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**In Coordination With
Palestinian Water Authority (PWA)**

**Water and Sanitation, Hygiene (WaSH)
Monitoring Project**
(West Bank and Gaza Strip)
Impact of the Current Crisis
Technical Report # 7
(Summary Report)

**In Cooperation
With the
Palestinian Environmental NGOs Network (PENGON)**



Through the following members/organizations:

Applied Research Institute/ Jerusalem (ARIJ)
Arab Studies Society- Land Research Center / Hebron (LRC)
Green Peace Association/ Gaza Strip (GPA)
Palestinian Agricultural Relief Committees/ Tulkarm (PARC)
Palestinian Environmental Protection Society/ Jenin (PEPS)



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0 Report Structure

This report is organized in 3 main sections as follows:

Section I: Project Summary

This Section gives information regarding project background and objectives.

Section II: Project Findings

This section summarizes findings as a result of analysis of the data collected from the field in addition to proposed needed actions.

Section III: Appendix

This section includes summary tables, charts and maps extracted from collected data to present our findings.

Table of contents

SECTION I: PROJECT SUMMARY

1 INTRODUCTION AND BACKGROUND	4
2 PROJECT SETUP	5
3 OBJECTIVE	5
4 ACCOMPLISHMENTS	5
5 METHODOLOGY AND RELIABILITY OF DATA	6

SECTION II: PROJECT FINDINGS

1 SURVEYED COMMUNITIES	7
2 MAIN FINDINGS	8
2-1 General findings	8
2-2 Sanitation and Hygiene findings	9
2-3 Water supply findings	9
2-4 Water Supply Obstacles Findings	10
2-5 Separation Wall	10
2-6 Statistical Results	10
3 PROPOSED ACTIONS CONCERNING RECENT SURVEYED COMMUNITIES	11

SECTION III: APPENDIX	25
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Section I

Project Summary

1 Introduction & Background

Previous surveys and assessments reveal that many communities in the West Bank and Gaza Strip have been directly or indirectly affected by current Israeli closure, curfew and siege policy. Those communities have been left vulnerable with inadequate water and/or sanitation services. Between 250 and 300 localities that rely on the purchase of water from private or municipal water tankers, have limited access to water sources because of closures and delays of tankers at checkpoints. Tankers companies are experiencing increased costs due to increased transportation time and costs; if tankers are able to get through, prices may increase as much as 80 percent. These price increases occur at the same time that incomes in the West Bank and Gaza Strip are plummeting. Tanker or tractor-pulled water tankers often risk their lives in order to get access to water sources that are located outside of their area.

Reports indicate also that lack of access to adequate water supplies, reduction in increasingly cost-intensive (and sometimes inaccessible) human and solid waste evacuation, and use of often contaminated alternative water sources are already resulting in increased public health risks, including higher incidences of diarrhea and skin diseases.

However, the coverage that the information represents is low and scattered. This information is therefore incomplete and does not accurately describe the situations faced by communities. Nor does it provide a comprehensive indication of the vulnerability of the different communities, and whether communities have the capacity and coping mechanisms to solve any problems arising from the changing WaSH situation.

Accordingly, there was a strong desire among all agencies working in the WaSH sector for an increased emergency data availability to facilitate more timely and effective response to eventualities arising from the current crisis. Furthermore, the international and local agencies can adequately target the most vulnerable communities and determine emergency intervention.

In response to this deteriorated water and sanitation situation in the Palestinian areas and the felt needs for more timely and effective emergency information on water, sanitation and hygiene PHG has developed the **Monitoring Program (MP)** in order to provide the tool by which the impact of the Israeli siege policies on both the availability and accessibility of water and sanitation services to West Bank and Gaza communities can be assessed and responses to identified needs can be implemented. The project looks also to identify the vulnerability and to propose adequate actions to mitigate such impacts. The monitoring information will not only be used by technical organizations in order to respond via practical means, but to provide information for lobbying, advocacy, and communications work to all NGOs.

The PHG Water and Sanitation, Hygiene Monitoring Program (WaSH MP), started in June 2002 and is being implemented in cooperation with Palestinian Environmental NGOs Network (PENGON) through a number of its member organizations and in coordination with the Palestinian Water Authority (PWA).

The current report is the **Final report** that provides summary information and findings of the previous work conducted in the past seven months in addition, it covers the information collected from the Palestinian communities surveyed in the past month. This information so far covers 615 communities in the West Bank and Gaza Strip.

2. Project Setup

The Monitoring Project is designed in a way such that it involves most of the local environmental NGOs. Coordination with these NGOs has been developed by the Palestinian Environmental NGOs Network (PENGON), since it is felt that monitoring of the environment is in many ways not only within the interests of the environmental NGOs, but also within their mandate, particularly in the longer term. It is therefore an important part of a natural progression that water and sanitation related NGOs would take on this task. As water and sanitation relate to the use of common resources and common environmental risks and assets, it is also important that civil society is able to have a role and a voice in reporting and responding to the effects of the present crisis. In addition to this, the **Monitoring Project** (MP) is supervised by a steering committee comprises of the Palestinian Water Authority (PWA), Palestinian Hydrology Group (PHG), Palestinian Environmental NGOs Network (PENGON), Palestinian Agricultural Relief Committees (PARC), Oxfam-GB and the Palestinian Central Bureau of statistics (PCBS).

The information collected from the field through a questionnaire is being checked for quality assurance with the Technical Field Monitors (TFMs) seconded by Environmental NGOs and then entered into a locally designed database, analyzed and then reports are produced on at least monthly basis. The steering committee is reviewing the results and approves the proposed actions for distribution to all interested agencies.

3 Objective

The main objective of the Monitoring Program is to secure an increased and timely available reliable data to various WaSH agencies so that they can effectively respond to eventualities arising from the current crisis. Furthermore, the program provides useful information for lobbying, advocacy and communications work to NGO's working in the protection of human rights.

4 Accomplishments

The program has been designed to cover the 708 communities defined by PCBS in the West Bank and Gaza Strip. However, for the purposes of this program it was found that the number of communities that can be covered or included will not exceed 650 communities. The reason is that some of the identified communities by PCBS are only seasonal (summer or winter) and some others are considered parts of major cities such as Jerusalem. To date, 615 communities have been surveyed and seven reports have been produced (this one inclusive) on a consistent, monthly basis. These reports have been able to shed light on the major needs of the surveyed Palestinian communities and to propose required actions to support agencies working in the WaSH sector and in finding locations and recognized needed interventions to help ease the suffering of these communities.

Distribution of the WaSH Monthly Reports is done by email to the WaSH list, which includes over one hundred institutions and individuals working in this sector. The reports are also available at the Monitoring Project web page on the PHG site, and include the collected data concerning all surveyed communities since the start of the project in June 2002. The page has been launched in mid January 2003 under the title "*Palestine Water for Life Campaign*". It aims at making the findings of the project more readily and widely available. In addition, the website/campaign looks to target new audiences in order to increase information dissemination and awareness about water and sanitation in the Occupied Territories. The site will include the Monthly Reports, search/query section, regularly updated WaSH news, articles, pictures, etc. The site can be found at <http://www.phg.org/campaign>

The project is also supporting many organizations/institutions working in the WaSH sector by providing them with special data upon request which then facilitates and supports their work in Palestinian communities.

5 Methodology and Reliability of Data

To facilitate timely data availability, West Bank was divided into 9 main areas and Gaza Strip into 3 main areas and covered by the following NGOs:

- Five areas are being covered by **PHG**. These include the following Governorates: Northern part of Gaza strip, Qalqilia, Nablus, Salfit, Jerusalem, Jericho and Ramallah.
- Other environmental NGO's, members of **PENGON**, with part-time seconded staff are covering the rest of the West Bank and Gaza Strip. These areas are as follows:
 1. **Hebron** is covered by Arab Studies Society / Land Research Center (**LRC**).
 2. **Bethlehem** is covered by Applied Research Institute/ Jerusalem (**ARIJ**)
 3. **Tulkarm** is covered by Palestinian Agriculture Relief Committee (**PARC**).
 4. **Tubas+ Jenin** is covered by The Palestinian Environmental Protection Society (**PEPS**).
 5. **Central and Southern Parts of Gaza Strip** are covered by the Green Peace Association / Gaza (**GPA**). (**Map 1**)

To ensure data reliability, written directions to fill in the questionnaire were provided to the TFMs. In addition, each questionnaire is being reviewed with the relevant TFM to make sure that the information gathered are appropriate and that it reflects the situation accurately. After that the information is entered into the database for further analysis and report production.

A two-day training session was arranged for the TFMs at the PHG offices in Al Ram on 11-12 of September. The used questionnaire was fully reviewed and discussed with them. Clarifications regarding certain questions were made, and after all it was a good chance for the whole team to meet and to exchange experience in this work.

Selection of surveyed communities was done in coordination with the TFMs; priorities are given to those communities which are directly affected by the current crisis; in some cases, TFMs were asked to visit specific communities where urgent needs were expected, to evaluate the situation in coordination with the local council if access was possible.

Visiting the community and discussion with the local council is the first step in filling the questionnaire for the related community. If this proved to be difficult, TFMs were asked to fill the questionnaire by telephone, but then they have to try to visit these communities later, to check data and assure its quality by meeting with local councils, which is the main source of data in all questionnaires; the questionnaire was not finalized unless field visit is conducted. In some cases access to specific communities was completely blocked because of closures and curfews. Data related to sanitation and hegeine situation of communities were double checked through local clinics, if available.

Section II Project Findings

1 Surveyed Communities

The current report, **Report #7**, covers all surveyed communities since the start of the project in June 2002 including the proposed actions needed for the 124 Palestinian communities surveyed in the past two months and which was not published in a separate report.

The total number of communities covered in the eight months of the MP is **615** communities out of the 708 Palestinian communities. **Table A** below summarizes surveyed communities in each Governorate, **Figure A** presents this data graphically and **Map 3** in the Appendix presents the distribution of this data geographically. **Table 1-a** in the Appendix presents the recently surveyed communities and general data related to them (these were surveyed in the past two months).

Table A: Surveyed communities until February 2003*

No.	Area	Surveyed Communities		Total Number of Communities in the Governorate	% of Surveyed Communities	Number of Not Surveyed communities
		Seventh Report	Total			
1	Jenin	10	96	96	100%	0
2	Tubas	12	23	23	100%	0
	<i>Jenin + Tubas</i>	<i>22</i>	<i>119</i>	<i>119</i>	<i>100%</i>	<i>0</i>
3	Tulkarem	1	42	42	100%	0
4	Nablus	14	60	73	82%	13
5	Qalqiliya	1	32	35	91%	3
6	Salfit	3	20	23	87%	3
7	Ramallah	2	73	80	91%	7
8	Jerusalem	7	27	51	53%	24
9	Jericho	7	7	16	44%	9
	<i>Ramallah + Jerusalem + Jericho</i>	<i>16</i>	<i>107</i>	<i>147</i>	<i>73%</i>	<i>40</i>
10	Betlehem	9	61	71	86%	10
11	Hebron	42	132	156	85%	24
12	North Gaza	7	57	7	100%	0
13	Gaza	3	5	5	100%	0
14	Deir al Balah	1	8	8	100%	0
15	Khan Yunis	1	15	15	100%	0
16	Rafah	4	7	7	100%	2
	<i>Gaza Strip</i>	<i>16</i>	<i>42</i>	<i>42</i>	<i>100%</i>	<i>0</i>
	TOTAL	124	615	708	87%	93

*

- Total number of surveyed **communities** until the February 2003 is **615**; **26** of these communities were surveyed twice. So the total number of collected **questionnaires** is **641**.
- Number of collected questionnaires during January 2003 is 124, 12 of them were updating of previously surveyed communities.
- 9 of the surveyed communities are inhabited seasonally (in most cases, occupied in summer time and almost empty in winter).

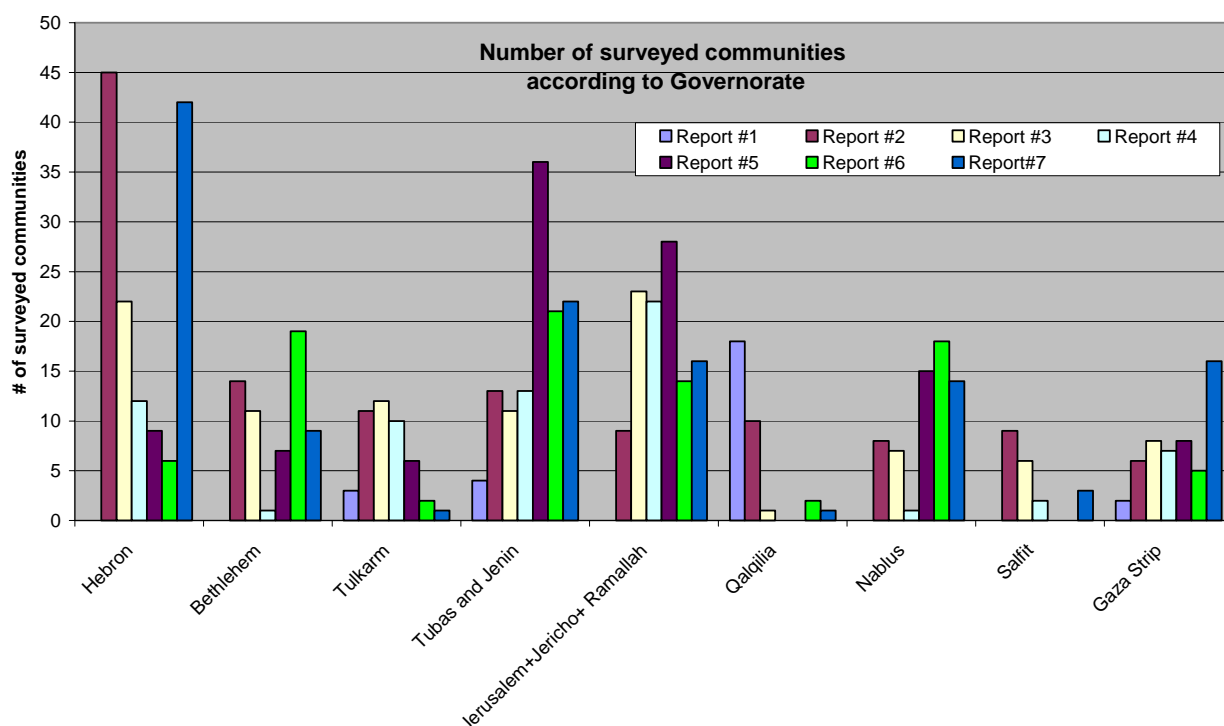


Figure A: Distribution of surveyed communities in the last eight months.

Considering all difficulties associated with the restricted access to localities and the time consuming follow up with TFMs for quality assurance of collected information, we were able to finalize 615 communities out of the 708 Palestinian communities, which represents **87 %** of all communities in West Bank and Gaza. Most of the non surveyed communities are either very small communities or main cities. It is hoped that the MP will be extended and funded through OXFAM in the next ten months, therefore, hoping to cover the survey of the rest of the communities in the near future. **Table 1-b** in the Appendix includes the communities which should have priorities in survey in the near future.

2 Main Findings

There is no dispute over the fact that the impacts of the current crisis are worsening the already difficult standards of living faced by almost all Palestinian communities. As of the production of **Report #7**, the key issues currently affecting the WASH sector in the West Bank and Gaza Strip can be summarized as follows:

2-1 General findings:

- There is a **significant discrepancy between the actual WaSH needs** of Palestinian communities **and the relief efforts** that are taking place on their behalf, leaving some of the neediest communities unserved.
- The **increased level of unemployment** in Palestinian communities – whereby families of farmers and laborers are jobless *and* depleting their modest savings – is having major consequences on the Water, Sanitation and Hygiene situation.
- Several organizations are implementing WaSH related activities in the West Bank and Gaza Strip during the current crisis. According the data collected from the field by our TFMs, PHG and PWA have major contribution in the number of activities, basically in more than 50 communities. **Map 10-a**, and **Map10-b** present the locations of their activities.
- The largest number of the communities is in need of: **new cisterns, rehabilitation of water networks, new vacuum tankers, and new waste water networks.** (chart 6)

- During the past period of the MP, several flashes were distributed to related organizations/institutions regarding urgent needs of specific communities which have urgent needs. These communities were:

Rantis and Deir Abu Mash'al (Ramallah Governorate), Deir al Ghusun (Tulkarem Governorate), Jurish (Nablus Governorate), 'Arab ar Ramadin (Qalqiliya Governorate), Al Fukhari (Khan Younis Governorate), Beit Hanun (Gaza North Governorate), and finally Kharsa, Deir Samit, Shuykh al 'Arrub, Beit 'Awwa, Kureise, Hadab al Fawwar, and Karma (Hebron Governorate).

2-2 Sanitation and Hygiene findings:

- Many communities are suffering from accessibility to the nearest Public Health Center (PHC), mainly because of closures and curfews; of these communities, 37 have access to PHC completely closed. Locations of these communities are mainly in Hebron Governorate, between Betlehem and Hebron, between Nablus and Qalqiliya, and in the eastern part of Jenin. (**Map 4**)
- There is **continued, strong evidence of the spread of water-related diseases** in many communities that are forced to use alternative contaminated water sources. This is very clear in Rantis (Ramallah) with 1580 cases (64% of the population), Tammun (Tubas) with 900 cases (10%), Nur Shams Camp (Tulkarem) with 800 cases (11%), Deir Abu Mash'al (Ramallah) with 500 cases (17%), Qaffin (Tulkarem) with 350 cases (4%), 'Aqqaba (Tubas) with 300 cases (6%), Jurish (Nablus) with 300 cases (24%), and Al Qaraya al Badawiya al Maslakh (North Gaza) with 300 cases (15%)
- Many families suffer from a **lack of funds to pay for wastewater evacuation** tankers. The evacuation cost of percolation pits reaches 300 NIS / 8 m3 tanker as is the case of Al Burj in Hebron governorate, and 250 NIS / 8 m3 tanker as is the cases of Al Muwarraq, Beit Maqdam, Humsa, and Al Kum in Hebron governorate. The resulting pollution is **having a direct negative affect** on the state of the sanitation and hygiene within these communities.
- It was found that Tubas is the main governorate which has the highest percentage of infected persons with WaSH related diseases. (**Chart 1**)
- It was also found that Salfit governorate has the highest weighted average cost of percolation pits evacuation. (**Chart 2**)

2-3 Water supply findings:

- In the case of communities that are supplied with water through a water network, a **high percentage of families** in almost all of these surveyed communities **cannot afford to pay their water bills**, in many cases the percentage of these people reached 100% or 99% of the population as is the case in 'Einabus (Nablus), 'Arab ar Rashayida (Betlehem), 'Izbat al Khilal (Tulkarem), Rantis (Ramallah), Al Jab'a (Hebron), Ras at Tawil (Hebron), and Al Mughraqa (Abu Middein) (Gaza)
- For the **communities that depend mainly on water tankers** as a main source of water, poor families **are particularly vulnerable**, with few or no alternatives to purchasing water. Many communities have a considerable percentage of families that cannot afford to buy water from the tankers, in some cases it reaches 100% of the population as is the case in 'Aba (Jenin), Beit Mirsim (Hebron), An Najada (Hebron), and Wadi ar Rim (Hebron) .
- Many communities are suffering from the very limited supply quantities of water. Water use per capita per day for all domestic uses (including domestic agriculture, domestic livestock, and all losses) was less than **30 l/c/d in 62 communities**, which represents about **10% of surveyed communities** and **5% of total population** in the surveyed communities (**Map 6**). Per capita water consumption is very low, and in some cases it was below 15 l/c/d as was the case in Ad Deirat, Kharsa, and Al Heila in Hebron governorate, where per capita consumption was only 7 liters/day, Yanun in Nablus was 9 l/c/d, Um Lasafa, Khallet al Maiyya, and Deir Samit in Hebron was 10 l/c/d,

Qawawis in Hebron was 11 l/c/d, Rantis in Ramallah was 13 l/c/d, Ar Rifaiyya, and Karma in Hebron 13 l/c/d only.

- Out of the 615 communities which were surveyed, 178 communities do not have water network. This represents **29% of surveyed communities**, and **7% of its population**. Taking in consideration that the coverage of water networks is not always 100%, it was estimated that 15% of the total population in the surveyed communities are not served with water network. (**Map 5**)
- Cisterns for rainfall harvesting are considered a main source of water in many communities in the West Bank. Coverage percentage in these communities varies from 0% to 100%, but it is noticed that the coverage in Gaza Strip, Jericho and al Ghore is almost zero which could be related to the limited amount of yearly rainfall compared to the other areas in the West Bank. On the other hand, Qalqiliya and Tulkarem are covered partially since these communities rely mainly on groundwater wells as main sources of water. (**Map 7**).
- It was found that Khan Yunis, North Gaza, and Qalqiliya governorates have the highest weighted average water use per capita (l/c/d). (**Chart 4**)
- Betlehem, Ramallah, and Salfit districts have the highest weighted average cost of tankers water. (**Chart 3**)
- Mekorot connection is the main water source for 201 communities in summer and 213 communities in winter (highest main water source). On the other hand, domestic wells are the main water source for more than 60% of population of surveyed communities. (**Chart 5**)

2-4 Water Supply Obstacles Findings:

- For many of the surveyed communities, **closures and curfews** are a major problem. For example, the unavailability of health services in many communities means a dependence on services in adjacent or nearby communities, while actually reaching such localities can prove extremely difficult, if not impossible. Many communities also rely on the purchase of water from tankers, with many tankers experiencing limited access to water sources. At the same time, tanker companies are experiencing increased costs due to increased transportation time and costs; these price increases occur at the same time that incomes in the West Bank and Gaza Strip are falling. In many communities, drivers of water tankers often risk their lives in order to get access to water sources that are located outside of their area. Price increase reaches 40 NIS / m³ in Beit Mirsim, and Wadi ar Rim in Hebron governorate and it reaches 35 NIS / m³ in other 14 communities in Hebron governorate and in Wadi Rahhal in Betlehem.
- Some communities are suffering of Main Valves Closures by Settlers. This closure is sometimes complete (100%) such as the cases of Turrama, Al Burj, As Sikka, Kurza, Al Faqir, and An Najada in Hebron governorates, Al Mughayyir in Jenin governorates and ‘Aqqaba in Tubas governorate.
- In the past two years, the **Mekorot Company has seriously reduced the supply quantities** to many Palestinian communities and in many cases Mekorot has completely stopped the provision of water to them as the case in Al Khamajat, Wadi ash Shajina, Kureise, As Sikka, Al Faqir, Al Burj, An Najada in Hebron governorate, Al Mughayyir, Ash Shuhada, Birqin in Jenin governorate, and ‘Aqqaba in Tubas governorate. (**Map 9**)
- Destruction of infrastructure was a major issue during the current crisis. **Map 8, Table 2, and Table 3** present information related to destruction in the WaSH sector.

2-5 Separation Wall:

- Another dramatic development in relation to the WaSH situation is the building of the **Separation Wall**. The direct effects of the first phase of construction are already being experienced in the Qalqilia, Tulkarm and Jenin Governorates. More than 30 groundwater wells will likely be affected

by the first phase alone, in addition to the consequences on the agricultural lands relying on these wells. Some 15 villages will be separated from their land by the wall, while another 15 will be trapped between the Wall and the Green Line, with almost all of their lands confiscated in the newly-created zone. (**Map 2-a, and Map 2-b**)

2-6 Statistical results:

Statistical results related to all surveyed communities are summarized in **Table 4**, in addition to this, maps available in the Appendix reflects also some of these statistics.

3 Proposed Actions Concerning Recent Surveyed Communities

From the results of analysis of the available data for communities surveyed in the past two months, the following table presents proposed actions needed for those communities. (**Table B**)

Table B: Proposed actions to address emergent needs from the current crisis for communities with priority **

No.	Comm. ID	Community Name	District	Population 97	Recognized Problems	Probable cause of the problem	Proposed actions
1	10180	Jenin	Jenin	26681	Open wastewater disposal and high evacuation cost (160 NIS) with only two available vacuum tankers. Reduction of Mekorot supply quantity to only 30% of the normal supply. Destruction of the main water network (\$ 563,808) in addition to the damages of roof tanks (1100 roof tank).	Current crisis/ closures and check points. Israeli forces/Bulldozers	Provision of vacuum tankers for wastewater disposal. Give back normal water supply by Mekorot or find alternative source of water. Rehabilitation of the destructed water network and the damaged roof tanks.
2	10185	Jenin Camp	Jenin	9110	Old and bad wastewater network. 80% of the population is unable to pay water bills. Reduction of supply by Mekorot to 50% of the normal supply, and relatively low water consumption (55 l/c/d). Destruction of the water network (\$38,700) in addition to damages to the roof tanks (400 roof tank) and water tankers (4).	Current crisis/ closures and check points which worsen the situation. Unemployment / Low income Israeli forces/Bulldozers	Rehabilitation of the wastewater network. Give back the normal supply by Mekorot or find alternative source of water. Rehabilitation of the destructed water network and the damaged roof tanks.
3	10235	Wad ad Dabi'	Jenin	277	Access to PHC is closed (3 km) and there are 15 cases of skin diseases (4.5%). Water used is not sampled or treated.	Water is thought to be the reason for diseases. Current crisis/ closures and check	Sampling and treatment of used water. Medical support. Provision of

No.	Comm. ID	Community Name	District	Population 97	Recognized Problems	Probable cause of the problem	Proposed actions
					High wastewater evacuation cost (160 NIS) with no available vacuum tankers. 78% of the houses cannot afford tankers water, which is the main water source in summer. Effect of check points and closures is very high.	points. Unemployment / Low income	vacuum tankers. Alternative source of water / provision of tankers water.
4	50455	Kardala	Tubas	121	30 cases of skin diseases (20.6%) are registered in the community. Wastewater from settlement and dumping site are polluting the environment. Mekorot current supply is only 60% of the normal supply quantity (69 l/c/d).	Water is thought to be the reason for diseases. Current crisis/ closures and check points.	Medical support to the community. Removal of dumping sites and pollution sources. Give back normal supply by Mekorot company or find alternative source of water.
5	50490	Ibziq	Tubas	43	Access to PHC is difficult (4 km) and 5 cases of skin diseases (10%) were registered in the community. In addition, water used is not sampled or treated and the available open wastewater canals worsen the situation High effect of closures and curfews on water tankers access which is the main water source in summer and 15 km away. Per capita water consumption is relatively low (39 l/c/p).	Water is thought to be the reason for diseases. Current crisis/ closures and check points.	Medical support. Sampling / treatment of used water and removal of pollution sources. Support in tankers or find alternative source of water.
6	50580	Al Malih	Tubas	151	7 cases of skin diseases are registered (2.7%), and PHC access is difficult. Water quality is acceptable but it is not sampled or treated and the availability of open wastewater canals worsens the situation. Water quantity is not sufficient (28 l/c/d), water tankers are the only source and it is 3 km away.	Water is thought to be the reason for diseases. Current crisis/ closures and check points.	Medical support. Sampling / treatment of water and removal of pollution sources. Provision of tankers water or find alternative source.
7	50851	Al Hadidiya	Tubas	134	The availability of open wastewater pollutes the environment. Access to PHC is difficult and it is 25 km away.	Current crisis/ closures and check points. Water is thought to be the reason for	Removal of open wastewater channels / percolation pits. Medical support.

No.	Comm. ID	Community Name	District	Population 97	Recognized Problems	Probable cause of the problem	Proposed actions
					Per capita water consumption is not sufficient (25 l/c/d) and tankers are the only source and is 21 km away with relatively high cost (20 NIS).	diseases.	Alternative source of water /support in tankers water or cisterns.
8	150750	Al Mas'udiya	Nablus	14	5 cases of ameba (30%) are registered, and PHC access is difficult (4 km away). Water used has bad quality which is not sampled or treated. Wastewater evacuation cost is relatively high (130 NIS) and the community does not have vacuum tankers. Effect of check points and curfews is high on movement of water tankers which is the main source in summer.	Current crisis/ closures and check points.	Medical support. Sampling / Treatment of water. Provision of vacuum tankers. Provision of water tankers.
9	150765	Sabastiya	Nablus	2171	High effects of check points and curfew on water tankers which covers 50% of the needs. Per capita consumption is acceptable (81 l/c/d) Destruction in water network (\$ 10,000) 75% of the populations are not able to pay water bills.	Current crisis/ closures and check points. Israeli forces/Bulldozers Unemployment / Low income	Rehabilitation of the destructed water network. Support in tankers water.
10	150785	An Naqura	Nablus	1239	Per capita water consumption is low (45 l/c/d) Water flow in the water network is weak; therefore tankers are main source in summer with relatively high price (20 NIS). High effect of check points and curfew.	Current crisis/ closures and check points.	Support in tankers Find alternative source of water / cisterns (50% coverage now) or rehabilitation of local spring. Provision of water pump to increase pressure in the network.
11	150990	Tell	Nablus	3542	High cost of wastewater evacuation (200 NIS) and no available vacuum tankers. Water quantity is not is not sufficient (24 l/c/d), and tankers are main water source (5 km away) High effects of check points and curfews on access.	Current crisis/ closures and check points. Unemployment / Low income	Provision of vacuum tankers. Provision of water tankers. Alternative source of water and water network / additional cistern.
12	151025	Kafr Qalil	Nablus	1862	High evacuation cost (120 NIS) with no available vacuum tankers.	Current crisis/ closures and check points.	Provision of vacuum tankers. Provision of water

No.	Comm. ID	Community Name	District	Population 97	Recognized Problems	Probable cause of the problem	Proposed actions
					Low per capita water consumption (33 l/c/d) High effect of check points and curfews on tankers access.		tankers. Alternative source of water and water network / cisterns.
13	151160	'Urif	Nablus	2122	Per capita water consumption is not sufficient (34 l/c/d). Current supply of Mekorot is only 30% of the normal supply. High effects of check point & curfews.	Current crisis/ closures and check points.	Give back normal supply quantity by Mekorot. Alternative source of water / cisterns (95% coverage now). Expansion of w network (25% now).
14	151230	Zeita Jamma'in	Nablus	1466	20 ameba cases (1.1%) were registered. Water quality is acceptable but not sampled. Water quantity is very limited (36 l/c/d) Current supply of Mekorot is only 65% of the normal supply. High effects of check points & curfews. 85% of the populations are not able to pay water bills.	Water is thought to be the cause for diseases. Current crisis/ closures and check points. Unemployment / Low income	Medical support. Sampling / treatment of used water. Give back normal supply by Mekorot / find alternative source of water like cisterns (coverage now is 95%)
15	151245	Jamma'in	Nablus	4320	40 ameba cases (0.7%) are registered. Water quality is acceptable but not sampled. Per capita consumption is not sufficient (35 l/c/d). Current supply of Mekorot is only 40% of the normal supply. High effects of check points & curfew.	Water is thought to be the reason for diseases. Current crisis/ closures and check points.	Sampling/ treatment of used water. Give back normal supply by Mekorot or find alternative source of water (new cisterns, coverage now is 90%).
16	201040	Qalqiliya	Qalqiliya	31772	Destruction of infrastructure including water network, wells, reservoir, and roof tanks (\$ 500,000).	Israeli forces/Bulldozers Current crisis/ closures and check points.	Rehabilitation of the destructed water network, wastewater network, damaged wells (3), and reservoir. Replacement of the damaged roof tanks (120). Alternative water sources.
17	251355	'Izbat Abu Adam	Salfit	35	PHC access is difficult (1 km away).	Current crisis/ closures and check points.	Medical support. Provision with tankers water.

No.	Comm. ID	Community Name	District	Population 97	Recognized Problems	Probable cause of the problem	Proposed actions
					Open waste water channels affect the environment. Low per capita water consumption (24 l/c/d). Tankers are the main source of water with high effects of curfew & check points.		
18	301455	Qarawat Bani Zeid	Ramallah	1958	Low per capita water consumption (31 l/c/d). High cost of tankers water, source is 10 Km away and cost is 27 NIS/m3. 90% of the populations are unable to pay bills, in addition to the closures of the valves (33%). Mekorot supply is only 40% of the normal supply.	Current crisis/ closures and check points. Unemployment / Low income	Give back normal supply by Mekorot / find alternative source of water (new cisterns, coverage now is only 15%). Rehabilitation of the water network.
19	351045	Marj Na'ja	Jericho	554	35 ameba cases were registered in the community (5.2%). Water quality is acceptable but not sampled or treated 50% of the population are unable to pay the bills	Water is thought to be the reason for diseases. Unemployment / Low income	Medical support. Sampling / treatment of water used. New source of water/ cisterns (coverage now is 0%).
20	351510	Fasayil	Jericho	650	80 cases of ameba were registered (10.2%). Water quality is acceptable but not sampled and not treated	Water is thought to be the reason for diseases.	Medical support. Sampling / treatment of water used. New cisterns (coverage now is 0%).
21	402000	An Nabi Samwil	Jerusalem	162	PHC access is difficult (4 km) Open waste water flowing to the local spring are affecting the environment and polluting the spring's water. 90% of the population are not able to pay water bills	Current crisis/ closures and check points. Unemployment / Low income	Medical support. Rehabilitation of the local spring and removal of pollution sources. Rehabilitation of the water network.
22	402045	Al Ka'abina (Tajammu' Badawi)	Jerusalem	723	15 cases of ameba cases (1.7%) were registered in the community. Water is not sampled or treated. Open waste water channels are affecting the environment.	Current crisis/ closures and check points.	Medical support. Sampling / treatment of water. Support in tankers/ other source like cisterns.

No.	Comm. ID	Community Name	District	Population 97	Recognized Problems	Probable cause of the problem	Proposed actions
					Tankers are the only available source (8 km away) with high effect of checkpoints and curfews on access.		
23	402125	'Arab al Jahalin	Jerusalem	893	<p>20 cases of ameba (1.8%) are registered in the community and water used is not sampled or treated.</p> <p>Open waste water channels are affecting the environment.</p> <p>Per capita consumption is low (31 l/c/d).</p> <p>Tankers are the only available source of water (7km away) with high effects by checkpoints and curfews on access.</p>	Water is thought to be the reason for diseases. Current crisis/ closures and check points.	Medical support. Sampling / treatment of used water. Provision of tankers water / other alternative source like cisterns.
24	452660	'Arab ar Rashayida	Betlehem	787	<p>PHC access is difficult (7 km away).</p> <p>Open waste water channels and percolation pits are affecting the environment.</p> <p>100% of the populations are unable to pay water bills.</p> <p>Water valves are controlled by the neighboring settlement.</p>	Current crisis/ closures and check points. Unemployment / Low income	Medical support / new clinic.
25	502610	Shamaliyyat al Hawa	Hebron	67	<p>PHC access is difficult (6 km away) and 7 cases of ameba were (8.7%) registered.</p> <p>High wastewater evacuation cost (160 NIS), with the available open waste water channels affecting the environment.</p> <p>Low per capita water consumption (33 l/c/d). Cost of tanker water is 20 NIS/m3 with high effect of check points and curfew.</p>	Current crisis/ closures and check points.	Medical support. Support with water tankers and cisterns (coverage now is 95%).
26	502710	Al Khamajat	Hebron	104	<p>10 cases of ameba (8%) were registered.</p> <p>High cost of wastewater evacuation (200 NIS), and no vacuum tankers are available in the community.</p> <p>Relatively low per capita consumption (40 l/c/d), and Mekorot company stopped water supply.</p>	Current crisis/ closures and check points. Unemployment / Low income	Medical support. Support with wastewater vacuum tankers. Support with water tankers and alternative source of water.

No.	Comm. ID	Community Name	District	Population 97	Recognized Problems	Probable cause of the problem	Proposed actions
					Relatively high cost of water tankers (20 NIS) with difficult access (8 km away). Tankers are the only source in summer.		
27	502800	Tarusa	Hebron	39	<p>5 cases of water related diseases are registered (8%).</p> <p>Open wastewater channel are affect the environment and the evacuation cost is relatively high (160 NIS); no available vacuum tankers.</p> <p>Per capita consumption is low (36 l/c/d). Tankers are the main source of water in summer (source is 40 km away, cost is 20 NIS).</p> <p>High effect of check points and curfews. 50% of the population cannot afford water tankers.</p>	<p>Current crisis/ closures and check points.</p> <p>Unemployment / Low income</p>	<p>Medical support. Support with wastewater vacuum tankers. Support with water tankers and additional cisterns (coverage now is 90%).</p>
28	502805	Kureise	Hebron	1637	<p>Per capita consumption is very low (17 l/c/d). Mekorot stopped supply to the community. Tankers are main source in summer (source is 20 km).</p> <p>High effects of check points and curfews.</p>	<p>Current crisis/ closures and check points.</p>	<p>Give back normal quantities from Mekorot company. Alternative sources / water tankers or cisterns (coverage now is 25%).</p>
29	502820	Rafada	Hebron	307	<p>30 cases of ameba are registered (8%). Open wastewater are affecting the environment and the evacuation cost for wastewater is relatively high (160 NIS), no available vacuum tankers in the community.</p> <p>Low per capita consumption (32 l/c/d) with tankers as a main source of water in summer. Source is 40 km away and cost is 20 NIS.</p> <p>High effect of checkpoints and curfews on access.</p> <p>62% of the populations are not able to pay water bills.</p>	<p>Current crisis/ closures and check points.</p> <p>Unemployment / Low income</p>	<p>Medical support. Provision of wastewater vacuum tankers. Provision of water tankers and alternative source of water. Rehabilitation of available cisterns and dig of new cisterns.</p>
30	502830	Ar Rawa'in	Hebron	168	<p>Access to PHC is closed (4 km away), and 20 cases of ameba & skin diseases are registered (10%).</p>	<p>Current crisis/ closures and check points.</p> <p>Unemployment / Low income</p>	<p>Medical support. Alternative source of water / new cisterns (coverage now is</p>

No.	Comm. ID	Community Name	District	Population 97	Recognized Problems	Probable cause of the problem	Proposed actions
					<p>High evacuation cost of wastewater (200 NIS), with pollution as a result of the open wastewater channels.</p> <p>Per capita consumption is low (41 l/c/d), with high cost of tankers water(30NIS/m3)</p> <p>Effect of check points and curfews are high.</p>		30%).
31	502835	Beit 'Awwa	Hebron	6003	<p>50 cases of cancer are registered in the community (0.6%) and water quality is assessed as bad.</p> <p>High cost for wastewater evacuation (150 NIS) with no available vacuum tankers.</p> <p>Low per capita consumption (32 l/c/d) with bad water network.</p> <p>High effect of checkpoints and curfews on tankers which are the main source of water in summer.</p> <p>80% of the population are nor able to pay water bills, and 44% are not able to pay for water tankers. In addition to this, closures of the main valves (17%) are affecting supply.</p> <p>Mekorot supply is only 40% of the normal supply and the water network was destructed.</p>	Current crisis/ closures and check points. Unemployment / Low income Israeli forces/Bulldozers	<p>Medical support / more investigation about the cancer cases.</p> <p>Sampling / Treatment of used water.</p> <p>Provision of wastewater vacuum tankers.</p> <p>Provision of water tankers.</p> <p>Rehabilitation of the destructed water network.</p> <p>Give back normal supply from Mekorot company or find alternative source of water.</p>
32	502920	Hadab al Fawwar	Hebron	1332	<p>Low per capita consumption (15 l/c/d).</p> <p>Destructions of the water network with estimated cost of about \$6,000).</p> <p>Tankers are the main water sources in summer and the source is 10 km away with cost about 12 NIS per cubic meters.</p>	Current crisis/ closures and check points. Israeli forces/Bulldozers	<p>Rehabilitation of the destructed water network with alternative source of water.</p> <p>Additional cisterns (coverage now is only 30%).</p> <p>Provisions of new tankers since no tankers are available for the community.</p>
33	502940	Wadi ash Shajina	Hebron	409	<p>Low per capita water consumption (41 l/c/d).</p> <p>Mekorot stopped supply to the community.</p>	Current crisis/ closures and check points. Israeli forces/Bulldozers	<p>Give back normal supply of water by Mekorot company.</p> <p>Rehabilitation of</p>

No.	Comm. ID	Community Name	District	Population 97	Recognized Problems	Probable cause of the problem	Proposed actions
					<p>Destruction of the water network estimated at \$7,000).</p> <p>Tankers are the main source in summer, the water source is about 5 km away with high effect of checkpoints and curfews on access and the cost is about 15 NIS.</p>		the destructed water network and find alternative source of water. Provision of new tankers since there are no tankers in the community. New cisterns (coverage now is only 60%).
34	502960	Ar Rihya	Hebron	2507	<p>Low per capita consumption (22 l/c/d)</p> <p>Tankers are the main water source in sum, and highly effected by closures and curfews. Cost per cubic meter is 18 NIS.</p> <p>Old and Bad (leaking) water network (15 years old).</p>	Current crisis/ closures and check points.	Rehabilitation and expansion of the local water network. Additional cisterns (coverage now is only 70%).
35	502990	Hureiz	Hebron	717	<p>Low per capita consumption (21 l/c/d).</p> <p>Tankers are the main water source in summer (source is 3 km away and 18 NIS per cubic meter).</p> <p>High effect of check points and curfews.</p>	Current crisis/ closures and check points.	Alternative water source / additional cisterns (coverage now is 70%). Provision of water tankers.
36	502995	Biyar al 'Arus	Hebron	659	<p>Low per capita consumption (23 l/c/d).</p> <p>Tankers are the main source of water in summer (20 NIS) with high effect of check points and curfews.</p> <p>Mekorot current supply is only 25% of the normal supply.</p>	Current crisis/ closures and check points.	Give back normal supply by Mekorot company. Rehabilitation and expansion of the local network (coverage now is 70%). Additional cisterns (coverage now is 80%).
37	503000	'Abda	Hebron	128	<p>The availability of open wastewater channels affects the environment.</p> <p>Low per capita water consumption (33 l/c/d) with tankers as the main water sources in summer (source is 20 km away, cost is 20 NIS).</p> <p>High effect of check points and curfew on access.</p>	Current crisis/ closures and check points.	Alternative source of water / Additional cisterns (coverage now is 75%). Provisions of water tankers since no tankers are available in the community.

No.	Comm. ID	Community Name	District	Population 97	Recognized Problems	Probable cause of the problem	Proposed actions
38	503020	Ad Duweir	Hebron	496	Low per capita consumption (19 l/c/d) with tankers as the main water source in summer (3 km away, cost is 18 NIS). High effects of check points and curfews.	Current crisis/ closures and check points.	Alternative water source / Additional cisterns (coverage now is 70 %).
39	503030	Wadi as Sada	Hebron	158	Low per capita consumption (26 l/c/d) with tankers as the main source in summer (2 km away and cost is 35 NIS). High effects of check points and curfews.	Current crisis/ closures and check points.	Alternative water source / Additional cisterns (coverage now is 70 %).
40	503040	Hadab al 'Alaqa	Hebron	386	The availability of open waste water affects the environment. Low per capita consumption (36 l/c/d) with tankers as the main water source in summer (15 km away, cost is 20 NIS). High effect of check points and curfews on access.	Current crisis/ closures and check points.	Appropriate solution for the wastewater which is affecting the environment. Additional cisterns (coverage now 30%) and rehabilitation of available cisterns. Rehabilitation of the local spring.
41	503070	Qurnet ar Ras	Hebron	197	Low per capita consumption (28 l/c/d) with tankers as the main water source in summer (2 km away and 18 NIS per cubic meter). High effects of check points and curfews on access.	Current crisis/ closures and check points.	Additional cisterns (coverage now is only 70%). Alternative source of water.
42	503095	Karma	Hebron	979	Low per capita consumption (13 l/c/d) with tankers as the main source in summer (source is 2 Km away). Destruction of the water network (Estimated cost is \$9,000). Mekorot stopped supply to the community. High effects of check points and curfews on access.	Current crisis/ closures and check points. Israeli forces/Bulldozers	Give back normal supply by Mekorot company. Provision of water tankers (Available is only one tanker). Additional cisterns (coverage now is only 20%) Rehabilitation of the destructed water network and connection to a new source.

No.	Comm. ID	Community Name	District	Population 97	Recognized Problems	Probable cause of the problem	Proposed actions
43	503100	Beit 'Amra	Hebron	1222	<p>Low per capita consumption (27 l/c/d) with tankers as the main source of water in summer (5 km away, and cost is 18 NIS).</p> <p>High effect of check points and curfews on the community.</p> <p>Mekorot current supply is only 25% of the normal supply.</p> <p>Old and leaking water network (15 years old).</p>	Current crisis/ closures and check points.	Rehabilitation and expansion of the water network. Give back normal supply by Mekorot company / alternative source. Additional cisterns (coverage now is 70%).
44	503155	Abu al 'Asja	Hebron	449	<p>High wastewater evacuation cost (150 NIS) with no available vacuum tankers.</p> <p>Low per capita consumption (31 l/c/d) and tankers are the main water sources in summer (8 km away, cost is 25 NIS per cubic meter).</p> <p>High effects of check points and curfews on access.</p>	Current crisis/ closures and check points.	Provision of wastewater vacuum tankers. Provision of water tankers. Alternative source of water / additional cisterns (coverage is 50% now).
45	503160	Abu al Ghuzlan	Hebron	407	<p>High cost of wastewater evacuation (150 NIS) with no available vacuum tankers.</p> <p>Low per capita consumption (31 l/c/d) and tankers are the main water source in summer (5 km away, cost is 25 NIS).</p> <p>High effects of check points and curfews.</p>	Current crisis/ closures and check points.	Provision of wastewater vacuum tankers. Additional cisterns (non are available now). Provision of water tankers.
46	503185	Abu al 'Urqan	Hebron	347	<p>PHC access is difficult (5 km away) and 10 cases of skin diseases are registered in the community (2%).</p> <p>Low per capita consumption (32 l/c/d) and tankers are the main source of water in summer (source is 7 km away, cost is 20 NIS).</p> <p>High effect of check points and curfews.</p>	Current crisis/ closures and check points.	Medical support. Alternative source of water / additional cisterns (coverage now is only 50%) Provisions of water tankers since no tankers are available in the community.

No.	Comm. ID	Community Name	District	Population 97	Recognized Problems	Probable cause of the problem	Proposed actions
47	503215	Al Karmil	Hebron	2110	Low per capita consumption (27 l/c/d) and tankers are the main source of water in summer (source is 7 km away, cost is 18 NIS).	Current crisis/ closures and check points.	Alternative source of water / additional cisterns (coverage now is 70% Rehabilitation of the local spring.
48	503220	Qinan Jaber	Hebron	296	Low per capita consumption (30 l/c/d) and tankers are the main water source in summer (source is 5 km away, cost is 20 NIS). High effects of check points and curfews on access.	Current crisis/ closures and check points.	Alternative source of water / additional cisterns (coverage is 60% now).
49	503295	'Anab al Kabir	Hebron	221	PHC access is difficult (8 km away). Low per capita consumption and (19 l/c/d) and tankers are the main source of water in summer (8km away, cost is 15 NIS). High effects of checkpoints and curfews on access.	Current crisis/ closures and check points.	Medical support. Alternative source of water / rehabilitation of cisterns which is the main water source. Roof tanks for the local school.
50	503300	Khirbet Asafi	Hebron	21	PHC access is closed (20 km away). High cost for wastewater evacuation (120 NIS) with no available vacuum tankers. Tankers are the main water source in summer (source is 20 km away, cost is 35 NIS). High effects of check points and curfews.	Current crisis/ closures and check points.	Medical support. Provision of wastewater vacuum tankers. Alternative source of water and reservoir.
51	503305	Khirbet al Maq'ura	Hebron	73	PHC access is difficult (20 km). High cost for wastewater evacuation (120 NIS) with no available vacuum tankers. Low per capita consumption (34 l/c/d). Tankers are the main source in summer (Source is 20 km away, cost is 35 NIS). High effects of check points and curfews	Current crisis/ closures and check points.	Medical support. Alternative source of water and reservoir.
52	503310	Mantiqat Shi'b al Batin	Hebron	33	PHC access is closed (20 km). High cost for wastewater evacuation (120 NIS).	Current crisis/ closures and check points.	Medical support. Alternative source of water / additional cisterns

No.	Comm. ID	Community Name	District	Population 97	Recognized Problems	Probable cause of the problem	Proposed actions
					Low per capita consumption (30 l/c/d). Tankers are the main source of water in summer. (source is 20 km away and cost is 35 NIS). High effects of check points and curfews.		(coverage is 60% now).
53	503330	Khirbet at Tabban	Hebron	22	PHC access is completely closed (10 km away). High cost for wastewater evacuation cost (120 NIS) with no available vacuum tankers. Tankers are the main source of water in summer (source is 22 km away, cost is 35 NIS). High effects of check points and curfews.	Current crisis/ closures and check points.	Medical support. Provision of wastewater vacuum tankers. Alternative source of water and reservoir.
54	503340	Khirbet al Majaz	Hebron	90	PHC access is closed (10 km). High cost for wastewater evacuation (120 NIS) with no available vacuum tankers. Low per capita consumption (19 l/c/d). Tankers are the main source of water in summer (source is 22 km away, cost 35 is NIS). High effects of check points and curfews.	Current crisis/ closures and check points.	Medical support. Alternative source of water and reservoir.
55	503345	Maghayir al 'Abeed	Hebron	27	PHC access is closed (8 km). High cost for wastewater evacuation (120 NIS) with no available vacuum tankers. Tankers are the main source of water in summer (source is 20 km away), cost is 35 NIS). High effects of check points and curfews.	Current crisis/ closures and check points.	Medical support. Provision of wastewater vacuum tankers. Alternative source and reservoir.
56	503350	Khirbet al Fakheit	Hebron	20	PHC access is closed (10 km). High cost for wastewater evacuation (120 NIS) with no available vacuum tankers. Low per capita water consumption (17 l/c/d). Tankers are the main water source in summer with (source is 22 km away, cost is 35 NIS)	Current crisis/ closures and check points.	Medical support. Alternative source and reservoir.

No.	Comm. ID	Community Name	District	Population 97	Recognized Problems	Probable cause of the problem	Proposed actions
57	552740	Beit Hanun	North Gaza	20791	<p>Destruction of the wastewater network This cause flow and negatively affect the environment.</p> <p>Destruction of the water network (\$14,000).</p> <p>80% of the populations are not able to pay water bills.</p>	Current crisis/ closures and check points. Unemployment / Low income	Rehabilitation of the destructed water network. Rehabilitation of the wastewater network
58	653275	Wadi as Salqa	Deir Al-Balah	3235	<p>Percolation pits and open wastewater channels affect the environment in addition to the wastewater coming from neighboring settlement (Kfar Drom).</p> <p>Low per capita water consumption (34 l/c/d).</p> <p>Damages of local wells (4 complete + 2 partial), and water network destructions (\$ 3700).</p>	Current crisis/ closures and check points. Unemployment / Low income Israeli forces/Bulldozers	Removal of pollution sources from the neighboring settlements. Alternative water source. Rehabilitation of the destructed wells and water network.
59	753490	Rafah	Rafah	49881	Destruction of the two main wells in the community, which caused the reduction of the per capita consumption to almost the half (\$20,000).	Current crisis Israeli forces/Bulldozers	Alternative water source Rehabilitation of the destructed water network.
60	753495	Rafah Camp	Rafah	42139	<p>Rehabilitation of the leaking water network which is 10 years old and which was destructed during the current situation (\$ 7,000), in addition to the bad wastewater network.</p> <p>95% of the populations are not able to pay water bills.</p>	Current crisis Israeli forces/Bulldozers	Rehabilitation of the destructed water network. Rehabilitation of the wastewater network

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1. The above listed actions are the key ones identified during the current reporting period. Yet, it is hoped that some responses will be acquired from various agencies and donors to help improve the situation of those communities in need. The type of responses may vary from one community to another. Some responses may require permits and some may not. Therefore, it is always advisable to refer to Palestinian Water Authority (PWA) as the regulatory body, to get more clarifications on these issues for any concerned community.

2. Technical specification regarding construction of cisterns for domestic use is available at the Palestinian Water Authority (PWA) / Technical Directorate – Specification Department. Those interested in these specifications can get a copy from the mentioned Department (Available in Arabic only).

Section III

Appendix

A- Tables:

Table 1-a: Recent Surveyed Communities (January 2003)

Table 1-b: Communities to be Surveyed Later

Table 2: Damages of Water Infrastructure

Table 3: Water Network Destruction According to Pipes Diameters

Table 4: Statistical Results

B- Maps:

1- Field Work Teams

2-a Separation Wall (First Stage in the Northern West Bank)

2-b Separation Wall (All Stages in West Bank)

3- Surveyed Communities

4- PHC Accessibility

5- Water Networks

6- Water Use per Capita (L/C/D)

7- Percentage of Houses with Cisterns

8- Affected Communities by Damages of Water Infrastructure

9- Mekharot Current Supply

10-a PHG and PWA WaSH Activities

10-b Other Organizations WaSH Activities

C- Charts:

1- Percentage of Infected Persons by WaSH Diseases

2- Weighted Average Cost of Percolation Pits Evacuation (NIS / 8 m³ tanker)

3- Weighted Average Cost of Tankers Water (NIS / m³)

4- Weighted Average Water Use Per Capita (L/C/D)

5- Main Water Sources

6- Communities Needs

Table 1-a: Recent Surveyed Communities (January 2003)

No.	Community Id	Community Name	District	Date	Population ⁹⁷
1	10075	Dahiyat Sabah al Kheir	Jenin	1/14/03	1087
2	10090	'Arab al Hamdun	Jenin	1/13/03	39
3	10180	Jenin	Jenin	1/7/03	26681
4	10185	Jenin Camp	Jenin	1/7/03	9110
5	10235	Wad ad Dabi'	Jenin	1/9/03	277
6	10270	'Arab as Suweitat	Jenin	1/8/03	375
7	10280	Khirbet Sab'ein	Jenin	1/18/03	22
8	10340	Qabatiya	Jenin	1/18/03	14694
9	10495	Sir	Jenin	1/18/03	574
10	10540	Mantiqat al Heish	Jenin	1/23/03	19
11	50420	Bardala	Tubas	1/1/03	1154
12	50455	Kardala	Tubas	1/2/03	121
13	50470	Khirbet Tell el Himma	Tubas	1/15/03	91
14	50490	Ibziq	Tubas	1/3/03	43
15	50525	Salhab	Tubas	1/5/03	53
16	50551	Al Farisiya	Tubas	1/15/03	156
17	50580	Al Malih	Tubas	1/5/03	151
18	50656	Khirbet Yarza	Tubas	1/6/03	23
19	50720	Khirbet ar Ras al Ahmar	Tubas	1/15/03	62
20	50790	Khirbet 'Atuf	Tubas	1/4/03	76
21	50851	Al Hadidiya	Tubas	1/15/03	134
22	50871	Khirbet Humsa	Tubas	1/15/03	17
23	100630	Kafr Rumman	Tulkarem	1/7/03	649
24	150680	Burqa	Nablus	12/31/02	3012
25	150705	Beit Imrin	Nablus	12/31/02	2149
26	150745	Nisf Jubeil	Nablus	1/2/03	378
27	150750	Al Mas'udiya	Nablus	1/8/03	14
28	150765	Sabastiya	Nablus	1/2/03	2171
29	150770	Ijnisinya	Nablus	1/2/03	418
30	150785	An Naqura	Nablus	2/1/03	1239
31	150835	Zawata	Nablus	1/30/03	1420
32	150950	Sarra	Nablus	1/30/03	2161
33	150990	Tell	Nablus	1/28/03	3542
34	151025	Kafr Qalil	Nablus	1/29/03	1862
35	151160	'Urif	Nablus	1/27/03	2122
36	151230	Zeita Jamma'in	Nablus	1/27/03	1466
37	151245	Jamma'in	Nablus	1/27/03	4320
38	201040	Qalqiliya	Qalqiliya	1/18/03	31772
39	251310	Haris	Salfit	8/17/02	2230
40	251355	'Izbat Abu Adam	Salfit	1/26/03	35
41	251390	Khirbet Susa	Salfit	1/26/03	10
42	301455	Qarawat Bani Zeid	Ramallah	1/11/03	1958
43	301585	Burham	Ramallah	1/11/03	400
44	351045	Marj Na'ja	Jericho	1/18/03	554
45	351510	Fasayil	Jericho	1/18/03	650
46	351840	An Nuwei'ma	Jericho	1/18/03	841
47	351845	'Ein ad Duyuk al Foqa	Jericho	1/18/03	588
48	351865	'Ein as Sultan Camp	Jericho	1/18/03	1470
49	351905	'Ein ad Duyuk at Tahta	Jericho	1/18/03	698

50	351975	Aqbat Jaber Camp	Jericho	1/18/03	4581
51	401875	Kafr 'Aqab	Jerusalem	1/16/03	7715
52	401910	Jaba' (Tajammu' Badawi)	Jerusalem	1/16/03	46
53	401915	Qalandiya	Jerusalem	1/16/03	855
54	402000	An Nabi Samwil	Jerusalem	1/11/03	162
55	402010	Beit Hanina al Balad	Jerusalem	1/16/03	1027
56	402045	Al Ka'abina (Tajammu' Badawi)	Jerusalem	1/18/03	723
57	402125	'Arab al Jahalin	Jerusalem	1/18/03	893
58	452205	Al Haddadiya	Betlehem	1/23/03	49
59	452215	Wadi al 'Arayis	Betlehem	1/20/03	1591
60	452220	Al Hujeila	Betlehem	1/20/03	74
61	452245	Juhdum	Betlehem	1/20/03	1020
62	452250	Umm al Qasseis	Betlehem	1/20/03	268
63	452260	Umm 'Asla	Betlehem	1/20/03	119
64	452295	Fakht al Jul	Betlehem	1/23/03	187
65	452330	Al Khushna	Betlehem	1/23/03	49
66	452660	'Arab ar Rashayida	Betlehem	1/27/03	787
67	502515	Khirbet Mushrif	Hebron	1/30/03	44
68	502610	Shamaliyyat al Hawa	Hebron	1/4/03	67
69	502710	Al Khamajat	Hebron	1/2/03	104
70	502800	Tarusa	Hebron	1/15/03	39
71	502805	Kureise	Hebron	1/24/03	1637
72	502820	Rafada	Hebron	1/12/03	307
73	502830	Ar Rawa'in	Hebron	1/6/03	168
74	502835	Beit 'Awwa	Hebron	1/20/03	6003
75	502870	Wadi 'Ubeid	Hebron	12/25/02	108
76	502915	Marah al Baqqar	Hebron	1/20/03	141
77	502920	Hadab al Fawwar	Hebron	12/26/02	1332
78	502940	Wadi ash Shajina	Hebron	1/5/03	409
79	502960	Ar Rihya	Hebron	1/18/03	2507
80	502990	Hureiz	Hebron	1/18/03	717
81	502995	Biyar al 'Arus	Hebron	1/18/03	659
82	503000	'Abda	Hebron	12/29/02	128
83	503020	Ad Duweir	Hebron	1/18/03	496
84	503025	Al 'Alaqa al Fauqa	Hebron	1/5/03	67
85	503030	Wadi as Sada	Hebron	1/18/03	158
86	503040	Hadab al 'Alaqa	Hebron	1/16/03	386
87	503050	Al 'Alaqa at Tahta	Hebron	1/5/03	88
88	503070	Qurnet ar Ras	Hebron	1/18/03	197
89	503095	Karma	Hebron	12/26/02	979
90	503100	Beit 'Amra	Hebron	1/18/03	1222
91	503145	Rabud	Hebron	12/2/02	439
92	503155	Abu al 'Asja	Hebron	1/5/03	449
93	503160	Abu al Ghuzlan	Hebron	1/5/03	407
94	503185	Abu al 'Urqan	Hebron	1/10/03	347
95	503215	Al Karmil	Hebron	1/18/03	2110
96	503220	Qinan Jaber	Hebron	1/18/03	296
97	503280	Ar Rakeez	Hebron	1/18/03	0
98	503290	Khirbet Sarura	Hebron	1/18/03	48
99	503295	'Anab al Kabir	Hebron	12/25/02	221
100	503300	Khirbet Asafi	Hebron	1/18/03	21
101	503305	Khirbet al Maq'ura	Hebron	1/18/03	73

102	503310	Mantiqat Shi'b al Batin	Hebron	1/18/03	33
103	503330	Khirbet at Tabban	Hebron	1/11/03	22
104	503340	Khirbet al Majaz	Hebron	1/11/03	90
105	503345	Maghayir al 'Abeed	Hebron	1/11/03	27
106	503350	Khirbet al Fakheit	Hebron	1/11/03	20
107	503355	Khirbet at Tawamin	Hebron	1/18/03	24
108	503360	Khirbet Bir al 'Idd	Hebron	1/18/03	105
109	552695	Beit Lahiya	North Gaza	12/14/02	38460
110	552740	Beit Hanun	North Gaza	12/14/02	20791
111	552740	Beit Hanun	North Gaza	1/15/03	20791
112	552745	'Izbat Beit Hanun	North Gaza	12/14/02	4769
113	552755	Jabalya Camp	North Gaza	12/14/02	60367
114	552760	'Arab Maslakh Beit Lahya	North Gaza	1/30/03	69
115	552790	Jabalya	North Gaza	12/14/02	53534
116	602700	Madinat al 'Awda	Gaza	1/30/03	420
117	602775	Ash Shati' Camp	Gaza	1/30/03	62036
118	602825	Gaza	Gaza	1/30/03	291596
119	653275	Wadi as Salqa	Deir Al-Balah	1/18/03	3235
120	703425	Bani Suheila	Khan Yunis	1/15/03	23031
121	753460	Tall as Sultan Camp	Rafah	1/8/03	17154
122	753490	Rafah	Rafah	2/5/03	49881
123	753495	Rafah Camp	Rafah	1/25/03	42139
124	753495	Rafah Camp	Rafah	1/12/03	42139

Table 1-b: Communities to be Surveyed Later

	Community Id	Community Name	District	Population97
1	150855	Qusin	Nablus	1296
2	150890	Al Juneid	Nablus	289
3	150910	'Azmut	Nablus	2036
4	150935	Deir al Hatab	Nablus	1687
5	151010	Rujeib	Nablus	2926
6	151030	Furush Beit Dajan	Nablus	866
7	151080	Burin	Nablus	1923
8	151285	Za'tara	Nablus	43
9	201070	'Arab Abu Farda	Qalqiliya	77
10	251300	Marda	Salfit	1610
11	351110	Az Zubeidat	Jericho	968
12	351116	Marj al Ghazal	Jericho	278
13	351140	Al Jiftlik	Jericho	3178
14	351690	Al 'Auja	Jericho	2896
15	452265	Ad Doha	Betlehem	5199
16	452270	Al Khadr	Betlehem	6809
17	452670	Al 'Azazima	Betlehem	59
18	452715	Ar Rawa'in	Betlehem	112
19	502750	Taffuh	Hebron	7054
20	502855	Qalqas	Hebron	653
21	502880	Birin	Hebron	125
22	502885	Al Hijra	Hebron	488
23	502955	Deir Razih	Hebron	236
24	502975	Khallet al 'Aqed	Hebron	150
25	502985	Iskeik	Hebron	120
26	503035	Khallet 'Arabi	Hebron	139
27	503060	Qinan an Najma	Hebron	116
28	503165	Al Bira	Hebron	224
29	503230	As Simiya	Hebron	1226
30	503325	Khirbet Tawil ash Shih	Hebron	135
31	503335	Ar Ramadin	Hebron	2208

Table 2: Damages of Water Infrastructure

Item		Damages (total)		Number of affected comm.	Most affected communities				
		complete	partial		ID	Name	District	Damages	
								Comp-lete	partial
1	Wells	63	88	40	703415	Al Mawasi (Khan Yunis)	Khan Yunis	12	5
					653240	Deir al Balah	Deir al Balah	11	
					503185	Abu al ‘Urqan	Hebron	5	20
					503145	Rabud	Hebron	5	7
2	Springs	85	68	35	502555	Shuyukh al ‘Arrub	Hebron	20	
					502615	Beit Ula	Hebron	5	7
					502570	Qila	Hebron	4	6
					502630	Halhul	Hebron	3	12
					502600	Ras al Jora	Hebron	3	10
3	Cisterns	447		30	502585	Nuba	Hebron	100	
					502635	Ash Shuyukh	Hebron	70	
4	Water Tankers	27	25	17	502615	Beit Ula	Hebron	5	10
					10265	Ya’bad	Jenin		
					502570	Qila	Hebron		5
					151365	Qusra	Nablus	4	
					10185	Jenin Camp	Jenin	4	
5	Roof Tanks	9128		104	502640	Tarqumiya	Hebron	1200	
					10180	Jenin	Jenin	1100	
					502630	Halhul	Hebron	500	
6	Reservoirs	2	12	9	653275	Wadi as Salqa	Deir al Balah	1	
					100530	Deir al Ghusun	Tulkarem	1	1
					50700	El Far’a Camp	Tubas		3
					151200	Yanun	Nablus		3
7	Network	\$ 3,043,825		108	10180	Jenin	Jenin	\$ 563,808	
					201040	Qalqiliya	Qalqiliya	\$ 500,000	
					503245	Adh Dhahiriya	Hebron	\$ 185,400	
					502810	Deir Samit	Hebron	\$ 171,400	
					201100	‘Azzun	Qalqiliya	\$ 102,975	
					50610	Tubas	Tubas	\$ 100,000	
						Al ‘Arrub			
					502530	Camp	Hebron	\$ 100,000	
					502620	Sa’ir	Hebron	\$ 100,000	

Note: The above results are what have been collected through field survey from the community's local councils.

Table 3: Water Network Destruction According to Pipes Diameters

Pipe Diameter (inch)	Sum of pipe lengths (m)	Sum of booster pumps	Sum of valves numbers	Sum of fittings number	Sum of estimated cost (\$)	Sum of served houses
		5	168	1318	106805	10104
0.5	31335	21	247	45	155821	3774
0.75	6580		21	41	52780	2014
1	20135	1	91	174	332478	8115
2	53391	18	134	95	612260	12058
2.5	50				3000	50
3	8292		27	20	258424	7977
4	14169	3	47	35	442800	13507
5	400		5		25000	500
6	5965		12	5	321079	7392
8	2550		6	1	78000	6900
10	500				20000	3340
12	307		2		18000	2900
Total Sum	143674	48	760	1734	2426447	78631
Jenin and Jenin Camp	There is a detailed hardcopy list				617378	
Total sum of estimated cost					3043825	

Note: The above results are what have been collected through field survey

Table 4: Statistical Results

	ITEM	COMMUNITIES		POPULATION ⁹⁷		DETAILS, REMARKS
		Number	%	Number	%	
1	All communities in WB and GS	708		2,811,878		
2	Surveyed communities from July 2002 until February 2003	615	87%	2,167,048	77%	See map 3, Table A
3	Surveyed communities with updating	26				
4	Surveyed communities inhabited seasonally	9				Small communities having PCBS codes, with no people at the moment of surveying (but they come from time to time)
5	Surveyed communities with inhabitants	606				
6	Total number of questionnaires					641
7	Recent surveyed communities (January 2003)	124				112 new 12 updating 6 inhabited seasonally See Table 1
8	PHC accessibility: - Communities with closed access - Communities with difficult access - Communities with regular access	37 138 431	6% 23% 71%		1% 4% 95%	See map 4
9	Water networks: - Communities with water network - Communities without water network - Communities without water network and population more than 3000 - Communities with good water network - Communities with leaking water network - Communities with bad water network - People without water network	428 178 13 153 179 96	71% 29% 36% 42% 22%	2,020,468 146,580 315,672	93% 7% 15%	See map 5
10	Water use (Liters per Capita per Day (L/C/D)): - Communities with L/C/D < 30 - Communities with L/C/D >= 30 and < 60 - Communities with L/C/D >=60 and < 100 - Communities with L/C/D >= 100	62 203 212 129	10% 34% 35% 21%	101,513 515,804 879,664 669,807	5% 24% 40% 31%	See map 6

	<ul style="list-style-type: none"> - Total water use for domestic purposes (including domestic agriculture, domestic livestock, and all losses) for all surveyed communities - Average L/C/D for domestic purposes (including domestic agriculture, domestic livestock, and all losses) for all surveyed communities 					7262413 m3 90 Liters per capita per day
11	Cisterns availability: <ul style="list-style-type: none"> - Communities with cisterns coverage < 5% - Communities with cisterns coverage >= 5% and < 50% - Communities with cisterns coverage >= 50% and < 95% - Communities with cisterns coverage >= 95% 	122 193 223 68	20% 32% 37% 11%			See map 7
12	Damages of water infrastructure					See tables 2, 3 and map 8
13	Mekharot Current Supply <ul style="list-style-type: none"> - Communities with Mekharot connection - Communities with current Mekharot supply < 30% - Communities with current Mekharot supply >= 30% and < 80 % - Communities with current Mekharot supply >= 80% 	252 32 105 115	13% 42% 45%			See map 9
14	Organizations that have WaSH activities in more than 3 surveyed communities: PHG PWA SCF UNDP CRS GEKA ERM PEC DAR CHF ANERA LEKA GVC SSC PARC	75 57 23 23 21 11 10 10 9 7 5 4 4 4				See maps 10-a, and 10-b

Note: The above results are what have been collected through field survey.

WaSH MONITORING PROJECT
1- Field Work Teams



LEGEND

- Built up area
- Settlement
- Road



WaSH MONITORING PROJECT

2-a Separation Wall

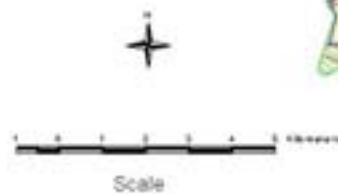
(First Stage in the Northern West Bank)



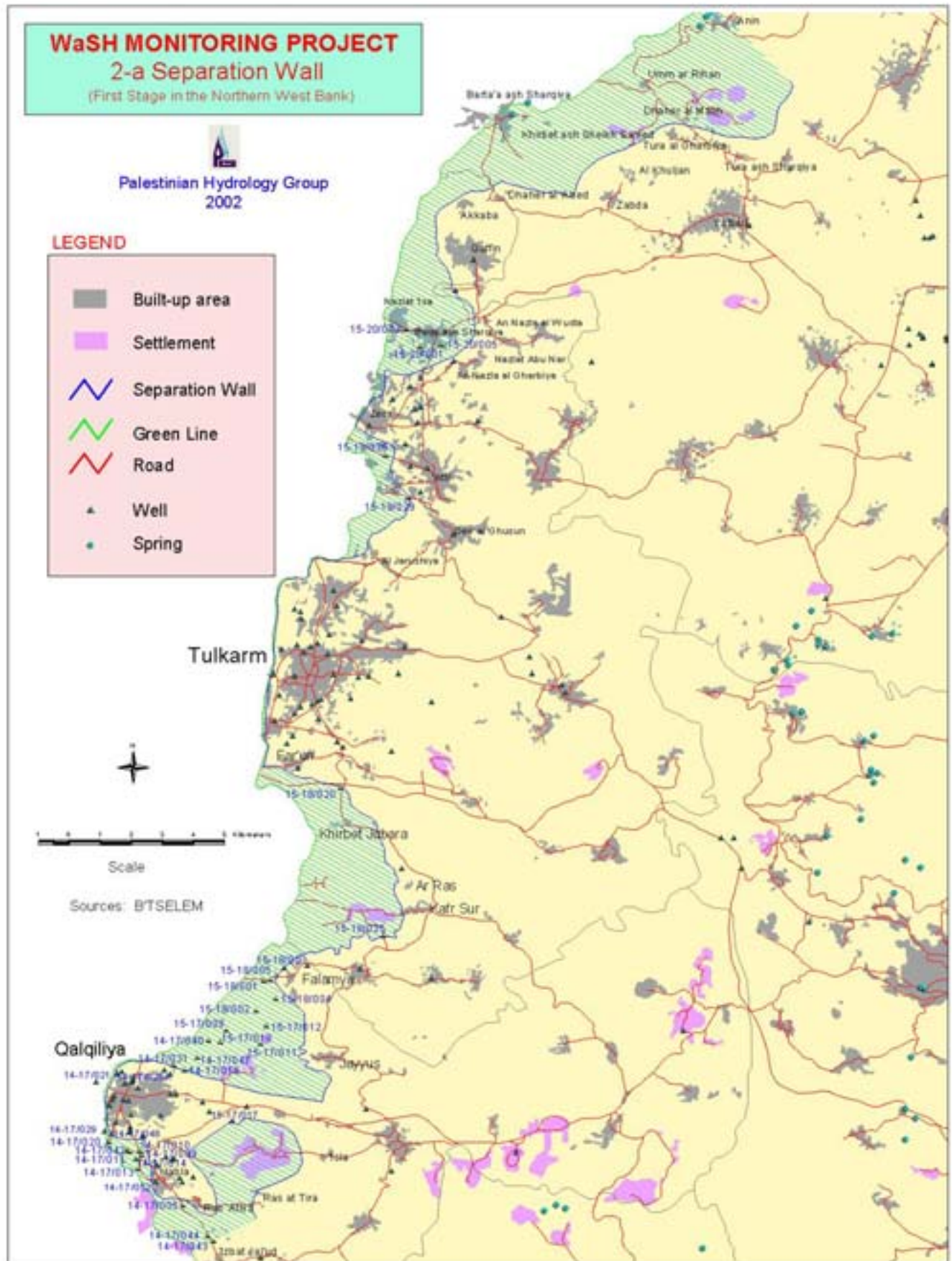
Palestinian Hydrology Group
2002

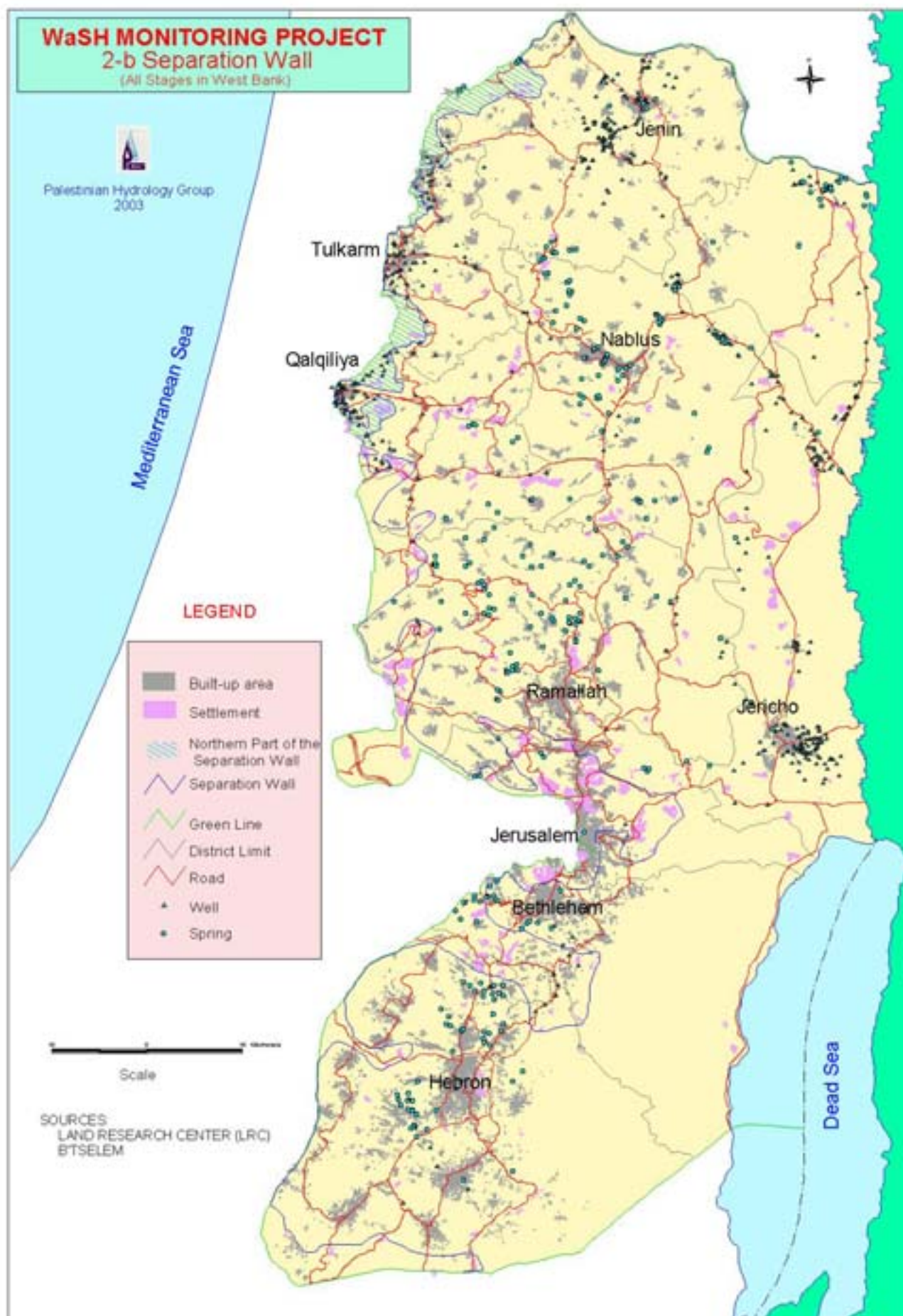
LEGEND

- Built-up area
- Settlement
- Separation Wall
- Green Line
- Road
- Well
- Spring



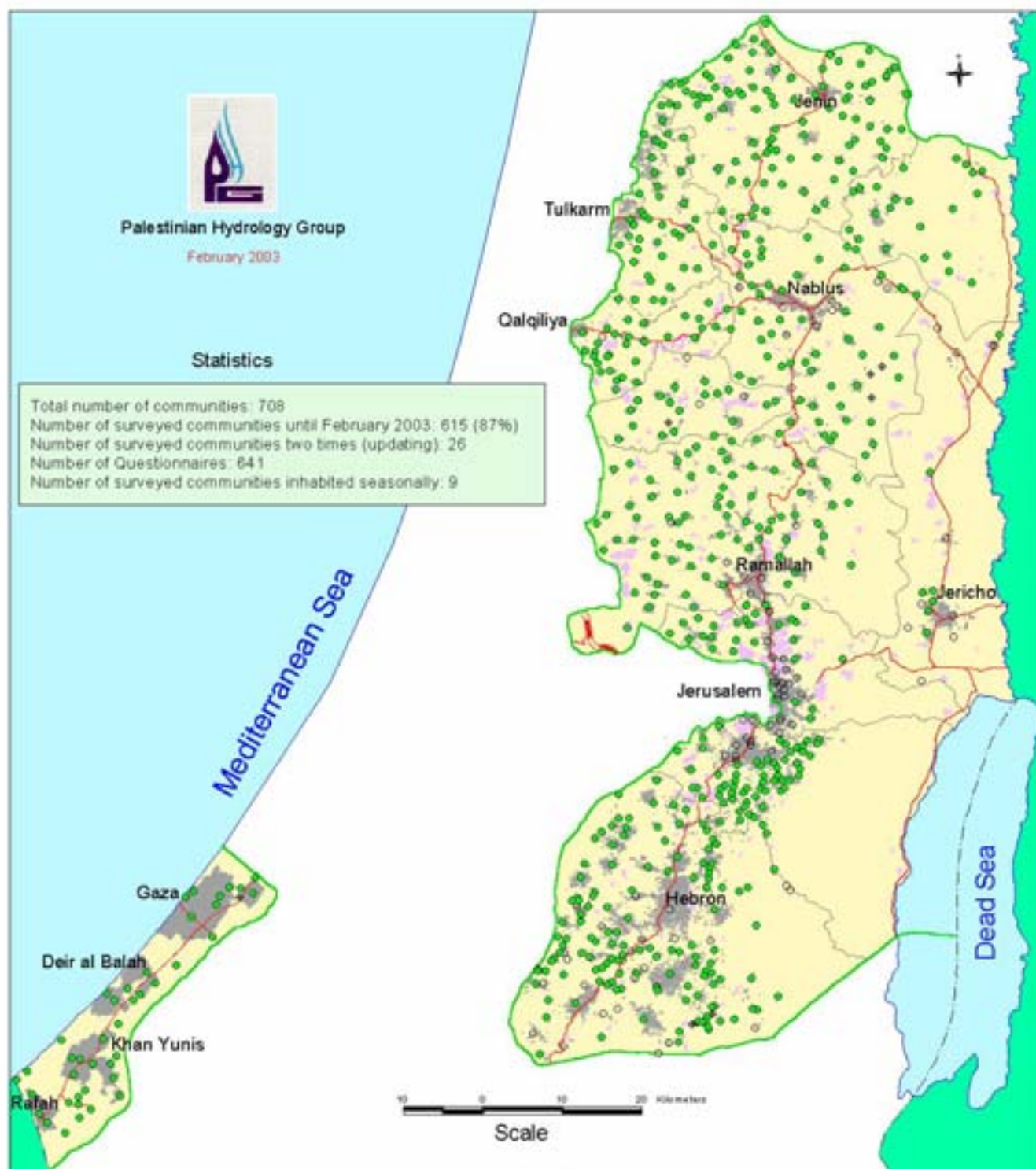
Sources: BTSELEM





WaSH MONITORING PROJECT

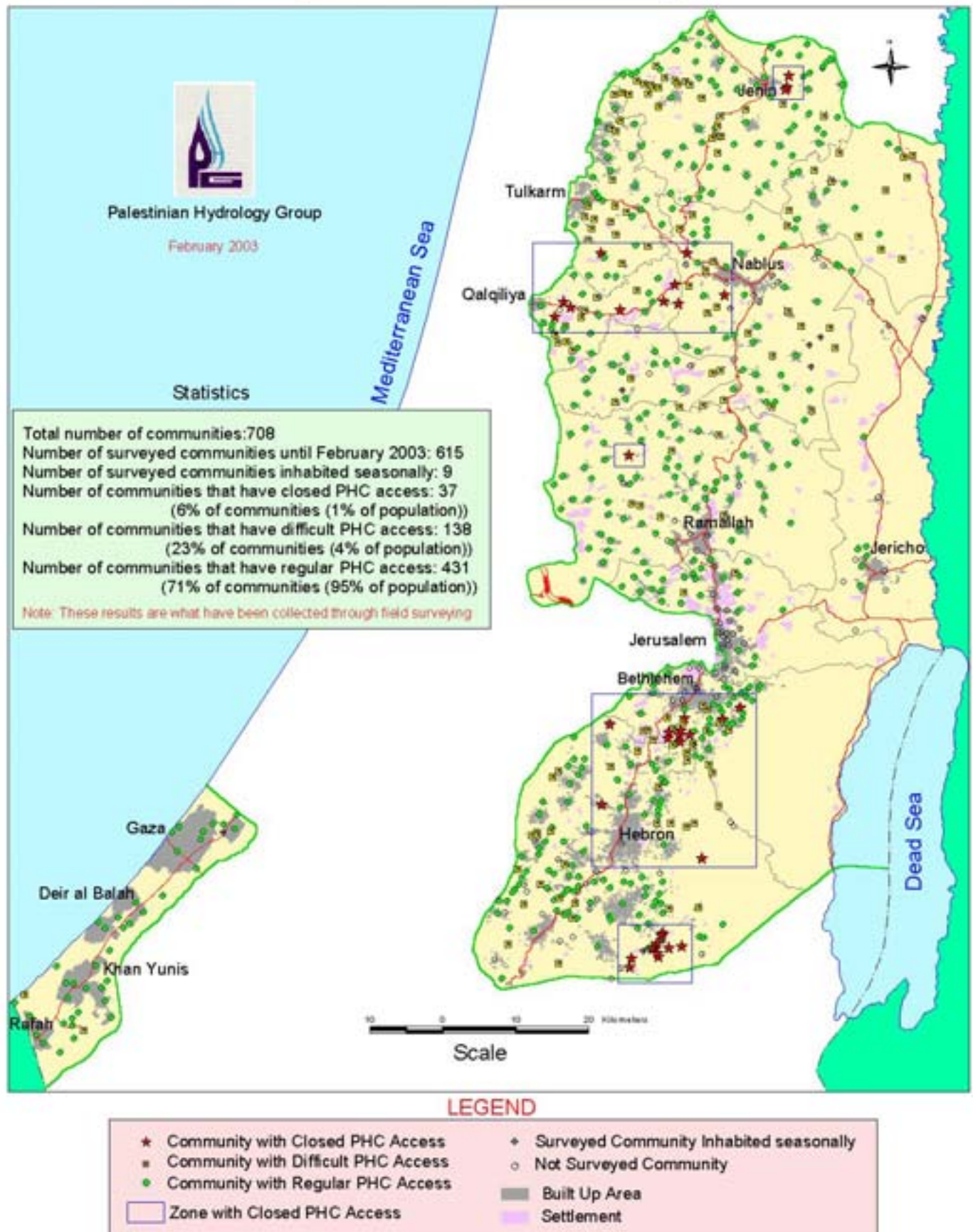
3- Surveyed Communities



LEGEND

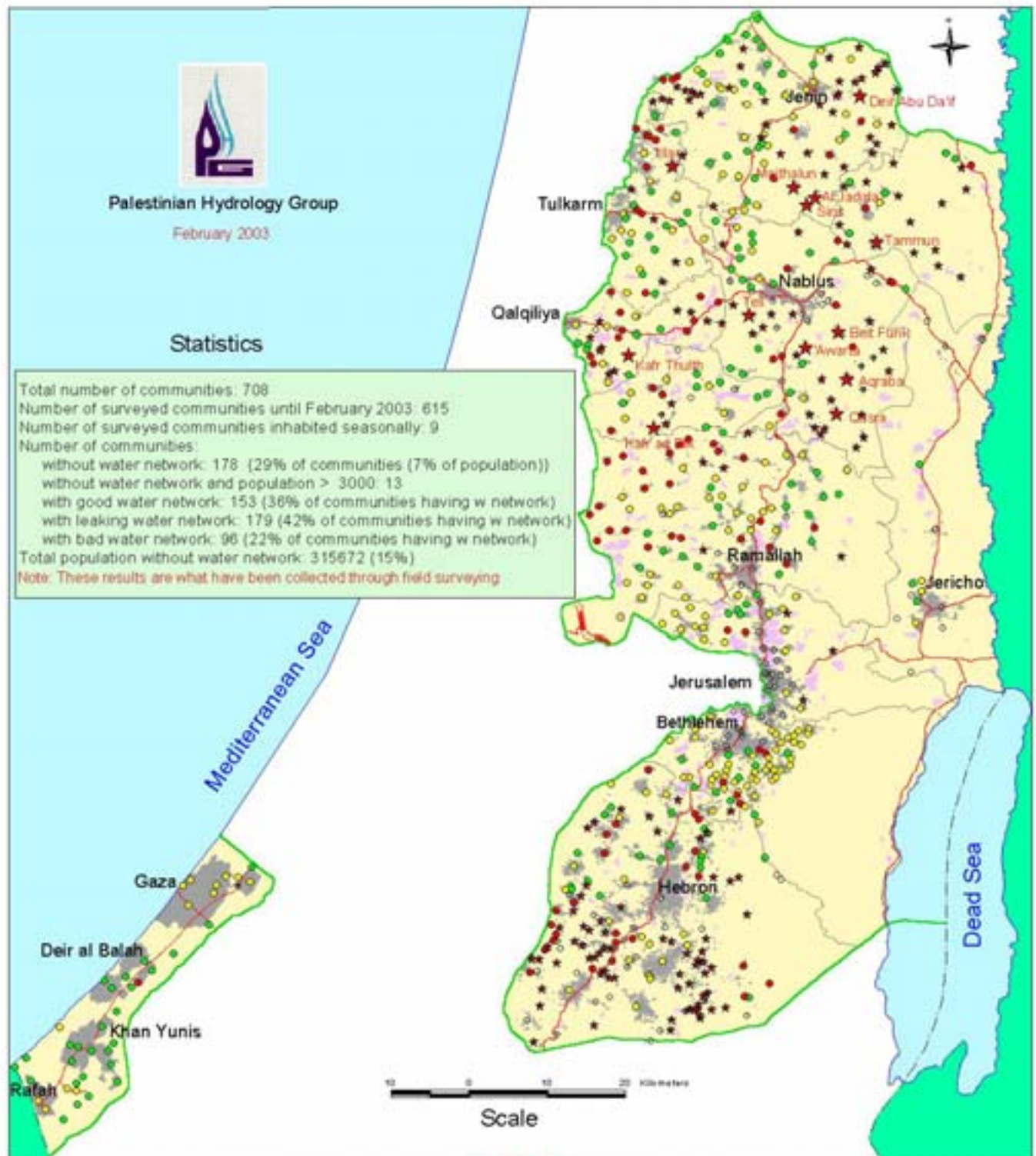
- | | |
|-------------------------------------------|-----------------|
| ● Surveyed Community | ■ Built Up Area |
| + Surveyed Community Inhabited Seasonally | ■ Settlement |
| ○ Not Surveyed Community | |

WaSH MONITORING PROJECT 4- PHC Accessibility



WaSH MONITORING PROJECT

5- Water Networks



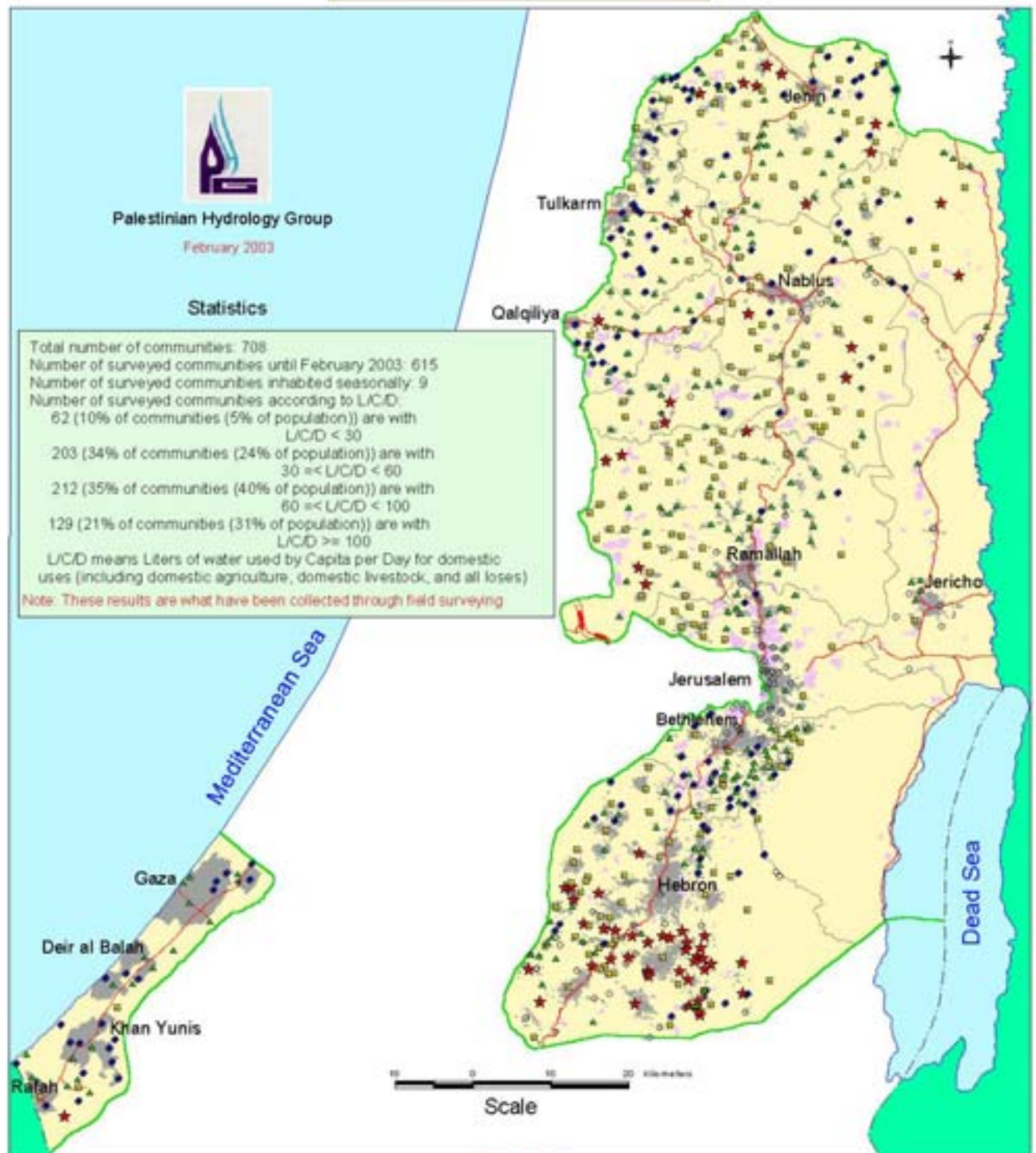
WaSH MONITORING PROJECT **6- Water Use per Capita (L/C/D)**



Palestinian Hydrology Group
 February 2003

Statistics

Total number of communities: 708
 Number of surveyed communities until February 2003: 615
 Number of surveyed communities inhabited seasonally: 9
 Number of surveyed communities according to L/C/D:
 62 (10% of communities (5% of population)) are with
 $L/C/D < 30$
 203 (34% of communities (24% of population)) are with
 $30 \leq L/C/D < 60$
 212 (35% of communities (40% of population)) are with
 $60 \leq L/C/D < 100$
 129 (21% of communities (31% of population)) are with
 $L/C/D \geq 100$
 L/C/D means Liters of water used by Capita per Day for domestic
 uses (including domestic agriculture, domestic livestock, and all losses)
 Note: These results are what have been collected through field surveying

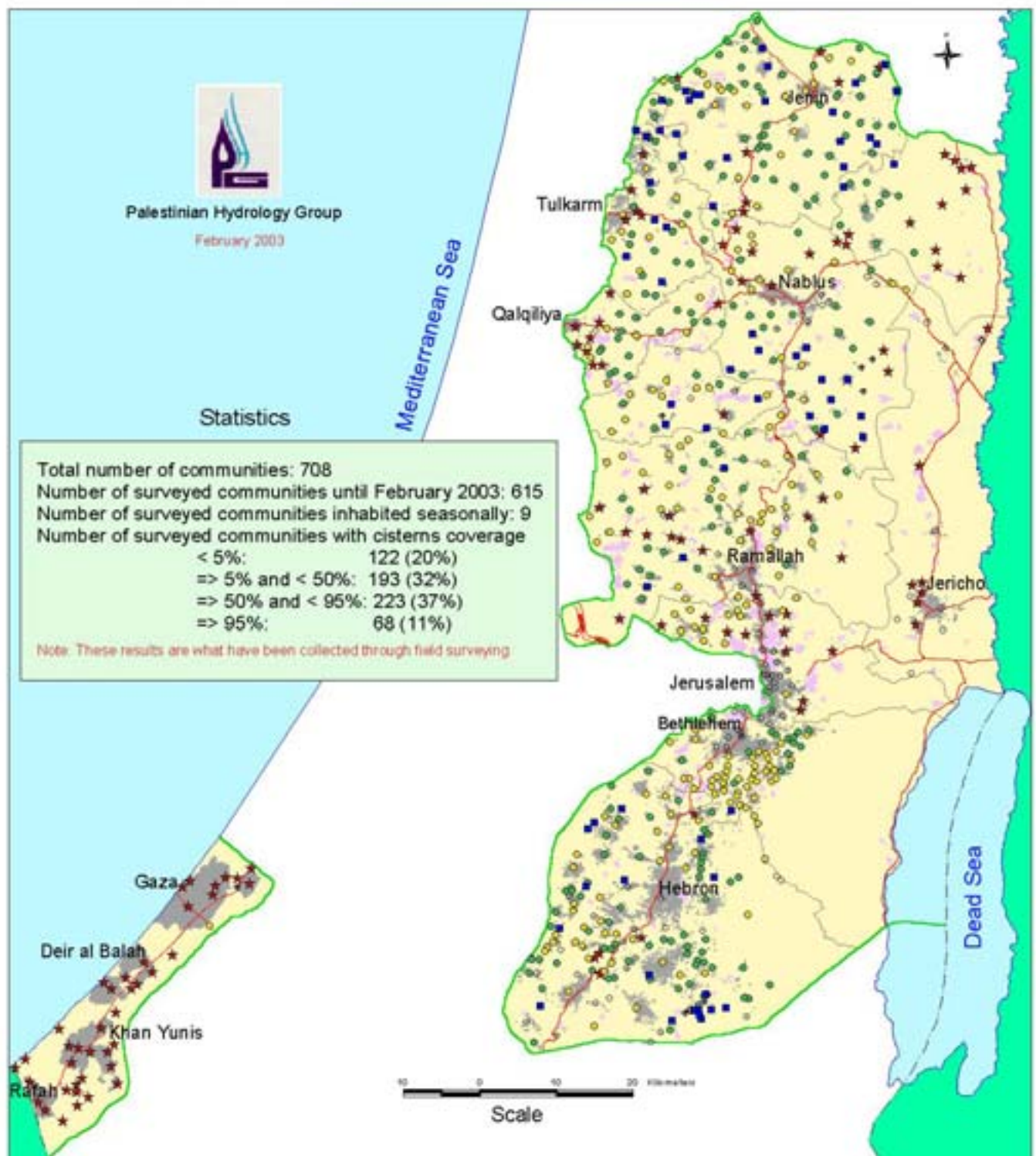


LEGEND

- | | |
|----------------------------------------|-------------------------------------------|
| ★ Community with $L/C/D < 30$ | • Surveyed Community Inhabited Seasonally |
| □ Community with $30 \leq L/C/D < 60$ | ○ Not Surveyed Community |
| ▲ Community with $60 \leq L/C/D < 100$ | ■ Built Up Area |
| • Community with $L/C/D \geq 100$ | ■ Settlement |

WaSH MONITORING PROJECT

7- Percentage of Houses with Cisterns



LEGEND

- | | |
|-----------------------------------------------------|-------------------------------------------|
| ★ Community with cisterns coverage < 5% | ✦ Surveyed Community Inhabited Seasonally |
| ● Community with cisterns coverage => 5% and < 50% | ○ Not Surveyed Community |
| ● Community with cisterns coverage => 50% and < 95% | ■ Built Up Area |
| ■ Community with cisterns coverage => 95% | ■ Settlement |

WaSH MONITORING PROJECT

B- Affected Communities by Damages of Water Infrastructure

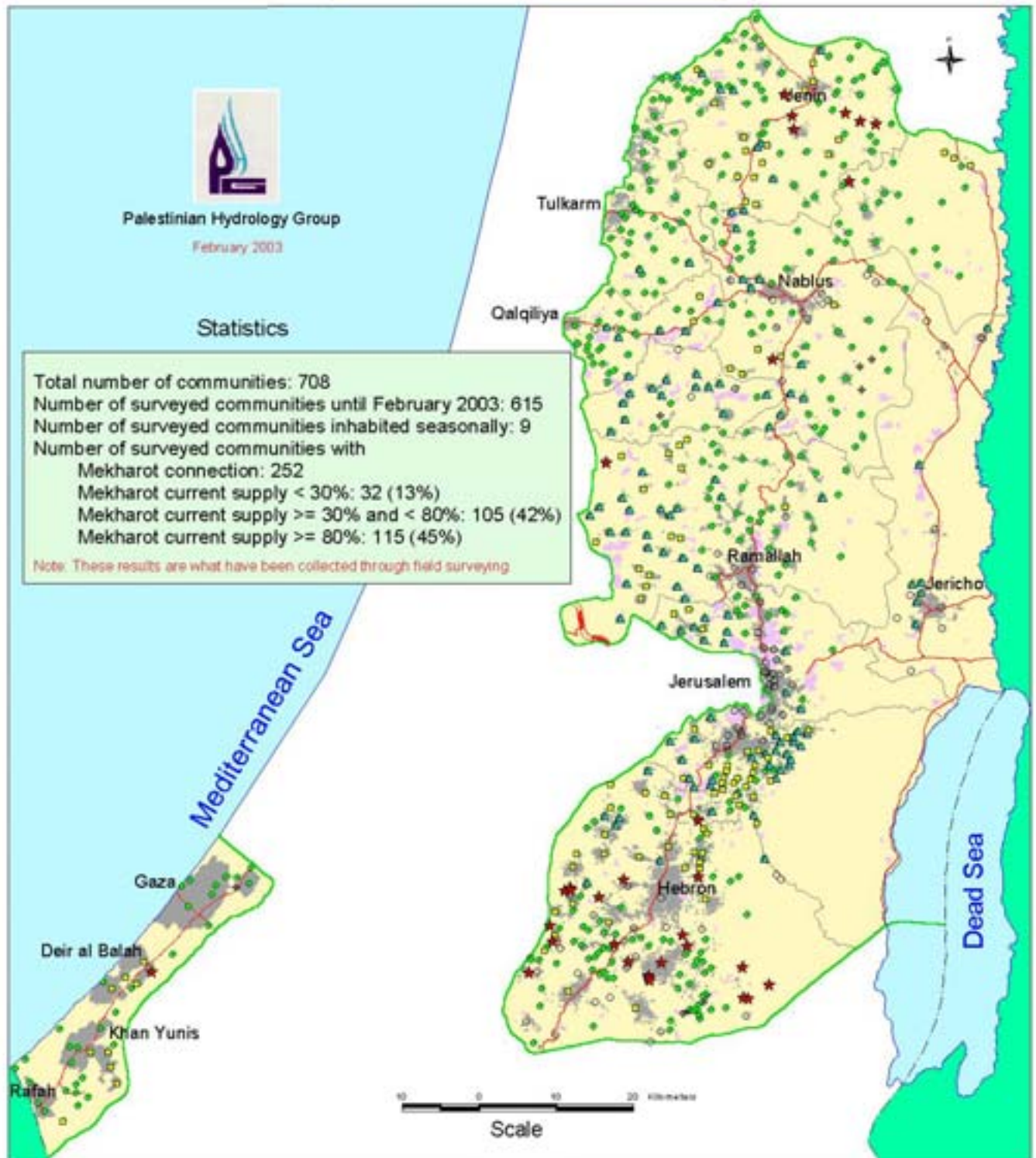


LEGEND

- | | | | |
|---------|----------------------------------------------------------------------------------|---|------------------------|
| ★ Label | Community with most damages of water infrastructure (for details refer to table) | ○ | Not Surveyed Community |
| ● | Community with damages of water infrastructure | ■ | Built Up Area |
| ● | Surveyed community | ■ | Settlement |
| ● | Surveyed Community Inhabited seasonally | | |

WaSH MONITORING PROJECT

9- Mekharot Current Supply

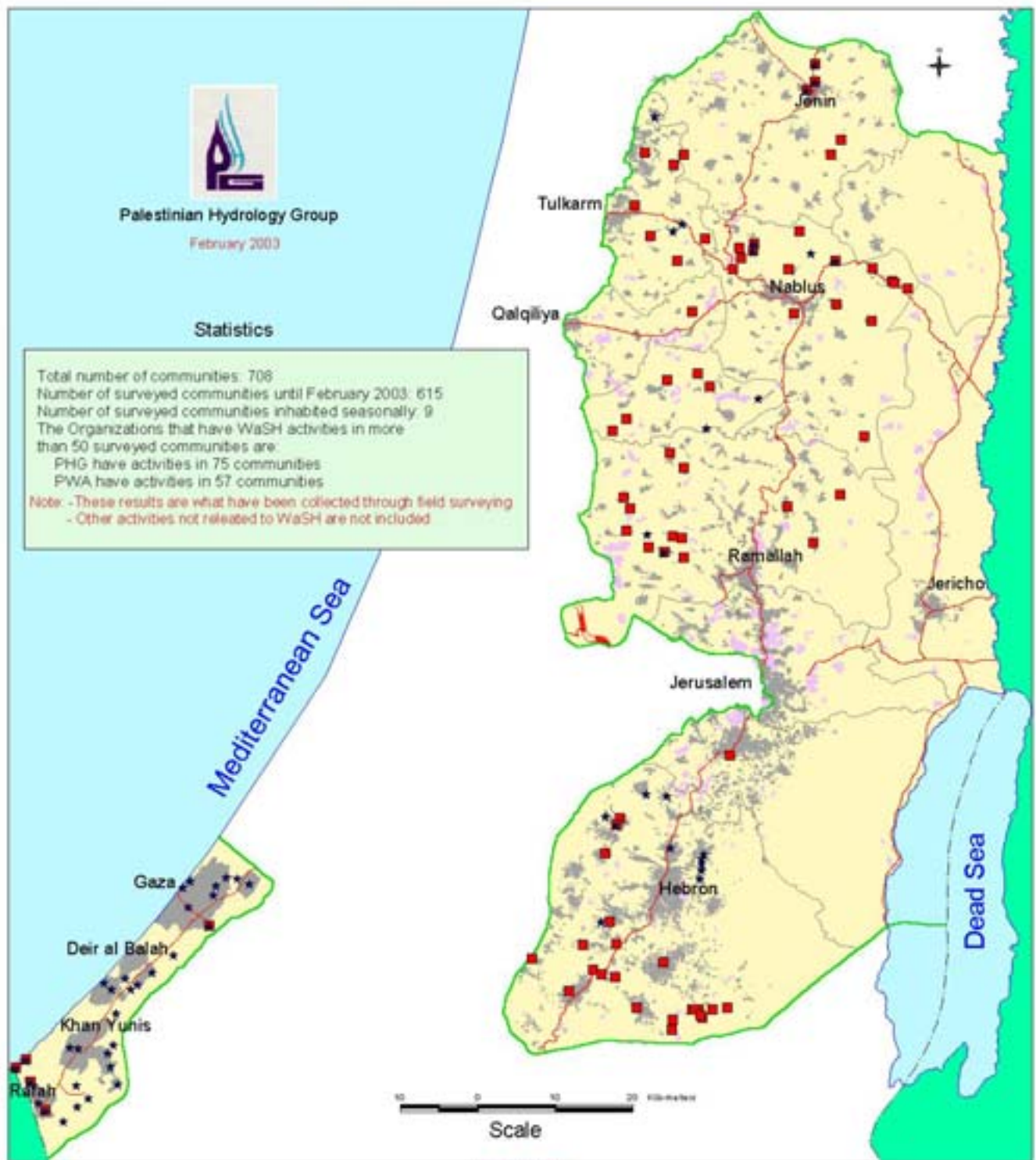


LEGEND

- | | |
|----------------------------------------------------------|-------------------------------------------|
| ★ Community with Mekharot current supply < 30% | + Surveyed Community Inhabited Seasonally |
| ◻ Community with Mekharot current supply ≥ 30% and < 80% | ○ Not Surveyed Community |
| ▲ Community with Mekharot current supply ≥ 80% | ■ Built Up Area |
| ● Surveyed Community | ■ Settlement |

WaSH MONITORING PROJECT

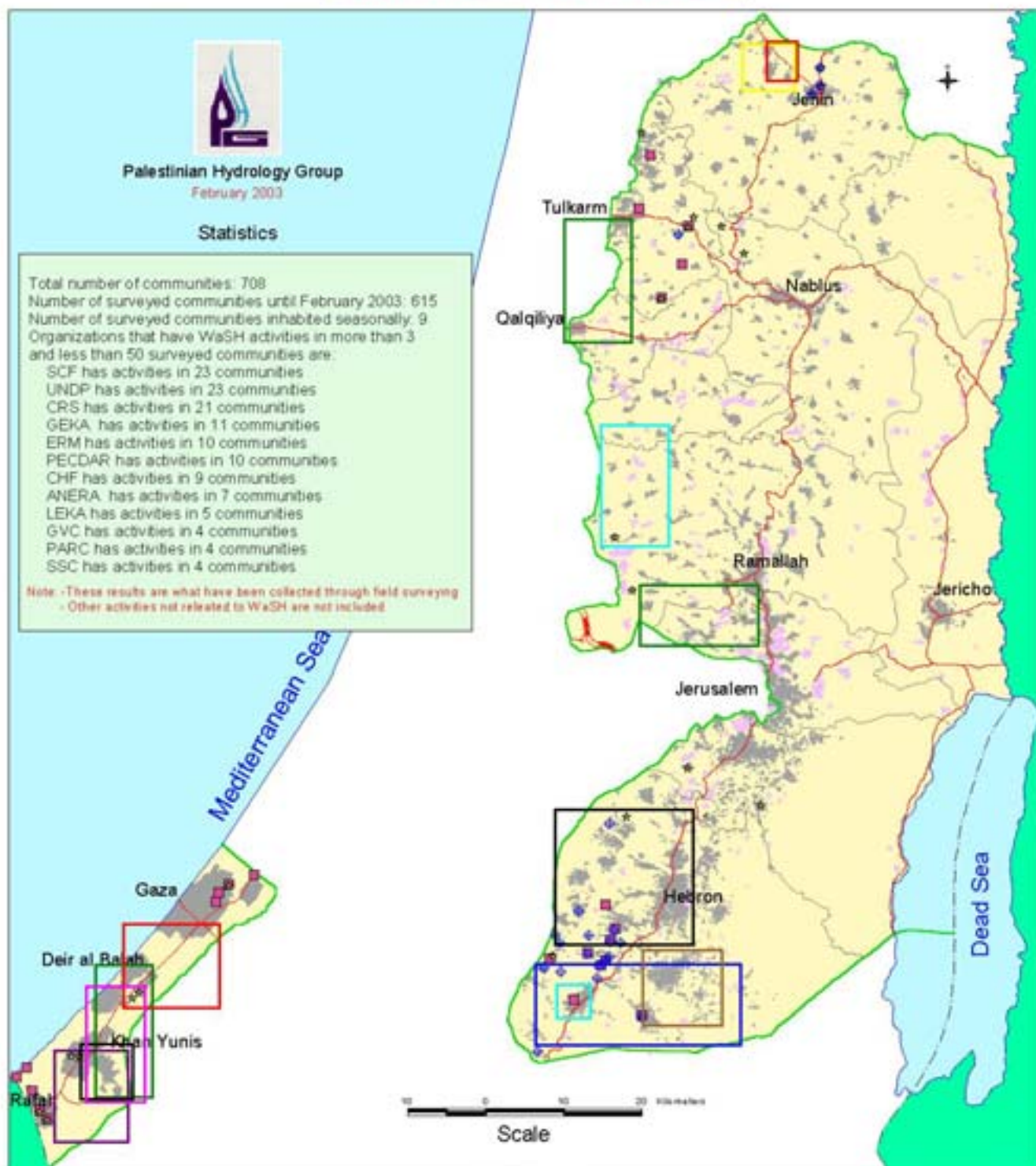
10-a- PHG and PWA WaSH Activities



LEGEND

■ Community with PHG Activities	■ Built Up Area
★ Community with PWA Activities	■ Settlement

WaSH MONITORING PROJECT
10-b- Other Organizations WaSH Activities



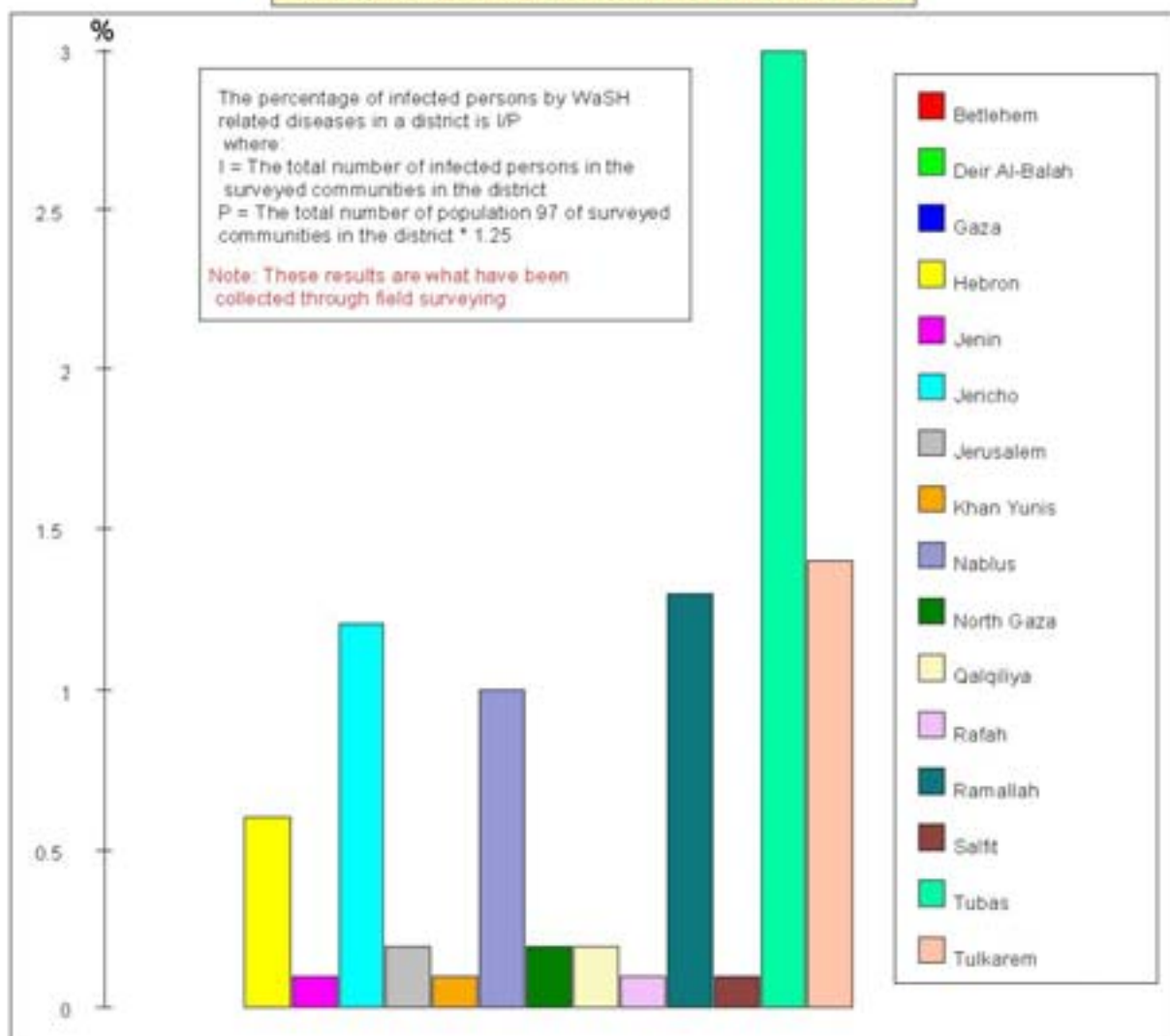
LEGEND

Community with SCF WaSH Activities	GEKA WaSH Activities Area	CHF WaSH Activities Area	SSC WaSH Activities Area
Community has CRS WaSH Activities	ERM WaSH Activities Area	ANERA WaSH Activities Area	GVC WaSH Activities Area
Community has UNDP WaSH Activities	PEC DAR WaSH Activities Area	LEKA WaSH Activities Area	PARC WaSH Activities Area



WaSH MONITORING PROJECT

C1- Percentage of Infected Persons by WaSH Diseases

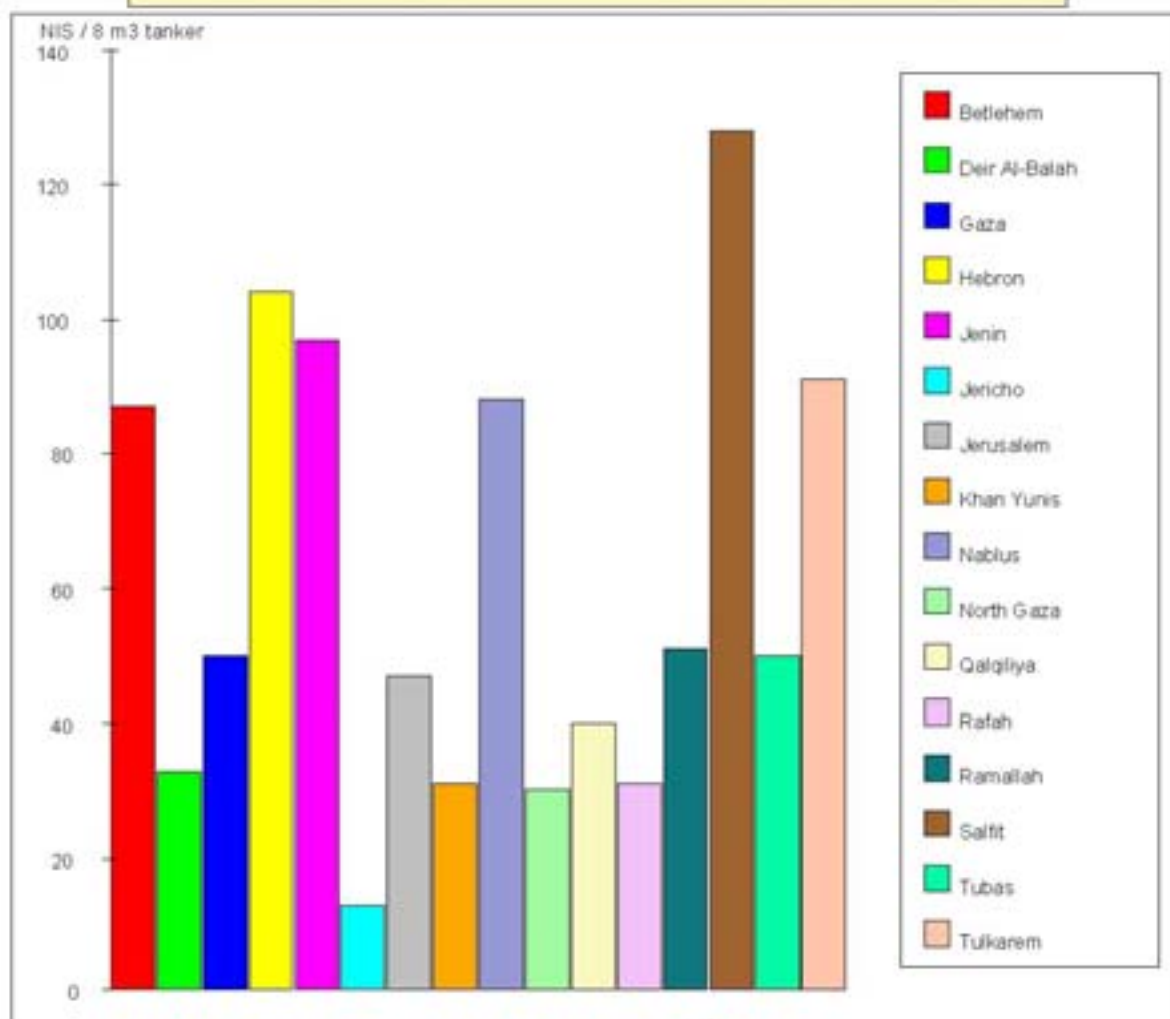


District	Communities	Population 97	Number of infected persons	Percentage of infected persons
Betlehem	61	43877	0	0.0
Deir Al-Balah	8	144890	49	0.0
Gaza	5	359941	35	0.0
Hebron	132	258030	1750	0.6
Jenin	96	195294	215	0.1
Jericho	7	9082	145	1.2
Jerusalem	27	90481	189	0.2
Khan Yunis	15	196662	124	0.1
Nablus	60	117369	1524	1.0
North Gaza	7	179690	300	0.2
Qalqiliya	32	69169	118	0.2
Rafah	7	120384	76	0.1
Ramallah	73	152409	2505	1.3
Salfit	20	45022	45	0.1
Tubas	23	35214	1320	3.0
Tulkarem	42	129030	2299	1.4



WaSH MONITORING PROJECT

C2- Weighted Average Cost of Percolation Pits Evacuation (NIS / 8 m3 tanker)



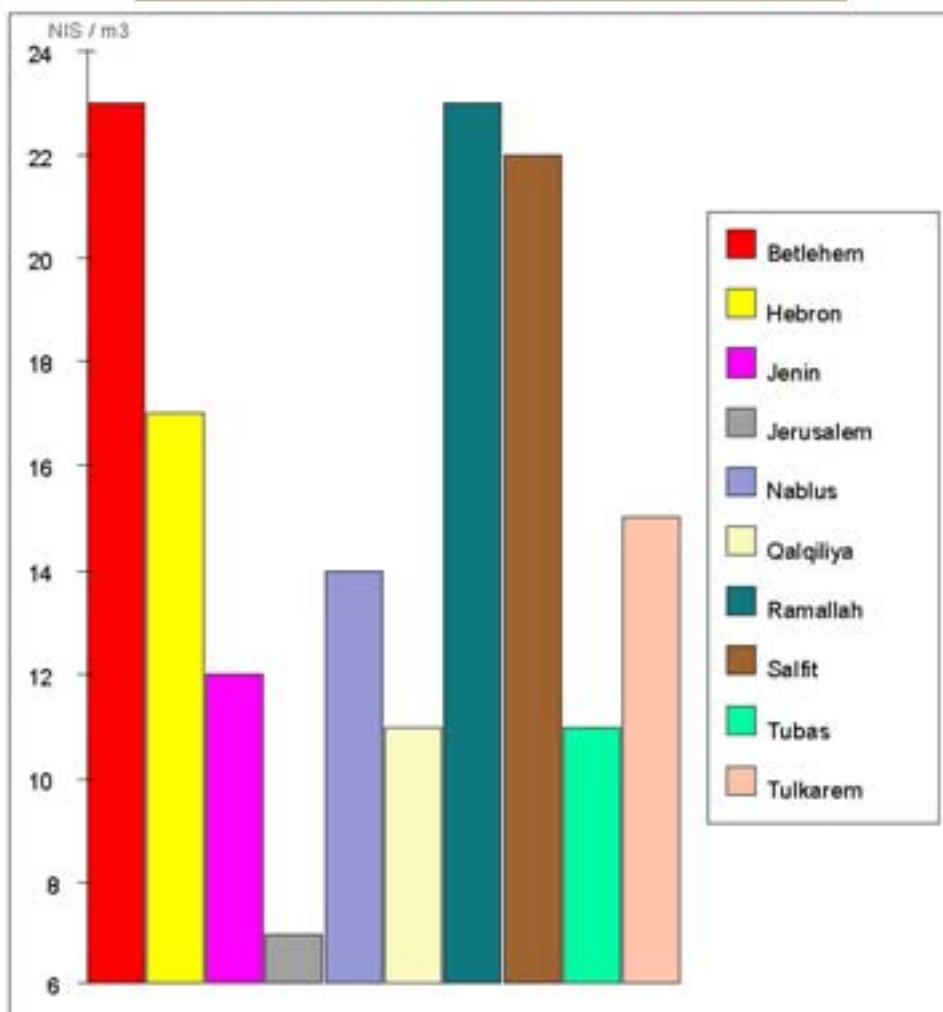
District	Communities	Weighted average of evacuation cost
Bethlehem	61	87
Deir Al-Balah	8	33
Gaza	5	50
Hebron	118	104
Jenin	94	97
Jericho	7	13
Jerusalem	21	47
Khan Yunis	15	31
Nablus	53	88
North Gaza	6	30
Qalqiliya	29	40
Rafah	7	31
Ramallah	72	51
Salfit	19	128
Tubas	16	50
Tulkerem	41	91

- Weight is according to population
 - The weighted average of percolation pits evacuation cost (NIS / 8 m3 tanker) in a district is E/P , where:
 E = The total sum of: evacuation cost in the surveyed community * its population
 P = The total population of communities in the district that use vacuum tankers
 - Note: These results are what have been collected through field surveying



WaSH MONITORING PROJECT

C3- Weighted Average Cost of Tankers Water (NIS / m3)



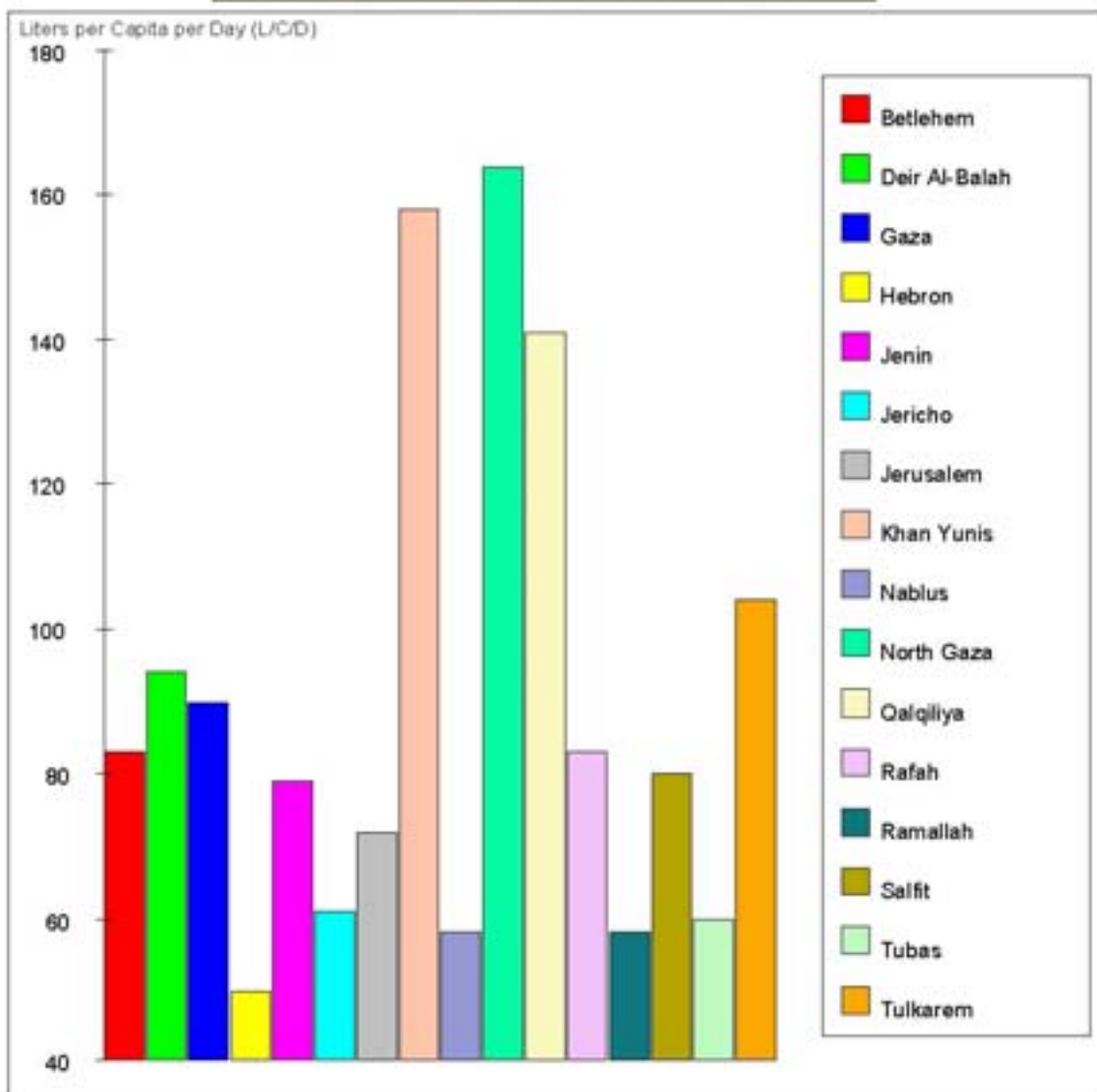
District	Communiti	Weighted average cost of tankers water
Betlehem	8	23
Hebron	115	17
Jenin	78	12
Jerusalem	12	7
Nablus	43	14
Qalqiliya	13	11
Ramallah	24	23
Salfit	5	22
Tubas	20	11
Tulkarem	11	15

- Weight is according to population
- The weighted average of tankers water cost (NIS / m3) in a district is T/P where:
 T = The total sum of: tankers water cost in the surveyed community * its population
 P = The total population of communities in the district that use tankers water
- Note: These results are what have been collected through field surveying



WaSH MONITORING PROJECT

C4- Weighted Average Water Use Per Capita (L/C/D)



District	Communities	Weighted average water use per capita
Betlehem	61	83
Deir Al-Balah	8	94
Gaza	5	90
Hebron	132	50
Jenin	96	79
Jericho	7	61
Jerusalem	27	72
Khan Yunis	15	158
Nablus	60	58
North Gaza	7	164
Qalqiliya	32	141
Rafah	7	83
Ramallah	73	58
Salfit	20	80
Tubas	23	60
Tulkarem	42	104

- Weight is according to population
 - The weighted average water use (Liters per capita per day (L/C/D)) in a district is W/P , where
 W = The total sum of: L/C/D in the surveyed community * its population
 P = The total population of surveyed communities in the district

Note: These results are what have been collected through field surveying

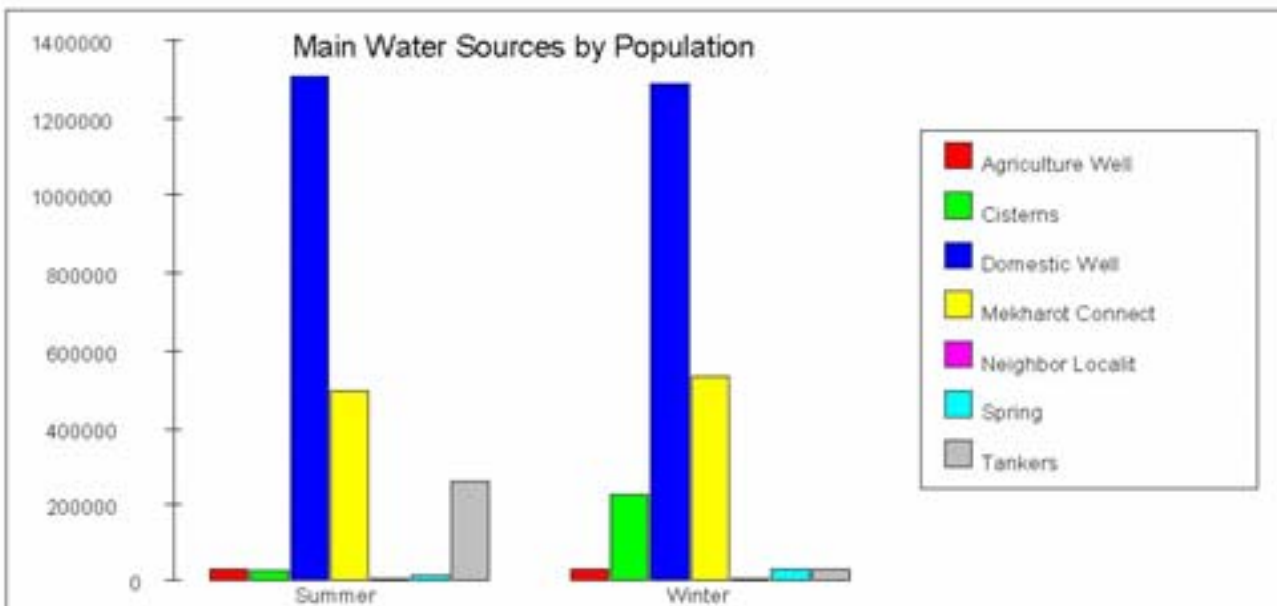
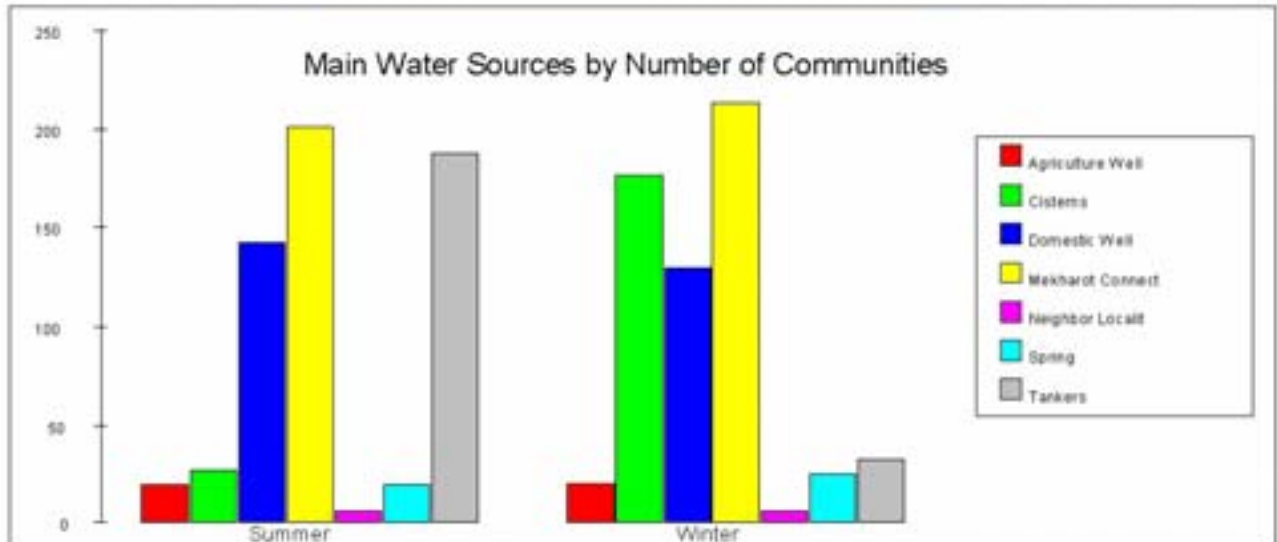


Palestinian Hydrology Group

February 2003

WaSH MONITORING PROJECT

C5- Main Water Sources

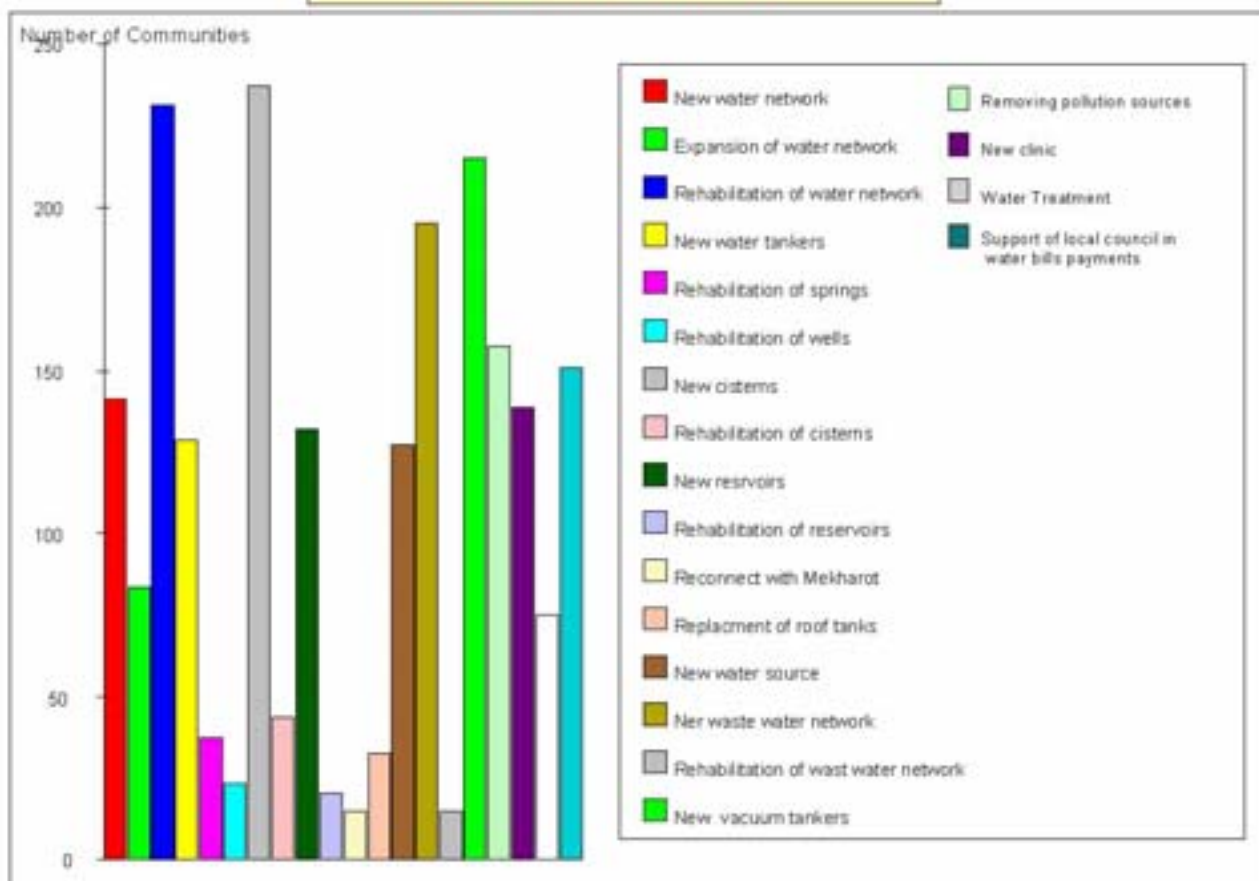


Water Source	Communities/Summer	Population/Summer	Communities/Winter	Population/Winter
Agriculture Well	20	35894	21	36786
Cisterns	27	31176	177	223582
Domestic Well	143	1308020	130	1288675
Mekharot Connect	201	495474	213	532684
Neighbor Localit	7	15011	7	15011
Spring	20	18060	25	35319
Tankers	188	263193	33	34731

Note: These results are what have been collected through field surveying

WaSH MONITORING PROJECT

C6- Communities Needs




Palestinian Hydrology Group
 February 2003

need	communities number
New water network	141
Expansion of water network	84
Rehabilitation of water network	231
New water tankers	129
Rehabilitation of springs	38
Rehabilitation of wells	24
New cisterns	237
Rehabilitation of cisterns	44
New reservoirs	132
Rehabilitation of reservoirs	21
Reconnect with Mekharot	15
Replacement of roof tanks	33
New water source	127
New waste water network	195
Rehabilitation of waste water network	15
New vacuum tankers	215
Removing pollution sources	158
New clinic	139
Water Treatment	75
Support of local council in water bills payments	151

Note: These results are what have been collected through field surveying