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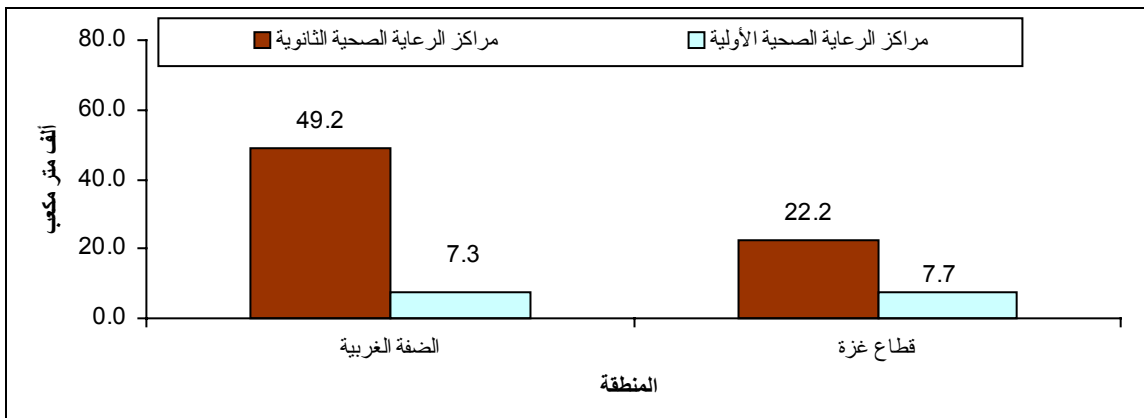
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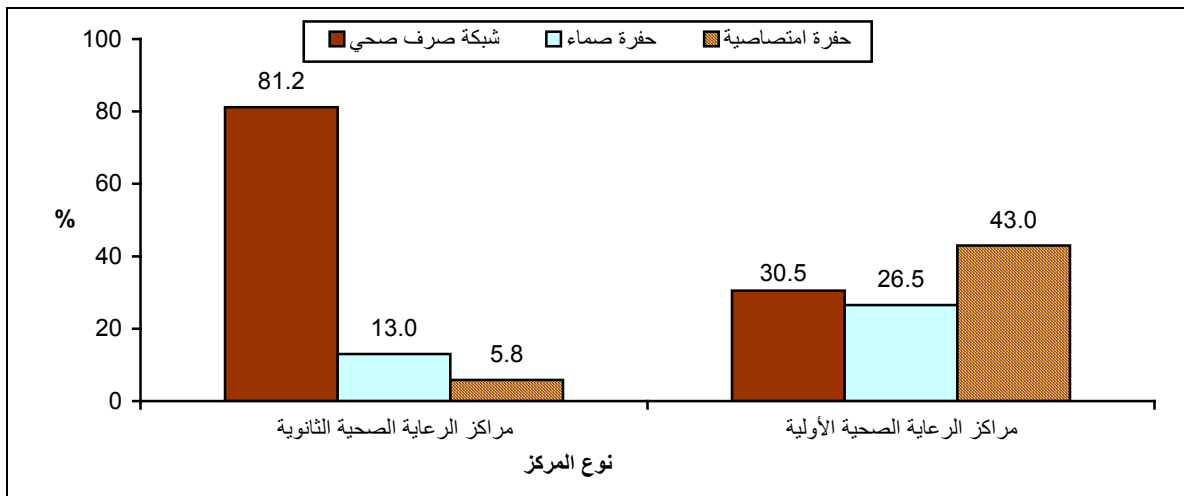
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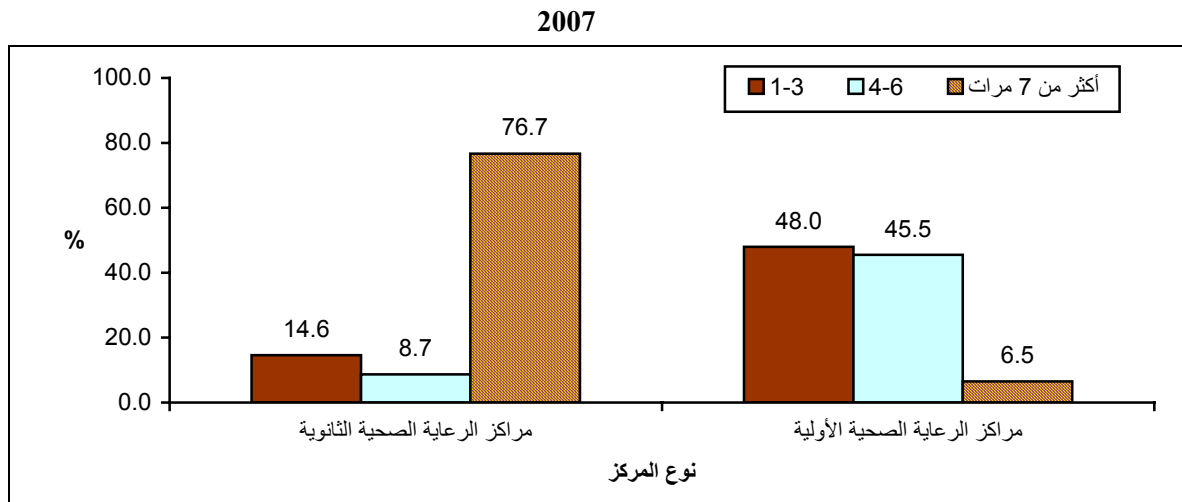
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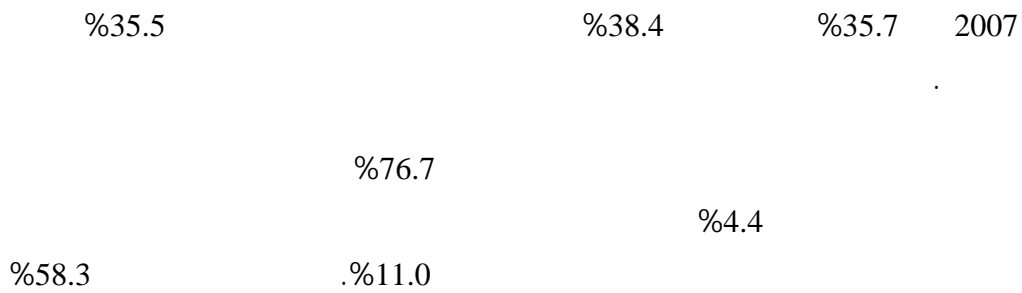
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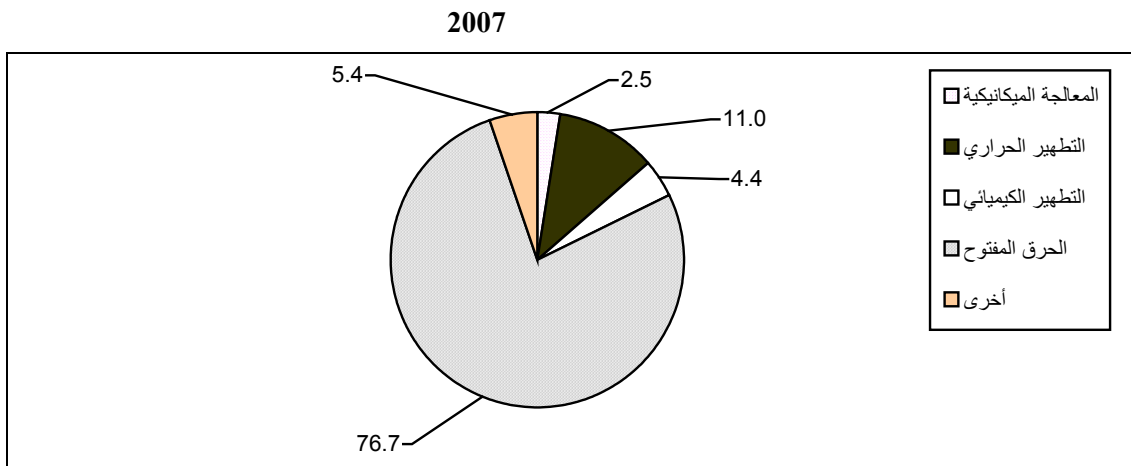
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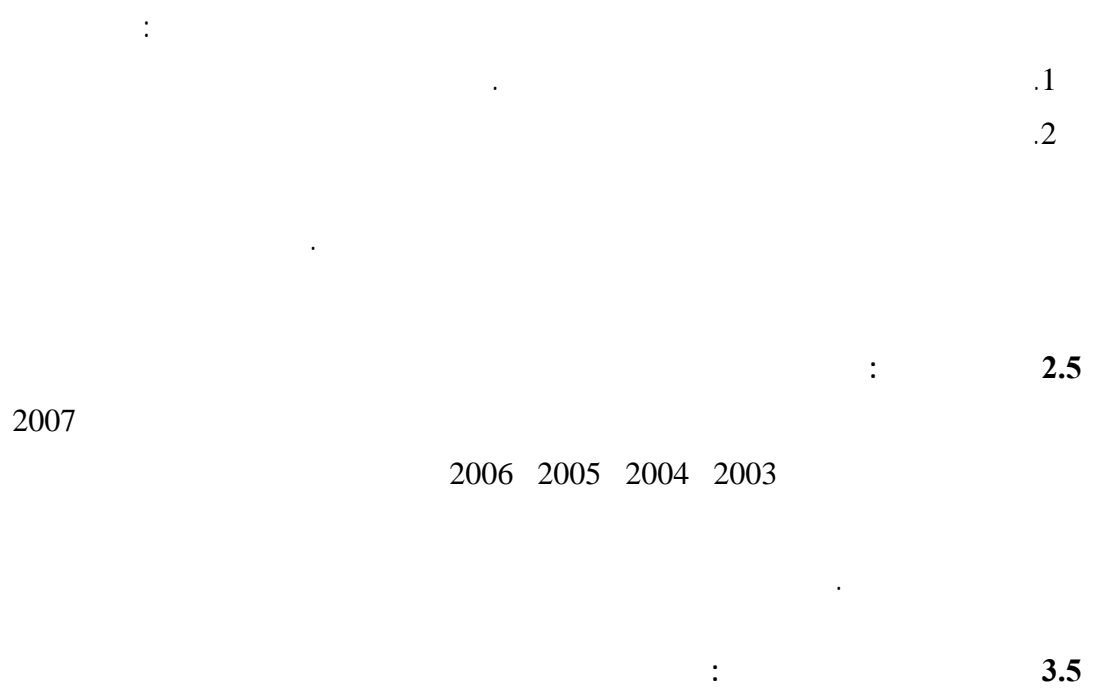
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**Table1: Percentage of the Health Care Centers (Governmental and Non-Governmental) by Mean of Obtaining Water, Wastewater Disposal Method, and Doer of solid Waste Disposal for the Years, 2003-2007**

Indicator	2007	2006	2005	2004	2003
<b>Means of obtaining water</b>					
Water network	84.0	81.7	82.4	83.1	78.7
Water tanks	3.5	6.1	3.5	5.2	9.2
Collection water well	12.1	11.5	12.8	11.2	11.3
Others	0.4	0.7	1.3	0.5	0.8
<b>Wastewater disposal method</b>					
Wastewater network	34.4	33.4	33.8	30.9	30.0
Tight cesspit	25.4	23.7	25.4	18.6	12.5
Porous cesspit	40.2	42.9	40.8	50.5	57.5
<b>Doer of Solid Waste Disposal</b>					
The health care center	10.8	17.3	17.0	21.8	23.1
Local Authority	77.7	74.0	73.4	73.1	69.0
Private contractor	5.6	6.2	6.5	3.0	5.1
UNRWA	1.0	0.6	0.7	0.4	0.5
Others	4.9	1.9	2.4	1.7	2.3

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**Table 2: Estimated Quantity of Water Consumed in the Palestinian Territory During the Reference Month from Health Care Centers (Governmental and Non-Governmental) by Type of Health Care Center and Region (February-August), 2007**

Units in thousand cubic meter in the reference month

الوحدة: ألف متر مكعب في شهر الأسناد

Region and type of health care center	Quantity of consumed water	
<b>Palestinian Territory</b>		
Secondary health care center	71.4	
Primary health care center	15.0	
<b>Total</b>	<b>86.4</b>	
<b>West Bank</b>		
Secondary health care center	49.2	
Primary health care center	7.3	
<b>Total</b>	<b>56.5</b>	
<b>Gaza Strip</b>		
Secondary health care center	22.2	
Primary health care center	7.7	
<b>Total</b>	<b>29.9</b>	

2007

**Table 3: Percentage Distribution of Health Care Centers (Governmental and Non-Governmental) in the Palestinian Territory by The Most Important Means of Obtaining Water, Region and Type of Health Care Center, 2007**

Region and type of health care center	Means of obtaining water					
	Total	Others	Water tanks	Collection water well	Water network	
<b>Palestinian Territory</b>						
Secondary health care center	100	1.8	0.0	2.1	96.1	
Primary health care center	100	0.2	3.8	12.9	83.1	
<b>Total</b>	<b>100</b>	<b>0.4</b>	<b>3.5</b>	<b>12.1</b>	<b>84.0</b>	
<b>West Bank</b>						
Secondary health care center	100	0.0	0.0	3.2	96.8	
Primary health care center	100	0.0	4.6	15.5	79.9	
<b>Total</b>	<b>100</b>	<b>0.0</b>	<b>4.3</b>	<b>14.8</b>	<b>80.9</b>	
<b>Gaza Strip</b>						
Secondary health care center	100	5.2	0.0	0.0	94.8	
Primary health care center	100	1.3	0.0	0.0	98.7	
<b>Total</b>	<b>100</b>	<b>1.9</b>	<b>0.0</b>	<b>0.0</b>	<b>98.1</b>	

2007

**Table 4: Percentage Distribution of Health Care Centers (Governmental and Non Governmental) in the Palestinian Territory by Wastewater Disposal Method, Region and Type of Health Care Center, 2007**

Region and type of health care center	Wastewater disposal method			
	Total	Porous cesspit	Tight cesspit	Wastewater network
<b>Palestinian Territory</b>				
Secondary health care center	100	5.8	13.0	81.2
Primary health care center	100	43.0	26.5	30.5
<b>Total</b>	<b>100</b>	<b>40.2</b>	<b>25.4</b>	<b>34.4</b>
<b>West Bank</b>				
Secondary health care center	100	3.2	8.7	88.1
Primary health care center	100	50.1	28.6	21.3
<b>Total</b>	<b>100</b>	<b>47.3</b>	<b>27.4</b>	<b>25.3</b>
<b>Gaza Strip</b>				
Secondary health care center	100	10.4	20.8	68.8
Primary health care center	100	8.0	16.0	76.0
<b>Total</b>	<b>100</b>	<b>8.4</b>	<b>16.7</b>	<b>74.9</b>

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**Table 5: Percentage Distribution of Health Care Centers (Governmental and Non-Governmental) in the Palestinian Territory by Existence of Wastewater Treatment, Method of Treatment, Region and Type of Health Care Center, 2007**

Region and type of health care center	Wastewater treatment method				Existence of wastewater treatment
	Total	Biological treatment	Chemical treatment	Mechanical treatment	
<b>Palestinian Territory</b>					
Secondary health care center	100	16.7	-	83.3	11.2
Primary health care center	100	50.0	-	50.0	0.6
<b>Total</b>	<b>100</b>	<b>27.0</b>	<b>-</b>	<b>73.0</b>	<b>1.4</b>
<b>West Bank</b>					
Secondary health care center	100	0.0	-	100.0	8.7
Primary health care center	100	50.0	-	50.0	0.7
<b>Total</b>	<b>100</b>	<b>23.7</b>	<b>-</b>	<b>76.3</b>	<b>1.2</b>
<b>Gaza Strip</b>					
Secondary health care center	100	33.3	-	66.7	15.6
Primary health care center	-	-	-	-	-
<b>Total</b>	<b>100</b>	<b>33.3</b>	<b>-</b>	<b>66.7</b>	<b>2.3</b>

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**Table 6: Estimated Quantity of Produced Solid Waste from Health Care Centers (Governmental and Non-Governmental) in the Palestinian Territory During the Reference Month by Type of Health Care Center and Region (February-August), 2007**

Quantities by Ton

Region and type of health care center	Estimated quantity during the reference month	
<b>Palestinian Territory</b>		
Secondary health care center	616.3	
Primary health care center	89.2	
<b>Total</b>	<b>705.5</b>	
<b>West Bank</b>		
Secondary health care center	449.8	
Primary health care center	48.8	
<b>Total</b>	<b>498.6</b>	
<b>Gaza Strip</b>		
Secondary health care center	166.5	
Primary health care center	40.4	
<b>Total</b>	<b>206.9</b>	

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**Table 7: Percentage Distribution of Health Care Centers (Governmental and Non-Governmental) in the Palestinian Territory by Existence of Solid Waste Separation and Type of Separation, Region and Type of Health Care Center, 2007**

Region and type of health care center	Type of separation			Existence of separation	
	Total	Partially	Completely		
<b>Palestinian Territory</b>					
Secondary health care center	100	87.1	12.9	70.1	
Primary health care center	100	88.3	11.7	82.4	
<b>Total</b>	<b>100</b>	<b>88.2</b>	<b>11.8</b>	<b>81.5</b>	
<b>West Bank</b>					
Secondary health care center	100	86.6	13.4	82.6	
Primary health care center	100	87.6	12.4	83.6	
<b>Total</b>	<b>100</b>	<b>87.5</b>	<b>12.5</b>	<b>83.6</b>	
<b>Gaza Strip</b>					
Secondary health care center	100	88.9	11.1	47.4	
Primary health care center	100	92.4	7.6	76.3	
<b>Total</b>	<b>100</b>	<b>92.1</b>	<b>7.9</b>	<b>72.0</b>	



**Table 8: Percentage of Health Care Centers (Governmental and Non-Governmental) in the Palestinian Territory that Separate Waste by Type of Waste Separated, Region and Type of Health Care Center, 2007**

Region and type of health care center	Type of waste separated						
	Other	Sharp waste	Radioactive waste	Chemical, Pharmaceutical and wastes Non radioactive	Infectious waste	General waste	
<b>Palestinian Territory</b>							
Secondary health care center	10.8	77.2	9.3	46.8	52.0	58.1	
Primary health care center	1.2	91.7	0.4	7.4	25.8	65.7	
<b>Total</b>	<b>1.8</b>	<b>90.7</b>	<b>1.0</b>	<b>10.0</b>	<b>27.5</b>	<b>65.2</b>	
<b>West Bank</b>							
Secondary health care center	14.2	77.0	12.3	44.0	54.4	58.9	
Primary health care center	1.4	90.7	0.5	8.2	27.5	74.9	
<b>Total</b>	<b>2.2</b>	<b>89.9</b>	<b>1.2</b>	<b>10.3</b>	<b>29.1</b>	<b>74.0</b>	
<b>Gaza Strip</b>							
Secondary health care center	0.0	77.8	0.0	55.6	44.4	55.6	
Primary health care center	0.0	96.9	0.0	3.2	16.9	15.4	
<b>Total</b>	<b>0.0</b>	<b>95.0</b>	<b>0.0</b>	<b>8.3</b>	<b>19.6</b>	<b>19.4</b>	

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**Table 9: Estimated Quantity of Separated Health Care Waste from Health Care Centers (Governmental and Non-Governmental) in the Palestinian Territory During the Reference Month by Region and Type of Health Care Center (February-August), 2007**

Quantities by ton

Region and type of health care center	Estimate quantity during the reference month	
<b>Palestinian Territory</b>		
Secondary health care center	233.1	
Primary health care center	145.9	
<b>Total</b>	<b>379.0</b>	
<b>West Bank</b>		
Secondary health care center	170.0	
Primary health care center	139.7	
<b>Total</b>	<b>309.7</b>	
<b>Gaza Strip</b>		
Secondary health care center	63.1	
Primary health care center	6.2	
<b>Total</b>	<b>69.3</b>	

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**Table 10: Percentage Distribution of Health Care Centers (Governmental and Non-Governmental) in the Palestinian Territory by the Means Where General Waste Put in, Region and Type of Health Care Center, 2007**

Region and type of health care center	Package method					
	Total	Plastic boxes	Carton boxes	Special bags	Normal bags	
<b>Palestinian Territory</b>						
Secondary health care center	100	16.1	0.0	43.4	40.5	
Primary health care center	100	1.4	5.1	54.1	39.4	
<b>Total</b>	<b>100</b>	<b>2.2</b>	<b>4.8</b>	<b>53.5</b>	<b>39.5</b>	
<b>West Bank</b>						
Secondary health care center	100	20.8	0.0	44.4	34.8	
Primary health care center	100	1.0	5.2	54.7	39.1	
<b>Total</b>	<b>100</b>	<b>2.0</b>	<b>5.0</b>	<b>54.1</b>	<b>38.9</b>	
<b>Gaza Strip</b>						
Secondary health care center	100	0.0	0.0	40.0	60.0	
Primary health care center	100	10.9	0.0	40.2	48.9	
<b>Total</b>	<b>100</b>	<b>7.9</b>	<b>0.0</b>	<b>40.1</b>	<b>52.0</b>	

2007

**Table 11: Percentage Distribution of Health Care Centers (Governmental and Non-Governmental) in the Palestinian Territory by the Means Where Infectious Waste Put in, Region and Type of Health Care Center, 2007**

Region and type of health care center	Package method					
	Total	Metal boxes	Plastic boxes	Carton boxes	Special bags	Normal bags
<b>Palestinian Territory</b>						
Secondary health care center	100	6.9	19.6	20.5	42.8	10.2
Primary health care center	100	1.1	12.6	39.1	35.3	11.9
<b>Total</b>	<b>100</b>	<b>1.8</b>	<b>13.5</b>	<b>36.7</b>	<b>36.3</b>	<b>11.7</b>
<b>West Bank</b>						
Secondary health care center	100	8.6	18.3	12.9	53.8	6.4
Primary health care center	100	1.1	14.1	41.4	34.2	9.2
<b>Total</b>	<b>100</b>	<b>2.0</b>	<b>14.6</b>	<b>38.1</b>	<b>36.4</b>	<b>8.9</b>
<b>Gaza Strip</b>						
Secondary health care center	100	0.0	25.0	50.0	0.0	25.0
Primary health care center	100	0.0	0.0	19.0	45.1	35.9
<b>Total</b>	<b>100</b>	<b>0.0</b>	<b>5.5</b>	<b>25.9</b>	<b>35.1</b>	<b>33.5</b>

2007

**Table 12: Percentage Distribution of Health Care Centers (Governmental and Non-Governmental) in the Palestinian Territory by the Means Where Sharp Waste Put in, Region and Type of Health Care Center, 2007**

Region and type of health care center	Package method					
	Total	Metal boxes	Plastic boxes	Carton boxes	Special bags	Normal bags
<b>Palestinian Territory</b>						
Secondary health care center	100	15.4	38.6	39.1	6.9	0.0
Primary health care center	100	2.3	11.7	81.1	4.4	0.5
<b>Total</b>	<b>100</b>	<b>3.0</b>	<b>13.2</b>	<b>78.8</b>	<b>4.6</b>	<b>0.4</b>
<b>West Bank</b>						
Secondary health care center	100	20.2	50.9	24.3	4.6	0.0
Primary health care center	100	2.8	13.3	78.3	5.0	0.6
<b>Total</b>	<b>100</b>	<b>3.7</b>	<b>15.3</b>	<b>75.5</b>	<b>5.0</b>	<b>0.5</b>
<b>Gaza Strip</b>						
Secondary health care center	100	0.0	0.0	85.7	14.3	0.0
Primary health care center	100	0.0	3.2	95.2	1.6	0.0
<b>Total</b>	<b>100</b>	<b>0.0</b>	<b>3.0</b>	<b>94.4</b>	<b>2.6</b>	<b>0.0</b>

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**Table 13: Percentage Distribution of Health Care Centers (Governmental and Non-Governmental) in the Palestinian Territory by the Means Where Non-Separated Solid Waste Put in, Region, and Type of Health Care Center, 2007**

Region and type of health care center	Package method					
	Total	Plastic boxes	Metal boxes	Carton boxes	Special bags	Normal bags
<b>Palestinian Territory</b>						
Secondary health care center	100	2.0	0.0	8.8	37.1	52.1
Primary health care center	100	6.1	0.4	3.7	33.8	56.0
<b>Total</b>	<b>100</b>	<b>5.9</b>	<b>0.4</b>	<b>4.0</b>	<b>34.0</b>	<b>55.7</b>
<b>West Bank</b>						
Secondary health care center	100	3.2	0.0	3.3	36.4	57.1
Primary health care center	100	7.2	0.0	4.4	36.4	52.0
<b>Total</b>	<b>100</b>	<b>6.9</b>	<b>0.0</b>	<b>4.4</b>	<b>36.4</b>	<b>52.3</b>
<b>Gaza Strip</b>						
Secondary health care center	100	0.0	0.0	17.8	38.4	43.8
Primary health care center	100	1.3	2.5	0.0	21.4	74.8
<b>Total</b>	<b>100</b>	<b>1.1</b>	<b>2.1</b>	<b>2.7</b>	<b>24.0</b>	<b>70.1</b>

**Table 14: Percentage Distribution of Health Care Centers (Governmental and Non-Governmental) in the Palestinian Territory by the Transportation Method of General Waste, Infectious Waste and Sharp Waste, Region and Type of Health Care Center, 2007**

Region and type of health care center	Type of waste and transportation method											
	Sharp waste				Infectious waste				General waste			
	Total	Both methods	Special carriage	Manually	Total	Both methods	Special carriage	Manually	Total	Both methods	Special carriage	Manually
<b>Palestinian Territory</b>												
Secondary health care center	100	22.4	0.0	77.6	100	37.1	0.0	62.9	100	14.5	21.6	63.9
Primary health care center	100	1.1	0.9	98.0	100	2.0	2.4	95.6	100	1.6	4.3	94.1
<b>Total</b>	<b>100</b>	<b>2.3</b>	<b>0.9</b>	<b>96.8</b>	<b>100</b>	<b>5.9</b>	<b>2.1</b>	<b>92.0</b>	<b>100</b>	<b>2.3</b>	<b>5.3</b>	<b>92.4</b>
<b>West Bank</b>												
Secondary health care center	100	25.0	0.0	75.0	100	0.0	37.9	62.1	100	20.9	11.9	67.2
Primary health care center	100	1.0	0.8	98.2	100	2.6	2.2	95.2	100	4.2	1.3	94.5
<b>Total</b>	<b>100</b>	<b>2.2</b>	<b>0.8</b>	<b>97.0</b>	<b>100</b>	<b>2.4</b>	<b>5.9</b>	<b>91.7</b>	<b>100</b>	<b>4.9</b>	<b>1.8</b>	<b>93.3</b>
<b>Gaza Strip</b>												
Secondary health care center	100	14.3	0.0	85.7	100	0.0	33.3	66.7	100	25.0	25.0	50.0
Primary health care center	100	1.5	1.5	97.0	100	0.0	0.0	100.0	100	9.4	9.3	81.3
<b>Total</b>	<b>100</b>	<b>2.5</b>	<b>1.4</b>	<b>96.1</b>	<b>100</b>	<b>0.0</b>	<b>5.9</b>	<b>94.1</b>	<b>100</b>	<b>13.0</b>	<b>13.1</b>	<b>73.9</b>

2007

**Table 15: Percentage Distribution of Health Care Centers (Governmental and Non-Governmental) in the Palestinian Territory by the Transportation Method of Non-Separated Waste, Region and Type of Health Care Center, 2007**

Region and type of health care center	Transportation Method			
	Total	Both methods	Special carriage	Manually
<b>Palestinian Territory</b>				
Secondary health care center	100	31.6	26.7	41.7
Primary health care center	100	4.0	10.1	85.9
<b>Total</b>	<b>100</b>	<b>6.1</b>	<b>11.4</b>	<b>82.5</b>
<b>West Bank</b>				
Secondary health care center	100	40.7	23.0	36.3
Primary health care center	100	4.2	10.7	85.1
<b>Total</b>	<b>100</b>	<b>6.5</b>	<b>11.4</b>	<b>82.1</b>
<b>Gaza Strip</b>				
Secondary health care center	100	16.4	32.9	50.7
Primary health care center	100	2.6	7.3	90.1
<b>Total</b>	<b>100</b>	<b>4.7</b>	<b>11.2</b>	<b>84.1</b>

**Table 16: Percentage Distribution of Health Care Centers (Governmental and Non-Governmental) in the Palestinian Territory by Weekly Periodicity of General Waste, Infectious Waste and Sharp Waste Collection, Region and Type of Health Care Center, 2007**

Region and type of health care center	Type of waste and periodicity of collection											
	Sharp waste				Infectious waste				General waste			
	Total	7 More than 7 times	6-4 4-6 times	3-1 1-3 times	Total	7 More than 7 times	6-4 4-6 times	3-1 1-3 times	Total	7 More than 7 times	6-4 4-6 times	3-1 1-3 times
<b>Palestinian Territory</b>												
Secondary health care center	100	47.7	6.9	45.4	100	72.7	5.1	22.2	100	69.6	9.2	21.2
Primary health care center	100	2.3	22.8	74.9	100	5.4	33.8	60.8	100	2.0	38.4	59.6
<b>Total</b>	<b>100</b>	<b>4.9</b>	<b>21.9</b>	<b>73.2</b>	<b>100</b>	<b>13.9</b>	<b>30.2</b>	<b>55.9</b>	<b>100</b>	<b>5.9</b>	<b>36.7</b>	<b>57.4</b>
<b>West Bank</b>												
Secondary health care center	100	49.3	4.6	46.1	100	78.6	6.4	15.0	100	66.5	6.0	27.5
Primary health care center	100	1.8	24.5	73.7	100	3.0	33.5	63.5	100	2.1	36.8	61.1
<b>Total</b>	<b>100</b>	<b>4.4</b>	<b>23.4</b>	<b>72.2</b>	<b>100</b>	<b>11.6</b>	<b>30.4</b>	<b>58.0</b>	<b>100</b>	<b>5.1</b>	<b>35.4</b>	<b>59.5</b>
<b>Gaza Strip</b>												
Secondary health care center	100	42.9	14.3	42.8	100	50.0	0.0	50.0	100	80.0	20.0	0.0
Primary health care center	100	4.7	14.5	80.8	100	26.7	36.5	36.8	100	0.0	79.5	20.5
<b>Total</b>	<b>100</b>	<b>7.7</b>	<b>14.5</b>	<b>77.8</b>	<b>100</b>	<b>31.9</b>	<b>28.4</b>	<b>39.7</b>	<b>100</b>	<b>22.4</b>	<b>62.9</b>	<b>14.7</b>

2007

**Table 17: Percentage Distribution of Health Care Centers (Governmental and Non-Governmental) in the Palestinian Territory by Weekly Periodicity of Non-Separated Solid Waste Collection, Region and Type of the Health Care Center, 2007**

Region and type of health care center	Periodicity			
	Total	7 More than 7 times	6-4 4-6 times	3-1 1-3 times
<b>Palestinian Territory</b>				
Secondary health care center	100	76.7	8.7	14.6
Primary health care center	100	6.5	45.5	48.0
<b>Total</b>	<b>100</b>	<b>12.0</b>	<b>42.6</b>	<b>45.4</b>
<b>West Bank</b>				
Secondary health care center	100	83.2	3.2	13.6
Primary health care center	100	5.2	38.5	56.3
<b>Total</b>	<b>100</b>	<b>9.9</b>	<b>36.4</b>	<b>53.7</b>
<b>Gaza Strip</b>				
Secondary health care center	100	65.8	17.8	16.4
Primary health care center	100	12.7	78.3	9.0
<b>Total</b>	<b>100</b>	<b>20.7</b>	<b>69.2</b>	<b>10.1</b>



2007

**Table 18: Percentage Distribution of Health Care Centers (Governmental and Non-Governmental) in the Palestinian Territory by Existence of Waste Treatment, Type of Treatment, Region and Type of Health Care Center, 2007**

Region and type of health care center	Type of treatment								Existence treatment
	Total	Incineration	Insulation	Mechanical Treatment	Radiation Disinfections	الحراري Thermal Disinfections	الكيميائي Chemical Disinfections	Open Burning	
<b>Palestinian Territory</b>									
Secondary health care center	100	4.8	4.8	19.4	0.0	30.3	24.5	16.2	38.4
Primary health care center	100	4.0	0.5	1.0	0.5	9.2	2.6	82.2	35.5
<b>Total</b>	<b>100</b>	<b>4.1</b>	<b>0.9</b>	<b>2.5</b>	<b>0.4</b>	<b>11.0</b>	<b>4.4</b>	<b>76.7</b>	<b>35.7</b>
<b>West Bank</b>									
Secondary health care center	100	8.1	8.1	32.3	0.0	24.2	16.5	10.8	35.9
Primary health care center	100	3.1	0.0	1.0	0.5	9.0	2.1	84.3	41.3
<b>Total</b>	<b>100</b>	<b>3.3</b>	<b>0.4</b>	<b>2.6</b>	<b>0.5</b>	<b>9.9</b>	<b>2.8</b>	<b>80.5</b>	<b>41.0</b>
<b>Gaza Strip</b>									
Secondary health care center	100	0.0	0.0	0.0	0.0	39.4	36.4	24.2	42.9
Primary health care center	100	32.5	16.6	0.0	0.0	16.6	16.6	17.7	6.9
<b>Total</b>	<b>100</b>	<b>15.5</b>	<b>7.9</b>	<b>0.0</b>	<b>0.0</b>	<b>28.5</b>	<b>26.9</b>	<b>21.2</b>	<b>12.3</b>

2007

**Table 19: Percentage Distribution of Health Care Centers (Governmental and Non-Governmental) in the Palestinian Territory by Existence of Solid Waste Treatment, Doer of Treatment, Region and Type of Health Care Center, 2007**

Region and type of health care center	Doer of treatment			Existence treatment
	Total	Other establishment	The health care center	
<b>Palestinian Territory</b>				
Secondary health care center	100	45.2	54.8	38.4
Primary health care center	100	41.4	58.6	35.5
<b>Total</b>	<b>100</b>	<b>41.7</b>	<b>58.3</b>	<b>35.7</b>
<b>West Bank</b>				
Secondary health care center	100	59.2	40.8	35.9
Primary health care center	100	41.7	58.3	41.3
<b>Total</b>	<b>100</b>	<b>42.7</b>	<b>57.3</b>	<b>41.0</b>
<b>Gaza Strip</b>				
Secondary health care center	100	24.2	75.8	42.9
Primary health care center	100	32.5	67.5	6.9
<b>Total</b>	<b>100</b>	<b>28.2</b>	<b>71.8</b>	<b>12.3</b>

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2007 ( - )

**Table 20: Estimated Quantity of Treated Health Care Waste from (Governmental and Non-Governmental) Centers in the Palestinian Territory During the Reference Month by Region and Type of Health Care Center (February-August), 2007**

Quantities by ton

Region and type of health care center	Monthly quantity during the reference month
<b>Palestinian Territory</b>	
Secondary health care center	120.0
Primary health care center	18.3
<b>Total</b>	<b>138.3</b>
<b>West Bank</b>	
Secondary health care center	74.0
Primary health care center	16.8
<b>Total</b>	<b>90.8</b>
<b>Gaza Strip</b>	
Secondary health care center	46.0
Primary health care center	1.5
<b>Total</b>	<b>47.5</b>

**Table 21: Percentage Distribution of Health Care Centers (Governmental and Non-Governmental) in the Palestinian Territory by the Solid Waste Collection Mean Inside the Health Care Center, Region and Type of Health Care Center, 2007**

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
<b>Palestinian Territory</b>						
Secondary health care center	100	2.1	9.2	5.7	39.9	43.1
Primary health care center	100	24.6	4.9	7.3	12.4	50.8
<b>Total</b>	<b>100</b>	<b>22.9</b>	<b>5.2</b>	<b>7.2</b>	<b>14.5</b>	<b>50.2</b>
<b>West Bank</b>						
Secondary health care center	100	3.2	14.5	8.8	46.9	26.6
Primary health care center	100	26.7	4.4	7.9	13.7	47.3
<b>Total</b>	<b>100</b>	<b>25.3</b>	<b>5.0</b>	<b>7.9</b>	<b>15.7</b>	<b>46.1</b>
<b>Gaza Strip</b>						
Secondary health care center	100	0.0	0.0	0.0	27.3	72.7
Primary health care center	100	14.5	7.2	4.7	5.8	67.8
<b>Total</b>	<b>100</b>	<b>12.3</b>	<b>6.0</b>	<b>4.0</b>	<b>9.1</b>	<b>68.6</b>

2007

**Table 22: Percentage Distribution of Health Care Centers (Governmental and Non- Governmental) in the Palestinian Territory by the Container Material Construction, Region and Type of Health Care Center, 2007**

Region and type of health care center	Container material construction			
	Total	Others	Plastic	Metal
<b>Palestinian Territory</b>				
Secondary health care center	100	0.0	10.2	89.8
Primary health care center	100	1.0	10.0	89.0
<b>Total</b>	<b>100</b>	<b>0.9</b>	<b>10.0</b>	<b>89.1</b>
<b>West Bank</b>				
Secondary health care center	100	0.0	16.0	84.0
Primary health care center	100	1.2	9.4	89.4
<b>Total</b>	<b>100</b>	<b>1.1</b>	<b>10.0</b>	<b>88.9</b>
<b>Gaza Strip</b>				
Secondary health care center	100	0.0	0.0	100.0
Primary health care center	100	0.0	12.5	87.5
<b>Total</b>	<b>100</b>	<b>0.0</b>	<b>10.4</b>	<b>89.6</b>

2007

**Table 23: Percentage Distribution of Health Care Centers (Governmental and Non-Governmental) in the Palestinian Territory by the Container Volume, Region and Type of Health Care Center, 2007**

Region and type of health care center	Container volume (m <sup>3</sup> ) ( )				
	Total	12 More than 12	12-7	6-4	3-1
<b>Palestinian Territory</b>					
Secondary health care center	100	16.0	20.4	14.5	49.1
Primary health care center	100	3.2	5.9	12.3	78.6
<b>Total</b>	<b>100</b>	<b>4.5</b>	<b>7.3</b>	<b>12.5</b>	<b>75.7</b>
<b>West Bank</b>					
Secondary health care center	100	18.5	26.4	10.8	44.3
Primary health care center	100	2.3	5.7	14.6	77.4
<b>Total</b>	<b>100</b>	<b>3.5</b>	<b>7.3</b>	<b>14.3</b>	<b>74.9</b>
<b>Gaza Strip</b>					
Secondary health care center	100	11.7	10.4	20.8	57.1
Primary health care center	100	6.8	6.8	2.9	83.5
<b>Total</b>	<b>100</b>	<b>7.7</b>	<b>7.4</b>	<b>5.9</b>	<b>79.0</b>

2007

**Table 24: Percentage Distribution of Health Care Centers (Governmental and Non-Governmental) in the Palestinian Territory by the Solid Waste Collection Place, Region and Type of Health Care Center, 2007**

Region and type of health care center	Waste collection place			
	Total	Outside the center	Inside the center square	Inside the center building
<b>Palestinian Territory</b>				
Secondary health care center	100	62.1	34.0	3.9
Primary health care center	100	48.1	24.1	27.8
<b>Total</b>	<b>100</b>	<b>49.2</b>	<b>24.8</b>	<b>26.0</b>
<b>West Bank</b>				
Secondary health care center	100	61.9	31.9	6.2
Primary health care center	100	46.3	24.1	29.6
<b>Total</b>	<b>100</b>	<b>47.4</b>	<b>24.5</b>	<b>28.1</b>
<b>Gaza Strip</b>				
Secondary health care center	100	62.3	37.7	0.0
Primary health care center	100	57.1	23.9	19.0
<b>Total</b>	<b>100</b>	<b>57.8</b>	<b>26.0</b>	<b>16.2</b>

2007

()

**Table 25: Percentage Distribution of Health Care Centers (Governmental and Non-Governmental) in the Palestinian Territory by the Distance between Center and Waste Collection Place (m), Region and Type of Health Care Center, 2007**

Region and type of health care center	() Distance between health care center and waste collection place(m)			
	Total	151 More than 151	150-51	50 Less than 50
<b>Palestinian Territory</b>				
Secondary health care center	100	6.0	21.1	72.9
Primary health care center	100	2.4	7.1	90.5
<b>Total</b>	<b>100</b>	<b>2.7</b>	<b>8.5</b>	<b>88.8</b>
<b>West Bank</b>				
Secondary health care center	100	9.4	14.2	76.4
Primary health care center	100	0.4	7.9	91.7
<b>Total</b>	<b>100</b>	<b>1.1</b>	<b>8.4</b>	<b>90.5</b>
<b>Gaza Strip</b>				
Secondary health care center	100	0.0	33.3	66.7
Primary health care center	100	10.1	4.1	85.8
<b>Total</b>	<b>100</b>	<b>8.5</b>	<b>8.8</b>	<b>82.7</b>

2007

**Table 26: Percentage Distribution of Health Care Centers (Governmental and Non-Governmental) in the Palestinian Territory by the Doer of Transporting Solid Waste, Region and Type of Health Care Center, 2007**

Region and type of health care center	Doer of transporting the waste					
	Total	Others	UNRWA	Private contractor	Local Authority	The health care center
<b>Palestinian Territory</b>						
Secondary health care center	100	0.0	1.9	1.9	92.3	3.9
Primary health care center	100	5.3	1.0	5.8	76.5	11.4
<b>Total</b>	<b>100</b>	<b>4.9</b>	<b>1.0</b>	<b>5.6</b>	<b>77.7</b>	<b>10.8</b>
<b>West Bank</b>						
Secondary health care center	100	0.0	0.0	0.0	96.8	3.2
Primary health care center	100	6.4	1.1	4.3	75.2	13.0
<b>Total</b>	<b>100</b>	<b>6.1</b>	<b>1.1</b>	<b>4.0</b>	<b>76.4</b>	<b>12.4</b>
<b>Gaza Strip</b>						
Secondary health care center	100	0.0	5.2	5.2	84.4	5.2
Primary health care center	100	0.0	0.0	13.2	83.2	3.6
<b>Total</b>	<b>100</b>	<b>0.0</b>	<b>0.8</b>	<b>12.0</b>	<b>83.3</b>	<b>3.9</b>

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2007

**Table 27: Percentage Distribution of Health Care Centers (Governmental and Non-Governmental) in the Palestinian Territory by the Waste Final Disposal Place, Region and Type of Health Care Center, 2007**

Region and type of health care center	Waste Final Disposal Place				
	Total	Others	Disposed randomly	Private dumping site	Local authority dumping site
<b>Palestinian Territory</b>					
Secondary health care center	100	0.0	0.0	9.6	90.4
Primary health care center	100	8.2	2.4	13.5	75.9
<b>Total</b>	<b>100</b>	<b>7.7</b>	<b>2.2</b>	<b>13.1</b>	<b>77.0</b>
<b>West Bank</b>					
Secondary health care center	100	0.0	0.0	15.0	85.0
Primary health care center	100	9.7	2.9	14.9	72.5
<b>Total</b>	<b>100</b>	<b>9.1</b>	<b>2.7</b>	<b>14.9</b>	<b>73.3</b>
<b>Gaza Strip</b>					
Secondary health care center	100	0.0	0.0	0.0	100.0
Primary health care center	100	1.3	0.0	6.1	92.6
<b>Total</b>	<b>100</b>	<b>1.1</b>	<b>0.0</b>	<b>5.1</b>	<b>93.8</b>

2007

**Table 28: Percentage Distribution of Health Care Centers (Governmental and Non-Governmental) in the Palestinian Territory by the Weekly Periodicity of Final Disposal of Waste, Region and Type of Health Care Center, 2007**

Region and type of health care center	Periodicity			
	Total	7 More than 7 times	6-4 4-6 times	3 1 From 1 to 3 times
<b>Palestinian Territory</b>				
Secondary health care center	100	49.1	34.1	16.8
Primary health care center	100	6.1	36.2	57.7
<b>Total</b>	<b>100</b>	<b>9.4</b>	<b>36.1</b>	<b>54.5</b>
<b>West Bank</b>				
Secondary health care center	100	52.6	32.8	14.6
Primary health care center	100	5.9	33.1	61.0
<b>Total</b>	<b>100</b>	<b>8.7</b>	<b>33.1</b>	<b>58.2</b>
<b>Gaza Strip</b>				
Secondary health care center	100	42.9	36.3	20.8
Primary health care center	100	7.2	51.6	41.2
<b>Total</b>	<b>100</b>	<b>12.5</b>	<b>49.3</b>	<b>38.2</b>



**Palestinian National Authority  
Palestinian Central Bureau of Statistics**

**Environmental Survey for Health Care Centers  
(Governmental and Non-Governmental ), 2007  
Main Findings**

**October, 2007**

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## Population, Housing and Establishment Census - 2007



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**On this occasion, the PCBS extends special thanks to the members of the Core Funding Group (CFG) who contributed in funding this survey for their support.**



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## **Preface**

As the attention towards environment and the risk of environmental pollution increase, environment statistics become one of the basic fields in the official statistics. The Health Care waste statistics is an important subject in the environment statistics due to its negative effects on the health and the environment if not disposed properly. Many decisions depend on such statistics, especially in the Palestinian Territory where statistics about it is not available.

The Palestinian Central Bureau of Statistics (PCBS) seeks to provide such data through its program for environment statistics that aims at building and updating a comprehensive and accurate statistical database on all environmental subjects. This program aims to provide statistical data as a tool for monitoring and management of the environmental status in the Palestinian Territory.

This report is one of a series of reports that are being published by the PCBS on the Palestinian environment. This report concentrates on the variables of water consumption, Health Care waste collection, separation and disposal, and wastewater disposal in the Governmental and Non-Governmental Health Care Centers.

PCBS hopes that the findings of this report will be a reference for planners and decision-makers towards improving the environmental status in the Palestinian Territory.

**October, 2007**

**Luay Shabaneh, Ph.D**  
**President**





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## **Executive Summary**

The Palestinian Central Bureau of Statistics (PCBS) implemented health care environmental survey. This survey collect a data about environment in health care sector. This data for some indicators in compliance with international recommendations in water consumption management of medical waste, and management of wastewater.

The estimated quantity of water consumed during the reference month by the health care centers (governmental and non-governmental) in the period from February to August 2007 in the Palestinian Territory was 86.4 thousands cubic meter, of which 56.5 thousands cubic meter in the West Bank, and 29.9 thousands cubic meter in health care centers in Gaza Strip.

The result of 2007 showed that 84.0% of the health care centers (governmental and non-governmental) in the Palestinian Territory get the water for consumption from water network, where 96.1% of the secondary health care centers, and 83.1% of the primary health care centers get the water from the same source, comparing with 81.7%, and 78.7% of the health care centers in 2006 and 2003 respectively get the water from water network.

The result of 2007 showed that 34.4% of the health care centers (governmental and non-governmental) in the Palestinian Territory dispose their wastewater using public network, and it was used by 33.4% and 30.0% of the health care centers in 2006 and 2003 respectively.

The estimated quantities produced by the health care centers (governmental and non-governmental) during the reference month in the Palestinian Territory in the period from February to August 2007 were about 705.5 tons, which 498.6 tons in the West Bank and 206.9 tons in Gaza Strip. 81.5% of the health care centers (governmental and non-governmental) in the Palestinian Territory perform separation of health care waste components, while it was 83.1% and 86.4% in 2006 and 2003 respectively.

The percentage of the health care centers (governmental and non-governmental) in the Palestinian Territory that do perform treatment of health care waste in 2007 is about 35.7%. The most important treatment method is the open burning in 76.7% of the health care centers.

## Chapter One

### **Introduction**

Statistics relating to the environmental in health care centers are an important instrument in decision-making, planning, and environmental development. To address the lack of data on the subject in the Palestinian Territory, the Palestinian Central Bureau of Statistics (PCBS) built and developed a database about the environment in the health care centers.

#### **1.1 Objectives of the Survey:**

The main objective of this survey is to give an overview of the main indicators of environment in the health care centers in two sectors, governmental and non-governmental organizations, which includes:

- Water consumption.
- Management of wastewater.
- Management of health care waste.

#### **1.2 Report Structure:**

This report consists of five chapters: The first chapter presents the introduction, the survey objectives and the report structure. The second chapter describes the concepts and definitions, and the third chapter briefly describes the main findings. The fourth chapter presents the methodology used in the survey, consisting of the questionnaire design, fieldwork operations and data processing. The last chapter includes an assessment of data quality and technical notes.



## Chapter Two

### Concepts and Definitions

<b>Primary Health Care Center:</b>	Health center offers preventive care (diagnostic and curative) before illness case is complicated.
<b>Secondary Health Care Center:</b>	Health center offers curative and nursing health care for illness case exceeding Primary Health Care.
<b>Solid Waste Disposal:</b>	Ultimate deposition or placement of refuse that is not salvaged or recycled.
<b>Incineration (Dry Thermal Disinfection):</b>	Controlled burning of solid, liquid or gaseous waste materials at high temperatures.
<b>Disinfection:</b>	Effective killing by chemical and physical processes of all organisms capable of causing infectious diseases, It consists of several types such as wet thermal disinfections, chemical disinfections and radiation disinfections.
<b>Biological Treatment:</b>	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.
<b>Chemical Treatment:</b>	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.
<b>Mechanical Treatment (of Health Care waste):</b>	Crush, break, cut or otherwise damage of sharps prior to treatment.
<b>Mechanical Treatment (of Wastewater):</b>	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.
<b>Wastewater:</b>	Used water, typically discharged into the sewage system. It contains matter and bacteria in solution or suspension.
<b>Dumping Site:</b>	Site used to dispose of solid wastes without environmental control.
<b>Sharps Waste:</b>	Any item that could cause a cut or puncture (especially needles and blades).
<b>Solid Waste:</b>	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

<b>Clinical Waste (Health Care Waste):</b>	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.
<b>Pharmaceutical Waste:</b>	This includes pharmaceutical products, drugs and chemicals, which have been returned from wards, have been spilled or soiled, are out of date or contaminated, or are to be discarded for any reason.
<b>Chemical Waste:</b>	May be hazardous – toxic, corrosive, flammable, reactive or genotoxic (capable of altering genetic material), or non-hazardous.
<b>Infectious Waste:</b>	All kinds of waste, which may transmit viral, bacterial or parasitic diseases to human beings. It includes infectious animal waste from laboratories, slaughter- houses, veterinary practices and so on.
<b>Waste Collection:</b>	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.
<b>Open burning:</b>	Out door burning of wastes such as lumber, scrapped cars, textiles, sawdust and so forth.
<b>Cesspit:</b>	A well or a pit in which night soil and other refuse is stored, constructed with either tight or porous walls.
<b>Sewage Network:</b>	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.
<b>Wastewater Treatment:</b>	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.
<b>Radioactive Waste:</b>	Material that contains or is contaminated with radionuclides at concentrations greater than those established as “exempt” by the competent authorities. To avoid persistent harmful effects, long-term storage is necessary, for which purpose so-called “isotope cemeteries” and abandoned quarries are used.

### **Symbols Used in Tables**

<b>(0)</b>	Less Than (0.05)
<b>(-)</b>	Nil

## Main Findings

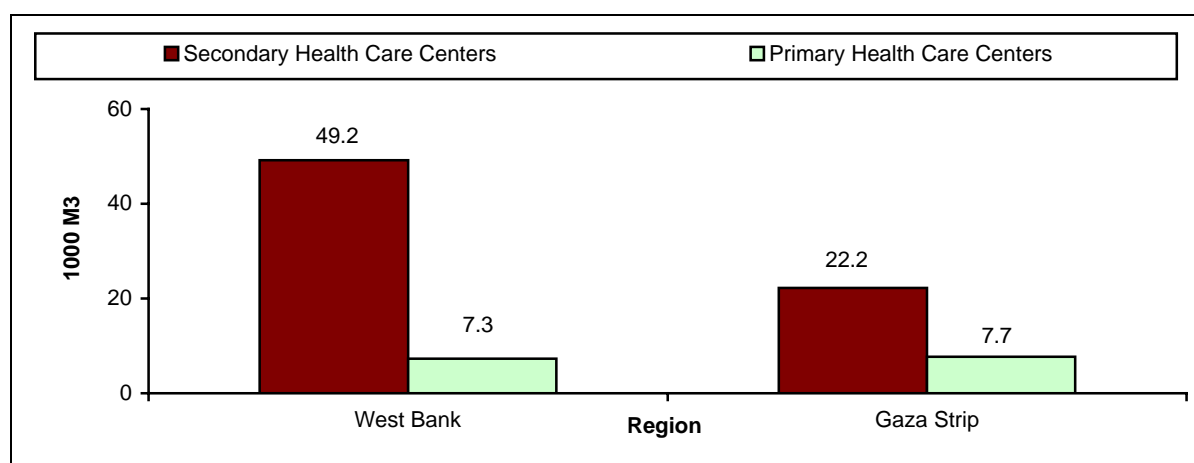
This section presents the main findings of the survey. Statistical results are classified according to the main components of environmental issues at health care centers (governmental and non-governmental), including water, health care waste, and wastewater.

### 3.1 Water:

#### Consumption:

The estimated quantities of water consumed by the health care centers during the reference month in the Palestinian Territory in the period from February to August 2007 was 86.4 thousands cubic meter, of which 56.5 thousands cubic meter were consumed in the West Bank, and 29.9 thousands cubic meter in Gaza Strip.

**Figure 1: Estimated Quantities of Water Consumed During the Reference Month by Health Care Centers (Governmental and Non-Governmental) by Type of Center and Region (February- August), 2007**



#### Sources of Water Supply:

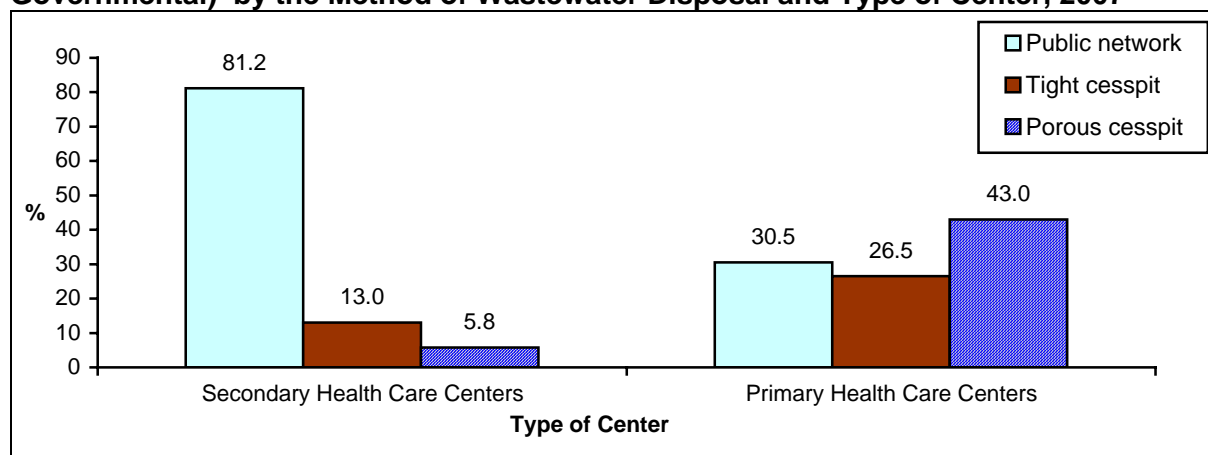
The results in 2007 showed that 84.0% of health care centers (governmental and non-governmental) in the Palestinian Territory obtain water for consumption from the water network, representing 96.1% of secondary health care centers, and 83.1% of primary health care centers that obtain water from the network. In 2006, 81.7% of health care centers in the Palestinian Territory obtained water for consumption from the water network and 78.7% in 2003.

### 3.2 Wastewater:

#### Disposal Methods:

The results indicated that 34.4% of health care centers (governmental and non-governmental) in the Palestinian Territory in 2007 dispose of their wastewater using a public network, 25.4% of the health care centers use sealed cesspits, and 40.2% of health care centers use porous cesspits. This is compared to 33.4% of health centers in 2006 and 30.0% in 2003 that dispose of their wastewater using public network.

**Figure 2: Percentage Distribution of Health Care Centers (Governmental and Non-Governmental) by the Method of Wastewater Disposal and Type of Center, 2007**



**Treatment of Wastewater:**

11.2% of secondary health care centers and 0.6% of primary health care centers treated wastewater in the Palestinian Territory. The main treatment methods used are the mechanical and biological treatment.

**3.3 Health Care Solid Waste:**

**Quantity:**

The estimated quantity of waste produced by the health care centers in the Palestinian Territory during the reference month in the period from February to August 2007 was about 705.5 tons, with 498.6 tons in the West Bank, and 206.9 in Gaza Strip. The total estimated quantity produced by the secondary health care centers in the Palestinian Territory was about 616.3 tons, of which 449.8 tons were in the West Bank, and 166.5 tons in Gaza Strip.

**Separation:**

81.5% of the health care centers in the Palestinian Territory in 2007 separate health care waste components; 88.2% of the health care centers separate some of the components while 11.8% of the health care centers separate all the components. In 2006, 83.1% of health care centers separated health care waste components and in 2003, 86.4% in the Palestinian Territory separated health care waste components

The health care centers (governmental and non-governmental) that perform separation 90.7% separate sharp waste. The quantities of separated waste during the reference month in the period from February to August 2007 in the health care centers were estimated at 379.0 tons

In the centers that perform waste separation and package the separated waste, the packaging depends on the type of the separated waste. Special nylon bags are used for packaging the general waste in 53.5% of the health care centers in the Palestinian Territory, while carton boxes are used for packaging the sharp waste in 78.8% of the health care centers. 55.7% of the health care centers used normal bags to package the non-separated waste..

**Transportation:**

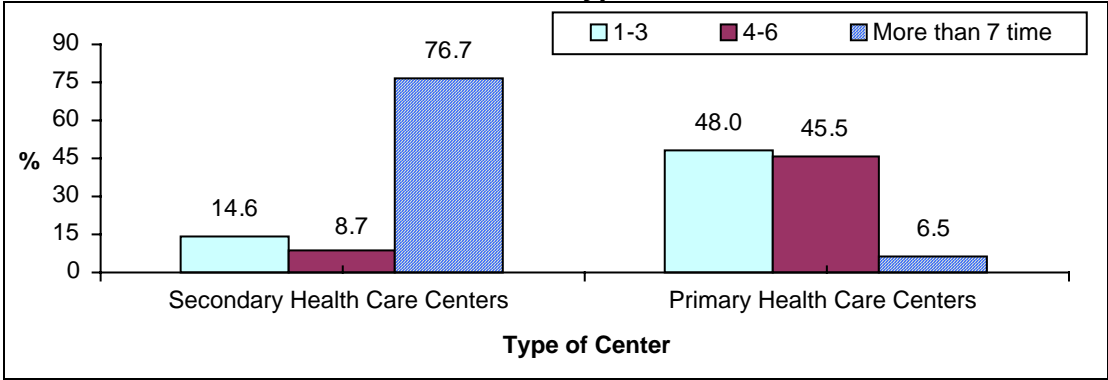
The separation of general waste is done manually in 92.4% of the health care centers, while 5.3% of the health care centers use special carriages. For infectious waste, 92.0% of centers separate manually and 2.1% of the health care centers use special carriages. In the centers



that do not perform separation of waste, the waste is transported manually in 82.5% of the health care centers and 11.4% of the health care centers use special carriages.

The periodicity of collecting health care general waste is from 1 to 3 times per week in 57.4% of the health care centers (governmental and non-governmental). The non-separated waste in the health care centers was collected from 1 to 3 times per week in 45.4% of the health care centers.

**Figure 3: Percentage Distribution of Health Care Centers (Governmental and non-Governmental) by Weekly Periodicity of Non-Separated Solid Waste Collection and Type of Center, 2007**

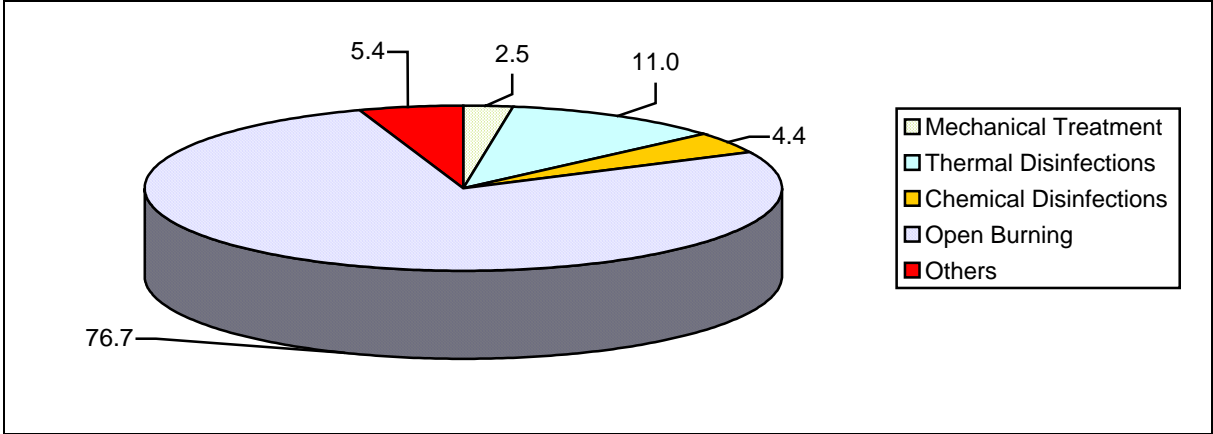


**Treatment:**

The percentage of the health care centers (governmental and non-governmental) in the Palestinian Territory that do perform treatment of health care waste in 2007 is about 35.7%, of which 38.4% are secondary health care centers, 35.5% are primary health care centers.

The most important treatment method is open burning in 76.7% of the health care centers, and 4.4% use chemical disinfections. The quantities of treated waste were about 138.3 tons in the health care centers (governmental and non-governmental) in the Palestinian Territory during the reference month in the period from February to August 2007.

**Figure 4: Percentage Distribution of Secondary Health Care Centers (Governmental and Non-Governmental) that do Perform Treatment by the Produced Health Care Waste Treatment Method, 2007**



**Disposal:**

Then, the waste is compiled in a location then transferred to a place of final disposal. 50.2% of the health care centers (governmental and non-governmental) compile waste in local authority open containers, 14.5% of the health care centers use local authority closed containers, while 7.2% of the health care centers use health care center open containers, and 5.2% of the health care centers use health care center closed containers, 22.9% of the health care centers do not use a container, and 89.1% use containers made from metal.

The local authority transfers the waste to a place of final disposal for 77.7% of the health care centers. The place of final disposal was a dumping site owned by the local authority for 54.5% of the health care centers in the Palestinian Territory. The periodicity of waste final disposal was 4 to 6 times per week for 36.1% of the health care centers.

## Chapter Four

### Methodology

#### 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 except the private health care sector in the Palestinian Territory, as follows:

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

##### Sampling Frame:

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

#### 4.3 Fieldwork:

Dedicated fieldwork is the only way to obtain the needed data from the primary source. Field operations started 20/03/2007 and had lasted until 29/09/2007. All data collected through the questionnaire was provided to PCBS for further operations such as data processing and data entry.

#### 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.



## Data Quality

### 5.1 Accuracy of the Data:

Two types of errors affect the quality of survey data; statistical and non-statistical errors.

#### 1. Statistical Errors:

This type of error could be determined easily, and is the result of sampling errors. This type of error concerns the data of private health care centers, and to reduce this error the data must pass two stages:

#### Estimations Procedure:

It is necessary, when calculating the estimations of the survey indicators, to calculate the weights of the establishments. The weight of an establishment is the mathematical inverse of choosing it.

#### 2. Non-Statistical Errors:

This type of errors results from non-sampling errors, and cannot be determined easily due to the diversity of sources (e.g., the interviewers, respondent, editor, data entry operator... etc).

However, several measures were adopted to minimize the effects of these errors. The interviewers, editors and coders had undergone intensive training and were provided with fieldwork manuals to consult when facing any problem.

The data entry program was designed in a way that allows error detection and correction. This applies particularly to logical errors that might not be discovered before data entry operations. A consistency check was also performed to assure accuracy after data entry.

These errors are due to non-response cases as well as the implementation of surveys. In this survey, these errors emerged because of (a) the special situation of the questionnaire itself which depends on type of estimation and (b) diversity of sources (e.g., the interviewers, respondent, editors, coders, data entry operator ...etc).

The sources of these errors can be summarized in:

- Misunderstanding of the questions by the respondents.
- The difference in individual measurements in some issues such as the water consumption, quantity of produced solid waste from health care center, quantity of (separated and treatment) waste, in addition to questions concerning estimates sizes, distances and time periods.

### 5.2 Comparison of the Data:

Some comparisons were applied to data with the previous annual reports of health care center survey of the years 2003, 2004, 2005 and 2006 which indicate some reasonable matching between the results of that reports.

### **5.3 Technical Notes:**

We have to deal suspiciously when we make a comparison between the data published in this report to the previous reports due to differences in the frame, whereas the private sector was not covered this year.

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