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Monitoring Program

Impact of the Current Crisis in the West Bank and Gaza Strip

Needs Assessments for West Bank Communities

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Urgent Needs for Some Palestinian Communities

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I. Sarta (population of 2821 persons), Bidya (population of 9000) and Qarawat Bani Hassan (population of 4014) are three communities in Salfit Governorate.

During the month of September 2007, the three communities were suffering from a severe water shortage due to very low pressure in the network pipes. This is mainly because the Israeli water company Mekorot has deliberately reduced the water supply quantity and therefore it was not possible for the water to reach the main distribution tank that supplies water to households in these communities. The most difficult case was related to the distribution tank of Sarta community meaning that households were not able to receive water during the holy Ramadan month. This has forced people in these communities to depend on the more expensive water bought through mobile tankers.

II. El Far'a Camp in Tubas Governorate (population of 6215 persons) is being supplied with water coming from El Far'a local spring. During the month of September 2007, drinking water in El Far'a Refugee Camp was polluted by waste water leakage to the water supply transition pipes that supply water from the spring to the Refugee Camp. It is worth mentioning that discharge of this local spring is decreasing continuously; several years ago it was about 400m³ / hour, and currently it is less than 45 m³/hour. It seems that the wastewater is seeping in to the water supply system to balance the pressure in the pipes, and therefore, polluting the water being used for domestic purposes.

Around 1200 cases of amoeba were registered in the community during that month.

Needs Assessments

of the Northern Part of the West Bank

Nablus Governorate

- Finding new water sources to cover the shortage of about 12 million cubic meter/year for the governorate.
- Increase the water supply quantity coming through the Israeli Mekarot Company, as there is a clear shortage in the water quantity available for residents which is forcing the population to use water tanking and pay more than 15 NIS/cubic meter of water. The current supply did not increase during the past years despite the fact that natural population increases every year and the change in the standard of living of the people. This situation includes the communities of Salim, 'Azmutt, Beita, Deir al Hatab, Huwwara, Yatma, 'Einabus, Jamma'in, As Sawiya, Qabalan, 'Asira ash Shamaliya, Sabastiya, Beit Imrin, Ijnisinya, Nisf Jubeil, & An Naqura.
- Finding new water resources and funding water networks for the communities in the governorate where there is no water networks and they are relying on

the rainfall harvesting cisterns for drinking water which is in many cases contaminated and in bad need of monitoring and rehabilitation. Results of water quality analysis conducted through the WaSH MP showed that the following locations should be considered in improving the available water quality: Majdal Bani Fadil, Aqraba, Burin, Madama, 'Asira al Qibliya, Beit Furik, 'Awarta, Jurish, Qusra, Talfit, Qaryut, Jalud, Yasid, Tell, Sarra, 'Iraq Burinn, and Beit Dajan.

- Rehabilitation of local springs to be used for tourism or other economical purposes including agriculture, as well as solving the contamination problem in most of these springs, specifically those where water samples were analyzed and indicated that water in these springs was contaminated. The following communities are some of these cases: Aqraba, Qusra, Doma, Madama, 'Asira al Qibliya , 'Awarta , Deir al Hatab , Burin, Huwwara, Qaryut, Deir Sharaf, 'Iraq Burin, and Tell.
- There is an urgent need to solve the problem of contamination caused by wastewater flowing from the eastern and western Nablus areas which directly pollute water in the surrounding wells and springs (Al Badan and Anabta areas) and finding also solution for solid waste and wastewater from vacuum tankers that is continuously polluting and affecting environment and health situation in this governorate; in addition, there is a need to find solution for quarries that also affect environment and health conditions in these communities (Jamma'in is only one example). Wastewater and industrial waste flowing from settlements in the West Bank and affecting nearby Palestinian communities (Burin, Deir al Hatab, Beit Furik, Madama, 'Asira al Qibliya, and Huwwara are some example). In addition, forced use of secondary roads that became major roads during the current Intifada because of the closure and checkpoints spread all over the West Bank, are also major source of pollution for the environment since these roads are not paved and dust is always surrounding the area and effecting the trees and agriculture land near these roads. This situation is very clear in the case of Jamma'in community.

Qalqiliya Governorate:

- Finding water source and funding water networks and rain water harvesting cisterns for the following communities: Immatin, Hajja, Baqat al Hatab, and Far'ata, knowing that results of water quality analysis conducted by the WaSH MP confirmed contamination of water in some cisterns in these communities.
- There is a need to put more pressure on the Israeli Mekorot company by the international community to increase (and not decrease) supplied water quantities to these communities. Jinsafut, Jit, Kafr Qaddum, Kafr Laqif, 'Isla, An Nabi Elyas, and Al Funduq are only some examples of communities that are affected directly by this policy supported directly by the Israeli occupation.
- Rehabilitation of water networks in these communities where all of these networks are old and where in many cases the percentage of losses is more than 40%.
- The major groundwater well that supplies water to Jayyus, 'Azzun, and Sir is most of the time not functioning very well and there is a need for maintenance

and replacements of the pumping parts connected to the well to be able to supply the needed water properly to the related communities.

- There is a need to find suitable solution for the solid waste problem in 'Azzun, Kafr Thulth, and Kafr Laqif where it is affecting severely health and environment in these communities. It is suggested to have one central dumping site for these communities near Hajja where there is already a suggested site and land available for this project.
- Wastewater and industrial waste that flow from settlements located nearby Kafr Qaddum, 'Azzun, 'Azzun 'Atma, Beit Amin, Kafr Laqif, and Jinsafut are affecting these communities and its environment in a very negative way and there is a need to find a quick and suitable solution for this problem.
- As is well know in the West Bank, cesspits and septic tanks used for collection and disposal of wastewater in addition to fertilizers and insecticides used extensively in agriculture are also affecting and causing pollution of groundwater in the long range. This is specially clear in Habla and Ras 'Atiya communities and is more evident during winter times since water quality analysis tests during winter confirmed this issue and where recent analysis of water samples (during summer) did not show any kind of contamination in the used water.

Salfit Governorate

- There is a need to increase the supplied quantity of water by the Israeli Mekorot Company to communities supplied through this company including Sarta, Qarawat Bani Hassan, and Bidhya.
- Finding new water source and funding water networks and cisterns in Bruqin and Kafr ad Dik.
- The Israeli Ariel settlement is still continuously polluting the surrounding Palestinian communities and its environment through the continuous disposal of wastewater coming from the settlement mixed with industrial waste coming from Barkan industrial area. There is a need to solve this problem that is affecting the health and hygiene situation in the nearby Palestinian communities.
- Rehabilitation of water networks that has high percentage of losses specifically in Deir Ballut, Rafat, Az Zawiya, Deir Istiya, and Qira.
- It is suggested by the local council to rehabilitate the local spring in Deir Istiya located in Qana wadi which could be utilized efficiently and economically as a public park and recreational area.

Tulkram Governorate:

- Finding new water source, water network and rainwater harvesting cisterns in Saffarin and Kur.
- Rehabilitation and extension of the water networks in Kafr 'Abbush, Kafr Zibad, Kafr Jammal, Deir al Ghusun, 'Attil, Beit Lid and Ramin.

- There is a need to find an urgent and quick solution for the wastewater coming from Nablus city in Wadi Zoumar which is affecting the environment as well as polluting ground water in the surrounding agricultural areas and in 'Anabta. This also has a direct effect on hygiene and health situation specially in Ramin, 'Anabta, Nur Shams Camp, and Shwekeh (Tulkarm city) communities.
- An urgent need to increase the supplied water by the Israeli Mekorot Company to Beit Lid and Kafr Sur communities.

Jenin Governorate:

- Finding new water source, funding water networks and rain water harvesting cisterns in Meithalun, Raba, Jalbun, Umm Dar, Al 'Attara, 'Arrana, Al Mutilla, Mughayyir, Beit Qad, Jalbun, Dhaher al 'Abed, Al Khuljan, Al Yamun). Water quality analysis conducted recently by the WaSH MP showed that samples taken from some cisterns in Kafr Ra'I, Khirbet ash Sheikh Sa'eed, Raba, and Meithalun are contaminated.
- Rehabilitation and extension of water networks that has high percentage of losses that exceeds in many cases 40% as it is in Ya'bad, Jenin, Ash Shuhada, Az Zababida, and Arraba. About 15% of the households are not connected to water network in theses communities.
- Palestinian communities that are supplied through the Israeli Mekorot Company are in need of increasing the supplied quantity of water. This also includes communities that are being supplied from Palestinian groundwater wells and includes the following communities: Kafr Ra'i, Jenin, Az Zababida, Arraba, Silat al Harithiya , Silat adh Dhahr, Jaba', this is in addition to all communities in the western part of Jenin

Tubas Governorate

- Finding new water source, supporting with the construction of rain water harvesting cisterns, and water networks for Tammun, Wadi al Far'a, Atouf and Tayasir communities. Recent analysis of water samples from cisterns in Tammun and conducted by the WaSH MP confirmed contamination of water in these cisterns.
- Rehabilitation and extension of water networks in Tubas, Bardala and 'Ein el Beida, knowing the water losses in these networks is more than 42%.
- Supplied quantities through the Israeli Mekorot Company are not enough and there is a need to increase these quantities.

Case Studies

Hebron Governorate

Adh Dhahiriya and Al Samou' Communities

Adh Dhahiriya and Al Samou' are two communities in Hebron Governorate located south and about 30 km south Hebron city with a population of around 30,000 and 22,000 persons respectively.

Since the beginning of the second Intifada, most of the population in these communities who used to work in Israel as labor or in the trade market (since it is very close to the green line), converted their work to the agricultural sector due to the current difficult political, social and economical situation in the area, in addition to the construction of the Separation WALL and complete closure and siege policy in the OPT that affected the whole situation in the area. Because of this shift of high percentage of the population to work in the agricultural sector, water demand increased, knowing that the water available is already not enough for the domestic needs of the population.

Available water sources for the communities

1. Al Semia Well is the main water source for Adh Dhahiriya, Al Samou', Al Semia and the other neighboring communities. Average productivity of the well is 43 m³ /hour and the amount allocated for Adh Dhahiriya is 17 m³/hour and 16 m³/hour for Al Samou' community; this means that Adh Dhahiriya getting on average about 12,240 m³/month and Al Samou' is getting 11,520 m³ / month. This means that the average per capita supply in Adh Dhahiriya is around 14 liter / capita/ day and in Al Samou' is 18 liter/capita/day. Compared to the WHO standards (100 liter / capita/day) and compared to the consumption in the neighboring Israeli settlements which is four to five times the WHO standards, Adh Dhahiriya and Al Samou' communities would need about 90,000 m³/month and 66,000 m³/month respectively in addition to the current available quantities to reach the WHO minimum standards. Simple calculations would show that the current water source covers 13.6% of the needs Adh Dhahiriya and 17.5% of the needs in Al Samou' only.
2. Due to the water shortage in the communities, the population is forced to look for other alternatives including purchase of water through tanks that bring water from various different sources. Average cost of water through tankers is around 20 NIS/ m³ and it is much higher during summer time; taking in to considerations the current difficult economical situation, getting the needed water became a major burden on Palestinian families. It is worth noting that in many cases, the water bought through tankers is contaminated and not suitable for drinking purposes. This has a direct negative effect on the health and hygiene situation of the community.
3. Rain water harvesting is another alternative source available for some of the Palestinian households in these communities. The average rainfall in the area is around 280 mm per year, which is barely enough to fill the household cisterns. Cisterns are available in some households in the community since many families cannot afford to dig cisterns, or the households do not have

enough space to build cisterns and the collection yards for collecting rainfall water.

Available Water Network:

The networks in both communities were constructed in 1972 covering 70% and 80% of the population in Adh Dhahiriya and Al Samou' respectively, knowing that the main pipe lines for both communities are 4 inch and 8 inch respectively. The main reservoirs were built in 1972 and 1965 with a capacity of 145 m³ and 180 m³ (this reservoir is not used at all) respectively. The pipe line feeding the reservoir is 4 inch while the dispatching pipes are 6 inch in diameter for Adh Dhahiriya and for Al Samou; water is pumped directly to the network.

In 1995 the network in Adh Dhahiriya was rehabilitated using water pipes of 6, 4, 3 and 2 inch diameters.

Major Problem in the community

As the major quantity of the supplied water coming from the available well is not enough to provide the needs of the communities as mentioned before, and since the networks do not cover the whole population in the two communities, there is a need to extend the networks and to replace some of the old (or with small diameter) parts of the networks and to find another water source for the communities.

In Adh Dhahiriya the village council addressed several implementing organizations to help them solve their problem. The West Bank Water Department opened a filing point for the area from the Taqu' well through the trunk line , which will pump 500 m³/day of which 300 m³ will be for Adh Dhahiriya and 200 m³ for the surrounding communities related to the Dora Joint Services Council and Adh Dhahiriya community. This trunk line was rehabilitated beginning of October 2007 and expected to start dispatching the water mid of October 2007.

Currently, PHG in cooperation with ACPD is implementing a project aiming to build around 50 rain harvesting wells in the community with the capacity of 70 m³, as well there will be 273 household gardens funded to support the families economically.

In Al Samou' community, the internal water network was rehabilitated recently and work was finished by October 2007. Pipes used were 2, 4, and 4 inch and the total length of the rehabilitated network estimated to be about 12 Kilometers and financial support was provided directly by the Kuwait Arab Bank . Work on a main line connecting Yatta main reservoir with Al Samou' new reservoir is going on currently; total length of this line is 8.5 Kilometers with 12 inch diameter (Steel pipes X 42). Work in this project started on September 2007 with a total period of the project of 8 months. Support is through ICRC. A main circular 2000 m³ reservoir is currently being built. Work in the reservoir started concurrently with the construction of the main line. On the other hand, the internal water network is being rehabilitated using 2, 3, 4, and 6 inch pipes. Financial support is through the World Bank.