



التقرير السنوي 2010 Annual Report 2010

ملخص Summary

Palestinian Hydrology Group
For Water and Environmental Resources Development



مجموعة الهيدرولوجيين الفلسطينيين
لتطوير مصادر المياه والبيئة

الحصول على المياه من القواعد الأساسية لحقوق الإنسان

Water is a human right



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1. Palestinian Hydrology Group (PHG) in Brief

PHG is an NGO established in 1987 and registered in 2001 in accordance with the Palestinian NGO Law number 1 of the year 2000 under registration number **QR-156-A**.

Mission Statement

PHG is a nongovernment organization strives to remain the lead research and developmental organization in the water sector which contributes to the development of the capacity of water and sanitation practitioners and to the protection and development of local water and environmental resources as well as to ensure just allocation of water and sanitation services to all Palestinian Communities. PHG also strives to contribute in building a civil society and empowers the vulnerable groups, including women, to participate in decision making and to promote the good water governance and the right to water as well as to improve food security for the Palestinian Communities.

Strategic objectives

- 1) Contribute to building effective civil society and to ensure equity and the involvement of marginalized groups, specifically women in decision-making and promote good governance especially in water sector.
- 2) work to achieve sustainable and integrated management of water resources and the environment in Palestine
- 3) Work to achieve an equitable distribution of water sources in line with the water rights and improve conditions of water and sanitation services in the Palestinian communities
- 4) Establish partnerships and alliances with various sectors and relevant authorities in the areas of research and implementation to ensure the development of the water sector.
- 5) Training and preparation of qualified technical staff able to manage and operate water facilities on a sustainable basis.

Word of the Board of Directors

In line with the vision of the institution in all its structures, and in response to the political, social and economic challenges facing the Palestinian civil society, and out of the need to maintain the institution to its leading role as one of the important institutions in the water sector and the environment and civil society in general, the Board has provided the necessary means to carry out the new projects to maintain the leading role of the institution and give it a value-added excellence.

The Board sees the need to strengthen the values of civil society to be an active partner with other sectors of society to be able to cover the gaps that government or the private sector cannot work with.

The Board of Directors believes that the institution has a great role in the alignment with the principles of democracy designed to stand beside the poor, marginalized and biased positively to activate the role of women through their integration in all areas of work of the institution and its leadership and its executive board as well as in public action, carried out by the organization.

Despite the harsh political and economic conditions in Palestine, PHG was able to achieve the goals set for the year 2010. This was evident from the type of interventions implemented by PHG that contributed to the improvement of social and economic conditions of the target communities.

The vision of the Board of Directors that are consistent with the vision of the Executive team is looking forward to play a significant role in the next stage in development issues at national level. The Board especially emphasizes the role of PHG in working in the marginalized and disadvantaged areas especially the areas threatened by settlement and the wall which should be considered as top priority.

Finally, the Board extends its sincere appreciation to all the partner organizations, donors and supporters of PHG who enabled us from accomplishing what we accomplished this year. Moreover, the Board continue its refusal to the conditional and politicized funding, and seeks to develop the role of the institution in defending the values of a genuine civil society.

Chairman of the Board
Muammar Orabi

2. Executive Summary

PHG has carried out many developmental and awareness activities, which contributed to improve the sustainable management of water resources and the environment in Palestine and improve water and sanitation services in the Palestinian communities.

In this context, PHG rehabilitated 11 groundwater wells in the West Bank and 27 wells in Gaza for drinking and agricultural use, benefiting about 4,850 families. In addition 6 springs were rehabilitated in the West Bank. PHG has also constructed 11 earth ponds in the West Bank and 107 in Gaza Strip for water harvesting and water storage. 6 ponds of which was to store treated effluent with total capacity of nearly 1000m³/day. Moreover, 407 cisterns to improve access to water for agricultural and domestic purposes have been implemented. Of which 12 was for public use in the southern part of West Bank and 15 cisterns in the northern Jordan Valley. Moreover, 16,250 m of irrigation pipes was implemented to reduce losses and irrigate new areas in the West Bank and nearly 15,000 m of irrigation pipes were installed in Gaza. The group also built two reservoirs for irrigation water with volumes of 500 m³, each of which contributed to the improvement of integrated irrigation methods for the farmers in Nasariyah and Beit Hassan. PHG has also constructed and rehabilitated two domestic water networks and one reservoir of 300 m³ volume in the West Bank while it constructed two domestic networks in Gaza and distributed 826 roof tanks of 1m³ each and replaced 9 solar water heating systems.

PHG has implemented two pioneering projects this year. One of them was the implementation of integrated irrigation projects in order to optimize the use of water resources, and optimize the use of budgets allocated to maximize the benefits from these projects. For example, PHG implemented two integrated irrigation systems including reclamation of the water source (groundwater well). The system included extending main line from the water source to the constructed distribution reservoir which in turn distributed to the farmers' with the quantities they want at times they want. The system included also meters to measure water used for each farm. The other one was through the utilization of solar energy in electrifying the rural training centre that PHG have in Bani Zaid – Ramallah.

PHG has also assisted in reducing the impact of drought on the marginal communities in the eastern and southern parts of Hebron Governorate through providing 29,000 m³ of tankered water to the affected communities. PHG also conducted water quality tests for the delivered water to make sure that it is safe. PHG also distributed mobile water tanks of 5 m³ each to 30 families in the marginal communities in the southern part of the West Bank.

PHG has also carried out 140 projects on small income-generating activity in the West Bank, of which 140 of very low income families benefited and 43 projects in Gaza for the

benefit of 43 families. These projects have contributed to the improvement of the economic situation and standard of living of these families. In the same time and in order to improve food security, PHG has implemented 363 home gardens in the West Bank and 192 in Gaza in addition to rehabilitate and construct 205 green houses that was damaged by the war on Gaza. PHG has also rehabilitated 9999 dunums in the West Bank and 218 dunums in Gaza. In the same time provided plastic sheets for farmers in Gaza to sterilize 368 dunums of agricultural land by solar energy.

In addition, PHG has implemented 21 grey water treatment units in Ramallah Area where, 195 beneficiaries have benefitted.

To help raise awareness towards the preservation of water resources, environmental and behavioural change, PHG has worked to implement many awareness-raising and training activities to the beneficiary groups from the projects. This has contributed positively to improve the quality and durability of activities.

PHG has worked on developing two master plans for water and wastewater one for Jericho city and the other for Tulkarem Governorate. The plans included developing scenarios and action plans for addressing proper water management in the short, medium and long term periods. The plans included the development of a proper tariff structure as well as institutional setup. It also carried out a survey on existing water and sanitation conditions in the vulnerable areas communities of southern and eastern parts of Hebron and Bethlehem as well as the Jordan Valley.

Finally, PHG through its Water Training Institute has accomplished more than 700 hours of training where nearly 1200 trainee benefited from the various training programs conducted by the Group.

The main obstacles faced the work of PHG during the last year can be summarized as follows:

1. Israeli restrictions on water equipment.
2. Double the effectiveness of some of the project committees.
3. Inexperience of some contractors in the implementation of water projects.
4. Different procedures and criteria for the implementation of the institutions working in the water sector.

However, the organization through its experience and its distinguished relations with the local communities and stakeholders has eased the impact of the obstacles mentioned above and managed to maximize the benefit from the projects implemented.

3. General Overview of the Situation in oPt

The rigidity of the political process and the increasing expansion of settlements in the occupied Palestinian territory are considered the biggest factors in hindering the process of improving social and economic conditions. The impact of settlements is not only through the direct act of land confiscation and expansion of settlements but also beyond that. The more dangerous is the act of settlers in preventing people from developing their land in area C and prevent them from accessing their local resources (eg. Springs) and destroy infrastructure and means of Palestinian livelihoods (destruction of wells, roads and cutting trees).

Available statistics shows that in the period of the declared settlement freeze (false), nearly 1820 housing units in addition to 1433 Caravan was built. More focus of settlement building located west of the separation wall. Settlement activities there increased by 77.4% and confiscated 13,149 dunums and uprooted 10,364 trees and burning and demolition of 194 homes, 44 of them in Jerusalem only.

The Palestinian split among the two main political parties has deepened dramatically and began to affect the overall life aspects of Palestinians in both West Bank and Gaza. In addition, the growing violations and none compliance in applying the NGO's Law # 1 / 2000, has impeded the Palestinian civil society significantly and created a bureaucracy that is inconsistent with the law on the one hand and do not conform with the freedom of action that should be enjoyed by the institutions of civil society.

The proliferation of foreign institutions and the tendency of some of them including some United Nations organizations to work directly, has created a huge confusion and sometime interruption in the services provided by local civil society organizations and began the process of competition over the limited sources of funding which is now largely in the hands of foreign institutions and United Nations Agencies.

This has significantly reduced the partnerships between the Palestinian NGOs and the international institutions which reflected negatively on the type and quality of service provided to the local communities. Moreover, the sustainability of such services is in question since the foreign institutions have no relation with local communities and no follow up is made afterwards.

4. Water and Environmental situation in Palestine

Despite all the efforts made by the government and nongovernment organizations in the field of water and environment, the needs are still huge. The situation can be summarized in the following key features:

- The institutional status in each of the sectors of water and the environment need to be structured and there is an urgent need for legal arrangements, especially the role of municipalities in the management of these sectors. It is good to mention that there is an ambitious plan by the Water Authority to re-structure and reform the water sector, yet it is still in its early stages.
- The gap between supply and demand is still very high and is estimated at nearly 300 million cubic meters.
- The main constraint to the development of resources and infrastructure is that the Israeli occupation army and military orders are still the main controlling elements in the water and the environment sectors.
- Lack of clear vision of the role of institutions working in the field of water, especially the un-clarity in the roles and responsibilities among the competent ministries, leads to fragmentation of the sector.
- Infrastructure is still poor where losses may reach up to 45% on average year.
- Poor social and economic conditions lead to lower ability of people to pay for water services and this effect the overall ability of supply providers to provide the services properly. It is good to mention that bill collection percentage varies from 20-80%.
- There is a lack of harmony between the vision of social and economic development in general and that of the water sector. This leads to a lack of understanding of the reality of water and its social imperatives in Palestine.

5. Activities

5.1 Conventional Water Resources Development

Palestine is classified as a scarce country in terms of water availability. Most of conventional water resources are in bad conditions due to the Israeli restrictions imposed on the rehabilitation of these resources in the West Bank and the war on Gaza. The main water sources developed during the year 2010 were:

- 5.1.1 Groundwater Wells: PHG rehabilitated 27 wells in Gaza and 11 wells in the West Bank whereby the production of wells improved by more than 40% and benefited 4388 families and served to irrigate 5123 dunums. The improved efficiency of wells have reduced the production cost of water by nearly 37% and thus contributed directly to improve the income from agriculture to the benefitted farmers. Furthermore, the additional water quantities made available from rehabilitating the wells encouraged farmers to rehabilitate more lands and created more job opportunities for local farmers who were obliged to work as cheap laborers in the Israeli Settlements. In the mean time drinking water availability was also increased from nearly 60 l/c/d to more than 100 l/c/d in some communities such as Attil and Azzoun.



- 5.1.2 Spring Rehabilitation: PHG has rehabilitated 6 springs and the total beneficiaries were 00000 beneficiary.



6.2 Non-Conventional Water Resources Development

6.2.1 Grey Water Treatment and Reuse: PHG has promoted the treatment technology of grey water treatment to help promote the concept of grey water as a resource and to help improve the environmental and health conditions of the rural communities and eliminate social and environmental problems caused by cesspits. PHG has managed to construct 21 treatment units for the benefit of 21 families in the West Bank .



6.2.2 Water Harvesting: Water Harvesting is one of the priorities that PHG has been promoting since its establishment. Such projects are relatively cheap and traditionally known and they secure sufficient and safe water quantities to the communities. PHG has implemented number of water harvesting projects as follows:

- Ponds (earth): PHG has rehabilitated and newly implemented 15 ponds in the northern Jordan Valley with total storage capacity of 25800 m³. The activities implemented by PHG have increased the storage capacity for farmers by 39%. The ponds benefiting 44 families directly and irrigates 835 dunums of which 225 is newly rehabilitated as a result of the water availability increase made by PHG activities. In the same time PHG implemented 107 ponds in Gaza Strip.



Success Story:

Ali Mahmoud Aljourishi is a farmer from Jiftlik – Northern Jordan Valley. He was planting 20 dunums before the project of pond rehabilitation. The storage capacity of his pond was not sufficient to increase the irrigated area from one hand and the Israeli restrictions which prevent farmers to be present in their land next to road #90 after 6:00 PM from the other hand, so he could not work during night or store water during night in order to use it during next day. After the project, he increased the irrigated area into 80 dunums and hired new farmers to work with him due to the increase in the storage capacity of the pond.

- **Cisterns:**

PHG has implemented 15 cisterns for domestic / agricultural use and 392 cisterns for domestic use. Out of which 12 are public and the rest is individual household cisterns. The agricultural cisterns were implemented in Al Malih area in the Northern Jordan Valley. This area is very sensitive and the residents are always threatened by the Israeli Army to leave the area. The army has demolished the tents and barracks belong to them several times but they still resist and standing in their lands. In total 15 families benefited while the beneficiaries from individual as well as public domestic cisterns were 300 families and 4140 persons respectively.



6.2 Emergency Drought Mitigation

PHG has delivered nearly 29,000 m³ of tankered water to the areas that mostly suffer from the drought in the southern parts of the West Bank. The targeted areas were the eastern and southern parts of Hebron namely Yatta, Saer, Dura and Dahriye areas. Individual households as well as schools and public institutions have been targeted where minimum requirements were secured for students of 5l/student/day was supplied and nearly 30 l/c/d per individual in the households. The total beneficiaries from these activities were nearly 17264 beneficiaries in both areas.



6.3 Deprived families Economic Empowerment Program

PHG has supported the poor families directly through establishing income generating projects for those families. PHG has implemented 140 interventions for the benefit of 140 families in the West Bank and 43 projects (household animal farm) in Gaza Strip. Moreover, the poverty gap was reduced by 70-80% for these families and nearly 20% of them were graduated completely from poverty.

6.4 Food and Water Security Projects: Improve Access to Water and Food

PHG has targeted poor and marginal families in the southern part of West Bank to improve their food security through developing home gardens. During 2010 a total of 425 home gardens were implemented in the West Bank with a total area of nearly 18000 m² (18 dunums) benefiting nearly 425 families while 192 home gardens have been implemented in Gaza Strip for the benefit of 192 families. In addition, 218 dunums were rehabilitated and 205 greenhouse were rehabilitated in Gaza. In addition, 170 dunums were rehabilitated and supplied with drip irrigation networks to utilize treated wastewater.





6.5 Solar Energy Utilization

PHG has implemented one of the pioneering projects in utilizing solar energy in electrifying its rural environmental training and research centre in Western Bani Zaid – Ramallah. In addition, it implemented a new technology that is first ever tested in Palestine which the concentrated solar thermal power (CSP). Such technology can be utilized for water heating that can be used for heating the building and utilize the hot water for use in the building as well. Alternatively, it can be used to generate energy.



6.5 Water Supply Development

PHG has implemented two water supply development projects in the southern part of the West Bank. The first one was the rehabilitation and upgrade of Beit Kahel inter water network where 2.5 km length of 2" pipe were installed and the second one was to improve water access to the marginal communities in the south-eastern part of Hebron through extending 700 m length of 2' pipeline and building a reservoir of 300 m³ capacity to serve the communities around road 317 in the south. Moreover, two domestic water networks were installed in Gaza and 826 roof tanks of 1 m³ each were distributed.

6.6 Studies, Research and Master Planning

During 2010, PHG was engaged in three major studies and master planning activities. The first one was to study the sanitation alternatives and develop a sanitation master plan for Tubas area while the second one was to develop a comprehensive master plan on water and wastewater management for Tulkarem Governorate. The plan included the development of scenarios for water and wastewater management under different assumptions and also proposed a unified tariff structure as well as proposed institutional setup for managing the two sectors. The third plan was developed for Jericho City where a complete water master plan has been developed for the city. The water allocation for both agriculture as well as domestic was also defined and the potential improvement in the allocation was also proposed. In addition, a tariff structure as well institution setup to improve the management of water and sanitation in the city was also proposed.

In addition, PHG has been involved in several international research activities on integrated water resources management under climate change and other considerations. In the same time PHG conducted assessments on access to water and the impact of drought on the marginal communities in the southern and eastern part of the West Bank including the Jordan Valley.

6.7 Awareness and Capacity Building

PHG believes that capacity building of beneficiaries is an important component of any project in order to ensure its success. Training the beneficiaries on the operation and maintenance of the interventions improves the sustainability of these projects and serves them better. Moreover, raising the awareness of various constituency of society helps promote the best practice in water use and management as well as help in

protecting the environment. In this context, PHG has accomplished more than 450 hours of training for the target beneficiaries on issues such as groundwater well operation and maintenance, cisterns operation and maintenance, water supply network O&M, while trained them on how to maintain home gardens and how to make composting. The total beneficiaries from these activities were nearly 900 out of which 420 were females.

In the mean time, PHG has conducted 32 workshops for various target groups where nearly 410 beneficiaries participated (120 female). Moreover, 15 lectures for schools and community were organized where nearly 560 students (283 girl students) benefited. In addition, PHG produced 4000 brochure on cistern maintenance, 2000 brochure on groundwater well and 2000 on managing integrated irrigation systems. In the mean time PHG distributed nearly 10,000 leaflets and 2000 posters as well 1500 kid story to raise awareness and encourage water conservation.



6.8 Lobby and Advocacy

PHG has always played a major role at the national level and through the effective participation in several committees and also public events. Moreover, PHG has initiated

several activities to help promote the water awareness to decision makers as well as international visitors. PHG has accomplished the following:

- Participation in all committees that coordinate the activities of a national level (the Committee Against the Wall, the National Action Committee to develop the Jordan Valley) and others.
- PHG has given more than 25 lectures at universities and Palestinian communities on the security around water and the wall and the settlements.
- Attend coordination meetings with the national forces and parliamentary blocs on national issues such as elections, civil liberties, etc.)

PHG is also one of effective institutions in civil society issues, whether performed individually or through its presence in the Coordinating Committee for NGOs Network PNGO or PENGON (Environmental NGO Network). In this regard the role of PHG was as follows:

- the adoption of civil society position on the necessity of building a civil society effectively and transparently.
- the adoption of civil society issues, both in discussion with the international parties or government.
- Represent civil society in many local committees and international forums.
- To empower small organizations and community initiatives through their integration in the programs of PHG.
- Coordinate among the local and international agencies working in the water and sanitation in oPt under the coordination mechanism known as EWASH.
- Finally PHG in its endeavor to advance water justice, it was a signatory to the open letter addressed to the States Heads assembled in the UN General Assembly to adopt a resolution on the “Human Rights to Water”. The resolution was adopted by Majority of 122 votes on 28th July 2010.

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