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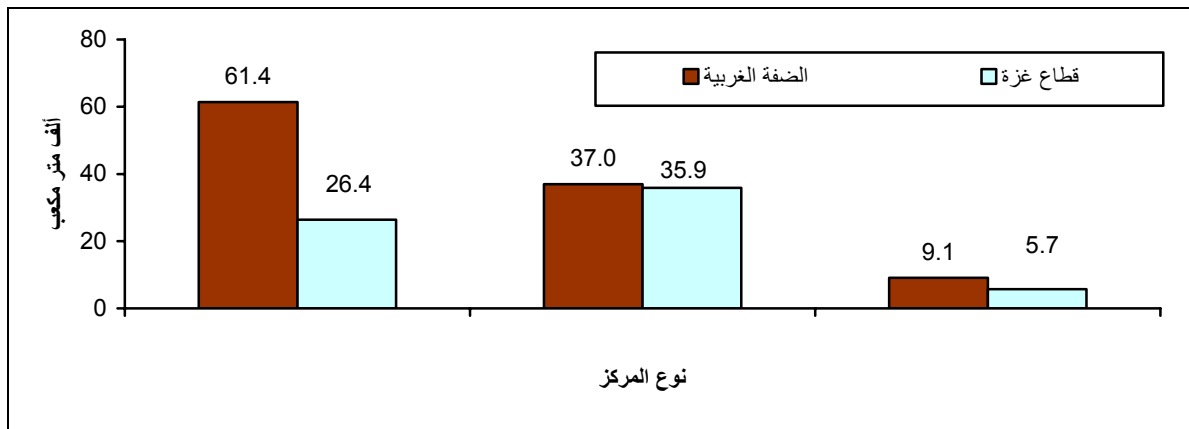
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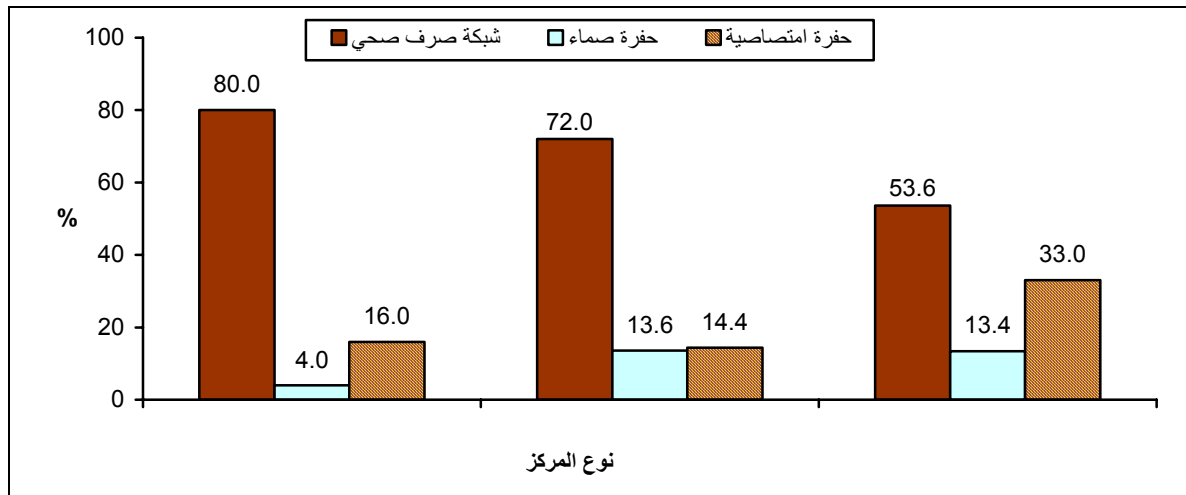
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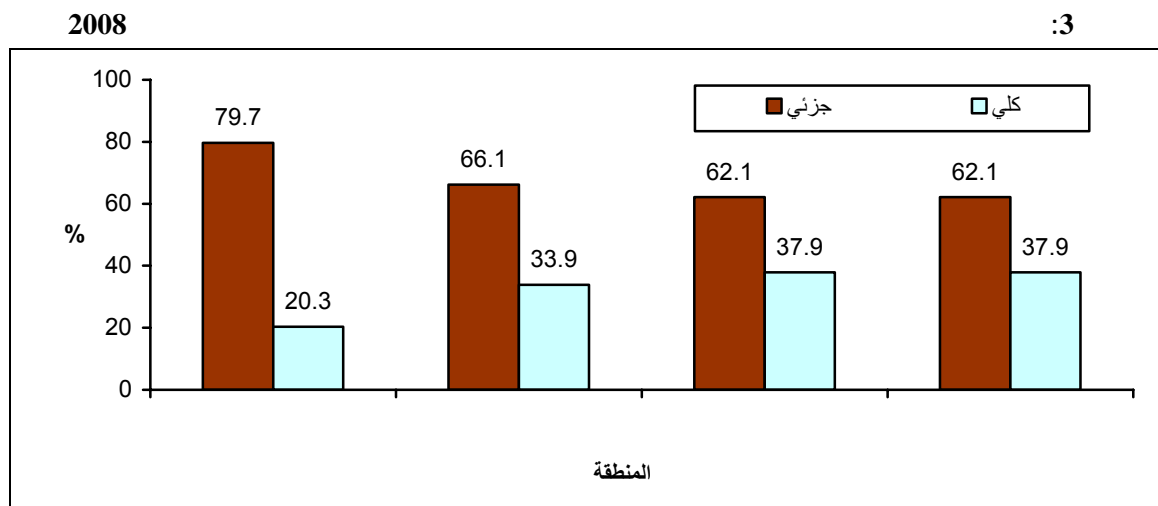
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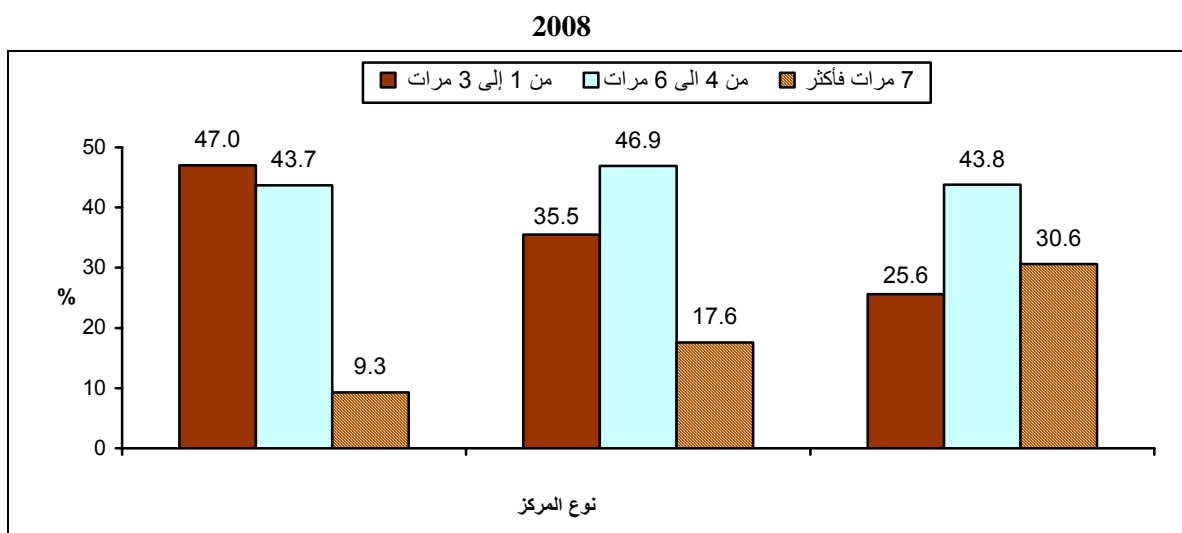
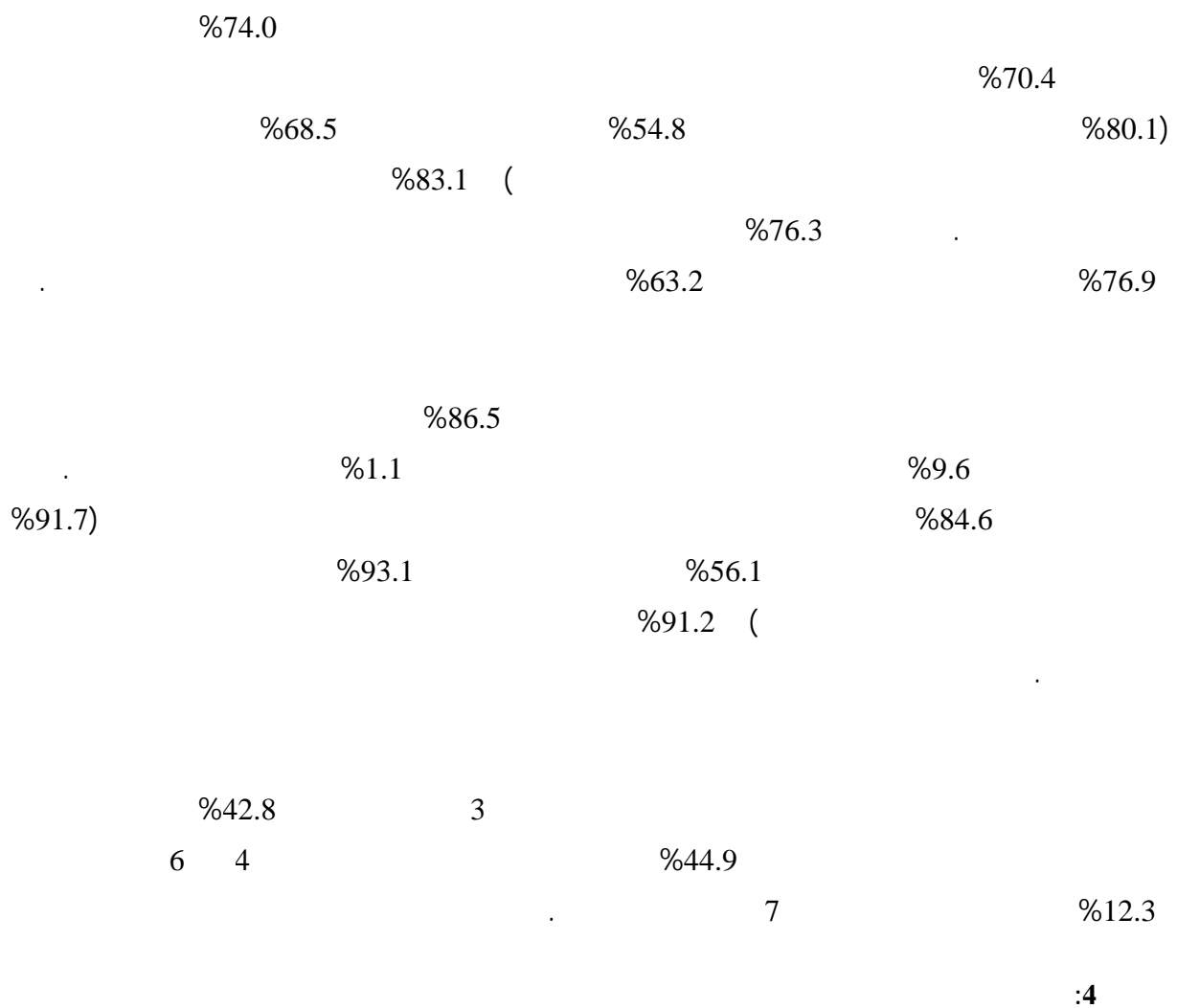
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Tables

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Table1: Main Selected Indicators About the Activity of the Health Care Centers in the Palestinian Territory From Environmental Sides for the Years, 2004-2006, 2008

Indicator	2008	2006	2005	2004	
Estimated Monthly Quantity of Water Consumed (1000 m3)	175.5	193.2	159.0	160.7	(³ 1000)
Percentage Distribution of Health Care Centers by Means of obtaining water					
Water network	94.0	92.4	96.4	93.2	
Water tanks	3.2	3.1	0.7	4.4	
Collection water well	2.6	3.6	2.6	2.3	
Others	0.2	0.9	0.3	0.1	
Percentage Distribution of Health Care Centers by Wastewater disposal method					
Wastewater network	60.0	67.9	62.9	68.7	
Tight cesspit	12.5	8.7	13.2	9.9	
Porous cesspit	27.5	23.4	23.9	21.4	
Percentage of Health Care Centers which Separate Solid Waste	48.1	49.5	34.1	49.0	
Percentage Distribution of Health Care Centers by Doer of Solid Waste Disposal					
The health care center	16.5	11.5	9.0	11.5	
Local Authority	74.0	79.8	84.8	83.1	
Private contractor	3.8	2.0	2.6	0.1	
UNRWA	2.4	2.6	1.3	1.7	
Others	3.3	4.1	2.3	3.6	

2008

Table 2: Estimated Monthly Quantity of Water Consumed by Health Care Centers in the Palestinian Territory by Type of Health Care Center and Region, 2008

Units in thousand cubic meter/month

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Region	Quantity of consumed water by type of health care center				
	Total	Other human health activities	Primary health care center	Secondary health care center	
Palestinian Territory	175.5	14.8	72.9	87.8	
West Bank	107.5	9.1	37.0	61.4	
Gaza Strip	68.0	5.7	35.9	26.4	

2008

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Table 3: Estimated Monthly Quantity of Water Consumed by Health Care Centers in the Palestinian Territory by Region, 2008

Units in thousand cubic meter/month

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Region	Quantity of consumed water	
Palestinian Territory	175.5	
West Bank	107.5	
North of West Bank	43.2	
Middle of West Bank	27.6	
South of West Bank	36.7	
Gaza Strip	68.0	

2008

Table 4: Percentage Distribution of Health Care Centers in the Palestinian Territory by the Most Important Means of Obtaining Water, Region and Type of Health Care Center, 2008

Region and type of health care center	Means of obtaining water					
	Total	Others	Water tanks	Collection water well	Water network	
Palestinian Territory	100	0.2	2.6	3.2	94.0	
Secondary health care center	100	0.0	0.0	0.0	100.0	
Primary health care center	100	0.3	3.6	4.3	91.8	
Other human health activities	100	0.7	0.0	0.0	99.3	
West Bank	100	0.0	3.5	4.4	92.1	
Secondary health care center	100	0.0	0.0	0.0	100.0	
Primary health care center	100	0.1	4.8	5.9	89.2	
Other human health activities	100	0.0	0.0	0.0	100.0	
Gaza Strip	100	0.8	0.3	0.0	98.9	
Secondary health care center	100	0.0	0.0	0.0	100.0	
Primary health care center	100	0.8	0.4	0.0	98.8	
Other human health activities	100	1.7	0.0	0.0	98.3	

2008

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Table 5: Percentage Distribution of Health Care Centers in the Palestinian Territory by the Most Important Means of Obtaining Water and Region, 2008

Region	Means of obtaining water					
	Total	Others	Water tanks	Collection water well	Water network	
Palestinian Territory	100	0.2	2.6	3.2	94.0	
West Bank	100	0.0	3.5	4.4	92.1	
North of West Bank	100	0.0	4.0	7.3	88.7	
Middle of West Bank	100	0.2	1.1	0.3	98.4	
South of West Bank	100	0.0	4.3	3.3	92.4	
Gaza Strip	100	0.8	0.3	0.0	98.9	

2008

Table 6: Percentage Distribution of Health Care Centers in the Palestinian Territory by Wastewater Disposal Method, Region and Type of Health Care Center, 2008

Region and type of health care center	Wastewater disposal method				
	Total	Porous cesspit	Tight cesspit	Wastewater network	
Palestinian Territory	100	27.5	12.5	60.0	
Secondary health care center	100	16.0	4.0	80.0	
Primary health care center	100	33.0	13.4	53.6	
Other human health activities	100	14.4	13.6	72.0	
West Bank	100	31.0	16.8	52.2	
Secondary health care center	100	15.4	0.9	83.7	
Primary health care center	100	38.6	17.9	43.5	
Other human health activities	100	7.9	22.8	69.3	
Gaza Strip	100	18.9	1.5	79.6	
Secondary health care center	100	18.0	13.3	68.7	
Primary health care center	100	17.9	1.5	80.6	
Other human health activities	100	23.9	0.0	76.1	

2008

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Table 7: Percentage Distribution of Health Care Centers in the Palestinian Territory by Wastewater Disposal Method and Region, 2008

Region	Wastewater disposal method				
	Total	Porous cesspit	Tight cesspit	Wastewater network	
Palestinian Territory	100	27.5	12.5	60.0	
West Bank	100	31.0	16.8	52.2	
North of West Bank	100	32.6	17.9	49.5	
Middle of West Bank	100	22.7	10.7	66.6	
South of West Bank	100	34.0	19.1	46.9	
Gaza Strip	100	18.9	1.5	79.6	

2008

Table 8: Percentage Distribution of Health Care Centers in the Palestinian Territory by Existence of Wastewater Treatment, Method of Treatment, Region and Type of Health Care Center, 2008

Region and type of health care center	Wastewater treatment method				Existence of wastewater treatment	
	Total	Biological treatment	Chemical treatment	Mechanical treatment		
Palestinian Territory	100	12.3	29.7	58.0	0.9	
Secondary health care center	100	38.7	25.3	36.0	2.9	
Primary health care center	100	6.5	23.5	70.0	0.9	
Other human health activities	100	0.0	100.0	0.0	0.5	
West Bank	100	5.7	41.0	53.3	1.0	
Secondary health care center	100	36.1	30.9	33.0	1.4	
Primary health care center	100	0.0	32.2	67.8	1.0	
Other human health activities	100	0.0	100.0	0.0	0.8	
Gaza Strip	100	28.8	1.5	69.7	0.8	
Secondary health care center	100	46.6	8.3	45.1	7.5	
Primary health care center	100	24.0	0.0	76.0	0.7	
Other human health activities	100	-	-	-	0.0	

2008

Table 9: Percentage Distribution of Health Care Centers in the Palestinian Territory by Existence of Wastewater Treatment, Method of Treatment and Region, 2008

Region	Wastewater treatment method				Existence of wastewater treatment	
	Total	Biological treatment	Chemical treatment	Mechanical treatment		
Palestinian Territory	100	12.3	29.7	58.0	0.9	
West Bank	100	5.7	41.0	53.3	1.0	
North of West Bank	100	0.0	0.0	100.0	0.8	
Middle of West Bank	100	0.0	75.9	24.1	2.0	
South of West Bank	100	23.6	54.8	21.6	0.6	
Gaza Strip	100	28.8	1.5	69.7	0.8	

2008

Table 10: Estimated Monthly Quantity of Produced Solid Waste From Health Care Centers in the Palestinian Territory by Type of Health Care Center and Region, 2008

Quantities by Ton

Region and type of health care center	Monthly estimated quantity	
Palestinian Territory	990.5	
Secondary health care center	561.8	
Primary health care center	382.9	
Other human health activities	45.8	
West Bank	516.3	
Secondary health care center	307.4	
Primary health care center	169.1	
Other human health activities	39.8	
Gaza Strip	474.2	
Secondary health care center	254.4	
Primary health care center	213.8	
Other human health activities	6.0	

2008

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Table 11: Estimated Monthly Quantity of Produced Solid Waste From Health Care Centers in the Palestinian Territory by Region, 2008

Quantities by Ton

Region	Monthly estimated quantity	
Palestinian Territory	990.5	
West Bank	516.3	
North of West Bank	152.5	
Middle of West Bank	123.2	
South of West Bank	240.6	
Gaza Strip	474.2	

2008

Table 12: Percentage Distribution of Health Care Centers in the Palestinian Territory by Existence of Solid Waste Separation, Type of Separation, Region and Type of Health Care Center, 2008

Region and type of health care center	Type of separation			Existence of separation	
	Total	Partially	Completely		
Palestinian Territory	100	69.0	31.0	48.1	
Secondary health care center	100	51.6	48.4	56.2	
Primary health care center	100	73.1	26.9	51.1	
Other human health activities	100	55.8	44.2	33.1	
West Bank	100	70.2	29.8	51.7	
Secondary health care center	100	40.1	59.9	52.2	
Primary health care center	100	76.4	23.6	55.4	
Other human health activities	100	57.7	42.3	35.0	
Gaza Strip	100	66.1	33.9	39.0	
Secondary health care center	100	86.2	13.8	68.2	
Primary health care center	100	64.3	35.7	39.6	
Other human health activities	100	52.9	47.1	30.2	

2008

Table 13: Percentage Distribution of Health Care Centers in the Palestinian Territory by Existence of Solid Waste Separation, Type of Separation and Region, 2008

Region	Type of separation			Existence of separation	
	Total	Partially	Completely		
Palestinian Territory	100	69.0	31.0	48.1	
West Bank	100	70.2	29.8	51.7	
North of West Bank	100	79.7	20.3	57.4	
Middle of West Bank	100	62.1	37.9	42.5	
South of West Bank	100	62.1	37.9	50.8	
Gaza Strip	100	66.1	33.9	39.0	

2008

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Table 14: Percentage Distribution of Health Care Centers in the Palestinian Territory by the Solid Waste Collection Mean Inside the Health Care Center, Region and Type of Health Care Center, 2008

Region and type of health care center	Collection mean						
	Total	Without container	Health care center closed container	Health care center open container	Local authority closed container	Local authority open container	
Palestinian Territory	100	13.0	6.4	4.1	14.2	62.3	
Secondary health care center	100	6.9	9.9	4.7	32.9	45.6	
Primary health care center	100	12.4	6.8	4.5	11.0	65.3	
Other human health activities	100	18.4	4.1	1.7	16.1	59.7	
West Bank	100	10.6	6.2	4.2	18.1	60.9	
Secondary health care center	100	8.3	10.0	5.7	36.3	39.7	
Primary health care center	100	10.1	6.9	4.6	13.6	64.8	
Other human health activities	100	14.8	0.4	1.1	25.3	58.4	
Gaza Strip	100	18.9	6.9	3.9	4.4	65.9	
Secondary health care center	100	2.6	9.5	2.0	22.5	63.4	
Primary health care center	100	18.6	6.4	4.1	4.1	66.8	
Other human health activities	100	23.8	9.4	2.7	2.4	61.7	

2008

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Table 15: Percentage Distribution of Health Care Centers in the Palestinian Territory by the Solid Waste Collection Mean Inside the Health Care Center and Region, 2008

Region	Collection mean						
	Total	Without container	Health care center closed container	Health care center open container	Local authority closed container	Local authority open container	
Palestinian Territory	100	13.0	6.4	4.1	14.2	62.3	
West Bank	100	10.6	6.2	4.2	18.1	60.9	
North of West Bank	100	17.2	4.5	3.0	17.4	57.9	
Middle of West Bank	100	7.1	7.1	6.6	28.7	50.5	
South of West Bank	100	5.2	7.6	4.1	12.7	70.4	
Gaza Strip	100	18.9	6.9	3.9	4.4	65.9	

2008

Table 16: Percentage Distribution of Health Care Centers in the Palestinian Territory by the Solid Waste Collection Place, Region and Type of Health Care Center, 2008

Region and type of health care center	Waste collection place				
	Total	Outside the center	Inside the center square	Inside the center building	
Palestinian Territory	100	37.6	13.5	48.9	
Secondary health care center	100	45.5	20.4	34.1	
Primary health care center	100	37.0	14.0	49.0	
Other human health activities	100	37.0	9.5	53.5	
West Bank	100	32.4	16.6	51.0	
Secondary health care center	100	38.0	17.4	44.6	
Primary health care center	100	32.1	17.2	50.7	
Other human health activities	100	30.2	13.0	56.8	
Gaza Strip	100	50.5	5.9	43.6	
Secondary health care center	100	67.8	29.5	2.7	
Primary health care center	100	50.3	5.4	44.3	
Other human health activities	100	47.1	4.4	48.5	

2008

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Table 17: Percentage Distribution of Health Care Centers in the Palestinian Territory by the Solid Waste Collection Place and Region, 2008

Region	Waste collection place				
	Total	Outside the center	Inside the center square	Inside the center building	
Palestinian Territory	100	37.6	13.5	48.9	
West Bank	100	32.4	16.6	51.0	
North of West Bank	100	42.8	13.2	44.0	
Middle of West Bank	100	49.2	11.9	38.9	
South of West Bank	100	11.0	23.0	66.0	
Gaza Strip	100	50.5	5.9	43.6	

2008

Table 18: Percentage Distribution of Health Care Centers in the Palestinian Territory by the Distance Between Health Care Center and Waste Collection Place, Region and Type of Health Care Center, 2008

Region and type of health care center	() Distance between health care center and waste collection place(m)				
	Total	150 More than 150	150 -51	50 Less than 50	
Palestinian Territory	100	5.7	12.3	82.0	
Secondary health care center	100	21.1	9.0	69.9	
Primary health care center	100	4.0	14.3	81.7	
Other human health activities	100	1.4	12.7	85.9	
West Bank	100	6.0	12.2	81.8	
Secondary health care center	100	24.9	4.7	70.4	
Primary health care center	100	3.7	15.7	80.6	
Other human health activities	100	0.0	2.8	97.2	
Gaza Strip	100	4.8	12.6	82.6	
Secondary health care center	100	9.9	21.9	68.2	
Primary health care center	100	4.9	10.4	84.7	
Other human health activities	100	3.4	27.5	69.1	

2008

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Table 19: Percentage Distribution of Health Care Centers in the Palestinian Territory by the Distance Between Health Care Center and Waste Collection Place and Region, 2008

Region	() Distance between health care center and waste collection place(m)				
	Total	150 More than 150	150 -51	50 Less than 50	
Palestinian Territory	100	5.7	12.3	82.0	
West Bank	100	6.0	12.2	81.8	
North of West Bank	100	7.4	13.4	79.2	
Middle of West Bank	100	5.2	12.0	82.8	
South of West Bank	100	1.6	8.0	90.4	
Gaza Strip	100	4.8	12.6	82.6	

2008

Table 20: Percentage Distribution of Health Care Centers in the Palestinian Territory by the Doer of Transporting Solid Waste, Region and Type of Health Care Center, 2008

Region and type of health care center	Doer of transporting the waste						
	Total	Others	UNRWA	Private contractor	Local Authority	The health care center	
Palestinian Territory	100	3.3	2.4	3.8	74.0	16.5	
Secondary health care center	100	1.3	7.0	3.5	76.3	11.9	
Primary health care center	100	4.0	1.1	3.3	76.9	14.7	
Other human health activities	100	2.1	4.3	5.1	63.2	25.3	
West Bank	100	4.6	2.1	4.3	70.4	18.6	
Secondary health care center	100	1.3	9.3	4.6	71.3	13.5	
Primary health care center	100	5.5	0.2	3.6	74.5	16.2	
Other human health activities	100	3.4	5.5	6.7	51.4	33.0	
Gaza Strip	100	0.1	3.1	2.6	83.1	11.1	
Secondary health care center	100	1.1	0.0	0.0	91.7	7.2	
Primary health care center	100	0.0	3.4	2.6	83.2	10.8	
Other human health activities	100	0.2	2.5	2.8	80.8	13.7	

2008

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Table 21: Percentage Distribution of Health Care Centers in the Palestinian Territory by the Doer of Transporting Solid Waste and Region, 2008

Region	Doer of transporting the waste						
	Total	Others	UNRWA	Private contractor	Local Authority	The health care center	
Palestinian Territory	100	3.3	2.4	3.8	74.0	16.5	
West Bank	100	4.6	2.1	4.3	70.4	18.6	
North of West Bank	100	1.0	2.6	1.4	80.1	14.9	
Middle of West Bank	100	19.2	0.7	12.2	54.8	13.1	
South of West Bank	100	0.3	2.4	2.8	68.5	26.0	
Gaza Strip	100	0.1	3.1	2.6	83.1	11.1	

2008

Table 22: Percentage Distribution of Health Care Centers in the Palestinian Territory by the Waste Final Disposal Place, Region and Type of Health Care Center, 2008

Region and type of health care center	Waste Final Disposal Place					
	Total	Others	Disposed randomly	Private dumping site	Local authority dumping site	
Palestinian Territory	100	2.8	1.1	9.6	86.5	
Secondary health care center	100	1.3	0.0	11.9	86.8	
Primary health care center	100	2.4	1.5	10.0	86.1	
Other human health activities	100	5.9	0.0	5.5	88.6	
West Bank	100	3.7	1.5	10.2	84.6	
Secondary health care center	100	1.7	0.0	15.2	83.1	
Primary health care center	100	3.1	2.1	10.6	84.2	
Other human health activities	100	8.1	0.0	4.5	87.4	
Gaza Strip	100	0.7	0.0	8.1	91.2	
Secondary health care center	100	0.0	0.0	2.1	97.9	
Primary health care center	100	0.4	0.0	8.5	91.1	
Other human health activities	100	2.6	0.0	7.1	90.3	

2008

:23

Table 23: Percentage Distribution of Health Care Centers in the Palestinian Territory by the Waste Final Disposal Place and Region, 2008

Region	Waste Final Disposal Place					
	Total	Others	Disposed randomly	Private dumping site	Local authority dumping site	
Palestinian Territory	100	2.8	1.1	9.6	86.5	
West Bank	100	3.7	1.5	10.2	84.6	
North of West Bank	100	1.3	0.5	6.5	91.7	
Middle of West Bank	100	8.8	4.5	30.6	56.1	
South of West Bank	100	3.5	1.0	2.4	93.1	
Gaza Strip	100	0.7	0.0	8.1	91.2	

2008

Table 24: Percentage Distribution of Health Care Centers in the Palestinian Territory by the Weekly Periodicity of Final Disposal Waste, Region and Type of Health Care Center, 2008

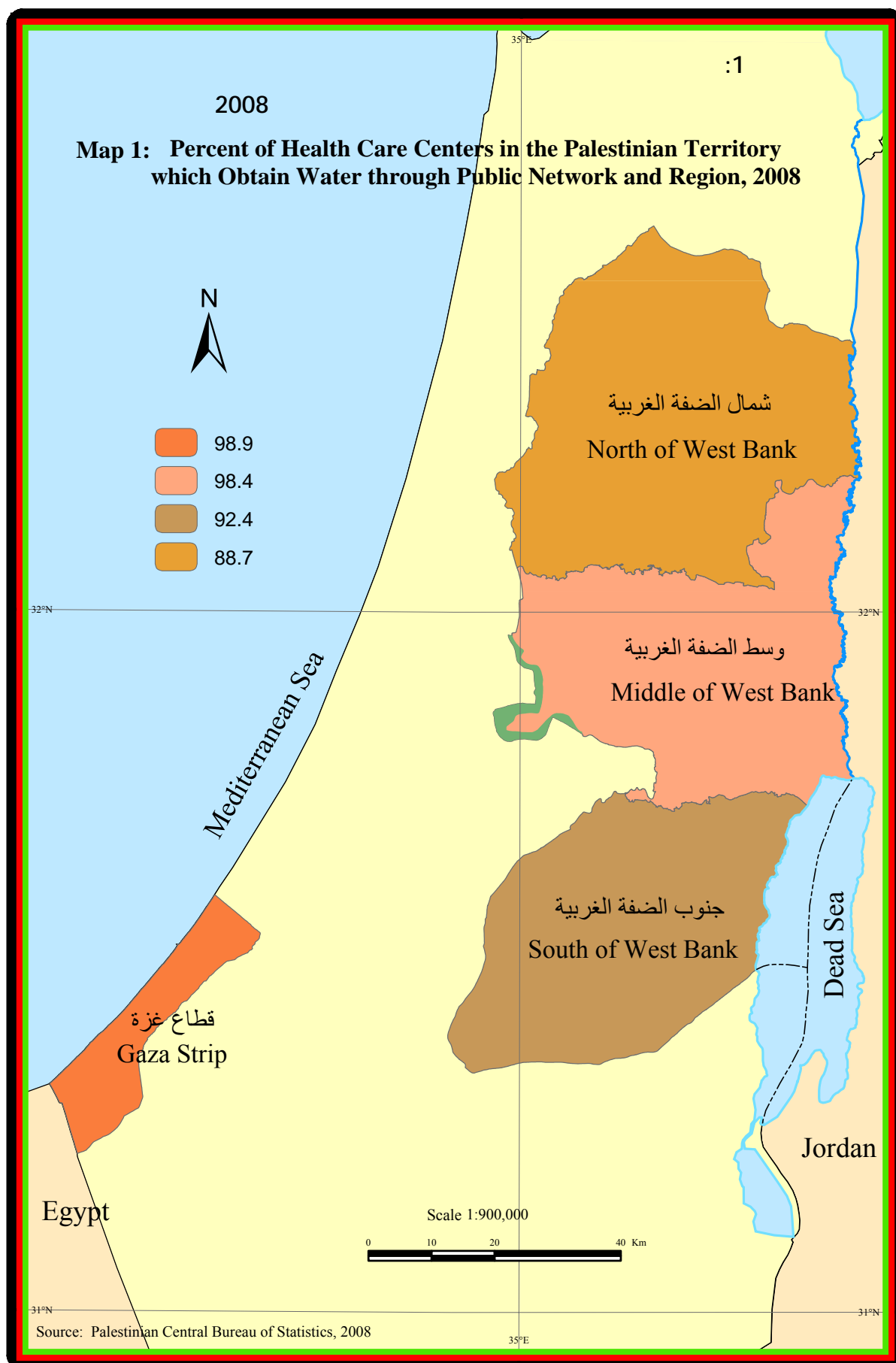
Region and type of health care center	Periodicity				
	Total	7 7 times or more	6-4 4-6 times	3 1 From 1 to 3 times	
Palestinian Territory	100	12.3	44.9	42.8	
Secondary health care center	100	30.6	43.8	25.6	
Primary health care center	100	9.3	43.7	47.0	
Other human health activities	100	17.6	46.9	35.5	
West Bank	100	15.5	35.4	49.1	
Secondary health care center	100	23.9	45.9	30.2	
Primary health care center	100	11.8	33.3	54.9	
Other human health activities	100	26.2	37.7	36.1	
Gaza Strip	100	4.4	68.7	26.9	
Secondary health care center	100	50.6	37.6	11.8	
Primary health care center	100	2.7	71.3	26.0	
Other human health activities	100	4.9	60.5	34.6	

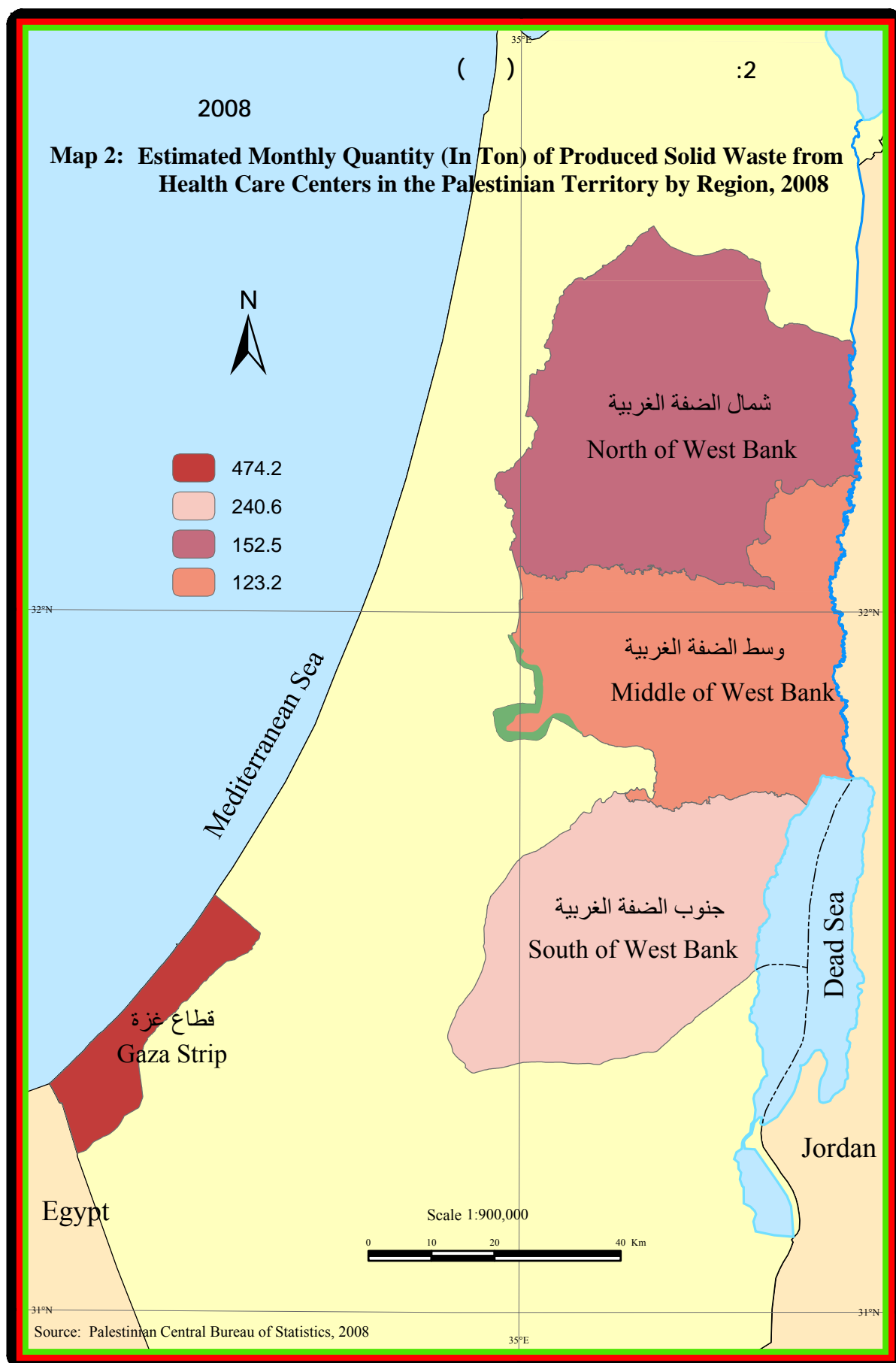
2008

Table 25: Percentage Distribution of Health Care Centers in the Palestinian Territory by the Weekly Periodicity of Final Disposal Waste and Region, 2008

Region	Periodicity				
	Total	7 7 times or more	6-4 4-6 times	3 1 From 1 to 3 times	
Palestinian Territory	100	12.3	44.9	42.8	
West Bank	100	15.5	35.4	49.1	
North of West Bank	100	20.1	39.6	40.3	
Middle of West Bank	100	16.5	36.6	46.9	
South of West Bank	100	9.9	29.9	60.2	
Gaza Strip	100	4.4	68.7	26.9	

Maps







Palestinian National Authority Palestinian Central Bureau of Statistics

Environmental Survey for Health Care Centers, 2008 Main Findings

November, 2008

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Palestinian Central Bureau of Statistics (PCBS) expresses its gratitude to all Palestinians Health Care Centers who responded for their commitment to implement this survey.

The funding for the Local Community Survey was provided by the Palestinian National Authority (PNA) and the Core Funding Group (CFG) for 2008. CFG members include Representative Office of Norway to the PNA, Representative Office of the Netherlands to PNA and Swiss Agency for Development and Cooperation (SDC).

PCBS extends special thanks to the members of the Core Funding Group (CFG) for the financial support to implement this survey.

Important Remarks

PCBS fieldworker team was unable to obtain the survey data in the Gaza Strip from the field, but data for 2008 were estimated from a survey data for the years 2003-2006. For further data assessment methodology can be found the fourth chapter of this report.

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Preface

The world attention has increased to provide environmental statistics in the health care sector. Providing such data participates in policy making and legislation that reduces the pressure on the environment. As in the rest of the world, the attention has greatly been increased in the Palestinian Territory to provide such data after many years of environment 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 environment situation in the health care centers in the Palestinian Territory. This report presents the main findings of the Health Care Environmental Survey 2008. This survey is part of our official effort for creating and establishing the National Statistical System, and providing the necessary statistics to Palestinian policy-planners and decision-makers in environment and natural resources sector.

PCBS conducted the Health Care Environmental Survey during the period 20/03/2008 to 01/10/2008, the main objective of the survey is to provide reliable data of environmental reality on the health care centers in the Palestinian Territory, including the methods used to handle the solid waste and wastewater. It includes also the role of the local authority in providing the suitable environment that will reduce the negative effect of the different types of pollution on the health care centers.

This report presents the main findings of the Health Care Environmental Survey. It is one of a series of expected reports 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 Palestinian Territory.

This report presents statistical data of water consumption in the health care centers 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 Palestinian planners and decision-makers.

November, 2008

**Dr. Luay Shabaneh
President**

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Executive Summary

The estimated quantity of water consumed by the health care centers in the Palestinian Territory was 175.5 thousands cubic meter/month in 2008, of which 107.5 thousands cubic meter/month in the West Bank and 68.0 thousands cubic meter/month in Gaza Strip, while it was estimated in the Palestinian Territory 193.2 and 159.0 thousands cubic meter/month in 2006 and 2005 respectively.

The results in 2008 showed that 94.0% of the health care centers in the Palestinian Territory get the water for consumption from water network, where 100% of the secondary health care centers, and 91.8% of the primary health care centers get the water from the same source, while the health care centers in the Palestinian Territory get the water for consumption from water network was 92.4% in 2006.

The results showed that 60.0% of the health care centers in the Palestinian Territory in 2008 dispose their wastewater using public network, and 12.5% of the health care centers use tight cesspit, also 27.5% of the health care centers use porous cesspit, comparing with 67.9%, and 62.9% in 2006 and 2005 dispose their wastewater using public network.

The monthly estimated quantities produced by the health care centers in the Palestinian Territory in 2008 were about 990.5 tons, distributed into 516.3 tons in the West Bank, and 474.2 in Gaza Strip. While the total estimated quantities produced by the secondary health care centers in the Palestinian Territory were about 561.8 tons, of which 307.4 tons in the West Bank, and 254.4 tons in Gaza Strip.

48.1% of the health care centers in the Palestinian Territory in 2008 separated the health care waste components, as 69.0% of the health care centers separate some components while 31.0% of the health care centers separate all components, whereas it was 49.5% and 49.0% in 2006 and 2004 respectively, in the Palestinian Territory perform separated the health care waste components.

The local authority transfers the waste to a place of final disposal for 74.0% of the health care centers. The place of final disposal was a dumping site owned by the local authority for 86.5% of the health care centers in the Palestinian Territory, while 9.6% of the health care centers transfer their waste to private dumping site.

Chapter One

Introduction

1.1 Introduction

Environmental statistics in the health care centers are very interested and these statistics are an important instrument to make decisions, planning, and draw the outlines for environment. And relating to infrequency of data about this subject in the Palestinian Territory, the Palestinian Central Bureau of Statistics (PCBS) builds up and develop a database about the environment in the health care centers.

For all of this PCBS implemented a specialist surveys on the environmental of governmental sector, and non-governmental organizations health sector through administrative records during the period 20/03/2008 to 01/10/2008, and for health private sector environmental economic survey was implemented during the period 20/04/2008 to 03/08/2008.

1.2 Survey Objectives

The main objective of this survey is to provide statistical data about the health care centers on the following indicators:

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

1.3 Report 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 tabulated. The fifth chapter handles data quality through spreading the main notes on the data and estimations of the data sources of this report.

Chapter Two

Concepts and Definitions

Biological Treatment

Wastewater treatment employing aerobic and anaerobic microorganisms that results in decanted effluents and Separate sludge containing microbial mass together with pollutants. Biological treatment processes are also used in combination or in conjunction with mechanical and advanced unit operations.

Cesspit

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

Clinical Waste (Health Care Waste)

Any waste coming out of health Care provided in hospitals or other health care centers. However the definition does not include health Care waste resulting from health care at home.

Dumping Site

Site used to dispose of solid wastes without environmental control.

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.

Primary Health Care Center

Health center offers preventive care (diagnostic and curative) before illness case is complicated.

Secondary Health Care Center

Health center offers curative and nursing health care for illness case exceeding Primary Health Care.

Separation (Segregation)

The system separation of solid waste into designated categories

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.

Solid Waste Disposal

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

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.

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.

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.

Wastewater Treatment

Process to render wastewater fit to meet environmental standards or other quality norms. Three broad types of treatment may be distinguished mechanical, biological, and advanced.

Wastewater

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

A set of special symbols was used in the tables of this report

(-): Nil

(0): The value is less than (0.05)

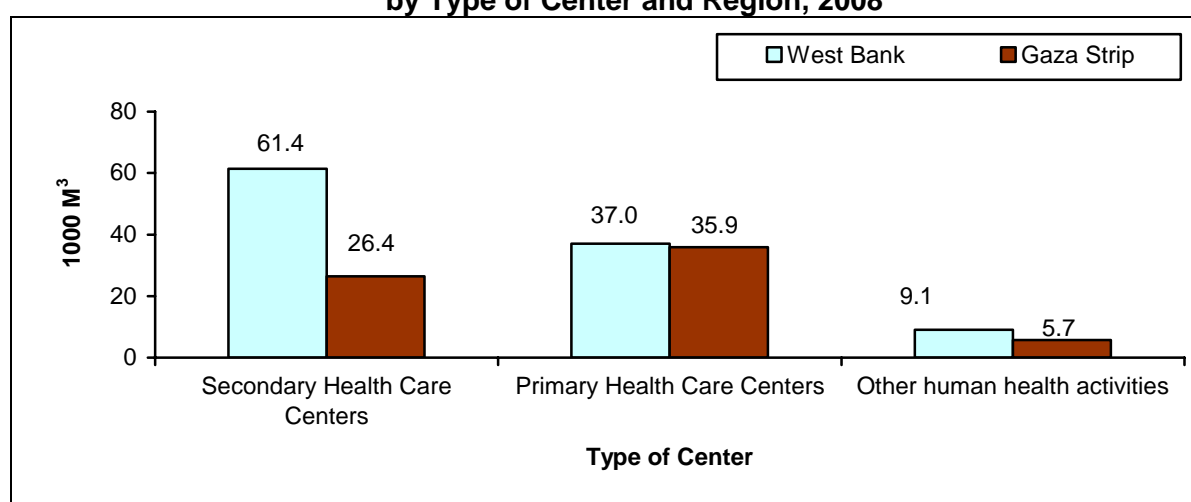
Main Findings

This chapter presents the main findings of the health care environment survey 2008 which collect by using tow methods, the first method is administrative records which used to collect data about governmental and non-governmental health care centers, and the second method is sampling survey which used to collect data about private health care centers. Statistical results are classified according to the main components of environmental elements in health care centers, including water, wastewater, and health care waste.

3.1 Water Consumption and Water Sources

The estimated quantity of water consumed by the health care centers in the Palestinian Territory was 175.5 thousands cubic meter/month in 2008, of which 107.5 thousands cubic meter/month in the West Bank (of which 43.2 thousands cubic meter/month in the North of West Bank, 27.6 thousands cubic meter/month in the Middle of West Bank and 36.7 thousands cubic meter/month in the South of West Bank), and 68.0 thousands cubic meter/month in Gaza Strip, while it was estimated in the Palestinian Territory 193.2 and 159.0 thousands cubic meter/month in 2006 and 2005 respectively.

Figure 1: Estimated Monthly Quantities of Water Consumed by Health Care Centers by Type of Center and Region, 2008



Sources of Water Supply

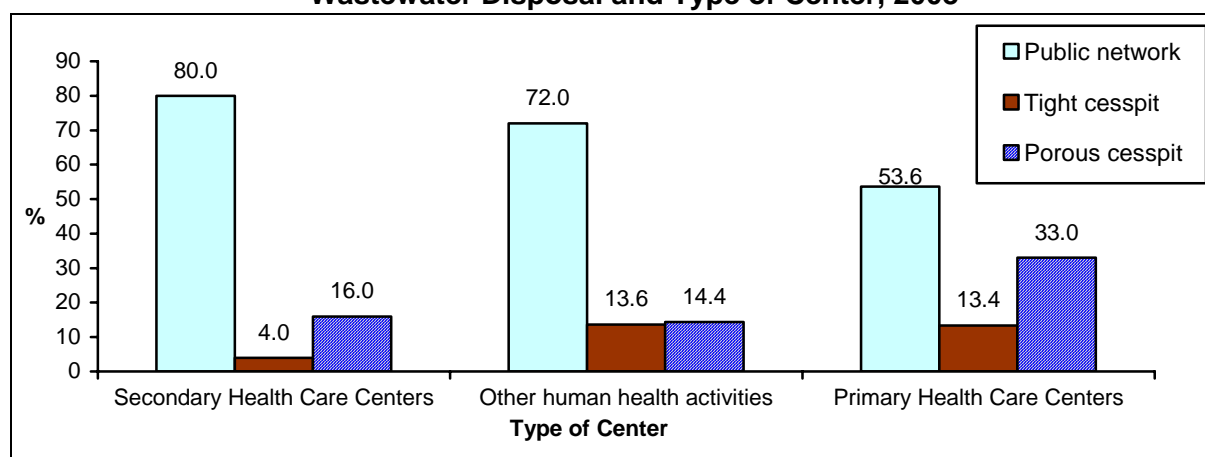
The results in 2008 showed that 94.0% of the health care centers in the Palestinian Territory get the water for consumption from water network, where 100% of the secondary health care centers, and 91.8% of the primary health care centers get the water from the same source, while the health care centers in the Palestinian Territory get the water for consumption from water network was 92.4% in 2006.

3.2 Wastewater

Disposal Methods

The results showed that 60.0% of the health care centers in the Palestinian Territory in 2008 dispose their wastewater using public network, and 12.5% of the health care centers use tight cesspit, also 27.5% of the health care centers use porous cesspit, comparing with 67.9%, and 62.9% in 2006 and 2005 dispose their wastewater using public network.

Figure 2: Percentage Distribution of Health Care Centers by the Method of Wastewater Disposal and Type of Center, 2008



Treatment of Wastewater

2.9% of the secondary health care centers in the Palestinian Territory, 0.9% of primary health care centers and 0.5% of other human health activities treated their wastewater. The main treatment methods used are the mechanical, the chemical treatments and biological treatment.

3.3 Health Care Waste Management

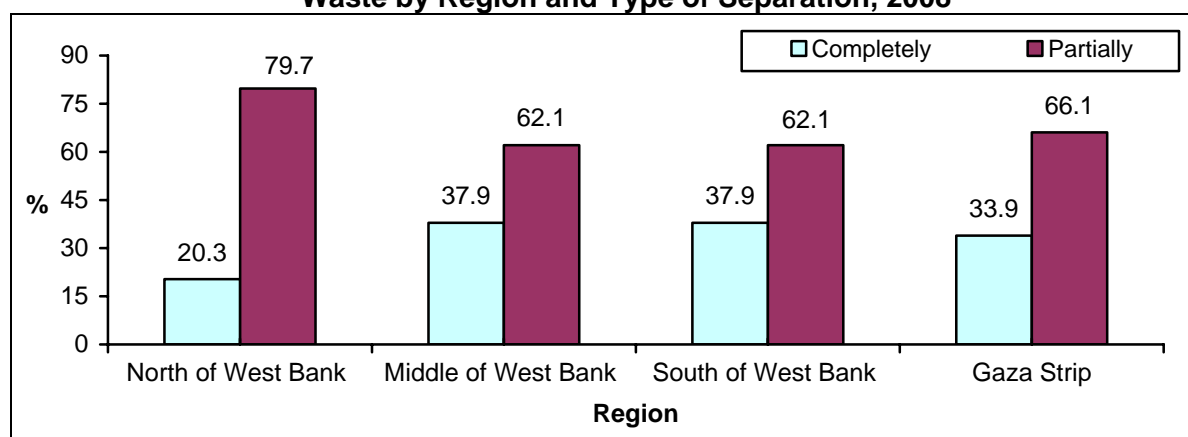
Quantity

The monthly estimated quantities produced by the health care centers in the Palestinian Territory in 2008 were about 990.5 tons, distributed into 516.3 tons in the West Bank, and 474.2 in Gaza Strip. While the total estimated quantities produced by the secondary health care centers in the Palestinian Territory were about 561.8 tons, of which 307.4 tons in the West Bank, and 254.4 tons in Gaza Strip.

Separation

48.1% of the health care centers in the Palestinian Territory in 2008 separated the health care waste components, as 69.0% of the health care centers separate some components while 31.0% of the health care centers separate all components, whereas it was 49.5% and 49.0% in 2006 and 2004 respectively, in the Palestinian Territory perform separated the health care waste components.

Figure 3: Percentage Distribution of Health Care Centers Which Separate Solid Waste by Region and Type of Separation, 2008



Collecting Health Care Waste

62.3% of the health care centers collecting waste in a local authority open container, 14.2% of the health care centers in containers local authority closed container, and 4.1% of the health care centers in health care center open container, while 6.4% of the health care centers in health care center closed container and 13.0% of the health care centers don't use waste container.

Transportation

The local authority transfers the waste to a place of final disposal for 74.0% of the health care centers, 70.4% in the West Bank (of which 80.1% of the health care centers in the North of West Bank depend on the local authority to transfers the waste to a place of final disposal, 54.8% in Middle of West Bank and 68.5% of the health care centers in South of West Bank transfers their waste by the local authority), while 83.1% of the health care centers in Gaza Strip transfer their waste to a place of final disposal by the local authority.

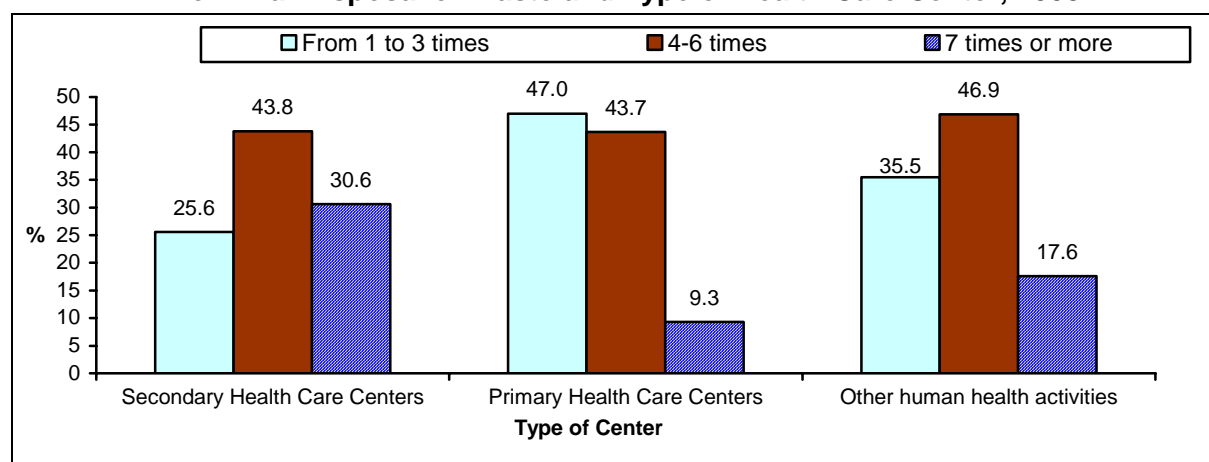
Place of final disposal

The place of final disposal was a dumping site owned by the local authority for 86.5% of the health care centers in the Palestinian Territory, while 9.6% of the health care centers transfer their waste to private dumping site.

Periodicity of waste final disposal

The periodicity of waste final disposal was 4 to 6 times per week for 44.9% of the health care centers, 42.8% of the health care centers the periodicity of waste final disposal was 1 to 3 times per week and 12.3% of them the periodicity of waste final disposal was 7 times or more.

Figure 4: Percentage Distribution of Health Care Centers by the Weekly Periodicity of Final Disposal of Waste and Type of Health Care Center, 2008



Chapter Four

Methodology

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

Estimation of Gaza Strip data:

Due to inability of collecting the data of Gaza Strip from the field in 2008, we estimated the data for 2008 by using the results of the surveys carried out in the years 2003 to 2006 for the same sector, due to the absence of long time series, the estimations of 2008 is considered as an average of the results of 2003-2006 for all indicators.

4.1 The Survey Questionnaire

The environmental questionnaire was designed in accordance with similar country experiments 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 this survey is all health care centers in the Palestinian Territory, and they divide to:

1. Governmental health care centers (Ministry of Health, Health Care Military Service, and Lijan Azakah).
2. Non-governmental health care centers (Health Union Committees, Union of Palestine Health Care Relief Committees, Refits Friends Benevolent Society, UNRWA, Red Crescent Society, and Red Cross) in the Palestinian Territory.
3. Private health care sector.

Sampling Frame

The sampling frame was based on by type of health care centers:

1. **Governmental and Non-governmental Health care centers:** The frame of the all centers which work in sector of health care which owned by Governmental and Non-governmental health care centers updated annually by the administration records in the PCBS.
2. **Private Health Care Sector:** The general frame for the establishments which finding of the Establishment Census 2007.

Sample size

The sample size was 119 private health care centers in the West Bank. It was distributed according to the economic activities into 26 centers of hospital activities, 71 centers of medical and dental practice activities, 22 centers of other human health activities.

Sample Design

The sample of the survey is a single-stage stratified cluster random sample.

4.3 Fieldwork

The fieldwork is the real work to get the demanded data from the primary source, and guarantee a good orthopedist for this stage is the main affair which works on in this stage.

The data in this report come from two sources and each one have a method to collect data about the health care centers.

The data which come from administrative record source, where they apportion the questionnaires to the respondents to filled by them self, during 20/03/2008 to 01/10/2008.

And about the data which come from sampling survey collecting by fieldworkers during 20/04/2008 to 03/08/2008 and this type of collection method must be pass on tow stage:

1. Training fieldworkers on the main skills before the start of data collection.
2. Distribution the team of fieldworkers to groups.

4.4 Data Processing

The data processing stage consisted of the following operations:

Editing before data entry

All questionnaires were edited again in the office using the same instructions adopted for editing in the field

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:

- Duplication of the questionnaire on the computer screen.
- Logical and consistency check of data entered.
- Possibility for internal editing of questions answered.
- Maintaining a minimum of digital data entry and fieldwork errors.
- User-friendly handling.
- Possibility of transferring data into another format to be used and analyzed using other analytical statistical systems such as SAS and SPSS.

Chapter Five

Data Quality

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 (e.g. the interviewers, respondents, editors, coders, data entry operators...etc). To minimize such errors data was edited before and after the entry process.

Comprehensiveness

One of the most important goals to publish annual reports to the statistics of the environment for the health care sector is to create a time series tables for the most important indicators relating to environmental conditions and circumstances of this important sector in the Palestinian Territory.

This report covers as the most important environment-related indicators for the health care sector in 2008.

As for the geographic database, notes that health care centers are covered in all governorate, noting that the published data has been deployed in the region include the West Bank (North of West Bank, Middle of West Bank, South of West Bank), Gaza Strip).

5.2 Comparison of the Data

Survey carried out from 2000 to 2008 (except 2002), so the previous data is used to compare with 2008 data.

5.3 Data Quality Assurance Procedures

There are two sources of data in this report, in the first source (health care environmental survey 2008) several measures were made to ensure quality control in such as the survey questioner was designed in easy form for the respondents and make sure that the questionnaire was include a list of definitions of terms and manual for each question. There was also directly follow up by project management and administrative records division in the Surveys and Fieldwork Directorate. Audit of questionnaires was carried out before data entry, and then a program was used that does not allow any mistakes during the process of data entry. Data was examined to ensure that they were free from errors not previously discovered. After the receipt of the raw data file, cleaning and inspection of the anomalous values was made, and also inspection of the consistency between the different questions on the questionnaire.

For the second source (Environmental Economic Survey 2008) several measures were made to ensure quality control in the survey, such as the training of the fieldworkers on main skills before the start of data collection, and conducting field visits to field researchers to ensure the integrity of data collection, in addition to conducting a re-interview for 5% of the establishments. Audit of questionnaires was carried out before data entry, and then a program was used that does not allow any mistakes during the process of data entry. Data was examined to ensure that they were free from errors not previously discovered. After the receipt of the raw data file, cleaning and inspection of the anomalous values was made, and also inspection of the consistency between the different questions on the questionnaire.

5.3 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 should be handled carefully because is not collected from fieldwork but it's a estimated data form data collected in the same methods in several year (2003-2006).
- Tables of water quantities (tables 2 and 3), and tables of solid waste quantities (tables 10 and 11) were based on the estimations by respondents.
- In table 21, the category “other” in the Middle of West Bank is slightly high, because the Jerusalem municipality is involved in serving economic establishments in disposing of solid waste in the governorate.
- Can be summarized as sources of some non-statistical errors that have emerged during the implementation of the survey with the following:
 1. Differentiation on understanding the questionnaires.
 2. Variation in individual measurements of some different issues such as the amount of water consumed and the amount of solid waste generated has been appreciated, in addition to questions relating to estimates of sizes, distances and time periods.

References

1. Palestinian Central Bureau of Statistics, 1996. *Stander industrial Classification of all Economic Activities for West Bank and Gaza Strip (PISIC)*. Ramallah- Palestine.
2. Palestinian Central Bureau of Statistics, 2003. *Environmental Survey for Health Care Centers 2003, Main Finding*. Ramallah- Palestine.
3. Palestinian Central Bureau of Statistics, 2004. *Environmental Survey for Health Care Centers 2004, Main Finding*. Ramallah- Palestine.
4. Palestinian Central Bureau of Statistics, 2005. *Environmental Survey for Health Care Centers 2005, Main Finding*. Ramallah- Palestine.
5. Palestinian Central Bureau of Statistics, 2006. *Environmental Survey for Health Care Centers 2006, Main Finding*. Ramallah- Palestine.
6. Palestinian Central Bureau of Statistics, 2008. *Environmental Economic Survey-2008: Main Findings*. Ramallah- Palestine.
7. United Nations, 1997. *Glossary of Environment Statistics. Series F, NO.67*. New York- USA.
8. World Health Organization, 1994. *Managing Health Care Waste in Developing Countries*, Geneva - Switzerland.
9. World Health Organization, 1999. *Safe management of waste form health-care activities*, Dr Adrian Coad.