respondents supported the need for service improvement..

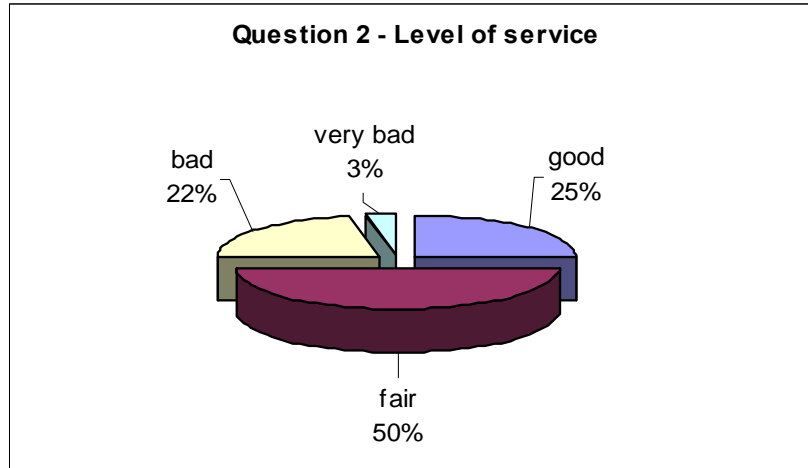


Figure 6.4: Response of participants concerning the level of water and wastewater service

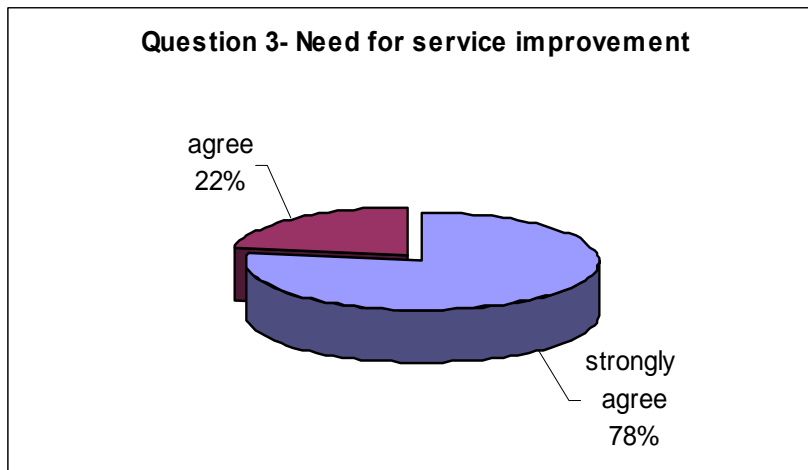


Figure 6.5: Response of participants concerning the need for service improvement

6.3 Factors of PSP success and main constraints

Figure 6.6 presents the effect of the existing political situation on the PSP. The present political situation, according to 57% of participants, is not suitable for the success of PSP. The figure shows also that 34% of the interviewees consider that existing political situation is suitable for PSP.

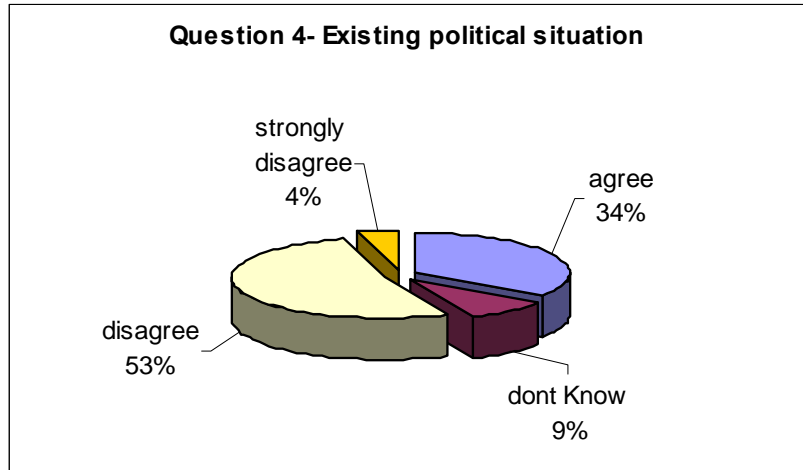


Figure 6.6: Suitability of existing political situation for PSP

Figure 6.7 shows that the majority of participants (68%) agreed that the existing regulatory framework is discouraging the private investment in water sector, while 18% of the interviewees consider the existing regulatory framework encouraging for PSP. The trend respond of interviewers indicated a necessity of reforms in water legislations. Figure 6.8 presents the response of the interviewees from the need for water legislation reform. 94% of participants highlighted the need of water legislation reform. Only 4% of the interviewees expressed their satisfaction with the existing water legislations.

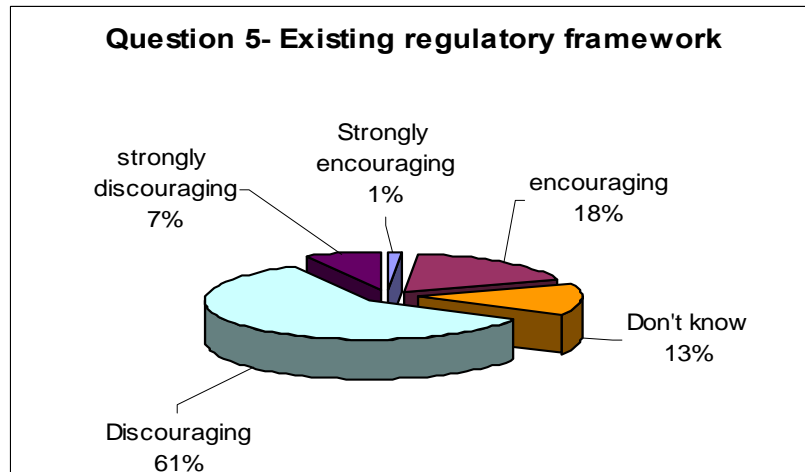


Figure 6.7: Response of participants related to the water legislation reform

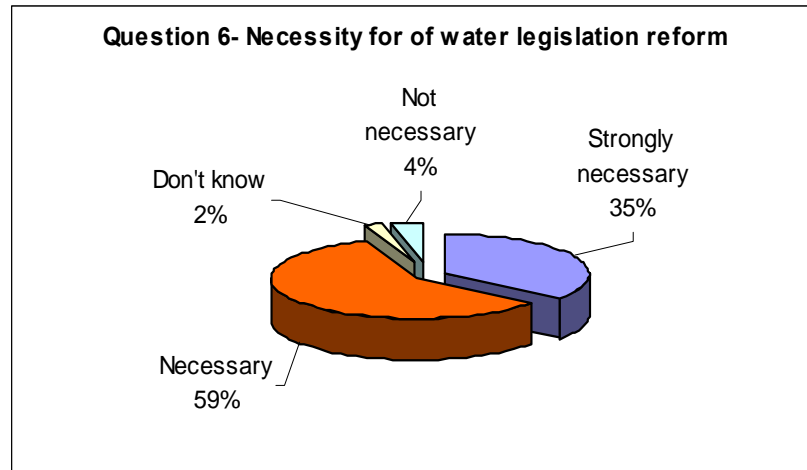


Figure 6.8: Response of participants related to the water legislation reform

Figure 6.9 presents the response of participants regarding the involvement of the public in PSP. The majority (85%) of the respondents see that the involvement of the public in PSP is necessary and only 14% of the respondent disagree.

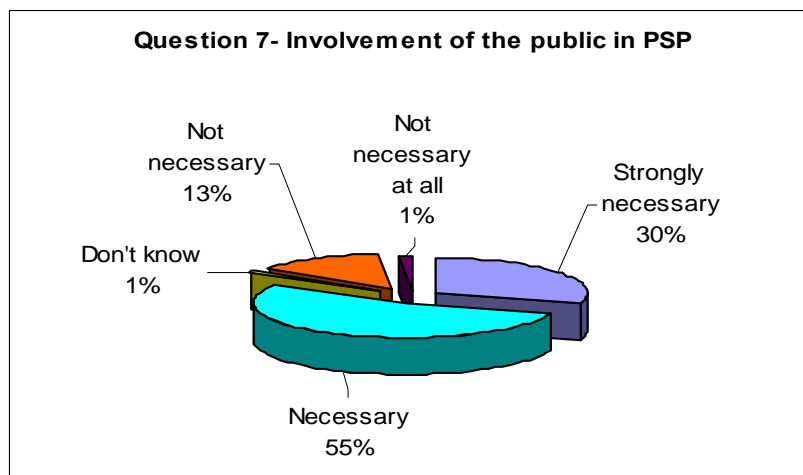


Figure 6.9: Response of participants related to involvement of the public in PSP

Figure 6.10 presents the response of participants regarding the involvement of international companies in the PSP. The majority of the interviewees (67%) agreed that international companies should be given the opportunity for participation in PSP. However, 26% of participants disagree with participation of international companies in PSP. Figure 6.11 illustrates the results of interviewees' response regarding the capacity of local companies to achieve successful PSP without international competition. 51% of participants supported the

international competition, while 37% of the respondents consider that successful PSP in the water sector can be achieved without international competition.

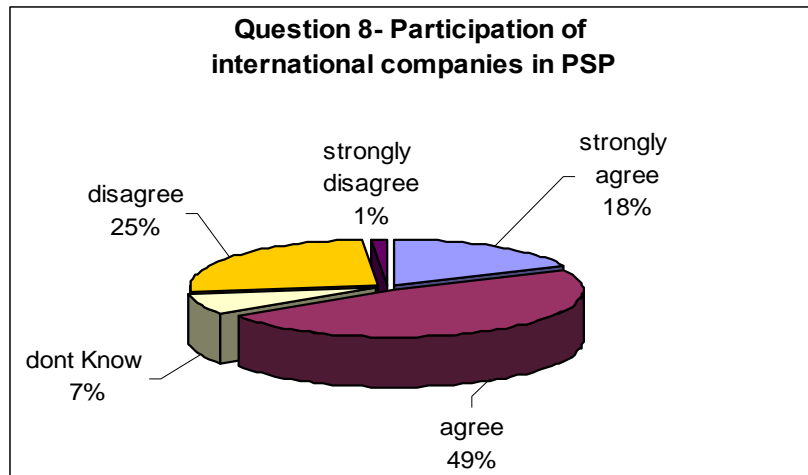


Figure 6.10: Response of participants related to international companies participation in PSP

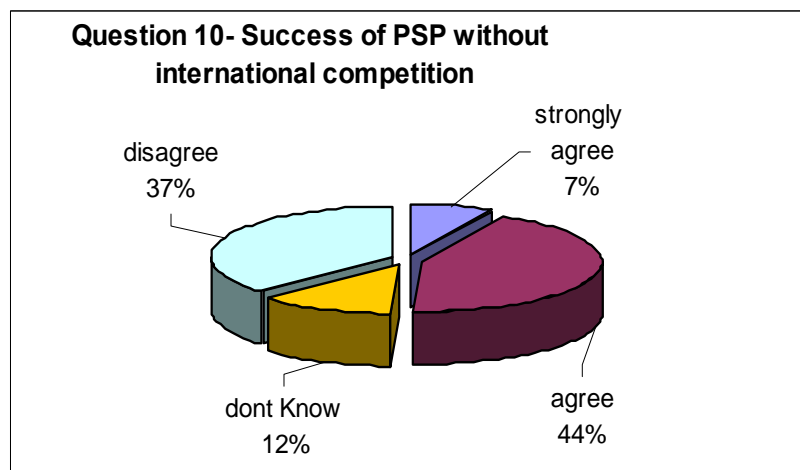


Figure 6.11: PSP success without international competition

Figure 6.12 presents the response of the interviewees regarding the need for PNA guarantees for PSP. The majority of the interviewees (93%) supported that PNA should give guarantees for private sector, only 3% of participants disagree. In the same context, all participants supported the necessity of laws enforcement in order to encourage the private sector (figure 6.13).

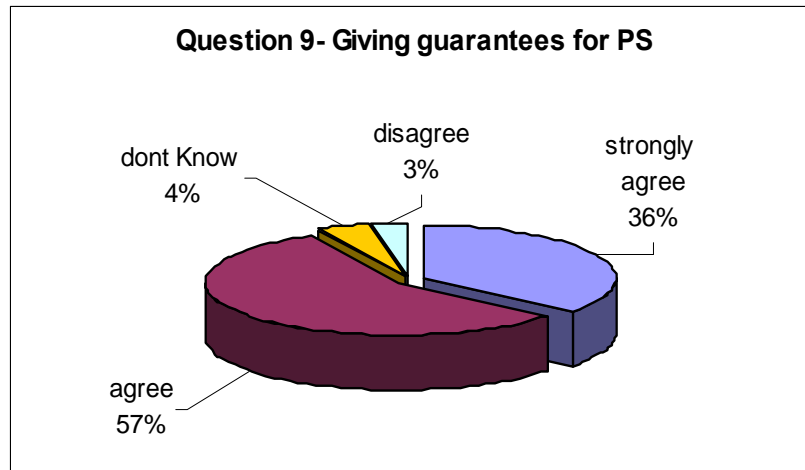


Figure 6.12: Response of participants related to guarantees given to private sector by PNA

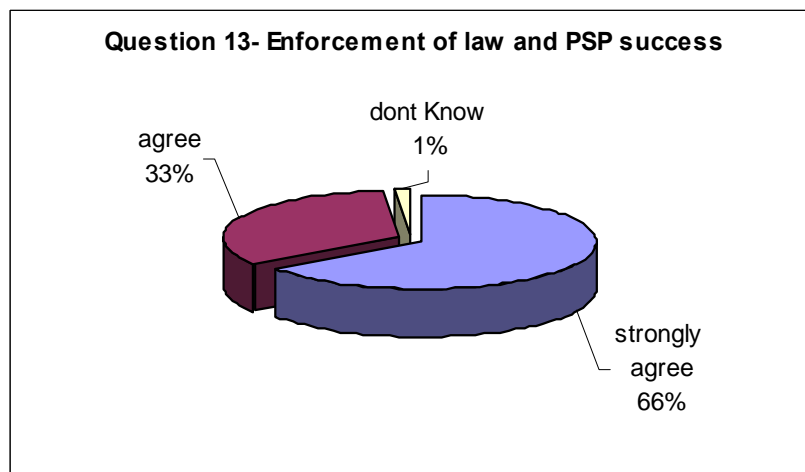


Figure 6.13: The role of laws enforcement in PSP success

Figure 6.14 presents the response of the interviewees regarding role of the regulatory authority in the balance between the main stakeholders in the water sector. Approximately all the respondents agreed that the regulatory authority plays a key role in the balance between government, private companies and the consumers.

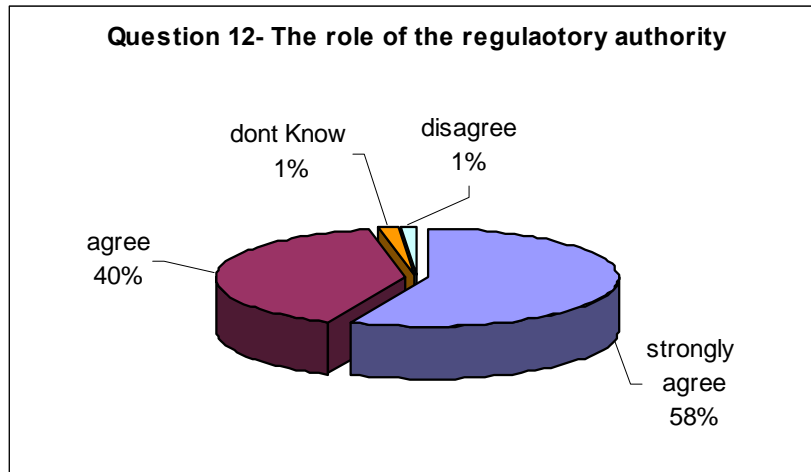


Figure 6.14: The role of the RA in the balance between main stakeholder in water sector

6.4 Advantages and disadvantages of PSP

Figure 6.15 represents the response of participants regarding the capacity of public sector to carryout water service improvements. 69% of the interviewees believe that public sector alone can not achieve the required improvements in the water sector. However, 31% of the interviewees believe in the capacity of public sector to carry out alone the required improvements in the water sector.

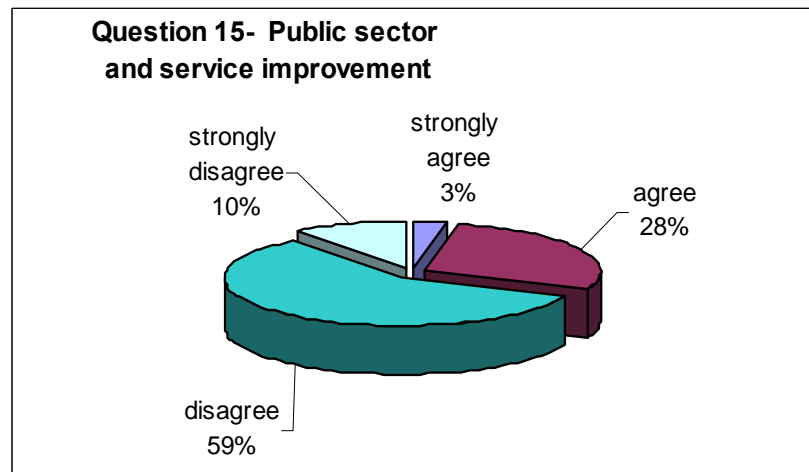


Figure 6.15: Response of participants related to public sector and service improvement

Figure 6.16 illustrates the response of the interviewees with regard to private sector capability to provide equal or better service than the public sector. The majority of participants (79%) agreed that PS can provide equal or better water service than public sector, while only 12% disagree.

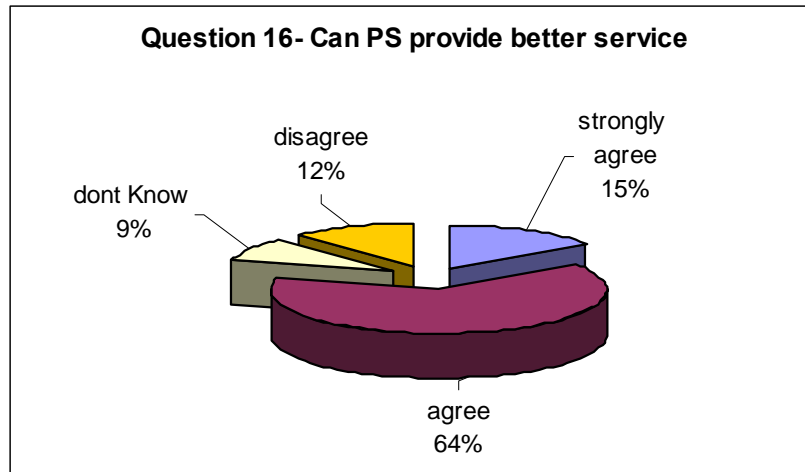


Figure 6.16: Capacity of privet sector (PS) to give better service

Figure 6.17 presents the response of the participants regarding the ability of PS to provide better service at reduced cost. The majority of participants (79%) supported the idea that PS can not provide equal or better service reduced water service prices. 35% of the participants see that PS can provide better service at reduced cost. 12% of the participants have no answer.

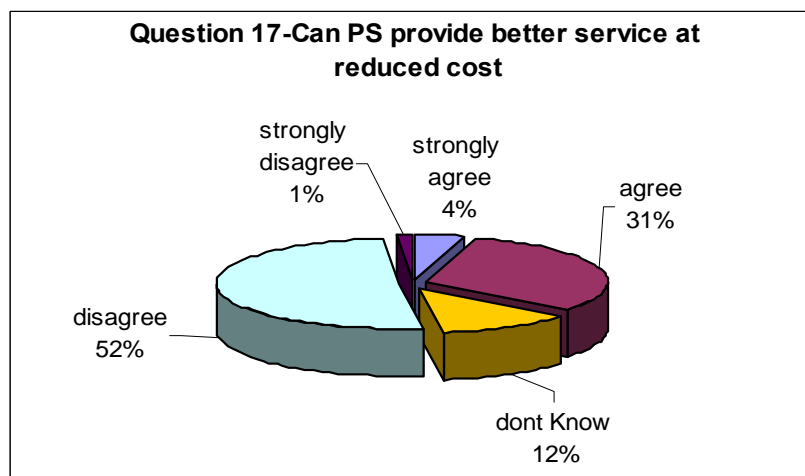


Figure 6.17: Capacity of PS to give better service at reduced cost

Figure 6.18 shows the response of the interviewees with regard to role of PSP to attract more investments in the water sector. The majority of participants (93%) agreed that PSP will lead to more investments in the water sector and only 4% disagree. Figure 6.19 shows the response of the interviewees with regard to the role of PSP to increase the donations in the water sector. 71% of the participants think that PSP involvement will

encourage the donors to increase their contribution in water sector, while 16% of the participants disagree. 13% of the participants have no answer.

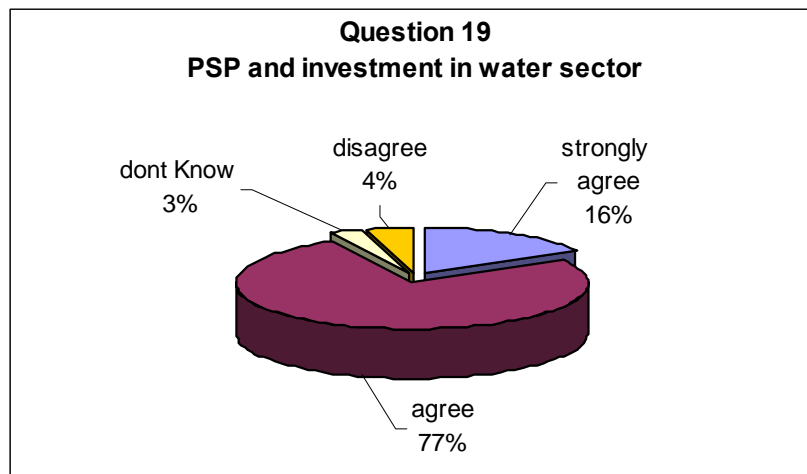


Figure 6.18: PSP and investments in water sector

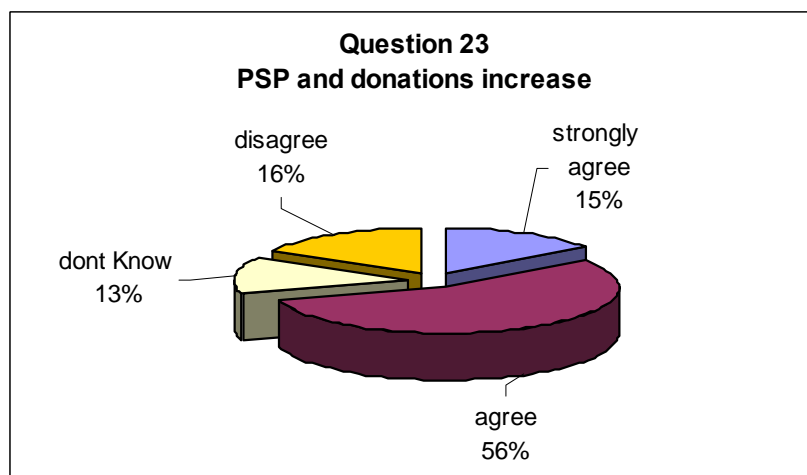


Figure 6.19: PSP and donors contribution in water sector

Figure 6.20 presents the response of the interviewees regarding PSP contribution to remedy of the environmental bad impacts of water and wastewater operations. 74% of participants agreed that PSP will contribute to the remedy of the environmental bad impacts of water and wastewater operations. Only 12% of participants disagree and 13% did not give an answer.

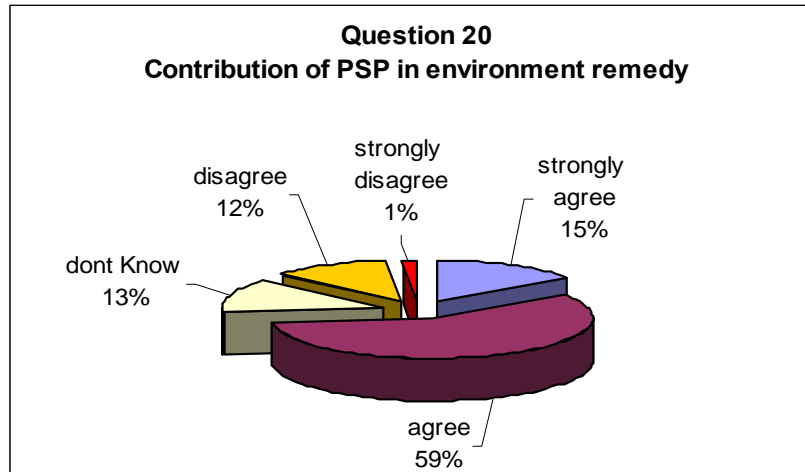


Figure 6.20: Contribution of PSP in environmental impact remedy

Figure 6.21 presents the response of the interviewees regarding the role of PSP in enhancing the participation of community with the service providers. 79% of participants agreed that PSP will enhance the community participation with the service providers. Only 6% of participants disagree and 15% did not give an answer.

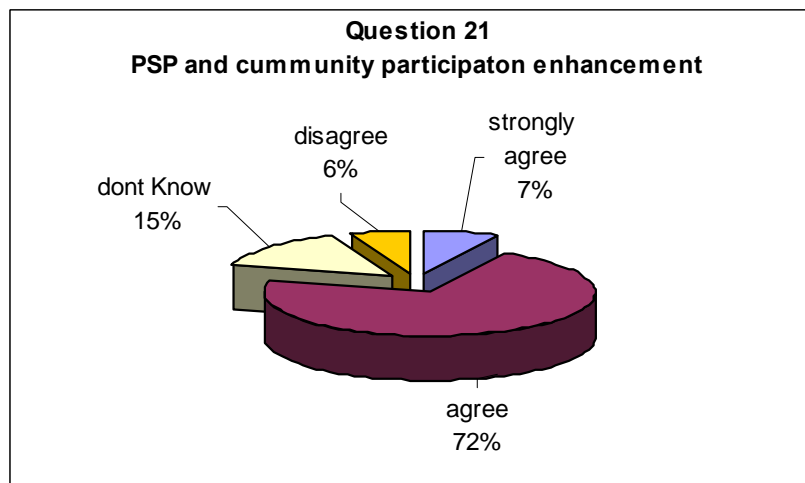


Figure 6.21: PSP and enhancing the participation of community with the service providers

Figure 6.22 represents the response of the interviewees with regard to achievement of national water policy by PSP. The majority of participants (81%) agreed that PSP will enhance the national water policy, while 12% disagree and 7% did not give an answer.

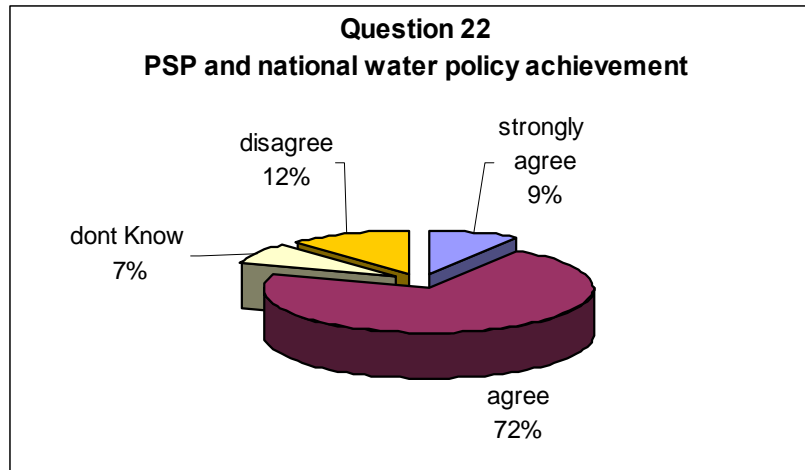


Figure 6.22: PSP and national water policy enhancement

Figure 6.23 shows the response of participants regarding the expectation that PSP will lead to full privatization of the water sector. Only 48% of participants agreed that PSP may lead to full privatization. 37% of the interviewees do not expect from PSP full privatization of the sector. 15% of participants have no expectation.

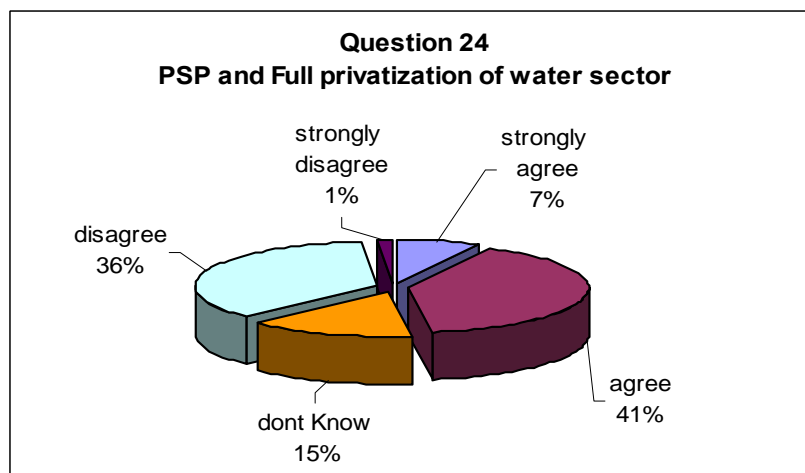


Figure 6.23: PSP and full privatization of water sector

6.5 Risks of PSP application

Figure 6.24 presents the response of participants regarding the risk occurrence with PSP. 74% of the participants agreed that risk is stipulated. 26% do not expect any risk with PSP. In the same context, figure 6.25 shows that 70% of interviewees who addressed their support of risk existence with PSP identified that the risk will be greater on poor consumers;

18% of them see that the risk will be greater on municipalities, 6% on the regulatory body, and 6% on the large consumers respectively.

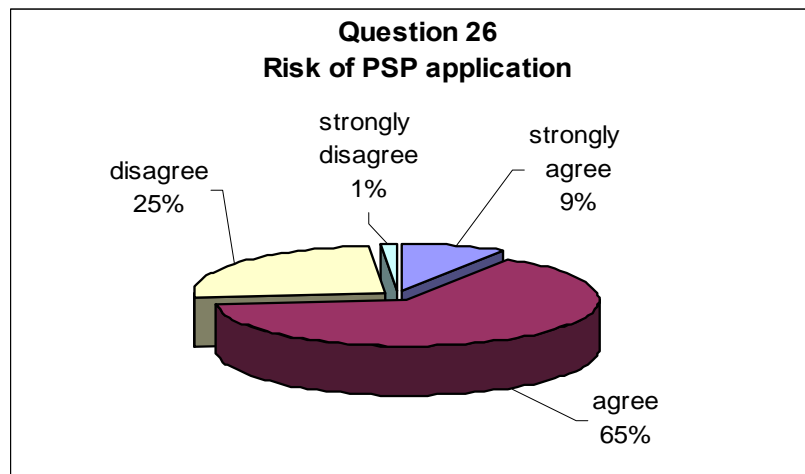


Figure 6.24: Risk occurrence with PSP application

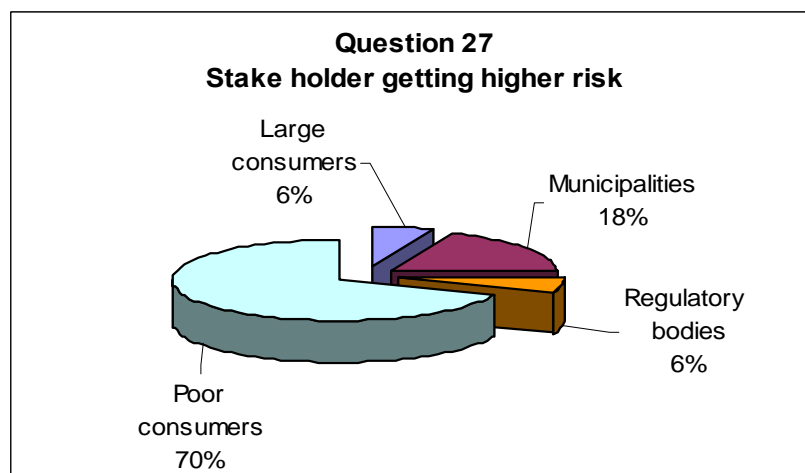


Figure 6.25: Stakeholder getting higher risk of PSP

Figure 6.26 illustrates the response of the interviewees with regard to PSP capability of adaptation with the unstable political and economic situation. 56% of participants believe that private sector can not adapt with the existing economic and political instable situation while 28% of the interviewees agreed. 16% of participants did not give an answer.

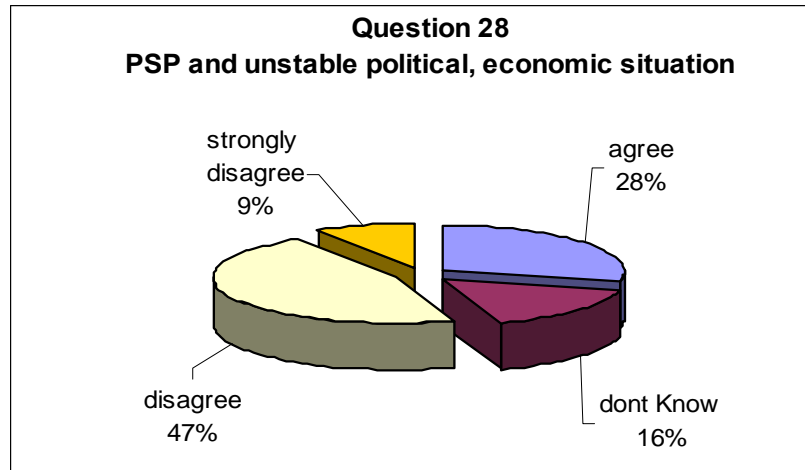


Figure 6.26: Private sector adaptation with unstable situation

Figure 6.27 represents the response of participants with regard to possible tariff increase due to PSP. The majority of participants (80%) believe that PSP will lead to tariff increase of water services and 16% see that PSP will not lead to tariff increase.

In the same context figure 6.28 presents the response of the interviewees regarding the rule of PNA to protect the consumers from water prices increase. 94% of the participants agree that the PNA should impose necessary regulations to protect the consumers from unaffordable prices. Only 6% disagree.

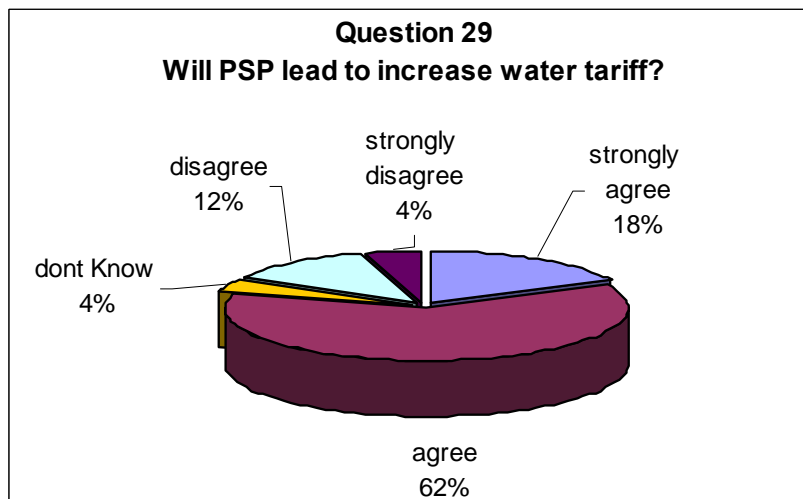


Figure 6.27: Water tariff increase and PSP

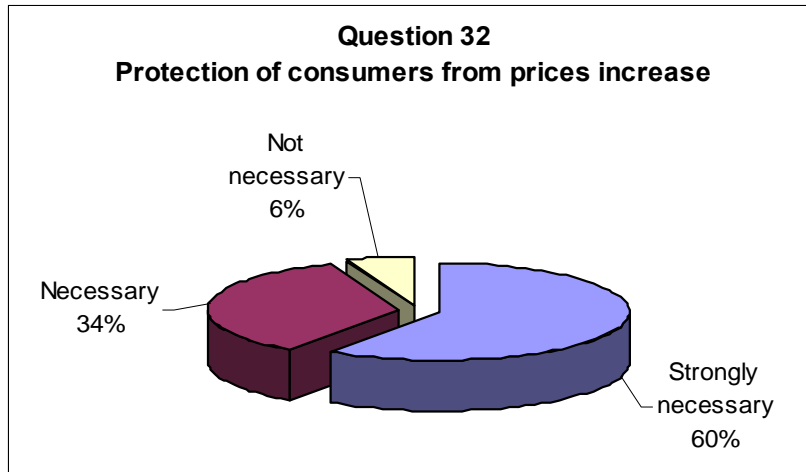


Figure 6.28: Protection of consumers by PNA from prices increase

Figure 6.29 shows the response of participants regarding potential conflict resulting between PS and consumers from PSP application. 66% of participants believe that conflict is expected between private sector and consumers. 30% of the participants deny conflict occurrence between PS and consumers.

Figure 6.30 shows the response of participants regarding the main responsible authority for solving the aforementioned conflict. 49% of the interviewees consider PWA as the main reference in solving this conflict. However 36% believe that the service provider is the responsible authority; 11% the courts and 4% the local government respectively.

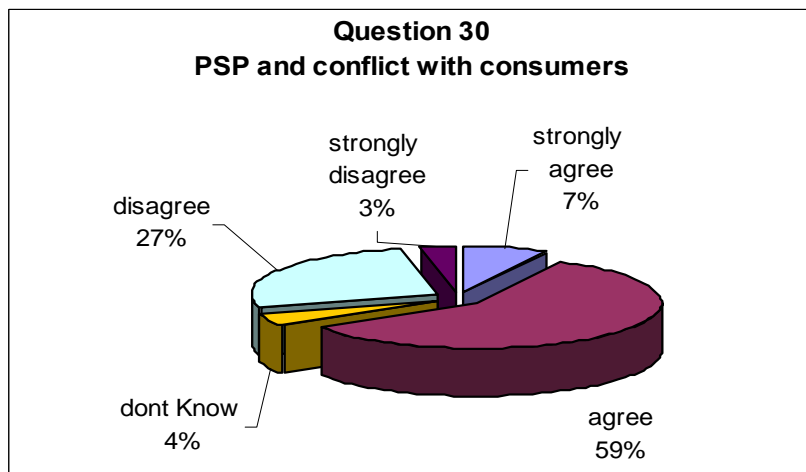


Figure 6.29: Conflict occurrence between PS and consumers

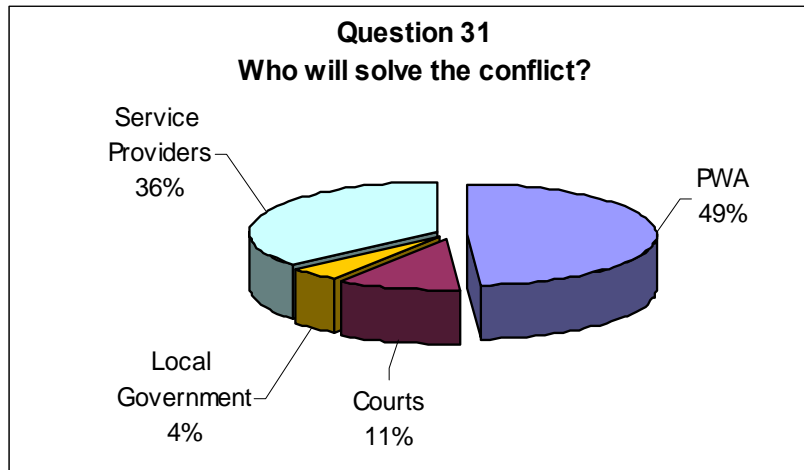


Figure 6.30: Main responsible authority for solving the conflict

Figure 6.31 represents the response of participants with regard to the importance of public opinion during the formulation of PSP. 96% of the participants supported the importance of the public opinion during the formulation of PSP policy.

Figure 6.32 represents the response of participants with regard to the importance of consumers' representation in the regulatory authority. 91% of the interviewees supported the consumers' representation in the regulatory authority in order to give the public more confidence that their interests are protected with PSP implementation. 9% of the participants refused consumers' representation in the regulatory authority.

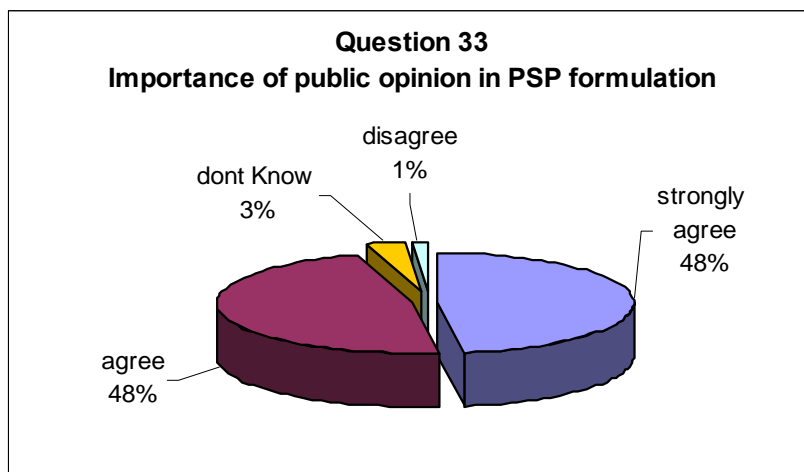


Figure 6.31: Importance of public opinion in PSP formulation

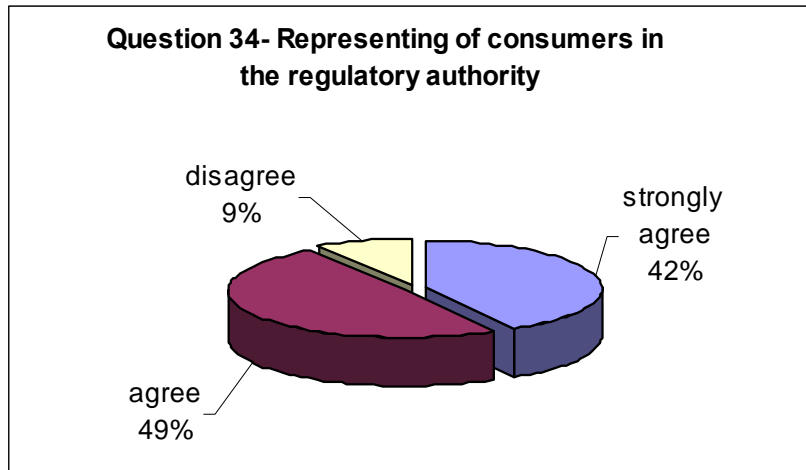


Figure 6.32: Importance of consumers' representation in the regulatory authority

6.5 Selection of the most convenient contract types with PSP

Figure 6.33 presents the point of view of participants regarding the selection of the most convenient contract type with PSP. 47% of the participants selected the Management Contract while the Service, Concession, Lease and BOT contracts got the percentage of 9%, 16%, 10% and 15% respectively as shown in the figure.

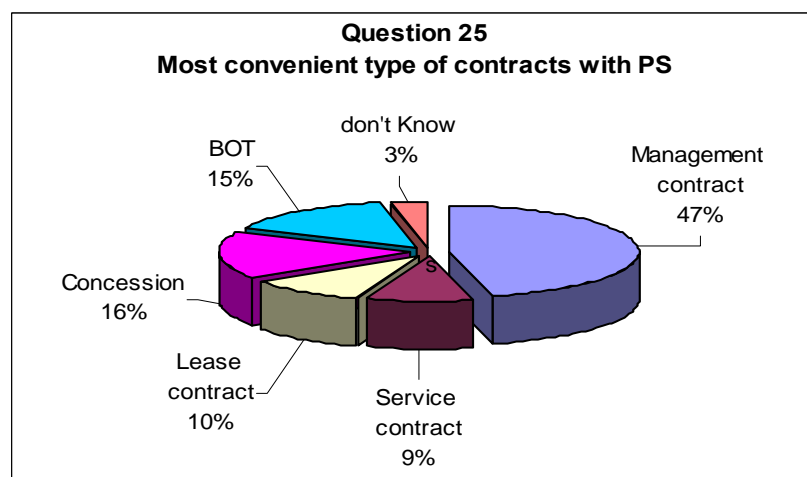


Figure 6.33: Selection of the most convenient type of contracts with private sector

Chapter (7)

Discussion

This chapter discusses the main findings issued in the study which have been presented in the previous chapters particularly, Gaza I Management Contract and the response of the interviews related to the key elements of the study.

7.1 PSP and key factor of success:

It was explained in the literature that the main motives for PSP is to attract new resources of finance to the water and sanitation infrastructure and to utilize the expertise and efficient management possessed by the private sector (**World Bank, 1997**). In the Gaza Strip and due the deterioration of the economic situation and lack of security, the private sector refrained from investment in the water sector. Consequently, the first major benefit from PSP has been lost. However, some donations can secure the source of finance in Gaza Strip and the private sector rule remains very important for many other reasons:

- Derive benefit from technical expertise and aptitude to efficiently manage water operations.
- Transfer of knowledge and experience to the public utilities employees.
- Improving the institutional capacity of the public utility and motivate the process of water sector institutional reform.
- Private sector involvement in the interface with consumers will change their passive attitude towards the public sector to more responsive and to get more responsible use of water.

The positive trend of water service improvement of Gaza I project, readiness of willing to pay, improve the regulatory body and enforcement of laws in addition to encouragement of community participation are the main success factors.

7.1.1 Positive trend of Gaza I project:

The Management Contract (Gaza I project) which is considered an important exercise for PSP proved that touchable improvements in the water sector efficiency have been achieved (**Jme'an and Al Jamal, 2004**). The field survey shows that all the respondents are willing for water service improvement in spite of the result that 75% consider that the service

is good or fair. 69% of respondents disagree that public sector can carry out improvement projects alone. This means according to most of the participants that the private sector participation is likely leads to service improvement.

Results of the field survey show that 77% of the participants support the idea that successful PSP may lead to attract more investments to water sector. This result presumes the existence of adequate economic and political environment for PSP success. In this context, a question can be raised “why we are committed to pave the way and prepare the suitable circumstances for the private sector success while we do almost nothing to reform the public utility? Actually, this is a very reasonable question but in our case, efforts undertaken by the Palestinian Authority for water sector institutional reform contributed to minor and slow progress. This can referred to many political, socioeconomic and cultural constraints.

7.1.2 Willingness to pay readiness:

As mentioned in the literature review, the policy of PWA in the tariff structure formulation is at least to cover the operation cost (**PWA, 2003**). Taking into consideration the service improvement plans, water prices is likely to increase accordingly. The results of the questionnaire shows that all participants are either strongly agree or agree that there is a need for service improvement. It was noticed in the field survey results that 53% of the respondents expected water prices increase with PSP in order to improve the service. But according to **Al-Ghuraiz, 2002**, investigation about the customer willingness to pay, 82.8.% of the respondents were willing to pay for improvement of water service and the mean amount for willingness to pay was 3.06 NIS for each cubic meter of improved water. It is worth mentioning that the willingness to pay for the improved water service should be explored for the time being after the new socioeconomic situation established after the second Palestinian Intifada.

7.1.3 Positive trend of community participation:

In order to have sustainable water services, the community, the consumers should be aware of the value of the service. Every body has to be convinced that water is a good having value and cost like any other good. This cost has to be recovered in order to continue and sustain at the same level of service. Referring to the field survey results, 85% of the respondents agreed with the necessity to involve the public in the PSP process and 96% supported the importance of the public opinion during the formulation of PSP policy. On the

other hand, 91% of the participants agreed that the consumers should be represented in the regulatory authority to give the public more confidence that their interests are protected. 79% of the respondents agreed that PSP will enhance the community participation with the service providers. These results support the importance of community participation in the PSP to be considered in the PSP formulation.

7.1.4 The role of the regulatory body and enforcement of laws:

The results of field survey emphasized the role of the regulatory authority to keep the balance between the main stakeholders in the water sector. Based on deep analysis of the existing regulatory frame work and related laws is required to review and make necessary changes of laws and regulation that might affect private sector participation in the sector. Also to make sure that the regulatory frame work provides support for the PS so that it will take on the commercial risk. The enforcement of PWA role as main regulator for water utilities and service providers is urgently needed.

Referring to Gaza I project data, the institutional capacity program is still in the first phase “setting the legal framework”. The second phase of the project was intended to be implemented very soon (**PWA, 2004b**). Gaza II project aims at activating the legal framework of the PWA but this task is still not activated. The results of field survey demonstrate that 68% of the interviewees see that the existing regulatory framework is discouraging the private investment in water sector. Consequently 94% of participants highlighted the need of water legislation reform. It was logic that only 60% of the regulatory bodies target group highlighted the need of water legislation reform because they are exactly aware of the existing water legislations.

I think that only few people are aware of the PWA regulations stated in the regulatory framework published by the Institutional Capacity Building Program by the end of 2004. Despite the proposed regulations are integrated and will prepared most of the interviewees highlighted the need of water legislation reform because they did not see these regulations in practice. Any how, most of the interviewees in the field survey agreed with the importance of the regulatory authority to achieve the balance between the main stakeholders in the water sector.

The need for encouraging local and international enterprises to invest and to raise the level of participation in the water sector is highly required. However, the existing political situation is a disappointing reason. This fact reflected in the results of the interviews; 99% of

the respondents supported the need for laws enforcement and 93% agreed that the PA – in the existing political and economical situation- should give guarantees for the private sector.

7.2 Main obstacles and constraints hindering the progress of PSP in the Gaza Strip

The progress of private sector participation in the water sector anticipated to face many obstacles and constraints connected with the special situation of the Gaza Strip. Public, private sector and donors are the main constraints. The following paragraphs are summarizing these constraints.

7.2.1 Public sector constraints:

The public sector, which is fully responsible for the water service provision, is legally under the control of the local authority and government (**PA, 1997**). The Palestinian Authority in order to give confidence to private sector should have the governmental commitment to create the appropriate environment for the private sector. For the time being, this environment does not exist.

Fragmentation of responsibilities, miss coordination between concerned parties, public service provider, the regulating body and the governmental authorities are indications of public sector constraints. Sometimes, private sector becomes confused between different public entities to resolve certain disputes and problems (**Sorani, 2005**) and (**Abu Daya, 2004**).

A third constraint connected with public sector refer to the fact that the sector could not finance his share in some projects e.g. lack of finance for specific parts of PSP contract e.g. preparation process, auditing cost, and supervision staff. In addition and due to unstable political circumstances in Gaza, frequent and unexpected changes in high-level positions, makes it difficult for the private sector to cope with potential variations in the policy and procedure related to the water sector.

7.2.2 Private sector constraints

Private sector first concern is to achieve profit. So it is most likely to have some constraints related to this context. The absences of cultural dimension from the technical expertise may hinder the progress of PSP projects when dealing with problems having social and cultural dimensions (**Burgger, 2003**).

Furthermore, private sector sometimes don't give enough attention and concern to the common local problems which have a strong impact on the response of the consumers with regard to projects activities. In particular cases, lack of competition will result in weakly structured contract where the public sector and consumers interests are not secured. Based on the field survey results, 56% of participants in the survey believe that private sector can not adapt with the existing economic and political unstable situation. Only 28% of the interviewees agreed.

7.2.3 Donors constraints

71% of the interviewees believe that PSP will encourage the donors to increase their donations in water sector which is a positive point for PSP. But in many cases the donors impose certain condition for the donation in Palestine. Some donors prefer to support certain municipalities over the others for political reasons. Sometimes the donor makes the contribution of the recipient as a condition for the donation and in certain cases, donors refused to finance the design stage of the project.

Donors in most cases define the time frame of the project completion very tightly. Time restriction may lead to project failure in the prevailing situation in Gaza due to long and frequent closures. Donors occasionally identify the field frame work of donation which may not be a priority for the local water utility (**MOP, 2004**).

Procedure of donation which is driven by the donor may restrain the PSP process e.g. the process of producing the Zero value added tax (VAT) invoices and long period for tax reimbursement by contractors. Another example was encountered in Gaza II project where the threshold of direct contract (DC) do not exceed 10,000\$US (**World Bank, 2005b**). This restriction resulted in complicating the procedures of managing emergency contract having a cost more than the DC threshold.

7.2.4 General constraints

In addition to the public, private and donors constraints the following general constraints could be hindering the progress of PSP in the Gaza Strip:

- Lack of public awareness among the public and local society. The public is not aware enough of water crisis and problems and the responsibility of all water sector stakeholders.
- Lack of organized and systematic communication and coordination among stakeholders.

- Conflict of interests and lack of consensus between stakeholders in the water sector.
- Political and economic instability, frequent changes in the top positions and absence of strong leadership in the decision making institutions. According to field survey 57% of participants stated that the present political situation is not suitable for PSP success.
- Lack of security, disorder actions and absence of laws enforcement.
- Cultural problems (Illegal connections, delay or refusal of bills payment, miss cooperation during the implementation of projects, and absence of cultural compatibility between public and private sectors)
- Fragmentation and miss coordination between civil society institutions regarding need assessment and priorities of water and wastewater projects.

7.3 Forms of PSP choices and associated risk

After the creation of Palestinian Water Authority (PWA) in April, 1995 which had become responsible for setting up overall water policies and regulating the sector, it was concluded after long discussion with the World Bank that private sector should be involved to achieve rapid improvement in the water supply and sanitation services (**World Bank, 2003**). In the following paragraph is the description of the most appropriate PSP contracts experienced in the Gaza Strip with associated risks.

7.3.1 The Management Contract:

The management contract form of PSP was selected because the new Palestinian Authority and the private sector are likely face major risks with long term contracts (lease or concession contracts). Designed Management Contract was considered appropriate for the PA to get benefit from the private sector without committing to a long term relationship and it was responding to all rehabilitation process and required improvement in terms of quantity and quality of water and wastewater services. In Management Contracts the potential risk in our area of study can be analyzed as follows:

- **Financial risk:** The financial risk is greater on the PA. In the Gaza Strip, the authority is receiving the required finance from international, multilateral and non-governmental organizations, received either as soft loans or grants but mostly as grants. The private sectors do not carry any financial risk and in order to ensure the good performance the private sector is given certain amount of incentive against quantitative targeted performance indicators (**World Bank, 1997**)

- **Risk of possible increases in water service prices:** In the Gaza Strip and up to this date the tariff of water and wastewater is drawn up by the municipalities without any control from the PWA which is on paper responsible for setting up and approve the water tariffs (**PWA, 2003**). In the water tariff guide lines, PWA shall allow for increases in water tariff to cover operation and maintenance cost only at affordable margins. However, the private sector in the MC is not obliged to raise water prices in order to increase the financial performance of the public utility. Based on results of the field survey, 53% of the key players participated in the interviews expected the increase in water prices with more private sector involvement. 94% of the interviewees see that the PNA should impose the necessary regulations to protect the consumers from unaffordable water prices.
- **Absence of strong regulatory framework:** Short term MC allows the Authorities to create a proper regulatory framework and enforce the related laws; adjust tariffs and subsidies. In addition, short term MC prepares an environment that creates proper conditions for private sector participation and risk taking.

Reference to the interviews results regarding the most convenient type of contracts to be managed with private sector, 47% of interviews respondents selected the Management Contract. Break down for each target about the MC was 40%, 53%, 36%, 42%, 56%, and 57% of regulators, service providers, private sector, community representatives, NGOs and Donors respectively. Response for other types of contracts 9%,10%,16% and 15% for service contracts, lease, concession and BOT contracts respectively. The preference of interviews respondents for MC over other forms of PSP may be justified that through MC water sector can get maximum benefits against minimum risks for the public and private sectors.

7.3.2 Service contracts

Service contracts are the simplest to manage and have the lowest level of risk on both the private sector and the public utility. However, private sector through service contracts loads great burden from the water public utility.

The major private sector involvement in water and wastewater services is through service contracts. The MC in Gaza I project comprised more than **552** service contracts of works, 233 service contracts for goods supply and 26 consultancy services including national and international enterprises and companies.(see appendix C). Results of interviews with key players in the water sector showed that only 9% prefer the service contracts.

7.3.3 Other forms of PSP models

Because of the current situation in the Gaza Strip which demonstrate unstable political environment, deterioration of the socio-economic situation and lack of security, neither national nor international company is interested to enter in along term contracts. Lease and concession contracts are a long term contracts and need a very stable situation in addition to a strong organized regulatory body and enforcement of laws. In such situation any long term contracts shall carry major financial risks on the authority as a result of force majeure conditions.

BOT and BOOT forms of private sector participation are also long term contracts but the risk is greater on the private sector. So the private sector will ask for strong guarantees from the authority. Results of interviews with key players in the water sector showed that only 10% prefer the lease contracts, 16% selected concessions and 15% chose BOT contracts.

In General all forms of PSP will have certain margin of risk. The field survey indicated that the majority (74%) of respondents agreed with potential occurrence of risk during PSP application and 70% of respondents see that the risk will be greater on the consumers. In the same context the field survey showed that 63% of the respondents agreed that potential conflict between private sector and consumers is anticipated and the main responsible authority in solving this the aforementioned conflict is PWA (49%), service provider 36%, the courts 11% and the local government (4%) of the respondents respectively.

7.3.4 International companies and PSP

The Management Contract (Gaza I project) literature pointed out significant participation of the international companies through several service contracts including supply of goods and consultancy services. The participation of the international companies highlights two points: first; the free competitive nature of the issued tenders; second; the national companies could not compete in certain technical aspects of the project apparently as a result of lack of experience in these fields. Appendix (C) shows that the international companies contributed by about 48% of the total expenditure of the project – including the fees of the Management Contract itself (10.52M \$US).

According to the field survey results, 67% of the interviewees agreed that the international companies should participate in the PSP in the Gaza Strip. Only 51% of the respondents believe that the national companies can achieve successful PSP without

international competition; 12% of the respondents are hesitating. I think that most of the interviewees – as a national preference – wishes from national companies to have the prevailing share in the PSP in the Gaza Strip.

7.4 Gaza I project: Management Contract for service improvement project:

The Management Contract according to both World Bank and PMU has achieved most of the targets defined in the performance indicators (Appendix C) as shown in table 4.2. But some problems and obstacles have been faced during the MC implementation particularly in the first year of project extension.

- According to World Bank project assessment, the situation established after the start of the second Intifada in September 2000, and the subsequent restrictions, closures and unemployment resulted in sharp decline in family income. Consequently, the ability of consumers to pay for water bills reduced and adversely affected the finance of the water sector (**World Bank, 2003**).
- The overall economic decline in the years of the second Intifada made it difficult for the water authorities to maintain the level of revenue collections, which decreased from 78% in the year 2000 to about 50% in the following three years in spite of frequent discount on the accounts receivables (**PWA, 2006**).
- The problem of value – added tax (VAT): As the fund of the project is tax exempted, procedures for reimbursement of VAT by the ministry of finance used to take long time resulting in a delay of part of private companies outstanding payments.
- However, the MC was effectively managed by PWA through the PMU close coordination and monitoring for all aspects of project implementation, part of the implementation decisions were left in the hands of the local authorities (municipalities). For example PWA action to eliminate the illegal connections identified by the operator was very limited (**World Bank, 2003**).
- Reference to PMU implementation completion report **World Bank, 2003**, one of the obstacles faced the project is the lack of power to instruct and manage the municipal staff directly by the operator in addition to the low level of trained municipal employees, and lack of professionalism.

7.5 Gaza Emergency water project (GEWP) and creation of the Coastal Municipalities Water Utility (CMWU)

One of the main objectives of Gaza I project in addition to service improvement and capacity building is the creation of one water utility for water and sanitation delivery which is fragmented between of municipal and village councils (**World Bank, 2005a**).

The Coastal Municipalities Water Utility (CMWU) was established in the year 2001 by ministerial decree. The World Bank in order to maintain the success of Gaza I project set three main objectives: 1) support the establishment of the CMWU who will be the owner of the assets; 2) enhance the private sector participation; and 3) Improve the provision of water and wastewater services. Another objective is strengthening the regulatory role of the PWA (**World Bank, 2005a**).

Due to the crisis and its social and economic consequences resulted in the second Intifada after the year 2000, GEWP project was setup to address the high priority issues in the water and wastewater services in Gaza. The experience of Gaza I project supported that MCs are most likely the effective form of PSP due the existence of similar circumstances. An international operator has been selected through competitive bid to carry out the project objectives through achievable performance targets and clear link between incentive fees and performance (**World Bank, 2005a**).

Chapter (8)

Conclusions and Recommendations

This Chapter is concluding in the first section the main findings of the prospects of private sector participation for sustainable water and wastewater services in the Gaza Strip in the light of international PSP literatures and special situation of the study area and supported by the field study. The second section summarizes viable recommendation for the future of PSP in the Gaza Strip.

8.1 Conclusion

- The study adopted a novel approach utilizing the field survey and data collected from the literature review focusing on the following:
 1. Existing water and wastewater services.
 2. PSP theoretical aspects abstracted from selective international literatures.
 3. The typical example for PSP represented by Gaza I Management Contract.
- In the Gaza Strip where the capacity of public service provider is still far away from the modern and international management of water and wastewater services. Need for PSP is highlighted as a tool for sector development and technology and knowledge transfer. PSP is required also to increase the capacity of public service provider and the regulatory bodies.
- Water and waste water services have a vital social, economic, and environmental aspects which are directly reflected on the public health. To achieve a constructive PSP in the Gaza Strip, the following prerequisites should be achieved; (i) governmental absolute commitment and responsibility to ensure that there is always strong regulation and legislation to ensure that aforementioned aspects of water and wastewater services shall be protected during the involvement of private companies in the sector; (ii) Cooperative and constructive involvement of all concerned stakeholders including the community in the preparation stage of PSP contracts. (iii) Strengthening and activating the regulatory role of the main regulator, PWA and enforcement of water legislations and laws. And (iv) Design the PSP contract in a manner that allocate a balanced risk between the public sector/government and private sector.

- The first step of successful PSP is selecting the most appropriate contract for PSP. This selection will depend on the present and potential political, socio-economic and security circumstances. This study proved that for the time being the highest level of the appropriate PSP is the management contract.

- The main Constraints to be overcome for sustainable and balanced allocated risk are: (i) Bad impact of the unstable economic and political situation and lack of security; (ii) Lack of supremacy of laws and legislations; (iii) lack of public awareness of the water and wastewater subjects and problems; and (iv) donations conditions and restrictions.

- The management contract of Gaza I project financed by the World Bank is the only well defined example for PSP in the sector. One of the main outcomes of Gaza I project is the preparation for the next management contract (Gaza II project). This project aimed- in addition to maintain the achievements of Gaza I project- to support the creation of the Coastal Municipalities Water Utility as a unified service provider comprising all fragmented service providers. Establishment of CMWU is considered a major step towards water sector reform.

- The results of the field survey which is exploring the opinion of key persons in the water sector enriched the outcomes of the study in spite of time limitations. The field survey conducted in this study is considered a prototype of a comprehensive field survey with wider sample of stakeholder key persons and representatives. The main outcomes of the field survey can be summarized by:
 - Public sector, under the present situation, can not carry alone the required improvements in the water sector.
 - PSP may lead to service improvement, increase in investments and donors' involvement.
 - Unstable economic and political situation is the main constraint of PSP success.
 - Involvement of the public and customers during the PSP process is recommended.

8.2 Recommendations

This study is coming out with the following recommendations that may help all concerned parties particularly the governmental institutions and the public water utilities to utilize the PSP in enhancing sustainable water and wastewater services in the Gaza Strip.

1. I recommend that the water research institutions in cooperation of the main stakeholders should work on establishing guidelines for Private Sector Participation in water and sanitation services which will assist the public service providers and the local authorities to engage the private sector in water supply and sanitation services for effective PSP process on clear and sound basis. These guidelines will set out the conditions under which public service providers and the local authorities should engage the private sector on any level, how to make PSP work into tangible steps taking into consideration all relevant risks and mitigation measures. It aims also to define the share and role of each key player in the water sector in each step of the PSP process.
2. Activation of the water national council which gathers the most important stakeholders and decision makers in the water sector in one formation. It is an opportunity to achieve good understanding, reducing the gap and miss understanding between different stakeholders and decision makers.
3. Further efforts is needed from all the regulatory entities in the Palestinian Authority to regulate all possible relations between private -including local and foreign investors – and public sector.
4. Activation of the PWA regulatory role is a necessity to have an effective, strong and will functioning monitoring on the performance of private sector in the water sector during the implementation of PSP contracts.
5. Enhancement of community participation in service provision in the management and operation of the service, and when taking decisions affecting the social and public interest. If the PSP involvement should proceed, it is recommended to create a public advisory committee representing the broad community. The governmental stakeholders in the water sector shall refer to this committee for advise before the commencement of privatization proposals and during the PSP contract design and preparation.
6. Doing every effort needed to gather all stakeholders, public utility, government, civil society, NGOs and private sector in order to define and know the rule of each and to

work jointly with one another in new context serving the objective of developed sustainable water and wastewater services.

7. Grant agreements should be studied by the recipient authority making sure that it does not contain any restrictions or conditions incompatible with Gaza complicated economic and political situation. The Government should listen to the professionals' opinion and recommendation while securing the donations or loans.
8. More attention should be given for capacity building programs. All water sector stakeholders should participate in these programs; public service provider utility, regulating authorities, NGOs, Civil society, private sector and the community representatives. Capacity building programs are paving the way for greater and more constructive stakeholder engagement in water sector. local private sector should be motivated and developed to get the optimal benefit from PSP in the provision of water wastewater services. International experience in water and wastewater management can be absorbed through conditional joint ventures with local companies in PSP contracts. It will be helpful if the donors give more attention for the capacity building of the local private sector.
9. It is recommended to conduct a comprehensive questionnaire targeting all key players in the water sector management. This questionnaire shall put forward all PSP related inquiries and issues and get a comprehensive feed back and answers.

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APPENDIXES

Appendix A: International experience in public-private partnership in water supply and sanitation

City	Country	Population (X1000)	Form of PPP	Operator	Type	Number of connections	Statusa/
Cartagena	Colombia	850	Joint venture 26 years	Aguas de Barcelona (Ondéo)	Water supply	95 000	Ongoing (positive feedback)
Cordoba	Argentina	1 400	Concession (30 years)	Aguas Cordobesas (Ondéo)	Water supply	223 000	Ongoing (positive feedback)
Cochamamba	Bolivia		Concession 30 years	Aguas de Tunari (Bechtel Corp)	Water supply		Terminated 2001 due to massive riots protesting tariff increases
Buenos Aires	Argentina	10 000	Concession 30 years	Aguas de Argentina (Ondéo, Veolia)	Water supply Sanitation		Ongoing (problems reported due to devaluation of local currency; no new investment)
Manila, East Zone	Philippines	4 500	Concession 25 years	Manila Water Co. (Bechtel)	Water supply Sanitation		Amended in 2001 after economic problems of country
Manila, West Zone	Philippines	6 500	Concession 25 years	Maynilad (Ondéo)	Water supply Sanitation		Amended in 2001 and under arbitration for termination in 2002
Paris (Left Bank)	France	1 500	Lease 25 years	Parisienne des eaux (Ondéo)	Water supply	27 720	Ongoing (positive feedback)
Indianapolis	United States	800	O&M 20 years	United Water Services (Ondéo)	Water supply Sanitation	250 000	Ongoing (positive feedback)
Mexico City	Mexico	4 800	Management 10 years	TECSA & IACMEX (Ondéo)	Water supply		Ongoing (positive feedback)
Jakarta	Indonesia	7 500	Concessions	Thames Water, Ondéo	Water supply Sanitation	428 764	Renegotiated in 2001 after change in government
Prague	Czech Republic	1 200		PVK (Veolia)	Water supply waste water		Ongoing (positive feedback)
Atlanta	United States	3 400	Concession 20 years	United Water (Ondéo)	Water supply		Terminated in 2003 due to heavy losses and unforeseen expenses for operator
Pudong Area Shanghai	China	1 900	Concession 50 years	Veolia	Water supply Sanitation		Ongoing (positive feedback)

Source: United Nations, 2003) Compiled by ESCWA from various sources.

a/ Positive feedback reflects continuity of the contract as planned and no reports of significant problems or conflict between the private company and the government/general public from this PPP experience

Appendix (B): Summary of water and waste water facilities in the Gaza Strip (Source: Physical inspection report, Inframan 2006)

Governorate	Municipality	Water facilities	Waste water facilities
North Gov.	Beit Hanon	7 water wells 2 reserviors 33.7 Km Network	2 Wastewater PS 59 km Network (Aprx)
	Beit Lahia	5 water wells 2 reserviors 99.58 Km Network	5 Wastewater PS 34.4 km Network (Aprx)
	Jabalia	14 water wells 4 reserviors 152.7 Km Network	6 Wastewater PS 1 Waste water TP 70.9 km Network (Aprx)
	Om El Naser	1water wells 16.6 Km Network	N.A 6163 km Network (Aprx)
Gaza Gov.	Gaza	31 water wells 1 reserviors 1 Booster stations 478.5 Km Network	6 Wastewater PS 2 Storm water PS 1 Wastewater TP 277.5 km Network (Aprx)
	Zahra	1 water wells	NA
Middle Gov.	Deir El Balah	7 water wells 4 reserviors 2 Desalination plants 99.6 Km Network	1 Wastewater PS 1 Storm water PS 74.3 km Network (Aprx)
	Nusirat	2 water wells 63.92 Km Network	1 Wastewater PS
	Bureig	2 water wells 43.4 Km Network	NA
	Maghazi	2 water wells 37.35 Km Network	41.9 km Network (Aptx)
	Zawaida	1 water wells 37.35 Km Network	16.8 km Network (Aptx)
	Al Musader		2.3 km Network (Aptx)
	Moghraqa	1 water well 13.0 Km Network	NA
	Middle joint services council	2 water wells	NA
KhanYunis Gov.	KhanYunis	17 water wells 4 reserviors 2 Desalination plants 2 Booster stations 202.69 Km Network	1 Storm water PS
	Abasan Kabira	2 water wells 2 reserviors 57.77 Km Network	NA
	Abasan Jadida	1 water wells	NA

		2 reserviors 57.6 Km Network	
	Bani Suhaila	2 water wells 2 reserviors 1 Booster station 66.1 Km Network	NA
	Khzaa	2 reserviors 35.04 Km Network	NA
	Qarara	3 water wells 1 reserviors 2 Booster pumps 57.0 Km Network	NA
	Al Fukhari	29.6 Km Network	NA
	Eastern water management Council	3 water wells 1 reserviors 17 Km Network 1 Booster station	NA
Rafah Gov.	Rafah	8 water wells 5 reserviors 2 Booster stations 165.65 Km Network	5 Wastewater PS 1 Wastewater TP 95 km Network (Aprx)
	Shuka	1 water wells 1 Booster stations 28.9 Km Network	NA
	El Naser	1 water wells 16.6 Km Network	NA

Appendix (C): Water and wastewater services improvement project (Projects Summary Data 1996-2003)

I- National Companies

Type of contract/ Type of service	Consultancy		Goods & Spare parts		Works Piping,Civil,Meters, Maintenance, etc.		Total	
	No.	Amount \$	No.	Amount \$	No.	Amount \$	No.	Amount \$
ICB			5	4,577,019			5	4,577,019
NCB			2	240,943	39	7,609,799	41	7,850,742
NS	2	1,716	92	1,494,597	90	808,117	184	2,304,430
IS	1	1,500	19	1,120,830			20	1,122,330
DC	5	13,558	91	268,573	90	934,050	186	1,216,181
C2S	12	996,290					12	996,290
Others (IE)					8	494,474	8	494,474
Sub- Total	20	1,013,064	209	7,701,962	227	9,846,440	456	18,561,465
II- International companies								
ICB			7	2,495,924.32			7	2,495,924
ICB (MC operator)	1	10,520,000					1	10,520,000
NCB					2	22,660.00	2	22,660
NS								0
IS	1	1,750.00	38	1,880,747.37			39	1,882,497
DC	1	1,250.00	39	1,817,391.60	4	48,546.05	44	1,867,188
C2S	3	457,394.23					3	457,394
Sub- Total	6	10,980,394.23	84	6,194,063.29	6	71,206.05	96	17,245,664
Total	26	11,993,458	293	13,896,024	233	9,917,645	552	* 35,807,129

* This figure is the summation of total initial value of contracts. The actual total figure is US \$ 31 million. Source: PWA/SIP project contract summary data sheet,2003

Appendix (D): Performance obligations of the operator for the duration of the four year management contract

Performance Criterion/Indicator	Units	Yearly Targets				Total for four years
		Year 1	Year 2	Year 5	Year 4	
1. Improve Quantity of Water						
1.1.1 Leak detection – repair/ replacement						
1.1.1.1 Survey	Kms of pipe	500	550	0	0	1050
1.1.1.2 Service connection replacement	No.	2000	4000	7000	7000	20000
1.1.2 Meter calibration/installation						
1.1.2.1 Meters repaired	No. of meters	2000	4000	7000	7000	20000
1.1.2.2 Meters replaced	No. of meters	2000	7000	10000	11000	30000
1.2 Overall system efficiency	% accounted for water	55	60	65	70	70
2. Improving Quality of Water						
2.1 Improve disinfection	% of water network disinfected	40	65	85	100	100
2.2 Improve wastewater discharge						
2.2.1 Reduce Biological Oxygen Demand	% reduction	75	77	83	85	85
2.2.2 Reduce Chemical Oxygen Demand	% reduction	75	77	83	85	85
2.2.3 Reduce Total suspended solids	% reduction	75	77	83	85	85
3.1 Improving Management						
3.1.1 Improve Collection of Water Revenues						

Performance Criterion/Indicator	Units	Yearly Targets				Total for four years
		Year 1	Year 2	Year 5	Year 4	
3.1.1.1 Decrease in Accounts Receivables (AR)	% of AR	35	25	15	10	10
3.1.1.2 Identify illegal connections/convert to legal status	No. of connections	1000	3000	5000	6000	15000
3.1.1.3 Develop and update database of service connections	Time	90%	100%			100%
3.1.1.4 Implement computerized administrative systems to enforce collection of overdue accounts	Time	50%	100%			100%
3.1.1.5 Analyze tariffs and recommend progressively increasing tariff system for each customer class	Time	50%	100%			100%
3.1.1.6 Establish a unified billing and collection system	Time	100%				100%
3.1.1.7 Map and Hydraulic model water and wastewater network	Time	70%	100%			100%
3.1.1.8 Create separate financial accounts for water and wastewater utilities	Time	50%	100%			100%
3.2 Improving Management of wastewater services						
3.2.1 Repair and replace various equipment	Time	50%	50%			100%
3.2.2 Identify needed support and administrative needs	Time	100%				100%
3.2.3 Develop and implement preventative maintenance system	Time	40%	70%	100%		100%
3.2.4 Develop and implement maintenance and materials management system	Time	50%	80%	100%		100%
3.2.5 Identify, obtain critical and necessary spare parts, develop and implement inventory control system	Time	50%	100%			100%
4.0 Promoting Institutional Development						
4.1 Develop and implement management & technical training program	Time	30%	50%	80%	100%	100%
4.2 Develop and implement computerized administrative systems – train	Time	60 %	100%			100%

Performance Criterion/Indicator	Units	Yearly Targets				Total for four years
		Year 1	Year 2	Year 5	Year 4	
4.3 Develop and implement safety program	Time	50%	100%			100%
4.4 Develop an emergency operations plan – train	Time	50%	100%			100%
4.5 Establish region wide association of water sector personnel – conduct seminars support	Time	10%	50%	100%		100%
4.6 Customer service and Public Information	Time	30%	100%			100%
4.6.1 Develop and implement customer service system – train	Time	100%				100%
4.6.2 develop and implement public information program	Time	50%	100%			100%
4.7 Improve long range performance planning						
4.7.1 Develop prioritized capital improvement program and rehabilitation plan and get it accepted by PA	Time	50%	100%			100%
4.8 Develop and implement water reuse from existing facilities	Time	50%	60%	100%		100%

Appendix E: Questions for key players in water sector

Prospects of Private Sector Participation

for Sustainable Water and Sanitation services in The Gaza Strip

Questions for key players in water sector

First Section: Personal information

Place of employment	<input type="checkbox"/>	Governmental	<input type="checkbox"/>	Non- Governmental	<input type="checkbox"/>	Private Sector		
Field of specilization	<input type="checkbox"/>	Water and Environment	<input type="checkbox"/>	Finance & commerce	<input type="checkbox"/>	Social activities	<input type="checkbox"/>	Other
Target Group	<input type="checkbox"/>	Regulatory body	<input type="checkbox"/>	Service Providers	<input type="checkbox"/>	Private Sector		
	<input type="checkbox"/>	Civil Society & NGO's	<input type="checkbox"/>	Community representatives	<input type="checkbox"/>	Donors		
Age Category	<input type="checkbox"/>	<40	<input type="checkbox"/>	41-50	<input type="checkbox"/>	>50		

Second Section: The Questions

A- Present level of service:

1- Water and wastewater services are currently managed by:

- a- Governmental Public sector b- Non - Governmental Public sector
c- Partnership between Public and private d- Private Sector

2- Water and wastewater present level of service provided by municipalities?

- a- Very good b- Good c- Fair d- Bad e- Very bad

3- Do you agree that it is necessary to improve the existing situation of water and wastewater services?

- a- Strongly agree b- agree c- Don't know d- Disagree e- Strongly disagree

B- Key factors of PSP success:

4- Do you agree that the current political situation is suitable for private companies to participate in water sector management?

- a- Strongly agree b- agree c- Don't know d- Disagree e- Strongly disagree

5- Do you think that the present legal framework is encouraging private sector to invest in the water sector?

- a- Strongly encouraging b- encouraging c- Don't know d- Discouraging e- strongly discouraging

6- If the answer of previous question is (d) or (e) Do you think that the reform of water sector legislations is necessary for the success of sustainable PSP?

- a- Strongly necessary b- Necessary c- Don't know d- Not necessary e- not necessary at all

7- Do you think that it is necessary to involve the public in PSP in the water sector?

- a- Strongly necessary b- Necessary c- Don't know d- Not necessary e- not necessary at all
- 8- Do you agree that the international companies should participate in the PSP in the water sector?
a- Strongly agree b- agree c- Don't know d- Disagree e- Strongly disagree
- 9- Do you think that the PNA necessarily should give certain guarantees for private sector?
a- Strongly necessary b- Necessary c- Don't know d- Not necessary e-Not necessary at all
- 10- Do you agree that PSP can be achieved successfully by local companies without international competition?
a- Strongly agree b- agree c- Don't know d- Disagree e- Strongly disagree
- 11- Do you think that the role of municipalities (utilities) is necessary in PSP?
a- Strongly necessary b- Necessary c- Don't know d- Not necessary e-Not necessary at all
- 12- Do you agree that the regulatory authority plays a key role in the balance between government, private companies and the public (consumers)?
a- Strongly agree b- agree c- Don't know d- Disagree e- Strongly disagree
- 13- Do you agree that the enforcement of laws will increase the opportunities for PSP in the water sector?
a- Strongly agree b- agree c- Don't know d- Disagree e- Strongly disagree
- 14- Is there any specific obstacles that intervene the good performance of private companies? Specify
.....
.....

C- Advantages and disadvantages

- 15- Do you agree that improvement of water and waste water services can be achieved by public sector alone?
a- Strongly agree b- agree c- Don't know d- Disagree e- Strongly disagree
- 16- Do you agree that private sector can provide an equal or better water services than the public?
a- Strongly agree b- agree c- Don't know d- Disagree e- Strongly disagree
- 17- Do you agree that the private sector can provide an equal or better service at a reduced cost?
a- Strongly agree b- agree c- Don't know d- Disagree e- Strongly disagree
- 18- Do you agree that more private sector participation (PSP) in the long term is in the best interest of the public (consumers)?
a- Strongly agree b- agree c- Don't know d- Disagree e- Strongly disagree
- 19- Do you agree that PSP is leading to more investments in the water sector?
a- Strongly agree b- agree c- Don't know d- Disagree e- Strongly disagree
- 20- Do you agree that PSP in water sector management will contribute to remedy of the environmental bad impact for water abstraction and wastewater disposal?
a- Strongly agree b- agree c- Don't know d- Disagree e- Strongly disagree
- 21- Do you agree that PSP will enhance the participation of community with the service providers?
a- Strongly agree b- agree c- Don't know d- Disagree e- Strongly disagree
- 22- The national water policy in the Gaza Strip is summarized by: Protection and conservation of water resources - Planning for alternative water resources – enhance the role of water sector in the economic development – and the right for every body to have good and sustainable water service.
Do you agree that PSP may assist in achieving this policy?
a- Strongly agree b- agree c- Don't know d- Disagree e- Strongly disagree

- 23- Do you agree that more PSP involvement in water sector will encourage the donors to increase there donations in the sector?
 a- Strongly agree b- agree c- Don't know d- Disagree e- Strongly disagree
- 24- Do you agree that PSP may lead finally to full privatization in water sector?
 a- Strongly agree b- agree c- Don't know d- Disagree e- Strongly disagree
- 25- What is the most convenient type of contracts with PS for the progress of water sector in the Gaza Strip?
 a- Management contract b- Service contracts c- lease contracts d- Concession contracts
 e- BOT contracts

D- Risk of PSP application

- 26- Do you agree there is a risk when applying PSP in the water sector?
 a- Strongly agree b- agree c- Don't know d- Disagree e- Strongly disagree
- 27- If the answer of previous question is (a) or (b) The risk will be greater on:
 a- Large consumers- b- Municipalities (utilities) c- Regulator d- Poor consumers
- 28- Do you agree that private sector can adapt with economic and political instability in the Gaza Strip?
 a- Strongly agree b- agree c- Don't know d- Disagree e- Strongly disagree
- 29- Do you agree that PSP will lead to increase the tariff of water services?
 a- Strongly agree b- agree c- Don't know d- Disagree e- Strongly disagree
- 30- Do you agree that there is conflict between PS and consumers in water sector?
 a- Strongly agree b- agree c- Don't know d- Disagree e- Strongly disagree
- 31- If the answer of the previous question a) or b) Who will solve the conflict between the private sector and the consumers?
 a- PWA b- Courts c- Local Governorate e- Service providers
- 32- Do you think that the PNA should necessarily take guarantees or impose regulations to protect the consumer from unaffordable increase of water prices?
 a- Strongly necessary b- Necessary c- Don't know d- Not necessary e-Not necessary at all
- 33- Do you agree that the public opinion is important while formulating the policy of PSP in water sector?
 a- Strongly agree b- agree c- Don't know d- Disagree e- Strongly disagree
- 34- Do you agree that the consumer should be represented in the regulatory authority to give the public more confidence that their interests are protected with PSP in water sector?
 a- Strongly agree b- agree c- Don't know d- Disagree e- Strongly disagree

(Questions completed)

أفاق مشاركة القطاع الخاص في استدامة خدمات المياه والصرف الصحي بقطاع غزة
استبيان موجه للجهات الفاعلة والمؤثرة في قطاع المياه والصرف الصحي

الجزء الأول:

المعلومات الشخصية

مكان العمل	<input type="checkbox"/> حكومي	<input type="checkbox"/> غير حكومي	<input type="checkbox"/> قطاع خاص
مجال التخصص:	<input type="checkbox"/> المياه والبيئة	<input type="checkbox"/> المال والتجارة	<input type="checkbox"/> النشاط الاجتماعي
الفئة المستهدفة:	<input type="checkbox"/> الجهات المنظمة لقطاع المياه	<input type="checkbox"/> مقدمو الخدمة	<input type="checkbox"/> القطاع الخاص
	<input type="checkbox"/> ممثلو التجمعات السكانية	<input type="checkbox"/> المؤسسات غير الحكومية	<input type="checkbox"/> المؤسسات الممولة والمانحة
الفئة العمرية:	<input type="checkbox"/> أقل من 40	<input type="checkbox"/> 40-50	<input type="checkbox"/> أكبر من 50

الجزء الثاني:

الأسئلة

(أ) : مستوى خدمة المياه والصرف الصحي الحالية

1- تقدم خدمة المياه والصرف الصحي حالياً من قبل:

أ- القطاع العام الحكومي ب- القطاع العام غير الحكومي ج- شراكة بين القطاع العام والخاص د- القطاع الخاص

2- مستوى الخدمة الحالي في قطاع المياه والصرف الصحي:

أ- ممتاز ب- جيد ج- مقبول د- سيئ هـ- سيئ جداً

3- هل توافق أن هناك ضرورة لتحسين الوضع الحالي لخدمة المياه والصرف الصحي؟

أ- أوافق بشدة ب- أوافق ج- لا أدري د- أعارض هـ- أعارض بشدة

(ب): العوامل الرئيسية لنجاح مشاركة القطاع الخاص في إدارة خدمات المياه والصرف الصحي

4- هل توافق أن الوضع السياسي الحالي مناسب لمشاركة الشركات الخاصة في إدارة قطاع المياه؟

أ- أوافق بشدة ب- أوافق ج- لا أدري د- أعارض هـ- أعارض بشدة

5- هل تعتقد أن الإطار القانوني الحالي يشجع القطاع الخاص على الاستثمار في قطاع المياه؟

أ- مشجع جداً ب- مشجع ج- لا أدري د- غير مشجع هـ- غير مشجع إطلاقاً

6- إذا كانت إجابة السؤال السابق بالنفي:

- هل تعتقد بضرورة إجراء إصلاحات على النظام التشريعي لقطاع المياه لتشجيع القطاع الخاص على الاستثمار في قطاع المياه؟

أ- ضروري جداً ب- ضروري ج- لا أدري د- غير ضروري هـ- غير ضروري على الإطلاق

- 7- هل تعتقد بضرورة أن يكون للجمهور دور في عملية مشاركة القطاع الخاص في قطاع المياه؟
 أ- ضروري جدا ب- ضروري ج- لا أدري د- غير ضروري هـ- غير ضروري على الإطلاق
- 8- هل توافق على ضرورة إسهام الشركات العالمية في مشاركة القطاع الخاص في قطاع المياه؟
 أ- أوافق بشدة ب- أوافق ج- لا أدري د- أعارض هـ- أعارض بشدة
- 9- هل تعتقد بضرورة أن تقوم السلطة الفلسطينية بتقديم ضمانات معينة للقطاع الخاص بهدف تشجيعه على الاستثمار؟
 أ- أوافق بشدة ب- أوافق ج- لا أدري د- أعارض هـ- أعارض بشدة
- 10- هل توافق على أن الشركات المحلية قادرة على إنجاح مشاركة القطاع الخاص بدون منافسة عالمية؟
 أ- أوافق بشدة ب- أوافق ج- لا أدري د- أعارض هـ- أعارض بشدة
- 11- هل تعتقد أن دور البلديات ضروري في مشاركة القطاع الخاص؟
 أ- ضروري جدا ب- ضروري ج- لا أدري د- غير ضروري هـ- غير ضروري على الإطلاق
- 12- هل توافق أن السلطة الرقابية تلعب دورا هاما في تحقيق التوازن بين القطاع العام، القطاع الخاص والجمهور (المستهلك)؟
 أ- أوافق بشدة ب- أوافق ج- لا أدري د- أعارض هـ- أعارض بشدة
- 13- هل توافق على أن فرض سيادة القانون سوف يزيد من فرص مشاركة القطاع الخاص في مجال إدارة قطاع المياه؟
 أ- أوافق بشدة ب- أوافق ج- لا أدري د- أعارض هـ- أعارض بشدة
- 14- اذكر أي عقبات أخرى قد تعيق الأداء الجيد للشركات الخاصة في مجال إدارة المياه؟

(ج)- محاسن ومساوئ مشاركة القطاع الخاص؟

- 15- هل توافق على أن تحسين خدمة المياه والصرف الصحي يمكن أن يتم عن طريق القطاع العام فحسب؟
 أ- أوافق بشدة ب- أوافق ج- لا أدري د- أعارض هـ- أعارض بشدة
- 16- هل توافق أن القطاع الخاص يستطيع تقديم خدمة في قطاع المياه أفضل مما يقدمها القطاع العام؟
 أ- أوافق بشدة ب- أوافق ج- لا أدري د- أعارض هـ- أعارض بشدة
- 17- هل توافق على أن القطاع الخاص يستطيع تقديم خدمة مساوية أو أفضل من القطاع العام بأسعار أقل؟
 أ- أوافق بشدة ب- أوافق ج- لا أدري د- أعارض هـ- أعارض بشدة
- 18- هل توافق على أن القطاع الخاص يستطيع على المدى البعيد تقديم خدمة أفضل لمصلحة الجمهور؟
 أ- أوافق بشدة ب- أوافق ج- لا أدري د- أعارض هـ- أعارض بشدة
- 19- هل توافق بأن مشاركة القطاع الخاص سوف تؤدي الى زيادة الاستثمارات في قطاع المياه؟
 أ- أوافق بشدة ب- أوافق ج- لا أدري د- أعارض هـ- أعارض بشدة
- 20- هل توافق أن مشاركة القطاع الخاص في إدارة المياه والصرف الصحي سوف تساهم في حل مشكلة الأضرار البيئية الناشئة عن استنزاف الخزان المائي الجوفي وحل مشكلة التخلص من مياه الصرف الصحي؟
 أ- أوافق بشدة ب- أوافق ج- لا أدري د- أعارض هـ- أعارض بشدة
- 21- هل توافق أن مشاركة القطاع الخاص يمكن أن يعزز المشاركة المجتمعية مع مقدمي خدمة المياه؟
 أ- أوافق بشدة ب- أوافق ج- لا أدري د- أعارض هـ- أعارض بشدة
- 22- السياسة الوطنية المائية تتلخص فيما يلي:

بقاء جميع مصادر المياه ملكية عامة - حماية مصادر المياه والحفاظ عليها- التخطيط لإيجاد مصادر بديلة للمياه- أهمية دور قطاع المياه في التطوير الاقتصادي - حق المواطن في الوصول الى خدمة جيدة ومستدامة للمياه دون المساس بالقدرة على الدفع.

هل توافق أن مشاركة القطاع الخاص قد يساعد في تحقيق هذه الأهداف؟

أ- أوافق بشدة ب- أوافق ج- لا أدري د- أعارض ه- أعارض بشدة

23- هل توافق أن ازدياد مشاركة القطاع الخاص في إدارة قطاع المياه قد يشجع المانحين على زيادة مساهماتهم في القطاع؟

أ- أوافق بشدة ب- أوافق ج- لا أدري د- أعارض ه- أعارض بشدة

24- هل توافق أن مشاركة القطاع الخاص يمكن أن يؤدي في النهاية إلى الخصخصة الكاملة لقطاع المياه؟

أ- أوافق بشدة ب- أوافق ج- لا أدري د- أعارض ه- أعارض بشدة

25- في نظرك ما هو أنسب نظام عقود يمكن إبرامها مع القطاع الخاص ليساهم في تحسين خدمة المياه والصرف الصحي؟

أ- الإدارة والتشغيل ب- خدمة مؤقتة ج- التأجير د- حق الامتياز ه- إنشاء وتشغيل ثم الاستلام و- لا أدري

(د- مخاطر تطبيقات مشاركة القطاع الخاص:

26- هل توافق بوجود مخاطر من تطبيق مشاركة القطاع الخاص في مجال إدارة المياه والصرف الصحي؟

أ- أوافق بشدة ب- أوافق ج- لا أدري د- أعارض ه- أعارض بشدة

27- اذا كانت الاجابة للسؤال السابق هي (أ أو ب) فإن المخاطر ستكون أكبر على:

أ- كبار المستهلكين ب- البلديات ج- الجهة الرقابية د- فقراء المستهلكين

28- هل توافق أن القطاع الخاص يستطيع التكيف مع الوضع الاقتصادي والسياسي غير المستقر في قطاع غزة؟

أ- أوافق بشدة ب- أوافق ج- لا أدري د- أعارض ه- أعارض بشدة

29- هل توافق بأن مشاركة القطاع الخاص سوف تؤدي الى زيادة تسعيرة خدمات المياه والصرف الصحي؟

أ- أوافق بشدة ب- أوافق ج- لا أدري د- أعارض ه- أعارض بشدة

30- هل توافق بوجود تضارب في المصالح بين القطاع الخاص والمستهلكين في قطاع المياه؟

أ- أوافق بشدة ب- أوافق ج- لا أدري د- أعارض ه- أعارض بشدة

31- اذا كانت إجابة السؤال السابق أ أو ب من هي أهم الجهات المسؤولة عن حل هذا التضارب؟

أ- سلطة المياه ب- المحاكم والقضاء ج- الحكم المحلي د- مقدمو الخدمة (البلديات- مصلحة المياه)

32- هل تعتقد بأن من الضروري أن تقوم السلطة الفلسطينية باتخاذ ضمانات أو تطبيق القوانين الكفيلة بحماية المستهلكين من أي زيادة محتملة في تسعيرة خدمات المياه؟

أ- ضروري جدا ب- ضروري ج- لا أدري د- غير ضروري ه- غير ضروري على الاطلاق

33- هل توافق بأن الرأي العام مهم أثناء صياغة سياسة مشاركة القطاع الخاص في خدمات المياه والصرف الصحي؟

أ- أوافق بشدة ب- أوافق ج- لا أدري د- أعارض ه- أعارض بشدة

34- هل توافق بأن المستهلك يجب أن يمثل في تشكيلات السلطات الرقابية لزيادة الثقة بأن مصالحهم محمية أثناء مشاركة القطاع الخاص في خدمات المياه والصرف الصحي؟

أ- أوافق بشدة ب- أوافق ج- لا أدري د- أعارض ه- أعارض بشدة

(انتهت الأسئلة)

Appendix F: Overall results of questions to key players in the water sector

Question No.		Regulator	Service provider	Private sector	Community representatives	NGOs institutions	Donors & Financing	Total
Question 3	strongly agree	9	8	12	9	8	6	52
	agree	1	7	2	3	1	1	15
	Total	10	15	14	12	9	7	67
Question 2	good	3	5	3	2	4		17
	fair	1	7	8	9	1	7	33
	bad	5	3	2	1	4		15
	very bad	1		1				2
	Total	10	15	14	12	9	7	67
Question 04	agree	3	6	3	5	3	3	23
	dont Know	1			2	2	1	6
	disagree	6	8	9	5	4	3	35
	strongly disagree		1	2				3
	Total	10	15	14	12	9	7	67
Question 05	Strongly encouraging	1						1
	encouraging	3	2	4	3	1	2	15
	Don't know	1			1	3	1	6
	Discouraging	5	11	9	7	4	4	40
	strongly discouraging		2	1	1	1		5
Total	10	15	14	12	9	7	67	
Question 06	Strongly necessary	1	6	7	2	2	1	19
	Necessary	5	7	4	8	4	4	32
	Don't know					1		1
	Not necessary		1	1				2
	Total	4	1	2	2	2	2	13
Total	10	15	14	12	9	7	67	
Question 07	Strongly necessary	1	7	3	3	3	3	20
	Necessary	7	5	9	7	6	2	36
	Don't know	1						1
	Not necessary	1	3	1	2		2	9
	Not necessary at all			1				1
Total	10	15	14	12	9	7	67	
Question 08	strongly agree	1	4	3	2	1	1	12
	agree	7	9	7	3	4	2	32
	dont Know				2	2	1	5
	disagree	2	1	4	5	2	3	17
	strongly disagree		1					1
Total	10	15	14	12	9	7	67	
Question 09	strongly agree	3	7	4	5	2	3	24
	agree	6	8	8	7	6	3	38
	dont Know	1		1		1		3
	disagree			1			1	2
Total	10	15	14	12	9	7	67	
Question 10	strongly agree			3			2	5
	agree	4	7	6	8	3	1	29
	dont Know	1	1	1	2	3		8
	disagree	5	7	4	2	3	4	25
Total	10	15	14	12	9	7	67	

Question No.		Regulator	Service provider	Private sector	Community representatives	NGOs institutions	Donors & Financing	Total
Question 11	Strongly Necessary	4	3	3	3	2	3	18
	Don't know		1					1
	Not necessary	6	7	10	6	7	3	39
	Not necessary at ..		1	1	2		1	5
			3		1			4
Total		10	15	14	12	9	7	67
Question 12	strongly agree	8	7	6	6	6	5	38
	agree	2	8	6	6	3	2	27
	dont Know			1				1
	disagree			1				1
Total		10	15	14	12	9	7	67
Question 13	strongly agree	7	11	9	7	6	4	44
	agree	3	4	5	5	2	3	22
	dont Know					1		1
Total		10	15	14	12	9	7	67
Question 15	strongly agree	1				1		2
	agree	3	6	4	3	1	2	19
	disagree	6	6	9	8	5	5	39
	strongly disagree		3	1	1	2		7
Total		10	15	14	12	9	7	67
Question 16	strongly agree		5		2	1	2	10
	agree	7	7	12	7	6	4	43
	dont Know	1		1	2	1	1	6
	disagree	2	3	1	1	1		8
Total		10	15	14	12	9	7	67
Question 17	strongly agree		2				1	3
	agree	3	3	5	6	4		21
	dont Know	2	1	2	1	1	1	8
	disagree	5	9	7	5	3	5	34
	strongly disagree					1		1
Total		10	15	14	12	9	7	67
Question 18	strongly agree		6	1	2	2	3	14
	agree	7	5	12	7	5	2	38
	dont Know	2	2		2	1		7
	disagree	1	2	1	1	1	2	8
Total		10	15	14	12	9	7	67
Question 19	strongly agree	1	2	2	2	1	3	11
	agree	7	13	11	9	8	3	51
	dont Know	2						2
	disagree			1	1		1	3
Total		10	15	14	12	9	7	67
Question 20	strongly agree	1	2	1	3	1	2	10
	agree	6	8	9	6	5	5	39
	dont Know	1	2	2	2	2		9
	disagree	2	3	2		1		8
	strongly disagree				1			1
Total		10	15	14	12	9	7	67

Question No.		Regulator	Service provider	Private sector	Community representatives	NGOs institutions	Donors & Financing	Total
Question 21	strongly agree		2		1	1	1	5
	agree	8	9	13	7	5	6	48
	dont Know	2	2	1	3	2		10
	disagree		2		1	1		4
	Total	10	15	14	12	9	7	67
Question 22	strongly agree		2	1	1	1	1	6
	agree	7	9	10	10	7	5	48
	dont Know	1	1	2		1		5
	disagree	2	3	1	1		1	8
	Total	10	15	14	12	9	7	67
Question 23	strongly agree	3	2	2	1		2	10
	agree	3	8	11	7	4	4	37
	dont Know	2	3		1	3		9
	disagree	2	2	1	3	2	1	11
	Total	10	15	14	12	9	7	67
Question 24	strongly agree		2	1	1		1	5
	agree	1	8	4	8	4	2	27
	dont Know	2	1	2	1	1	3	10
	disagree	6	4	7	2	4	1	24
	strongly disagree	1						1
	Total	10	15	14	12	9	7	67
Question 25	Management	4	8	5	5	5	4	31
	Service contract	1	3			1	1	6
	Lease contract		1	1	3	2		7
	Concession	4	3	2	1	1		11
	BOT	1		5	2		2	10
	don't Know			1	1			2
	Total	10	15	14	12	9	7	67
Question 26	strongly agree	1		2	1	1	1	6
	agree	5	10	10	5	5	5	40
	disagree	4	5	2	5	3	1	20
	strongly disagree				1			1
	Total	10	15	14	12	9	7	67
Question 27	Large consumers	1	2					3
	Municipalities	2	2	2	2		1	9
	Regulatory bodies					2	1	3
	Poor consumers	3	8	10	5	4	4	34
	Total	4	3	2	5	3	1	18
Question 28	agree	3	5	4	4	1	2	19
	dont Know	2	2	3	1	3		11
	disagree	5	6	4	6	5	5	31
	strongly disagree		2	3	1			6
	Total	10	15	14	12	9	7	67
Question 29	strongly agree	2	2	2	3	3		12
	agree	6	11	9	7	5	3	41
	dont Know	1	1			1		3
	disagree	1		3	1		3	8
	strongly disagree		1		1		1	3
	Total	10	15	14	12	9	7	67

Question No.		Regulator	Service provider	Private sector	Community representatives	NGOs institutions	Donors & Financing	Total
Question 30	strongly agree	1	2	1		1		5
	agree	8	7	11	6	4	3	39
	dont Know				1	2		3
	disagree	1	5	2	5	2	3	18
	strongly disagree		1				1	2
Total		10	15	14	12	9	7	67
Question 31	PWA	3	6	6	1	5	2	23
	Courts	1	1	2			1	5
	Local Government				1			1
	Service Providers	5	2	4	4	1	1	17
		1	6	2	6	3	3	21
Total		10	15	14	12	9	7	67
Question 32	Strongly Necessary	8	7	10	5	6	4	40
	Necessary	2	7	4	5	2	3	23
	Not necessary		1		2	1		4
Total		10	15	14	12	9	7	67
Question 33	strongly agree	5	5	8	6	5	3	32
	agree	5	9	6	6	3	3	32
	dont Know					1	1	2
	disagree		1					1
Total		10	15	14	12	9	7	67
Question 34	strongly agree	1	6	8	7	3	3	28
	agree	7	8	6	3	5	4	33
	disagree	2	1		2	1		6
Total		10	15	14	12	9	7	67