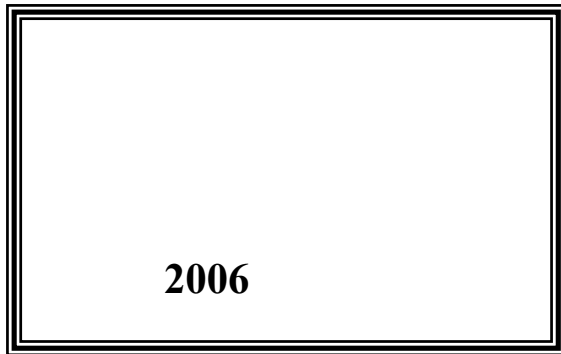


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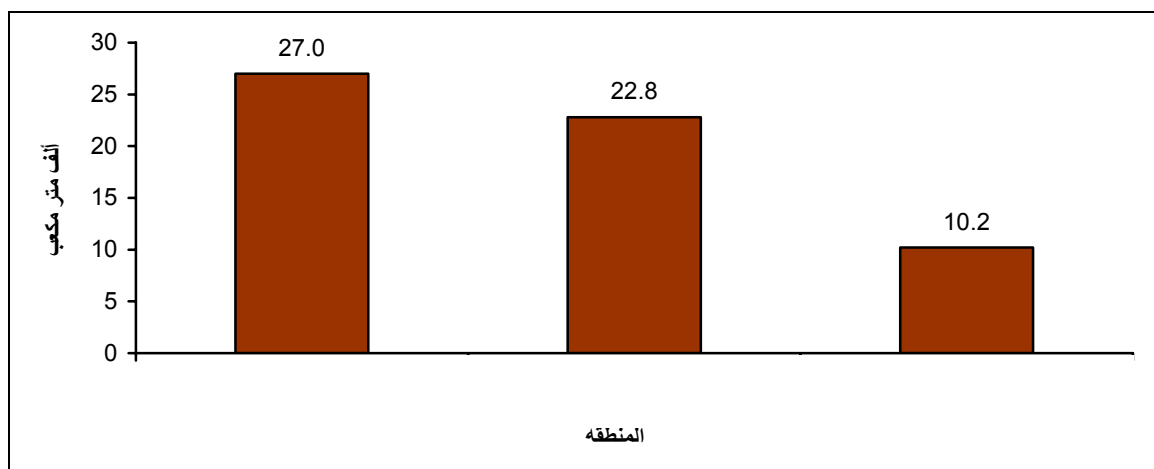
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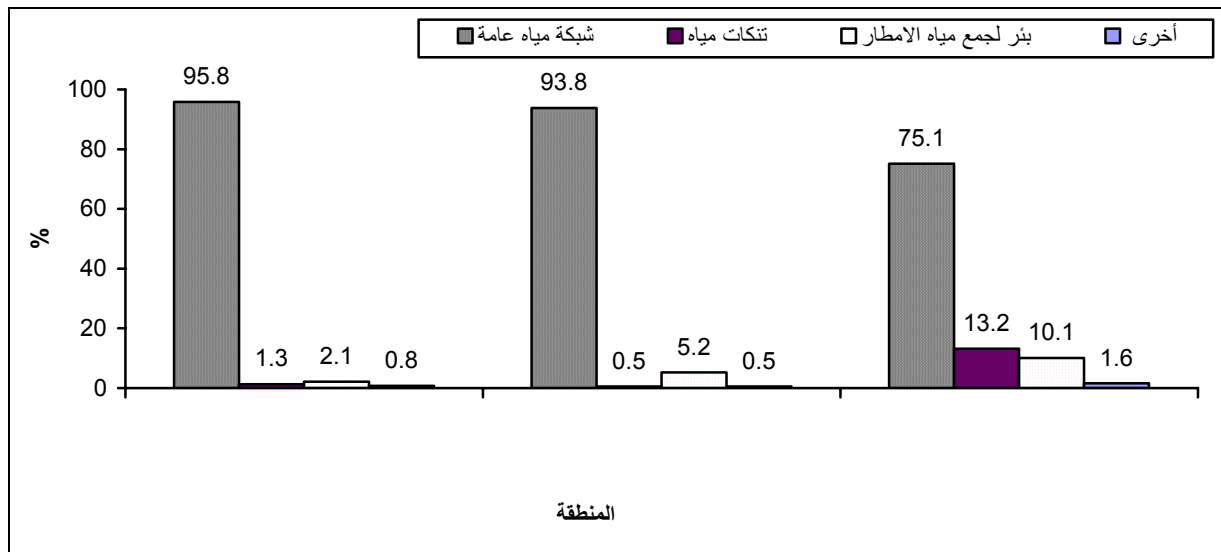
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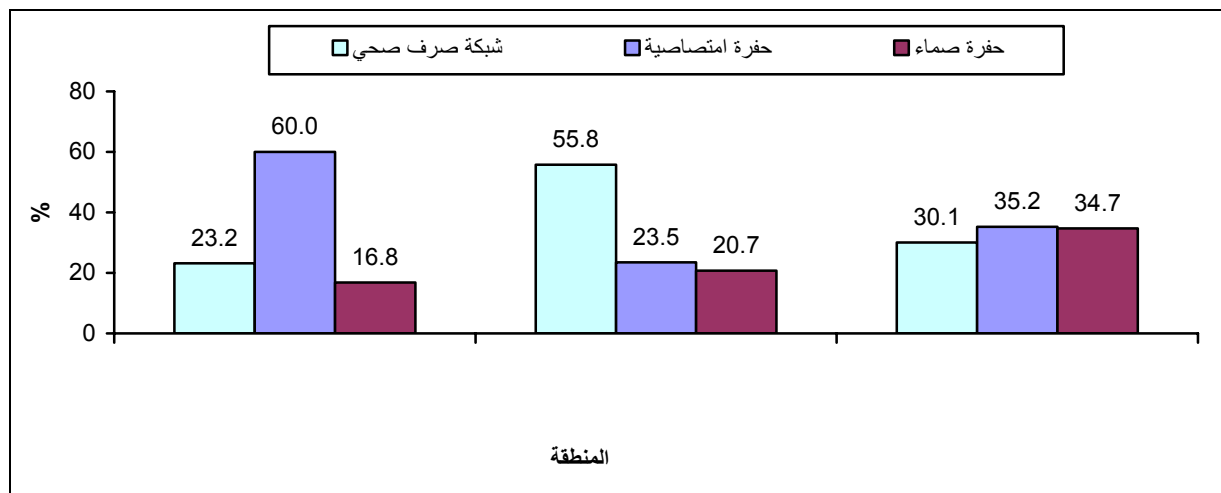
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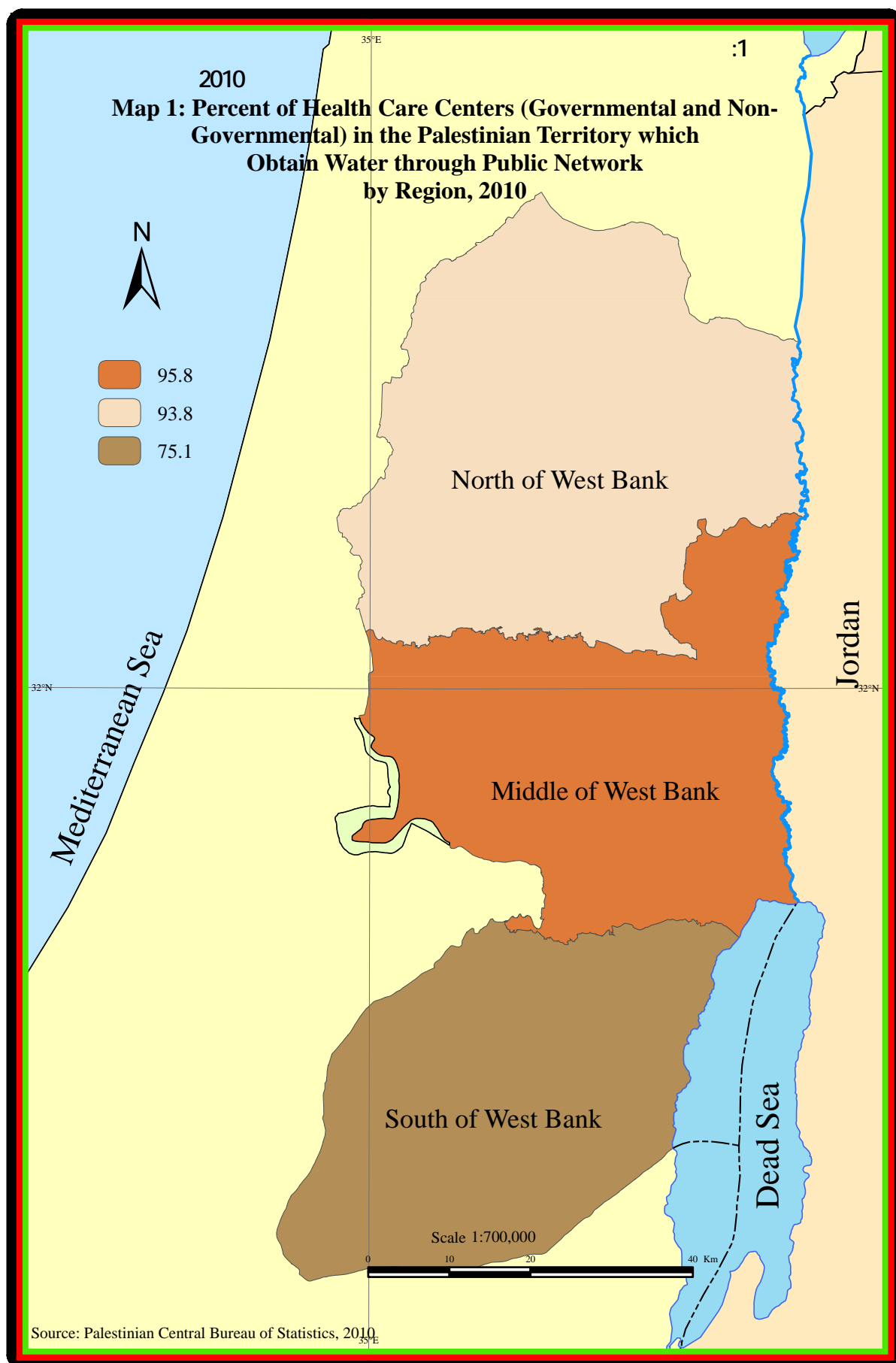
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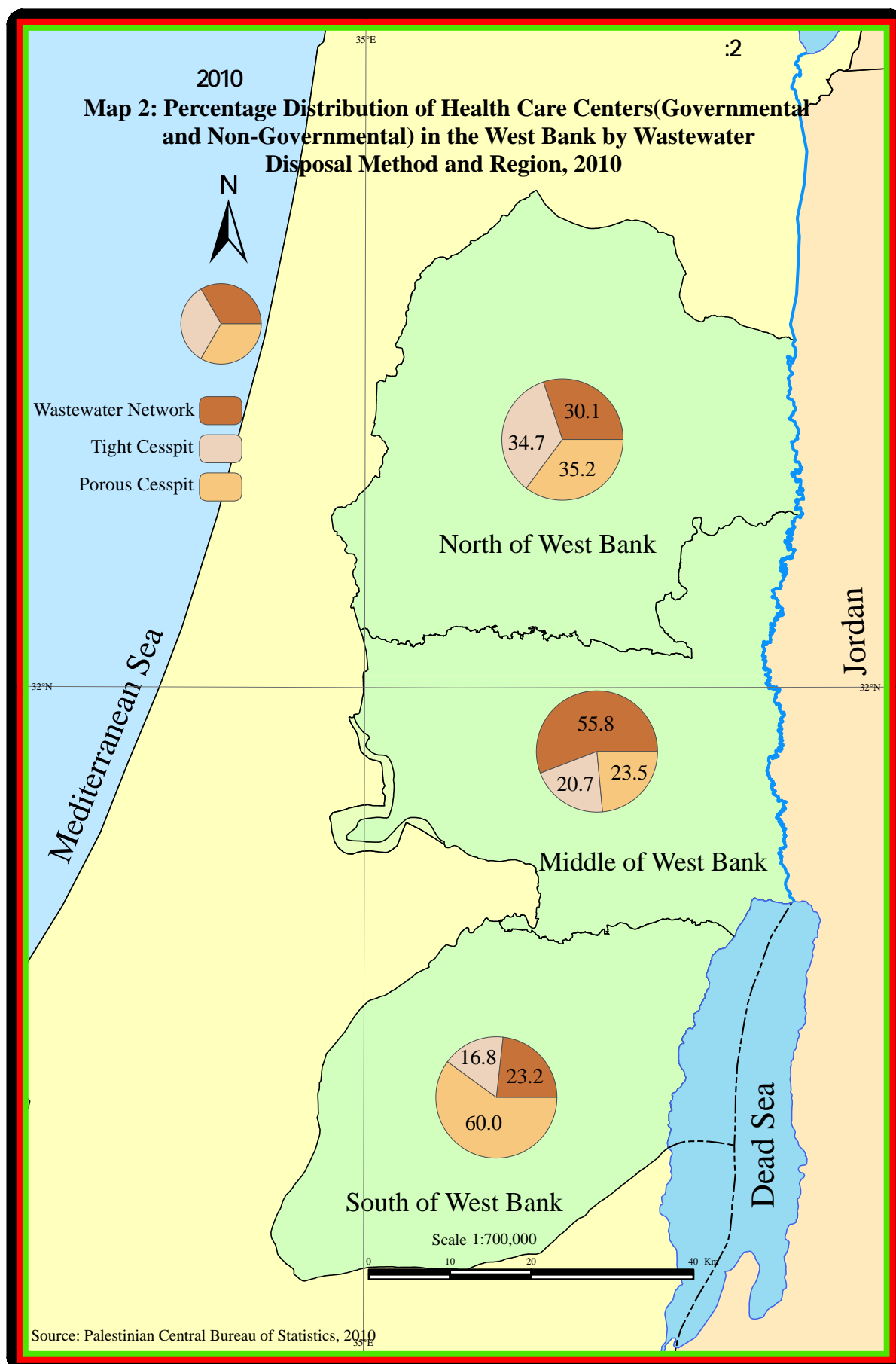
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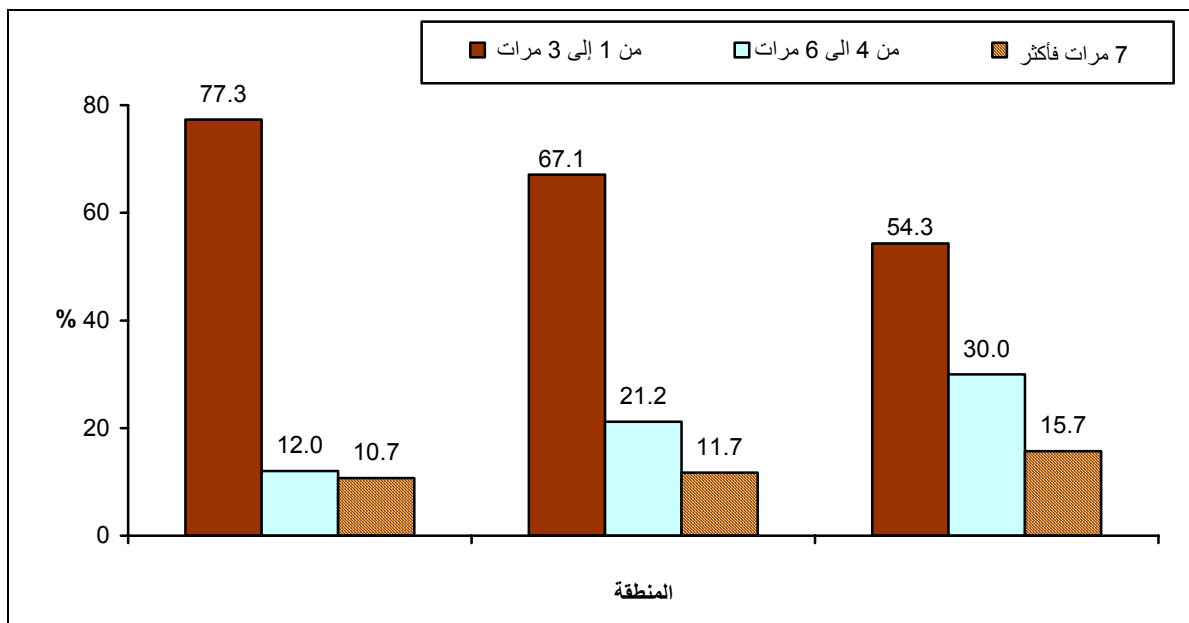
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Tables

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Table1: Main Selected Indicators About the Activity of the Health Care Centers (Governmental and Non-Governmental) in the West Bank From Environmental Sides for the Years 2007 and 2010

Indicator	2010	2007	
Estimated Monthly Quantity of Water Consumed (1000 m3)	60.0	56.2	(³ 1000)
Percentage Distribution of Health Care Centers by Means of obtaining water			
Water network	86.9	84.0	
Water tanks	5.6	3.5	
Collection water well	6.5	12.1	
Others	1.0	0.4	
Percentage Distribution of Health Care Centers (Governmental and Non- Governmental) by Wastewater disposal method			
Wastewater network	33.5	34.4	
Tight cesspit	25.5	25.4	
Porous cesspit	41.0	40.2	
Percentage Distribution of Health Care Centers (Governmental and Non- Governmental) by Doer of Solid Waste Disposal			
The health care center	19.0	10.8	
Local Authority	70.3	77.7	
Private contractor	5.9	5.6	
UNRWA	1.6	1.0	
Others	3.2	4.9	

:2

2010

Table 2: Estimated Monthly Quantity of Water Consumed by the Health Care Centers (Governmental and Non-Governmental) in the West Bank by Region, 2010

Units in cubic meter/month

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Region	Quantity of consumed water	
West Bank	60.0	
North of West Bank	10.2	
Middle of West Bank	27.0	
South of West Bank	22.8	

:3

2010

Table 3: Percentage Distribution of Health Care Centers (Governmental and Non-Governmental) in the West Bank by Means of Obtaining Water and Region, 2010

Region	Means of obtaining water					
	Total	Others	Water tanks	Collection water well	Water network	
West Bank	100	1.0	5.6	6.5	86.9	
North of West Bank	100	0.5	0.5	5.2	93.8	
Middle of West Bank	100	0.8	1.3	2.1	95.8	
South of West Bank	100	1.6	13.2	10.1	75.1	

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2010

Table 4: Percentage Distribution of Health Care Centers (Governmental and Non-Governmental) in the West Bank by Wastewater Disposal Method and Region, 2010

Region	Wastewater disposal method				
	Total	Porous cesspit	Tight cesspit	Wastewater network	
West Bank	100	41.0	25.5	33.5	
North of West Bank	100	35.2	34.7	30.1	
Middle of West Bank	100	23.5	20.7	55.8	
South of West Bank	100	60.0	16.8	23.2	

:5

2010

Table 5: Percentage Distribution of Health Care Centers (Governmental and Non-Governmental) in the West Bank by Existence of Wastewater Treatment, Method of Treatment and Region, 2010

Region	Wastewater treatment method			Existence of wastewater treatment	
	Total	Chemical treatment	Mechanical treatment		
West Bank	100	5.2	94.8	4.3	
North of West Bank	100	0.0	100	5.8	
Middle of West Bank	100	0.0	100	6.8	
South of West Bank	100	100	0.0	0.7	

:6

2010

Table 6: Estimated Monthly Quantity of Produced Solid Waste From Health Care Centers (Governmental and Non-Governmental) in the West Bank by Region, 2010

Quantity by Ton

Region	Monthly estimated quantity	
West Bank	340.0	
North of West Bank	76.8	
Middle of West Bank	215.9	
South of West Bank	47.3	

:7

2010

Table 7: Percentage Distribution of Health Care Centers (Governmental and Non-Governmental) in the West Bank by the Solid Waste Collection Place and Region, 2010

Region	Waste collection place				
	Total	Outside the center	Inside the center square	Inside the center building	
West Bank	100	46.2	15.2	38.6	
North of West Bank	100	56.2	14.2	29.6	
Middle of West Bank	100	49.6	19.1	31.3	
South of West Bank	100	31.0	13.9	55.1	

:8

2010

Table 8: Percentage Distribution of Health Care Centers (Governmental and Non-Governmental) in the West Bank by the Distance Between Health Care Center and Waste Collection Place and Region, 2010

Region	() Distance between health care center and waste collection place (m)				
	50 Less than 50	150 -51	150 More than 150	Total	
West Bank	78.5	15.9	5.6	100	
North of West Bank	83.1	13.5	3.4	100	
Middle of West Bank	70.3	26.9	2.8	100	
South of West Bank	76.4	9.8	13.8	100	

:9

2010

Table 9: Percentage Distribution of Health Care Centers (Governmental and Non-Governmental) in the West Bank by the Volume of the Used Container and Region, 2010

Region	Volume of the used container in cubic meter				
	Total	7 فأكثر 7 and More	6-4	3-1	
West Bank	100	7.9	16.3	75.8	
North of West Bank	100	6.4	12.4	81.2	
Middle of West Bank	100	16.9	19.9	63.2	
South of West Bank	100	3.6	19.4	77.0	

:10

2010

Table 10: Percentage Distribution of Health Care Centers (Governmental and Non-Governmental) in the West Bank by the Material of Construction of the Used Container and Region, 2010

Region	Material of construction of the used container				
	Total	Others	Plastic	Metal	
West Bank	100	0.3	3.9	95.8	
North of West Bank	100	0.3	1.3	98.4	
Middle of West Bank	100	0.0	8.9	91.1	
South of West Bank	100	0.3	4.1	95.6	

:11

2010

Table 11: Percentage Distribution of Health Care Centers (Governmental and Non-Governmental) in the West Bank by the Solid Waste Collection Mean Inside the Health Care Center and Region, 2010

Region	Collection mean					
	Total	Health care center closed container	Health care center open container	Local authority closed container	Local authority open container	
West Bank	100	7.7	4.7	18.1	69.5	
North of West Bank	100	9.1	3.4	24.2	63.3	
Middle of West Bank	100	10.6	6.9	19.6	62.9	
South of West Bank	100	3.8	5.0	8.4	82.8	

:12

2010

Table 12: Percentage Distribution of Health Care Centers (Governmental and Non-Governmental) in the West Bank by the Doer of Transporting Solid Waste and Region, 2010

Region	Doer of transporting the waste						
	Total	Others	UNRWA	Private contractor	Local Authority	The health care centers	
West Bank	100	3.2	1.6	5.9	70.3	19.0	
North of West Bank	100	4.3	2.8	9.9	75.1	7.9	
Middle of West Bank	100	1.3	0.9	6.7	70.2	20.9	
South of West Bank	100	3.0	0.7	0.0	64.1	32.2	

:13

2010

Table 13: Percentage Distribution of Health Care Centers (Governmental and Non-Governmental) in the West Bank by the Waste Final Disposal Place and Region, 2010

Region	Waste Final Disposal Place					
	Total	Others	Disposed randomly	Private dumping site	Local authority dumping site	
West Bank	100	0.7	1.7	22.9	74.7	
North of West Bank	100	0.0	1.9	25.3	72.8	
Middle of West Bank	100	0.0	0.0	26.3	73.7	
South of West Bank	100	2.0	2.7	17.5	77.8	

2010

Table 14: Percentage Distribution of Health Care Centers (Governmental and Non-Governmental) in the West Bank by the Weekly Periodicity of Final Disposal Waste and Region, 2010

Region	Periodicity				
	Total	7 7 times or more	6-4 4-6 times	3 1 From 1 to 3 times	
West Bank	100	13.2	23.0	63.8	
North of West Bank	100	15.7	30.0	54.3	
Middle of West Bank	100	10.7	12.0	77.3	
South of West Bank	100	11.7	21.2	67.1	



Palestinian National Authority Palestinian Central Bureau of Statistics

Environmental Survey for Health Care Centers (Governmental and Non-Governmental), 2010

Main Findings

December, 2010

PAGE NUMBERS OF ENGLISH TEXT ARE PRINTED IN SQUARE BRACKETS.
TABLES ARE PRINTED IN THE ARABIC ORDER (FROM RIGHT TO LEFT)

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Acknowledgment

The Palestinian Central Bureau of Statistics (PCBS) would like to thank all the cooperating Palestinian Organizations and appreciates their commitment to bring this achievement into light.

The Environmental Survey for Health Care Centers (Governmental and Non-Governmental) has been planned and conducted by a technical team from PCBS and with joint funding by the Palestinian National Authority (PNA) and the Core Funding Group (CFG) for the year 2010 represented by the Representative Office of Norway to PNA and the Swiss Development and Cooperation Agency (SDC).

Moreover, PCBS very much appreciates the distinctive efforts of the Core Funding Group (CFG) for their valuable contribution to funding the project.

Important Remarks

- Due to the situation in Gaza strip, the environmental survey for health care centers (governmental and non-governmental), 2010 was not conducted there.
- The environmental survey for health care centers in the West Bank, 2010 didn't include the private sector.
- West Bank didn't include those parts of Jerusalem which were annexed by Israel in 1967.

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Ola Awad

Acting President

Preface

There is increased attention around the world concerning the provision of environmental statistics for the health care sector. Providing such data can aid policy making and legislation designed to reduce the pressure on the environment. Attention has greatly increased in the West Bank as elsewhere, about providing such data after many years of environmental negligence and the absence of standards and rules during the period of the Israeli occupation.

We are pleased to publish this specialized statistical report about the environmental situation in the health care centers (governmental and non-governmental) in the West Bank. This report presents the main findings of the health care environmental survey (governmental and non-governmental), 2010. This survey is part of our official effort at creating and establishing the national statistical system, and providing the necessary statistics to Palestinian policy-planners and decision-makers in the environment and natural resources sector.

PCBS conducted the health care environmental survey during the period 20/03/2010 to 10/10/2010. The main objective of the survey was to provide reliable data on the environmental reality on the health care centers (governmental and non-governmental) in the West Bank, including the methods used to handle solid waste and wastewater. It also include the role of the local authority in providing the suitable environment to reduce the negative effect of the different types of pollution on the health care centers (governmental and non-governmental).

This report presents the main findings of the health care environmental survey (governmental and non-governmental). It is one of a series of reports scheduled to be published by PCBS on the environment and natural resources in Palestine according to the plan for the environment statistical department, as a tool for describing the status of environment in the West Bank.

This report presents statistical data for water consumption in the health care centers (governmental and non-governmental) by water source, the methods of solid waste disposal and their main components, and the disposal of wastewater.

PCBS hopes that the main findings of this survey will contribute in improving the environmental status and minimizing the random depletion of natural resources, in addition to providing reliable and useful statistics for the Palestinian planners and decision makers.

December, 2010

**Ola Awad
Acting President**

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Executive Summary

The estimated quantity of water consumed by governmental and non-governmental Health Care Centers in the West Bank amounted to 60.0 thousand cubic meters/month in 2010, of which 10.2 thousand cubic meters/month in the north of West Bank compared with 27.0 in the Middle of West Bank and 22.8 in the south of West Bank. In 2007, the estimated quantity of water consumed by the Health Care Centers (Governmental and Non-Governmental) in the West Bank was estimated at 56.2 thousand cubic meters/month.

The results in 2010 showed that 86.9% of the Health Care Centers (Governmental and Non-Governmental) in the West Bank obtain water from the water network compared with 84.0% in 2007 .

The results also showed that 33.5% of the Health Care Centers in the West Bank in 2010 dispose wastewater using a public network, 25.5% use tight cesspit, and 41.0% use a porous cesspit.

The monthly estimated quantities of solid waste produced by the Health Care Centers (Governmental and Non-Governmental) in the West Bank in 2010 were about 340.0 tons, distributed to 76.8 tons in the North of West Bank, 215.9 tons in the Middle of West Bank, and 47.3 in the South of West Bank.

Data revealed that 69.5% of the Health Care Centers (Governmental and Non-Governmental) collected during year 2010 waste in open containers that belongs to local authority, 18.1% of the Health Care Centers collect waste in closed containers that also belong to local authority, while 4.7% of the Health Care Centers use their own open containers and 7.7% use their own closed container.

Chapter One

Introduction

1.1 Introduction

Environmental statistics in the Health Care Centers (Governmental and Non-Governmental) are an important instrument for decisions, planning, and drawing the framework for environment. Responding to the lack of data about this subject in the West Bank, the Palestinian Central Bureau of Statistics (PCBS) builds up and develops a database about the environment in the Health Care Centers (Governmental and Non-Governmental).

For this, PCBS implemented specialist surveys on the environment of the governmental sector and non-governmental organizations health sector through administrative records during the period 20/03/2010 to 10/10/2010.

1.2 The Objectives of the Report

The main objective of this survey is to provide statistical data about the Health Care Centers for the following indicators:

- Water consumption and water sources
- Wastewater
- Medical waste management

1.3 Report's Structure

This report is divided into five chapters; the first chapter contains the introduction, aims and report structure. The second chapter contains the concepts and definitions in this report. The third chapter defines the main findings of the report. The fourth chapter explains the methodology of collecting and tabulation. The fifth chapter handles data quality by presenting the main notes on the data and estimations of the data sources of this report.

Chapter Two

Concepts and Definitions

Solid Waste Disposal:

Ultimate deposition or placement of refuse that is not salvaged or recycled.

Wastewater Chemical Treatment:

Treatment methods that are used to effect the complete breakdown of hazardous waste in to non-toxic gases or, more frequently, to modify the chemical properties of the waste, for example, through reduction of water solubility or neutralization of acidity or alkalinity.

Wastewater Mechanical Treatment:

Wastewater treatment of physical and mechanical nature that results in decanted effluents and Separate Sludge. Mechanical treatment processes are also used in combination with biological and advanced unit operations. Mechanical treatment includes Processes such as sedimentation and flotation.

Wastewater:

Used water, typically discharged into the sewage system. It contains matter and bacteria in solution or suspension.

Dumping Site:

Site used to dispose of solid wastes without environmental control.

Solid Waste:

Useless and sometimes hazardous material with low liquid content, solid wastes include municipal garbage, industrial and commercial waste, sewage sludge, wastes resulting from agricultural and animal husbandry operations and other connected activities, demolition wastes and mining residues.

Clinical Waste (Health Care Waste):

Any waste coming out of health Care provided in hospitals or other Health Care Centers (Governmental and Non-Governmental). However the definition does not include health Care waste resulting from health care at home.

Waste Collection:

Collection or transport of waste to the place of treatment or discharge by municipal services or similar institutions, or by public or governmental and non-governmental corporations, specialized enterprises or general government. Collection of municipal waste may be selective, that's to say carried out for a specific type of product, or undifferentiated, in other words, covering all kinds of waste at the same time.

Porous Cesspit:

A well or a pit in which night soil and other refuse is stored, constructed with porous walls.

Tight Cesspit:

A well or a pit in which night soil and other refuse is stored, constructed with either tight walls.

Sewage Network:

System of collectors, pipelines, conduits and pumps to evacuate wastewater (rainwater, domestic and other wastewater) from any of the location paces generation either to municipal sewage treatment plant or to a location place where wastewater is discharged.

Separation (Segregation):

The system separation of solid waste into designated categories

Transport of the Health Care Waste:

The movement of the health care waste from the point of generation to any intermediate point and finally to the point of treatment or disposal. Transport does not include the movement of health care waste from a health facility or agency to another health facility or agency for the purposes of testing and research.

Public Water Network:

A net of pipes for the purpose of providing clean water to households. It normally belongs to a municipality, the council or to a private company

North of West Bank:

Includes governorates (Jenin, Tubas, Tulkarm, Nablus, Qalqiliya, and Salfit)

Middle of West Bank:

Includes governorates (Ramallah and Al-bireh, Jericho and Al-Aghwar, and Jerusalem)

South of West Bank:

Includes governorates (Bethlehem, and Hebron)

Main Findings

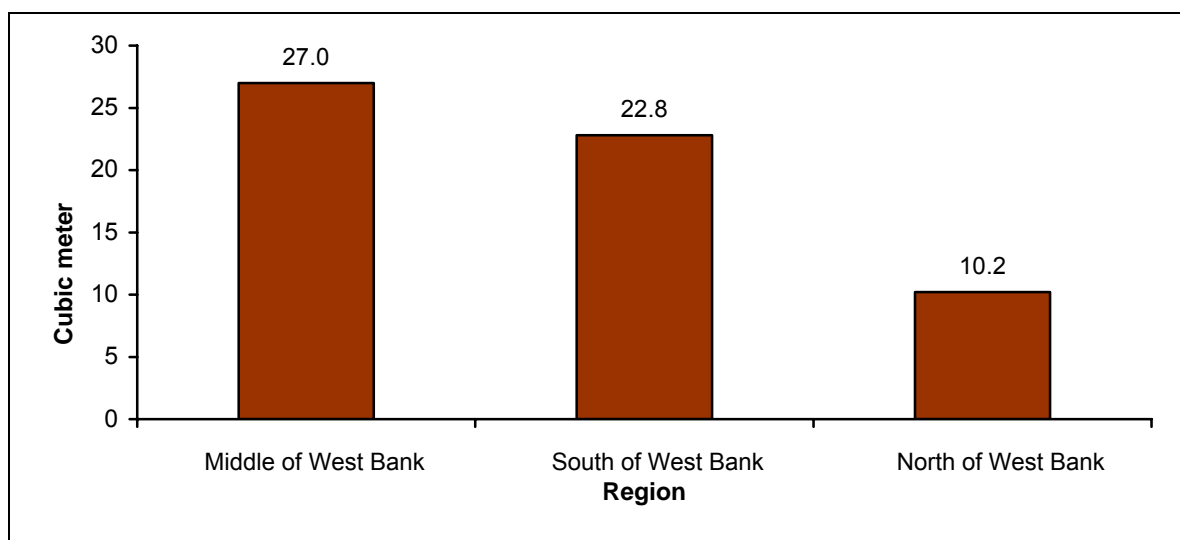
This chapter presents the main findings of the survey. Statistical results are classified according to the main components of environmental issues at health care centers (governmental and non-governmental), including water, health care waste, and wastewater.

3.1 Water Consumption and Water Sources

Quantity of Water Consumed

The estimated quantity of water consumed by the Health Care Centers (Governmental and Non-Governmental) in the West Bank was 60.0 thousand cubic meters/month in 2010, of which 10.2 thousand cubic meters/month in the north of West Bank, 27.0 thousand cubic meters/month in Middle of West Bank, and 22.8 in the south of West Bank. During 2007, the estimated quantity of water consumed by the Health Care Centers in the West Bank was 56.2 thousand cubic meters/month

Figure 1: Estimated Monthly Quantity of Water Consumed by Health Care Centers (Governmental and Non-Governmental) in the West Bank by Region, 2010



Sources of Water Supply

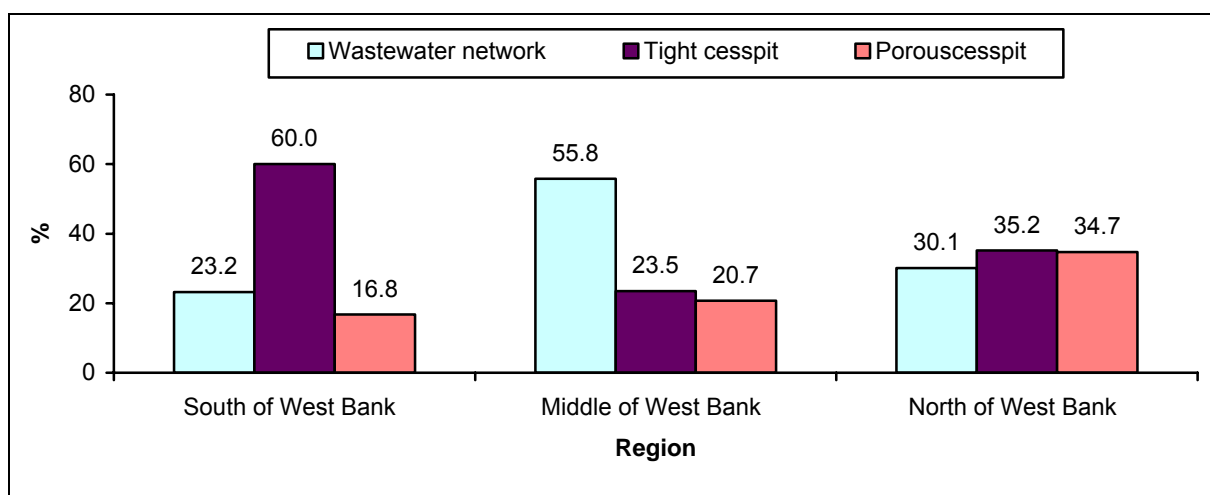
The results in 2010 showed that 86.9% of the Health Care Centers (Governmental and Non-Governmental) in the West Bank obtain water from the water network compared with 84.0% in 2007.

3.2 Wastewater

Disposal Methods

The results showed that 33.5% of the Health Care Centers (Governmental and Non-Governmental) in the West Bank in 2010 dispose wastewater using waste water network, 25.5% of the Health Care Centers use a tight cesspit, and 41.0% use a porous cesspit.

Figure 2: Percentage of Health Care Centers (Governmental and Non-Governmental) by the Method of Wastewater Disposal and Region, 2010



Treatment of Wastewater

Data of 2010 showed that 4.3% of the Health Care Centers (Governmental and Non-Governmental) in the West Bank treated their wastewater using mainly mechanical and chemical methods.

3.3 Health Care Waste Management

Quantity of produced waste

The monthly estimated quantities of waste produced by the Health Care Centers (Governmental and Non-Governmental) in the West Bank in 2010 were about 340.0 tons, distributed to 76.8 tons in the North of West Bank, 215.9 tons in the Middle of West Bank and 47.3 in the South of West Bank.

Collecting Health Care Waste

Data revealed that 69.5% of the Health Care Centers (Governmental and Non-Governmental) collected during year 2010 waste in open containers that belongs to local authority, 18.1% of the Health Care Centers collect waste in closed containers that also belong to local authority, while 4.7% of the Health Care Centers use their own open containers and 7.7% use their own closed container.

Chapter Four

Methodology

This chapter presents the scientific methodology used in the planning and implementation of the environmental survey for the health care sector including the design of the survey's tools and methods of collecting, processing and analysis of data.

4.1 The Survey Questionnaire

The environmental questionnaire was designed in accordance with similar experiences of other countries and according to international standards and recommendations for the most important indicators, taking into account the special situation of the Palestinian Territory.

4.2 Sampling and Sampling Frame

Target Population:

The target population of the survey includes all Health Care Centers (Governmental and Non-Governmental) in the West Bank, divided into:

1. Governmental Health Care Centers including Ministry of Health, Health Care Military Service, and Lijan Azakah.
2. Non-governmental Health Care Centers including Health Union Committees, Union of Palestine Health Care Relief Committees, Patients Friends Benevolent Society, UNRWA, Red Crescent Society, and Red Cross in the West Bank.

Sampling Frame:

The frame for all centers in the health care sector operated by governmental and non-governmental authorities is updated annually by the PCBS through administrative records. The private health care sector was not covered in this report.

4.3 Fieldwork

The fieldwork is necessary to obtain the required data from the primary source, and guarantee a good orthopedist for this stage is the main affair which works on in this stage.

Fieldwork covers the data collection from the primary sources. All necessary technical and administrative preparation were setup prior to fieldwork operations.

The data in this report come from two sources and each one has a method for collecting data about the Health Care Centers (Governmental and Non-Governmental).

The data that comes from administrative records involved delivering the questionnaires to respondents to be self-filled, during the period 20/03/2010 to 10/10/2010.

4.4 Data Processing

The data processing stage consists of the following operations:

Office Editing

All questionnaires were edited in the office using the same instructions adopted for editing in the field. This stage was necessary to ensure consistency of data within records (each section of the questionnaire) as well as cross records (between sections).

Data entry

Then data was entered into the computer using Microsoft Access. The data entry program was prepared to satisfy a number of requirements such as:

- Prevent duplication of the capturing same questionnaire during data entry.
- Logical and consistency check of data entered.
- Maintaining a minimum of digital data entry and fieldwork errors.
- User-friendly handling of errors.
- Possibility of transferring data into another format for data analysis such as SPSS.

Data Quality

The concept of data quality consists of many aspects starting from the planning of the survey to the data analysis and publishing of results and. The main principles of statistical quality are accuracy, comparability, and data quality assurance procedures.

5.1 Accuracy of the Data

Two types of errors affected the quality of the report's data, sampling and non sampling errors. Sampling errors are measurable and very limited in this report. The non-sampling errors could not be determined easily due to the diversity of sources (i.e. interviewers, respondents, editors, coders, data entry operators, etc). To minimize such errors, data was edited before and after the data entry stage.

Comprehensiveness

One of the most important goals in publishing annual reports for the statistics of the environment for the health care sector is to create time series tables for the most important indicators pertaining to environmental conditions of the health sector in the West Bank.

This report covers the most important environment-related indicators for the health care sector in 2010.

This report only covers health care centers (governmental and non-governmental) that are located in all governorates in the West Bank.

5.2 Comparison of the Data

The same surveys has been carried out by PCBS from 2001 to 2009 (except 2003), with different methodology .

5.3 Procedures for Data Quality Assurance

Several measures were taken to ensure quality control at the different stages of the survey. The questions of the survey were designed user friendly manner taking into consideration that the questionnaire are self filled by respondents. Accordingly, relevant definitions for used concepts were attached to the questionnaire. In addition, there was also direct follow up by project management and administrative records division in the surveys and fieldwork directorate. Office editing of questionnaires was carried out before data entry. On-line validation was applied during the data entry process. In addition, captured data was examined using computer editing routines to ensure full compliance with the validation rules stated in the editing manual of the survey.

5.4 Special Technical Notes

This part presents the important technical notes on the indicators presented in the results of the survey:

- Data from the Gaza Strip was not covered in this report.
- The table of water quantity (table 2), and table of solid waste quantity (table 6) were based on the respondents' estimations.

- Special caution is required when comparing data published in this report to the previous reports due to differences in the frame, whereas the private sector was not covered this year.
- Some of the health care centers reported huge amounts of consumed water.
- Some of the health care centers reported huge amounts of produced solid waste
- Sources of non-statistical errors during the implementation of the survey included:
 1. Differentiation in the understanding of the different respondents to some of the questions in the survey's questionnaire.
 2. Variation in individual's measurements such as the consumed amount of water and the generated amount of solid waste , in addition to estimates of sizes, distances and time periods.

References

1. Palestinian Central Bureau of Statistics, 1997. *Stander industrial Classification of all Economic Activities for West Bank and Gaza Strip (PISIC)*. Ramallah- Palestine.
2. Palestinian Central Bureau of Statistics, 2004. *Environmental Survey for Health Care Centers 2004, Main Finding*. Ramallah- Palestine.
3. Palestinian Central Bureau of Statistics, 2005. *Environmental Survey for Health Care Centers 2005, Main Finding*. Ramallah- Palestine.
4. Palestinian Central Bureau of Statistics, 2006. *Environmental Survey for Health Care Centers 2006, Main Finding*. Ramallah- Palestine.
5. Palestinian Central Bureau of Statistics, 2007. *Environmental Survey for Health Care Centers (Governmental and Non-Governmental) 2006, Main Finding*. Ramallah- Palestine.
6. Palestinian Central Bureau of Statistics, 2008. *Environmental Survey for Health Care Centers 2008, Main Finding*. Ramallah- Palestine.
7. Palestinian Central Bureau of Statistics, 2009. *Environmental Survey for Health Care Centers 2009, Main Finding*. Ramallah- Palestine.
8. United Nations, 1998. *Glossary of Environment Statistics. Series F, NO.67*. New York- USA.
9. World Health Organization, 1995. *Managing Health Care Waste in Developing Countries*, Geneva - Switzerland.
10. World Health Organization, 2000. *Safe management of waste form health-care activities*, Dr Adrian Coad.