An-Najah National University

Faculty of Graduate Studies

Development of an Institutional Framework and Organizational Structures for Water and Sanitation Service Providers in the West Bank – Palestine

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إهداء

ذا الفضــلُ ربّــي فَالــقُ الإصبـاحِ أنَارَ العلمَ مِن مِشكــاةٍ وَمِصبـــاحِ

مَنَحَنــا عِلمــاً مِن لدُنــهُ تَكرُمَــاً لِعا لَمٍ مَوصـودَةٌ أبوابُــه، فَجـاء بِالمُفتـاحِ

فَنُهــدي ثَمـــرةَ جُهدنـا لرَسُولِنـــا خَيرُ مُعلمٍ وَ هُــو بَحــرٌ للسّمـــاحِ

وَنُهديــهِ مَـعَ كـُلِ عَيــنٍ سَهِـــرَت للوالِدَيـنِ وَ أهـــلٍ كِــرامٍ مِـــــــلاحِ

وَنُهديــهِ مَـعَ كـُلِ قطــرةٍ نَزَلـــــت لِصـرحٍ شامــخٍ هــُو جِامِعـةُ النّجـاحِ

وَنُهديــهِ مَـعَ كُـلِ فكــرةٍ خَطَـــرت لِسلطــةِ المياهِ ذات العطـــرِ الفّــواحِ

وَنُهديــهِ مَـعَ كُـلِ كلمــةٍ سُطّـــرَت للعَنَــانِ مُرشـِدُنا نَفديـــهِ بِـــالأرواحِ

وَلِكُــلّ مَـن أسـدى لِدالـيا مَعُونَــةً أو أهــدَى لهــا خَيــطُ نَجـــــــاحِ

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الإقرار

أنا الموقعة أدناه مقدمة الرسالة التي تحمل العنوان:

Development of an Institutional Framework and Organizational Structures for Water and Sanitation Service Providers in the West Bank – Palestine

أقر بأن ما اشتملت عليه هذه الرسالة إنما هو نتاج جهدي الخاص، باستثناء ما تمت الإشارة إليه حيثما ورد، وأن هذه الرسالة ككل، أو أي جزء منها لم يقدم من قبل لنيل أية درجة أو لقب علمي أو بحثي لدى أية مؤسسة تعليمية أو بحثية أخرى.

Declaration

The work provided in this thesis, unless otherwise referenced, is the researcher's own work, and has not been submitted elsewhere for any other degree or qualification.

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List of Abbreviations

ANERA	American Near East Relief Aid
ARIJ	Applied Research Institute-Jerusalem
BOD	Board Of Director
EM	Executive Manager
EQA	Environment Quality Authority
EU	European Union
HR	Human Resources
IEWS	Institute of Environmental and Water Studies- Bir Zeit University
IT	Information Technology
JSC	Joint Service Council
JWSC	Joint Water Service Council
JWSSC	Joint Water and Sanitation Service Councils
JWU	Jerusalem Water Undertaking
l/cap/day	Liter Per Capita Per Day
LGU's	Local Government Units
LRC	Lands Research Center
MCM	Million Cubic Meter
MoA	Ministry of Agriculture
MoF	Ministry of Finance
MoH	Ministry of Health
MoI	Ministry of Industry
MoJ	Ministry of Justice
MoLG	Ministry of Local Government
MOU	Memorandum Of Understanding
NWC	National Water Council
OS	Organizational Structure
PARC	Palestinian Agricultural Relief Committees
PCBS	Palestinian Central Bureau of Statistics
PHG	Palestinian Hydrology Group
PMU	Project Management Unit
PSI	Palestinian Standard Institute
PWA	Palestinian Water Authority
RWU's	Regional Water Utilities
SWOT	Strengths-Weaknesses-Opportunities-Threats
UNDP	United Nation Developing Program

USAID	United State Agency for International Development
UFW	Unaccounted For Water
VC	Village Council
WBWD	West Bank Water Department
WESI	Water and Environmental Studies Institute- An-Najah National University
WHO	World Health Organization
WSSA	Water Supply & Sewage Authority
WUA's	Water User Associations
WWTP	Wastewater Treatment Plant

Development of an Institutional Framework and Organizational Structures for Water and Sanitation Service Providers in the West Bank – Palestine

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Abstract

In the West Bank, water and sanitation service providers are one of the key institutional entities that are responsible for delivering the water and wastewater services at different levels of society based on the Local Government Law No. (1) of the year 1997. The capacities of water and sanitation service providers vary tremendously throughout their different types, size and availability of resources in addition to other factors.

Since the organizational structure has an impact on the service provider's ability to succeed in improving the level of service; the study spots light on this issue through the diagnosis of the current organizational structures of the different institutional setups for water and sanitation service providers in the West Bank with a view to organizational levels, grouping of functions and job titles.

An exploratory sample of municipalities, joint service councils, amalgamation municipalities, village councils and sub-regional utilities as different institutional setups for water and sanitation service providers were selected for the research; the selection criteria took into consideration the type of institutional setup for service providers, the size of served locality, the type of services provided to the public and the geographical location.

A special questionnaire was developed for each institutional setup for water and sanitation service providers and focused on administrative, structural,

technical and financial aspects. Also in-depth interviews were made with selected key persons.

The collected data and the questionnaire were analyzed using SWOT analysis process, where a consolidated strength, weakness, opportunity and threat points were identified and grouped for each institutional setups. The organizational structures and job titles for all case studies were analyzed and evaluated according to the instructions of staffs system for the Local Government Units (LGU's) No. (7) for the year 2009.A performance indicators' set were built for assessing the service delivering level and the service providers' effectiveness and efficiency. Also an activity/responsibility matrix was developed for assessing the water and sanitation sector organizations.

The basic principles for building the organizational structures have been applied on the different institutional setups. Accordingly, proper functional and administrative organizational structures and job titles were proposed for the different institutional setups for water and sanitation service providers in the West Bank.

Overall, the recommendations call for standardizing the organizational structures for water and /or wastewater departments or divisions at Local Government Units (LGU's) according to the size and nature of the services provided.

CHAPTER ONE

INTRODUCTION

1.1 General Background

The water and sanitation sector in Palestine is one of the most important strategic sectors that were underdeveloped over the past years due to exogenous and endogenous factors. The present deplorable situation of the sector with regard to the level of services and performance of the institutions responsible for management and operation of the public services is a direct outcome of the terms and conditions determined by the Oslo II Interim Agreement of 1995 and the occupation and closures imposed on the Palestine by Israel.

Supplying water and wastewater services is an important requirement to reach a high leveling of services, which is a constitutional right of every Palestinian. Current statistics show that 435 communities in the West Bank are currently served with a water network. The total served population in the West Bank (2,194,944 capita) is more than 96%. This population is distributed over different types of localities: urban areas, rural areas and camps. Water network coverage is available for all camps and urban areas. Rural areas are served up to 96%, and the rest are still in the need for a piped network **(PWA, 2012)**. In addition, about 59.8 % of the West Bank population is not served with sewerage networks, and uses mainly cesspits and occasionally septic tanks. Cesspits are emptied by vacuum tankers, which usually dump their contents onto open ground, or into valleys which causes serious environmental problems and severe health diseases. The other 40.2 % is served with sewerage networks which often are poorly

designed and suffer from leakage, but less than 6% of the total population is served with treatment plants **(PCBS, 2010)**. Few treatment plants are found in the West Bank, most of them are overloaded, badly maintained, poorly equipped, under-designed or have experienced mechanical failures and lack of experienced or properly trained staff. The majority of the collected wastewater from the sewered localities is discharged into nearby valleys without any kind of treatment. The situation is worsened by the discharge of untreated wastewater from Israeli settlements **(UNEP, 2002)**.

Palestinians, however, developed national water plans, policies, laws and by-laws to govern water and sanitation sector. The key regulatory instruments for management water and wastewater in the West Bank are; the Water Law (No. 3 of 2002) which is setting out the overall framework of water and sanitation sector governance, the agreements with Israel, particularly the Memorandum of Understanding (MOU) of December 2003 and Oslo II Accord/ Article 40, Environment Law (No. 7 of 1999) which addressed the environmental oversight of the sector and the Local Government Law (No. 1 of 1997, as amended in 1999) which set out the roles of Local Government Units (LGU's).

The recently proposed Institutional Water and Sanitation Framework is still evolving, it envisages clear separation between regulatory and delivery functions. It emphasizes that the National Water Council (NWC) is the policy making body, the Palestinian Water Authority (PWA) is the key regulator, and the service providers as local government units (LGU's) are

the major entities that are responsible for delivering the water and wastewater services at different levels of society. In the future, water and wastewater services will be provided by a National Water Utility together with 3 regional utilities in the West Bank. However, until they can be realized, the current management systems of the local government units (LGU's) in which municipalities, joint service councils, amalgamation municipalities, village councils and sub-regional utilities provide water and wastewater services will continue. Most of these providers lack adequate infrastructures, technical skills, human and financial resource capacity and effective organizational structures; therefore, they operate under a year round deficit **(Pengon, 2007)**.

Different situations call for different organizational structures and this is generally true for urban and rural water and wastewater services in the West Bank. So, the main step in the water and sanitation sector reform is developing organizational structures for the different institutional setups of water and sanitation service providers in order to improve their technical and administrative performance, since the organizational structure is the vessel through which the plans are implemented by the administrative structures which are determined according to the organization activities (main and subsidiary and secondary).

1.2 Research Problem

Water and sanitation service providers across the West Bank are facing many common challenges; including multiplicity of institutional setups for

service providers, some of them provide one service only and some of the other two services for residential groupings, lack of qualified management and modern management systems, most of organizational structures are unclear, outdated, incompatible with needs and some endorsed and others not, lack of appropriate personnel capacity, aging infrastructure and low cost recovery ratios.

Effective management of the service providers of water and sanitation may start form improving the existing organizational structures, which can help them respond to both current and future challenges and support them in their common mission of being successful 21st century service providers.

1.3 Research Motivations

The following are the research motivations:

1. The water and sanitation sector is one of the most important strategic sectors in the West Bank.
2. Supplying water and wastewater services is an important requirement to reach a high leveling of services, which is a constitutional right of every Palestinian.
3. Water and sanitation service provider are one of the key institutional entities that are responsible for delivering the water and wastewater services at different levels of society.
4. Water and sanitation service providers representing the real link between regulators and civil society.

5. There is interest for the development of the water and sanitation sector with a high-financing.
6. There is a new strategic vision for wastewater sector development.

1.4 Research Objectives

The main objective of this research is to build organizational structures for water and /or sanitation departments or divisions at the different Local Government Units (LGU's) in the West Bank.

The specific objectives in this research are:

1. Assessing the legal and institutional framework for the water and sanitation sector in the West Bank.
2. Assessing the selected institutional setups of water and sanitation service providers in the West Bank from technical, financial and institutional aspects.

1.5 Research Outputs

The following are the research outputs:

1. An activity/Responsibility Matrix for water and sanitation sector that shows the actual allocation and fragmentation of responsibilities between the various sector institutions.
2. SWOT analysis for the selected institutional setups of water and sanitation service providers that diagnosis their current technical, financial and administrative situation.

3. Performance indicators for assessing the effectiveness and efficiency of the water and sanitation service providers' performance.
4. Proposed organizational structures and job titles for the different institutional setups of water and sanitation service providers in the West Bank.

1.6 Thesis Outlines

The thesis is organized in eight chapters. Chapter 1 gives an introduction along with background information, research problem, motivations, objectives and the expected outputs. Chapter 2 presents the research methodology. Chapter 3 presents the related literature review. Chapter 4 illustrates the current conditions of the water and sanitation sector in the West Bank. Chapter 5 presents the institutional setups of water and sanitation service providers. Chapter 6 presents the detailed analysis for the selected cases study of the water and sanitation service providers in the West Bank. Chapter 7 presents the proposed organizational structures for the different institutional setups of water and sanitation service providers in the West Bank. The key conclusions and recommendations are furnished in Chapter 8.

CHAPTER TWO

METHODOLOGY

2.1 Introduction

This chapter aims to give an overview of the steps series that the research went through in.

2.2 Research Cases Study

The water and sanitation service providers in the West Bank constitute the target for the research. Consequently, the research was directed to the following different case studies for the institutional setups of water and sanitation service providers as shown in Table 1.

Table 1: Research Cases Study

Institutional Setup	Type of Service	Name
Municipality	Water	Tubas Municipality
	Water, Wastewater collection	Salfeet Municipality
	Wastewater collection, Wastewater Treatment	Al-Bireh Municipality
	Water, Wastewater collection, Wastewater Treatment	Nablus Municipality
JSC	Water, Wastewater collection	Maythaloun JSC
	Water	North East Jenin JSC
Amalgamation Municipality	Water	Al-Kafryyat Municipality
Villages Council	Water, Wastewater collection, Wastewater Treatment	Nuba Village Council
	Water, Wastewater collection	Roujeeb Village Council
	Water	Boureen Village Council
Sub-Regional Utility	Water	JWU
	Water, Wastewater collection	WSSA

2.3 Selection Criteria

The case studies which were chosen are reasonably successful examples of water and sanitation service providers in the West Bank and highlight all institutional setups for service provision and different types of offered services in urban and rural areas, taking into consideration the spatial distribution. Each one has a track record that is based on actual performance. Taken as a whole, the case studies are a rich source of information.

2.4 Source of Data and Information

The research made use of secondary information and primary data. Secondary information was gleaned from publications, documents, reports, archival records and previous researches in relation to the research subject mainly from Palestinian water Authority (PWA), Applied Research Institute –Jerusalem (ARIJ), Palestinian Central Bureau of Statistics (PCBS), national and international publications from internet websites or international journals. On the other hand, primary data for this research were obtained from personal visits to the head Offices of water and/or sanitation departments and/or divisions for each case study and in-depth interviews was made with selected key persons there.

Using secondary and primary data was necessary because no one source could provide the comprehensive data required for this research. In addition, using secondary information and primary data enabled the

researcher to cross-check the findings and generate accurate findings thereby.

2.5 Method of Data Collection

A special questionnaire was designed for each institutional setup to collect administrative, structural, technical and financial information.

The questionnaires were distributed to the key persons of water and/or sanitation departments and/or divisions at the selected local government units. The key person was either the head of the Local Government Units (LGU's), one of the members, or the specialist engineer.

Each questionnaire was divided into 3 parts; the first part is about general information, includes questions about the name of the Local Government Unit (LGU), the degree of classification, the served area, the structural plan and the type of services provided by the local government unit. The second part is about administrative and functional information, it includes questions about the current organizational structure and its problems, job titles, the main tasks of water and wastewater departments /divisions, number of employees in it, water and wastewater strategic plans, work reports, evaluation reports, method and its implications on employee and needs identification. The final part is about technical and financial information, it includes questions about water resources in locality, water networks, sanitation systems, percent of coverage, tariff structure, collection ration, cost recovery, the challenges facing water and/or

wastewater service provision, and the administrative, institutional and financial needs to develop the capacity of water and wastewater departments/divisions (Refer to Annex. A).

2.6 Data Handling and Analysis

The collected data were analyzed using Microsoft Excel. The outputs were summarized and categorized into themes to provide some coherence and structure to the data. An activity / responsibility matrix for water and sanitation sector was developed for assessing the institutional arrangements in which services are planned and delivered to show the actual allocation and fragmentation of responsibilities between the various sector institutions. Also, SWOT (Strength-Weak-Opportunity and Threat) analysis process was applied for the different cases study for diagnosing key technical, financial and administrative issues to provide a clear assessment of the current situation of them. A performance indicators' set were built for assessing the service delivering level and the service providers' effectiveness and efficiency. On the other hand, the organizational structures and job titles for all case studies were analyzed and evaluated according to the instructions of staffs system for the Local Government Units (NGOs) No. (7) for the year 2009 and instructions.

2.7 Building Organizational Structures

The basic principles for building the organizational structures have been applied on the different institutional setups that the cases study were

belong. The staffs of the Local Government Unit's system No. (7) of the year 2009 and instructions for its implementation was used as a reference.

2.8 Methodological Approaches

The research was elucidated according to the following phases; the inception phase, analysis phase and finally the decision phase. Figure 1 depicts the methodology of this research and illustrates the different phase's stages.

The first phase in the methodology is the inception phase. After determining the research objectives, the literature review will be carried out for the existing conditions of water and sanitation sector situation in the West Bank with respect to services provisions, legal framework (i.e., policies, strategies, agreements, laws, bylaws....etc), institutional framework (i.e., main institutions involved in water and sanitation sector, their roles and responsibilities) , the different institutional setups for water and sanitation service providers were identified in addition to understanding the basic principles for development the organizational structures. The research made use of secondary information and primary data. Secondary information was gleaned from publications, documents, archival records in relation to the research subject mainly from Palestinian water Authority (PWA), Applied Research Institute –Jerusalem (ARIJ), Palestinian Central Bureau of Statistics (PCBS), and other available documentations on the subject matter. As already indicated, primary data for this research were obtained through designing proper questionnaires for

each institutional setups for water and sanitation service providers, conducting structured interviews with selected key persons and institutions.

Secondly, the analysis phase. The collected data about the water and sanitation sector were analyzed well through developing an activity/responsibility matrix to show the actual allocation and fragmentation of responsibilities between the various sector institutions in the sector. SWOT analysis process was applied for the selected cases study to provide a clear assessment of the current situation of them. A performance indicators' set was built for the selected service providers.

In the third phase, the basic principles for building the organizational structures have been applied on the different institutional setups, consequently, different organizational structures and job titles were developed. Finally, the results were evaluated, the main conclusions were highlighted and the major recommendations were set up for the improved results.

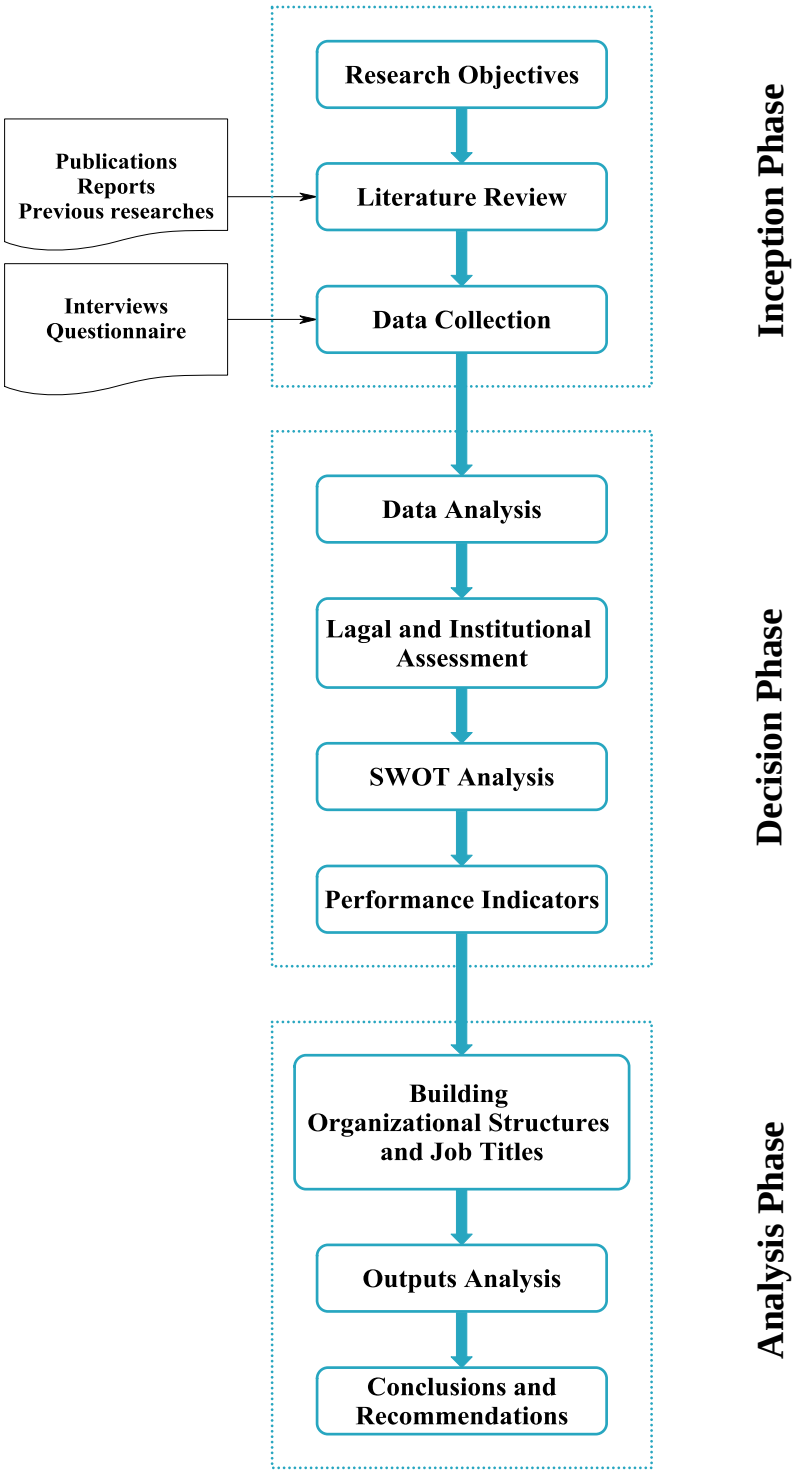

Figure 1: A flowchart of research methodology

CHAPTER THREE

LITERATURE REVIEW

3.1 Conceptual Framework

3.1.1 Institution and Organization Definition

The words "institution" and "organization" are usually used interchangeably or inclusively and often lead to misunderstandings and misguided interventions.

The most widely used definition is the one propounded by North (1990), who pithily described institutions as "rules of the game" and organizations as "the players". So, according to North (1990) "institutions are the rules of the game in a society or, more formally, are the humanly devised constraints, rules, regulations, laws and rights that shape human interaction. In consequence they structure incentives in human exchange, whether political, social or economical".

Also, Scott (2001) says that institutions " consist of cognitive, normative, and regulative structures and activities that provide stability and meaning to social behavior. Institutions are transported by various carriers–cultures, structures, and routines–and they operate at multiple levels of jurisdiction".

On the other hand, Uphoff (1992) define the organizations as" a group or association, formal or informal, in which there are defined and accepted roles, positions and responsibilities structured in some relationship to each other in order to achieve a specific objective(s)". Though organizations are not identical to institutions, they reciprocally influence each other.

3.1.2 Institutional Theory

Consistent with the institutional literature, Saleth and Dinar (2000) shows that water and sanitation institutions are conceived in a much broader sense than mere organization. Water and sanitation institutions set the rules and define, thereby, the action sets for both individual and collective decision-making in the realm development and management. Since these rules are often formalized in terms of three inter-related aspects, i.e., legal framework, policy environment, and administrative arrangement, water and sanitation institutions can be conceptualized as an entities defined interactively by its three main analytical components, i.e., water and sanitation law, water and sanitation policy, and water and sanitation organizations as shown below in Figure 2. On the other hand, Laws and policies form the software component of water and sanitation institutions whereas organizations form as hardware component of water and sanitation institutions.

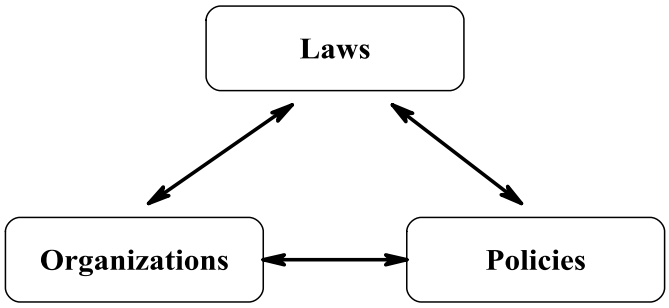

Figure 2: Water and sanitation institutional structure
Source :(Saleth et al., 2000)

Each of these components can also be decomposed further to highlight some of the key institutional aspects. For instance, water and sanitation law

can be decomposed to highlight: (a) inter-governmental responsibility, (b) treatment of water sources and water-related resources (c) water rights (d) conflict resolution mechanisms, (e) accountability provisions, and (f) scope for private sector participation. Similarly, water and sanitation policy can be decomposed to shed light on: (a) inter-sectoral priority, (b) project selection criteria, (c) pricing and cost recovery, (d) inter-regional/sectoral water transfers, (e) user and private sector participation policy, and (f) policy linkages with other sector and technology policies. In the same way, the organizational dimension of water and sanitation institutions can be decomposed to focus on: (a) the relative role of government layers, (b) organizational structure (c) budgetary adequacy and staffing pattern, (d) autonomy, (e) regulatory mechanisms, and (f) information and technical capabilities.

The three main dimensions of water and sanitation institutions (law, policy and organization) are affected with many factors which have a diverse origin and varying level of impact .These factors can be grouped into endogenous factors that are internal to water and sanitation sector and exogenous factors that are outside the strict confines of both water and sanitation institution and sector. The endogenous factors include water scarcity, water conflicts, financial and physical deterioration of water and sanitation infrastructure, and operational inefficiency of institutions. The exogenous factors include general legal system, economic development, demographic growth, technical progress, economic, policies, political

reforms, international commitments, changing social values and ethos **(Saleth et al., 2000)**.

3.1.2.1 Legal Framework

The legal framework is a powerful and crucial tool to support sanitation and water management on the local level. It also includes control mechanisms which guarantee water and wastewater services to beneficiaries according to standards that take into consideration service continuity and the socioeconomic, environmental and human dimension of water as a social value and an essential requisite for the continuity and evolution of society **(PWA, 2010)**.

So, the core governmental role is to formulate policies, through which the government can delimit the activities of all sanitation and water management stakeholder groups, including itself. Appropriate policies can lead to the development of laws and rules and regulations designed to achieve policy goals.

The role of laws for sanitation and water management is to implement and enforce policy, and provide effective administrative and regulatory mechanisms at appropriate levels. Peters (2011) says that "good laws for sustainable sanitation and water management recognize and acknowledge existing uses and rights, including international norms".

3.1.2.2 Institutional Framework

The term “institutional framework” refers to a set of formal organizational structures, rules and informal norms for service provision. In the field of water and sanitation management, Peters (2011) says that the institutional framework involves outlining the responsibilities of services institutions for various aspects of the sector. Institutional structures vary from country to country, but whatever the specific structure is like, it is essential to have mechanisms for dialogue and co-ordination.

An institutional framework for sanitation and water management should show integrity, comprehensiveness and a sound division of roles and responsibilities. Suzuki (2010) shows that the institutional framework consists of a range of different key institutional entities that are in place (or need to be in place) to develop, manages and delivers the water and wastewater services at different levels of society as shown in Figure 3. They include: policy makers, regulators, service providers, and customers (civil society) as following:

1. **Policy maker**: The policy-making function resides mainly at the central level, and national policies are normally imposed on cities.
2. **Regulator**: The regulatory system is responsible for enforcing rules to guarantee compliance with service standards and other sector policies to ensure sustainability. This requires providing adequate services at affordable prices. The three subsystems under the regulatory functions are the environmental regulation subsystem (issuing licenses for

abstraction and disposal), the quality regulation subsystem (ensuring compliance with standards for drinking water, wastewater treatment, and the quality of works), and economic regulation subsystem (reviewing prices to ensure tariffs are proportionate to real costs, promoting efficiency and conservation, and enabling sustainability and affordability among the poor).

However, it is important to ensure separation between regulators and service providers to avoid conflicts of interest. The regulator ensures that customers receive services up to agreed standards to mitigate the risk that service providers underperform. Both bodies should not be under the jurisdiction of the same entity. It is equally important that the policy-making body and regulator be separate institutions.

3. **Service provider**: Service providers are responsible for providing water and sanitation services in the city, including water distribution and treatment and associated customer relations. Water sources may be located within the city and managed by the service providers or outside the city and managed by different water providers. The same service provider should provide wastewater collection and treatment services. Consolidating these services will help improve the control over all services and promotes accountability and more efficient operations. Service providers may be private companies (France, Germany, the United Kingdom, and so on), public utilities (Australia, Germany, and South Africa), municipalities (France, Egypt, Germany, Jordan, and Palestine), or Joint Service Councils (Palestine).In some cases,

multifunction utilities offer water, wastewater, and other services.

4. **Civil Society**: Civil society should be institutionalized by established user associations and appropriate participation channels. This helps ensure public participation in development and decision making.

   Policy makers and regulators often consult user associations to assess and ensure the adequacy of policies, legislations, regulations, and service levels. Service providers should recognize users as genuine customers who drive revenue and sustainability.

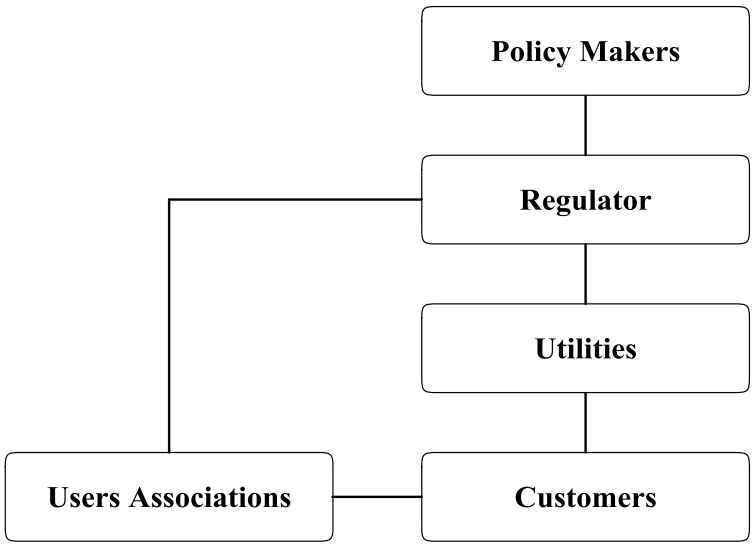

Figure 3: Ideal institutional setup in water and sanitation sector
Source: **(**Suzuki et al., 2010)

3.2 Organizational Structure

The literature review provides several definitions, common characteristics and types of organizational structure.

3.2.1 Organizational Structure Definition

The structure of the organization describes the functions, tasks and authorities of the departments, divisions and individual employees and the relationships between them (line of command, communication and procedures). It also describes the number of employees in each division, unit and department. On the one hand the structure divides departments, divisions and individuals on basis of tasks, functions and authorities. Also, the structure coordinates these units through lines of communication and command. Only when the different units work in conjunction, the organization is able to function as a whole **(Rijn, 2004)**.

Chinn (2011) defines the organizational structure as: "the framework on which a business is built. It determines the manner in which decisions are made; how work and resources are allocated; how information flows throughout the organization; and the roles and responsibilities of each position in the organization. Organizational structure is typically summarized in an organizational chart and is determined by the nature of the business".

Organizational structure is defined in the MONASH Marketing Dictionary (2004) as: "the way in which a firm has arranged its lines of authority and communication, and allocated duties and responsibilities; the structure may be of a divisional, geographic or functional kind or some combination of these".

Underdown (2003) says organizational structure "is the formal system of task and reporting relationships that controls, coordinates, and motivates employees so that they cooperate to achieve an organization's goals".

According to George Terry, Organization chart is "a diagrammatical form which shows important aspects of an Organization, including the major functions and their respective relationships, the channels of supervision and the relative authority of each employee who is in-charge of each respective function".

3.2.2 Organizational Structure Significance

Rijn (2004) says that the organizational structure is the formal and informal policies and procedures the organization uses it for effectively manage jobs, employees and to facilitate the different processes. A general rule of the thumb is that the organization structure should enhance the progress of the processes.

Vitez (2009) says that the organizational structure is made of the different elements that create a flow of communication and ideas throughout an organization; enhancing decision making process and help harnessing experience to increase employee performance in order to improved customer service

3.2.3 Organizational Structure Determinants

Robbins & Judge (2007) identifies the main factors that affect organizational structure as shown below in Figure 4 as the following:

1. **Organization's Strategy**: An organization pursues a strategy to develop the skills, knowledge, and capabilities that will allow it to compete successfully in its environment for resources and gain a competitive advantage, outperforming its competitors.

2. **Organization's Environment** : is the set of forces surrounding an organization that determine its ability to obtain resources, so the structure and culture of an organization must be designed in a way that allows organizational members to secure and protect the organization's access to the resources it needs to achieve its goals.

3. **The technology the organization uses**: The combination of human resources and raw materials and equipment that workers use to convert raw materials into finished goods and services.

4. **Organization's Size**: In terms of the size of the work it does, employees, revenue, and the geographic dispersion of its facilities. As an organization grows larger, its structure tends to increase specialization, departmentalization, centralization, rules and regulations, has a tall structure, with numerous levels in its hierarchy of authority. Large organizations also reap the efficiency advantages of economies of scale.

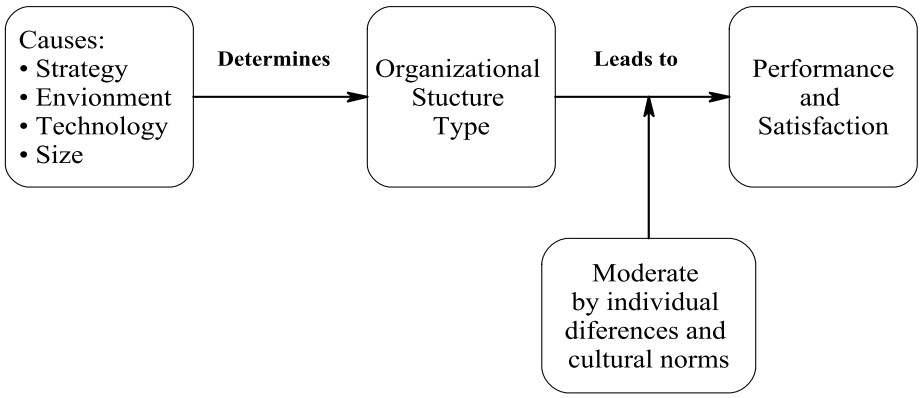

Figure 4: Organizational structure determinants and outputs
Source: (Robbins & Judge, 2007)

3.2.4 Organizational Structure Characteristics

Chinn (2011) identifies the key elements or characteristics of the organizational structure as following:

1. **Work specialization**: The degree to which tasks are subdivided into separate jobs.
2. **Departmentalization**: is to group similar or related jobs and people into larger units, called departments, divisions or sections. The department may be based upon functions or products.
3. **Chain of command**: an unbroken line of authority that extends from the top of the organization to the lowest echelon and clarifies who reports to whom.
4. **Span of control**: Number of subordinates a manager can effectively and efficiently oversees/direct.
5. **Centralization**: The degree to which decision making is concentrated at a single point in the organization i.e., decisions are made at the top of the organization.

6. **Decentralization**: Decision authority pushing downward to lower level.
7. **Formalization**: The degree to an organization tends to document its processes, rules and regulation.

In "Organizational theory", Brogatti (1996) asserts that degree and types of horizontal and vertical differentiation, control and coordination mechanisms, formalization and centralization of power as determinants of organizational structure.

On the other hand, Barnes (2002) says that building the structure based on two critical factors, the fist one is groups of employees with a common purpose and the second is the level of management responsibility. Figure 5 illustrates groups and management levels in organizational structure.

In Figure 5, the names of groups are utility, department, division, section or unit. The names of management levels are general manager, director, manager, supervisor or foreman. Level A has more responsibility that Level E. These arrangements are a road map for delegation and accountability.

So, an effective structure facilitates clarifies relationships, roles and responsibilities, levels of authority, and supervisory or reporting lines. Typically, the structure of an organization evolves as the organization grows and changes over time.

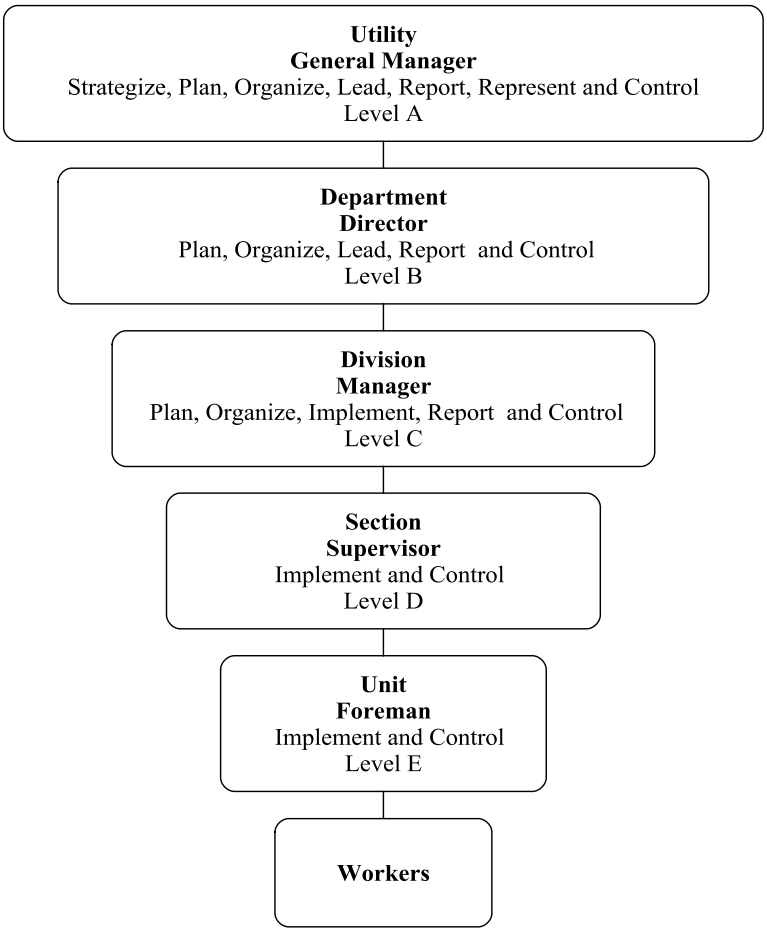

Figure 5: Management levels in Organizational Structure
Source: (Barnes, 2002)

3.2.5 Major Types of Organizational Structure

Lorette (2010) identifies the major types of organizational structures as following:

1. Functional Structure

A functional organizational structure, also called a bureaucratic organizational, works are divided into specific areas of specialization: jobs and activities are grouped together by common function, from the bottom to the top of the organization; the employees are working in departments as shown in Figure 6.

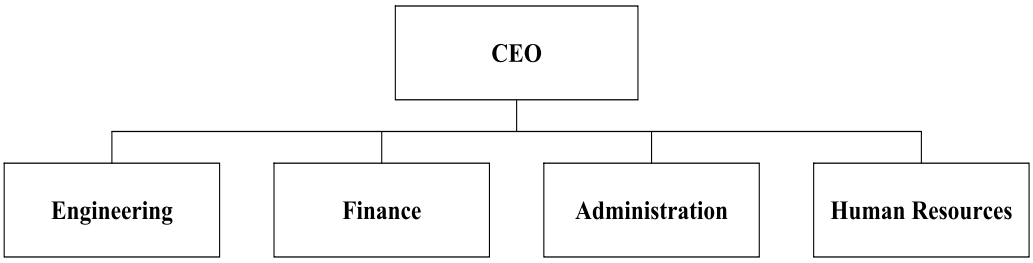

Figure 6: Functional Organizational Structure

With a functional structure, all human knowledge and skills with respect to specific activities are consolidated, providing a valuable depth of knowledge for the organization. This structure is most effective when in-depth expertise is critical to meeting organizational goals, when the organization needs to be controlled and coordinated through the vertical hierarchy, and when efficiency is important. The structure can be quite effective if there is little need for horizontal coordination **(Daft, 2008)**. This structure with highly routine operating tasks achieved through specialization, vey formalization rules and regulation, tasks that are grouped into functional departments, centralized authority, narrow span of control, and decision making that follows the chain of command. This structure encourages collaboration, efficiency, and quality within the function but makes coordination, cooperation or integration with other departments more difficult. Table 2 summarizes the strength and weakness of the functional organization structure.

Table 2: Strengths and Weaknesses of Functional Organizational Structure

Strengths	Weaknesses
1. Allows economies of scale within functional departments	1. Slow response time to environmental changes
2. Enables in-depth knowledge and skill development	2. May cause decisions to pile on top; hierarchy overload
3. Enables organization to accomplish functional goals	3. Leads to poor horizontal coordination among departments
4. Is best with only one or a few products	4. Results in less innovation
	5. Involves restricted vie of organizational goals

Source: Organization Theory and design. Daft (2008)

2. Divisional Structure

The divisional form is organized according to the various outputs that enable an organization to produce goods and services, i.e., the employees can be divided based on the product/customer segment/geographical location as shown in Figure 7.

Accordingly, this structure is a decentralized structure and thus allows for flexibility and quick response to environmental changes. It also enhances innovation and differentiation strategies. On the other hand, this structure results in duplication of resources

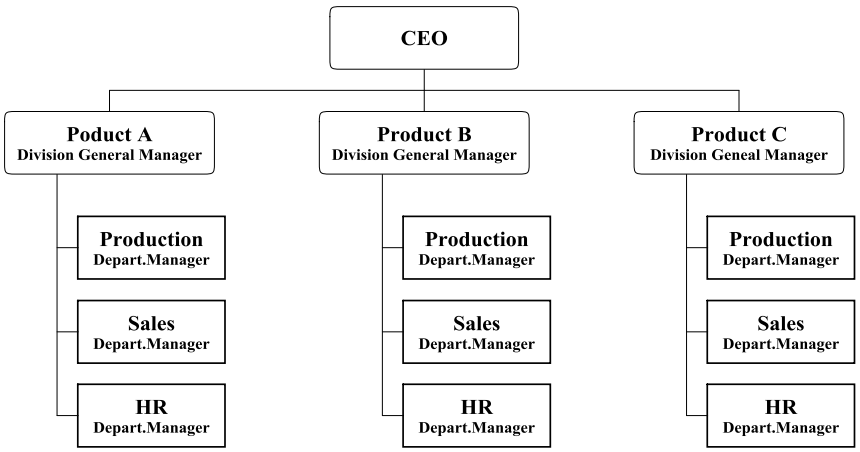

Figure 7: Divisional Organizational Structure

Obviously, it does not support the exchange of knowledge between people working in the same profession because parts of them are working in one division and the others are working in other divisions. Table 3 summarizes the strength and weakness of the divisional organization structure.

Table 3: Strengths and Weakness of Divisional Organizational Structure

Strengths	Weaknesses
1. Suited to fast change in unstable environment	1. Eliminates economies of scale in functional departments
2. Leads to customer satisfaction because product responsibility and contact points are clear	2. Leads to poor coordination across product line
3. Involves high coordination across functions	3. Eliminate in-depth competence and technical specialization
4. Allows units to adapt to differences in products, regions, customers	4. Makes integration and standardization across product lines difficult
5. Best in large organizations with several product	
6. Decentralizes decision making	

Source: Organization Theory and design. Daft (2008)

3. Matrix Structure

The matrix organizational structure combines the functional (technical expertise) and divisional (horizontal coordination) structures. There are project teams, bringing skilled individuals together from across the organization, but there are still divisions. As shown in Figure 8, a person has two bosses, i.e., the division manager and the project manager.

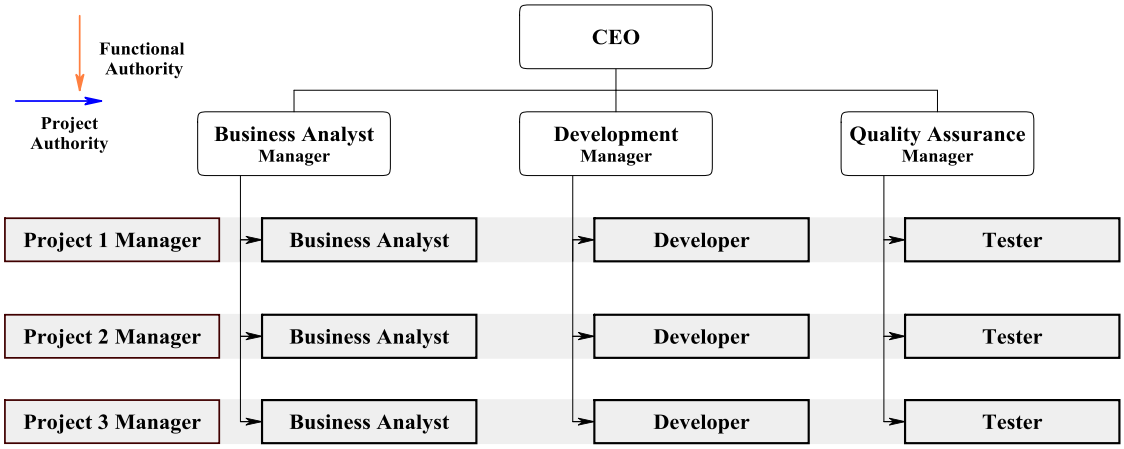

Figure 8: Matrix Organizational Structure

In this organizational structure, projects benefit from having cooperation across the company in that the best and the brightest in the company can weigh in on projects they otherwise may not have access to. Responsibility and jurisdiction are not clearly defined. Matrix organizations also tend toward the development of cliques, as all decisions generally fall to a select group. The matrix structure is best when environmental change is high and when goals reflect a dual requirement, such as for both product and functional goals. The dual-authority structure facilitates and enables an equal balance between product and functional bosses. The matrix facilitates discussion and adaption to unexpected problems. It tends to work best in organizations of moderate size with few product lines. Table 4 summarizes the strength and weakness of the matrix organization structure.

Table 4: Strengths and Weaknesses of Matrix Organizational Structure

Strengths	Weaknesses
1. Achieves coordination necessary to meet dual demands from customers	1. Causes participants to experience dual authority, which can be frustrating and confusing
2. Flexible sharing of human resources across products	2. Means participants need good interpersonal skills and extensive training
3. Suited to complex decisions and frequent changes in unstable	3. Is time consuming; involves frequent meeting and conflict resolution sessions
4. Provides opportunity for both functional and product skill development	4. Will not work unless participants understand it and adopt collegial rather vertical type relationships
5. Best in medium-sized organizations with multiple products	5. Requires great effort to maintain power balance

Source: Organization Theory and design. Daft (2008)

4. Others

Robbins (2007) discuss the span of control width characteristic (which is affected by skills and abilities of the manager, employee characteristics, characteristics of the work being done, similarity of tasks, complexity of tasks, physical proximity of subordinates and standardization of tasks) and shows that the organizational structure may be wide spans (larger number of direct reports) or narrow spans (fewer numbers of direct reports), wider spans of management increase organizational efficiency, but the narrow span drawbacks, expense of additional layers of management, increased complexity of vertical communication and encouragement of overly tight supervision and discouragement of employee autonomy. Also, organizational structure may be tall (more management layers and more hierarchical controls) or flat (fewer management layer and decision making closer to the customer).

3.3 Job Titles

Job titles are official names or designations for the title of an employee performing a specific job. Job titles designate a specific role, in a specific job, that has a particular status, at a particular level in the hierarchy of an organization. Heathfield (2000) says that job titles designate the positions or job responsibilities of the executive management, management, supervisory, professional, and employee positions or levels within the job structure of an organization, it also illustrate the reporting relationships and level status of various employees within an organization.

Precise job titling has a number of benefits including: indicate the level of management responsibility, reliably describing the job itself, identifying relationships amongst jobs, making it easier to compare jobs within an organization and in the broader marketplace, as well as facilitating human resource planning and the development of a rational compensation plan, occupational supply and demand analysis and employment and pay equity. Also job title may be used by a recruiter to search for candidates or by a job seeker who is searching for job openings.

Barnes (2002) shows in order to design good and meaningful titles, it should be divided into three levels according to the selected management levels as following:

1. Management Titles

The management and supervisory titles designed as the following:

- General Manager
- Department Director
- Division manager
- Section Supervisor, and
- Unit Leader

2. Non-Management Titles

Non-Management employees generally fall into two groups, within these groups levels of skill and experience may vary.

- Professionals
- Workers

3. Level of Proficiency

Within the professional ranks, there are three distinctions:

- Certified
- Academically trained and experienced
- Entry level, inexperienced

Within the professional and workers ranks, there are many distinctions as in Table 5.

Table 5: Distinctions between professional and workers ranks

Professionals		
Status	**Grade**	**Title**
Certified	A	Senior
Trained and Experienced	B	Associate
Entry Level	C	Junior
Workers		
Status	**Grade**	**Title**
Skilled	A	Tradesman
Semi-skilled	B	Apprentice
Unskilled	C	Unskilled

Source: A Challenging Experience in Organization Development. Barnes (2002)

CHAPTER FOUR

CURRENT STATUS OF WATER AND SANITATION SECTOR IN THE WEST BANK

4.1 Current Water Supply and Sanitation Conditions

The West Bank faces deficiencies in the water supply and sanitation sector; the current water crisis is not only a consequence of the water scarcity in the region, but also an inherent part of the Israeli occupation to the Palestinian lands. The full control of the Israelis over water resources and infrastructure development has resulted in obvious inadequacy of water supplies in the Palestinian regions depriving them from the basic human rights to water. The sewage problem is even more complicated with the absence of appropriate sewage treatment facilities and inadequate wastewater management at all stages.

4.1.1 Current Water Supply, Distribution and Network Coverage

4.1.1.1 Water Supply and Distribution

Total supplied amounts of water in the West Bank were obtained from two main resources: Local Resources which are the main sources for most of the local governorates, obtained from 250 groundwater wells (domestic wells, agricultural wells, PWA wells, Jerusalem Water Undertaking (JWU) wells) and local springs. Local Resources represent 64% of the total available resources. In addition to more than 36% of water are purchased from the Israeli company "Mekorot" to minimize the supply-demand gap **(PWA, 2012)**.

Only 60 MCM - of total 85 MCM - of water supplied for domestic purposes in the West Bank was actually consumed , leaving an average

consumption rate of 73 l/c/d that lies below the minimum World Health Organization's (WHO)'s standards (100 l/c/d) and in some cases barely 15 liters per day. On the other hand, water supply for agricultural purposes accounts for 45% of the total supplied amounts in the West Bank (69 MCM) **(PWA, 2012)**.

These amounts are managed and finally distributed to the end users by the local village councils, joint service councils, municipalities, service providers and the WBWD, where PWA regulates the whole process.

4.1.1.2 Water Network Coverage

Current statistics show that 435 communities in the West Bank are currently served with a water network. The total served population in the West Bank (2,194,944 capita) is more than 96%. This population is distributed over different types of localities: urban areas, rural areas and camps. Water network coverage is available for all camps and urban areas. Rural areas are served up to 96%, and the rest are still in the need for a piped network **(PWA, 2012)**.

4.1.2 Current Wastewater Collection, Treatment and Reuse

4.1.2.1 Wastewater Collection Systems

The West Bank is suffering from improper wastewater management and lack of sewerage systems which are limited to the major cities; about 71 communities are connected to sewage network, whereas 465 communities

use porous and cesspits to dispose their sewage **(PCBS, 2010)** as shown in Figure 9. Total annually wastewater generated in West Bank is estimated at 50 MCM **(PWA, 2010)**.

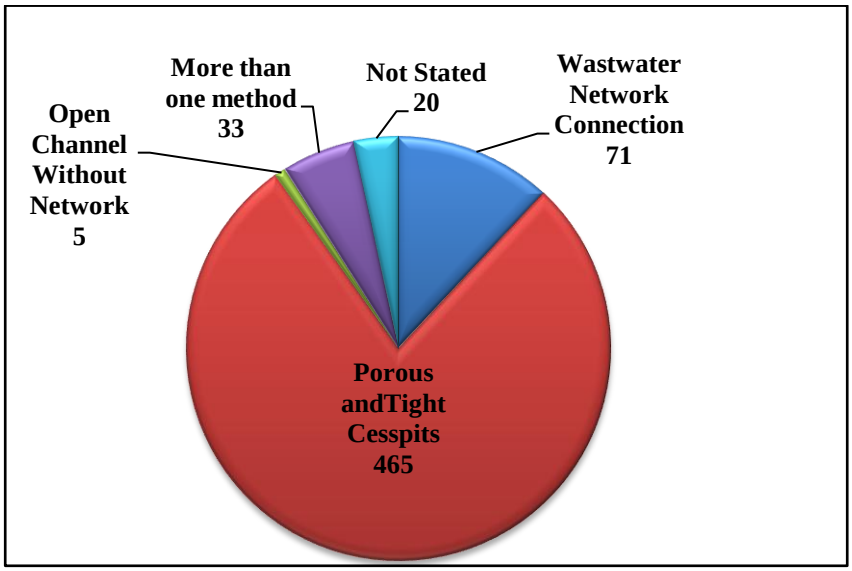

Figure 9: Number of Localities in the West Bank by Wastewater Disposal Methods

According to PCBS (2010) surveys, about 40.2% of the West Bank populations served by sewerage networks. Of the remaining 59.8% still rely on cesspits, septic tanks and other method for disposal wastewater. However, many of these networks are poorly designed and suffer from leakage. Cesspits are emptied by vacuum tankers, which usually dump their contents onto open ground, or into wadis which causes serious environmental problems and severe health diseases.

4.1.2.2 Wastewater Treatment

There has been little progress on wastewater treatment with negative environmental results in Palestine, since Oslo II **(World Bank, 2009)**. The

existing wastewater treatment plants in the West Bank are inadequate to serve the volume of wastewater being discharged **(SEMIDE-EMWIS, 2005)**.

The World Bank (2009) highlights that "In West Bank, just four towns have wastewater treatment plants, producing poor quality effluent, and there is no planned or regulated reuse of effluent". These wastewater treatment plants exist namely in Ramallah, Jenin, Tulkarm and Hebron, in addition to six small-scale ones. All have operational difficulties and experienced mechanical failure. The majority of these plants are currently overloaded having very low capacity, badly maintained, poorly equipped, and thus represent a serious environmental and public health hazard in urban or rural area. However, there are many ongoing studies for construction wastewater treatment plants, especially in Nablus and Hebron city.

Ninety to 95 percent of Palestinian wastewater is not treated at all, and only one Palestinian wastewater treatment plant is currently functioning (Al Bireh WWTP). Due to the lack of treatment plants, even when residents empty the cesspits, the wastewater ends up in valleys, sewers, irrigation channels or refuse dumps **(Hareuveni, 2009)**.

Proper treatment of wastewater is challenging due to limited funding, lack of infrastructure, and the depressed economy. The situation is further complicated by the ongoing Israeli occupation. Israel controls the planning and permitting process for new facilities.

4.1.2.3 Wastewater Reuse

The combination of water shortage, contamination of water resources, densely populated urban areas and intensively irrigated agriculture makes it essential to put wastewater treatment and reuse high on the list of priorities. Effluents constitute the most readily available and cheapest source of additional water and provide a viable partial solution to the water scarcity problem, especially in the West Bank **(UNEP, 2002)**. Since the total agricultural area is around 165,000 hectares (62% fruit trees, 11% vegetables, and 27% field crops). Around 93 MCM/yr of water is used for irrigation, or 70% of the total water resources. Irrigated agriculture represents 37% of total agricultural production compared to only 24% from rain-fed agriculture **(McNeill et al., 2008)**. Therefore, the Palestinian Water Authority prepared reuse strategies in 2003 that encourage and enforce reuse of treated wastewater **(Jarrar, 2007)**.

However, the Palestinian experience in reuse is still young and poor comparing with neighboring countries like Israel, Jordan and Tunis which are pioneer in wastewater reuse, mainly because of the lack of proper sewage collection and treatment system that enables the treated wastewater to a level that could be used in agricultural productions **(Zimmo & Imseh, 2005)**. In addition to lack a reliable financial structure with cost recovery mechanisms that may motivate farmers to use the treated wastewater and there is no comprehensive pricing policy or prices for reuse. So, farmers do not pay for neither reuse nor do they pay a penalty for using raw wastewater in irrigation **(Jarrar, 2007)**.

4.2 Legal Framework for Water and Sanitation Sector

According to the Palestinian National Sector Strategy for Water and Wastewater, the legal framework guarantees the sustainable management of water and wastewater. It also includes control mechanisms which guarantee water and wastewater services to beneficiaries according to standards that take into consideration service continuity and the socioeconomic, environmental and human dimension of water as a social value and an essential requisite for the continuity and evolution of Palestinian society **(PWA, 2010)**.

So far, a number of policies, strategies, agreements, laws, by laws and ministerial decisions are governing Palestinian water and sanitation sector (Refer to Annex. B). But the primary sectoral legal instrument for management water and wastewater is the Water Law (No. 3 of 2002) which setting out the overall framework of water and sanitation sector governance. Environmental oversight of the sector is addressed through the Environment Law (No. 7 of 1999). The role of Local Government Units (LGU's) in the sector is set out in the Local Government Law (No. 1 of the year 1997, as amended in 1999) and in the Statute for Joint Service Councils, adopted in 2006 under authority of Section 15 of the Local Government Law. The framework for co-operation in the field of water and sanitation between Palestine and Israel is established in Oslo II/Article 40 - also called the Interim Agreement – and the MOU of December 2003. The relevant legal framework that governing Palestinian water and sanitation

sector established is set out below.

4.2.1 National Water Policy

The stated policy for the management of the Palestinian water and sanitation sector which will form the basis for decisions on the structure and tasks of water and sanitation sector institutions, legislation and the management strategy, as set out in the National Water Plan of the Palestinian Water Authority **(PWA, 2000)**, and its implications for wastewater services is described below:

1. **Pursue Palestinian interests in connection with obtaining riparian rights to water resources shared with other countries**;
   - Treated wastewater is not a replacement of water rights
2. **All sources of water are public property**;
   - Collection, treatment system and reuse scheme should be owned by government.
   - Treated wastewater is seen as a source of water.
3. **Water has a unique value for human survival and health and all citizens have the right to water of good quality for personal consumption at costs they can afford;**
   - The treated wastewater should meet the WHO standards for reuse.
   - The government should put pricing policy for reuse; to motivate farmers and cover the minimum operational and maintenance costs of any reuse scheme.

4. **Water has social, environmental and economic values;**

- The safe, controlled and efficient re-use of treated wastewater has the potential to meet some of the urgent demands for water in the country.
- The treatment of wastewater reduces the volume of discharged wastewater that resulting in beneficial impact on the fresh water resources (surface and groundwater), the environment and public health.

5. **Water supply must be based on sustainable development of all available and feasible water resources;**

- The reuse of treated wastewater as available resources of water should guarantee the long term maintenance of ground water and surface water pollution prevention.

6. **Industrial and agricultural development and investment must be compatible and optimally integrated with the available resources and based on sustainable development;**

- The water consumption in industrial and agricultural sector should be adjusted on a cost-efficiency basis; such as use the treated wastewater and improved the technology.
- Available treated wastewater should be allocated to both sectors. On optimal utilization**.**

7. **The development of Palestinian water resources must be co-ordinate at national level and carried out at the appropriate local level;**

- Establishment of the planning tools (Regulations, Standards, Guidelines, etc.) for reuse and recharge.
- Co-operation and coordination must be established with all relevant stakeholders.
- Allow private sector and/or public to manage or share the management of wastewater reuse projects.

8. **Management of the national water sector should be carried out by one responsible body, with the institutional responsibility for policy and regulatory functions separated from the service delivery functions;**

- Palestinian Water Authority (PWA) as regulator supervisor of the water and sanitation sector should carry out its activities in close collaboration with relevant sectoral authorities.

9. **Water management at all levels should integrate water quality and quantity;**

- Choose proper technology for treatment wastewater.
- The treated wastewater should be met the WHO standard for reuse.
- For better water quality and reuse efficiency, consider (i) mixing of treated effluent with urban and surface runoff, (ii) artificial recharge of groundwater with treated effluent wherever possible, and (iii) establish surface storage of treated effluent with or without harvested runoff.

10. Water supply and wastewater management should be integrated at all administrative levels;

- Any institutional set up should consider the fact that water and wastewater management in one integrated matter.
- Wastewater is potential resource for raw water supply

11. The optimal development of water supply must be complemented by a consistent water demand management;

- The development of wastewater treatment and reuse should consider demand management consequent.
- The government should put pricing policy for reuse; to motivate farmers and cover the minimum operational and maintenance costs of any reuse scheme.

12. Conservation and optimal utilization of water resources should be promoted and enhanced;

- Treated wastewater is seen as a source of water
- Treatment and reuse the wastewater should be enhanced.

13. Protection and pollution control of water resources should be ensured. The polluter pays principle will be applied in order to guarantee environmental protection;

- Establishment of the legal tools (Regulations, Standards, Guidelines, etc.) for treatment and reuse.
- The government should put pricing policy for reuse**.**
- The government should impose penalties on environment polluter.

14. The government will cooperate with regional and extra-regional parties on programmes and projects in order to promote the optimum utilization of water resources, to identify and develop new and additional supplies and to collect and share relevant information and data;

- Regional cooperation should include wastewater treatment schemes if needed and this should be reflected in the institutional set up.

15. Public participation in the water sector should be ensured.

- Public participation in planning, operation and management of wastewater.
- Public awareness of the role of treated wastewater in both public and private domain and its environmental and economic value is important for informed decision making.

Based on the principles of Palestinian Water Policy; adequate and reliable water supply and wastewater infrastructure is one of the key elements needed for improving the socio-economic situation of Palestine. An effective management for water and sanitation sector need to develop regulatory framework for restructuring and private sector participation in water and wastewater services should be developed, appropriate institutional arrangements for water and sanitation service providers should be determined in order to improve management services. The overall water and wastewater services shall be economically sustainable and fees should cover both operational and investment costs. The tariff system shall be

practical to implement and enforce. Approve and introduce the new progressing water tariff structure for the water and sanitation service providers, including fees for sewerage and for untreated industrial wastewater, is also a key factor in the process.

4.2.2 Water Management Strategy

The overall development objective of the Water Management Strategy is to translate the messages of the National Water Policy into strategic imperatives; the strategy emphasizes the necessary aspects of water development as the establishment of a comprehensive framework for sustainable management of Palestine's water resources. In addition to development of appropriate institutional set-up for reforming and strengthening the water and sanitation sector in co-ordination with relevant stakeholders **(PWA, 2000)**. The strategy comprises of eight major elements as follows:

1. Secure Palestinian water rights;
2. Strengthen national policies and regulations;
3. Build institutional capacity and develop human resources;
4. Improve information services and assessment of water resources;
5. Regulate and co-ordinate integrated water and wastewater investments and operations;
6. Enforce water pollution control and protection of water resources;
7. Build public awareness and participation; and
8. Promote regional & international co-operation.

To pursue the main goal and elements of the strategy, PWA has developed scenarios. All scenarios developed consider collection, treatment and reuse of wastewater as a priority issue and accounts the anticipated treated wastewater quantities as part of the overall water use budget in Palestine.

4.2.3 Agreements with Israel

The Palestinian water and sanitation sector is governed by two agreements with the Israeli side:

1. The Palestinian-Israeli Interim Agreement (Oslo II/Article 40) concerning water and sewage issues in the West Bank and Gaza was signed in 1995. It established the framework for co-operation in the field of water and sewage between Palestine and Israel and establishing the Israeli-Palestinian Joint Water Committee.

2. The Memorandum of Understanding signed in 2003 on Guidelines and Technical Criteria for Sewerage Projects, Joint Water Committee.

The MOU is the most recent document that governs treatment and reuse standards and will consequently drive the treatment technology and reuse strategies that will be used in Palestine. The MOU sets out agreements for the collection systems, wastewater treatment, sludge treatment, effluent reuse and disposal, sludge reuse and disposal and cooperation between the two sides **(Jarrar, 2007)**. The MOU's very high standards will make implementation costly and very difficult even though a phased

implementation approach to meeting requirements has been agreed **(World Bank, 2004)**.

4.2.4 Water Law No. 3, 2002

The Water Law No. (3) of the year 2002 aims to sustainable development and management for the existing water resources, increase their capacity, improve their quality, protect them from pollution and depletion and provide and satisfy social and individual needs in an optimal and equitable way.

It also defines the roles and responsibilities of PWA and the National Water Council (NWC), but fails to offer any guidance on other institutions (i.e. Ministry of Agriculture) and to define the overall sector architecture under which the NWC and the PWA have to operate. It makes the following key provisions with regards to the disposal, treatment and reuse of waste water:

- **Property**: All water resources are considered public property (article 3);
- **Regulation**: A license must be obtained to set up or operate a facility for water or wastewater (article 4) in order to ensure that effluent discharges met standards that will not pollute existing resources;
- **Finance**: A unified water tariff system should be set (article 20) in a fair and equitable manner in order to promote the best use of water resources;
- **Institutions**: The Water Authority has the juridical personality and full responsibility for managing the water resources and wastewater in West

Bank; National Water Utilities will be established to provide water and wastewater services (article 25); Regional Utilities and water users associations shall set the prices of water for different usage, in accordance with the approved tariff system (article 26);

- **Protection of the Environment**: Special guidelines for the Environmental Impact Assessment for any activity related to water resources should be prepared (article 29); Anyone who causes pollution in any water resource or its supply system must remove the pollution to that source or system at his own expense (article 32).

In general, the Water Law lacks clarity as a result of the neglect given to defining the exact nature of and relationships between the sector institutions. The Water Law defines the roles and responsibilities of the PWA and the National Water Council (NWC), but fails to offer any guidance on other institutions (i.e. Ministry of Agriculture) and to define the overall sector architecture under which the NWC and the PWA have to operate. The Water Law does however provide PWA with the jurisdiction over the utilities responsible for water provision and wastewater services. On the other hand, there is a major difference between the governance structure envisaged under the Law and the current set up. The NWC has met once and has never functioned as intended. The PWA is not only a regulator but also an implementer, with both the WBWD (bulk water and water projects) and the PMU (water projects) reporting to it.

4.2.5 Environment Law No. 7, 1999

Environment law No. (7) of the year 1999 aims to protect the environment and public health from pollution, promote sustainable development of water resources, increase public awareness of environmental problems . It states that the Ministry of Environmental Affairs, in coordination with competent agencies, shall set standards and norms for collecting, treating, reusing, or disposing wastewater and storm water in a sound manner.

4.2.6 Local Government Law No. 1, 1997

The Local Government Law No. (1) of the year 1997 is the legal framework that regulate the work of Palestinian local government units , determines the nature of the work of local units and their relationship with the Ministry of Local Government. It makes the following key provisions with regards to the local units:

- **Central authority**: Ministry of Local Government draws the general policy for Palestinian local council's works, supervise the functions and powers of these councils, regulate projects, budgets and financial and administrative control, and legal procedures for the formation of these councils (article 2).

  With the consent of the local government units concerned, the Minister may establish a joint Services Councils to group of closed local units to improve the level of services. (article 15 , term 3).

- **Legitimacy**: The local government units are a legal personality with financial autonomy, managed by an elected local council (article 3,term1). The creation or cancel or combine or separate anybody or local communities or parts of them or the formation of a local unit be a decision from the Council of Ministers (article 3, term 2).
- **Responsibilities**: The Local Council is responsible to provide citizens with drinkable water, specify its requirements, tariff and connection fees, and prevent the contamination of water resources, in addition to constructing, management and control of Sewage networks (article 15 , term 1). Is entitled to the Council to issue necessary regulations that regulate the work of local units and secure its interests and needs.

Based on the above, the Local government Law suggests decentralization of authority but its content reflects the centralization of authority, because it gives the Ministry of Local Government most of the powers **(Abdela'tte, 2005)**. Also it shows there are two types of local authorities; the municipalities and local councils, in addition to internal systems which are essentially joint service councils, regional planning committees, and the Palestinian Federation of local bodies.

4.3 Institutional Framework for Water and Sanitation Sector

The Institutional Water and Sanitation Framework is still evolving. The Water and Sanitation Sector is characterized by significant structural changes and reforms, either accomplished in recent years or still on-going. It involves several strategic stakeholder institutions or groups of institutions

(Refer to Annex. C). The current and future setup of the water supply and sanitation management is organized under four levels: decision-making level, regulatory level, development and supply level and service provision level as shown in Figure 10.

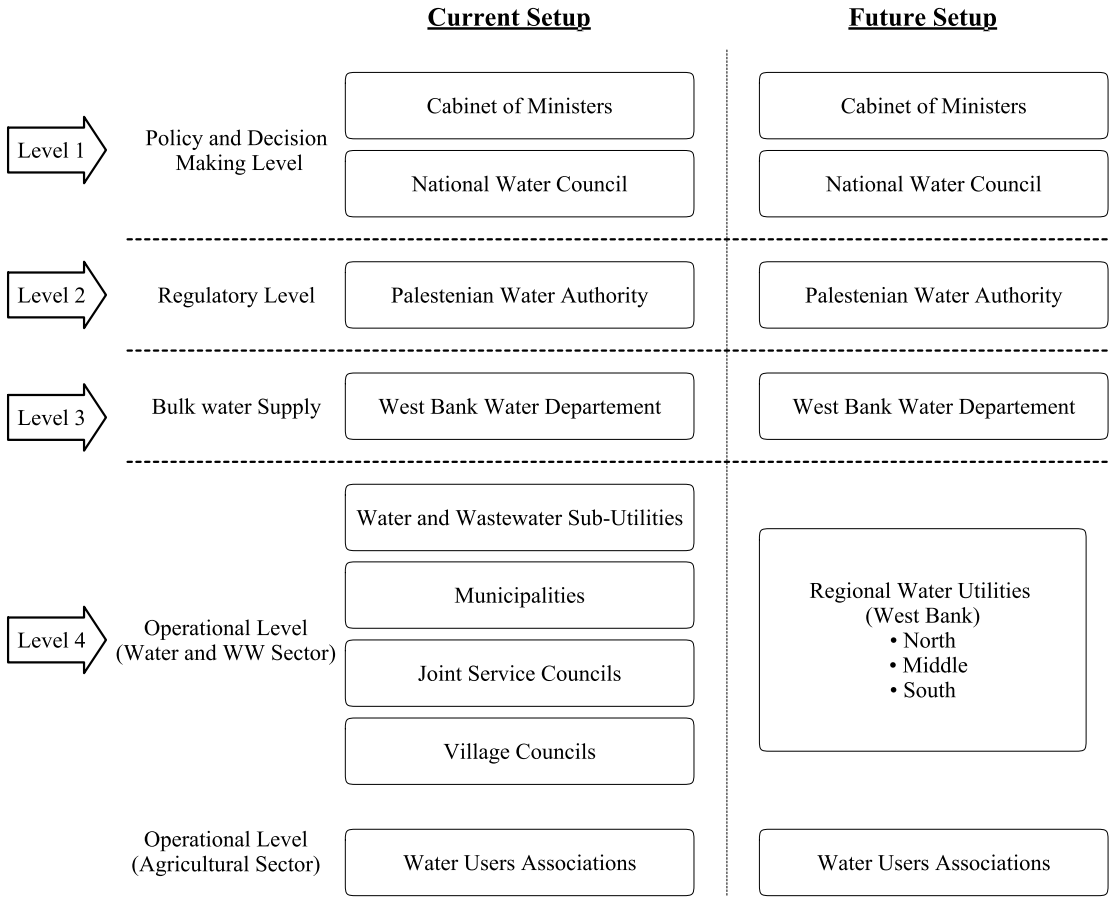

Figure 10: Current and future institutional setup for water and sanitation sector

The first level (Decision making Level):

The National Water Council (NWC), which was established by By –Law No.2 /1996 is theoretically the policy making body. It is responsible for review and approves the water policies to support the work of the Palestinian Water Authority, ratifies plans, tariff policy, PWA reports,

guidelines and internal regulations. Even if the NWC has been created officially, it is not really functional for the moment، so its absence of the NWC hindered and is hindering an effective institutional process.

The second level (Regulatory Level):

The Palestinian Water Authority (PWA) which was established in accordance with Presidential Order No. 5/1995 as a regulatory body for water and sanitation sector. It is responsible for water resources management and development planning, monitoring, assessing, licensing, management and implements water and wastewater projects.

The third level (Bulk Water Supply Level):

Includes West Bank Water Department (WBWD) which acts as the link between the occupation's Civil Administration and Palestinians. It is an executing organization to PWA, responsible for delivering bulk water to utilities, municipalities or villages and the development, the monitoring the systems.

The fourth level (Operational and Service Providers Level)

Includes the water and sanitation service providers. There are many water and sanitation utilities that supply water and provide sanitation services to the public in the West Bank. Two of them are semi public water supply utilities: Jerusalem Water Undertaking (JWU) and Bethlehem Water Supply & Sewage Authority (WSSA), while the others are departments or

divisions of large municipalities (in urban centers) or Village Councils or Joint Service Councils (in rural areas). Recently, joint service council's played an active role in establishing fully integrated bodies called "Amalgamation" or "Merging Municipalities" which rise to the level of municipality financially and in providing the services. On the other hand, the Water User Associations (WUAs) have been established to improve water governance, especially to improve the efficiency of irrigation.

The proposed future institutional setup almost preserves the first three levels as they are while anticipating some changes at the service provision level as provided by the water law No. 3. It proposes to create 4 Regional Water Utilities (RWU), 3 in the West Bank (one each in the Northern, Central and Southern West Bank) and one in Gaza to provide water and wastewater services in more efficient manner. The proposed RWU will potentially absorb all councils and utilities currently providing services in the sector. It will unify the service levels and will develop common regulations.

Other Stakeholders

In addition to the main institutions that govern water and sanitation sector, there are another international, governmental and local institutions also involved in management and development the sector (refer to Annex. C) as shown in Figure 11.

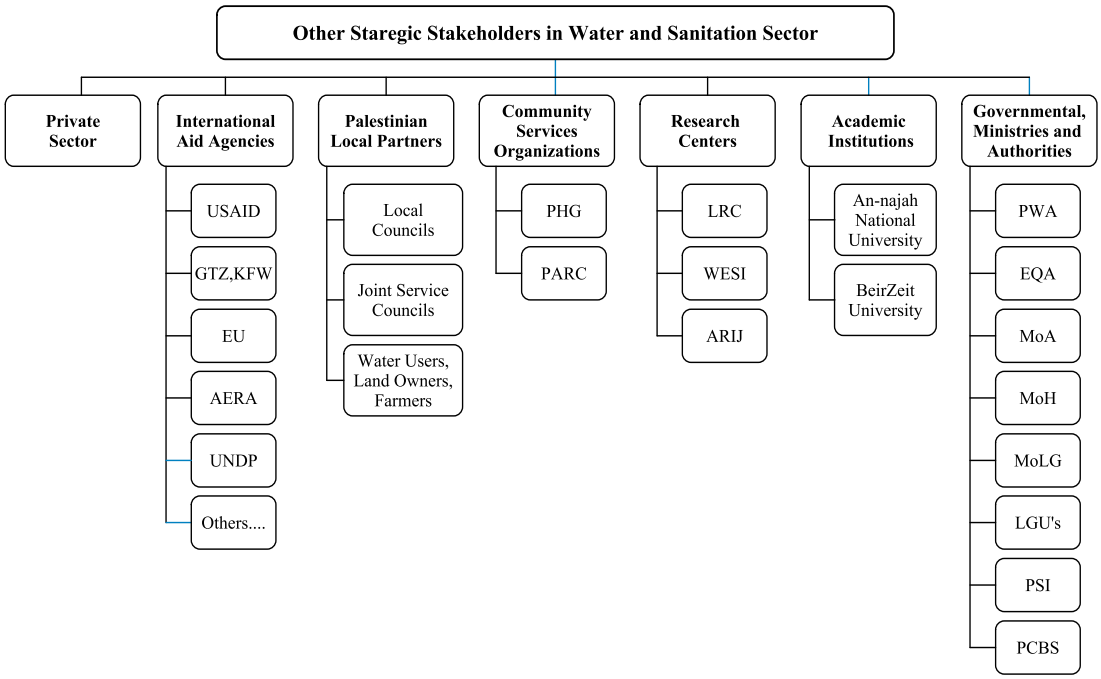

Figure 11: Other Stakeholders involvement in water and sanitation sector

CHAPTER FIVE

EXISTING INSTITUTIONAL SETUPS FOR WATER AND SANITATION SERVICE PROVIDERS

5.1 Introduction

In the West Bank, the water and sanitation service providers are one of the key institutional entities that are responsible for delivering the water and sanitation services at different levels of society based on the Local Government Law No. (1) Of the year 1997 which represent the legal framework that regulates the work of Palestinian Local Government Units (LGU's) and determines the nature of the work of them and their relationship with the Ministry of Local Government (MoLG).

The Local Government Law No. (1) of the year 1997 identified the service providers as Local Government Units (LGU's) within particular geographical and administrative domain, that include: the municipalities, local council, village council or the joint services council or any other council formed in accordance with the law and responsible for direct provision of water and sanitation services and the development, rehabilitation, maintenance of water and sewerage facilities in either urban or rural areas.

In addition to the Local Government Law No. (1) of the year 1997, Water Law's No. (3) of the year 2002, organized the relationship between the PWA and MoLG in reference to management of water resources and wastewater; some of LGU's jurisdictions include water and sanitation services within the boundaries of the LGU's structural plan. They are responsible for managing, organizing and distributing water to the residents within its boundaries and determining prices of water. On the other hand,

The PWA is responsible for the management of water and resources and determining the tariff of water. Also, LGU's jurisdiction includes the management of sewage within their boundaries, whereas PWA is fully responsible for the management of wastewater.

Local Government Units (LGU's) play a key role in leading their communities as well as ensuring the delivery of high quality services to them. Good governance structures enable Local Government Unit (LGU) to pursue its vision effectively and reinforce that vision with mechanisms for control and management of risk. Good governance leads to good management, good performance, good stewardship of public money, good public engagement and، ultimately, good outcomes for citizens and service users. All Local Government Units (LGU's) should aim to meet the best standards of governance arrangements should not only be sound but be seen to be sound **(ARIJ, 2009)**.

Local Government Units (LGU's) in Palestine Classified into the 4 types, municipalities, local councils, Village councils and committees of joint ventures, (according to the Ministry of Local Government: General Directorate of the formations and the election). According to the latest information published by the Palestinian Central Bureau of Statistics **(PCBS, 2010)**, there are 479 Local Government Units (LGU's) in the West Bank distributed by type as 96 municipalities, 12 local council, 67 village council and 134 others. No laws or regulations that gave the foundations of this category.

5.2 Management Models for Water and Sanitation Service Providers in the West Bank

In the West Bank, the management models for water and sanitation service provision can be grouped into two main categories:

1. Delegated Public Management Model

In the delegated public management model, the water and sanitation system is built up and operated by a water and sanitation utility. A water and sanitation utility also operates the infrastructure as a permanent concessionaire. In this model, water and sanitation utilities are owned by group of municipalities (shareholders) and thus it is a public organization, although it may be operated on a commercial basis. This model was developed in the West Bank during the time of Jordanian rule prior to 1967. Two major utilities have been established. The Jerusalem Water Undertaking (JWU) currently runs the water sector in Ramallah and part of Jerusalem Governorates. The Water Supply and Sewage Authority (WSSA) runs the water supply and sanitation sector in the Bethlehem Governorate **(Pengon, 2007)**.

2. Direct Public Management Model

In the direct management model, the municipalities, village councils or joint service councils manage the water and sanitation services. Municipalities are responsible for funding the current investment and capital cost. Capital investments are almost completely funded by external

financial aids (national or international development agencies), and municipalities are the owners of the infrastructure and the operators of the system. Direct public management is the most dominant management mode in the West Bank **(Pengon, 2007)**. Table 6 shows water and sanitation service providers in the West Bank under both management models.

Table 6: Institutional options for water and sanitation service providers

Management Model	Institutional Option	State
Direct Public Management Model	• Municipalities • Joint Service councils • Amalgamation Municipalities • Village Councils	Local Government Units (LGU's)
Delegated Public Management Model	• Jerusalem Water Undertaking (JWU) • Water Supply and Sewage Authority (WSSA)	Sub-Regional Utilities

As shown from table above, the local governments in the West Bank have a wide array of institutional options for providing water and sanitation services, including: Municipalities, Village Councils (VC) or Joint Service Councils (JSC) which formally responsible for any service delivery inclusive supplying water and sanitation services (collection and/or treatment) to their residents. Some exemptions exist with sub-regional water and sanitation utilities, such as the Jerusalem Water Undertaking (JWU) and the Water Supply and Sewage Authority (WSSA).

These options are varying with degree of financial and managerial

autonomy, legal status, incentives, structural and organizational development, capacity-building requirements, physical and financial resources, functioning and processes, systems and procedures development, service conditions and size of served area.

5.2.1 Municipalities

The municipalities are administrative units of local government. All municipalities are assigned by the Local Government Ministry. Municipal council members and mayors are elected by the residents of the particular locality. Municipalities are divided into four sectors depending on their population and importance to their particular governorate **(Wikipedia, 2011)** as following:

1. Municipality A (City): Primary municipalities or district capitals of the governorates. There are 14 A-level municipalities. These localities are considered cities. Their municipal councils consist of 13 members and a chairman in addition to the elected mayor.

2. Municipality B (City or Town): Municipalities that have populations of over 8,000 inhabitants or have had a lengthy existence as local councils under Israeli administration. There are 41 B-level municipalities. Their municipal councils consist of 13 members and a chairperson.

3. Municipality C (Town): Municipalities that have populations of 4,000-8,000. Most were recently approved by the Palestinian National

Authority. There are 47 C-level municipalities that are governed by 11-member councils.

4. Municipality D (Village Council): Municipalities with populations of over 1,000. There are 220 D-level municipalities that are governed by 9-member councils.

The Local Government Law No. (1) of the year 1997 is the legal framework governing the work of municipalities in addition to other laws. With respect to administrative organizations, the Ministry of Local Government (MoLG) proposed organizational structures for municipalities according to their classifications.

Municipalities play a big role in providing key services for citizens (Water, Sanitation, roads, electricity, solid waste...etc) in addition to its role in growth and development. Municipalities provide the water and sanitation services through a special department for water and sanitation belongs to the municipality or through division or section within the municipality, and this depends on the size of locality and the type of services the municipality can provided; some municipalities provide water service only or sanitation service only with or without treatment, the others may provide the both services together.

5.2.2 Joint Service Councils (JSC's)

According to Statute for Joint Service Councils, issued in 2006 under authority of Section 15 of Local Government Law No. (1) of the year 1997

as amended in 1999; the Ministry of Local Government (MoLG) in cooperation with international development agencies has recently focused on full or partial functional merging for some small and adjacent local government units (LGU's) together for the provision of services for which each LGU is responsible within its own local government unit jurisdiction. By grouping small governmental units together into a Joint Service Council (JCS) a stronger institutional framework is formed which among other things will build the capacity of the members of the local government units (LGU's) and enhance level of services and their ability to manage sustainable development in their communities.

The Statute for Joint Service Councils sets the general administrative, operational and financial frameworks that must be adopted by each JSC that is established under authority of this Statute. The Statute defines rules of establishing JSCs, and elaborates their jurisdiction, membership, administrative structure, reporting, election and voting mechanisms. It also defines the “General Assembly” and “Board of Directors” of the JSC and sets out the roles and responsibilities of each. The key staffs that must be retained by the JSC are also established in the Statute. The legal and financial status of a JSC established under the Statute derives from the legal status of its Local Government Unit (LGU) members. The MoLG has oversight responsibility for JSC’s.

Joint services Councils are widely used in rural communities also vary depending on the type of service that offered the service area and the

number of LGU's that collectively participate in JSC.

5.2.3 Amalgamation Municipalities

As a newly idea to develop the Palestinian Local Government sector, the Ministry of Local Government (MoLG) was encouraged the small LGU's and Micro Regional Planning Committees to amalgamate with themselves to form a big municipality, not only to maximize their financial capacity and provides services in the most cost-effective and efficient way possible only, but also to reduce the gap between the clusters of small population, and the center one with large population and to achieve the greatest possible degree of decentralization, transparency and democracy in order to provide services and accomplish the tasks with quality, high efficiency and reasonable cost.

In fact, most developed countries initiated amalgamation plans in the past few decades with Canada, Sweden, Denmark and Japan. Denmark, for instance, underwent a major amalgamation reform in 2007, reducing the number of municipalities from 271 to 98 **(Blom, 2009)**.

Recognizing that amalgamation is not an end in itself but a mean to more effective service delivery, to support the areas in building unified administrative and management systems including offices, technical equipment, information technology systems and financial management capacity as required.

Although the Local Government Law No. (1) of the year 1997, did not

address directly the term "amalgamation", but it was understood implicitly; the law gives the Council of Ministers the powers to create or canceled or combined or separate any local government units or local communities or parts thereof, or the formation a new one.

So, it was necessary to develop a merger policy and to build a strategic, action plan, the rules and legal requirements, which will help to reduce the number of local units through merging the small, vulnerable and fragile units in bigger units that are provided with elements of survival, progress, and sustainability.

5.2.4 Village Councils

A Village council is a type of local government for Palestinian localities that usually number between 800 - 3,000 inhabitants. The village council is also known D-level municipalities. On the other hand, the village council is usually provides only certain services may include water and / or sanitation services, without considering other various aspects for development.

Village councils could consist of three to eleven members, including a chairman, a deputy chairman and secretary. Unlike municipalities, village councils do not hold elections; rather, the representatives of a village's largest clans choose a chairman who is then appointed by the Local Government Minister of the Palestinian National Authority.

5.2.5 Sub-Regional Utilities

To achieve the objectives of the national water policy in Palestine, it had been deemed necessary to establish a number of regional water and wastewater utilities in West Bank**.** These utilities are administratively and financially independent and each has its own board of directors

There are two sub-regional utilities in the West Bank. The first is Jerusalem Water Undertaking (JWU) in Ramallah and Al-Bireh Governorate; it is mandated to develop new water resources and control all water projects in the area and entrusted to provide all the water needs for drinking and other municipal and domestic purposes. Also, JWU was authorized to prescribe water tariffs, cost of services, collection procedures, financial, administrative and technical regulations. The second in Bethlehem District is the Water and Supply and Sewerage Authority (WSSA); which also responsible to provide the citizens with water and sanitation services in a good manner.

5.3 Conclusion

Based on the above, it is noticed that there are different kinds of service providers and they manage different types of services. For that, there will be a need to consider different institutional setups for future management of these services. To achieve that, the questionnaire that considers this variation, need to be analyzed keeping in mind these different types of service providers.

CHAPTER SIX

ANALYSIS AND ASSESMENT

6.1 Analysis of the Roles and Responsibilities of Key Water and Sanitation Sector Institutions

Water and sanitation provision is not the mandate of one actor or institution in the West Bank. A review of literature shows that many actors and institutions are involved in the water supply and sanitation sector. However, Institutional Assessment provides a framework for assessing the allocation of responsibilities between these institutions. Institutional Assessment is essentially a two-fold process. The first stage entails considering the whole sector - that is the broader institutional arrangements in which services are planned and delivered - while the second stage examines the internal environment and functioning of individual organizations.

One of the key institutional assessment techniques for the whole sector is Activity/Responsibility Matrix which provide the institutional setting by specifying the degree of involvement and the roles played by stakeholders in carrying out key tasks **(Sansom et al., 2004)**. It is a particularly useful tool in the water and sanitation sector for establishing the actual allocation of responsibilities between various institutions and highlighting problems with overlapping or fragmented responsibilities. Table 7 shows the designed Activity/Responsibility Matrix for water and sanitation sector in the West bank, it includes all the expected activities that related to water and sanitation in addition to all the strategic stakeholders which may do one or more activities as its main responsibilities or participate in it.

Table 7: Activity/Responsipility Matrix

Prime Responsibility

Involved

Responsibility	Activity: Legislation development	Policy development & implementation	Issuing Licenses	Water Resource Allocation	Water Resource Management	Wastewater Systems	Wastewater Treatment	Wastewater Reuse	Tariff setting	Human Resources Management	Sector Strategic Planning	Drinking Water Supply	Financial Allocation	Project Identification	Project Planning & Design	Project Implementation	Training of community CBOs	Monitoring & Evaluation	Water Quality Standards and monitoring	Operation & Maintenance	Research
Governmental Ministries - Authorities																					
NWC																					
PWA	Involved	Prime	Prime	Prime	Prime	Prime	Prime	Prime	Prime	Prime	Prime	Prime	Involved	Prime	Prime	Involved	Involved	Prime	Prime	Involved	Involved
WBWD			Involved	Involved	Involved					Involved		Prime			Prime	Involved		Prime	Involved	Prime	
EQA	Involved					Involved	Prime	Involved		Involved	Involved							Involved	Prime		Involved
MoA	Involved	Involved	Prime	Involved	Prime	Involved		Prime		Involved	Involved							Involved	Prime		Prime
MoH	Involved				Involved		Involved	Involved		Involved	Involved							Prime	Prime		Involved
MoLG			Involved			Prime	Involved	Involved		Involved	Prime		Involved	Involved				Involved			
MoF											Involved		Prime								
MoI							Involved	Involved		Involved	Involved										
MoJ											Involved										
MoPIC										Involved	Involved		Involved								
LGU's									Involved	Involved		Prime							Involved		
PSI	Involved				Involved	Involved	Prime	Prime										Involved	Prime		Involved
PBOS						Involved	Involved	Involved													Prime
Palestinian Local Partners																					
Local Councils						Involved	Involved	Involved			Involved	Prime		Involved		Involved		Involved	Involved	Involved	
Joint Service Councils						Involved	Involved	Involved			Involved	Prime		Involved		Involved		Involved	Involved	Involved	
Water users and farmers associations							Involved	Involved				Involved		Involved							
Academic Institutions							Involved	Involved		Prime							Involved				Prime
Research Centers										Prime							Involved		Involved		Prime
Community Services Organization														Prime			Prime		Involved		Prime
International Aid Agencies						Involved	Involved	Involved		Involved	Involved	Prime			Involved			Involved		Involved	Involved
Private sector						Involved	Involved	Involved		Involved	Involved			Involved	Involved	Involved	Involved				Involved

The analysis cited a number of issues with the current institutional arrangements for water and sanitation sector:

1. The National Water Council which is the highest ministerial level in management water and sanitation sector in the West Bank has never functioned as intended, although and according to Water Law it is the supreme decision maker.
2. The absence of the NWC makes the Palestinian Water Authority (PWA) the key central public authority in the water and sanitation sector responsible for regulating, implementing, strategizing the sector, sanction and approve all issues mentioned in article 9 of the Water Law (NWC tasks and responsibilities), which mean increasing the responsibilities of PWA.
3. The Palestinian Water Authority is a central and autonomous authority.
4. WBWD, with its current organization is the project management unit in water and sanitation sector.
5. Existence of many governmental and non-governmental institutions involved in sector.
6. Dispersion of service providers (water and wastewater) amongst various Ministries, departments, municipalities, and refugee camp committees; lack of Economies of Scale.
7. There is an unbalance in the functional specialization already at all level, which is a source of conflict.

8. There are overlapping in roles and responsibilities between different institutions and rather unclear what have led to often inefficient management and uncoordinated mechanisms between different institutions.
9. The status quo of sector institutions doesn't reflect the legal and institutional framework of water and sanitation sector.

So the institutional arrangements for water and sanitation sector will have to be clarified and streamlined to meet the challenges of efficient and effective provision of services, and the roles and responsibilities of the different stakeholders should be clearly defined so as to ensure the participation of stakeholders. Consequently, the existing organizations will have to be restructured. The roles and responsibilities of regulatory organizations will be separated from responsibilities for the provision of water supply and sanitation services.

6.2 Analysis the Selected Cases Study for Water and Sanitation Service Providers

Organizational analysis is a holistic approach which involves looking at the entire organization; the overall structure, the departments, functions, processes. It is measure an organization’s performance on technical, service delivery, financial, commercial, and organizational aspects in order to determine the best way to view, organize and manage it successfully and to bring about greater efficiency. This has been done through many techniques such as SWOT analysis and organizational structures analysis.

SWOT analysis is a strategic technique for diagnosing key technical, financial and administrative issues to provide a clear assessment of the current situation of an organization. It is an acronym that identifies the four critical elements of the analysis S(strengths), W(weaknesses), O(opportunities) and T(threats). Strengths provide an analysis of the organization's advantages over other organizations. Weaknesses consider areas in which the organization is at a competitive disadvantage. Opportunities are a list of untapped aspects or developments. Threats explore the external environment that could affect the organization, including technological, environmental and regulatory factors. SWOT analysis provides a clear basis on which to develop a picture of the changes needed to build on strengths, minimize weaknesses, take advantage of opportunities and deal with threats.

SWOT analysis technique was used for analysis and assessing the selected cases studies for institutional options of water and sanitation service providers in West Bank. The analysis focused on three main themes: technical, financial and institutional aspects which cover the 10 core functional indicators; networks, coverage, unaccounted for water, metering, billing and collection, costs, quality, organizational structure and investments.

To measure the quality of service and the service providers' effectiveness and efficiency, performance indicators was built.

Another technique used for assessing how an organization is managing its service provision is the organizational structure analysis, which focuses on the characteristics of the structures, and how the departmentalization of the organization exerts a dominating influence on actual practice, with a view to determining the extent to which its contribution to overall effective management for water and sanitation services. The analysis of organizational structures for the different service providers was depending on the staffs of the Local Government Unit's system No. (7) of the year 2009 and instructions for its implementation was used as reference for analyzing the organizational structures of the different service providers, also local expertise considered as useful tools in this field.

6.2.1 Analysis of the Municipalities

The selected cases studies include four municipalities; Nablus, Al-Bireh, Salfeet and Tubas municipality, which different in degree of classification according to number of served population, but in general most of them are classified as a big municipality served more than 8000 inhabitants in urban and rural areas, provide water or sanitation service only or both services together. All have a strategy to provide all municipal services to citizens with efficiency of high quality, enhance well-being of citizens, promotion of culture through the optimal use of financial and human resources available and the partnership with the local community and investment with the private sector. Table 8 shows some facts about these municipalities.

Table 8: Fact sheet about Municipalities

	Item	Nablus	Al-Bireh	Tubas	Salfeet
General	Classification	+A*	A*	A*	B*
	Structural Plan	Endorsed	Endorsed	Endorsed	Endorsed
	Services	Water WW collection -	- WW collection WW treatment	Water - -	Water WW collection -
	Served Area	Nablus city 8 villages 4 camps	Al-Bireh city - 2 camps	Tubas city 3 villages -	Salfeet city 4 villages -
	Total Population	197,872	60,000	25,000	12,000
Water Service	Sources of water	5 wells, 6 springs, Purchased water "PWA"	-	Tamuon well, Agricultural wells Municipal well	2 springs, Purchased water '"Mekorot"
	Served Population	197,872	-	19,000	10,000
	No. Subscriptions	37,883	-	2,514	2,268
	Tariff structure for water supply	Blocks system, Vary according to consumption types	-	Blocks system, Uniform for all consumption types	Blocks system, Vary according to consumption types
Wastewater Service	Served Population	161,500	55,800	-	6,500
	No. Subscriptions	13,591	51, 860	-	668
	Tariff structure for sanitation service	Not exist	Exist 1.8NIS/m^3 consumed water	-	Exist 1 NIS/m^3 consumed water

+A*: First large class - Local Government Unit

A*: First class - Local Government Unit

B*: Second class - Local Government Unit

6.2.1.1 Municipalities SWOT Analysis

The SWOT analysis outputs was divided into three consolidated aspects for all municipalities including; technical, financial and institutional ones. (Refer to Annex. D, the SWOT analysis outputs for each municipality).

6.2.1.1.1 Consolidated Technical Aspects

The SWOT analysis outputs for the consolidated technical aspects for all municipalities are shown in Table 9 below.

Table 9: Municipalities SWOT analysis - Consolidated Technical Aspects

Strength	Weakness
1. Coverage is not full 2. There is good infrastructure related to customer services 3. Extension of coverage has increased over the last 5 years and efforts will continue 4. Desire to improve level of services 5. Ownership of some water resources 6. Quality of water is complying with regulations 7. Monitoring is carried out systematically and comprehensively 8. Some WWTP is under construction	1. Part of water and sewerage system is old 2. High percentage of leakage/losses 3. Dependence on external water resources 4. Presence of area out of service 5. Deficit in water supply 6. Some areas still depend on cesspits only 7. Wastewater collection was limited and treatment for reuse was not practiced 8. Un-sewered areas are not controlled 9. Some areas don't have WWTP and dumping wastewater into wadis 10. Inadequate equipment and tools 11. Lack of effective maintenance plan 12. No clear provision for reuse when WWTP exist
Opportunity	**Threat**
1. Provide water and or sanitation services 2. Reduce unaccounted for water 3. Rehabilitate networks and construct new reservoirs 4. Increase water coming from own resources and reduce dependence on purchased water 5. Check possibility to expanding services/service area 6. The possibility to develop new and/or alternative water sources 7. Construct several wastewater treatment plants	1. Israeli Occupation 2. Political instability 3. Some of water resources under Israeli control 4. Parts of service area lie in different jurisdictions 5. Environmental pollution 6. The non-issue of permits for the WWTP

6.2.1.1.2 Consolidated Financial Aspects

The SWOT analysis outputs for the consolidated financial aspects for all municipalities are shown in Table 10 below.

Table 10: Municipalities SWOT analysis - Consolidates Financial Aspects

Strength	Weakness
1. Charges for water supply and Sewerage services are reasonable with the level of service provided 2. Proper water tariff system 3. The water tariff system is clear and the bill reflects the tariff system in the way it is presented 4. Acceptable collection ratio for water service charge 5. Convenient ways for water bills payment 6. Sewerage services approximately paid by consumers in some areas	1. No proper tariff system for sanitation service 2. Tariffs not linked to costs 3. Beneficiaries do not pay for sanitation service in some areas 4. Lack of current accurate database for billing 5. Decrease collection ratio for water service 6. Lack of strong financial base for revenue collection 7. Low percentage of cost recovery 8. Costs of sanitation services covered within overall Municipal budget 9. Revenues do not cover operational costs and maintenance. 10. Lack reliable financial structure with cost recovery mechanisms 11. There is no financial autonomy and no separate budget. Scope for managerial autonomy is very limited 12. Depend on grants from donor agencies for investments
Opportunity	**Threat**
1. Increase probability of donor assistance 2. To find ways and means to increase income/revenue 3. Increase co-operation between municipality and various donors	1. Israeli Occupation 2. Political instability 3. Economic situation and its reflection on collection 4. Financial resources under the control on occupation 5. Lack of self initiative and dependency on outside financial assistance 6. At the donors level, Expected grants and funds might not received

6.2.1.1.3 Consolidated Institutional Aspects

The SWOT analysis outputs for the consolidated institutional aspects for all municipalities are shown in Table 11 below.

Table 11: Municipalities SWOT analysis - Consolidated Institutional Aspects

Strength	Weakness
1. Classified as A or B municipalities 2. Presence of endorsed structural plan 3. There is a suitable organizational structure 4. Good experienced staff 5. Adequate number of staff 6. Documentation of all aspects of work 7. Existence of performance appraisal system to judge the work-positively or negatively 8. Effective institutional systems, procedures and policies 9. Good coordination between divisions 10. Have strategic plan for water and /or sanitation services 11. Cooperation and coordination with government and non-governmental agencies 12. Capacity to comply with all the relevant local government legislation 13. Decisive leadership 14. Law enforcement 15. Good relationships with other ministries 16. Presence of inter functional relationships at all organizational levels	1. Organizational structures need modifications 2. Employee performance evaluation is not applied well 3. Lack of training system as well as training Unit 4. Lack of development projects in water and sanitation 5. Lack of independent accountant for the water and /or sanitation department 6. Job description and specification not clear need to update 7. Limited institutional capacity 8. Administrative personnel lack the proper qualification 9. Lack of HR planning program 10. Required number of staff approximately known but actual staff numbers significantly below or above the target level 11. Ineffective strategic plan for water and sanitation services 12. High staff turnover
Opportunity	**Threat**
1. Develop an effective organizational structures 2. Develop an effective institutional systems and procedures 3. Enhance performance in a systematic manner 4. Some municipality could form nucleus of future Regional Water Utility 5. The existence of institutions and donors has to do with the municipalities 6. The existence of specialized human staff and local expertise 7. The possibility of investment and partnership with civil society institutions	1. Loss of existing expertise 2. Decreasing performance

6.2.1.2 Organizational Structures Analysis

Different situations call for different organizational forms. Some of the key factors to consider when examining an organizational structure including management levels, average spans of control, chain of command, basis for grouping of functions/ units, spatial distribution of units, line of responsibility, degree of centralization/decentralization of processes, authority limits and job titles. Table 12 shows the analytical factors for organizational structure analysis for the municipality's category.

Table 12: Organizational Structure analysis for Municipalities

Name / Item	Nablus	Al-Bireh	Tubas	Salfeet
For Water and/or Sanitation	Water and Sanitation Department	Divisions under Engineering department	Divisions under Health department	Divisions under Technical department
OS	Separate	Combined	Combined	Combined
Work Specialization	Excellent	Fair	Fair	Good
Departmentalization	Functional	Functional	Functional	Functional
Chain of command	Clear	Clear	Clear	Clear
Span of control	Balanced/Narrow	Wide/Flat	Wide/Flat	Wide/Flat
Authority	Centralized	Centralized	Centralized	Centralized
Formalization	High	High	High	High
Type of coordination	Hierarchy	Hierarchy	Hierarchy	Hierarchy
Level of Management	4 Section 3 Division 2-3 Unit 2-5	3 Department 6 Section 3-6 -	3 Department 6 Section 3-5 -	3 Department 6 Section 2-4 -

6.2.1.3 Job Titles Analysis

The other part of organizational analysis is the job titles which indicate the level of management responsibility also describe the job; it should be accurate and descriptive. The existing titles were sorted into three categories; management level which include management and supervisory titles, non-management level include professionals and workers groups. Table 13 shows the distribution of employees per job titles in the four municipalities.

Table 13: Job titles analysis for Municipalities

Name / Title	Nablus	Al-Bireh	Tubas	Salfeet
Management Positions				
Executive Manager	1	1	1	1
WWTP Manager	1	-	-	-
Cooperate Planner	1	-	-	-
Professional Position				
• Engineer	15	1	-	3
• Accountant	3	-	1	1
• Lawyer	1	-	-	-
• Programmer	-	-	-	-
• Regulation- licensing officials	-	-	-	1
• Health auditors	-	-	2	1
Worker Positions				
• Technician				
- Welder	-	-	-	-
- Surveyor	2	-	-	-
- Draftsman	5	-	-	3
- Mechanic	-	2	-	-
- Chemists Analysts	1	1	-	-
• Clerk/Secretary				
- Secretary	-	-	-	1
- Meter reader & collector	-	-	-	1
- Cashier	-	-	-	-
• Laborer				
- Driver	3	1	-	-
- Guard	-	1	-	-
- Network and Meter Worker	55	2	15	8
- Pump station worker	87	2	-	-
- Messenger	4	-	-	-
- Customer service	2	-	-	-
- WWTP Worker	-	2	-	-
Total	**184**	**13**	**19**	**20**

6.2.1.4 Performance Indicators for the Municipalities

Based on the information and data collected from the four municipalities, the performance indicators were prepared as shown in Table 14 below.

Table 14:Comparison of Performance Indicators for the four Municipalities

	Indicators	Unit	Nablus	Al-Bireh	Tubas	Salfeet
Water Service	Water Network Coverage	%	≈100	-	76	83
	Avg. daily per capita water consumption at domestic level(l/c/day)	l/c/d	80.96	-	55	82.60
	Unaccounted-for-Water	%	30.41	-	31	35
	Average selling price per m^3 of water	NIS	6.26	-	3.14	4.00
	Collection efficiency	%	71.7	-	65	75.5
	Staff productivity/ employees per 1000 customers	No.	4.78	-	7.56	8.38
Wastewater Service	Wastewater Network Coverage	%	81.62	93	-	54.27
	Collection efficiency	%	-	62%	-	100%
	Total No. of employees - Management -Professional - Workers - Total		 3 19 159 **181**	 1 1 11 **13**	 1 3 15 **19**	 1 6 12 **19**

6.2.1.5 Observations and Findings

Analysis indicates that the four municipalities; Nablus, Al-Bireh, Salfeet and Tubas municipality, different in degree of classification according to number of served population but in general most of them are classified as a big municipality served more than 8000 inhabitants in urban and rural areas, provide water or sanitation service only or both services together.

Water sources vary; municipal or agricultural wells, springs, purchased water from PWA or Mekorot. The coverage of water network is highest in Nablus, lower in Salfeet and lowest in Tubas. But the coverage of sanitation network is highest in Al-Bireh. As for the networks including the old and new parts, the percentage of losses is very high in all networks. The price of purchasing one cubic meter of water varies according to the source, but the water prices are highest in Nablus. Tariff structures for water supply and sanitation not uniform for all regions. The collection efficiency for water service is best for Salfeet and Nablus, white for sanitation service it is relatively not high. Despite that all of these differences between municipalities, but all have a strategy to provide all municipal services to citizens with efficiency of high quality, enhance well-being of citizens, promotion of culture through the optimal use of financial and human resources available and the partnership with the local community and investment with the private sector.

Different situations call for different organizational structures, job titles and number of employees, this is generally true for the four municipalities since all the organizational structure was developed by different foreign consultants; water supply and sanitation services in and around Nablus City are provided by the separate Water Supply and Sanitation Department of the municipality, which employs approximately 181 staff, the department is organized in three sections; operations, New works and administrative and financial in addition to many functional divisions and units under these departments, so the services provision characterized with high level of

privacy and sustainability. Al-Bireh municipality which provide sanitation and treatment service to some 60,000 consumers in and around Al-Bireh City, through engineering department, the responsibilities for services provision distributed on different departments in the municipalities, only 13 staff belong to that. Salfeet municipality provides water supply and sanitation services by special divisions under the technical department which combined with engineering department employs only 19 staff. Tubas municipality which provide water service only to about 19,000 consumers, have water division under health department with 19 staff. The latest three municipalities show that there are some overlap and duplications in the activities and authorities between some sections/units, there is a lack of skill manpower and the number of technicians is not adequate and should be increased, all of these result in lack the integrative and comprehensiveness in the provision of water and sanitation services.

However, all the organizational structures referred to traditional model which is a hierarchical or pyramidal structure, the division of labor is clear and based on functional specialization, all the basic units are exist in addition to logistic one, number of management layers depends largely on the size of the organization and mainly it is 3 layer so the structure is not tall, to some extent the sequence of authority is clear but limited, the power of decision-making concentrated at the top hierarchy of the organization.

While the management of water supply and sanitation services by a municipality can present problems such as a lack of organizational

autonomy for effective management, it also offers a number of advantages. For example, local municipal management with potentially better accountability to consumers is a key reason for the growing trend of decentralization of powers to municipalities. If this is to lead to substantial improvements in service levels, however, it requires making difficult decisions regarding aspects such as cost recovery and efficiency improvements. Another advantage of municipal management of water supply and sanitation services is the good potential for collaboration with other concerned departments/divisions in the same municipality where they exist. Unfortunately, such potential is not always exploited.

6.2.2 Analysis of the Joint Service Councils

The selected cases studies include two joint service councils; Maythaloun and North east Jenin joint service council. Table 15 shows some facts about these joint service councils.

Table 15: Fact sheet about Joint Service Councils

	Item	Maythaloun	North East Jenin
General	Classification	JWSC	JWSC
	Structural Plan	Not Endorsed	Not Endorsed
	Services	Water	Water
	Served Area	11 Villages (Zabboba, Romana, A'anen, Alhashemyah, Kofor Dan, Alyamoon, Ala'araqa, Kofor qood, Alsayleh and Ta'anek)	6 Villages (Maythalun, Seires, Aljdaydeh, Seir, Jarba and Meselya)
	Total Population	60,000	36,411
Water Service	Sources of water	West Bank Water Department	Maythaloun well
	Served Population	54,000	26,580
	No. Subscriptions	3,700	5,376
	Tariff structure for water supply	Blocks system,uniform for all consumption types	Blocks system,uniform for all consumption types

6.2.2.1 Joint Service Councils SWOT Analysis

The SWOT analysis outputs was divided into three consolidated aspects for joint service councils including; technical, financial and institutional ones. (Refer to Annex. E, the SWOT analysis outputs for each joint service council)

6.2.2.1.1 Consolidated Technical Aspects

The SWOT analysis outputs for the consolidated technical aspects for all joint service councils are shown in Table 16 below.

Table 16: Joint Service Councils SWOT analysis - Consolidated Technical Aspects

Strength	Weakness
1. Provide one type of services 2. Desire to improve level of services 3. Ownership of some water resources	1. Coverage is not full and part of the population has no easy access to water 2. Part of water system is old 3. High percentage of leakage/losses 4. Dependence on external water resources 5. All areas still depend on cesspits only 6. Inadequate equipment and tools 7. Lack of effective maintenance plan 8. Deficit in water supply
Opportunity	**Threat**
1. Provide water and or sanitation services 2. Reduce unaccounted for water 3. Rehabilitate networks and construct new one 4. Increase water coming from own resources and reduce dependence on purchased water 8. Check possibility to expanding services/service area	1. Israeli Occupation 2. Political instability 3. Some of water resources under Israeli control 4. Environmental pollution

6.2.2.1.2 Consolidated Financial Aspects

The SWOT analysis outputs for the consolidated financial aspects for all joint service councils are shown in Table 17 below.

Table17 : Joint Service Councils SWOT analysis - Consolidated Financial Aspects

Strength	Weakness
1. 90-99% of bills actually collected 2. Charges for water supply services are reasonable with the level of service provided 3. Proper water tariff system 4. The water tariff system is clear 5. Acceptable collection ratio for water service charge	1. Lack of current accurate database for billing 2. Lack of strong financial base for revenue collection 3. Low percentage of cost recovery 4. Lack reliable financial structure with cost recovery mechanisms 5. There is no financial autonomy and no separate budget. 6. Depend on grants from donor agencies for investments
Opportunity	**Threat**
1. Increase probability of donor assistance 2. To find ways and means to increase income/revenue 3. Increase co- operation with various donors	1. Israeli Occupation 2. Political instability 3. Economic situation and its reflection on collection 4. Lack of self initiative and dependency on outside financial assistance 5. At the donors level, Expected grants and funds might not received

6.2.2.1.3 Consolidated Institutional Aspects

The SWOT analysis outputs for the consolidated institutional aspects for all joint service councils are shown in Table 18 below.

Table 18: Joint Service Councils SWOT analysis - Consolidated Institutional Aspects

Strength	Weakness
1. Presence of organizational structure 2. Presence of strategic plan for water service 3. Documentation of all aspects of work 4. Cooperation and coordination with government and non-governmental agencies 5. Good relationships with other ministries 6. Monthly detailed reports	1. Organizational structures need modifications 2. Job description and specification not clear need to update 3. Structural plan not endorsed 4. Inadequate records for works 5. Employee performance evaluation is not applied well 6. Ineffective strategic plan for water services 7. Lack of training system 8. Lack of development projects in water 9. Lack institutional capacity 10. Administrative personnel lack the proper qualification 11. lack of experienced staff
Opportunity	**Threat**
1. Develop an effective organizational structures 2. Develop an effective institutional systems and procedures 3. Enhance performance in a systematic manner	1. Decreasing performance

5.2.2.2 Organizational Structures Analysis

The organizational structures for joint service councils also was analyzed based on several key factors including: management levels, average spans of control, chain of command, basis for grouping of functions/ units, spatial distribution of units, line of responsibility, degree of centralization/decentralization of processes, authority limits and job titles. Table 19 shows the analytical factors for organizational structure analysis for joint service council's category.

Table 19: Organizational structure analysis for Joint Service Councils

Item \ Name	North East Jenin	Maythaloun
For Water	JSC for drinking water	JSC for drinking water
Organization Structure	Separate	Separate
Work Specialization	Good	Good
Departmentalization	Functional	Functional
Chain of command	Clear	Clear
Span of control	Balanced/Narrow	Balanced/Narrow
Authority/Decision Making	Centralized	Centralized
Formalization	Fair	Fair
Type of coordination	Hierarchy	Hierarchy
Level of Management	3 Department 3 Section 3	3 Department 3 Section 3

6.2.2.3 Job Titles Analysis

The job titles which indicate the level of management responsibility and describe the different jobs were also analyzed for the two joint service councils. The existing titles were sorted into three categories; management level which includes management and supervisory titles, non-management level includes professionals and workers groups. Table 20 shows the distribution of employees per job titles in the two joint service councils.

Table 20: Job titles analysis for Joint Service Councils

Name / Title	North East Jenin	Maythaloun
Management Positions	1	1
Professional Position		
• Engineer - Water Engineer - Planning & Design Engineer	 1 1	 - -
• Accountant	1	2
• Lawyer	-	-
• Programmer	-	-
• Regulation-licensing officials	-	-
Worker Positions		
• Technician - Mechanic	 1	 1
• Clerk/Secretary - Secretary - Meter reader & collector	 2 5	 1 3
• Laborer - Network Workers - Pump Workers - Drivers - Messenger - Guard	 7 3 1 1 1	 - - - 1 -
Total	**25**	**9**

6.2.2.4 Performance Indicators for the Joint Service Councils

Based on the information and data collected from the two joint service councils, the performance indicators were prepared as shown in Table 21.

Table 21:Comparison of Performance Indicators for the two Joint Service Councils

	Indicators	Unit	Maythaloun JWSC	North East Jenin JWSC
Water Service	Water Network Coverage	%	73	90
	Avg. daily per capita water consumption at domestic level(l/c/day)	l/c/d	25	27
	Unaccounted-for-Water	%	20	28
	Average selling price per m^3 of water	NIS	4:00	6.00
	Collection efficiency	%	74	95
	Staff productivity/ employees per 1000 customers	No.	2.43	4.65
	Total No. of employees - Management -Professional - Workers - Total		 1 2 6 **9**	 1 3 21 **25**

6.2.2.5 Observations and Findings

Analysis indicates that the two joint service councils; North east Jenin and Maythaloun provide water services only to the citizen of the member LGUs in rural areas. Both councils differ in number of served population although they have the same classification as Joint Service Council for Water Supply. Most of water sources purchased from PWA or from the West Bank Water Department. The coverage of water network is highest in north east Jenin JWSC. As for the networks including the old and new parts, the percentage of losses is high in both networks. The price of purchasing one cubic meter of water varies according to the source, but the water prices are

highest in north east Jenin JWSC. Tariff structures for water supply vary from one region to another and the collection efficiency for the services is relatively low.

With respect to the organizational structures, there is a similarity to a large extent between them, but mostly not recruit staff accordingly, which means that the applied organizational structures are not identical neither with the formal structures nor with the job titles that have been approved by the Ministry of Local Government. However, the organizational structures referred to traditional model which is a hierarchical or pyramidal structure, the division of labor is very simple, clear and based on functional specialization. All the basic units exist in addition to logistic one, the number of management layers depends largely on the size of the organization and mainly it is 3 layers so the structure is short, and to some extent the sequence of authority is clear but limited. The power of decision-making is concentrated at the top hierarchy of the organization.

The joint service council is a new idea in Palestinian local government. It was suggested to overcome the huge number of local authorities, but unfortunately it is not reach to the required level which was established for it. The analysis also shows that there are many technical and administrative obstacles face the JSC's in providing the services such as the lack of financial resources, small allocated budget which does not suit the basic services provision and the needs of the population, lack of technical and technological possibilities, lack of awareness and full understanding of the

concept of the development process, lack of monitoring system and follow-up from the ministry of local government to achieve the desired goal and the lack the qualified staff that is able to create a kind of equality between the different communities.

6.2.3 Analysis of the Amalgamation Municipalities

The selected case studies include Al-Kafryyat municipality as an example on amalgamation municipalities. Table 22 shows some facts about Al-Kafryyat municipality.

Table 22: Fact sheet about Al-Kafryyat Municipality

	Item	Al-Kafryyat Municipality
General	Classification	B*
	Structural Plan	Endorsed
	Services	Water
	Served Area	7 Villages (Kofo Jammal, kofor A'aboosh, Kofor Sour,Kofor Zeibad, Kour, Jabbarah and Alrass)
	Total Population	9,000
Water Service	Sources of water	Domestic wells, Marawe Company, Purchased Water from Israel
	Served Population	7,000
	No. Subscriptions	1,500
	Tariff structure for water supply	Bocks system, Uniform for all consumption types

B*: Second class - Local Government Unit

6.2.3.1 Amalgamation Municipalities SWOT Analysis

The SWOT analysis outputs were divided into three consolidated aspects for joint service councils including; technical, financial and institutional ones.

6.2.3.1.1 Consolidated Technical Aspects

The SWOT analysis outputs for the consolidated technical aspects for Al-Kafryyat Municipality are shown in Table 23 below.

Table 23: Amalgamation Municipality SWOT analysis - Consolidated Technical Aspects

Strength	Weakness
1. Serves 7 rural areas 2. Provide one kind of service 3. Coverage is not 4. There is good infrastructure related to customer services 5. Two source of water that serve the areas (Israeli company-domestic wells) 6. Ownership of some water resources 7. Desire to improve level of service 8. Part of populations depend on domestic – artesian wells	1. Ageing water system 2. High percentage of leakage/losses 3. Dependence on external water resources 4. Presence of area out of service 5. Inadequate equipment and tools 6. Still depend on cesspits 7. Lack of effective maintenance plan 8. Deficit in water supply
Opportunity	**Threat**
1. Provide water and or sanitation services 2. Reduce unaccounted for water 3. Rehabilitate networks 4. Increase water coming from own resources and reduce dependence on purchased water 5. Check possibility to expanding services/service area 6. The possibility to develop new and/or alternative water sources	1. Israeli Occupation 2. Political instability 3. Some of water resources under Israeli control 4. Environmental pollution

6.2.3.1.2 Consolidated Financial Aspects

The SWOT analysis outputs for the consolidated financial aspects for Al-Kafryyat municipality are shown in Table 24 below.

Table 24: Amalgamation Municipality SWOT analysis - Consolidated Financial Aspects

Strength	Weakness
1. Proper tariff system 2. The tariff system is clear 3. Acceptable collection ratio for service charge (60%) 4. There is an accountant for each locality 5. Convenient ways for water bills payment	1. The managerial and financial autonomy is very limited 2. Depend on grants from donor agencies for investments 3. Lack of strong financial base for revenue collection 4. Lack of current accurate database for billing
Opportunity	**Threat**
1. Increase probability of donor assistance 2. To find ways and means to increase income/revenue 3. Increase co- operation between municipality and various donors	1. Israeli Occupation 2. Political instability 3. Economic situation and its reflection on collection 4. Financial resources under the control on occupation 5. Lack of self initiative and dependency on outside financial assistance 6. At the donors level, Expected grants and funds might not received

6.2.3.1.3 Consolidated Institutional Aspects

The SWOT analysis outputs for the consolidated institutional aspects for Al-Kafryyat municipality are shown in Table 25 below.

Table 25: Amalgamation Municipality SWOT analysis - Consolidated Institutional Aspects

Strength	Weakness
1. It is the nucleus for the merged LGU's 2. Presence of endorsed structural plan 3. Presence of organizational structure 4. Documentation of all aspects of work 5. Existence of performance appraisal system to judge the work-positively or negatively 6. Good coordination between units 7. Cooperation and coordination with government and non-governmental agencies 8. Monthly detailed reports 9. Monthly staff and department appraisal 10. Good relationships with other ministries	1. Lack of development projects in water 2. lack of experienced staff 3. Lack of engineers 4. Job description and specification not clear and need to update 5. Limited institutional capacity 6. Lack of HR planning program 7. Organizational structure need some modifications 8. Inadequate number of staff 9. Absence of strategic plan for water services 10. Ineffective institutional systems, procedures and policies 11. Employee performance evaluation is not applied well 12. Administrative personnel lack the proper qualification
Opportunity	**Threat**
1. Develop an effective organizational structures 2. Develop an effective institutional systems and procedures 3. Enhance performance in a systematic manner	1. Decreasing performance

6.2.3.2 Organizational Structures Analysis

Examining an organizational structure take into consideration the following key factors: management levels, average spans of control, chain of command, basis for grouping of functions/ units, spatial distribution of units, line of responsibility, degree of centralization/decentralization of processes, authority limits and job titles. Table 26 shows the analytical factors for organizational structure analysis for Al-Kafryyat municipality.

Table 26: Organizational structure analysis for Amalgamation municipality

Name / Item	Al-Kafryyat Municipality
For Water	Units under project and operation division
Organization Structure	Separate
Work Specialization	Good
Departmentalization	Functional
Chain of command	Clear
Span of control	Balanced/Narrow
Authority/Decision Making	Centralized
Formalization	Fair
Type of coordination	Hierarchy
Level of Management	3 Section 3 Division 1- 3

6.2.3.3 Job Titles Analysis

The job titles indicate the level of management responsibility and describe the jobs was also analyzed for Al-Kafryyat Municipality. The existing titles were sorted into three categories; management level which include management and supervisory titles, non-management level include professionals and workers groups. Table 27 shows the distribution of employees per job titles in Al-Kafryyat Municipality.

Table 27: Job titles analysis for Amalgamation Municipality

Name / Title	Al-Kafryyat Municipality
Management Positions	2
Professional Position	
• Engineer - Water Engineer - Planning & Design Engineer	 1 1
• Accountant	2
• Lawyer	-
• Programmer	-
• Regulation- licensing officials	-
• Health auditors	-
Worker Positions	
• Technician - Mechanic	 -
• Clerk/Secretary - Secretary - Meter reader & collector	 - 5
• Laborer - Network Workers	 3
Total	**14**

6.2.3.4 Performance Indicators for Al-Kafryyat Municipality

Based on the information and data collected from Al-Kafryyat municipality, the performance indicators were prepared as shown in Table 28 below.

Table 28: Performance Indicators for Al-kafryyat Municipality

	Indicators	Unit	Al-Kafryyat Municipality
Water Service	Water Network Coverage	%	77.8
	Avg. daily per capita water consumption at domestic level(l/c/day)	l/c/d	90
	Unaccounted-for-Water	%	40
	Average selling price per m^3 of water	NIS	3.20
	Collection efficiency	%	60
	Staff productivity/ employees per 1000 customers	No.	9.33
	Total No. of employees - Management -Professional - Workers - Total		 2 4 8 **14**

6.2.3.5 Observations and Findings

The analysis indicates that Al-Kafryyat Municipality is an example on amalgamation municipality; classified within level -B- municipality. It provides water supply service to seven LGU's with approximately 7000 consumers, through domestic wells, Marawe Company (Coca Cola) and Purchased Water from Israel. The coverage of water network is relatively high with high percentage of losses. The price of purchasing one cubic meter of water varies according to the source, and tariff structure for water supply is uniform for all regions and the collection efficiency for the

services is relatively not high. The municipality is organized in the four divisions; project and maintenance, licensing and survey, administrative and financial in addition to many functional sections and units under these divisions, with approximately 14 employees.

On the other hand, the organizational structure is simple and endorsed by ministry of local government, but mostly not recruit staff accordingly, which mean that the applied organizational structures are not identical neither with the formal structures nor with the job titles that have been approved by the Ministry of Local Government and there are many vacancies. However, the organizational structures referred to traditional model which is a hierarchical or pyramidal structure. The division of labor is very simple, clear and based on functional specialization, all the basic units are exist in addition to logistic one, number of management layers depends largely on the size of the organization and mainly it is 3 layers so the structure is short. To some extent the sequence of authority is clear but limited and the power of decision-making is concentrated at the top hierarchy of the organization.

6.2.4 Analysis of the Village Councils

The selected cases studies include three villages councils; Nuba, Roujeeb and Boureen, which provide water and sanitation services to their own villages only. Table 29 shows some facts about these village councils.

Table 29: Fact sheet about Village Councils

	Item	Nuba	Roujeeb	Boureen
General	Classification	VC	VC	VC
	Structural Plan	Endorsed	Not Endorsed	Endorsed
	Service	Water WW collection WW treatment	Water WW collection -	Water - -
	Total population	5,300	5,000	3,500
Water Service	Sources of water	Mekorot	Roujeeb Well	Oudala Well
	Served Population	3,500	4,500	3,000
	No. Subscriptions	720	950	495
	Tariff structure for water supply	Uniform for all types of consumption	Uniform for all types of consumption	Uniform for all types of consumption
Wastewater Service	Served Population	2,500	4,000	-
	No. Subscriptions	230	Not Exist	-
	Tariff structure for sanitation service	10NIS/m^3consumed water	Not Exist	-

6.2.4.1 Village Councils SWOT Analysis

The SWOT analysis outputs was divided into three consolidated aspects for all municipalities including; technical, financial and institutional ones. (Refer to Annex. F, the SWOT analysis outputs for each village council)

6.2.4.1.1 Consolidated Technical Aspects

The SWOT analysis outputs for the consolidated technical aspects for the three village councils are shown in Table 30 below.

Table 30: Village Councils SWOT analysis - Consolidated Technical Aspects

Strength	Weakness
1. Desire to improve level of services 2. Possession of own water resources	1. Coverage is very limited 2. There is no good infrastructure related to customer services 3. Part of water and sewerage system is old 4. High percentage of leakage/losses 5. High costs of establishing new water and waste water networks 6. Dependence on external water resources 7. Presence of area out of service 8. Some areas still depend on cesspits only 9. Wastewater collection was very limited or not exist 10. Deficit in water supply 11. Limited water resources 12. Inadequate equipment and tools 13. Lack of effective maintenance plan 14. WWTP not functioning well (if exist)
Opportunity	**Threat**
1. Rehabilitate networks and construct new ones 2. Reduce unaccounted for water 3. Check possibility to expanding services/service area 4. Rehabilitate and construct WWTP	1. Israeli Occupation 2. Political instability 3. Some of water resources under Israeli control 4. Parts of service area lie in different jurisdictions 5. Environmental pollution 6. Existing wells are not able to fulfill demand

6.2.4.1.2 Consolidated Financial Aspects

The SWOT analysis outputs for the consolidated financial aspects for the three village councils are shown in Table 31 below.

Table 31: Village Councils SWOT analysis - Consolidated Financial Aspects

Strength	Weakness
1. Charges for water supply and Sewerage services are reasonable with the level of service provided 2. Proper water tariff system 3. The water tariff system is clear Acceptable collection ratio for water service charge 4. Convenient ways for water bills payment	1. Limited budget 2. Weak financial resources 3. No proper tariff system for sanitation service 4. Tariffs not linked to costs 5. Low percentage of cost recovery 6. Revenues do not cover operational costs and maintenance 7. Lack reliable financial structure with cost recovery mechanisms 8. Depend on grants from donor agencies
Opportunity	**Threat**
1. Increase probability of donor assistance 2. To find ways and means to increase income/revenue	1. Israeli Occupation 2. Political instability 3. Economic situation and its reflection on collection 4. At the donors level, Expected grants and funds might not received

6.2.4.1.3 Consolidated Institutional Aspects

The SWOT analysis outputs for the consolidated institutional aspects for the three village councils are shown Table 32 below.

Table 32: Village Councils SWOT analysis - Consolidated Institutional Aspects

Strength	Weakness
1. Presence of some endorsed structural plan 2. Presence of organizational structure 3. Documentation of all aspects of work 4. Adequate records for works 5. Cooperation and coordination with government and non-governmental agencies 6. Good relationships with other ministries	1. Some structural plan not endorsed 2. Lack effective organizational structure 3. Members of villages councils was appointed by Palestinian Authority 4. Inadequate records for works 5. Lack experienced staff 6. Administrative personnel have not proper qualification 7. Lack of development projects in water and sanitation 8. Job description and specification need to update 9. Limited institutional capacity. 10. Lack of HR planning program 11. Inadequate number of staff 12. No performance appraisal system to judge the work-positively or negatively 13. Ineffective institutional systems, procedures and policies 14. No strategic plan for water and /or sanitation services 15. Mismanagement of WWTP 16. More than one job title for one person 17. Lack of interest from high ministries
Opportunity	**Threat**
1. Enhance performance in a systematic manner	1. Decreasing performance

6.2.4.2 Organizational Structures Analysis

The organizational structures for the villages councils also was analyzed based on several key factors including: management levels, average spans of control, chain of command, basis for grouping of functions/ units, spatial

distribution of units, line of responsibility, degree of centralization/decentralization of processes, authority limits and job titles. Table 33 shows the analytical factors for organizational structure analysis for the three village council's category.

Table 33: Organizational structure analysis for Village Councils

Item \ Name	Nuba	Roujeeb	Boureen
For Water /Sanitation	Unit under Public service division	Unit under Public service division	Unit under Public service division
Organization Structure	Combined	Combined	Combined
Work Specialization	Fair	Fair	Fair
Departmentalization	Functional	Functional	Functional
Chain of command	Relatively Clear	Relatively Clear	Relatively Clear
Span of control	Narrow	Narrow	Narrow
Authority/Decision Making	Centralized	Centralized	Centralized
Formalization	Fair	Fair	Fair
Type of coordination	Hierarchy	Hierarchy	Hierarchy
Level of Management	3 Section 2 Unit 2-4	3 Section 2 Unit 2-4	3 Section 2 Unit 2-4

6.2.4.3 Job Titles Analysis

The existing titles were sorted into three categories; management level which include management and supervisory titles, non-management level include professionals and workers groups. Table 34 shows the distribution of employees per job titles in the three village councils.

Table 34: Job title analysis for Village councils

Name / Title	Nuba	Roujeeb	Boureen
Management Positions			
Executive mangers	1	1	1
Professional Position			
• Engineer	1	-	-
• Accountant	1	1	1
• Lawyer	-	-	-
Worker Positions			
• Technician - Mechanic -Survey	3 -	2 -	- -
• Clerk/Secretary - Secretary - Meter reader & collector	- 2	1 1	1 1
• Laborer - Network Workers - Pump Workers - Drivers - Messenger - Guard - Customer service	- - 1 1 - -	1 - 1 3 1 1	1 - 1 - - -
Total	**10**	**13**	**6**

6.2.4.4 Performance Indicators for the Village Councils

Based on the information and data collected from the three village councils, the performance indicators were prepared as shown in Table 35.

Table 35: Comparison of performance Indicators for the three Village Councils

	Indicators	Unit	Nuba	Roujeeb	Boureen
Water Service	Water Network Coverage	%	66	90	85.7
	Avg. daily per capita water consumption at domestic level(l/c/day)	l/c/d	40	96	17
	Unaccounted-for-Water	%	15	25	20
	Average selling price per m^3 of water	NIS	4.00	2.60	5.00
	Collection efficiency	%	22%	≈ 100	70
	Staff productivity/ employees per 1000 customers	No.	13.89	13.70	12.12
Wastewater Service	Wastewater Network Coverage	%	47.1%	80%	-
	Collection efficiency (Wastewater service)	%	2%	-	-
	Total No. of employees - Management -Professional - Workers - Total		1 2 7 **10**	1 1 11 **13**	1 1 4 **6**

6.2.4.5 Observations and Findings

The analysis indicates that the three villages councils; Nuba, Roujeeb and Boureen provide water and/or sanitation services in their villages only. In general, most water sources in these villages are wells owned by PWA. The coverage of water network is highest in Roujeeb, lower in Boureen and lowest in Nuba. But the coverage of sanitation network is highest in Roujeeb. As for the networks are new, the percentage of losses is very

relatively low in all networks. The price of purchasing one cubic meter of water varies from one village to another according to the source, but the water prices are highest in Boureen. While tariff structure for water supply is uniform for all regions and the collection efficiency for the services is high in Roujeeb and law in Nuba. The networks are approximately new but do not cover all the citizens in the villages. For sanitation services, most of the villages do not have public sewage network, thus they use cesspits for the disposal of waste water, and the waste water is discharging in the streets and wadis, which cause environmental and health problems, and the spread of epidemics and diseases in the village. In Nuba village, wetland technique was used for treated domestic waste water, it is in preliminary phase, not functioning well, lack good operation and maintenance plan also lack qualified operated person.

On the other hand, the organizational structure is simple and endorsed by Ministry of Local Government, but mostly not recruit staff accordingly, which mean that the applied organizational structures are not identical neither with the formal structures nor the job titles that have been approved by the Ministry of Local Government and there are many vacancies. However, the organizational structures referred to traditional model which is a hierarchical or pyramidal structure, the division of labor is very simple, clear and based on functional specialization. The organizational structure for all villages consist of only two divisions; public works, administrative and financial one, all the employees distributed under them.

6.2.5 Analysis of the Sub-Regional Utilities

There are two sub-regional utilities in the West Bank. The first is Jerusalem Water Undertaking (JWU) which entrusted to provide all the water needs for drinking and other municipal and domestic purposes in Ramallah and Al-Bireh Governorate, the second in Bethlehem District is the Water and Supply and Sewerage Authority (WSSA); which also responsible to provide the citizens with water and sanitation services in a good manner. Table 36 shows some facts about these two sub-regional utilities.

Table 36: Fact sheet about Sub-regional utilities

	Item	JWU	WSSA
	Structural Plan	Endorsed	Endorsed
	Service	Water - -	Water WW collection WW treatment
	Served Area	Ramallah, Al-Bireh, Deir Debwan, Silwad, (Beitonia and Bier Zeit as bulk water supply) 43 villages 3 refugee camps	Bethlehem, Beit Jala, Beit Sahour Villages Refugee camps.
	Total Population	370,000	188,880
Water Service	Sources of water	5wells, Purchased water from"WBWD and Jerusalem municipality"	Wells, Purchased water from "Mekorot"
	Served Population	320,000	60,000
	No. Subscriptions	50,682	52,000
	Tariff structure for water supply	Bocks system, Vary according to consumption types	Uniform for all types of consumption
WW service	Served Population	-	48,000
	Tariff structure for sanitation service	-	Uniform

6.2.5.1 Sub-Regional Utilities SWOT Analysis

The SWOT analysis outputs was divided into three consolidated aspects for all municipalities including; technical, financial and institutional ones. (Refer to Annex. G, the SWOT analysis outputs for each sub-regional utility)

6.2.5.1.1 Consolidated Technical Aspects

The SWOT analysis outputs for the consolidated technical aspects for the two sub-regional utilities are shown in Table 37 below.

Table 37: Sub-regional utilities SWOT analysis - Consolidated Technical Aspects

Strength	Weakness
1. Coverage is not full 2. There is good infrastructure related to customer services 3. Desire to improve level of services 4. Possession of own water resources 5. Quality of water is complying with regulations 6. Monitoring is carried out systematically and comprehensively 7. The possibility to develop new and/or alternative water sources 8. Good operational and maintenance plans 9. Adequate equipment and tools	1. Part of water and sewerage system is old 2. High percentage of leakage/losses 3. High costs of establishing new water and waste water networks 4. Dependence on external water resources 5. Presence of area out of service 6. Some areas still depend on cesspits only 7. Wastewater collection was limited and treatment for reuse was not practiced 8. Un-sewered areas are not controlled 9. Some areas don't have WWTP and dumping waste water into wadis 10. No clear provision for reuse when WWTP exist 15. Deficit in water supply 16. Limited water resources
Opportunity	**Threat**
1. Transfer utility to water/sanitation/environmental utility 2. Reduce unaccounted for water 3. Rehabilitate networks and construct new reservoirs 4. Increase water coming from own resources and reduce dependence on purchased water 5. Check possibility to expanding services/service area 6. The possibility to develop new and/or alternative water sources 7. Construct several WWTP	1. Israeli Occupation 2. Political instability 3. Some of water resources under Israeli control 4. Parts of service area lie in different jurisdictions 5. Environmental pollution 6. The non-issue of permits for the WWTP 7. Existing wells are not able to fulfill demand

6.2.5.1.2 Consolidated Financial Aspects

The SWOT analysis outputs for the consolidated financial aspects for the two sub-regional utilities are shown Table 38 below.

Table 38: Sub-regional utilities SWOT analysis - Consolidated Financial Aspects

Strength	Weakness
1. Financial independence 2. Charges for water supply and Sewerage services are reasonable with the level of service provided 3. Proper water tariff system 5. The water tariff system is clear Acceptable collection ratio for water service charge 6. Convenient ways for water bills payment 7. Existence of current accurate database for billing 8. Depends on precise accounting systems	1. Weak financial resources 2. No proper tariff system for sanitation service 3. Tariffs not linked to costs 4. Low percentage of cost recovery 5. Revenues do not cover operational costs and maintenance 6. Lack reliable financial structure with cost recovery mechanisms 9. Depend on grants from donor agencies for investments
Opportunity	**Threat**
1. Increase probability of donor assistance 2. To find ways and means to increase income/revenue 3. Increase co- operation between utilities and various donors	1. Israeli Occupation 2. Political instability 3. Economic situation and its reflection on collection 4. Financial resources under the control on occupation 5. Change in tariff could be problem 6. At the donors level, Expected grants and funds might not received

6.2.5.1.3 Consolidated Institutional Aspects

The SWOT analysis outputs for the consolidated institutional aspects for the two sub-regional utilities are shown in Table 39 below.

Table 39: Sub-regional utilities SWOT analysis - Consolidated Institutional Aspects

Strength	Weakness
1. Management Independence 2. Presence of endorsed structural plan 3. Suitable organizational structure 4. Good experienced staff 5. Adequate number of staff 6. Administrative personnel have proper qualification 7. Documentation of all aspects of work 8. Existence of performance appraisal system to judge the work-positively or negatively 9. Effective institutional systems, procedures and policies 10. Good coordination between divisions 11. Adequate records for works 12. Effective strategic plan for water and /or sanitation services 13. Cooperation and coordination with government and non-governmental agencies 14. Capacity to comply with all the relevant local government legislation 15. Decisive leadership 16. Law enforcement 17. Good relationships with other ministries 18. Detailed report 19. Presence of inter functional relationships at all organizational levels	1. Lack of training system as well as training Unit 2. Lack of development projects in water and sanitation 3. Job description and specification need to update 4. Lack of HR planning program 5. Required number of staff approximately known but actual staff numbers significantly below or above the target level
Opportunity	**Threat**
1. Develop an effective institutional systems and procedures 2. Enhancing performance in a systematic manner. 3. The possibility of investment and partnership with civil society institutions.	1. Loss of existing expertise 2. Decreasing performance

6.2.5.2 Organizational Structures Analysis

Analysis organizational structures include examining key factors such as: management levels, average spans of control, chain of command, and basis

for grouping of functions / units, spatial distribution of units, line of responsibility, degree of centralization/decentralization of processes, authority limits and job titles. Table 40 shows the analytical factors for organizational structure analysis for the sub-regional utilities.

Table 40: Organizational structure analysis for Sub-regional utilities

Item \ Name	JWU	WSSA
Work Specialization	Excellent	Excellent
Departmentalization	Functional	Functional
Chain of command	Clear	Clear
Span of control	Balanced/Narrow	Balanced/Narrow
Authority/Decision Making	Centralized	Centralized
Formalization	High	High
Type of coordination	Hierarchy	Hierarchy
Level of Management	4 Department 5 Section 2-4 Division 1-3	4 Department 2 Section 3-5 Division 2-3

6.2.5.3 Job Titles Analysis

The other part of organizational analysis is the job titles which indicate the level of management responsibility also describe the job; it should be accurate and descriptive. The existing titles were sorted into three categories; management level which include management and supervisory titles, non-management level include professionals and workers groups.

Table 41 shows the distribution of employees per job titles in the sub-regional utilities.

Table 41: Job titles analysis for Sub-regional utilities

Name / Title	JWU	WSSA
Management Positions	37	7
Professional Position		
• Engineer	10	1
• Accountant	8	-
• Lawyer	1	-
• Programmer	-	-
• Regulation-licensing officials	-	-
• Health auditors	-	-
Worker Positions		
• Technician - Welder - Surveyor - Draftsman - Mechanic - Lab technicians -Pipe technicians	 - 2 1 - - -	 1 - 2 3 1 8
• Clerk/Secretary - Secretary - Meter reader & collector - Cashier -Clerk	 5 24 - -	 3 9 1 5
• Laborer - Driver - Customer service - Meter Worker - Network worker - Pump station worker - Messenger - Security - Cleaner - Typist - Guard - Controller	 8 3 - 43 9 4 1 1 - - -	 10 - - 14 - - - 1 10 2
Total	**157**	**78**

6.2.5.4 Performance Indicators for the Sub-Regional Utilities

Based on the information and data collected from the two sub regional utilities, the performance indicators were prepared as shown in Table 42.

Table 42: Comparison of Performance Indicators for the two Sub-regional utilities

	Indicators	Unit	JWU	WSSA
Water Service	Water Network Coverage	%	86.5	31.77
	Avg. daily per capita water consumption at domestic level(l/c/day)	l/c/d	100	74.41
	Unaccounted-for-Water	%	24.7	45
	Average selling price per m^3 of water	NIS	5.30	5.20
	Collection efficiency	%	79.40	75.40
	Staff productivity/ employees per 1000 customers	No.	3.1	1.5
	Total No. of employees - Management -Professional - Workers - Total		37 19 101 **157**	7 1 70 **78**

6.2.5.5 Observations and Findings

The analysis indicates that the Jerusalem Water Undertaking (JWU) is a non-profit, civil organization and sub-regional utility operational well on a semi-autonomous basis, without funding from external parties. It provides

the community in the service area with reliable water services at affordable price, 80% of water resources are purchased from the West Bank Water Department and Jerusalem municipality, the remaining 20% are product form own wells. The coverage of water network is highest in JWU and lowest in WSSA. As for the networks including the old and new parts, the percentage of losses is very high in all networks. The price of purchasing one cubic meter of water varies according to the source; the water prices are high in JWU and WSSA. Tariff structures for water supply are uniform for both regions. The collection efficiency for water service is the same for both utilities and relatively not high. The current water management strategies advanced by JWU include two emphases: expand the distribution network and develop water resources independent from Israel's Mekorot. On the other hand, JWU organized in five departments; operations, engineering, Information technology, administrative and financial department in addition to many functional sections and divisions under these departments, under that it employs approximately 157 according to special system for JWU employee No. 1 for the year 2002, which make the services provision characterized with high level of privacy and sustainability. The organogram for JWU is clear referred to traditional model which is a hierarchical or pyramidal structure, the division of labor is clear and based on functional specialization, all the basic units are exist in addition to logistic one, number of management layers depends largely on the size of the organization and mainly it is 4 layer so the structure is not tall, to some extent the sequence of authority is clear but limited, the power

of decision-making concentrated at the top hierarchy of the organization.The Water Supply and Sanitation Authority (WSSA) is another administratively and financially independent sub-regional utility which managing water and sanitation system, providing services, collection and financial management, data base and water metering in Bethlehem, Beit Jala, Beit Sahour and a number of villages and refugee camps. The water situation in these areas is quite difficult; there are frequent interruptions in water supply to the consumers which result from the limited water resources, deteriorated water networks and undersized pipe sections. The sewerage network performance is quite acceptable but there are great numbers of problems. The collection efficiency for the services is relatively not high. On the other hand, WSSA organized in two departments; operations, administrative and financial department in addition to many functional divisions and sections under these departments, under that it employ approximately 78 staff. The organogram for WSSA is clear referred to traditional model which is a hierarchical or pyramidal structure, the division of labor is clear and based on functional specialization, all the basic units are exist in addition to logistic one, number of management layers depends largely on the size of the organization and mainly it is 4 layer so the structure is not tall, to some extent the sequence of authority is clear but limited, the power of decision-making concentrated at the top hierarchy of the organization.

6.3 Final Discussion

Based on the above SWOT analysis for the different organizational setup, the following can be noted:

1. All case studies represent reasonably successful examples for water and sanitation service providers in the West Bank. They do not gloss over the weaknesses or problems and try to present the examples in a balanced and objective way, but they are reinforced and revealed many of the lessons about provision water supply and sanitation services from many aspects including technical, financial and administrative aspects.
2. There are many institutional options for water and sanitation service providers in rural and urban areas in the West Bank. This quantitative development has not matched by the qualitative development in management models, responsibilities, powers, financial and management independence or any other considerations.
3. The Ministry of Local Government (MoLG) still act as a regulator for the work of local government units from administrative, financial and political aspects.
4. Presence of Legal gaps in the laws and regulations governing the work of local government units and determine their powers and responsibilities that constitute an impediment to their development.
5. There is no clear classification for the Local Government Units (LGU's) that have been mentioned in the local government law No.1 for the year 1997. The classification includes only the municipalities.

6. The Palestinian Local government law No. 1 of 1997 did not clarify the basis that should be followed in determining the staff needs for local government units.
7. The distribution of Local Government Units (LGU's) on areas and communities indicates that there are variations in the number of served populations, the size of areas under jurisdiction and the type of provided services although they have the same classification.
8. The amalgamation of local government units is one of the most widespread tools of local governance reform; which aims to strengthen and development the capacity of local government units; provide services efficiently and effectively, the best use of local resources, to achieve integrated planning in order to enhance social and economic sustainability. On the other hand, amalgamation municipalities are still new and need more attention and legal and administrative guidance.
9. Most of the administrative structures for large, medium and small Local Government Units (LGU's) are different, unclear, outdated and not compatible with their needs and employees which cause a major obstacle to good management.
10. All large Local Government Units (municipalities, sub-regional utilities) have endorsed organizational structure and the employees are nominating according to that. Most of the medium Local Government Units (joint service councils) have an organizational structure, but the others do not have, and there is a lack of employment which result from the small number of served population or the lack of financial budget

which causes a decline to these unit responsibilities. In small Local Government Units (village councils) most of them have not organizational structure and employees more than the required, or in some cases, there are many vacancies.

11. The lack of organizational structure in local government units makes it difficult to determine the powers and authorities, which opens the way to unregulated work and difficult to conduct surveillance and monitoring and evaluation.
12. Weak administrative capacity for most of service providers in the West Bank, especially joint service councils, amalgamation municipalities and village councils. The administrative and technical staffs are not qualified. In addition, most of them do not have strategic plans for the provision of water and wastewater services.
13. Lack of clear directions and vision for many of service providers, especially in rural areas.
14. Inequitable access to water and sanitation in urban and rural areas is the product of disparities in water resources, income, geography and household characteristics, power and institutional capacity between and within these regions.
15. In rural areas, water supply services are still highly fragmented and inefficient, with poor data collection and information systems, poor cost recovery, decaying infrastructure and insufficient resources.
16. Finance for operation and maintenance of water supply and sewerage systems is the responsibility of the service providers, but the difficult

political situation and the high levels of non-payment of bills reduces the cost recovery chances.

17. Weak technical capabilities to implement the required projects that exist in some localities. This requires an upgrading of the local government units to enable them to implement vital projects
18. All service providers are highly dependent on the financial assistance provided by donors.
19. Moreover, wastewater treatment has always been neglected to a large extent, with most attention focused on measures to solve water quantity and supply problems. Hence wastewater treatment is mostly unavailable, inadequate or not functioning if available and no provision for reuse.
20. Lack of effective staffing policy and job definition.

CHAPTER SEVEN

PROPOSED ORGANIZATIONAL STRUCTURES

7.1 Introduction

Organizing refers to the process of structuring human and physical resources in order to accomplish organizational objectives. It involves dividing tasks into jobs, specifying the appropriate department for each job, determining the optimum number of jobs in each department and delegating authority within and among departments. The framework of jobs and departments that make up any organization must be directed toward achieving the organization’s objectives and consistent with its mission and strategy. Typically, the structure of an organization evolves as the organization grows and changes over time.

7.2 Key principles of Organizational Structures Design

According to the system of the Local Government Unit's (LGU's) staffs No. (7) for the year 2009 and instructions for its implementation, there are factors or bases that determine the nature and size of the organizational structure of the local unit. The first one is related to the responsibilities and work of the Local Government Unit (LGU) itself and the second is derived from the administrative logic in building the organizational structures. These bases can be summarized in the following:

1. Conditions and nature of works of the Local Government Unit (LGU)

The most important factors that determine the nature of organizational structures are services and activities carried out by the Local Government

Unit (LGU), the volume of work, the population beneficiaries of the service, service area, its size in terms of employees, financial capacity, budget and other conditions related to the Local Government Unit (LGU).

2. Administrative and logical bases for building organizational structures

The scientific bases for building effective organizational structure are:

1. The organizational structure should contain the main core and supportive functions.
2. Taking the principle of "smaller organizational structure" that reflects the reality of work and has all the functions. This structure reduces costs, improves the effectiveness of internal communications, facilitate the work procedures and thereby increase the quality of services provided.
3. Reduce the number of management levels in the organizational structure (vertical dimension), which facilitates internal communication and reduces the administrative slack.
4. The conflicting jobs should not be restructured in one administrative unit, for example, it should not structuring the accounting, financial and warehouse / store and procurement functions in one administrative unit under the responsibility of the same director, the same thing applies to the project planning and management of the projects implementation.

5. Moderation in the scope of supervision (horizontal dimension) so that the number of supervisory officials no more than 10-15% of the total staff in the Local Government Unit (LGU), also the number of employees in administrative unit (department- section – unit...etc) not less than 2-3 employees in the medium and small local units, and 5-6 employees in large local units.
6. Future plans and expansions in provided services should be taken in consideration.
7. The organization structure should be build according to functional requirements, where main functions prepared then grouped then structuring these groups in administrative units.
8. Building or update the organization structure should be done through collective participation which includes the board of directors of the local unit.
9. Organizational structure should be aligned with organization strategy.
10. Organizational structure should achieve vertical and horizontal linkage.

7.3 Functions

7.3.1 Basic Concepts

The first step in building any organizational structure is to determine the functions. Functions are groups of actions that belong together for one reason or another, these reasons might include: type of work done, common purpose, communication and coordination, skills and qualifications needed.

Mission, overall objectives and strategic analysis lead to functions. Other things can happen that require functions as well; sometimes, to be competitive, an organization must add or modify its functions **(Barnes, 2002)**. Then, a thought process is used to sort actions into groups, and the sorted actions suggest the name of the functions. The following questions outline the thought process:

- Which actions are similar?
- Which actions complement each other?
- Which actions could do in the same place for better productivity?
- Which actions should control together?

This process has been used to identify the main functions for water and sanitation service providers.

7.3.2 Main Functions

For water and wastewater services, the main functions were divided into six categories; Operations, New Works, Customer Services, Administration, Financial and Information technology category. These categories are described as following:

1. Operations

The functions that carried out in operations are those related to the reliable and effective supply of water and sanitation services to customers, including:

- Water Supply

  - Abstraction of water from wells and springs,

  - Operation of pump stations, booster stations and reservoirs,

  - Operation of distribution valves.

- Maintenance

  - Water Network Maintenance

    - Repair and maintenance of water supply networks,

    - Mechanical & electrical maintenance of pumps,

    - Leakage detection and control,

    - Installation of new consumer connections

  - Wastewater Maintenance

    - Repair and maintenance of sanitation networks,

    - Mechanical & electrical maintenance of WWTP.

- Sanitation

  - Installation of new consumer connections,

  - Cleaning of sewers and manholes,

  - Operation all stages of WWTP,

  - Products management (sludge and water)

2. New Works

The new works functions are all new engineering activities, including:

- Planning and design

  - Surveying for design and construction needs,

  - Preparation of relevant engineering drawings,

  - Engineering design of new water and sanitation works,

- Preparation of tender documents of new works,

- Preparation and up-dating the master plans for water and sanitation,

- Preparation of plans for extension to the water and sanitation systems,

- Keeping records of the public facilities and the information related to the sewer system, water system.

- Supervision

  - Supervision of construction of works by direct labor or contractors.

3. Customer Services

The customer service functions are those involving direct contact with the consumers, including:

- Customer Accounts

  - Meter reading,

  - Billing and recording collection of revenues,

  - Customer records and accounts,

  - Applications of new connection.

- Metering

  - Collect meter readings

  - Installation new meters,

  - Testing and repair of water meters,

  - Replacement of faulty meters,

  - Meter disconnection

- Complaints

  - Receiving and recording all customer complaints,

- Forwarding complaints to appropriate division for action.

- Quality Control

  - Monitoring water quality at source and in the network system,

  - Monitoring the effluent discharge from WWTP,

  - Sampling and analysis the waste water,

  - Water quality reports.

4. Administration

The administration functions are those related to the provision of support services to the institution, including:

- Human Resources

  - Employee affairs

    - ✓ Employee incentives
    - ✓ Employee records
    - ✓ Employee compensations & benefits
    - ✓ Employee Appraisal
    - ✓ Safety of workers

  - Training program management,

  - Performance appraisal system,

  - Update existing rules and procedures.

- Administration

  - Secretarial services,

  - Legal follows up,

  - Organizing drivers and messengers,

  - Materials purchasing and requisitions.

- Warehouses (Stores)
- Public Relation

  - Spokesman for the institution/ contact with outside agencies/external communication and contacts,

  - Public awareness and community education,

  - Communications and publications: disseminate information on: tariff, rules, procedures and water quality.

5. Financial

The financial functions including:

- Accounting

  - Billing and records show payment history,

  - Account payable/accounts receivable,

  - Financial statement and reports,

  - Solving financial customer problems,

  - Payroll

  - Fixed asset accounting,

  - Cost accounting.

- Planning and Financial Analysis

  - Management various funds,

  - Develop annual budget,

  - Internal audit.

6. Information Technology (IT)

  - Install software and hardware needs,

  - Trouble shoot hardware and software applications,

- Security of programs and facilities,
- Train employees in use of automated systems.

7.4 Proposed Organizational Structures

7.4.1 Key Assumptions

In building the organizational structures, the following assumptions have been considered:

1. According to West Bank Water Department (WBWD) mandate, it is responsible for water resources management; i.e. management of water wells, pumps and conveying water from water wells to reservoirs and/or connection points of internal water networks. On the other hand, the water and sanitation service providers are responsible for internal networks and connection points (new connections, maintenance and upgrading/expansion) to the end users.
2. Minimize number of departments and number of employees to enable the financial sustainability of water and sanitation utilities.
3. There are two cases with respect to water meters, pre-paid water meters that need meter readers (collectors) and readable water meters that need charging points.
4. Amalgamation municipalities need customer service points in each locality \that will be responsible for charging, receiving complaints and requests for new connections.

5. The functional organizational structure consists of various and different positions but normally one person may be responsible for more than one position i.e. one person may performs multiple tasks.
6. There is a need to distinguish between five different organizational structures due to the different setups of the water and sanitation service providers. These organizations are:
    - Municipalities,
    - Joint Service Councils; Joint Water service Councils (JWSC's) and Joint Water and sanitation service Councils (JWSSC's),
    - Amalgamation Municipalities,
    - Village Councils, and
    - Bulk Water Utilities.

7.4.2 Proposed Organizational Charts

This section summarizes and presents the proposed organizational charts for the five different type of organizations presented above.

It is worth emphasizing that the functions and responsibilities for a certain title (group) in the presented charts are the same for the five different organization setups despite the size and the complexity of services that varies according to the community size.

7.4.2.1 Proposed Organizational Chart for Water and Sanitation Department in Municipality

The organizational chart in Figure 12 shows the functional structure and relationships of all administrative, financial, and operation positions for the water and sanitation department in municipality.

In the proposed organizational structure**,** water and sanitation department consist of three divisions that carry out most of the day-to-day activities of the department. The three divisions responsible for projects, customer services, operation and maintenance of the water and wastewater facilities. Each division is expanded to sections and units. The three divisions are brought under the general director of the department. However, the department in relation with other departments in municipality such as administration and financial department as shown in Figure 13.

7.4.2.1 Proposed Organizational Chart for Water and Sanitation Department in Municipality

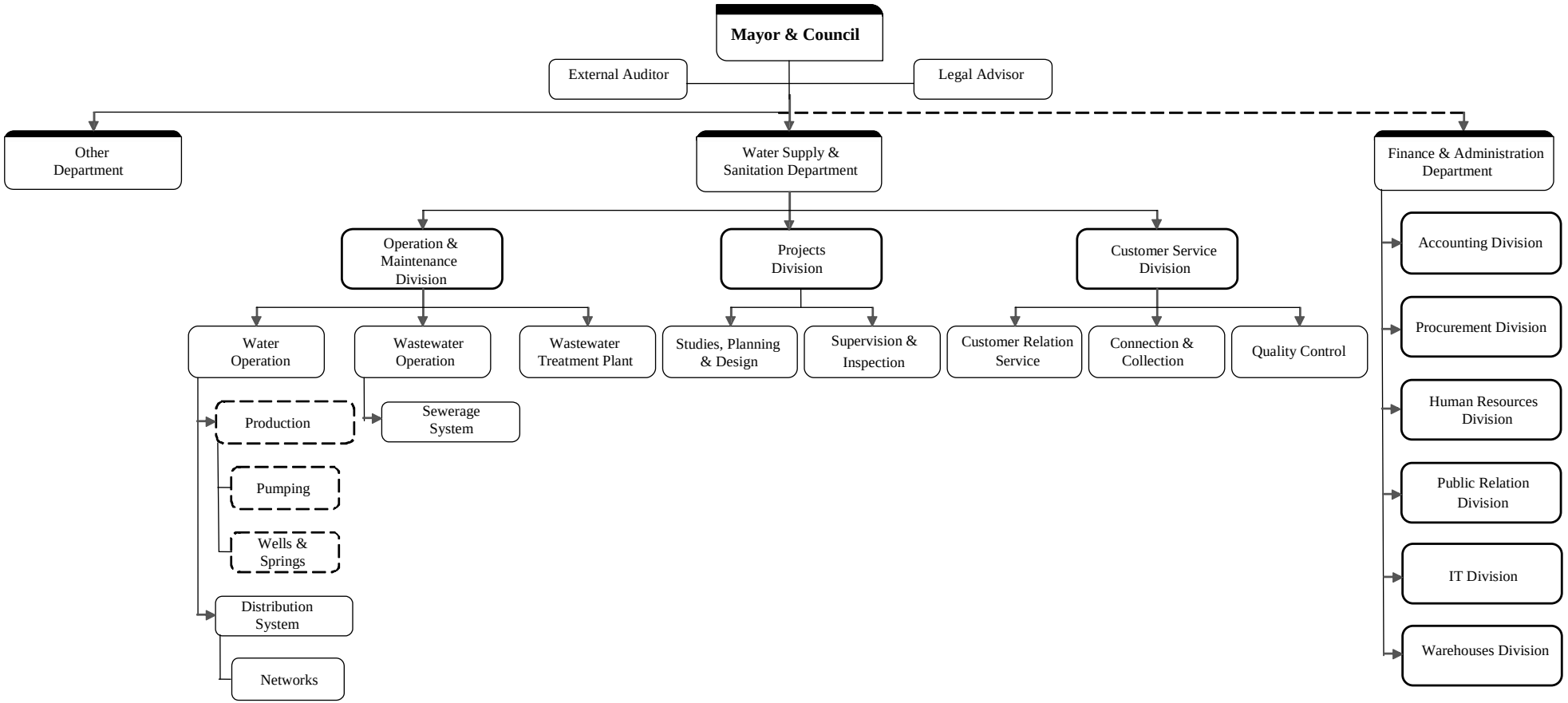

Figure 12: Proposed Functional Organizational Chart for Water and Sanitation Department in Municipality

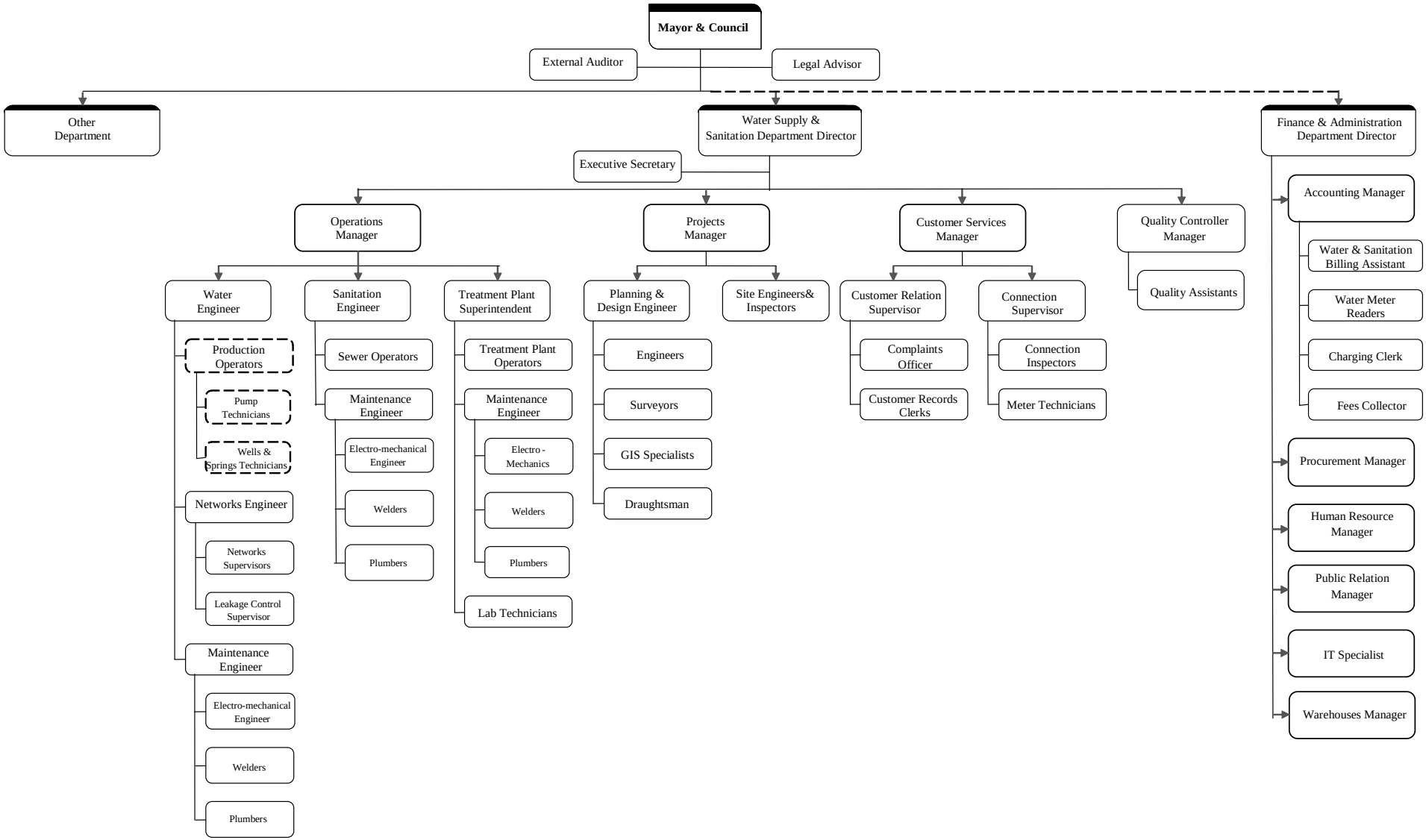

Figure 13: Proposed Organizational Chart for Water and Sanitation Department in Municipality

7.4.2.2 Proposed Organizational Chart for Joint Water Service Council

The proposed organizational chart of Joint Water Service Council (JWSC) was built upon the current needs that fit with the financial and human resources of councils. However, the structure is divided into three divisions that responsible of administration, financial, operation, maintenance and quality control of water facilities, all divisions are brought under the executive manager of the council. The main elements of the proposed structure are illustrated in Figure 14 and 15 below.

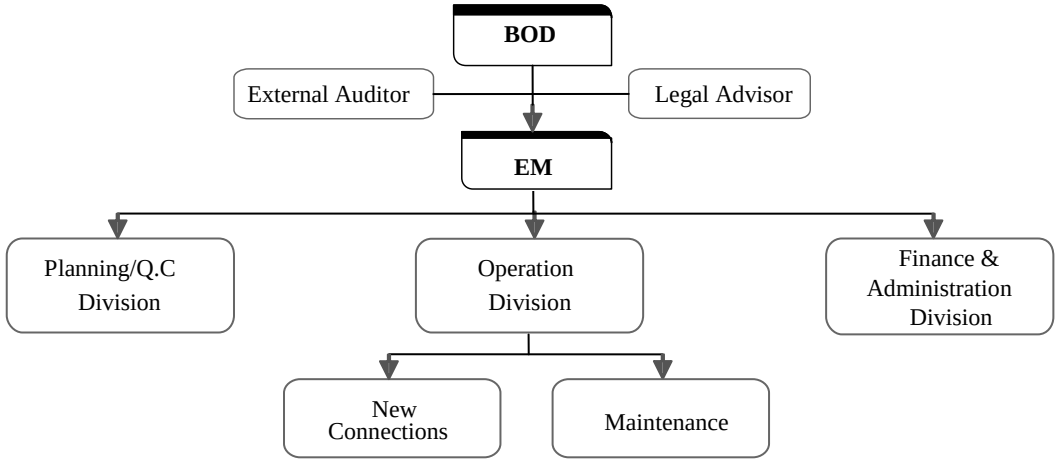

Figure 14: Proposed Functional Organizational Chart for Joint Water Service Council

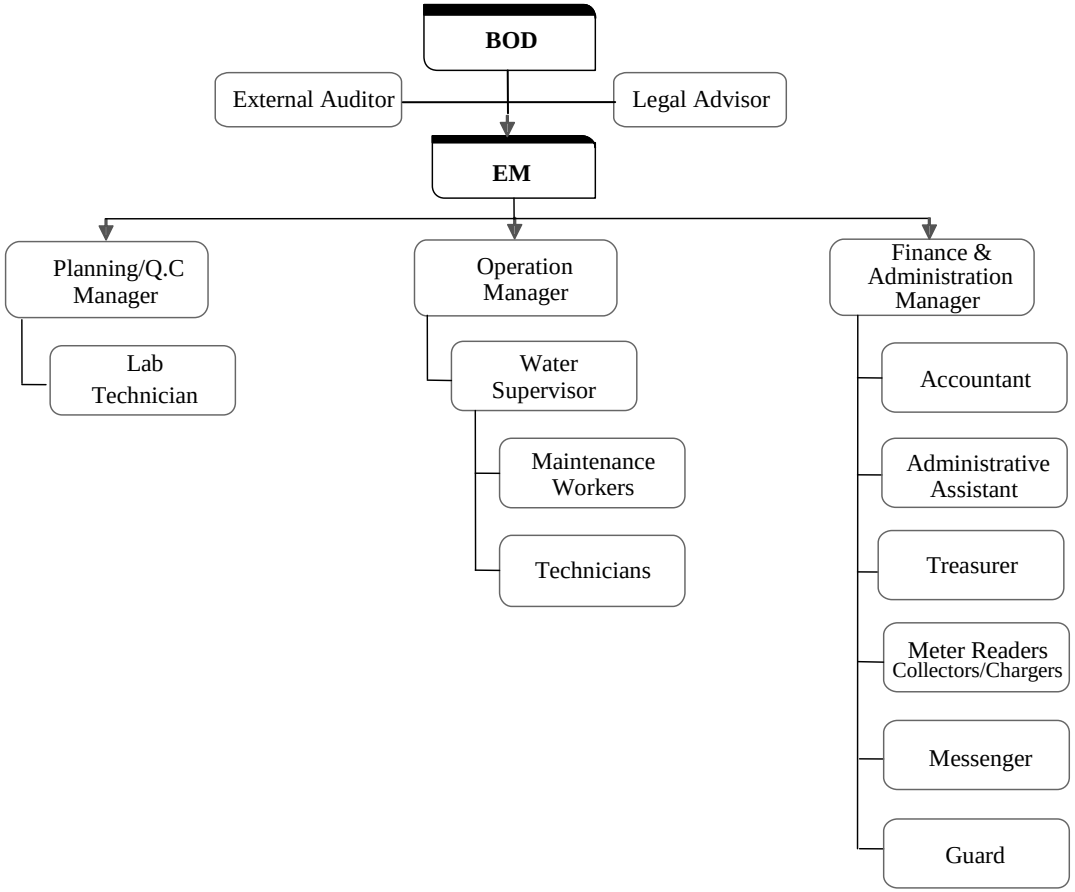

Figure 15: Proposed Organizational Chart for Joint Water Service Council

7.4.2.3 Proposed Organizational Chart for Joint Water and Sanitation Service Council

As Figure 16 and 17 illustrate, Joint Water and Sanitation Service Council (JWSSC) responsible for operation, maintenance of water and sanitation networks in addition to wastewater treatment plant. The operation activities of water and wastewater could be merged to respond to the size of served communities of council.

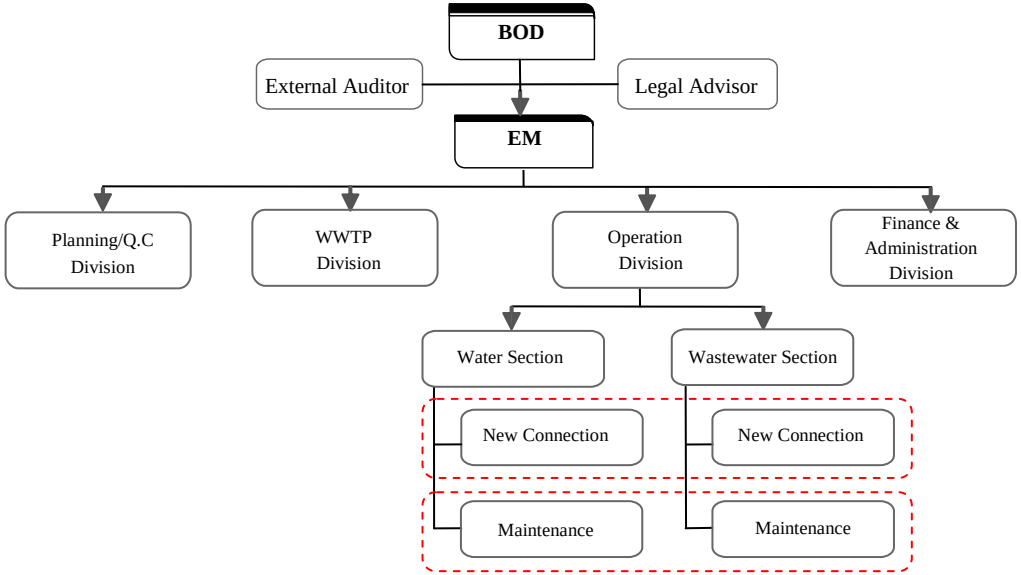

Figure 16: Proposed Functional Organizatioanl Chart for Joint Water and Sanitation Service Council

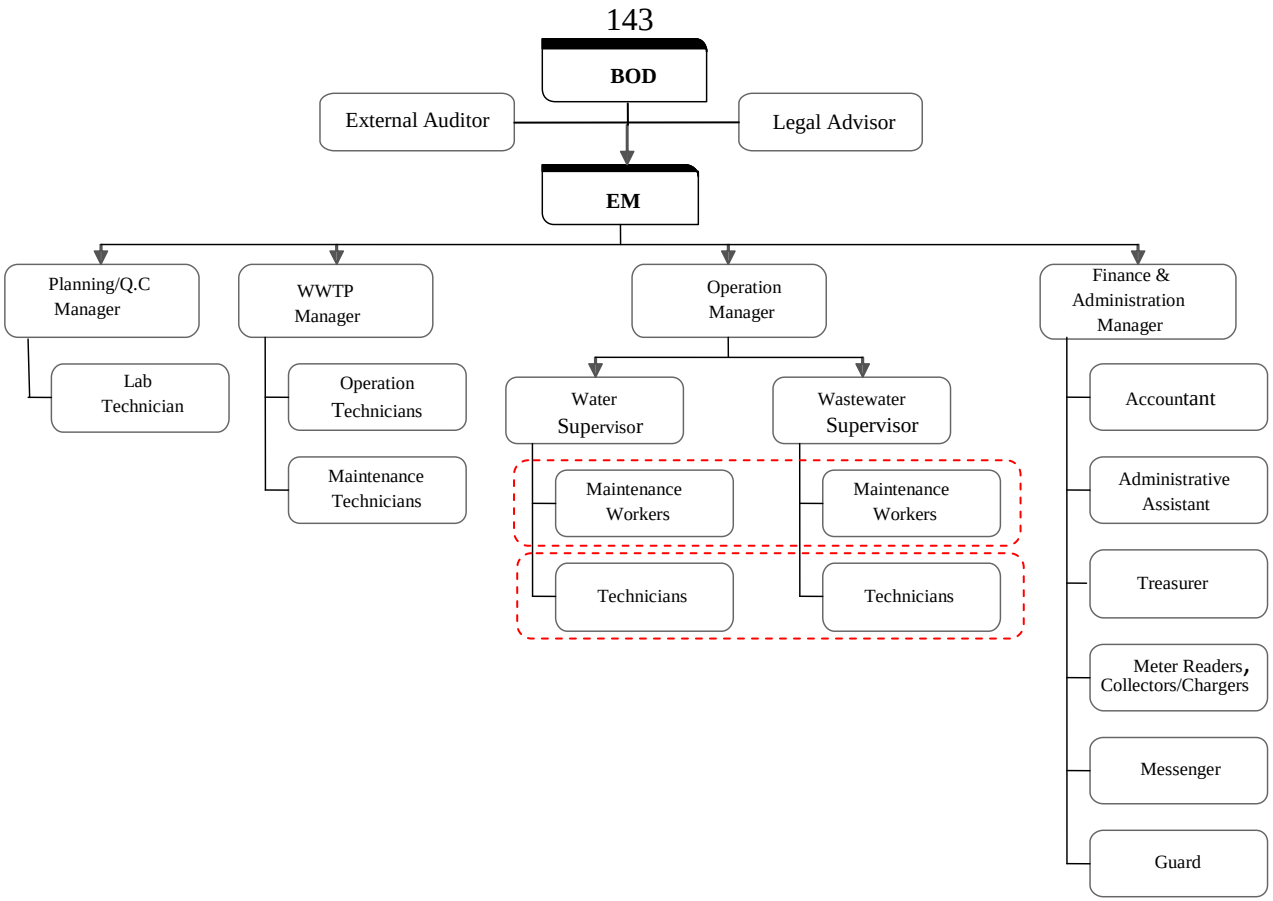

Figure 17: Proposed Organizational Chart for Joint Water and Sanitation Service Council

7.4.2.4 Proposed Organizational Chart for Amalgamation Municipalities

The proposed organizational chart of amalgamation municipalities consists of three departments that responsible of administration, financial, projects, operation and maintenance of water and wastewater facilities, all departments are brought under the general manager. The main elements of the proposed structure are illustrated in Figure 18 and 19 below.

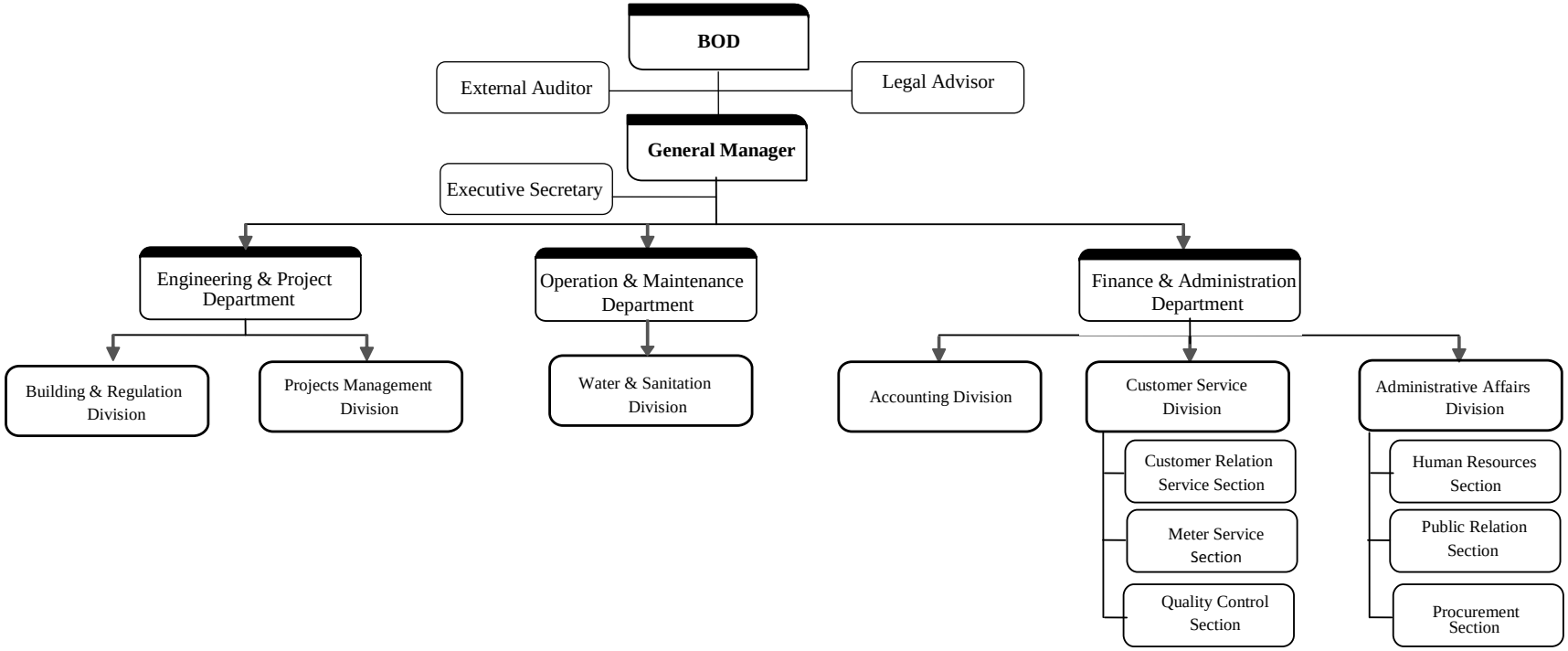

Figure 18: Proposed Functional Organizational Chart for Amalgamation Municipalities

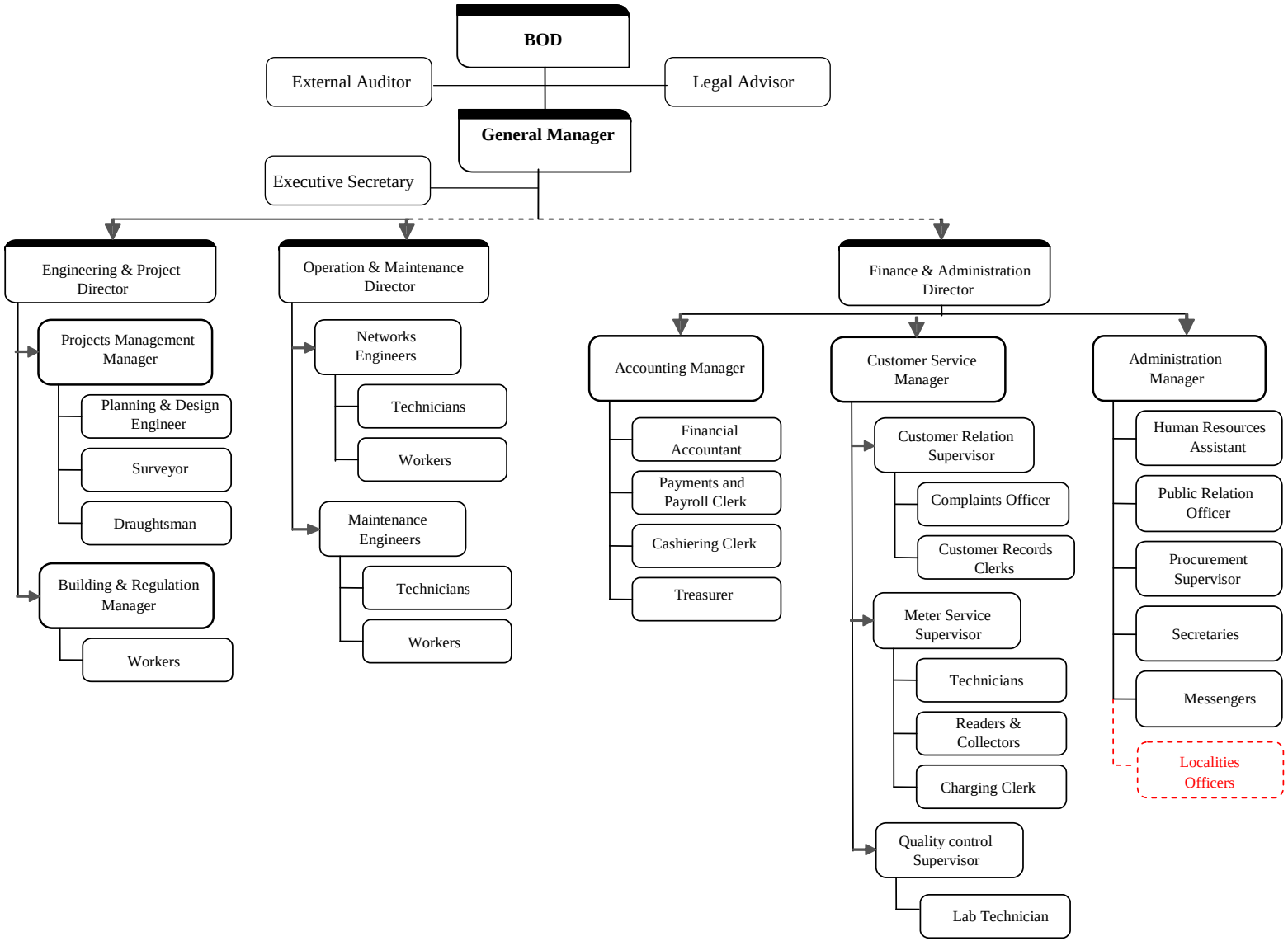

Figure 19: Proposed Organizational Chart for Amalgamation Municipalities

7.4.2.5 Proposed Organizational Chart for Village Council

The following Figures 20 and 21 clarify the proposed organizational chart for village council. The structure consists of two sections, water and wastewater unit within public services section. All sections are brought under the head of village council.

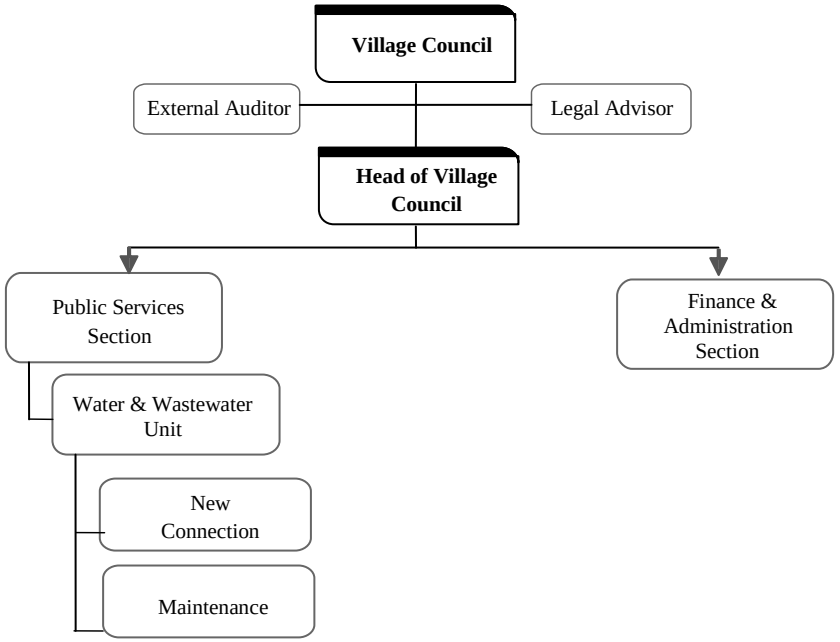

Figure 20: Proposed Functional Organizational Chart for Village Council

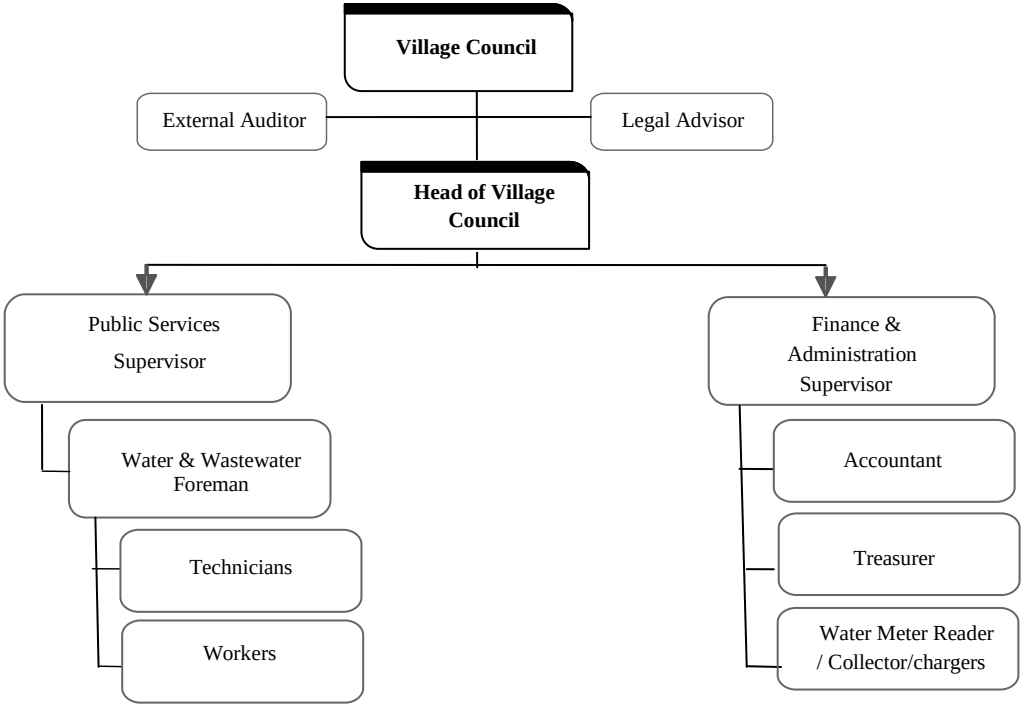

Figure 21: Proposed Organizational Chart for Village Council

7.4.2.6 Proposed Organizational Chart for Bulk Water Utility

The proposed organizational chart of Bulk Water Utility as shown in Figure 22 and 23 below consists of five departments that responsible of administration, financial, engineering, IT and operation of water facilities, all departments are brought under the general manager.

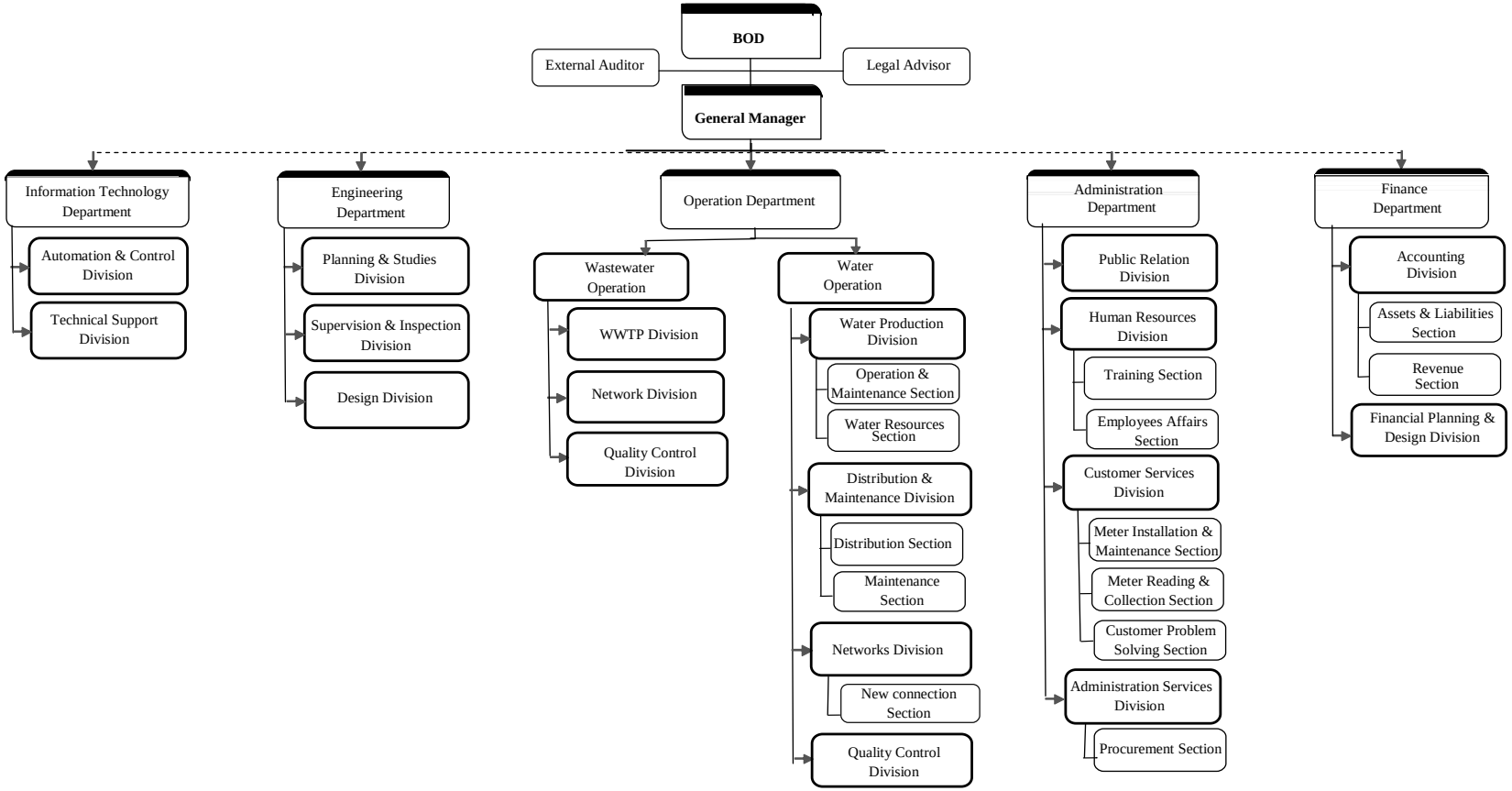

Figure 22: Proposed Functional Organizational Chart for Bulk Water Utility

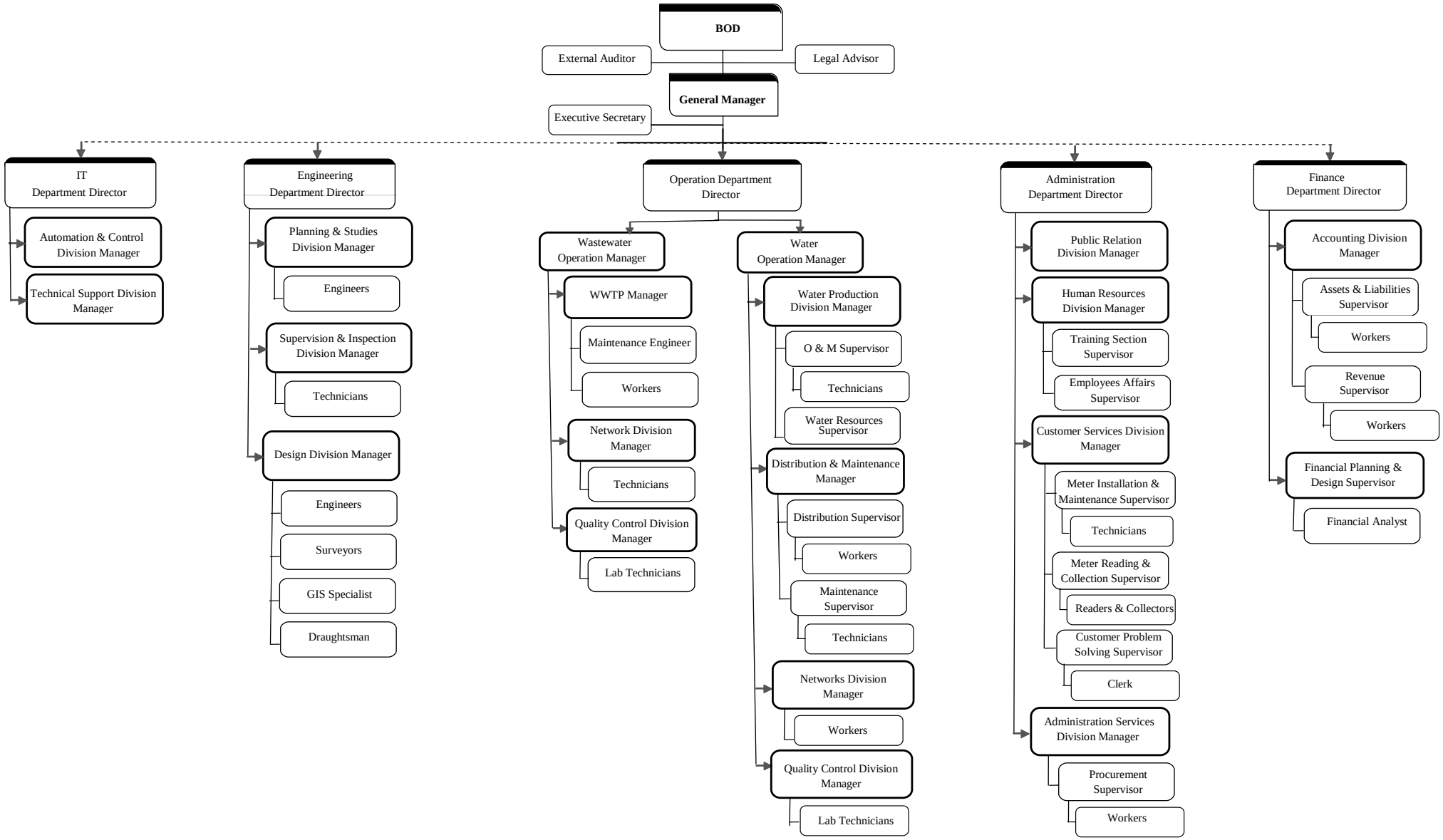

Figure 23: Proposed Organizational Chart for Bulk Water Utility

CHAPTER EIGHT

CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions

The following are the main conclusions:

1. The institutional framework supporting the provision of water supply and sanitation in the West Bank is currently in transition and is faced with many bottlenecks in terms of diminished organizational resources, ineffective regulations, inadequate technical support and infrastructure, unclear standards, norms and monitoring, duplication of administrative entities, lack of cooperation and coordination among various stakeholders.
2. Local Government Units (LGU's) as service providers in the West Bank have a wide array of institutional options for providing water and wastewater services in urban and rural areas. This quantitative development has not matched by the qualitative development in management models, responsibilities, powers, financial and management independence or any other considerations.
3. Water and sanitation service providers in the West Bank suffer from administrative, technical and financial constraints and most importantly of these obstacles is the central administration in the decision-making process.
4. The lack of adoption standardized organizational structures for water and wastewater functions at the different Local government Units.

5. Usually, there is no best way to design organizational structure. The type of structure depends on strategy, mission and business plans. The best organizational structure for any organization depends on many factors including the work it does; its size in terms of employees, revenues, and the geographic dispersion of its facilities.
6. The institutional capacities for most of the service providers (municipalities, JSC's, amalgamation municipalities, village councils and sub-regional utilities) are generally weak. This is due to the ineffective organizational structure and to human and financial resources constraints.
7. Economic and financial implications, institutional organization and legislative framework can have a significant influence on the feasibility of wastewater treatment and reuse in the West Bank.
8. The Palestinian water and sanitation sector has a complex water tariff system adopted by Palestinian Water Authority. It is different form one region to another according to many factors. On the other hand, until now there is no structured tariff for wastewater services (collection and/or treatment).

8.2 Recommendations

The main outcome of this study is proposed organizational structures for water and sanitation service providers in the West Bank that may help these utilities once adopted in enhancing sustainable water and wastewater services. In addition to the recommended organizational structures, the following are a set of recommendations that can be drawn based on the presented results and findings:

1. The institutional framework for water and sanitation sector will have to be clarified and streamlined to meet the challenges of efficient and cost-effective provision of services. The roles and responsibilities of the different stakeholders will have to be clearly defined so as to ensure the participation of different stakeholders.
2. Improving Inter-institutional coordination and collaboration is an important aspect in ensuring the effective implementation of the National Water Policy. For that, such coordination should be enhanced through different activities including capacity building activities.
3. A sustainable financing strategy and equity is needed, one that will increase resource allocations to the sector, improve the efficiency and effectiveness of existing resources wherever they are found and tap the potential of alternative financing mechanisms. The long-term viability of public water and sanitation services requires user fees and inputs from beneficiaries.

4. The need to amend Palestinian Local Government Law No. (1) for the year 1997 and any decisions related to Local Government Units (LGU's), both in terms of classifications, merging or separation, creation joint service councils and amalgamation municipalities, mechanism of the conversion process to larger local units or municipalities, organizational structures, financial resources, employees affairs
5. Standardized the organizational structures for water and /or wastewater department or division at Local Government Units (LGU's) according to the size and nature of the services provided by it, which determines the number of departments, divisions, sections, job titles and number of employees, and through it the roles, responsibilities and powers can be specified.
6. Preparing Strategic Operations Plans for all water and sanitation service providers in the West Bank (Preparing Strategic Framework for the Improvement of service providers, which addresses critical issues at policy, legal, programmatic and projects levels).
7. Promote institutional and organizational development and support reform of the water and sanitation service providers through capacity building, knowledge sharing and promotion of partnerships.
8. Building a reliable performance indicators system for water and sanitation service providers that helps PWA to evaluate the performance of the service delivery organizations.

9. Using Pre-paid water maters in all regions is seen as the most effective solution to the law fee collection rates.
10. PWA should adopt unified water tariff structure that enhances financial sustainability.
11. Develop comprehensive improvement programs for revenue collection, revenue control, customer education, and user charges. Also it is recommended to try to decentralize financial and administrative activities for water and wastewater services.

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ANNEXES

Annex. A

Municipalities Questionnaire

سلطة المياه الفلسطينية	Austrian Development Cooperation	جامعة النجاح الوطنية

تشخيص واقع مزودي خدمات المياه والصرف الصحي

استبانة خاصة بمزودي خدمات المياه والصرف الصحي في الضفة الغربية – فلسطين

السادة رؤساء الهيئات المحلية المحترمين ،

تم إعداد هذه الاستبانة ضمن إطار مشروع" بناء القدرات والاصلاح المؤسسي للحصول على الادارة المتكاملة للمياه وخدمات الصرف الصحي في المجتمعات الريفية في الضفة الغربية " والذي يهدف الى وضع استراتيجية لادارة قطاع الصرف الصحي في المناطق الريفية" ، مما يسهم في تحقيق اصلاح وتطوير لهذا القطاع ووضع الخطط المناسبة في مجال التنمية المتكاملة والمستدامة . كما ويتم تنفيذ هذا المشروع من قبل سلطة المياه الفلسطينية وذلك بالتعاون مع الجامعات الفلسطينية وبتمويل من الحكومة النمساوية.

تهدف هذه الاستبانة إلى جمع بعض البيانات المتعلقة بالأنظمة الفنية ، الادارية و المالية لمزودي خدمات المياه و الصرف الصحي في الضفة الغربية وذلك لتحليل وتقييم الوضع الراهن لإدارة المياه العادمة وتحديد الأنظمة الأدارية الأكثر فاعلية.

هذا ونثمن تعاونكم في تعبئة هذه الاستبانة لما تمثله مساهمتكم من أهمية بالغة في تزويد الباحثة ببيانات صحيحة ودقيقة تعكس الواقع الراهن لإدارة المياه العادمة في الضفة الغربية.

مع جزيل الشكر والتقدير لتعاونكم،

سلطة المياه الفلسطينية

1- معلومات الاستبانة		
1.1	اسم الباحث	
1.2	رقم الاستبانة	☐☐☐
1.3	تاريخ تعبئة الاستبانة	/ /

2- معلومات عامة		
الرقم	**السؤال**	**الاجابة**
2.1	اسم المجلس البلدي	
2.2	الموقع الجغرافي	المحافظة: التجمع:
2.3	درجة التصنيف	
2.4	عدد أعضاء المجلس البلدي	
2.5	المناطق التي يخدمها المجلس البلدي	
2.6	عدد سكان التجمع الكلي	
2.7	عدد المنازل المأهولة في التجمع	
2.8	مساحة التجمع الكلية (دونم)	
2.9	المخطط الهيكلي	أ. مصادق ب. غير مصادق ج. لا يوجد ما هي مساحته ان وجد:
2.10	الخدمات التي يقدمها المجلس للتجمع السكاني في قطاع المياه والصرف الصحي	أ. مياه ب. صرف صحي ج. مياه وصرف صحي د. مياه و صرف صحي ومعالجة المياه العادمة

3- خدمات المياه والصرف الصحي • معلومات حول الهيكلية الأدارية /الوظيفية		
الرقم	**السؤال**	**الاجابة**
3.1	هل يوجد هيكل تنظيمي للبلدية ؟	أ. نعم (يرجى ارفاقه و متى تم اعداده) ب. لا
3.2	في حال "نعم"، هل الهيكل التنظيمي الموجود يتوافق مع ما أقرته وزارة الحكم المحلي ؟	أ. نعم ب. لا
3.3	في حال "نعم"، هل تم تسكين الموظفين بناء على هيكلية وزارة الحكم المحلي ؟	أ. نعم ب. لا
3.4	هل المياه والصرف الصحي ومعالجة المياه العادمة تحت	أ. دائرة واحدة ب. دائرتين / قسمين / شعبتين منفصلتين
• **في حال خدمات المياه والصرف الصحي ومعالجة المياه العادمة تحت دائرة واحدة ، أجب من 3.5 ألى 3.77**		
3.5	هل يوجد هيكل تنظيمي تفصيلي لدائرة المياه والصرف الصحي ومعالجة المياه العادمة ؟	أ. نعم (يرجى ارفاقه و متى تم اعداده) ب. لا (يرجى تعبئة جدول 1)
3.6	هل محطة المعالجة لها هيكل تنظيمي منفصل عن دائرة المياه والصرف الصحي ؟	أ. نعم (يرجى ارفاقه) ب. لا
3.7	ما هي الوظائف الموجودة في دائرة المياه والصرف	المسمى الوظيفي / عدد الموظفين

	الصحي ومعالجة المياه العادمة ؟ وعدد الموظفين في كل منها ؟	مدير دائرة المياه الصرف الصحي	
		مهندس صرف صحي	
		مهندس مياه	
		مهندس مشاريع	
		مهندس شبكات	
		مدير محطة المعالجة	
		مهندس محطة المعالجة	
		مهندس ميكانيكي–صيانة	
		مهندس تخطيط وتصميم	
		مهندس مراقب	
		محللون كيماويون وبيولوجيون	
		جباة	
		مساحون	
		سكرتارية	
		عمال صيانة الشبكات–عدادات	
		مشرفو مضخات وخزانات	
		رسامون	
		مسؤول التنظيم والترخيص	
		مفتشو ومراقبو صحة	
		مدققو ومراقبو الجودة	
		محاسبون	
		مسؤولو خدمة الجمهور	
		سائقو السيارات والاليات	
		عمال التنظيفات	
		المراسلون	
		الأمن	
3.8	ما هي الوظائف المشتركة بين المياه والصرف الصحي ؟	أ. أدارية ب. مالية ج. تشغيل وصيانة د. التخطيط والتصميم والدراسات هـ. المراقبة والاشراف و. الجمع والجباية ز. العقود والمشتريات س. التحاليل المخبرية	

3.9	عدد الفرق الفنية المتخصصة في صيانة الشبكات والخزانات والمضخات(لكل من خدمتي المياه والصرف الصحي) ؟	عدد الفرق	عدد الموظفين	تشكيلة الفرق المسمى الوظيفي	
3.10	هل أعداد الموظفين في الوظائف التالية كافية مقارنة مع حجم العمل وعدد الأشتراكات ؟	موظف أداري / مكتبيين	العدد الحالي:( ) أ.كافي ب.غير كافي/العدد المطلوب:	المبرر:	
		مهندسين	العدد الحالي:( ) أ.كافي ب.غير كافي/العدد المطلوب:	المبرر:	
		عمال	العدد الحالي:( ) أ.كافي ب.غير كافي/العدد المطلوب:	المبرر:	
		فنيين	العدد الحالي:( ) أ.كافي ب.غير كافي/العدد المطلوب:	المبرر:	
3.11	هل توزيع الموظفين متكافئ في دائرة المياه والصرف الصحي ومعالجة المياه العادمة ؟	أ. نعم ب. لا			
3.12	ما هي الوظائف التي تعتقدون أنها ضرورية ولكنها غير موجودة الان في دائرة المياه والصرف الصحي ومعالجة المياه العادمة ؟				
3.13	ما هي الوظائف التي تنفذونها ولكن تفضلون ألغائها أو نقلها الى قسم أخر ؟	المهمة	نقلها من قسم....ألى قسم....		
3.14	هل الدائرة منفصلة (مستقلة) ماليا و اداريا عن باقي دوائر البلدية ؟	أ. نعم ب. لا			
3.15	هل الهيكل التنظيمي القائم مناسب ؟	أ. نعم ، مناسب ب. لا ، غير مناسب			
3.16	في حال "لا"، يرجى توضيح مشاكل الهيكل القائم ، واهم التوصيات المقترحة للتغلب على هذه المشاكل ؟	المشاكل	التوصيات المقترحة		

3.17	هل يوجد خطة استراتيجية لخدمات تزويد المياه والصرف الصحي ومعالجة المياه العادمة ؟	أ. نعم ب. لا
3.18	تقارير الاعمال والنشاطات في دائرة المياه والصرف الصحي ومعالجة المياه العادمة تصدر بشكل	أ. يومي ب. أسبوعي ج. شهري
3.19	تقييم الأعمال في دائرة المياه والصرف الصحي ومعالجة المياه العادمة يتم بشكل:	أ. شهري ب. ربع سنوي ج. نصف سنوي د. سنوي
3.20	انواع التقييم المستخدمة في دائرة المياه والصرف الصحي ومعالجة المياه العادمة ؟	أ. تقييم الموظفين بشكل خاص (1. موجود 2. غير موجود) ب. تقييم الدائرة بشكل عام (1. موجود 2. غير موجود)
3.21	معايير التقييم للاعمال المنجزة في دائرة المياه والصرف الصحي ومعالجة المياه العادمة:	أ. انتظام الدوام ب. مدى كفاءة الاعمال المنجزة ضمن الزمن المحدد ج. انتظام اصدار التقارير د. العلاقة مع الموظفين والسلوكيات الادبية هـ. القدرة على الاتصال والتواصل مع الدوائر–الاقسام–الشعب ذات العلاقة. غيرها /حدد :
3.22	مؤهلات اللجنة المشرفة على التقييم	أ. مدير القسم ب. مدير الدائرة ج. رئيس المجلس د. لجنة خاصة من المجلس
3.23	انعكاس التقييم على الموظفيين يتم بشكل	أ. ايجابية : ترقية – مكافئة – علاوة – شكر ب. سلبية : لفت نظر – تنبيه – انذار ج. غير ذلك / حدد:
3.24	انعكاس التقييم في تحديد الاحتياجات الوظيفية والتدريبية للموظفين يتم بشكل	أ. وجود شواغر ب. عملية نقل موظفين ج. توفير تدريب للموظفين د. غير ذلك/ حدد:
3.25	هل وجود الخدمتين في نفس الدائرة	أ. مناسب لتنفيذ العمل ب. غير مناسب ونوصي بفصلهم
3.26	في حال كانت الأجابة "ب" ، ما هي الأسباب مع توضيح رؤيتكم التطويرية لذلك ؟	
3.27	ما هي ميزات دائرة المياه والصرف الصحي ومعالجة المياه العادمة كونها دائرة بحد ذاتها ؟	أ. تقديم الخدمات بمستوى وجودة عالية ب. وضوح المسؤوليات والواجبات ج. سيطرة على الالات والمعدات والاجهزة د. قدرات افضل في التخطيط والتنفيذ والصيانة هـ. استقلال مالي واداري و. تخطيط منفصل عن الخدمات الاخرى ز. مسؤولية تقديم الخدمات تتبع البلدية س.غيرها/حدد:

3.28	ما هي مشاكل دائرة المياه والصرف الصحي ومعالجة المياه العادمة كونها دائرة بحد ذاتها ؟	أ. الافتقار للقدرات الفنية والمالية المناسبة ب. تدخلات من مستويات عدة ج. عدة خدمات تتشارك في موارد محددة متاحة د. عدم الاستقلال المالي والاداري هـ. غيرها/حدد:
3.29	هل تفضل أن تكون دائرة المياه والصرف الصحي ومعالجة المياه العادمة	أ. تابعة للبلدية ب. مؤسسة عامة متخصصة (اقليمية او وطنية) ج. مؤسسة خاصة (مشاركة او خصخصة)
3.30	هل تفضل أن تكون دائرة المياه منفصلة أم مندمجة مع الصرف الصحي ومعالجة المياه العادمة ؟ مع ذكر الأسباب	
3.31	الهدف من تغيير الوضع الحالي المتعلق بخدمات المياه والصرف الصحي ومعالجة المياه العادمة ؟	أ. تحسين الخدمات للسكان ب. زيادة المدخولات ج. تحسين عمليات الصيانة والتشغيل والمقدرة على القيام بمشاريع جديدة د. زيادة الحوافز المعنوية والمادية للموظفين هـ. غير ذلك / حدد:
3.32	في حال أعطيتم الفرصة لتطوير هيكل خاص بدائرة المياه والصرف الصحي ومعالجة المياه العادمة ، كيف تقترحون شكل هذا الهيكل؟	(يرجى تعبئة جدول 1)
•	**معلومات فنية ومالية حول خدمتي المياه و الصرف الصحي**	
3.33	ما هي مصادر المياه في التجمع ؟	
3.34	ما هي المناطق التي تخدمها شبكة المياه ؟	مدينة: قرية: مخيم:
3.35	ما هي السنة التي أنشات فيها شبكة المياه؟	
3.36	ما هي أقطار شبكة توزيع المياه ؟	
3.37	ما هو طول خطوط شبكات المياه (كم) لعام 2010 ؟	
3.38	ما هو عدد السكان المخدومين بشبكة المياه لعام 2010	
3.39	ما هو عدد الاشتراكات الكلي في خدمة المياه لعام 2010؟	أ. منزلي: ب. زراعي : ج. صناعي : د. تجاري :
3.40	معدل استهلاك الفرد اليومي من المياه للأغراض المنزلية (لتر) لعام 2010 ؟	
3.41	ما هو عدد الخزانات الموجودة في شبكة المياه؟	
3.42	ما هو عدد محطات الضخ الموجودة في شبكة المياه ؟	
3.43	ما هو عدد الوصلات المنزلية على الخطوط الرئيسية وعلى شبكة التوزيع ؟	
3.44	ما هو عدد الابار المحفورة والتابعة للبلدية ؟	

3.45	ما هو ثمن شراء 1م^3 من المياه حسب المصدر (الشيكل) ؟	
3.46	ما هو ثمن بيع 1م^3 من المياه حسب المصدر (الشيكل) ؟	
3.47	ما هي نسبة الفاقد الكلي في شبكة المياه؟	
3.48	كيف يتم تحصيل رسوم خدمة المياه ؟	أ. من خلال جباة تابعين للبلدية، عددهم: ب. غير ذلك، حدد:
3.49	هل يوجد هيكلية تعرفة للمياه خاصة بالبلدية ؟	أ. نعم (يرجى ارفاقها) ب. لا ، حدد:
3.50	ما هي رسوم الاشتراك الجديد (شيكل) للمياه ؟	
3.51	ما هي رسوم صيانة عداد المياه (شيكل)؟	
3.52	ما هي نسبة تحصيل رسوم خدمة المياه؟	
3.53	هل يتم استرداد تكاليف خدمة المياه ؟	أ. نعم ، بنسبة (%) : ب. لا
3.54	ما هي المناطق التي تخدمها شبكة الصرف الصحي ؟	مدينة: قرية: مخيم:
3.55	ما هي السنة التي أنشات فيها شبكة الصرف الصحي؟	
3.56	ما هي نسبة السكان والوحدات السكنية المتصلة بالشبكة العامة للصرف الصحي لعام 2010 ؟	نسبة السكان (%) نسبة الوحدات السكنية (%)
3.57	ما هو عدد السكان المخدومين بشبكات الصرف الصحي لعام 2010 ؟	
3.58	ما هو طول خطوط شبكات الصرف الصحي (كم) لعام 2010 ؟	
3.59	ما هو عدد الاشتراكات الكلي في خدمة الصرف الصحي لعام 2010؟	
3.60	ما هو عدد محطات الضخ الموجودة في شبكة الصرف الصحي ؟	
3.61	ما هو عدد الوصلات المنزلية على الخطوط الرئيسية ؟	
3.62	ما هي رسوم الربط بشبكة الصرف صحي ؟ وماذا يشمل ؟	
3.63	من هي الجهة المسؤولة عن مراقبة وصيانة الشبكة العامة للصرف الصحي؟	
3.64	هل تقوم هذه الجهة بمراقبة وصيانة الشبكة العامة للصرف الصحي بشكل دوري؟	أ. نعم ب. لا
3.65	هل تم تزويد موظفي الصيانة بالتدريب المطلوب؟	أ. نعم ب. لا
3.66	كم تتراوح التكاليف الشهرية لصيانة الشبكة العامة للصرف الصحي؟	

3.67	هل يدفع المستفيدون مقابل خدمة استخدام الصرف الصحي؟	أ. نعم ب. لا
3.68	في حال "نعم"، كيف تتقاضون مقابل خدمات الصرف الصحي؟	
3.69	كيف يتم تحصيل رسوم خدمة الصرف الصحي؟	أ. من خلال جباة تابعين للبلدية، عددهم: ب. غير ذلك، حدد :
3.70	ما هي نسبة تحصيل رسوم خدمة الصرف الصحي؟	
3.71	هل يشمل هذا المبلغ خدمة معالجة المياه العادمة؟	أ. نعم ب. لا
3.72	هل يغطي هذا الميلغ تكاليف الخدمة ؟	أ. نعم ب. لا
3.73	هل يوجد تعاون أو تنسيق بين البلدية وأية جهة (حكومية – غير حكومية) اخرى في خدمات المياه والصرف الصحي ؟	أ. نعم (الرجاء ذكرها) ب. لا
3.74	هل تعاني البلدية من نقص في المشاريع التطويرية الخاصة في المياه والصرف الصحي؟	أ. نعم ب. لا
3.75	في حال "نعم" ، ما هي الأسباب/التحديات؟ يمكن اختيار أكثر من إجابة	أ. الاحتلال الإسرائيلي وممارساته . ب. تشتت عملية تزويد خدمات المياه بين جهات متعددة. ج. معيقات مالية. د. ضعف القدرات المؤسساتية والفنية في قطاع المياه. هـ. غيرها /حدد:
3.76	ما هي أهم المعيقات/التحديات التي تواجهها دائرة المياه والصرف الصحي ومعالجة المياه العادمة ؟	أ. الافتقار إلى خدمات التشغيل و الصيانة الفنية بعد انتهاء مدة تمويل المشروع ب. عدم تزويد السلطات المحلية بالدعم الكافي لإنشاء نظام استرداد التكاليف ج. عدم فاعلية آليات تحصيل الرسوم. د. صعوبة الاسترداد الكامل لتكاليف التشغيل والصيانة هـ. الاعتماد على الدعم المالي الذي تقدمه الدول المانحة. و. صعوبة الحصول على التراخيص المتعلقة بمشاريع البنية التحتية ز. عدم وجود التنسيق الكافي بين الجهالت االمعنية س. الافتقار الى المراحل المتقدمة من معالجة المياه العادمة التي تسمح باعادة الاستخدام ش. عدم توفر القوانين والمواصفات التي تسمح باعادة الاستخدام ص. المشاكل البيئية والصحية المرتبطة بمعالجة المياه العادمة غيرها /حدد:

3.77	ما هي الاحتياجات الادارية و المؤسساتية والفنية المطلوبة لتعزيز وتطوير قدرات دائرة المياه والصرف الصحي ومعالجة المياه العادمة ؟	أ. تطوير أنظمة ب. تطوير كادر ج. زيادة عدد الموظفين د. تدريب الموظفين هـ. توفير الطاقات والخبرات الفنية الكافية و. توفير الموارد والمعدات اللازمة غيرها /حدد:
•	**في حال خدمات المياه والصرف الصحي ومعالجة المياه العادمة في دائرتين/قسمين/شعبتين منفصلتين ، أجب من 3.78 ألى 3.165**	
	اولا: قسم المياه	
3.78	في البلدية ، يوجد للمياه	أ. دائرة ب. قسم ج. شعبة
3.79	هل يوجد هيكل تنظيمي تفصيلي لدائرة / قسم / شعبة المياه ؟	أ. نعم (يرجى ارفاقه و متى تم اعداده) ب. لا (يرجى تعبئة جدول 1)

3.80	ما هي الوظائف الموجودة في دائرة/قسم/شعبة المياه ؟ وعدد الموظفين في كل منها ؟	المسمى الوظيفي	عدد الموظفين
		مدير دائرة/قسم/شعبة المياه	
		مهندس مياه	
		مهندس مشاريع	
		مهندس شبكات	
		مهندس ميكانيكي–صيانة	
		مهندس تخطيط وتصميم	
		مهندس مراقب	
		جباة	
		مساحون	
		سكرتارية	
		عمال صيانة الشبكات–عدادات	
		مشرفو مضخات وخزانات	
		رسامون	
		مسؤول التنظيم والترخيص	
		مفتشو ومراقبو صحة	
		مدققو ومراقبو الجودة	
		محاسبون	
		مسؤولو خدمة الجمهور	

		سائقو السيارات والاليات			
		عمال التنظيفات			
		المراسلون			
		الأمن			
3.81	عدد الفرق الفنية المتخصصة في صيانة الشبكات والخزانات والمضخات ؟	عدد الفرق	عدد الموظفين	تشكيلة الفرق المسمى الوظيفي	
3.82	هل أعداد الموظفين في الوظائف التالية كافية مقارنة مع حجم العمل وعدد الأشتراكات ؟	موظف أداري / مكتبيين	العدد الحالي:( ) أ.كافي ب.غير كافي/العدد المطلوب	المبرر:	
		مهندسين	العدد الحالي:( ) أ.كافي ب.غير كافي/العدد المطلوب	المبرر:	
		عمال	العدد الحالي:( ) أ.كافي ب.غير كافي/العدد المطلوب	المبرر:	
		فنيين	العدد الحالي:( ) أ.كافي ب.غير كافي/العدد المطلوب	المبرر:	
3.83	هل توزيع الموظفين متكافئ في دائرة/قسم/شعبة المياه ؟	أ. نعم ب. لا			
3.84	ما هي الوظائف التي تعتقدون أنها ضرورية ولكنها غير موجودة الان في دائرة المياه ؟				
3.85	ما هي الوظائف التي تنفذونها ولكن تفضلون ألغائها أو نقلها الى قسم أخر ؟	المهمة	نقلها من قسم ....ألى قسم...		
3.86	هل الهيكل التنظيمي القائم مناسب ؟	أ. نعم ، مناسب ب. لا ، غير مناسب			
3.87	في حال "لا"، يرجى توضيح مشاكل الهيكل القائم ، واهم	المشاكل	التوصيات المقترحة		

	التوصيات المقترحة للتغلب على هذه المشاكل ؟		
3.88	في حال أعطيتم الفرصة لتطوير هيكل خاص بدائرة/قسم/شعبة المياه، كيف تقترحون شكل هذا الهيكل؟	(يرجى تعبئة جدول 1)	
3.89	هل يوجد خطة استراتيجية لخدمات تزويد المياه؟	أ. نعم ب. لا	
3.90	تقارير الاعمال والنشاطات في دائرة/قسم/شعبة المياه تصدر بشكل	أ. يومي ب. أسبوعي ج. شهري	
3.91	تقييم الأعمال في دائرة/قسم/شعبة المياه يتم بشكل	أ. شهري ب. ربع سنوي ج. نصف سنوي د. سنوي	
3.92	انواع التقييم المستخدمة في دائرة/قسم/شعبة المياه ؟	أ. تقييم الموظفين بشكل خاص (1. موجود 2. غير موجود) ب. تقييم الدائرة بشكل عام (1. موجود 2. غير موجود)	
3.93	معايير التقييم للاعمال المنجزة في دائرة/قسم/شعبة المياه ؟	أ. انتظام الدوام ب. مدى كفاءة الاعمال المنجزة ضمن الزمن المحدد ج. انتظام اصدار التقارير د. العلاقة مع الموظفين والسلوكيات الادبية هـ. القدرة على الاتصال والتواصل مع الدوائر–الاقسام–الشعب ذات العلاقة.	
3.94	مؤهلات اللجنة المشرفة على التقييم	أ. مدير القسم ب. مدير الدائرة ج. رئيس المجلس د. لجنة خاصة من المجلس	
3.95	انعكاس التقييم على الموظفيين يتم بشكل	أ. ايجابية : ترقية – مكافئة – علاوة – شكر ب. سلبية : لفت نظر – تنبيه – انذار ج. غير ذلك / حدد:	
3.96	انعكاس التقييم في تحديد الاحتياجات الوظيفية والتدريبية للموظفين يتم بشكل	أ. وجود شواغر ب. عملية نقل موظفين ج. توفير تدريب للموظفين د. غير ذلك/ حدد:	
3.97	ما هي مصادر المياه في التجمع ؟		
3.98	ما هي المناطق التي تخدمها شبكة المياه ؟	مدينة: قرية: مخيم:	
3.99	ما هي السنة التي أنشات فيها شبكة المياه؟		
3.100	ما هي أقطار شبكة توزيع المياه ؟		
3.101	ما هو طول خطوط شبكات المياه (كم) لعام 2010 ؟		
3.102	ما هو عدد السكان المخدومين بشبكة المياه لعام 2010 ؟		
3.103	ما هو عدد الاشتراكات الكلي في خدمة المياه لعام 2010؟	أ. منزلي:	

		ب. زراعي : ج. صناعي : د. تجاري :
3.104	معدل استهلاك الفرد اليومي من المياه للأغراض المنزلية (لتر) لعام 2010 ؟	
3.105	ما هو عدد الخزانات الموجودة في شبكة المياه؟	
3.106	ما هو عدد محطات الضخ الموجودة في شبكة المياه ؟	
3.107	ما هو عدد الوصلات المنزلية على الخطوط الرئيسية وعلى شبكة التوزيع ؟	
3.108	ما هو عدد الابار المحفورة والتابعة للبلدية ؟	
3.109	ما هو ثمن شراء 1م^3 من المياه حسب المصدر (الشيكل) ؟	
3.110	ما هو ثمن بيع 1م^3 من المياه حسب المصدر (الشيكل) ؟	
3.111	ما هي نسبة الفاقد الكلي في شبكة المياه؟	
3.112	كيف يتم تحصيل رسوم خدمة المياه ؟	أ. من خلال جباة تابعين للمجلس، عددهم: ب. غير ذلك، حدد:
3.113	هل يوجد هيكلية تعرفة للمياه خاصة بالبلدية ؟	أ. نعم (يرجى ارفاقها) ب. لا ، حدد:
3.114	ما هي رسوم الاشتراك الجديد (شيكل) للمياه ؟	
3.115	ما هي رسوم صيانة عداد المياه (شيكل)؟	
3.116	ما هي نسبة تحصيل رسوم خدمة المياه؟	
3.117	هل يتم استرداد تكاليف خدمة المياه ؟	أ. نم ، بنسبة (%) : ب. لا
3.118	هل يوجد تعاون أو تنسيق بين البلدية وأية جهة (حكومية – غير حكومية) اخرى في خدمات المياه ؟	أ. نعم (الرجاء ذكرها) ب. لا
3.119	هل تعاني البلدية من نقص في المشاريع التطويرية الخاصة في المياه ؟	أ. نعم ب. لا
3.120	في حال "نعم" ، ما هي الأسباب/التحديات؟ يمكن اختيار أكثر من إجابة	أ. الاحتلال الإسرائيلي وممارساته . ب. تشتت عملية تزويد خدمات المياه بين جهات متعددة. ج. معيقات مالية. د. ضعف القدرات المؤسساتية والفنية في قطاع المياه. هـ. غيرها /حدد:
3.121	ما هي أهم المعيقات/التحديات التي تواجهها دائرة/قسم/شعبة المياه ؟	أ. الافتقار إلى خدمات التشغيل و الصيانة الفنية بعد انتهاء مدة تمويل المشروع ب. عدم تزويد السلطات المحلية بالدعم الكافي لإنشاء نظام استرداد التكاليف ج. عدم فاعلية آليات تحصيل الرسوم. د. صعوبة الاسترداد الكامل لتكاليف التشغيل والصيانة هـ. الاعتماد على الدعم المالي الذي تقدمه الدول المانحة. و. صعوبة الحصول على التراخيص المتعلقة بمشاريع البنية

		التحتية ز. عدم وجود التنسيق الكافي بين الجهالت االمعنية غيرها /حدد:
3.122	ما هي الاحتياجات الادارية و المؤسساتية والفنية المطلوبة لتعزيز وتطوير قدرات دائرة/قسم/شعبة المياه في أدارة المياه ؟	أ. تطوير أنظمة ب. تطوير كادر ج. زيادة عدد الموظفين د. تدريب الموظفين هـ. توفير الطاقات والخبرات الفنية الكافية و. توفير الموارد والمعدات اللازمة غيرها /حدد:
ثانيا: قسم الصرف الصحي		
3.123	في البلدية ، يوجد للصرف الصحي ومعالجة المياه العادمة	أ. دائرة ب. قسم ج. شعبة
3.124	هل يوجد هيكل تنظيمي تفصيلي لدائرة / قسم / شعبة الصرف الصحي ومعالجة المياه العادمة؟	أ. نعم (يرجى ارفاقه و متى تم اعداده) ب. لا (يرجى تعبئة جدول 1)
3.125	هل محطة المعالجة لها هيكل تنظيمي منفصل عن دائرة /قسم / شعبة الصرف الصحي؟	أ. نعم (يرجى ارفاقه) ب. لا

3.126	ما هي الوظائف الموجودة في دائرة/قسم/شعبة الصرف الصحي ومعالجة المياه العادمة ؟ وعدد الموظفين في كل منها ؟	المسمى الوظيفي	عدد الموظفين
		مدير دائرة/قسم/شعبة الصرف الصحي	
		مهندس صرف صحي	
		مهندس مشاريع	
		مهندس شبكات	
		مدير محطة معالجة	
		مهندس محطات	
		مهندس ميكانيكي–صيانة	
		مهندس تخطيط وتصميم	
		مهندس مراقب	
		جباة	
		مساحون	
		سكرتارية	
		عمال صيانة الشبكات–عدادات	
		مشرفو مضخات وخزانات	
		رسامون	
		مسؤول التنظيم والترخيص	
		مفتشو ومراقبو صحة	
		مدققو ومراقبو الجودة	
		محاسبون	
		مسؤولو خدمة الجمهور	
		سائقو السيارات والاليات	
		عمال التنظيفات	
		المراسلون	

		الأمن			
3.127	عدد الفرق الفنية المتخصصة في صيانة الشبكات والمضخات ومحطات العالجة؟	عدد الفرق	عدد الموظفين	تشكيلة الفرق المسمى الوظيفي	
3.128	هل أعداد الموظفين في الوظائف التالية كافية مقارنة مع حجم العمل وعدد الأشتراكات ؟	موظف أداري / مكتبيين	العدد الحالي:( ) أ.كافي ب.غير كافي/العدد المطلوب	المبرر:	
		مهندسين	العدد الحالي:( ) أ.كافي ب.غير كافي/العدد المطلوب	المبرر:	
		عمال	العدد الحالي:( ) أ.كافي ب.غير كافي/العدد المطلوب	المبرر:	
		فنيين	العدد الحالي:( ) أ.كافي ب.غير كافي/العدد المطلوب	المبرر:	
3.129	هل توزيع الموظفين متكافئ في دائرة/قسم/شعبة الصرف الصحي ؟	أ. نعم ب. لا			
3.130	ما هي الوظائف التي تعتقدون أنها ضرورية ولكنها غير موجودة الان في دائرة/قسم/شعبة الصرف الصحي ؟				
3.131	ما هي الوظائف التي تنفذونها ولكن تفضلون ألغائها أو نقلها الى قسم أخر ؟	المهمة	نقلها من قسم ....ألى قسم.....		
3.132	هل الهيكل التنظيمي القائم مناسب ؟	أ. نعم ، مناسب ب. لا ، غير مناسب			
3.133	في حال "لا"، يرجى توضيح مشاكل الهيكل القائم ، واهم التوصيات المقترحة للتغلب على هذه المشاكل ؟	المشاكل	التوصيات المقترحة		
3.134	في حال أعطيتم الفرصة لتطوير هيكل خاص	(يرجى تعبئة جدول 1)			

	بدائرة/قسم/شعبة الصرف الصحي، كيف تقترحون شكل هذا الهيكل؟	
3.135	هل يوجد خطة استراتيجية لخدمات الصرف الصحي ؟	أ. نعم ب. لا
3.136	تقارير الاعمال والنشاطات في دائرة/قسم/شعبة الصرف الصحي تصدر بشكل	أ. يومي ب. أسبوعي ج. شهري
3.137	تقييم الأعمال في دائرة/قسم/شعبة الصرف الصحي يتم بشكل	أ. شهري ب. ربع سنوي ج. نصف سنوي د. سنوي
3.138	انواع التقييم المستخدمة في دائرة/قسم/شعبة الصرف الصحي ؟	أ. تقييم الموظفين بشكل خاص ب. تقييم الدائرة بشكل عام
3.139	معايير التقييم للاعمال المنجزة في دائرة/قسم/شعبة الصرف الصحي ؟	أ. انتظام الدوام ب. مدى كفاءة الاعمال المنجزة ضمن الزمن المحدد ج. انتظام اصدار التقارير د. العلاقة مع الموظفين والسلوكيات الادبية هـ. القدرة على الاتصال والتواصل مع الدوائر–الاقسام–الشعب ذات العلاقة.
3.140	مؤهلات اللجنة المشرفة على التقييم	أ. مدير القسم ب. مدير الدائرة ج. رئيس البلدية د. لجنة خاصة من البلدية
3.141	انعكاس التقييم على الموظفيين يتم بشكل	أ. ايجابية : ترقية – مكافئة – علاوة – شكر ب. سلبية : لفت نظر – تنبيه – انذار ج. غير ذلك / حدد:
3.142	انعكاس التقييم في تحديد الاحتياجات الوظيفية والتدريبية للموظفين يتم بشكل	أ. وجود شواغر ب. عملية نقل موظفين ج. توفير تدريب للموظفين د. غير ذلك/ حدد:
3.143	ما هي المناطق التي تخدمها شبكة الصرف الصحي ؟	مدينة: قرية: مخيم:
3.144	ما هي السنة التي أنشات فيها شبكة الصرف الصحي؟	
3.145	ما هي نسبة السكان والوحدات السكنية المتصلة بالشبكة العامة للصرف الصحي لعام 2010 ؟	نسبة السكان (%) نسبة الوحدات السكنية (%)
3.146	ما هو عدد السكان المخدومين بشبكات الصرف الصحي لعام 2010 ؟	
3.147	ما هو طول خطوط شبكات الصرف الصحي (كم) لعام 2010 ؟	
3.148	ما هو عدد الاشتراكات الكلي في خدمة الصرف الصحي لعام 2010؟	
3.149	ما هو عدد محطات الضخ الموجودة في شبكة الصرف الصحي ؟	

3.150	ما هو عدد الوصلات المنزلية على الخطوط الرئيسية ؟	
3.151	ما هي رسوم الربط بشبكة الصرف صحي ؟ وماذا يشمل؟	
3.152	من هي الجهة المسؤولة عن مراقبة وصيانة الشبكة العامة للصرف الصحي؟	
3.153	هل تقوم هذه الجهة بمراقبة وصيانة الشبكة العامة للصرف الصحي بشكل دوري؟	أ. نعم ب. لا
3.154	هل تم تزويد موظفي الصيانة بالتدريب المطلوب؟	أ. نعم ب. لا
3.155	كم تتراوح التكاليف الشهرية لصيانة الشبكة العامة للصرف الصحي؟	
3.156	هل يدفع المستفيدون مقابل خدمة استخدام الصرف الصحي؟	أ. نعم ب. لا
3.157	في حال "نعم"، كيف تتقاضون مقابل خدمات الصرف الصحي؟	
3.158	كيف يتم تحصيل رسوم خدمة الصرف الصحي؟	أ. من خلال جباة تابعين للبلدية، عددهم: ب. غير ذلك، حدد :
3.159	ما هي نسبة تحصيل رسوم خدمة الصرف الصحي؟	
3.160	هل يشمل هذا المبلغ خدمة معالجة المياه العادمة؟	أ. نعم ب. لا
3.161	هل يغطي هذا الميلغ تكاليف الخدمة ؟	أ. نعم ب. لا
3.162	هل يوجد تعاون أو تنسيق بين الهيئة وأية جهة (حكومية – غير حكومية) اخرى في خدمات الصرف الصحي ومعالجة المياه العادمة ؟	أ. نعم (الرجاء ذكرها) ب. لا
3.163	هل تعاني الهيئة من نقص في المشاريع التطويرية الخاصة في الصرف الصحي ومعالجة المياه العادمة؟	أ. نعم ب. لا
3.164	في حال "نعم" ، ما هي الأسباب/التحديات؟ يمكن اختيار أكثر من إجابة	أ. الاحتلال الإسرائيلي وممارساته . ب. تشتت عملية تزويد خدمات المياه بين جهات متعددة. ج. معيقات مالية. د. ضعف القدرات المؤسساتية والفنية في قطاع المياه. هـ. غيرها /حدد:
3.165	ما هي الاحتياجات الادارية و المؤسساتية والفنية المطلوبة لتعزيز وتطوير قدرات دائرة/قسم/شعبة الصرف الصحي في أدارة المياه العادمة ؟	أ. تطوير أنظمة ب. تطوير كادر ج. زيادة عدد الموظفين د. تدريب الموظفين هـ. توفير الطاقات والخبرات الفنية الكافية و. توفير الموارد والمعدات اللازمة غيرها /حدد:

جدول 1: الهيكل التنظيمي / الوظيفي الخاص بدائرة/شعبة/قسم المياه و/أو الصرف الصحي							
الرقم	الدائرة/ القسم / الشعبة	الموظفون	أ داري / فني / عامل	المسمى الوظيفي	المؤهل العلمي (الشهاده)	عدد سنوا ت العمل في البلدية	المهام
1							
2							
3							
4							
5							

Annex. B

Main laws, Bylaws, Policies, standards concerning Water & Sanitation Sector in Palestine

No.	Document Name	Main Issues in the document related to Water & Sanitation Sector
1	**Water Law No. (3) for the year 2002**	**<u>Chapter One</u> - Definitions and General Provisions** **Article No. (1)** **Water Sources:** All water resources which lie within the territorial land or sea of Palestine, whether conventional (surface or ground waters) such as the waters of springs, including hot springs, wells, ravines, rivers, lakes, seas, and water collection areas, or unconventional such as wastewater, desalinated water, and brackish water. **Sanitary Sewage:** A system for collecting, disposing of and treating Wastewater. **National Water Utility:** Is the party responsible for providing water in bulk, at the national level. **Regional water utilities:** Institutions and interests that provide services of water and wastewater. **Water Tariff System:** System that is based on studied standards in order to set a water tariff. **Article No. (2)** This law aims to develop and manage the water resources, increasing their capacity, improving their quality, and preserving and protecting them from pollution and depletion. **Article No. (3)** States that: "Each person has the right to sufficient water quantities in good quality and affordable price according to the available water resources. And each service provider has to take the necessary procedures to secure the above mentioned." **Article No. (4)** The law prohibited to drill or explore or extract or collect or desalinate or treat waters for commercial purposes or to set up or operate a facility for water or wastewater without obtaining a license to do so. **<u>Chapter Two</u> - The Water Authority** **Article No. (7)** Some of tasks and responsibilities for The Water Authority: • It shall have full responsibility for managing the water resources and wastewater in Palestine. • Licensing the exploitation of water resources including the construction of public and private wells, regulating them, water exploration, drilling exploratory, testing and production wells, and any other matters or activities relating to water or wastewater, in cooperation and coordination with the relevant parties. • Studying water and wastewater projects, and projects that integrate them, and setting design standards, and quality assurance, and technical specifications, and to control its implementation. • Regulating and supervising research and studies relating to water and wastewater, and following up with the concerned

and specialized parties.

Chapter Five - Licensing and Tariffs

Article No. (18)
In accordance with the provisions of this law, licensing fees shall be imposed and the conditions, and period, and procedures, and transferability, and amendments, and renewal, and all matters pertaining thereto, including permits, shall be set pursuant to regulations to be issued for this purpose .

Article No. (20)
Unified tariff system for water shall be set, which may be amended from time to time, with the aim of encouraging the water users to conserve the available water resources and its optimal usage in accordance with the regulations that shall be issued for that purpose.

Chapter Seven - Regional Water Utilities

Article No. (25)
By virtue of this law, National Water Utilities will be established based on the desire of local committees and water users associations, to provide water and wastewater services and it will set the tasks and responsibilities and their composition, and management, and financial resources, and dismantling, and all matters pertaining to their work in accordance with regulations that will be issued for this purpose.

Article No. (26)
Regional utilities and water users associations shall set the prices of water for different usage, in accordance with the approved tariff system.

Chapter Eight - Protection of the Environment

Article No. (29)
Taking into account the provisions contained in the environmental law & regulations & instructions issued there & in coordination & cooperation with the related authorities for the protection of water sources & to prevent pollution, PWA will conduct the following:

1. Participate in regulating the use of agricultural and industrial resources, which may cause pollution to the water resources or systems to acquire them.

2. Participate in preparing special guidelines for the environmental impact assessment for any activity relating to water resources or their supply systems.

3. Participate in preparing special mechanisms for crisis management in the event of draught or floods or epidemics or general contamination of water.

4. Participate in preparing a list of contaminants that require a permit and compensation for damage caused.

Chapter Nine - Control and Inspection

		Article No. (33) The Authority PWA will control and monitor water resources , and this include: 1. Record- Keeping, which contains detailed information about water use and licensing. 2. Licensed Operators of water and wastewater facilities must provide periodic reports concerning the production, distribution, or use of water on the dates set by the Authority. 3. The Authority shall have the right to set the necessary rules and standard for inspecting, calibrating and repairing damaged meters and to control the leak of water.
2	**Environment Law**	**Chapter Three - Water Environment** **Article No. (28)** The MoE specify (In cooperation with other specialized authorized parties) the quality standards and specifications of drinkable water. **Article No. (29)** The MoE set (In cooperation with other specialized authorized parties) the standards required to collect, treat, re-use, or discharge of waste water or rain water in a manner that preserve the environment and the general health. **Article No. (30)** It is prohibited for anybody to discharge any solid, liquid, or other materials in a way that does not comply with the standards specified by the authorized parties.
3	**Local Government Law**	**Article No. (1): Definitions** **Local Body:** The local government unit within particular geographical and administrative domain, which provides water and wastewater services. **The Local Council**: Board of Directors of Water and Wastewater Facilities, or the Local Council Body which includes: the Municipality or the Local Council or Village Council or the Administrative Committee or the Development Committee or the Joint Services Council or any other Council formed in accordance with local law No. (1) for the year 1997. **Article No. (4): Formation of Local Bodies and Canceled** Item (2) Not inconsistent with law or public interest , create or canceled or combined or separate any local body or local communities or parts thereof, or the formation of a local body with a decision of the Council of Ministers. **Article (15): Responsibilities and Authorities of the Local Government Council** Item (3) - Water Provide citizens with drinkable water and for any other use and specify its requirements such as pipes, meters, ..etc. and organize its distribution, specify its tariff and connection fees, and prevent the contamination of water resources. Item (5) - Sewage Constructing of Sewage networks, management and control.

4	**System of joint Service Councils No.(1) for the year 1998**	**Article No. (3)** Council is working on a specified regional and administrative scale for each of the local councils of the members. **Article No. (4)** Council shall be vested in the following tasks in coordination with the concerned authorities: Item (5) – The provision of water resources. Item (9) – Establishment of sewage and waste water treatment. **Article No. (6)** Item (1) – With approval of the Minister , the Council should appoint the necessary number of staff to manage the financial and administrative affairs, if the need arises to include the functions required in the table of formations jobs for councils. Item (2) –Regulations and instructions relating to the Local Government Units staffs are apply on the Joint Service Council's staffs, where the head of the Council shall exercise the powers of the Council local authority in this regard the President powers of the President of local bodies in those regulations and instructions Head of Local Government Unit.
5	**Palestinian Standards for Treated wastewater PS-742-2003 And Palestinian Standard for Industrial effluent Discharge PS-227-1998**	**The main components of standard are as below:** 1. Field. 2. Definitions (Wastewater & Reclaimed wastewater). 3. General Guidelines. 4. Specifications /(Quality of the treated wastewater. 5. Classification of reclaimed wastewater (A, B, C, D) 6. List of Restrictions or Barriers (11 barriers) 7. All own able crops for unrestricted irrigation with the following general criteria: the following principles are regulated: • The treated wastewater must meet the specified standards that vary according to the planned use. • When treated effluent is used for irrigation of fruit trees, cooked vegetables and fodder crops, irrigation must be ceased two weeks before collecting the products. Fallen fruit should be discarded. • The adverse effect of certain effluent quality parameters on the soil characteristics and on certain crops should be considered. • Use of sprinkler systems for irrigation is prohibited. • Use of treated effluent in the irrigation of crops that can be eaten raw such as tomatoes, cucumber, carrots, lettuce, radish, mint, or parsley is prohibited. • Closed conduits or lined channels must be used for transmission of treated effluent in areas where the permeability is high, which can affect underground and surface water that

		could be used for potable purposes. • Dilution of treated water effluent by mixing at the treatment site with clean water in order to achieve the requirements of this standard is prohibited.
6	**Wastewater Bylaw (draft)**	**Article No. (2): <u>Definitions and General Provisions</u>** **Water and Wastewater Service Providers (W&WWSP):** The local councils, joint service councils, local water and wastewater facilities and regional water facilities. **Article No. (4)** It is prohibited for any person to discharge any wasted regular or contaminated liquid to the sources of water or natural streams or valleys or any open place; only after treatment or take the written consent of the provider of water and sanitation services to discharge it. The Palestinian Standard (PS 227 -- 1998) and the Palestinian Standard . (PS 742-2003) are used as a reference. **Article No. (5)** It is Prohibited for any person to discharge surface water and rainwater to the drainage system only with the consent in writing of the provider of water and sanitation services or the relevant official bodies. **Article No. (6)** 1. It is the Right of the water and sanitation services providers to ask the household owners to provide information necessary to ensure compliance with the provisions of these bylaws. 2. It is the right of the water and sanitation services providers to examine all the waste and fluids in accredited at the expense of the property or the owner of the business. **Article No. (7)** The water and sanitation services providers committed to coordinate with the competent authorities to apply standards and criteria for how to collect, transport, storage and treatment of waste water properly to preserve the environment and public health. **Article No. (8): <u>Establishment of Sewerage System and Treatment Plants.</u>** 1. The service provider of water and sanitation system, will establish and manage the sewerage system, maintain it, and implement of any job-related functions, including periodic maintenance works in accordance with local plans as part of regional plans. 2. The sewerage system and storm water drainage pipes will be established in the streets and public squares, and if this is not possible for technical reasons, it is the right of the water and sanitation services providers to built it partially or totally in private property and he should fix any damage to property or to pay compensation in a fair and equal to the value of the damage in accordance with applicable law. 3. The water and sanitation services providers is committed to take the necessary approval and permits for the implementation of the work on the drainage system beyond the limits of local bodies from the Ministry of Local Government and Water Authority. 4. The water and sanitation services provider is committed to take the necessary approval and permits for the establishment of treatment plants from the Ministry of Local Government and Water Authority. 5. The service provider of water and sanitation is committed to prepare the environmental impact assessment report for the treatment plants according to the requirements of the Environment Quality Authority

		6. The water and sanitation services provider is committed to establish wastewater treatment plants in sites far away of the potential future population growth area, and the selection of sites in coordination with the relevant authorities (such as MoH, PWA, EQA) and its consent, and give the necessary attention to the interaction with the land owners and with the population neighbors. 7. The water and sanitation services provider is committed to the adoption of advanced techniques of wastewater treatment, taking into account the selection of appropriate techniques according to the considerations of operating and maintenance costs, and savings in energy use, in addition to investigating the efficiency and maintain quality standards for the preservation of the environment and public health. **Article No. (12): <u>Disposal of Industrial and Commercial Wastewater</u>.** It prohibited to dispose wastewater contaminated or not contaminated from commercial or industrial sites to the sewerage system only after the treatment and to obtain the written consent of the provider of water and sanitation services in accordance with the disposal instructions of the commercial and industrial waste water. **Article No. (14): <u>Treated Wastewater</u>** 1. The provider of water and sewage water is committed that the treated water is treated according to the Palestinian wastewater standard. (PS 742 - 2003) as well as the guidelines of the Food and Agriculture Organization (FAO) and World Health Organization (WHO). 2. It is the Right of the water and sanitation services providers to sale treated wastewater at the treatment plant for the purpose of irrigation or other purposes, or it may be used by the Water Authority in accordance with the policies adopted 3. The water and sanitation services providers is committed to adopt tariffs for the sale of treated wastewater for use in irrigation or other uses to cover at least operating and maintenance expenses, according to the tariffs of the Water Authority.
7	**National Water Policy and Strategy**	**Key Elements of Water Management Strategy:** 1.Secure Palestinian Water Rights. 2.Strengthen National Policies and Regulations. 3.Build Institutional Capacity and Develop Human Resources . 4.Improve Information Services and Assessment of Water Resources. 5.Regulate and Co-ordinate Integrated Water and Wastewater Investments and Operations. 6.Enforce Water Pollution Control and Production of Water Resources. 7.Build Public Awareness and Participation. 8.Promote Regional and International Co-operation. **Regulate and Co-ordinate Integrated Water Supply and Wastewater Investments and Operations** **<u>Background</u>** Adequate and reliable water supply and wastewater infrastructure is one of the key elements needed for improving the socio-economic situation of Palestine. The investments needed for new water supply and wastewater infrastructure are estimated to be high.

		Objectives The objectives of the water supply and wastewater component is to develop regulatory and supervision tools for water and wastewater sector development, and initiates the implementation of these controlling and facilitating measures. **Scope of Work** Regulatory Framework and Monitoring of Utilities. Operational of the regulatory framework for restructuring and private sector participation in water and wastewater services that has been developed under the strategy. Determine appropriate water service providers institutional arrangements in order to improve management of water and wastewater services. Provide technical guidance, undertake project monitoring and ensure compliance with the future management contract by the regional utility operators. **Water Tariff Structure** The overall water and wastewater services shall be economically sustainable covering both operational and investment costs. The sewerage fee shall be integrated in the water charge. The tariff structure shall encourage water conservation. Cross-subsidization will be considered a measure to provide water for basic needs at affordable prices. The tariff system shall be practical to implement and enforce. Approve and introduce the new progressing water tariff structure for the water service providers, including fees for sewerage and for untreated industrial wastewater. A pollution charge shall be considered added on for industrial pollution.
8	**The Memorandum of Understanding on Guidelines and Technical Criteria for Sewerage Projects, signed on 31st December 2003**	The implications and requirements of the MOU include the following elements: 1. All sewerage projects must be complete systems-i.e. collection systems from source, conveyance to treatment plant, treatment plant, a plan for reuse or safe disposal, conveyance to point of reuse or discharge, and safe disposal or reuse of sludge. 2. Treatment plants must be modular to allow for future expansion: in the first phase secondary treatment must be achieved; in the second expansion phase tertiary treatment must be achieved. 3. Agricultural reuse is to be the primary focus for reuse. This must include seasonal effluent storage. 4. Other forms of reuse must gain mutual agreement from both parties. 5. Industrial wastewater must be treated separately in a pre-treatment facility. 6. Alternatives for the location of treatment plants must be presented to both parties and the selection will be agreed in the Joint Water Committee.
9	**Ground Water Protection Policy**	**Policy Statements:** A. Development and planning controls B. Control of groundwater abstractions C. Physical disturbance of aquifers and groundwater flow D. Waste disposal to land E. Application of liquid effluents, sludge's and slurries to land F. Agricultural pollution of groundwater G. Contaminated land H. Direct and indirect discharges to underground strata **Application of liquid effluents, sludge and slurries to land**

		1. PWA in coordination with relevant institutions will promote the application of liquid waste disposal to land in a manner, which minimizes the risk of groundwater contamination, by restricting applications within Source Protection Zones and areas of high aquifer permeability. 2. PWA will seek to prevent the disposal of any sludge or liquid waste by land spreading which contains List I substances and limit the application of waste containing List II substances (Appendix 1). 3. PWA in coordination with relevant institutions will liaise with sewerage undertakers and recipient farmers over the disposal of sewage sludge to land. It will seek to ensure the activities comply with its regulations. 4. PWA in coordination with relevant institutions will liaise with farmers and seek to encourage them in the preparation of waste and nutrient management plans for their farms. These should include the drawing up of a map identifying land available for spreading liquid effluents, sludges and slurries and proposals for disposing of spent sheep dip. 5. PWA in coordination with relevant institutions will seek to control the disposal of sludge and slurries in Nitrate Sensitive Areas and Vulnerable Zones in a manner, which will ensure compliance with the regulations.
9	**Reuse Strategies in 2003**	**The main principles of the strategy:** 1.The reuse of treated wastewater must be established in all treatment projects. 2. Co-operation and coordination must be established with all relevant stakeholders. 3. Flexible reuse plans should be developed to enable the reuse and storage in winter season and when the effluent quality drops below the standards. 4. Establishment of the planning tools (Regulations, Standards, Guidelines, etc.) for reuse and recharge. 5. Discharge to the surface water may be considered as an interim action, or if reuse is not feasible. 6. Irrigation of crops eaten raw is prohibited, enforcement means should be applied. 7. For better water quality and reuse efficiency, consider (i) mixing of treated effluent with urban and surface runoff, (ii) artificial recharge of groundwater with treated effluent wherever possible, and (iii) establish surface storage of treated effluent with or without harvested runoff. 8. Allow private sector and/or public to manage or share the management of wastewater reuse projects. 9. Develop a program for modifying use habits to include reuse of treated effluent in urban centers (greening, fountains, urban parks and landscape irrigation forestation, and other areas).

Annex C. 1

Summary of the Main Rules and Responsibilities of the Strategic Stakeholders in the Current Institutional Framework of the Water & Sanitation sector in Palestine

Institution	Main Rules and Responsibilities
The National Water Council "NWC" (Policy Making Level)	The NWC is chaired by the Prime Minister of the Palestinian National Authority (PNA) and consist of five ministers, six other members representing government and non-government organizations and the head of the PWA as the Secretary of the Council. The members of the NWC comprises to review and approve national water policy and national water plan, review and approve water quotas, reconsider the issue of private ownership of water infrastructure, examine the central water projects and approve their implementation, and enhance regional and international co-operation in water.
The Palestinian Water Authority "PWA" (Regulatory Level)	The Palestinian Water Authority (PWA) is a central public authority established under the presidential resolution No. 90 of 1995, acting under the direct responsibility of the Prime Minister of the Palestinian National Authority according to the March 2003 amendments of the Basic Law. PWA was given the mandate in the Water Law No.3/2002 as the main regulatory body for water resources management and development in Palestine, this responsibility includes policy, planning, management, and regulation of water resources utilization, and development. The followings are PWA primary objectives: 1. Execute the National Water Policy as approved by the National Water Council; 2. Ensure most efficient management of available water resources in Palestine; 3. Seek to achieve and develop water security through optimal planning and management of water resources and explore further resources to ensure balanced management between supply and demand; 4. Set standards and establish technical specifications to assure quality control of water works and water services provided. 5. Licensing the exploitation of water resources and the construction of water projects in cooperation and coordination with relevant parties. 6. Seek to achieve strong co-operation and coordination between PWA and the stakeholders in the water sector. 7. Work to develop and coordinate programs for international, regional and bi-lateral technical cooperation in the field of water resources. 8. Take charge of restructuring the water sector and follow up the bulk water supply and manage regional utilities establishment. 9. Promote public awareness, stakeholders' participation and mutual trust among interest groups.
West Bank Water Department (WBWD)	The WBWD is generally responsible for delivering bulk water to utilities, municipalities or villages and the development, management and maintenance of transmission system and some local networks. It co-ordinates the transactions between Palestinian Water Utilities and Mekorot. Currently, the WBWD acts as an executing organization to PWA. WBWD was originally part of the Jordan Natural Resources Authority and its tasks include: 1. Preliminary studies, design, preparation of tender specification as well as the supervision of execution of projects in the inland region of Palestine. It collects bulk water bills from municipalities and village councils and design networks, reservoirs and other secondary works. 2. Monitoring of domestic and irrigation wells and springs, rendering services and technical advice to all water departments and utilities, the operation and maintenance of all water plants and transmission mains including village internal distribution systems which belong to the Water Department.

Water Department within local governments.	Within the organizational structure of each local government, municipality or village council, there is a water department that tends to the water systems in the service area of that local government. The number and level of expertise of the people working in such departments varies. In some small village councils, the department consists of a single clerk whose responsibility is billing and collection on the behalf of that local government. The maintenance of the water system is conducted on need basis and is usually carried out by private contractors (plumbers). On the other hand, in the main municipalities, the water department consists of few engineers, technicians and administrative personnel. The major deficiency in such institutional arrangement is the inability of that institution to identify a separate budget for the water section within the institution, and it was found that the revenues that are generated by the municipalities and village councils are used to subsidy other activities.
Two sub-regional utilities	There are two sub-regional utilities in the West Bank and Gaza Strip. The first is Jerusalem Water Undertaking (JWU) that was established to serve the Jerusalem/Ramallah District including cities of Ramallah, El-Bireh, Deir Debwan, Silwad, (Beitonia and Bier Zeit as bulk water supply) and currently some forty villages and refugee camps. The second is in Bethlehem District and is the Water and Supply and Sewerage Authority (WSSA); it serves in addition to Bethlehem, Beit Jala, Beit Sahour and a number of villages and refugee camps. These water utilities are administratively and financially independent and each has its own board of directors**.**

Annex C. 2

Summary of the Main Rules and Responsibilities of the Strategic Stakeholders in the Future Institutional Framework of the Water & Sanitation Sector in Palestine

Institution	Main Rules and Responsibilities
The National Water Council "NWC" (Policy Making Level)	The NWC is chaired by the Prime Minister of the Palestinian National Authority (PNA) and consist of five ministers, six other members representing government and non-government organizations and the head of the PWA as the Secretary of the Council. The members of the NWC comprises to review and approve national water policy and national water plan, review and approve water quotas, reconsider the issue of private ownership of water infrastructure, examine the central water projects and approve their implementation, and enhance regional and international co-operation in water.
The Palestinian Water Authority "PWA" (Regulatory Level)	The Palestinian Water Authority (PWA) is a central public authority established under the presidential resolution No. 90 of 1995, acting under the direct responsibility of the Prime Minister of the Palestinian National Authority according to the March 2003 amendments of the Basic Law. PWA was given the mandate in the Water Law No.3/2002 as the main regulatory body for water resources management and development in Palestine, this responsibility includes policy, planning, management, and regulation of water resources utilization, and development. The followings are PWA **primary objectives:** 1. Execute the National Water Policy as approved by the National Water Council; 2. Ensure most efficient management of available water resources in Palestine; 3. Seek to achieve and develop water security through optimal planning and management of water resources and explore further resources to ensure balanced management between supply and demand; 4. Set standards and establish technical specifications to assure quality control of water works and water services provided. 5. Licensing the exploitation of water resources and the construction of water projects in cooperation and coordination with relevant parties. 6. Seek to achieve strong co-operation and coordination between PWA and the stakeholders in the water sector. 7. Work to develop and coordinate programs for international, regional and bi-lateral technical cooperation in the field of water resources. 8. Take charge of restructuring the water sector and follow up the bulk water supply and manage regional utilities establishment. 9. Promote public awareness, stakeholders' participation and mutual trust among interest groups.
Bulk Water Supply Utility	It would take over the management of Trans-regional bulk water supply systems, comprising: existing transmission lines, currently operated by WBWD, providing bulk water supply to Palestinian communities, water projects, which are currently developed by the Palestinian Water Authority (PWA), other water sources envisaged in the National Water Plan (NWP). The Bulk Water Supply Utility would be licensed by PWA to operate water production facilities, purchase drinkable water from national and international

	suppliers, convey the water to local Municipal and Industrial water distribution systems; the operation, maintenance and management of those local water distribution facilities will be progressively taken over by four Regional Water Supply Utilities that are established by the new Water Law.
Regional Utilities	The PWA has adopted the strategy of creating four Regional Utilities in the service delivery level. They are divided geographically according to the following; 1. Northern Utility (Nablus, Jenin, Tulkarem, Qalqilia, Salfit and Tubas Governorates), 2. Central Utility (Jerusalem, Ramallah and Al-Bireh and Jericho Governorates) 3. Southern Utility (Hebron and Bethlehem Governorates) 4. Coastal Utility (Gaza Strip Governorates)
Supporting and Advisory Level	• Universities: provide support to the water sector research activities and training and experience to the Palestinian staff working in the water sector. • NGO's: provide financial and technical support to the water sector projects. • Water User's Associations: Operates and maintain privately owned water resources and infrastructure and provide direct feedback to the regulator regarding their requirements and concerns.

Annex C. 3

Summary of the Main Rules and Responsibilities of other Stakeholders involved in the Water & Sanitation Sector in Palestine

Type	Party	Main Functions/ Responsibilities
Governmental Ministries and Authorities	**Palestinian Water Authority (PWA)**	It is the main authority responsible of water related issues in Palestine. Consequently, it is considered the main source of data related to water sector in the Palestinian territories as a whole. PWA fields of responsibilities include the planning, licensing and currently implementation of water related projects and infrastructure. Due to this important role played by PWA it is considered as one of the important authorities that to be involved in Wastewater management. Its role will be important in analyzing monitoring, controlling, assessing, planning and defining the wastewater and its treatment considering it not only a source of pollution that might affect the ground water resources but also as additional non conventional source for agricultural purposes.
	Ministry of Agriculture (MoA)	It is one of the important sources of agricultural sectors data. MoA is the governmental body responsible for different agricultural activities in the West Bank. The main goal of it is to improve and develop agricultural sector in Palestine by transferring new technologies to the farmers through their extension staff, as well as formulating the long-term and short-term Palestinian Agricultural Policy, in order to achieve the food security approaches.
	Environment Quality Authority (EQA)	EQA seeks to promote sustainable environmental development of the Palestinian society. The main goal of EQA is the protection of all elements of environment as will as preventing health risks facing all organisms. EQA has developed the PES with the objective to identify and analyze the main environmental problems and their causes in Palestine and define environmental targets and to present series of prioritized measures that will lead to reach these targets. The implementation of the strategy requires the monitoring of the environmental situation in the Palestinian territories and the enhancement of public awareness of the people regarding environmental protection and conservation.
	Ministry of Local Government (MoLG)	It is the main source of local communities' sectors data. It's responsible on the physical planning for the expansion of the built up areas. MoLG by its law is the governmental body responsible in providing the municipalities and village council with financial and administrative assistance.
	Local Governmental	According to the LGUs approved bylaws it is the responsibility of the LGU to provide citizens with drinkable water and for any other use and specify its requirements

	Units (LGU's)	such as pipes, meters, ..etc. and organize its distribution, specify its tariff and connection fees, and prevent the contamination of water resources. And also it is the responsibility of the LGU to construct and manage Sewage networks and facilities. Also the Waste Water Bylaws (still draft) refers the providers of water and sanitation services are the local governmental units (LGUs).
	Ministry of Health - MoH	Through its Department of environmental Health, The MoH is responsible for the public health. Therefore, it is involved in the control and monitoring of potable water quality, food quality, wastewater related diseases etc.
	Palestinian Standard Institute (PSI)	It's the main and official institute of accreditation to standers measures and specification for wastewater qualities and reuse.
	Palestinian Central Bureau of Statistics (PCBS)	PCBS is the main source of information and data about the Palestinian territories. Its responsibilities include the provision of relevant data population, economy as well as physical aspects in the form of statistical databases such as population estimation and projections, built up areas, land-use, public health, and infrastructure as well as social and economical activities prevailing in the local communities.
Academic Institutions	**An-Najah National University**	An-Najah University is a major university in the northern parts of the West Bank. It implemented several academic programs related to environment, water and agriculture, water quality analysis, groundwater monitoring and data collection. An-Najah provides education for undergraduate and graduate students in the field of environment. In addition to that, An-Najah has several centers to provide services for the community.
	Bir Zeit University	Beir Zeit University prepared a different survey reports about the existing environment including: socio-economic, existing infrastructure, determination of problems and needs, water resources and supply, water rights, water use efficiency, land degradation and erosion in the area, and others information related to natural resources. Institute of Environmental and Water Studies (IEWS) within Bir Zeit University has conducted a several research studies related to wastewater covering almost all aspects. Recently it is involved in the preparation of a national wastewater guideline for agriculture and artificial recharge. It is also involved in conducting a pilot project for wastewater reuse in cooperation with invent through the application of low cost technologies.

Research Centers	**Lands Research Center (LRC)**	It conducted a study about the soil erosion and land degradation through introducing their work in research and studies Applied Research Institute-Jerusalem (ARIJ): ARIJ responsibilities can be summarized in strengthening cooperation and coordination of research and extension activities with institutions having common objectives, contributing to the training of extension personnel, and others.
	Water and Environmental Studies Institute (WESI)	This is part of An-Najah National University, is involved in teaching, research and public awareness related to environment and water aspects. WESI is involved as an implementing institution for several ongoing projects. These include: "the Impact of Global Changes on Water Resources in the Wadi Contributing to the Lower Jordan Basin (GLOWA)", and "the Agro-Biodiversity in the Northern parts of the West Bank including Wadi Al-Fara'a". in addition of its own laboratory that can be used in conducting several wastewater test analysis
Community Services Organizations	**Palestinian Hydrology Group (PHG)**	It's one of the important Palestinian NGO's working on water and environment in Palestine. PHG works in assisting the construction of infrastructure related to watershed and environment in the area. PHG assisted the farmers in improving irrigation conveyance system through the construction and lining of many irrigation ditches. PHG conducted also several water harvesting projects. These projects consist of cisterns and pools, data collection and analysis, water quality tests, well rehabilitation, public awareness for water conservation and quality protection, and building a water data base. PHG is involved in conducting a stakeholder analysis as part of "the Impact of Global Changes on Water Resources in the Wadi Contributing to the Lower Jordan Basin (GLOWA)" project. PHG is also considered as one of the important water and environmental data sources of the non-governmental organizations in Palestine. Therefore PHG should be taken into consideration in any institutional performance for the wastewater issues. Its Diector General (Dr. Abed Al- Rahman Al Tamimi) is representing the NGOs in the National Water Council .

	Palestinian Agricultural Relief Committees (PARC)	It's one of the important agricultural organizations in Palestine related to agricultural development, working in the rural Palestinian areas as in the project area specifically, in public awareness and guiding the farmers to improve farming practices. PARC also assists farmers in dealing with agro-chemicals and is currently working in the field of small scale wastewater treatment plant for both gray and black wastewater. Therefore, it should be considered one of the main stakeholders in any future reuse management. PARC, as a non-governmental organization, was founded in 1983 to serve nearly all aspects of agriculture especially in plant production, training and extension programs, the role and social state of living of women in agriculture, in addition to loans and funds. It is worth to mention here its significant role in the creation of Water Agriculture Associations, since it is now involved in similar project within MEDA program jointly with two regional countries (Jordan and Egypt) titled MEDWA. The project aims to create WAAs strengthening them to manage their limited water resources in an integrated and sustainable manner. The project is also including the construction of three wastewater treatment plant at community level in order to be reused by the local farmers to irrigate specific crops
International Aid Agencies	**USAID**	USAID is the main international donor for the Palestinian Authority mainly in the field of water resources and to some extent Wastewater (Gaza WWTP).
	German through (GTZ and KfW)	German through (GTZ and KfW) are the biggest contributor in Wastewater sector through their enormous contributions for building different Wastewater infrastructure ranging from WWTP and Sewage networks to Wastewater capacity building programs and institutional reforms.
	European Union (EU)	EU is among the main international donor for the Palestinian Authority. In the case of Al-Fara'a Integrated Watershed Management Project Palestinian Environment Quality Authority (EQA) received financial support from the EU Environmental Partnership Program (SMAP)and from the Dutch Ministry of Environment (VROM).
	ANERA	American Near East Relief Aid (ANERA): It Focuses on construction and rehabilitation of services infrastructure related to water resources facilities, wastewater collection, treatment and reuse, well rehabilitation, springs development, rain harvesting and groundwater recharge.

	UNDP	United Nation Developing Program (UNDP): It is one of the United Nation (UN) organizations, UNDP is involved in construction and rehabilitation of services infrastructure related to water and electricity networks, health and sanitation, education, social facilities, and others.
Palestinian Local Partners	**Local Councils**	They are considered as the representative of the government on the local level. Therefore, they should be considered among the stakeholders of any project because of their important role. They are considered a cornerstone in public acceptance and willingness to support the sustainability; therefore, their role is very important. These villages' councils are considered as grassroots organizations with involvement essential to the success any future project.
	Joint Service Councils	The Council for Joint Services: It has been established by the MoLG through a fund from the UNDP. It is so active in many are of Waste Bank and Gaza (Hebron , Khan Younes Governorates).
	Water users, land owners and farmers	The society as a whole in the project areas will benefit directly, since integrated Watershed management plans will be developed, that will address the watershed related environmental problems in an optimal and integrated manner. However, no active organized groups are available which directly represent the farmers and the water users in the area.
Private sector	Although the role that PS can play in the wastewater sector development and management is not clearly defined in Palestine, but however it is expected that with political stability the private sector will be more encouraged to take part on the development of the water and wastewater sectors. PWA on its development strategy relay on the involvement of the PS in the sector; therefore and for the importance giving to this sector, this study will spot the light with more detail in the role that the sector is expected to play and the kind of involvement .	

Annex D.1

SWOT Analysis Outputs for Nablus Municipality

Strength Points		
	Water	**Wastewater**
Technical	• Coverage is not full but access is provided to most of the population • There is good infrastructure related to customer services • Ownership of some water resources • Separate Department for operational functions • Desire to improve level of service • Quality of water is high and complying with regulations • Monitoring is carried out systematically and comprehensively • Good operational and maintenance plans • Palestinian Standards exist for drinking water	• Coverage is not full but access is provided to most of the population • Extension of sanitation coverage has increased over the last 5 years and efforts will continue • There is good infrastructure related to customer services • Separate Department for operational functions • Desire to improve level of service • Extensions to sewerage system in hand • WWTP is under construction • Breakdowns and maintenance are regularly reviewed to reduce failures and optimize maintenance • Good operational and maintenance plans • WSSD responsible for monitoring ,operation and maintenance of sewage networks
Financial	• Existence of current accurate database for billing • charges for water supply services are reasonable with the level of service provided • Proper tariff system • The tariff system is clear and the bill reflects the tariff system in the way it is presented • Acceptable collection ratio for service charge (65-75%) • High percentage of cost recovery • Convenient ways for bills payment.	• Preparing Sewerage Tariff System for collection and treatment
Institutional	• Separate municipal department for water supply and sanitation • Presence of endorsed structural plan • Effective and suitable organizational structure for water supply and sanitation department • Good experience staff • Adequate number of staff • Effective strategic plan for water and sanitation services • Documentation of all aspects of work • Existence of performance appraisal system to judge the work-positively or negatively • Actively managed staff training and capacity building • Effective institutional systems, procedures and policies • Good coordination between divisions	

	• Adequate records for works • Adequate equipment and tools • Cooperation and coordination with government and non-governmental agencies • Capacity to comply with all the relevant local government legislation • Decisive leadership • Law enforcement • Good relationships with other ministries • Daily and Monthly detailed reports • Annual staff appraisal and department • Presence of inter functional relationships at all organizational levels

Weakness Points		
	Water	**Wastewater**
Technical	• Ageing water system • High percentage of leakage (high unaccounted for water) • Dependence on external water resources • Inadequate equipment and tools.	• Ageing sewerage system • Presence of area out of service • No sewerage treatment • Partial or limited treatment capacity of WW • Standards exist for drinking water, but not or only on a very rudimentary level for waste water • No clear provision for reuse
Financial	• There is no financial autonomy and no separate budget. Scope for managerial autonomy is very limited. • Depend on grants from donor agencies for investments • Decrease collection ratio for water service • Lack of strong financial base for revenue collection • Water services do not achieve cost recovery	• There is no financial autonomy and no separate budget. Scope for managerial autonomy is very limited • Sewerage services not paid for by consumers • Lack of current accurate database for billing • No sewerage tariff
Institutional	• Lack of development projects in water and sanitation • Lack of independent accountant for the department • lack of IT programmer • lack of independent meter reader and collectors for the department • Job description and specification need to update • Limited institutional capacity • Water system operators lack required level of training • Lack of HR planning program	

Opportunity Points		
	Water	**Wastewater**
Technical	• Reduce unaccounted for water • Rehabilitate networks • Construct new WWTP	
Financial	• Increase probability of donor assistance • To find ways and means to increase income/revenue • Increase co- operation between municipality and various donors	
Institutional	• Municipality could form nucleus of future Regional Water Utility • Enhance performance in a systematic manner	

Threat Points		
	Water	**Wastewater**
Technical	• Israeli Occupation • Political instability • Parts of service area lie in different jurisdictions • The non-issue of permits for the WWTP • Increase population growth	
Financial	• Economic situation and its reflection on collection • Financial resources under the control on occupation • Lack of self initiative and dependency on outside financial assistance • At the donors level, Expected grants and funds might not received	
Institutional	• Loss of existing expertise • Decreasing performance	

Annex D.2

SOWT Analysis Outputs for Al-Bireh Municipality

Strength Points	
	Wastewater
Technical	• Coverage is not full but access is provided to most of the population • There is good infrastructure related to customer services • Desire to improve level of service • Extensions to sewerage system in hand • Existence of WWTP
Financial	• Sewerage services paid by consumers • Separate bill for Sewerage services • Existence of current accurate database for billing • charges for Sewerage services are reasonable with the level of service provided • Proper tariff system • The tariff system is clear and the bill reflects the tariff system in the way it is presented • Acceptable collection ratio for service charge • Convenient ways for bills payment.
Institutional	• Presence of endorsed structural plan • Existence of documented financial and administrative system in the municipality • Documentation of all aspects of work • Existence of performance appraisal system to judge the work-positively or negatively • Good coordination between divisions • Adequate records for works • Cooperation and coordination with government and non-governmental agencies • Good relationships with other ministries • Monthly & daily detailed reports • Annual staff and department appraisal • Presence of inter functional relationships at all organizational levels

Weakness Points	
	Wastewater
Technical	• Part of sewerage system is old • Presence of area out of service • Ineffective maintenance plan • Inadequate equipment and tools.
Financial	• There is no financial autonomy and no separate budget • Low capacity municipality in terms of financial management capacity • Depend on grants from donor agencies for investments • Lack of strong financial base for revenue collection
Institutional	• Ineffective/unsuitable organizational structure • Lack of experience staff • Lack of engineers • Ineffective strategic plan for sanitation services • Employee performance evaluation is not applied well • Lack of development projects in sanitation • Job description and specification not clear and need to update

	• No performance evaluation system • Lack of HR planning program • Limited institutional capacity • Wastewater system operators lack required level of training • Ineffective institutional systems, procedures and policies • Absence of strategic plan for sewerage services

Opportunity Points	
	Wastewater
Technical	• Rehabilitate networks • Expand the existing WWTP
Financial	• Increase probability of donor assistance • Increase co- operation between municipality and various donors
Institutional	• Develop an effective institutional systems and procedures • Enhance performance in a systematic manner

Threat Points	
	Wastewater
Technical	• Israeli Occupation • Political instability • Increase population growth
Financial	• Financial resources under the control on occupation • At the donors level, Expected grants and funds might not received
Institutional	• Decreasing performance

Annex D.3

SOWT Analysis Outputs for Tubas Municipality

Strength Points	
	Water
Technical	• Coverage is not full but access is provided to most of the population • There is good infrastructure related to customer services • Ownership of some water resources • Desire to improve level of service.
Financial	• Charges for water supply services are reasonable with the level of service provided • Proper tariff system • The tariff system is clear and the bill reflects the tariff system in the way it is presented • Acceptable collection ratio for service charge (61%) • Convenient ways for bills payment.
Institutional	• Documentation of all aspects of work • Existence of performance appraisal system to judge the work-positively or negatively • Good coordination between divisions • Adequate records for works • Cooperation and coordination with government and non-governmental agencies • Capacity to comply with all the relevant local government legislation • Decisive leadership • Law enforcement • Good relationships with other ministries • Daily detailed reports • Annual staff appraisal and department

Weakness Points	
	Water
Technical	• Ageing water system • High percentage of leakage (high unaccounted for water) • Dependence on external water resources • Presence of area out of service • Inadequate equipment and tools • Still depend on cesspits
Financial	• There is no financial autonomy and no separate budget for water service • Depend on grants from donor agencies for investments • Lack of strong financial base for revenue collection
Institutional	• Lack of development projects in water • lack of experience staff • Lack of engineers • Job description and specification not clear and need to update • Limited institutional capacity • Water system operators lack required level of training • Lack of HR planning program • Employee performance evaluation is not applied well • Combined water , health and electricity in one division • Ineffective/unsuitable organizational structure for water division • Inadequate number of staff • Absence of strategic plan for water services • Ineffective institutional systems, procedures and policies.

Opportunity Points	
	Water
Technical	• Reduce unaccounted for water • Rehabilitate networks • Construct new WWTP
Financial	• Increase probability of donor assistance
Institutional	• Enhance performance in a systematic manner

Threat Points	
	Wastewater
Technical	• Israeli Occupation • Political instability
Financial	• Financial resources under the control on occupation • At the donors level, Expected grants and funds might not received
Institutional	• Decreasing performance

Annex D.4

SOWT Analysis Outputs for Salfeet Municipality

Strength Points		
	Water	**Wastewater**
Technical	• Coverage is not full but access is provided to most of the population • There is good infrastructure related to customer services • Ownership of some water resources • Desire to improve level of service • Good water quality • Adequate equipment and tools	• Extension of sanitation coverage has increased over the last 3 years and efforts will continue • There is good infrastructure related to customer services • Desire to improve level of service • Extensions to sewerage system in hand • Adequate equipment and tools
Financial	• Existence of current accurate database for billing • charges for water supply services are reasonable with the level of service provided • Proper tariff system • The tariff system is clear and the bill reflects the tariff system in the way it is presented • Acceptable collection ratio for service charge (80%) • Convenient ways for bills payment • Increase collection ratio for water service • Link water bill payment with a charge of electricity	• Sewerage services approximately paid by consumers • Water and wastewater services combined in one bill
Institutional	• Presence of endorsed structural plan • Effective/suitable organizational structure • Good experience staff • Effective strategic plan for water and sanitation services • Existence of documented financial and administrative system in the municipality • Documentation of all aspects of work • Existence of performance appraisal system to judge the work-positively or negatively • Good coordination between divisions • Adequate records for works • cooperation and coordination with government and non-governmental agencies • Law enforcement • Good relationships with other ministries • Monthly detailed reports • Annual staff and department appraisal • Presence of inter functional relationships at all organizational levels	

Weakness Points		
	Water	**Wastewater**
Technical	• Ageing water system • High percentage of leakage (high unaccounted for water) • Dependence on external water resources • Presence of area out of service • Inadequate equipment and tools • Lack of effective maintenance plan	• Ageing sewerage system • Presence of area out of service • No sewerage treatment • Ineffective maintenance plan • Dumping waste water into wadis • Lack of effective maintenance plan
Financial	• There is no financial autonomy for water supply and sanitation services • Depend on grants from donor agencies for investments • Lack of strong financial base for revenue collection • Low capacity municipality in terms of financial management capacity • Unclear sewerage tariff • Low percentage of cost recovery	
Institutional	• Lack of development projects in water and sanitation • Inadequate records • Lack of independent accountant for the department • lack of independent meter reader and collectors for the department • Job description and specification not clear and need to update • Shortage in staff numbers • Limited institutional capacity • Water system operators lack required level of training • Lack of HR planning program • High staff turnover • Low capacity in terms of financial management capacity	

Opportunity Points		
	Water	**Wastewater**
Technical	• Reduce unaccounted for water • Rehabilitate networks • Construct new WWTP	
Financial	• Increase probability of donor assistance • To find ways and means to increase income/revenue • Increase co- operation between municipality and various donors	
Institutional	• The existence of institutions and donors has to do with the municipality • The existence of specialized human staff and local expertise • The possibility of investment and partnership with civil society institutions • Enhance performance in a systematic.	

Threat Points		
	Water	**Wastewater**
Technical	• Israeli Occupation • Political instability • Parts of service area lie in different jurisdictions • The non-issue of permits for the WWTP • Increase population growth • Environmental pollution	
Financial	• Economic situation and its reflection on collection • Financial resources under the control on occupation • Lack of self initiative and dependency on outside financial assistance	
Institutional	• Loss of existing expertise • Decreasing performance	

Annex E.1

SOWT Analysis Outputs for North East Jenin JWSC

Strength Points	
	Water
Technical	• Provide one service "Water supply" • Coverage is not full but access is provided to most of the population • There is good infrastructure related to customer services • Desire to improve level of service • Good water quality
Financial	• Using Pre-Paid meters • Charges for water supply services are reasonable with the level of service provided • Proper tariff system • The tariff system is clear and the bill reflects the tariff system in the way it is presented • Full collection ratio for service charge (approx.100%)
Institutional	• Presence of strategic plan for water service • Documentation of all aspects of work • Existence of performance appraisal system to judge the work-positively or negatively • Adequate records for works • Cooperation and coordination with government and non-governmental agencies • Good relationships with other ministries • Monthly detailed reports • Annual staff and department appraisal

Weakness Points	
	Water
Technical	• Ageing water system • High percentage of leakage • Dependence on external water resources • Presence of area out of service • Inadequate equipment and tools • Still depend on cesspits
Financial	• The managerial and financial autonomy is very limited • Depend on grants from donor agencies for investments • Lack of strong financial base for revenue collection • low percentage of cost recovery
Institutional	• Not presence of endorsed structural plan • Ineffective organizational structure • Staffs are not placed according to functional structure. • Lack of development projects in water • lack of experience staff • Lack of engineers • Limited institutional capacity • Lack of HR planning program • Inadequate number of staff • Absence of effective strategic plan for water services

Opportunity Points	
	Water
Technical	• Reduce unaccounted for water • Rehabilitate networks
Financial	• Increase probability of donor assistance
Institutional	• Enhance performance in a systematic.

Threat Points	
	Water
Technical	• Israeli Occupation • Political instability • Some of water resources under Israeli control • Increase population growth
Financial	• Economic situation and its reflection on collection
Institutional	• Decreasing performance

Annex E.2

SOWT Analysis Outputs for Maythaloun JWSC

Strength Points	
	Water
Technical	• Provide one service "Water supply" • Coverage is not full but access is provided to most of the population • Ownership of some water resources • Desire to improve level of service
Financial	• Charges for water supply services are reasonable with the level of service provided • Proper tariff system • The tariff system is clear and the bill reflects the tariff system in the way it is presented
Institutional	• Documentation of all aspects of work • Existence of performance appraisal system to judge the work-positively or negatively • Adequate records for works • Cooperation and coordination with government and non-governmental agencies • Good relationships with other ministries • Monthly detailed reports • Annual staff and department appraisal

Weakness Points	
	Water
Technical	• Ageing water system • High percentage of leakage • Presence of area out of service • Inadequate equipment and tools
Financial	• Depend on grants from donor agencies for investments • Lack of strong financial base for revenue collection • low percentage of cost recovery
Institutional	• Not presence of endorsed structural plan • Ineffective organizational structure • Staffs are not placed according to functional structure. • Lack of development projects in water • lack of experience staff • Lack of engineers • Limited institutional capacity • Lack of HR planning program • Inadequate number of staff • Absence of effective strategic plan for water services

Opportunity Points	
	Water
Technical	• Reduce unaccounted for water • Rehabilitate networks
Financial	• Increase probability of donor assistance
Institutional	• Enhance performance in a systematic.

Threat Points	
	Water
Technical	• Israeli Occupation • Political instability • Increase population growth
Financial	• Economic situation and its reflection on collection
Institutional	• Decreasing performance

Annex F.1

SOWT Analysis Outputs for Nuba Village Council

Strength Points		
	Water	**Wastewater**
Technical	• Coverage is not full but access is provided to most of the population • Desire to improve level of service	• Coverage is not full but access is provided to most of the population • Desire to improve level of service • Presence of WWTP " Wetland"
Financial	• Charges for water supply services are reasonable with the level of service provided • Proper tariff system • High percentage of collection ratio.	• Sewerage services approximately paid by consumers
Institutional	• Presence of endorsed structural plan • Documentation of all aspects of work • Cooperation and coordination with government agencies • Good relationships with other ministries	

Weakness Points		
	Water	**Wastewater**
Technical	• Ageing water system • High percentage of leakage • Presence of area out of service • Inadequate equipment and tools	• Presence of area out of service • Low capacity of WWTP and not functioning well • Inadequate equipment and tools
Financial	• Depend on grants from donor agencies for investments • Lack of strong financial base for revenue collection • Low percentage of collection ratio. • low percentage of cost recovery	
Institutional	• Ineffective organizational structure • Lack of development projects in water and sanitation • lack of experience staff • Lack of engineers • Absence of effective strategic plan for water and sanitation services • Lack of maintenance plan for WWTP	

Opportunity Points		
	Water	**Wastewater**
Technical	• Reduce unaccounted for water • Rehabilitate networks and WWTP	
Financial	• Increase probability of donor assistance	
Institutional	• Enhance performance in a systematic.	

Threat Points		
	Water	**Wastewater**
Technical	• Israeli Occupation • Political instability	
Financial	• Economic situation and its reflection on collection	
Institutional	• Decreasing performance	

Annex F.2

SOWT Analysis Outputs for Roujeeb Village Council

Strength Points		
	Water	**Wastewater**
Technical	• Coverage is not full but access is provided to most of the population • There is good infrastructure related to customer services • Ownership of some water resources • Desire to improve level of service	• Coverage is not full but access is provided to most of the population • Desire to improve level of service • Extensions to sewerage system in hand
Financial	• Charges for water supply services are reasonable with the level of service provided • Proper tariff system High percentage of collection ratio.	
Institutional	• Presence of endorsed structural plan • Documentation of all aspects of work • Adequate records for works • Cooperation and coordination with government agencies • Good relationships with other ministries	

Weakness Points		
	Water	**Wastewater**
Technical	• Ageing water system • High percentage of leakage • Presence of area out of service • Inadequate equipment and tools	• Presence of area out of service • Inadequate equipment and tools
Financial	• Depend on grants from donor agencies for investments • Lack of strong financial base for revenue collection • low percentage of cost recovery	
Institutional	• Ineffective organizational structure • Lack of development projects in water and sanitation • lack of experience staff • Lack of engineers • Absence of effective strategic plan for water and sanitation services	

Opportunity Points		
	Water	**Wastewater**
Technical	• Reduce unaccounted for water • Rehabilitate / Expand networks	
Financial	• Increase probability of donor assistance	
Institutional	• Enhance performance in a systematic.	

Threat Points		
	Water	**Wastewater**
Technical	• Israeli Occupation • Political instability	
Financial	• Economic situation and its reflection on collection	
Institutional	• Decreasing performance	

Annex F.3

SOWT Analysis Outputs for Boureen Village Council

Strength Points	
	Water
Technical	• Provide one service "Water supply" • Coverage is not full but access is provided to most of the population • There is good infrastructure related to customer services • Ownership of some water resources • Desire to improve level of service • Good water quality
Financial	• Charges for water supply services are reasonable with the level of service provided • Proper tariff system • The tariff system is clear and the bill reflects the tariff system in the way it is presented • High percentage of collection ratio (approx.70%)
Institutional	• Presence of endorsed structural plan • Adequate records for works • Cooperation and coordination with government agencies • Good relationships with other ministries

Weakness Points	
	Water
Technical	• Ageing water system • High percentage of leakage • Presence of area out of service • Inadequate equipment and tools
Financial	• Depend on grants from donor agencies for investments • Lack of strong financial base for revenue collection • low percentage of cost recovery
Institutional	• Ineffective organizational structure • Lack of development projects in water • lack of experience staff • Lack of engineers • Absence of effective strategic plan for water and sanitation services

Opportunity Points	
	Water
Technical	• Reduce unaccounted for water • Rehabilitate / Expand networks
Financial	• Increase probability of donor assistance
Institutional	• Enhance performance in a systematic.

Threat Points	
	Water
Technical	• Israeli Occupation • Political instability
Financial	• Economic situation and its reflection on collection
Institutional	• Decreasing performance

Annex G.1

SOWT Analysis Outputs for Jerusalem Water Undertaking (JWU)

Strength Points	
	Water
Technical	• Provide one kind of service • Coverage is not full but access is provided to most of the population • There is good infrastructure related to customer services • Possession of own water resources • Continuous water supply to population • Separate Department for operational functions • Desire to improve level of service • Quality of water is high and complying with regulations • Monitoring is carried out systematically and comprehensively • Good operational and maintenance plans
Financial	• Existence of current accurate database for billing • Charges for water supply services are reasonable with the level of service provided • Proper tariff system • The tariff system is clear and the bill reflects the tariff system in the way it is presented • Acceptable collection ratio for service charge (79%) • Financial and management independence • Depends on precise accounting systems
Institutional	• Regional utility for water service • Presence of endorsed structural plan • Effective organizational structure • Good experience staff • Effective strategic plan for water services • Documentation of all aspects of work • Existence of performance appraisal system to judge the work-positively or negatively • Actively managed staff training and capacity building • Effective institutional systems, procedures and policies • Good coordination between divisions • Adequate records for works • Adequate equipment and tools • Cooperation and coordination with government and non-governmental agencies • Capacity to comply with all the relevant local government legislation • Decisive leadership • Law enforcement • Good relationships with other ministries • Monthly detailed reports • Annual staff appraisal

Weakness Points	
	Water
Technical	• Ageing water system • High percentage of leakage (high unaccounted for water) • Dependence on external water resources • Presence of area out of service • Inadequate equipment and tools.
Financial	• Depend on grants from donor agencies for investments • Low collection ratio for water service • Water services do not achieve cost recovery
Institutional	• Lack of development projects in water • Inadequate records • lack of professional engineers • Job description and specification need to update • Limited institutional capacity • Water system operators lack required level of training • Lack of HR planning program • Required number of staff approximately known but actual staff numbers significantly below or above the target level

Opportunity Points	
	Water
Technical	• Reduce unaccounted for water • Rehabilitate networks and construct new reservoirs • Increase water coming from own resources and reduce dependence on purchased water • Check possibility for expanding services/service area
Financial	• Use of financial resources to keep JWU independence • Increase probability of donor assistance • To find ways and means to increase income/revenue • Increase co- operation between municipality and various donors
Institutional	• Transfer utility to water, sanitation and environmental utility • Conduct training programs • Enhance performance in a systematic manner

Threat Points	
	Water
Technical	• Israeli Occupation • Political instability • Parts of service area lie in different jurisdictions • Increase population growth
Financial	• Economic situation and its reflection on collection • Financial resources under the control on occupation • Lack of self initiative and dependency on outside financial assistance • At the donors level, Expected grants and funds might not received
Institutional	• Loss of existing expertise • Decreasing performance

Annex G.2

SOWT Analysis Outputs for Water Supply and Sanitation Authority (WSSA)

Strength Points		
	Water	**Wastewater**
Technical	• Coverage is not full but access is provided to most of the population • There is good infrastructure related to customer services • Ownership of some water resources • Separate Department for operational functions • Desire to improve level of service • Quality of water is high and complying with regulations • Monitoring is carried out systematically and comprehensively • Good operational and maintenance plans	• Coverage is not full but access is provided to most of the population • Extension of sanitation coverage has increased over the last years and efforts will continue • There is good infrastructure related to customer services • Separate Department for operational functions • Desire to improve level of service • Extensions to sewerage system in hand • Responsible for monitoring ,operation and maintenance of sewage networks
Financial	• Existence of current accurate database for billing • charges for water supply services are reasonable with the level of service provided • Proper tariff system • The tariff system is clear and the bill reflects the tariff system in the way it is presented • Acceptable collection ratio for service charge	• Sewerage services paid for by consumers
Institutional	• Separate authority for water supply and sanitation • Presence of endorsed structural plan • Effective and suitable organizational structure for water supply and sanitation department • Good experience staff • Adequate number of staff • Effective strategic plan for water and sanitation services • Existence of performance appraisal system to judge the work-positively or negatively • Actively managed staff training and capacity building • Effective institutional systems, procedures and policies • Good coordination between divisions • Adequate records for works • Adequate equipment and tools • Cooperation and coordination with government and non-governmental agencies • Capacity to comply with all the relevant local government legislation • Decisive leadership • Good relationships with other ministries • Daily and Monthly detailed reports • Annual staff appraisal and department • Presence of inter functional relationships at all organizational levels	

Weakness Points		
	Water	**Wastewater**
Technical	• Ageing water system • High percentage of leakage (high unaccounted for water) • Dependence on external water resources • Presence of area out of service • Inadequate equipment and tools.	• Ageing sewerage system • Presence of area out of service
Financial	• There is no financial autonomy and no separate budget. Scope for managerial autonomy is very limited. • Depend on grants from donor agencies for investments • Lack of strong financial base for revenue collection • Water services do not achieve cost recovery	• There is no financial autonomy and no separate budget. Scope for managerial autonomy is very limited • Lack of current accurate database for billing
Institutional	• Lack of development projects in water and sanitation • Lack of independent accountant for the department • lack of IT programmer • lack of independent meter reader and collectors for the department • Job description and specification need to update • Limited institutional capacity • Water system operators lack required level of training • Lack of HR planning program	

Opportunity Points		
	Water	**Wastewater**
Technical	• Reduce unaccounted for water • Rehabilitate networks	
Financial	• Increase probability of donor assistance • To find ways and means to increase income/revenue • Increase co- operation between municipality and various donors	
Institutional	• Municipality could form nucleus of future Regional Water Utility • Enhance performance in a systematic manner	

Threat Points		
	Water	**Wastewater**
Technical	• Israeli Occupation • Political instability • Parts of service area lie in different jurisdictions • Increase population growth	
Financial	• Economic situation and its reflection on collection • Financial resources under the control on occupation • Lack of self initiative and dependency on outside financial assistance • At the donors level, Expected grants and funds might not received	
Institutional	• Loss of existing expertise • Decreasing performance	

جامعة النجاح الوطنية
كلية الدراسات العليا

تطوير الإطار المؤسسي والهياكل الوظيفية لمقدمي خدمات المياه والصرف الصحي في الضفة الغربية – فلسطين

إعداد
دالية زكريا ضعيفي

إشراف
د. عنان جيوسي

قدمت هذه الأطروحة استكمالا لمتطلبات نيل درجة الماجستير في هندسة المياه والبيئة بكلية الدراسات العليا في جامعة النجاح الوطنية في نابلس، فلسطين.

2012

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الملخص

يعد مقدمو خدمات المياه والصرف الصحي من المؤسسات الرئيسية ضمن الإطار المؤسسي لقطاع المياه والصرف الصحي الفلسطيني والمتمثلة بالهيئات المحلية من بلديات ومجالس قروية ومجالس الخدمات المشتركة والبلديات الدامجة ومرافق المياه والصرف الصحي المحلية، والمسؤولة عن تقديم وإدارة خدمات المياه والصرف الصحي في المناطق الريفية والحضرية وذلك بناءً على قانون الحكم المحلي الفلسطيني رقم (1) لسنة 1997 وقانون المجالس المشتركة لعام 2002.

يعاني مقدمو خدمات المياه والصرف الصحي في الضفة الغربية من العديد من العقبات الإدارية والمالية والفنية التي تحول دون قيامهم بمهامهم بشكل فاعل ; ومن أهم هذه العقبات أن الترتيبات التنظيمية الحالية لقطاع المياه والصرف الصحي لا تعكس رؤية الهيكلية المؤسساتية المقترحة للقطاع والتي تهدف إلى الفصل بين الإدارة التنظيمية والإدارة التشغيلية والتنفيذية، حيث أن مجلس المياه الوطني لم يعمل كما يجب أبداً، وتعمل سلطة المياه الفلسطينية كمنظم ومنفذ، وتبقى خدمات المياه والصرف الصحي في أيادي عدة دوائر وأقسام بلدية ومجالس محلية مختلفة مما أدى إلى بعثرة بعض المسؤوليات و الصلاحيات وغياب التنسيق. كما أن الإطار القانوني المنظم لعملهم تداخلت في تشكيله عوامل عدة نشأت عن موروث قانوني كان نتاج مختلف الحقب التي مرت بها فلسطين، إضافة إلى العوامل الداخلية والخارجية التي عملت على إعادة صياغة هذا الإطار والتي خلّفت حالة من عدم الإنسجام في المرجعيات القانونية. من ناحية أخرى فإن انخفاض مستويات الإستثمار في البنية التحتية لإمدادات المياه والصرف الصحي وانخفاض نسبة التحصيل واسترداد

تكاليف الخدمة ونقص الموارد البشرية وضعف الهياكل التنظيمية / الوظيفية لمقدمي خدمات المياه والصرف الصحي كان لها أثر بالغ على تدني مستوى تقديم الخدمات.

ولمَا كان للهيكل التنظيمي/ الوظيفي أثر هام ومباشر في القدرة على إنجاز المهام بفعالية وعلى تقديم الخدمة الجيّدة، جاءت فكرة هذا البحث والتي تهدف إلى تشخيص الهياكل التنظيمية /الوظيفية للإعدادات المؤسسية المختلفة لمقدمي خدمات المياه والصرف الصحي في الضفة الغربية ودراسة مدى مطابقتها للهيكليات الرسمية وملائمتها لتقديم الخدمات. كما ويهدف البحث إلى دراسة الإطار المؤسسي والقانوني المنظم لعمل مقدمي خدمات المياه والصرف الصحي، ودراسة الواقع الراهن لهذه المؤسسات من النواحي الإدارية والمالية والفنية.

اشتمل البحث على الإعدادات المؤسسية المختلفة لمقدمي خدمات المياه والصرف الصحي، حيث اشتملت عينة البحث على أربع بلديات (بلدية نابلس و بلدية البيرة وبلدية طوباس وبلدية سلفيت) ومجلسي خدمات مشتركة للمياه والصرف الصحي (مجلس خدمات ميثلون ومجلس خدمات قرى شمال شرق جنين) وثلاث مجالس قروية (مجلس قروي روجيب ومجلس قروي بورين ومجلس قروي نوبا) إضافة إلى بلدية الكفريات كنموذج للبلديات الدامجة ومصلحة مياه القدس ومصلحة مياه ومجاري بيت لحم كنموذج للمرافق المحلية في الضفة الغربية. وقد تم اختيارالحالات الدراسية بناء على نوع الإعداد المؤسسي ونوع الخدمة المقدمة وعدد السكان المخدومين.

ولتحقيق هدف البحث تم تصميم استبانة خاصة لكل إعداد مؤسسي لمقدمي خدمات المياه والصرف الصحي، اشتملت على النواحي الفنية والمالية والإدارية لتقديم الخدمات.

تم تقييم الترتيبات المؤسسية الحالية في قطاع المياه والصرف الصحي من خلال بناء مصفوفة النشاطات /المسؤوليات، كما تم تحليل الوضع الحالي للحالات الدراسية من النواحي الفنية والمالية والإدارية باستخدام طريقة SWOT Analysis وبناء مجموعة مؤشرات الأداء على مستوى تقديم الخدمات. وحسب نظام موظفي الهيئات المحلية رقم (7) لعام 2009 تم تحليل الهياكل الوظيفية /التنظيمية الحالية.

وقد أكدت نتائج البحث أن هناك تفاوت واضح في الهياكل التنظيمية / الوظيفية للأنواع المختلفة لمقدمي خدمات المياه والصرف الصحي، كما بينت الحاجة إلى صياغة هياكل تنظيمية / وظيفية للأنواع المختلفة آخذين بعين الإعتبار تقسيم العمل والتخصص وعدد المستويات التنظيمية ونطاق الإشراف وتسلسل السلطة وغيرها، وهذا يختلف باختلاف نوع الخدمات المقدمة وعدد السكان المخدومين.

وبناءً على ذلك خلص البحث إلى صياغة هياكل تنظيمية / وظيفية لدوائر وأقسام المياه والصرف الصحي في وحدات الحكم المحلي الفلسطينية من بلديات ومجالس خدمات المياه /الصرف الصحي المشتركة وبلديات دامجة ومجالس قروية ومرافق المياه والصرف الصحي.