

Palestinians in the Occupied Palestinian Territories (OPT) do not have access to adequate, safe water supplies. This long-standing problem has significantly hindered social and economic development in the OPT and denied many communities their rights to an adequate standard of living and to food, health and work. Palestinian per capita water consumption remains below acceptable international standards for the protection of public health. Chronic water shortages affect crucial aspects of life including hygiene, agricultural and industrial activities, and livestock rearing.

Discriminatory Israeli policies in the OPT are the root cause of the striking disparity in access to water between Palestinians and Israelis. Palestinian water consumption barely reaches 70 litres a day per person – well below the World Health Organization's (WHO) recommended daily minimum of 100 litres per capita. By contrast, Israeli (daily per capita) consumption is four times as much.

The inequality is even more pronounced between Palestinian communities and unlawful Israeli settlements, established in the OPT in violation of international law. Swimming pools, well-watered lawns and large irrigated farms in Israeli settlements in the OPT stand in stark contrast next to Palestinian villages whose inhabitants struggle even to meet their essential domestic water needs. In parts of the West Bank, Israeli settlers use up to 20 times more water per capita than neighbouring Palestinian communities, who survive on barely 20 litres of water per capita a day – the minimum amount recommended by the WHO for emergency situations response.

Israel controls and restricts Palestinian access to water in the OPT to a level which neither meets their needs nor constitutes a fair distribution of shared water resources. Israel uses 80 per cent or more of the water from the Mountain Aquifer, the Palestinians' sole remaining water resource, which is replenished almost entirely by the rainfall over the West Bank. Israel has entirely appropriated the Palestinians'

share of the Jordan River. It also has additional water resources which are not shared with the Palestinians.

Some 180,000-200,000 Palestinians in rural areas in the occupied West Bank have no access to running water. Even in towns and villages which are connected to the water network, the taps often run dry. Water rationing is especially common during the summer months. In many places Palestinians receive water only one day per week or every few weeks, in some areas not for months at a time. When their taps run dry, Palestinians must buy additional water brought in by water tankers at a much higher price. Many communities not connected to the water network must travel miles to find water that is expensive and often of dubious quality.

The impact of water shortages and poor sanitation services in the OPT is most often felt by the most vulnerable communities: those living in isolated rural areas and in overcrowded refugee camps. In recent years unemployment and poverty have increased and disposable income has fallen in the OPT. As a result, Palestinian families have to spend an ever higher percentage of their income on water.

In Gaza, some 90-95 per cent of the water supply is contaminated and unfit for human consumption. Israel does not allow water to be transferred from the West Bank to Gaza, and Gaza's only water resource, the Coastal Aquifer, is insufficient for the needs of the population and is being increasingly depleted

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CONTROL OF WATER IN THE OCCUPIED WEST BANK

- Israel determines the amount of water Palestinians can extract from the shared aquifer and the locations where extraction can take place.
- Israel controls the collection of rain or spring water throughout most of the West Bank. Rainwater harvesting cisterns are often destroyed by the Israeli army.
- Palestinians are not allowed to drill new wells or to rehabilitate old wells without permits from the Israeli authorities. Such permits are difficult and often impossible to obtain. Even pipelines connecting wells to Palestinian towns and villages require Israeli permits.
- The Israeli army controls access to the roads which water tankers must use to deliver water to those Palestinian villages not connected to the water network. Many roads are closed or restricted to Palestinian traffic, causing delays or forcing the tankers to make long detours which significantly increase the price of water.

These restrictions make it excessively difficult for Palestinians to access water and to develop and maintain the water and sanitation infrastructure.

right: A Palestinian woman in Samua, in the south of the occupied West Bank, washes clothes outdoors using water from a tanker as her house is not connected to the water network. cover: Residents collect drinking water at a purification plant in Khan Yunis, Gaza Strip. Some 90 per cent of the water available in Gaza is polluted and unsuitable for drinking.

by over-extraction and contaminated by sewage and seawater infiltration. Stringent restrictions imposed by Israel on the entry into Gaza of materials and equipment necessary for the development and repair of infrastructure have led to a marked deterioration in the water and sanitation situation there.

During more than four decades of occupation, Israel has over-exploited water resources and neglected water and sanitation infrastructure in the OPT. It has also used the OPT as a dumping ground for its waste – resulting in the pollution of groundwater resources. Urgent action is needed to ensure an adequate and equitable water supply for the Palestinian population and to prevent further resource and environmental damage.

Due to Israel's failure to fulfil its obligations as the occupying power, the burden of meeting these challenges has fallen to international donors and, following its establishment in the mid-1990s, the Palestinian Water Authority (PWA).

The PWA has extremely limited control over water resources in the West Bank. Under the Oslo Accords, it merely acquired the responsibility of managing an inadequate water supply. The amount of water which the Palestinians may extract from the shared aquifer is controlled by Israel, as are decisions relating to drilling or upgrading wells and implementing other water-related projects. The activities of the PWA are



ISRAEL'S OBLIGATIONS UNDER INTERNATIONAL LAW

By virtue of its military occupation of the OPT, Israel must comply with both international human rights and humanitarian law in the OPT. Although Israel disputes this, the international community, including all relevant UN human rights bodies, have repeatedly affirmed that Israel is bound by international human rights and humanitarian law in its conduct in the OPT and have repeatedly urged Israel to honour its obligations.

Israel, as the occupying power, has well defined responsibilities to respect the Palestinians' human rights, including the right to an adequate standard of living — which encompasses the right to water and food — the right to health and the right to work. It must not only refrain from taking actions that violate these rights; it must also protect the Palestinian population from interference with their rights by private

subject to restrictions imposed by Israel and are dependent on funding by international donors. These constraints, compounded by poor governance, fragmented management and internal divisions in the PWA, contribute

individuals and take deliberate, concrete and targeted steps to ensure that these rights are fully realized.

The Military Orders seizing control of Palestinian water resources in the OPT issued by the Israeli army soon after it occupied the area (Military Orders 92 and 168 of June and November 1967, and Military Order 291 of December 1968) remain in force today.

The 1993 Oslo Accords did not change the legal status of the OPT, which remain under Israeli occupation and effective control. Indeed, the Accords specifically stipulate: "The issue of ownership of water and sewage related infrastructure in the West Bank will be addressed in the permanent status negotiations" (Article 40). The permanent status negotiations, which were scheduled for the late 1990s, have not yet taken place.

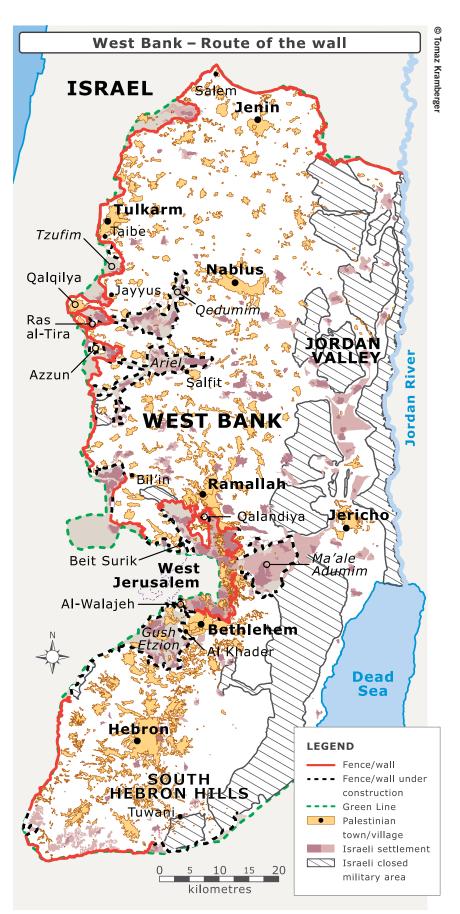
to one third of the water supply being lost through leakages. Donors have generally been reluctant to expose and effectively address obstacles which hinder the delivery of water projects.



TERRITORIAL JURISDICTION UNDER THE OSLO ACCORDS

The Oslo Accords divided the West Bank into Areas A, B and C. In Areas A and B the Israeli army devolved responsibility to the Palestinian Authority (PA) for civil affairs, that is for providing services to the population. The two areas together include some 95 per cent of the Palestinian population of the West Bank but account for only 40 per cent of the land.

In Area C, the Israeli army retains full jurisdiction for all matters. This area accounts for 60 per cent of the West Bank, including all the West Bank land reserves and access to water resources, and all the main roads. Areas A and B are not contiguous but fragmented into enclaves surrounded by Israeli settlements, settlers' roads and Area C. These arrangements have impeded the development of an efficient water and sanitation infrastructure. Most Palestinians live in Areas A and B, but the infrastructure which serves them is located in or passes through Area C. Palestinians' movement in Area C is either restricted or denied, and construction or development activities are rarely permitted by the Israeli army.



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DENYING WATER AS A MEANS OF EXPULSION

"No household should be denied the right to water on the grounds of their housing or land status."

UN Committee on Economic, Social and Cultural Rights, General Comment No.15 – The Right to Water

On 4 June 2009, the Israeli army destroyed the homes and livestock pens of 18 Palestinian families in Ras al-Ahmar, a hamlet in the Jordan Valley area of the West Bank. More than 130 people were affected, many of them children. Crucially, the soldiers confiscated the water tanker, tractor and trailer used by the villagers to bring in water. They were left without shelter or a water supply at the hottest time of the year.

This was the latest of many such incidents targeting Palestinian communities in the area. On 28 July 2007, Israeli soldiers at a military

below: Irrigation sprinklers wasting water in the midday sun in Israeli settlements in the occupied Jordan Valley, while neighbouring Palestinian villages struggle to access water for drinking and other basic needs. below right: Children outside their homes, which face demolition by Israel, in Humsa (formerly Hadidiya), Jordan Valley.

checkpoint confiscated the tractor and water tanker of Ahmad Abdallah Bani Odeh, a villager from the nearby hamlet of Humsa. He was driving to the 'Ain Shibli spring to collect water for his village. The soldiers told the villagers that, to retrieve the vehicles, they would have to sign a pledge to leave and not return to the area, and pay a fine of 4,500 shekels (approximately US\$1,000), a sum beyond the means of people living on less than US\$2 a day. The villagers did eventually recover their tractor and water tanker, after they moved to a different area and paid a reduced fine.

An Israeli army official told Amnesty International that the water tanker and tractor were confiscated because they enabled the villagers to remain in the area, which the army had declared a "closed military area". A few days later soldiers confiscated the other tractor belonging to the villagers.

In recent years the homes of Palestinians living in Humsa, Hadidiya, Ras al-Ahmar and other areas in the Jordan Valley have been repeatedly destroyed and their water tankers confiscated. Each time, the homes – tents and simple shacks made of metal and plastic sheets – are rebuilt. Because of the villagers' determination to remain on their land despite extremely harsh living conditions, the Israeli army has increasingly restricted their access to water as a way of forcing them to abandon the area.

Although there are large wells nearby, these are for the sole use of Israeli settlers in the Ro'i, Beka'ot and Hamdat settlements. To obtain water the Palestinian villagers must travel up to 20km to buy small quantities.

In recent years the Israeli army has dug ditches which prevent passage between the villages and surrounding areas. It has also installed checkpoints on the main roads where passage for Palestinians is severely restricted. These restrictions have made reaching sources of water more difficult and more expensive for Palestinians in the area. They have to make long detours and often have to wait at checkpoints, where they risk having their water tankers confiscated.

In Hadidiya, In'am Bisharat, a mother of seven, told Amnesty International:

"We live in the harshest conditions, without water, electricity or any services. The lack of water is the biggest problem. The men spend most of the day... [going] to get water and they can't always bring it. But we have no choice. We need a little bit of water to survive and to keep the sheep alive. Without water there is no life. The [Israeli] army has cut us off from everywhere... We don't choose to live like this; we would also like to have beautiful homes and gardens and farms, but these privileges are only for the Israeli settlers... we are not even allowed basic services."





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Because their access to water is severely restricted, villagers are unable to cultivate the land, or even to grow small amounts of food for their personal consumption or for animal fodder, and have thus been forced to reduce the size of their herds.

Historically, Palestinians in the Jordan Valley earned their livelihood from farming, herding goats and sheep, and selling the milk and cheese they produced. In recent years the lack of water has made it impossible for villagers to farm the normally fertile land or to keep more than a few animals – now their only means of livelihood. The lack of water has already forced many villagers to leave the area and the survival of the communities is increasingly threatened.

By contrast, the Israeli settlements established on occupied Palestinian land in violation of international law have unlimited access to water to irrigate vast tracts of farmland. Irrigated agriculture is the main economic activity in Israeli settlements in the West Bank and most of the produce is exported. The green expanses of the illegal Israeli settlements beside the parched Palestinian villages provide a striking example of Israel's discriminatory policy towards Palestinians in the OPT.

While Palestinian villagers face a daily struggle to find enough water for their basic needs, in nearby Israeli settlements irrigation sprinklers water the fields in the midday sun, when most water is wasted as it evaporates before even reaching the ground.

RAINWATER HARVESTING PROHIBITED

Rural communities which are not served by water networks rely on harvesting rain water for both domestic and farming needs. Depending on the amount of yearly rainfall, the water collected in the

Rainwater harvesting cisterns have been used in the region for centuries. Cisterns are mostly small, with an average capacity of 50m³. They are built in the ancient Nabataean tradition, dug in the ground in a circular or square shape, lined with stones or cement to prevent leakages, and with an opening that is kept closed when not in use to prevent evaporation and contamination. The run-off rainwater is collected in the cisterns during the rainy season and stored for use during the dry season.

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underground cisterns during the rainy season can provide families with several months' supply. When the collected rainwater runs out, the villagers buy additional supplies from tankers and store it in the cisterns.

On 15 January 2008, Israeli forces demolished nine rainwater cisterns near the village of Beit Ula, north-west of Hebron. The cisterns were built in June 2006 as part of an agricultural project to improve food security, and they belonged to nine families. The project was funded by the European Union via two local nongovernmental organizations, the Palestinian Agricultural Relief Committees and the Palestinian Hydrology Group. Under the scheme the land was levelled in the traditional terrace style and 3,200 trees were planted including olive, almond, lemon and fig trees. The cisterns were a

vital part of the project, with each cistern intended to provide water for a plot of 10-12 dunums (1-1.2 hectares). The farmers had also contributed a significant portion of the overall cost of the project.

One of the farmers, Mahmoud al-'Adam, told Amnesty International:

"We invested a lot of money and worked very hard on this project. This is good land and it was a very good project. We put a lot of thought into how to shape the terraces and build the cisterns in the best way, to make the best use of the land, and we planted trees which need little water... even if there was not enough rain this year to fill the cisterns, the water harvested was useful for the saplings; they were growing well... But [the Israeli army] destroyed everything; they went up and down several times

above left: Shepherds in the village of Umm al-Kheir, in the south of the occupied West Bank. Herding communities are not connected to the water network and rely on the harvesting and storage of rainwater using cisterns like this, which are often destroyed by the Israeli army. above: Precious water in the occupied West Bank is polluted and no longer usable after a rainwater harvesting cistern belonging to Palestinian villagers was destroyed by the Israeli army under the pretext that it was built without a permit. Permits for water projects are rarely granted to Palestinians.

with the bulldozer and uprooted everything... It is very painful for me every time to come here and see the destruction; everything we worked for is gone. Why would anyone want to do this? What good can come from [it]?"



VULNERABLE COMMUNITIES TARGETED - SOUTHERN HEBRON HILLS

In the Southern Hebron Hills, Palestinian villagers depend largely on sheep and goat herding for their livelihoods. In recent years they have faced the growing challenge of prolonged drought, which has reduced both the supply of water they are able to collect during the rainy season and the yield of fodder crops and grazing plants. Increased restrictions imposed by the Israeli army on the villagers' access to water and grazing land have worsened their situation.

In the Palestinian village of Susya, most of the water cisterns were demolished by the Israeli army in 1999 and 2001, along with dozens of homes. The remaining cisterns and even a latrine have demolition orders pending.

The water cisterns, some of them centuries old, were blown up or smashed with bulldozers and filled with gravel and cement, making it impossible to repair them. The water heating solar panels which had been donated to the villagers were also smashed.

"Water is life. Without water we cannot live; not us, not the animals, or the plants. Before we had some water, but after the army destroyed everything we have to bring water from far away; it's very difficult and expensive. They make our life very difficult, to make us leave."

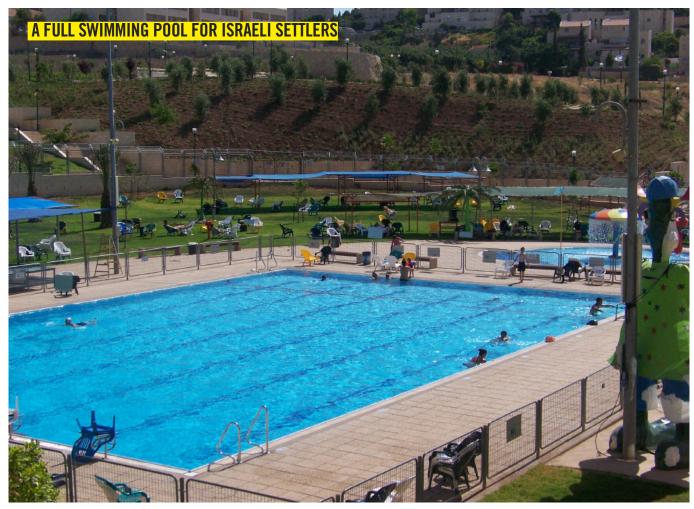
Fatima al-Nawajah, a resident of Susya, speaking to Amnesty International

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top: A water reservoir stands empty in Jiftlik, a Palestinian village in the occupied Jordan Valley, whose residents depend on agriculture but face increasing restrictions in accessing water. above: A toilet in the Palestinian village of Susya, in the occupied West Bank, threatened with demolition by the Israeli army. right: Israeli settlers enjoy the swimming pool in the Maaleh Adumim settlement, unlawfully established in the occupied West Bank in violation of international law.





Officially, as in other cases, the structures were demolished because they lacked permits – permits which the Israeli army systematically refuses to grant to Palestinians in the area. The aim was to expel the population from the village in order to make way for the expansion of the Israeli settlement of Sussia.

The expansion of Sussia in the 1990s coincided with increased harassment of Palestinian communities by the settlers and efforts by the army to expel them. Since the Israeli army destroyed most of their caves – historical structures thousands of years old – the Palestinians have been living in tents and shacks and are constantly at risk of being forced out of the area. More than half have already been forced to leave, many after the destruction of the water cisterns in 1999 and 2001 and others following water and land restrictions imposed since then.

"I am sitting here holding in my hands metal spikes that were used today by Israeli settlers to sabotage a truck carrying water [supplied by the international aid organization Oxfam] to the nearby Palestinian village of Susya. This entire area has been affected by serious drought, and the water brought by Oxfam is a necessity. Dozens of spikes were placed across the road before the time of the water truck's regularly scheduled arrival. The truck was disabled, three tyres punctured... After a delay, the driver was able to deliver the water."

Joel Gulledge, Christian Peacemakers Team, 12 September 2006

SHOOTING AT WATER TANKS FOR 'TARGET PRACTICE'

Most Palestinian houses in the OPT have water storage tanks on the roofs to cope

with the perennial water shortages. The water tanks have often been targeted by Israeli soldiers.

"My paratrooper friends used to tell me that they lay on roofs in Nablus and shoot the water tanks in order to see how they explode..."

Rank: First Sergeant, Unit: "Sting"

When asked why Palestinian rooftop water tanks have been shot at, a soldier who served in the OPT told Amnesty International:

"Water tanks are good for target practice; they are everywhere and are the right size to aim at and calibrate your weapon, to relieve your frustration, to teach a lesson to the kids of the neighbourhood who threw stones at you and you couldn't catch; or to break the monotony of a stint of guard duty."







WATER INFRASTRUCTURE DESTROYED

During the 22-day Israeli military offensive in December 2008-January 2009 (Operation "Cast Lead"), Israeli attacks caused some US\$6 million worth of damage to water and wastewater infrastructure in Gaza. Four water reservoirs, 11 wells, and sewage networks and pumping stations were damaged and 20,000 metres of water mains were damaged or destroyed by Israeli tanks and bulldozers. Sewage treatment plants in north and central Gaza were damaged, resulting in raw sewage flooding more than a square kilometre of agricultural and residential land, destroying crops and causing a health hazard.

In April 2009 the UN Office for the Coordination of Humanitarian Affairs reported that water test results released in March showed that 14 per cent of water samples taken in February that year were contaminated, and expressed concerns about water contamination from toxic munitions such as white phosphorus.

Destruction of and damage to water infrastructure have regularly accompanied Israeli military attacks in the OPT in recent years. In one incursion in late January-early February 2003 in Rafah, the southernmost and poorest town in Gaza, Israeli forces destroyed two public wells which provided drinking water for half of the town's 120,000 residents.

The wells were among 102 wells destroyed by the Israeli army in the Gaza Strip in less than a year, between 1 July 2002 and 31 March 2003. As a result, residents had to rely on alternative, often unsafe water sources such as agricultural wells, which are not intended as a supply of drinking water and as such are not monitored or adequately chlorinated by the water authorities.

In a needs-assessment report in the wake of incursions in May 2004, UN aid agencies reported:

"In the aftermath of the May incursions, public health degenerated as a consequence of damage to water and sewage networks and overcrowded facilities. The Ministry of Health clinic in Tal es Sultan reported that,

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between 1-17 May. 848 children – around 50 per day – were brought to the clinic suffering from ailments including diarrhoea and skin diseases... Between 22 and 31 May... 1,363 children – 151 per day – were brought to the clinic."

Attacks in reprisal and other deliberate attacks by Israeli forces on water facilities and infrastructure in the OPT, and on power and other facilities which directly affect the supply and quality of water, violate international humanitarian law.

above left: A sewage facility in northern Gaza bombed in an Israeli attack in December 2008/January 2009.

above right top: A water pump and well in the Zaytoun neighbourhood of Gaza City destroyed in an Israeli attack in January 2009. above right bottom: Large amounts of sewage are pumped daily into the Mediterranean Sea as the overstretched Gaza infrastructure fails to cope with sanitation needs. The Israeli blockade of Gaza prevents the import of badly needed material and equipment to build and maintain the water and sanitation infrastructure.



BLOCKADE PREVENTS REPAIRS AND RECONSTRUCTION

"The deterioration and breakdown of water and sanitation facilities in Gaza is compounding an already severe and protracted denial of human dignity in the Gaza Strip. At the heart of this crisis is a steep decline in standards of living for the people of Gaza, characterised by erosion of livelihoods, destruction and degradation of basic infrastructure, and a marked downturn in the delivery and quality of vital services in health, water and sanitation."

Maxwell Gaylard, UN Humanitarian Coordinator for the OPT, 3 September 2009

In Gaza, 90-95 per cent of the water from the Coastal Aquifer is now polluted and unfit for drinking because of sewage and seawater infiltration. Due to the Israeli-imposed blockade of Gaza, desperately needed materials for the construction and repair of water and sewage treatment facilities cannot get in. The result is a further deterioration of water and sanitation facilities – already in a dire condition after decades of neglect.

Restrictions imposed on the entry of industrial fuel and chemicals into Gaza have further hindered the functioning of sewage treatment plants, wells and desalination facilities.

Due to lack of capacity within existing sewage treatment facilities about half of Gaza's sewage (some 70,000m³ daily) is discharged into the sea untreated, contaminating the coastline and fish stocks – a significant part of Gazans' livelihood.

The scale of the problem was highlighted on 27 March 2007 when the bank of a sewage collection lagoon in the North Gaza wastewater treatment plant collapsed, flooding the nearby Bedouin village of Um al-Nasser. Five people were killed and hundreds were left homeless.

The World Bank reported:

"In November 2008 most water wells had stopped because of lack of spares, others were working at half capacity. Electricity cuts, and lack of diesel for generators, had affected water distribution and pumping up to household reservoirs. The utility had run out of chlorine, indispensable chemical to ensure water disinfection. The desalination plant at Khan Younis has a capacity of 90m³/hr, but due to shortage of spares and chemicals it was producing 30m³... As a result, at the time, more than 50% of households did not have access to network water, and some households had not had water for more than 10 days."

Despite Israeli promises to allow much needed materials into Gaza for the water and sanitation sector, there has been little progress.

above: Palestinian children play by a water tanker, which provides water for their homes which have no running water, June 2007. In the background is the Israeli settlement of Ma'aleh Adumim, which benefits from all services including abundant water.

A Palestinian girl takes a rest on her way to collect drinking water in Gaza, where more than 90 per cent of the water available is polluted and unfit for human consumption.

RECOMMENDATIONS

Amnesty International calls on the Israeli authorities to urgently address the desperate need for water security in the OPT, brought about by their violations of Palestinians' human rights. The Israeli authorities should immediately:

- Lift the restrictions currently in place which deny Palestinians in the OPT access to sufficient water to meet personal and domestic needs as well as to enjoy their rights to water, food, health, work and an adequate standard of living.
- Put an end to policies and practices which discriminate against Palestinians and confer privileges to Israeli settlers with respect to access to water in the OPT.

- Revoke all outstanding orders for demolitions and prohibit further demolitions of water facilities in Area C of the West Bank.
- Lift the blockade on Gaza and allow immediate entry to Gaza of spare parts and construction and other material and equipment needed for the repair, reconstruction and maintenance of the water and sanitation infrastructure in Gaza.

Amnesty International calls on the Palestinian Water Authority to:

Take measures to maximize existing water resources, by prioritizing measures which reduce the unacceptably high

water losses, and by establishing mechanisms to ensure that all the water delivered to consumers, whether through the PWA-controlled networks or via mobile water tankers, is safe and complies with WHO standards.

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Amnesty International calls on international donors to:

Take steps to improve co-ordination among donors and strengthen oversight of implementation so as to maximize existing resources and the utility of individual projects; and ensure transparent reporting of interference which delays or prevents the implementation of water and sanitation projects.

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WATER IS A
HUMAN RIGHT

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Amnesty International International Secretariat Peter Benenson House 1 Easton Street London WC1X 0DW United Kingdom www.amnesty.org