



Programme of Assistance  
to the Palestinian People

# ONE

YEAR AFTER  
Report

## GAZA

Early Recovery and Reconstruction Needs Assessment

1





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# Acronyms and Abbreviations

<b>ACF</b>	Action Against Hunger
<b>AFD</b>	Agence Française de Développement
<b>AIDA</b>	Association of International Development Agencies
<b>ANERA</b>	American Near East Refugee Agency
<b>APIS</b>	Agricultural Palestinian Information System
<b>BOD</b>	Bio-Chemical Oxygen Demand
<b>CAP</b>	Consolidated Appeal Process
<b>CCI</b>	Construction Cost Index
<b>CIDA</b>	Canadian International Development Agency
<b>CMWU</b>	The Coastal Municipalities Water Utility
<b>COOPI</b>	Cooperazione Interazionale
<b>CPTSD-RI</b>	Children's Post Traumatic Stress Reaction Index
<b>DEC</b>	Disaster Emergency Committee
<b>DfID</b>	Department for International Development
<b>ERW</b>	Explosive Remnants of War
<b>EU</b>	European Union
<b>Fafo</b>	Institute for Applied International Studies, Norway
<b>GEDCo</b>	Gaza Electricity Distribution Company
<b>GERRNA</b>	Gaza Early Recovery and Reconstruction Needs Assessment
<b>GEMHP</b>	Gaza Mental Health Programme
<b>HHCW</b>	Hazardous Healthcare Waste
<b>IDB</b>	Islamic Development Bank
<b>IDP</b>	Internally Displaced Person / People
<b>INEE</b>	Inter-Agency Network for Education in Emergencies
<b>IR</b>	Islamic Relief
<b>IRD</b>	IR-Deutschland
<b>MoA</b>	Ministry of Agriculture
<b>MoEHE</b>	Ministry of Education and Higher Education
<b>MoH</b>	Ministry of Health
<b>MoSA</b>	Ministry of Social Affairs
<b>NFI</b>	Non-Food Item
<b>NGO</b>	Non-governmental Organization
<b>NIS</b>	New Israeli Shekel
<b>OCHA</b>	Office of Coordination of Humanitarian Assistance
<b>OHCHR</b>	Office of the High Commissioner for Human Rights
<b>OPT</b>	occupied Palestinian territory
<b>PA</b>	Palestinian Authority
<b>PCBS</b>	Palestinian Central Bureau of Statistics
<b>PCHR</b>	Palestinian Centre for Human Rights
<b>PCWG</b>	Protection Cluster Working Group
<b>PFI</b>	Palestinian Federation of Industries
<b>PHC</b>	Primary Health Care
<b>PHG</b>	Palestinian Hydrology Group
<b>PNERRP</b>	Palestinian National Early Recovery and Reconstruction Plan
<b>PRCS</b>	Palestinian Red Crescent Society
<b>PTSD</b>	Post Traumatic Stress Disorder
<b>RCI</b>	Road Cost Index
<b>SHC</b>	Social Hardship Case - Ministry of Social Affairs
<b>SIDA</b>	Swedish International Development Cooperation Agency
<b>SSNRP</b>	Social Safety Net Reform Project
<b>SWM</b>	Solid Waste Management
<b>UN</b>	United Nations
<b>UNDP</b>	United Nations Development Programme
<b>UNEP</b>	United Nations Environment Programme
<b>UNFPA</b>	United Nations Population Fund
<b>UNESCO</b>	United Nations Educational, Scientific and Cultural Organization
<b>Unicef</b>	United Nations Children's Fund
<b>UNIFEM</b>	United Nations Women's Organization
<b>UNMAT-GO</b>	United Nations Mine Action Team - Gaza Office
<b>UNRWA</b>	United Nations Relief and Works Agency
<b>UXO</b>	Unexploded Ordnance
<b>WFP</b>	World Food Programme
<b>WHO</b>	World Health Organization
<b>WWTP</b>	Wastewater Treatment Plant

## Foreword

*After crossing the heavily fortified border post which links Israel to the Gaza Strip, it is possible to see dozens of dusty workshops producing building blocks from crushed rubble and cement. The blocks are loaded on to old trucks and donkey carts and hauled off to repair damaged homes.*

*It is this kind of small scale industry which has enabled Gazans to repair some 25% of the infrastructure damage inflicted by Israeli armed forces between December 2008 and January 2009. The recovery from the war, however, continues to be hampered by the stiff blockade of Gaza that only permits the importation of goods that the Government of Israel judges to be unconditionally humanitarian. As a result, more than one year later, three-quarters of the damage remains unrepaired and unreconstructed, including homes, schools, and hospitals. Yet, in spite of the continued siege imposed by Israel, resilience and ingenuity persists in Gaza.*

*This report assesses the recovery in Gaza from the damage to property, infrastructure, and the economy since January 2009 and details what remains to be done. The report does not deal with the enduring human cost of Cast Lead, which left 1,417 people dead, 5,380 injured, around 600 disabled and many more traumatized, or the decades of under development and conflict which preceded it.*

*The report reveals that Gazans have succeeded in achieving a modest recovery from the destruction they were left to face last year. This modest recovery was supported by international actors, but was also made possible by the extensive entry of goods from Egypt via cross-border tunnels. Many people have reportedly been killed while building or working in the tunnels. Yet the demand for goods and the need for people to make a living are so great that this commercial activity continues, a fact commonly acknowledged. Many members of the international community, including the United Nations, have refrained, thus far, from utilizing materials identified as coming through the tunnels, subsequently limiting their role in reconstruction. In Gaza today, UN agencies are under increased pressure from others to take over parts of their projects that were suspended as a result of the blockade.*

*The findings of this report beg the question on the most appropriate responses necessary to provide the support required for Gazans to maintain their minimum human dignity. To date, while some recovery is taking place, the realities on the ground show that the international community is, by and large, rendered ineffective in addressing the needs of people in Gaza, whether by default or by design. In fact, in view of the scale of the needs, international assistance in Gaza is tantamount to tinkering at the edges.*

*Maintaining the status quo will not enable Gaza to recover, and certainly not with the support of the international community, irrespective of intentions. We hope that this report sheds light on the policy consequences governing the plight of the Palestinians one year after Israel's "Cast Lead" operation. Depriving people from their right to pursue a dignified life should raise an issue of conscience.*

**Jens Toyberg-Frandzen**  
**Special Representative of the Administrator**  
**Jerusalem, May 2010**

# Executive Summary







*More than a year after Israel ceased its military operations against the Gaza Strip, and despite intensive efforts to initiate recovery, three quarters of the damage inflicted on buildings and infrastructure remains unrepaired and unreconstructed. Around USD 527 million are required to just return the Gaza Strip to the state it was in on December 26, 2008, on the eve of the the 23-day conflict. This represents a fraction of the total needs required to “build back better”, that is to ensure that Gazans achieve a measure of well being that extends beyond the levels of 2008, through large scale construction to address population growth, maintenance and repair to reverse the degradation of public and private infrastructure which has occurred under the blockade of the Gaza Strip.*

*“Operation Cast Lead”, as the Israeli army called its campaign against the Gaza Strip, constituted one of the most violent episodes in the recent history of the occupied Palestinian territory<sup>1</sup>. The Palestinian Centre for Human Rights estimates that 1417<sup>2</sup> Palestinians were killed, 313 of whom were children, 116 women and 988 men. More than 5,380 were injured, of whom 1,872 were children, 800 were women and 2,520 were men<sup>3</sup>. Between 40-70% of the wounded suffered severe traumatic injuries, and eleven percent among the injured have become permanently disabled.<sup>4</sup> At least 6,268 homes were destroyed or severely damaged. The civilian population suffered further from damage to electricity, water and sewage systems. Military operations also caused substantial damage to schools, universities, hospitals, health centers, businesses, factories and farmland and public governance facilities, including presidential, parliamentary, ministerial, rule of law, civil society, and local administration buildings and archives, destroying an already weakened institutional capacity.*

1 OCHA. “Locked In: The humanitarian impact of two years of blockade on the Gaza Strip,” August 2009.

2 Based on the cross checking of multiple fatality lists, OCHA has identified the records of 1,383 Palestinians whose death was confirmed by at least two independent sources. See “Locked In,” pg. 12.

3 From the end of the incursion until December 2<sup>nd</sup> 2009, one female and two male children, and forty-nine adult male Palestinians had been killed in Gaza, while 121 others were injured by Israeli Security Force (ISF) actions. (see OCHA <http://www.ochaopt.org/poc/>).

4 Handicap International’s database records 1,011 people as permanently disabled. Handicap International, Need Assessment Framework (NAF) Disability Sector (including Older Persons), April 2010.

## The Blockade

The 23-day campaign against the Gaza Strip was the latest in a series of control measures taken by Israel which have intensified since 2000. On June 14, 2007, Israel banned the export of all goods from the Gaza Strip and the importation of anything except what the Israeli government labelled as “humanitarian” into Gaza. The blockade resulted in the closure of most of the manufacturing industry, which was deprived of materials and export markets, and led to a surge in unemployment which currently stands at 40%.

John Holmes, the United Nations Emergency Relief Co-ordinator, described the blockade as “collective punishment” of the civilian population of the Gaza Strip. The blockade has created shortages in a number of critical items and constrained the rights of Gazans to education, health, shelter, culture, personal development and work.

## Obstacle to Reconstruction

The blockade has been a major obstacle to repairing the damage done by Israeli air attacks and destruction. Nearly none of the 3,425 homes destroyed during Cast Lead have been reconstructed, displacing around 20,000 people. Only 17.5% of the value of the damages to educational facilities has been repaired, putting extra strain on Gaza’s already stressed education system where schools have been teaching two shifts of pupils per day for decades.

Repairs of infrastructure have also been held back. Only half of the damage to the power network has been repaired, which continues to contribute to significant electricity cuts; no repairs have been made to the transport infrastructure. In the economic sector, a quarter of damaged farmland has been rehabilitated and only 40% of private businesses have been repaired. The fishing industry has been almost completely destroyed by ongoing Israeli restrictions on fishing limits.

A closer look reveals that the infrastructure which remains unrepaired is often that which is most essential to the basic needs and well-being of the Gaza population. The repair of the severely damaged Al-Wafa and Al-Quds Hospitals has been delayed by the lack of materials, with work on the latter only starting in February 2010. USD 21,541,460 worth of repairs is still needed to rehabilitate universities and two fully destroyed private schools, including the American School of Gaza. Most of the damaged agriculture infrastructure, including poultry and livestock farms, greenhouses, storage facilities and irrigation infrastructure, worth USD 40 million, has not been repaired and USD 30 million worth of orchards still need to be replanted.

## International Mobilization for Gaza

International mobilization for the reconstruction of Gaza began shortly after the end of operation "Cast Lead". Based on a damage and needs assessment spearheaded by the UN in collaboration with local authority counterparts and national NGOs, the Palestinian National Authority put forward the Palestinian National Early Recovery and Reconstruction Plan for Gaza (PNERRP) at the Sharm El-Sheikh Donor Conference of 2 March 2009. More than USD 1.3 billion was pledged by international donors in support of the plan. More than a year after the Sharm El-Sheikh Conference, few of these pledges have materialized, and Gaza's reconstruction continues to be hampered by Israel's blockade and by internal Palestinian divisions.

Continued calls have been made by donors, the Quartet, UN agencies, scholars and international NGOs for Israel to lift or at least ease the current blockade on Gaza. Despite these efforts, little progress has been recorded. A recent Quartet declaration welcomed Israel's move to allow more goods into Gaza but the quantity and relevance of the goods permitted does not address the nature and scale of the needs.



## Gaza's Lifeline – The Tunnel Economy

To circumvent the blockade and acquire goods for a dignified life, Gazans have begun to rely on old and new tunnels that cross from Rafah into Egypt.

Gaza's tunnel economy has been ongoing for more than 15 years and has always been driven by commercial imperatives and the shortage of goods in Gaza. Before disengagement in 2005, the Israeli army waged a constant battle to suppress tunneling. The army flooded the border area, created mini-earthquakes with explosives and conducted house to house searches. Each time they blocked a tunnel, the operators would dig another one to bypass the blockage and re-connect with the main shaft. In 2007, tunneling switched from being a secretive enterprise to one conducted in the open, with hundreds of tunnels being constructed beneath the border watch towers.

The tunnels range from basic to sophisticated and are used to bring in anything from Arabian horses to cars as well as basic commodities that have been restricted by Israel. Evidence of the tunnel economy can be seen in the existence in Gaza of Egyptian Coca Cola and cigarettes, Chinese motorbikes, fuel, building materials and prescription drugs.

## Gaza One Year After

Despite the blockade, and although reconstruction needs remain considerable, a combination of foreign aid and Gazan ingenuity has allowed some of the war damage to be repaired. Organisations and individuals have combined recycled and smuggled materials to repair their homes, businesses and facilities. While UN agencies have refrained from carrying out projects using materials coming from the tunnels, others have bought reconstruction materials on the open market, regardless of their origin.

In testimony to what Gazans prioritize, most damaged health facilities have been repaired including 33 out of 40 primary health care centres. Ten out of 12 hospitals were fixed, while repairs are underway for the remaining 2, despite the shortage of building materials. In addition, around 78% of water and sanitation facilities have been repaired, excluding house connections of destroyed houses and the Jabalia reservoir. In some areas, rehabilitation work has improved services, such as the provision of drinking water.

While it has been so far nearly impossible to reconstruct destroyed houses, 75.6% of the households with damages in their houses have implemented repairs, partially (41%) or totally (34.6%), often (but not always) using the compensation funds provided by UNRWA and UNDP, for up to 60% of the value of their damages. Reconstruction of houses is planned by a number of actors to begin in 2010. In addition, a majority (54%) of the damaged and destroyed industrial establishments have been reconstructed and nearly all of those (97%) have resumed operations, albeit in many cases at reduced capacity.

Reports however show that in 2009, Gaza experienced a degree of economic recovery, demonstrated by a decrease in unemployment and in an increase in the number of operating industrial facilities. While the current levels of donor aid and public sector expansion account for a considerable part of these improvements (the UNRWA job creation programme accounted for the equivalent of 9,600 full-time jobs in 2009) the growing tunnel trade between Egypt and Gaza and the importation through the tunnels of needed materials have enabled this assistance to translate into some degree of recovery.

However, the sustainability of this limited recovery is questionable. First, despite improvements in the number of employed people, the purchasing power of people has continued to decline, and unemployment rates in Gaza remain among the highest in the world. In addition, more than half of the interventions implemented in 2009 were externally funded cash-based interventions: USD 53,617,888 was provided in cash assistance for the most deprived sections of society, USD 74,959,562 in cash assistance and compensation schemes<sup>5</sup> for households with destroyed and damaged houses, and USD 62,924,920 for livelihoods interventions that consisted mainly of short-term employment schemes and emergency input-driven support to backyard farming. The Gazan economy is also supported by food assistance provided by WFP and UNRWA and the wages of 62,000 public employees on the Palestinian Authority payroll which is partially funded by the European Union.



<sup>5</sup> Out of USD 74,959,562, USD 51,133,370 worth of repairs were implemented by house owners. This was reflected in table 41 as the value of the housing interventions in 2009 and was deducted from the total value of the compensations in table 42 to avoid double accounting.

## Gaza Recovery's Actors

The report shows that Gaza's -limited- recovery is to be attributed first and foremost to the resilience and creativity of Gazans. Although the report could not study, in depth, the various coping strategies developed, and mostly records the donor-funded recovery, the mere fact that recovery could happen despite the current blockade is telling. Over the past years, Gazans have maximized the use of locally available resources. Local solutions were developed to cope with the absence of pesticides. Agricultural roads were repaired with the rubble of destroyed houses. The restarting of the construction sector was prompted by the recycling of crushed rubble mixed with cement imported from tunnels. Most of the repairs to the damaged water and sanitation infrastructure were implemented by the Coastal Municipal Water Utility immediately after the cessation of hostilities. The Palestinian electricity and telecommunications companies, GEDCO, Paltel and Jawwal performed most of their repairs using available spare parts and using imaginative and unorthodox solutions. Alternative construction technologies, such as Compressed Earth Block technology, are also being explored by UNRWA and UN Habitat, to build houses despite the Israeli blockade on construction materials<sup>6</sup>.

Evidence also shows that, irrespective of the resources available, Gazans prioritized repairs. Most private schools were rehabilitated through private donations. Moreover, a UNDP survey shows that similar levels of repairs were recorded in houses for which households had received compensation and in houses for which no compensation was received. The restoration of damaged and destroyed industrial establishments is another tribute to Gazans' resilience: with no external support received, 54% of the damaged and destroyed facilities were repaired and 97% of them were able to resume operations.

The report also highlights that Gaza's recovery efforts benefited from greater support from Arab donors and Islamic international NGOs and organizations than from traditional donors, United Nations organizations and Western international NGOs. The repair of hospitals, clinics, schools, universities, the rehabilitation of damaged agricultural infrastructure and the emergency repair and reconstruction of houses was essentially performed with support from Arab funding and by NGOs and organizations such as Islamic Relief, Qatar Red Crescent, Qatar Charity, Human Appeal International, Al-Rahma Charity Association, Mercy Malaysia, and Muslim Hands. UN agencies, traditional donors and Western NGOs have tended to emphasise input-driven emergency relief and cash-based programmes over structural rehabilitation works that the Israeli-imposed embargo on the Gaza Strip aims at preventing.

Overall, USD 173,303,921 worth of repairs were implemented in 2009, and USD 154,819,045 of cash-based and other programming interventions was provided to alleviate suffering and enable recovery.

<sup>6</sup> So far, 9 CEB houses have been built, and 200 are being planned with 30 currently being tendered.

## Methodology

This report was prepared by UNDP, as Early Recovery Cluster Lead, in partnership with the Gaza-based Engineering and Management Consulting Center (EMCC). The objective of the report is to update the Gaza recovery and reconstruction needs highlighted in the Palestinian National Early Recovery and Reconstruction Plan for Gaza (PNERRP) prepared by the Palestinian Authority with support from UNDP and in coordination with UN agencies, the EC, the World Bank and civil society organizations. This research has been conducted to inform policy-makers, donors and the general public on the current situation in the Gaza Strip for programming and strategic planning, as well as monitoring and evaluation purposes.

The report therefore follows, to a great extent, the structure of the PNERRP and focuses mainly, as the PNERRP did, on infrastructural damages. While this may be perceived as a shortcoming, it reflects a conscious decision that was made in order to be able to measure change against a set baseline. The report reflects interventions that were implemented in Gaza up to January 2010.

The report was prepared based on extensive consultations with a range of stakeholders, including technical counterparts of local authorities, UN agencies, international and national NGOs, Clusters and sector working groups, researchers and academics. Data was collected by UNDP and EMCC and cross-correlated with several sources.

The information presented in this report does not pretend to be exhaustive. In some instances, complete data on achievements and outstanding requirements was lacking. The report highlights such gaps, in which case best efforts have been made to clarify the assumptions made and the methodology used to infer actual needs on the ground.

# INDIA





# Early Recovery and Reconstruction Needs – One Year After

- *Social Sector*
- *Utilities Infrastructure and Housing*
- *Livelihoods and the Economy*
- *Governance Sector*
- *Natural Resources*



Section

# [A]





# Social Sector

- *Health*
- *Education*
- *Social Protection and Safety Nets*
- *Psycho-Social Needs*

## A. Health

Four main providers provide the residents of Gaza with health services: the Ministry of Health (MoH), UNRWA, nongovernmental organizations (NGOs) and the private sector. Health care is provided through a three-tier system, consisting of primary health care clinics, secondary and tertiary health care facilities. MoH and UNRWA have a large network of primary health care clinics. 56 clinics are run by MoH, 20 by UNRWA, and a few additional clinics are run by NGOs<sup>1</sup>. With regard to secondary and tertiary health care, Gaza has 24 hospitals with 2003 beds, 12 of which are MoH ones with 1587 beds, while 10 are NGO owned with 382 beds and 2 are private with 34 beds.

### *Damages*

The impact of the Cast Lead military operation on the Health sector was severe. Sixteen health workers were killed and twenty-five injured. Twenty-nine ambulances were damaged or destroyed. Medical facilities ran short of critical medical supplies. Maternal and child health services at PHC level were disrupted and health services for some 40% of chronically ill patients had to be interrupted during the attack. In addition, medical facilities sustained direct damages. 40 PHCs out of 60 and 12 hospitals out of 24 were damaged to varying degrees, some of them by direct hits. Damages to PHCs were estimated between USD 191,030 and USD 341,930.<sup>2</sup> The hospitals that sustained the heaviest damages were as follows:<sup>3</sup>

1. Al-Quds hospital, a general hospital run by the Palestinian Red Crescent Society with a capacity of 100 beds, had its two top floors completely destroyed in addition to its adjacent administrative building and warehouse.
2. Al-Wafa hospital, the only rehabilitation hospital in the Gaza Strip, with a capacity of 50 beds, sustained direct hits, including a total of 8 tank shells, 2 missiles and thousands of bullets.<sup>4</sup> A new building that was about to be inaugurated to expand the hospital's services was totally destroyed.
3. The European Hospital of Khan Younis, with a capacity of 207 beds, sustained artillery damage to walls, water mains and electricity.
4. Al-Awda hospital, a general hospital with 77 beds, sustained damages from 2 artillery shells that landed near the emergency room.
5. Al-Dorah hospital, a pediatric hospital with 64 beds had its emergency room hit twice.
6. Al-Nasser pediatric hospital, with 150 beds, had its windows damaged.

1 WHO's Specialized Health Mission to the Gaza Strip, Extended report, Geneva 21<sup>st</sup> May, 2009.

2 UNDP and MOH – Gaza estimates.

3 WHO's Specialized Health Mission to the Gaza Strip, Extended report, Geneva 21<sup>st</sup> May, 2009.

4 WHO's Specialized Health Mission to the Gaza Strip, Extended report, Geneva 21<sup>st</sup> May, 2009.

Figure 1. Interior of the Targeted Premises of Al-Quds Hospital of PRCS.<sup>5</sup>



The following table summarizes the total damages sustained by Gaza hospitals:

Table 1: Damages to Hospitals (source UNDP and MOH – Gaza)

#	Hospital	Damages (USD)	% of Hospital Damages
1	Al-Awda	10,000	0.2
2	Al-Wafa	500,000	11.7
3	Al-Dorra Hospital*	25,000	0.6
4	Al-Quds hospital - PRCS	3,163,500	74.2
5	El Shefa Medical Complex*	140,000	3.3
6	Nasser Medical Complex*	50,000	1.2
7	Al Nasser Child Hospital	1,500	0.0
8	Aqsa Martyrs Hospital*	85,000	2.0
9	European Gaza Hospital*	228,000	5.3
10	Beit Hanoun Hospital	20,000	0.5
11	Fata Hospital	5,000	0.1
12	Eye Hospital*	34,000	0.8
<b>Total</b>		<b>4,262,000</b>	<b>100.0</b>
<i>* MOH estimates only</i>			

5 UNEP, 2009. Environmental Assessment of the Gaza Strip following the escalation of hostilities in December 2008 – January 2009.

## Early Recovery Response

Despite the damages and disruptions in the delivery of health services detailed above, health institutions dealt with the crisis and its aftermath in an efficient manner. By 16 February 2010, most health facilities were operational and had resumed activities. Large volumes of donor-funded medical supplies had been allowed into Gaza as well as some medical equipment and spare parts, including a fully replenished stock of ambulances. As a consequence, according to WHO, hospital services were able to resume activity levels that matched or even exceeded those in the same period of the previous year.<sup>6</sup>



While major progress was also achieved throughout the year on the rehabilitation of the damaged infrastructure, hospital rehabilitation lagged behind due to the extent of the damages sustained and the continued Israeli embargo banning construction material from entering the Gaza Strip. The following findings constitute the main achievements to date.

1. 33 primary health care centres out of 40 were repaired and 5 partially repaired, to a total cost of USD 537,616.<sup>7</sup>
2. Ten out of 12 damaged hospitals were repaired. Repairs are underway for the remaining two – Al-Quds Hospital and Al-Wafa Hospital. The total funding invested in 2009 in repairs of hospitals is USD 2,414,842.<sup>8</sup> In some cases, the repairs also addressed, at least partially, the backlog of blockade-induced deterioration.
3. While repairs were initially of lower quality due to the lack of adequate materials on the local market, quality improved over time as larger volumes of suitable materials became available on the market.
4. Four main partners were involved in the rehabilitation of clinics and hospitals: The Qatar Red Crescent, which implemented repairs in 9 hospitals, including Al-Quds Hospital, and took charge of the majority of the repairs in PHCs; Mercy Malaysia which is currently rehabilitating Al-Wafa Hospital; Islamic Relief which mainly focused on PHCs; and the Gaza Rehabilitation Committee. The Agence Française de Développement also committed the equivalent of USD 2,840,000 for the rehabilitation of Al-Quds Hospital. However, works under this project could only start on 17 February 2010, after assurances had been received from the Israeli authorities that materials would be allowed in from Israel.

<sup>6</sup> WHO, Gaza Health Assessment, July 2009.

<sup>7</sup> The difference between the cost of repairs and the estimated cost of damages is due to the inflation of prices for construction materials available on the local market and to the fact that rehabilitation projects often include provision or maintenance of equipment.

<sup>8</sup> As for primary health care centers, and for the same reasons, the cost of repairs sometimes exceeds the cost of estimated damages.

Table 2. Main Partners in the Repairs of Primary Health Care Centres and Hospitals - 2009

Donor	(USD)	% of Total Contribution
Qatar Red Crescent	2,112,382	71,55%
Mercy (Malaysia)	550,000	18,63%
Gaza Rehabilitation Cttee	111,754	3,79%
Islamic Relief Palestine	80,000	2,71%
Other	98,322	3,33%
<b>Total</b>	<b>2,952,458</b>	<b>100.00</b>

- Major rehabilitation works, in particular in hospitals, continue to be hampered by the Israeli blockade on Gaza. The rehabilitation of the two hospitals that were the most affected by the military operations, Al-Quds and Al-Wafa hospitals has been delayed considerably due to the inability of the responsible parties to secure access of materials through Israel and Egypt.

## Needs

A number of interventions are still needed to fully restore the health system clinics and hospitals to their physical state before Cast Lead, as shown in the table below:

Table 3. Remaining Health System Needs One Year After Cast Lead

Type	#	(USD)
Hospitals	1 (Al-Quds / AFD)	2,840,000
UNRWA PHCs	5	5,095
NGO clinics	2	209,000
<b>Total</b>	<b>8</b>	<b>3,054,095</b>

The table shows that 2 NGO run clinics, which are Al Quds Health Center and the Federation of Churches Clinic, still need to be repaired, at a total cost of USD 209,000 (USD 6,000 and 203,000, respectively). In addition, 5 health care clinics run by UNRWA require basic fixing, at a cost of USD 5,095. If we include the AFD contribution of USD 2,840,000 that is currently being implemented, a total of USD 3,054,095 worth of repairs is needed to rehabilitate all Gaza Strip health care facilities.

The needs of the Health sector in Gaza go, however, far beyond the damages inflicted by the Cast Lead operation, and the continued blockade has not only hampered or slowed down the rehabilitation of health facilities, but is undermining the future prospects of the sector. The current health situation in the oPt, including the Gaza Strip, has been described as a continuing complex emergency that is being prevented from moving into a state of recovery followed by development.<sup>9</sup> Therefore, one year after Cast Lead, management of health care continues to be challenged by the following constraints:

9 WHO's Specialized Health Mission to the Gaza Strip, Extended report, Geneva 21<sup>st</sup> May, 2009.

1. Conflict is the major contributor to the number of people with disabilities who suffer not only from severe traumatic injuries but also secondary complications such as infected wounds, contractures, or secondary amputations, requiring sophisticated ongoing care in the aftermath of an attack.<sup>10</sup>
2. Lack of spare parts for maintenance of medical equipment including assistive devices for people with disabilities; continued difficulties in getting medical equipment in.
3. Limited capacity for appropriate follow-up care and rehabilitation for the permanently disabled. This is especially true in light of the fact that the only rehabilitation hospital, Al Wafa hospital, was targeted during Cast Lead and sustained significant damages.
4. Restrained tertiary-care access outside Gaza, especially with regard to cardiology, neurology, ophthalmology, oncology, radiology, hematology and gerontology.
5. Scarcity of intensive care services, which are usually put under additional strain under conditions of increased demand, as in the case of Cast Lead.
6. Weaknesses in the public health monitoring system that needs to be addressed in order to alleviate the risks to the public of disease outbreaks, such as Diarrhea outbreaks from water- and food-borne diseases and Swine Flu.
7. Limited capacity for mental health services, to cope with the increased incidence and severity of mental health problems.<sup>11</sup> WHO estimates that between 20,000 and 50,000 people, old and young, will continue to suffer long-term mental health issues as a result of Cast Lead.<sup>12</sup>

## B. Education

The Ministry of Education and Higher Education (MoEHE) is the main provider of elementary and secondary education with UNRWA, and the sole provider of higher education. 451,704 pupils<sup>13</sup> attended school in the Gaza Strip in the academic year 2008-2009, of whom 53.3% attended governmental schools, 44.0% UNRWA schools and 2.7% private schools. Out of the 637 schools in Gaza, 383 are MoEHE schools, 221 UNRWA schools and 33 are private schools.



<sup>10</sup> Handicap international, op. cit.

<sup>11</sup> Include depression, anxiety disorder, post-traumatic stress disorders and somatoform/psychosomatic disorders. WHO estimates that the number of people with serious mental health disorders may increase by an average of 1% above the baseline, and those with mild and moderate mental health disorders by an average of 5-10%;

<sup>12</sup> WHO's Specialized Health Mission to the Gaza Strip, Extended report, Geneva 21<sup>st</sup> May, 2009.

<sup>13</sup> MoEHE website, 2009.



Table 4. Number of School Buildings, Schools and Pupils in the Gaza Strip in 2008-2009<sup>14</sup>

Supervising Body	Buildings		Schools		Pupils	
	#	%	#	%	#	%
Government	227	60.1	383	60.1	240,953	53.3
UNRWA	118	31.2	221	34.7	198,612	44.0
Private	33	8.7	33	5.2	12,139	2.7
<b>Total</b>	<b>378</b>	<b>100.0</b>	<b>637</b>	<b>100.0</b>	<b>451,704</b>	<b>100.0</b>

Gaza schools, particularly elementary schools, were considerably overcrowded before the Cast Lead operation. Eighty-eight percent of UNRWA schools and eighty-two percent of government schools operate on a shift system to accommodate the high number of students, meaning that two, and in some cases, three sets of children and teachers make use of each classroom each day.<sup>15</sup> Blockade restrictions have made it difficult to invest in building new schools or to repair damaged schools.<sup>16</sup>

The Gaza Strip higher education institutions only developed recently, particularly after the second Intifada in response to travel restrictions on students from Gaza to the West Bank's higher education institutions.

### Casualties and Damages

The Cast Lead operation had severe consequences on an education system already weakened by the protracted blockade. Two hundred and fifty students and fifteen teachers were killed and eight hundred and sixty-six students and nineteen teachers injured during the Israeli military operations. Schoolchildren, thousands of whom lost family members and/or their homes, still suffer from trauma and anxiety and are in need of psycho-social support and recreational play activities,<sup>17</sup> as are their adult caregivers (both parents and teachers)

With regard to education facilities, the total damage is estimated at USD 32,091,522. Two hundred and seventeen schools and sixty kindergartens were damaged, including eighteen facilities damaged beyond repair (eight government, two private and eight Kindergartens)<sup>18</sup>. In North Gaza, nine thousand students had to be relocated in seventy-three schools in the same area, four thousand of whom were squeezed into two schools.<sup>19</sup> In addition, forty-four UNRWA schools across Gaza<sup>20</sup> were used as shelters for Internally Displaced Persons,<sup>21</sup> who reached fifty-one thousand individuals at the peak of Cast Lead, among whom were 28,560 children. There was considerable wear and tear on classrooms, sanitation facilities and furniture of the forty-four schools as a consequence.

<sup>14</sup> The school year of 2008-2009.

<sup>15</sup> Decades of Gaza schoolchildren have attended school in shifts due to overcrowding.

<sup>16</sup> Association of International Development Agencies (AIDA), 2009. The Gaza Blockade: Children and Education Fact Sheet.

<sup>17</sup> Association of International Development Agencies (AIDA), 2009. The Gaza Blockade: Children and Education Fact Sheet.

<sup>18</sup> Ibid.

<sup>19</sup> Ministry of Education and Higher Education, 2009

<sup>20</sup> One of the 44 UNRWA schools was the UNRWA elementary school on al-Fakhura Street opened on 5th January 2009, to provide shelter to civilians fleeing the areas where the Israeli armed forces had entered.

<sup>21</sup> OCHA

Figure 2. Damage to the American School to the North of Gaza City<sup>22</sup>


With regard to higher education facilities, it is interesting to note that virtually all universities sustained damages, with a total of six university buildings damaged beyond repair and sixteen moderately damaged. Damages to universities account for 77% of the total damages to education facilities, followed by damages to governmental schools (11% of total damages) and to private schools (9% of total damages).<sup>23</sup>

Table 5. Estimated Cost of Damages to Gaza Universities

#	University	Damages (USD)	% of Damages
1	Islamic University of Gaza	16,800,000	67.7%
2	University College of Applied Science	1,000,000	4.0%
3	Alaqa University	1,431,100	5.8%
4	Al-Quds Open University	137,000	0.6%
5	College of Science and Technology	507,815	2.0%
6	College of Dar Aldawa and Humanities	52,000	0.2%
7	Alazhar University	4,759,365	19.2%
8	University of Palestine	140,845	0.6%
<b>Total</b>		<b>24,828,125</b>	<b>100.0</b>

## Early Recovery Response

Rehabilitation works on kindergartens, primary and secondary schools were implemented immediately after the war and throughout the year, by international partners as well as Gaza-based institutions. However, due to the blockade and the unavailability of materials, the majority of schools were only rehabilitated sufficiently to enable them to resume operations. This is the case, in particular, for UNRWA schools, where completed repairs account for less than 8% of the total needs.

It is worth noting that, despite these constraints, thirty-three schools have been fully rehabilitated (twenty-nine governmental and four private). The governmental schools sustained the heaviest

<sup>22</sup> UNEP, 2009. Environmental Assessment of the Gaza Strip following the escalation of hostilities in December 2008 – January 2009.

<sup>23</sup> See table 6.

damage during the Cast Lead operation, and their repair showcases the determination of Gazans and their supporters to return to as much normalcy as is possible under the circumstances. This also shows that the blockade is impacting more heavily on the ability of UN agencies to support recovery than on local actors and other partners that are not refrained from using locally available materials.

Neither of the two totally destroyed private schools, however, (the American School of Gaza and the Dar El-Fadelah School in Rafah, together account for USD 2.8 million of the damages to schools out of USD 7 million) have been rebuilt; and, overall, one hundred and eighty-four schools (137 governmental, 37 UNRWA and 10 private) out of 217 are still in need of repair, for a total estimated cost of USD 2,085,222 if one excludes the reconstruction cost of the two totally destroyed private schools. An average of only USD 11,500 is needed per facility to make the schools fully operational – if the necessary materials were available to undertake the rehabilitation.

The repair work on governmental schools was performed by two main partners, Islamic Relief and Qatar Charity. Private schools were essentially repaired through private donations and basic repairs on UNRWA schools were performed by the Agency itself. With regard to kindergartens, partial repairs have also taken place, often through private donations, accounting for 62% of the needs.

Table 6. Damages and Repairs to the Educational Facilities of the Gaza Strip

Educational Facility	Responsible Party	Estimated Cost of Damage (USD)	% of Total Damages	Cost of Repaired Items (USD)	% of Total Repairs	Unrepaired damage (USD)	% of Repairs to Damages
Schools	Government	3,438,000	11	2,058,000	37	1,380,000	60
	UNRWA	729,397	2	61,175	1	668,222	8
	Private	2,889,000	9	52,000	1	2,837,000	2
Universities		24,828,125	77	3,334,665	59	21,541,460	13
Kindergartens		207,000	1	124,500	2	82,500	60
<b>Total</b>		<b>32,091,522</b>	<b>100</b>	<b>5,630,340</b>	<b>100</b>	<b>26,509,182</b>	<b>17.5</b>

The situation with regard to universities is bleaker: while four universities out of eight were fully rehabilitated, the rehabilitated universities are the ones that sustained the lighter damages. Their repair, worth USD 1,367,845, accounts for only 5.5% of the needs in this sub-sector.

Repairs to universities amounted to USD 3,334,665 in 2009, and were essentially implemented by the UAE-based Human Appeal International, Muslim Hands and the World Assembly for Muslim Youth. Repairs to universities represent 58% of the repairs implemented in the Education sector. This, however, constitutes only 13% of the repairs required, and USD 21,541,460 is still needed to rehabilitate all damaged facilities. The Islamic university of Gaza, in particular, despite USD 1,820,660 of investment, still needs USD 14,979,340 worth of repairs in order to rehabilitate and refurbish its damaged facilities.<sup>24</sup>

24 The USD 16,800,000 estimated cost of damages to the Islamic University of Gaza facilities is composed of USD 4,000,000 for structural damages and USD 12,800,000 for loss of equipment and furniture.

The continuation of the blockade and the unavailability of materials are the main obstacles preventing repairs, in particular to large facilities like universities. Despite a commitment from Morocco to fund their reconstruction (estimated at USD 4,689,365), none of the destroyed Agricultural College buildings of the Alazhar University have yet been rebuilt.

## Needs

The following table summarizes the remaining repair works required for all the educational facilities damaged during Cast Lead. As mentioned above, 184 schools, 4 universities and 60 kindergartens' educational facilities that were damaged during Cast Lead still need repairs. The estimated total cost of repairs is USD 26,502,182.

Table 7. Gaza Strip Educational Facility Repair Needs Remaining After One Year of Cast Lead

Educational Facility	Responsible Body	Number of Facilities	Total Damages Still to Be Repaired (USD)	% of Total Repairs	Average Repair Cost / Facility (USD)
Schools	Governmental	137	1,380,000	5.2	10,073
	UNRWA	37	668,222	2.5	18,060
	Private	10	2,837,000	10.7	283,700
Universities		4	21,541,460	81.3	5,385,365
Kindergartens		60	82,500	0.3	1,375
<b>Total</b>		<b>248</b>	<b>26,509,182</b>	<b>100.0</b>	<b>5,698,573</b>

The table shows that 81.3% of the repairs still to be carried out are for universities, 10.7% for private schools and 5.2% for governmental schools.

As for the Health sector, the needs of the Education sector in Gaza go far beyond repairing the damages inflicted by the Cast Lead operation: that these needs are not being met is a direct consequence of the continued blockade. Overcrowding in schools, lack of access to higher education opportunities, declining academic achievement, socio-economic constraints, a lack of facilities for adult learning and inadequate management of education continue to prevent the educational system from either reaching its full potential or being able to meet the enormous learning needs of Gaza's population. Needs that transcend the physical damages inflicted in operation Cast Lead are detailed below.<sup>25,26</sup>

1. Address overcrowding in schools and increase the number and capacity of school facilities: as mentioned above, overcrowding is a structural problem of the Gaza education system. The continued blockade is preventing new schools from being built, hampering the importation of adequate equipment to respond to a growing student population and leading to the deterioration of the existing stock of facilities and equipment.

25 NGO Development Center (NDC). Rapid Needs Assessment of the NGO Sector to Respond to Repercussions of Israel's Offensive on the Gaza Strip. March 2009.

26 UNESCO. Briefing Note – UNESCO Education Response in Gaza. Date: 18 June 2009

2. Improve access to higher education: more than 1,000 Gazan students apply to universities around the world each year. However, between July and September 2008, only 70 students managed to exit Gaza via Erez. The inability of university and post-graduate students to travel to pursue academic studies in specialized fields stifles the intellectual development of young adults in Gaza and breeds frustration and despair, with serious long-term implications. The expansion of existing universities, developing alternative spaces for university lecturing and study opportunities, including e-learning, and diversification into tailored education programmes such as vocational training, needs to be explored to cope with and overcome these constraints.
3. Address declining academic achievement: alarming recent reports of declining academic achievement were received in public schools, which indicate that in the first semester of the 2007-2008 school year (i.e., before Operation Cast Lead), only 20% of 16,000 sixth graders in Gaza passed standardized exams in Math, Science, English and Arabic. The following actions need to be considered, for which access is often a key requirement:
  1. Training in Inter-Agency Network for Education in Emergencies (INEE) Minimum Standards, such that compliance to the said standards is ensured.
  2. Supportive education centers and remedial education programmes within and outside the formal school system.
  3. Making available basic education tools and essentials such as text books, desks and laboratories, etc.
  4. Enhanced learning and teaching techniques.
  5. Recreation/ extra-curricular and cultural activities for children.
  6. Provision of class teacher aids, school counselors and speech and language therapists in schools.
4. Improve the socio-economic conditions and psychosocial well-being of students and their families. The overall impact on the blockade on livelihoods and mental health are also key determinants for a deteriorating academic achievement. Whole-family and whole-school therapeutic assistance needs to be provided to enable parents and teachers to develop better stress-management skills and in turn, to provide better support to children living under the debilitating conditions of the blockade. In the absence of clear prospects for the lifting of the blockade, the following interventions continue to be needed:
  1. Socio-economic support for children and their families (schoolbags, stationary, transportation, tuition financial assistance, student loans, etc).
  2. Psycho-social and capacity development programmes for teachers, students and parents.
  3. Training to enable school principals, teachers, counselors, and administrative staff to provide psycho-social support.
  4. Crisis planning and management for school principals and district officials, to provide managerial tools and professional support to education officials responsible for the reactivation and recovery of the education system, in cooperation with UNESCO.

5. Promotion of schools as safe zones, which aims at raising awareness among teachers on the concept of schools as safe zones and the application of this principal in the specific context of Gaza, in cooperation with UNESCO.

## C. Social Protection and Safety Nets

Approximately 1.1 million people are currently receiving food aid from humanitarian organizations, primarily UNWRA and the WFP.<sup>27</sup> Humanitarian agencies have also assisted displaced people through the provision of “nonfood items”, including more than 300,000 blankets, 2,500 tents, 55,000 mattresses, 30,000 clothing kits, and 30,000 kitchen sets.<sup>28</sup>

Operation Cast Lead has seriously aggravated the already-weak social safety and safety nets. The enfeeblement of social safety dates back at least to the imposition of the blockade regime on the Gaza Strip in 2007. A survey conducted in March 2009<sup>29</sup> shows that the majority (60%) of households find it impossible to provide NIS 1,000 (USD 263, at an exchange rate of 3.8 NIS/USD) to respond to an emergent family need. In addition, a recent report by PCBS documents the effect of Cast Lead on the Gaza Strip’s socio-economic situation also shows that the ability of households to withstand mainly, but not only economic pressures, is withering, as 59.2% of households in the Gaza Strip say that they can only survive financially on a day-to-day basis, or that they cannot survive financially at all. UNRWA has also registered a 200% increase in the number of refugees living below the poverty line over the last period, with numbers rising from 100,000 to 300,000.

As Cast Lead has resulted in the large-scale destruction to agricultural property and severely limited the fishing industry, and as the blockade regime has stifled private enterprise, more households in the Gaza Strip have begun receiving social aid to make ends meet.<sup>30</sup> The same PCBS report shows that at the Gaza Strip level, there was a 7% increase in the number of households relying on social assistance.



27 OCHA. The humanitarian impact of two years of blockade on the Gaza Strip. August 2009.

28 Ibid.

29 Fafo and UNFPA. Life in the Gaza Strip six weeks after the armed conflict 27 Dec 2008–17 Jan 2009. Evidence from a household sample (Survey). Fafo and UNFPA carried out the household sample survey in the Gaza Strip from 3 to 12 March 2009, some six to eight weeks after Israel’s assault on Gaza. A total of 2112 households were randomly sampled.

30 Refers to aid received after screening based on social conditions and variables, similar for example to the one run by MoSA.

## Early Recovery Response

Beyond the humanitarian assistance provided, important social safety interventions, the majority of which predate Cast Lead, were implemented in 2009 to alleviate the harsh socio-economic conditions of the most deprived segments of the society:

1. World Bank’s Social Safety Net Reform Project (SSNRP): currently, the SSNRP cash transfer programme benefits 5,000 very poor households with school-aged children in Gaza (70%) and West Bank (30%). Additional support was also granted to provide a one time cash payment of USD 200 to approximately 25,000 poor households that had been negatively affected by the recent increase in food prices. These households were selected through MoSA. To date, out of USD 25.0 million committed to SSNRP by the World Bank, a final grant of USD 5.0 million was disbursed after the military incursion in 2009, of which USD 3.65 million was distributed in the Gaza Strip.
2. European Union’s social support to vulnerable households: through the PEGASE mechanism, the EU provides direct financial support to 48,000 poor and vulnerable Palestinian families who depend on financial aid for their livelihoods. Families receive their EU-funded family allowances of NIS 1,000 every three months through the Ministry of Social Affairs cash support programme – Hardship lists – and a network of 42 banks.
3. UNRWA’s regular cash assistance to households in its household hardship relief programme, benefiting more than 160,000 persons.
4. The Ministry of Awqaf – Gaza distributed USD 2.4 million to households in need, following Cast Lead. No data is available to show the number of households benefiting, or the size of payments.

The following figure summarizes the social safety net interventions in 2009.

Table 8. Social Safety Net Interventions

Funding Agency	Amount (USD)	% of Total
World Bank’s SSNRP	3,650,400	6.8
Ministry of Social Affairs – Hardship lists (PEGASE)	34,249,194	63.9
UNRWA Cash Assistance	13,318,294	24.8
The Ministry of Awqaf - Gaza	2,400,000	4.5
<b>Total</b>	<b>53,617,888</b>	<b>100.0</b>

The PNERRP recommended the creation of a special fund for social protection and requested the allocation of USD 200 million to support deprived families through cash assistance. Stricto sensu, the cash assistance provided by these four main partners fell short of the set requirement.

However, the above table does not include the housing cash assistance and compensation programmes provided by UNDP and UNRWA to a total amount of USD 74,959,562.

## Needs

In the absence of clear prospects for the lifting of the blockade, socio-economic conditions in the Gaza Strip are not expected to improve. Cash assistance programmes will continue to be needed to cater for the most deprived segments of the Gazan population. However, it is highly recommended that cash assistance programmes conceived as safety net interventions gradually replace the delivery of food aid for the most vulnerable segments of the population in order not to fuel aid-dependency and ensure that assistance is provided in a dignified manner.

## D. Psycho-Social Needs

A recent PCBS survey<sup>31</sup> shows that psychological distress and pathology are among the most significant health consequences of the blockade and the Cast Lead operation, affecting virtually the entire Gaza population.<sup>32</sup> At least 77.8% of households have one household member who suffers from psychological symptoms due to Cast Lead. These symptoms range from continuous crying for no reason, fear of loneliness and darkness, exaggerated fear of blood, sleep disturbances, eating disorders and weight loss or gain, frustration and depression, nervousness, obsession with death, bed wetting, and lack of self-care and child-care.

Children were, in particular, severely affected by the psychological trauma of the military operations. A study<sup>33</sup> was conducted in March 2009, to assess the relationship between war traumatic experiences due to Cast Lead, and grief and Post Traumatic Stress Disorder (PTSD) among children in Gaza.<sup>34</sup> Findings regarding the psychological wellbeing of Palestinian children in the aftermath of Cast Lead using the Children's Post Traumatic Stress Reaction Index (CPTSD-RI) showed that:

1. 1.3% of children showed no PTSD;
2. 7.2% reported mild PTSD reactions;
3. 29.9% showed moderate PTSD reactions; and
4. 61.5% showed severe to very severe PTSD reactions.

A Social Development Assessment conducted by UNDP in the immediate aftermath of the incursion showed that the lack of preparedness for an Israeli military attack of the magnitude of Operation Cast Lead, and the fact that the population had nowhere to turn, has caused psycho-social shock at all levels of the society. Talking in sex- and age-segregated groups,

31 Palestinian Central Bureau of Statistics (PCBS), October 2009. Survey on the Impact of War and Siege on Gaza Strip, 2009. October, 2009.

32 WHO's Specialized Health Mission to the Gaza Strip, Extended report, Geneva 21<sup>st</sup> May, 2009.

33 Thabet, A., Salloum A., et.al. Trauma, grief, and PTSD in Palestinian children victims of War on Gaza. March, 2009.

34 The sample consisted of 374 children. 197 were males (52.7%) and 177 were females 47.3%. The age ranged from 6 to 17 years with mean age 11.09 (SD = 2.9). According to place of residence, 34.2% were from North Gaza, 24.9% were from Gaza City, 15.8% were from the middle area, 7.8% from Khan Younis, and 17.4% were from Rafah area. 44% live in cities, 20.9% live in villages, and 34.8% live in refugee camps. 60.9% had less than 300 US \$ monthly, 26% had 301-650 \$ monthly, and 13.1% had 651\$ and above in monthly income.





women and men described subtly different experiences of the incursion that are important to understand if an adequate and sustainable response is to be devised.

Operation Cast Lead was so extreme that, unusually for Palestinians, mature men talked openly and at length about their need for psycho-social support. However, for men such help is extremely difficult to find; neither the Palestinian leadership nor local communities are helping Gazan men mitigate the losses they have endured over the last few years. Many mature men described how their frustrations are now being taken out on their families. Young men are seeing what they believe to be their entitlements dwindle in front of their eyes: education does not – cannot, under the blockade – necessarily lead to jobs and, as a result of the political and geographical split between Gaza Strip and the West Bank, the social mobility once offered by political and national engagement is evaporating with the lack of a national agenda.

Women, who are less socially powerful than men and significantly under-represented in all forms of decision-making, nonetheless continue to play a traditional role as ‘shock absorber’ in families. The stresses of the blockade and the aftermath of the incursion are overwhelming their fragile resources and placing significant additional burdens on their shoulders. Gazan families are caught in a vicious cycle where the frustrations resulting from the loss of dignity of the male head of household are taken out on wives and children, increasing the already heavy burdens they carry. There is little evidence that severe physical violence within families is increasing, but verbal abuse and battering are on the rise.<sup>35</sup>

<sup>35</sup> UNDP's Social Development Assessment was conducted using participatory methods that asked people: i) where human security is located or lacking for various groups, disaggregated by sex, age and disability; ii) what are the stumbling blocks to social cohesion in local communities; iii) where social change is taking place and where it is hampered. To obtain sufficient material to allow a reliable assessment on these topics, more than 70 focus groups and about 50 interviews with key persons were held in Gaza during the month of May 2009. The research and initial assessment was conducted by researchers from four established women's NGOs with strong community ties.

## Early Recovery Response

The psycho-social impact of Cast Lead on the people of Gaza has attracted the attention of many agencies which have worked strenuously to relieve psychosocial pressures. The following table shows the most prominent agencies and the activities each has been performing with regard to psycho-social needs.

Table 9. Major Psycho-Social Interventions and Implementing Agencies

Agency	Nature of Psycho-Social intervention
<b>Gaza Mental Health Programme</b>	GMHP is the main local NGO responsible for psycho-social interventions in the Gaza Strip. GMHP has a number of well-established community centers in Gaza, Deir Al-Balah and Khan Younis, through which numerous activities related to psycho-social wellbeing are carried out.
<b>Islamic Relief (IR)</b>	IR provided immediate care after the war for families that were directly under attack. The two-month project supported more than 1,600 families, providing them with psycho-social care. IR provided psycho-social support on a group and individual basis for school children. The project, partly funded by DFID, helped 36,000 children in 50 schools across the Gaza Strip. This project lasted for three months and required more than 50 animators, ten psychologists and many support staff. IR began a project to establish five psycho-social support centers in Gaza. A pilot centre was established four months after the war in northern Gaza and has been running successfully for over six months. 100 children have received individual psychosocial support intervention while hundreds have benefited from group activities. Many parents have attended awareness raising sessions on how to deal with children during emergencies.
<b>ANERA</b>	Partnering with Community Training Centre and Crisis Management (CTCCM), ANERA conducted a study on the psychological and emotional problems that emerged among children and their parents after the war. ANERA and CTCCM identified three badly damaged areas of Gaza and set up psycho-social tents where children and parents can get help. Experienced trauma counselors with special training worked with children, conducting group sessions to encourage interaction with peers. For more severely traumatized children, one-on-one counseling was offered. Parents also participated in group counseling sessions to develop strategies for providing better support to their children and for coping with the traumas they themselves have suffered.
<b>World Vision</b>	World Vision supported psycho-social interventions within Gaza to help children recover from the emotional stresses they faced during the lengthy blockade and Cast Lead. The projects were expected to reach some 2,200 young children by providing safe places to play and recover with the help of trained counselors and educators.
<b>UNICEF</b>	Participated in providing training of trainers in cooperation with the Jordanian mission to Gaza, to a number of psycho-social counselors working in local NGOs.
<b>UNRWA<sup>36</sup></b>	UNRWA implemented a psycho-social programme in Gaza to respond to the effects of the ongoing violence on children and youth. The programme was implemented through the intervention of community workers and counselors /animators who were recruited specially for this purpose and trained by specialized NGOs contracted by UNRWA. The Agency has 189 counselors based at its health centers, schools inside and outside refugee camps and social services and community based centers located in the refugee camps. Their work seeks to address the psycho-social needs of families in the conduct of their everyday life and to empower refugee families to cope positively with their environment. Activities are conducted through a combination of group counseling, individual counseling, referrals and home visits. The importance of these interventions should be seen in the context of both protecting the mental well-being of the refugees but also enabling them to effectively contribute to the development of their communities.

36 UNRWA also implemented its Summer Games project (a yearly activity since 2007) in 2009, with a total amount of USD8.5 million. The project is the largest youth recreational initiative to have taken place in Gaza to date.

In terms of financial resources, it has unfortunately not been possible to collect systematic information on this subject on time. The OCHA Financial Tracking System, however, indicates that USD14,450,045 was provided to implement psycho-social interventions in Gaza in 2009 through the CAP.

Table 10: FTS Extract of Funded Psycho-social Interventions - 2009

Organization	Project Title	Funding (USD)
<b>GCMHP</b>	Providing rehabilitation and psychosocial support and treatment to injured and population affected by military operations in homes, shelters (HRF Project)	200,000
<b>NSR</b>	Providing psychosocial rehabilitation in Gaza	55,379
<b>UNFPA</b>	Providing psychosocial support to women and young people in Gaza (MHPSS)	60,000
<b>UNRWA</b>	Community Mental Health (Gaza) (Early Recovery) (MHPSS)	3,507,444
<b>UNICEF</b>	10 Psycho-social Teams providing front line services for families and children (MHPSS)	1,448,664
<b>Terre Des Hommes</b>	Providing psycho-social support for children and adolescents (MHPSS)	1,143,193
<b>Mercy Corps</b>	Providing psycho-social Support to Conflict-Affected Youth and Families in Gaza (MHPSS)	990,583
<b>IMC</b>	Emergency extension of mental health services (MHPSS)	697,350
<b>UNICEF</b>	Providing psycho-social support and protection services to children, adolescents and primary care givers (MHPSS)	6,347,432
<b>Total</b>		<b>14,450,045</b>



In spite of the support provided by the above-mentioned organizations, psycho-social needs in the Gaza Strip remain particularly high. As highlighted in the PCBS study, Gazans continue to be widely faced with psychological distress or pathology within families. WHO expects that the number of people with serious mental health disorders may increase by an average of 1% above the baseline, and those with mild and moderate mental health disorders by an average of 5-10% - but these estimates depend on that a protective environment being restored. It is also estimated that some 30,000 children affected by Cast Lead will need continued psychological support.<sup>37</sup> The general nature of the psycho-social support needs<sup>38</sup> is described below:

1. Developing skills of psycho-social and mental health workers.
2. Provision of psycho-social and counseling activities and programmes, including recreational and venting out activities for children, youth and women.
3. Support for counseling, social and legal programmes including professional therapeutic treatment and awareness activities on how to deal with children in times of crisis.
4. Rehabilitation of children with special needs and support for their care-givers.
5. Family support interventions targeting all family members.
6. Support for divorced women and care-givers.
7. Construction of safe playgrounds for children specifically in marginalized and densely populated areas.
8. Specialized cultural clubs for children and youth.
9. Empowerment activities and skills development that lead to employment generation for women.
10. Training youth on civil defense, crisis management and emergency interventions.
11. Documentation of war crimes and violations against men, women and youth.
12. Relief interventions to meet specific needs of women (food supplements, hygiene kits, and clothing).
13. Tailored employment opportunities for women and men in the reconstruction process including small-scale income generating projects.
14. Income-generating interventions for youth (female and male), including activities to promote entrepreneurship.

37 WHO's Specialized Health Mission to the Gaza Strip, Extended report, Geneva 21<sup>st</sup> May, 2009.

38 NGO Development Center (NDC). Rapid Needs Assessment of the NGO Sector to Respond to Repercussions of Israel's Offensive on the Gaza Strip. March 2009.





Section

# [ B ]



# Utilities Infrastructure and Housing

- *Water and Sanitation*
- *Housing*
- *Energy*
- *Transportation*
- *Telecommunications*

## A. Water and Sanitation

Gaza's only fresh water resource is the coastal aquifer that is located under the Gaza Strip and Israel. Its yearly sustainable yield is estimated at up to 450 MCM in Israel and a mere 55 MCM/Y in Gaza.<sup>1</sup> The situation of the water quality and quantity in Gaza was already grim long before the Israeli-imposed blockade and the Cast Lead operation because the quantities of water that Israel extracts outside the east of Gaza highly affect the water available for Gaza itself. In addition, these waters are becoming increasingly saline due to seawater infiltration caused by overexploitation and polluted by seepage of sewage. As a consequence, according to an Amnesty International Report of 2009, more than 90% of the water is unfit for drinking. The 2009 UNEP report on the environmental condition of Gaza following Israel's military operation warned that the Gaza Strip's underground water system is in serious danger of collapse after the Cast Lead operation compounded years of overuse and contamination.

Table 11: Treatment Capacity of Wastewater Treatment Plants in the Gaza Strip

Gov.	Design	Actual
North Gaza	5,000	20,000
Gaza	32,000	50,000
Middle	0	0
Khan Younis	0	0
<b>Rafah</b>	<b>2,000</b>	<b>8,500</b>



With regard to sewage, 36% of the population of the Gaza Strip is not connected to the sewage network, and is using poorly managed cesspits. In addition, the existing treatment plants face severe overload in terms of capacity and treatment limitations with effluent quality way below WHO standards. As a consequence, more than 80,000 m<sup>3</sup> of treated and partially treated wastewater is discharged to the sea every day, 27,000m<sup>3</sup> of this quantity is raw sewage discharged from Gaza and the Middle Area<sup>2</sup>.

The blockade on Gaza imposed by Israel, the consequent lack or insufficiency of construction materials, and the impact of the Cast Lead Operation in Gaza on the water and sanitation infrastructure have aggravated this already grave situation. As a consequence, the state of water and sanitation in Gaza is today posing serious environmental and public health concerns.

1 Amnesty International, *Troubled Waters-Palestinian Denied Fair Access to Water*, 2009

2 EWASH, "A Brief Outline of the Sewage Infrastructure and Public Health risks in the Gaza Strip for the WHO," 2009



## Damages

As reported in the PNERRP, the Israeli attack caused widespread destruction of the Gaza water and sanitation infrastructure. Eleven wells were partially or totally destroyed, four water reservoirs - including the Jabalia reservoir with a capacity of 5,000 cm, 20 km of pipes, and sewage networks and pumping stations in four locations were damaged. In addition, the North Gaza Emergency Sewage Treatment (NGEST) plant was affected, as well as the Coastal Water Municipal Utility's offices and warehouses.

In addition, the embankment of an anaerobic pond of the Gaza Wastewater Treatment Plant in Gaza City was destroyed and more than 100,000m<sup>3</sup> of wastewater and sludge spilled into the adjacent agricultural areas, causing major pollution of agricultural land. A 24 inch sewage pipe transmitting around 20,000 m<sup>3</sup>/day of sewage from the south of Gaza city was destroyed by Israeli tanks resulting in around 500,000 m<sup>3</sup> of raw sewage being spilled out in the surrounding agricultural areas. In Beit Hanoun, a 16 inches pipeline, connecting the wastewater pumping plant and treatment plant, was destroyed. Moreover, electricity shortages severely affected the already limited treatment of sewage and large volumes of effluent were discharged entirely untreated over long periods of time.

At the household level, more than 5,000 roof water-storage tanks, 2,200 solar heaters, 500 water connections and numerous electrical pumps were destroyed. Approximately 70% of the population suffered from shortages in drinking water. 200,000 lacked a regular water supply and 50,000 people were left with no access to water for several weeks after the end of military warfare. Overall, the estimated cost of the damage was nearly USD 6 million, as shown in the table below:

Figure 3. Breach of Pond 3 of Gaza's WWTP

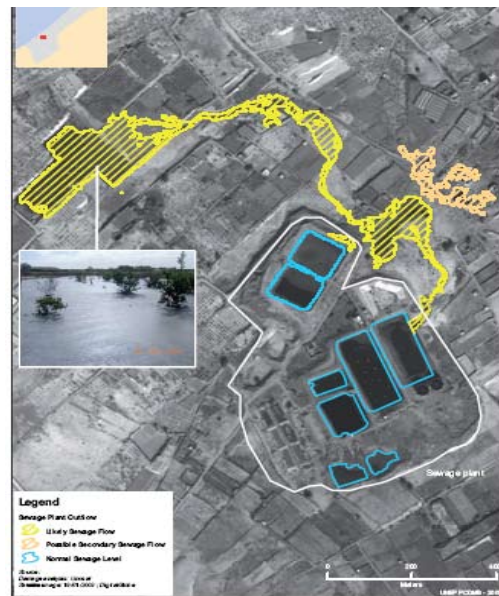
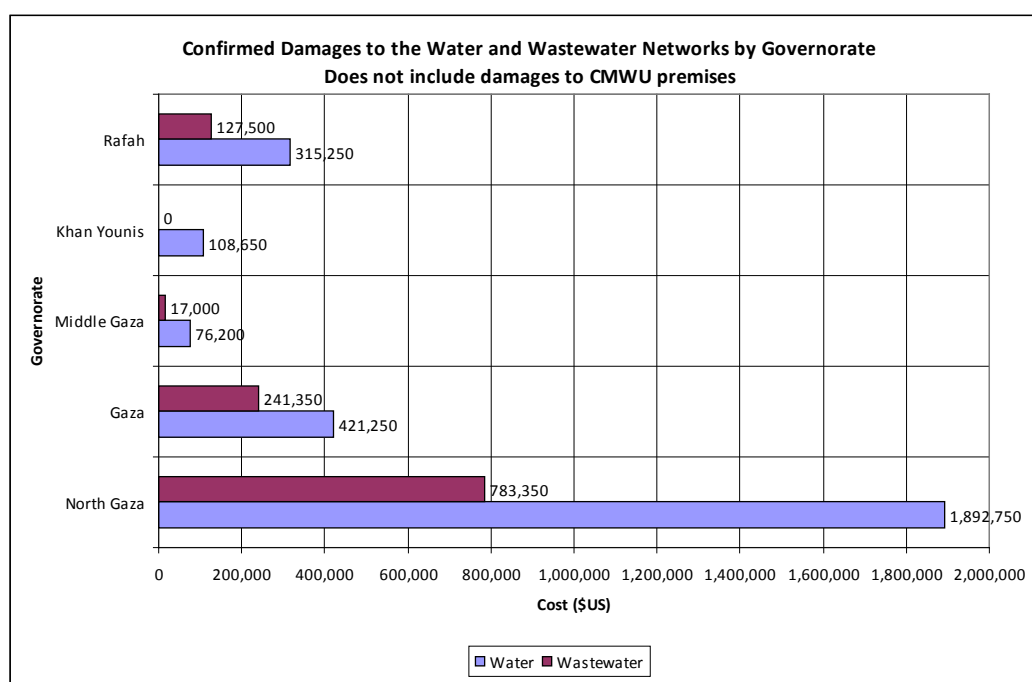


Table 12: Estimated cost of water and sanitation damages caused by the Cast Lead Operation

Category	Damages in (USD)
Water Wells	1,007,000
Water Reservoirs	
Water House Connections and water networks, Waste Water Networks plus contingency	4,647,740
Water and Wastewater Facilities	134,000
North Gaza Emergency Sewage Treatment Plant (NGEST)	183,950
<b>Total</b>	<b>5,972,690</b>

The distribution of damages by governorate is given below:

Figure 4. Confirmed Damages to the Water and Wastewater Networks by Governorate



### Early Recovery Response

The response in this sector was relatively high and rapid compared with other sectors. First and foremost, the Coastal Municipal Water Utilities succeeded in conducting emergency repairs on a large number of damaged infrastructures during and immediately following military hostilities, using existing stocks of materials.

In addition, a large number of organizations mobilized themselves to support the efforts of CMWU and PWA and provide both humanitarian assistance (water trucking, purification

systems, etc.) and early recovery support. Through the rehabilitation of water wells, reservoirs and networks, the number of people without access to piped water fell from 50,000 to 28,000 in May, 18,000 in June and 10,000 in July. The main partners of these interventions are highlighted below, per type of intervention:

- 1. Emergency water supply:** Several agencies, such as UNICEF, Oxfam GB, Action Against Hunger-Spain, Care International, Relief International and the Palestinian Hydrology Group immediately responded to the crisis and supplied potable water through water trucking to the affected population
- 2. Water wells:** the Palestinian Water Authority, CMWU, UNICEF, Islamic Relief, Qatar Charity, Muslim Hands, Turkish Red Crescent, and Save the Children repaired damaged wells, equipped and constructed new wells.
- 3. Emergency repairs to wastewater facilities:** ACF-Spain provided emergency fuel to CMWU facilities and conducted repair works in the wastewater treatment plants in Gaza and the north. ICRC carried out various phases of the Khan Younis emergency wastewater treatment lagoons. Premiere Urgence implemented cleaning activities in the Khan Younis Storm water lagoon.
- 4. Wastewater networks:** Oxfam GB, Save the Children, GVC and PHO implemented wastewater networks projects in the affected areas.
- 5. Water networks and house connections:** Palestinian Water Authority and CMWU, UNICEF, Save the Children, Oxfam GB, Care International, ACF-Spain, Islamic Relief and GVC implemented water networks projects and house connections to damaged areas.
- 6. Water tanks:** More than 5,600 or around 6,000 water tanks were replaced or repaired by OXFAM, Save the Children and GVC. (*note: the damage to house water tanks was not included in this sector but in the housing sector*)
- 7. Desalination and purification of water:** water desalination units were provided and/or rehabilitated by GVC- PHG, UNICEF, and Oxfam GB with different scales and capacities. In addition to emergency treatment of water, PHO and Oxfam GB implemented several activities of water disinfection and purification.



Figure 5. Beit Hanoun Wastewater Pressure Line on 21-1-2009<sup>3</sup>

Overall, and as shown in the table below, significant progress was achieved by water and sanitation partners in 2009. Most of the damages have been repaired, with the exception of Jabalia water reservoir and some water house connections and networks, in particular of totally destroyed houses. In addition, water and sanitation partners also succeeded in implementing interventions, in particular targeting the availability of potable water (water wells, water desalination, networks) and sewage treatment (emergency treatment plants), that brought some – albeit limited – improvement to the sector and went beyond the needs created by the Cast Lead damages.

A key factor in the progress achieved in the rehabilitation of the damaged water and sanitation infrastructure is the fact that some imports of construction materials, spare parts and equipment for the rehabilitation of water and sanitation infrastructure by CMWU and its partners were allowed into the Gaza strip by Israel, albeit in a very restrictive and irregular manner. By March 2009, 50 tons of cement and 6 trucks of water and sanitation materials had entered the Gaza Strip, followed by 54 trucks of various materials (pipes, cement, spare parts) in April-May, and 12 trucks in June. Only 1 truck was allowed in, however, between July and October, when 11 trucks were again allowed in, followed by 10 trucks in November.

Although these imports are considerably below the levels of imports prior to the Cast Lead operation and fall far short of the needs of the sector, they have enabled CMWU and its partners to implement a number of the needed repairs. It is, however, interesting to note that the water and sanitation sector is the only sector for which the entry of construction materials, spare parts and equipment was allowed by the Israeli authorities<sup>4</sup>.

<sup>3</sup> Source: Gisha - Legal Center for Freedom of Movement.

<sup>4</sup> A number of agricultural inputs were also gradually allowed into the Gaza Strip in 2009. However, until 2010, only limited quantities of a small range of inputs was permitted in, with particular restrictions on agricultural materials and spare parts.



Table 13. Damages and Repairs to Water and Sanitation Facilities in the Gaza Strip

	Damage assessment*	Interventions in 2009	Remaining needs
<b>Water Wells</b>	11 totally & partially destroyed water wells	12 water wells were repaired	none
<b>Water Reservoirs</b>	4 totally & partially destroyed water reservoirs	Al Moghraqa tank, Johr el deik tank, Gaza water tank were repaired	Reconstruction of Jabalia reservoir 5000m3
<b>Water House Connections and water networks, Waste Water Networks plus contingency</b>	Totally destroyed house water connections (more than 10,000 fittings and pipes to connect houses with destroyed connections)	5700 house connections to the main water networks were completed in Jabalia, Beit Lahia, and Beit Hanoun.	Supply and install 4300 water house connections
	25.5km of totally destroyed water distribution networks & pipelines	20.2 km of water distribution networks repaired	none**
	Severe damages to the waste water collection networks	6.3 km of waste water collection networks repaired	none
<b>Water and Wastewater Facilities</b>	Severe damages to water & waste water facilities	Rehabilitation of CMWU premises, water facilities, civil works for Gaza Wastewater Treatment Plant, rehabilitation and supply of CMWU wastewater and water equipment	none
<b>North Gaza Emergency Sewage Treatment Plant (NGEST)</b>	Severe damages to the North Gaza Emergency Sewage Treatment , NGEST such as (fuel tank container, pressure line, ductile pipe, control room, service rooms, electrical pole hose, air manholes and others)	Repair Service rooms, control room, fuel tank container, temporary lighting, contractors' site office, air valve manholes, pressure line, ductile line, and electrical pole hose	none

\* This assessment was conducted by UNDP; the information was provided by CMWU.

\*\* The estimate was updated after the initial assessment and the damages were rehabilitated.

## Needs:

As shown in the table below, USD 1,310,000 is still needed to repair the damages to the water and sanitation infrastructure caused by the Cast Lead military operations. In particular, the reconstruction of the Jabalia reservoir, with a total capacity of 5,000 m<sup>3</sup>, remains a priority to restore the pre Cast Lead level access to potable water in the Governorate. USD 710,000 worth of repairs to the damaged water networks still needs to be implemented in the North of Gaza.

Table 14. Cost of Damages, Repairs and Needs, Water and Sanitation Facilities

	Damage estimate (USD)	Interventions (USD)	Remaining needs (USD)
<b>Water Wells</b>			0
<b>Water Reservoirs</b>	1,007,000	416,500.00	600,000
<b>Water House Connections and Water Networks, Waste Water Networks plus Contingency</b>	4,647,740	3,963,850.00	710,000
			0
<b>Water and Wastewater Facilities</b>	134,000	129,000.00	0
<b>North Gaza Emergency Sewage Treatment Plant (NGEST)</b>	183,950	183,950.00	0
	<b>5,972,690</b>	<b>4,693,300</b>	<b>1,310,000</b>

The interventions that were implemented in 2009, however, including the slight improvements that were achieved by partners on the availability of potable water and the repairs and maintenance works to the sewage network and treatment facilities, are a drop in the ocean compared to the overwhelming needs of the sector. As highlighted above, the water and sanitation situation of the Gaza Strip has deteriorated over the past decade to a state where it has become an environmental and public health threat, first and foremost to the population in the Gaza Strip, but also to the Israeli population surrounding it.

Major interventions are needed to help reverse the current deterioration of the water and sanitation situation in the Gaza Strip. The UNEP report concluded that nearly USD 1.5 billion may be needed over a 20 years period to return the aquifer back to health, through the installation of sea water desalination plants to take pressure off the underground water supplies, and decrease the salt-water intrusion from the sea caused by over-extraction. A recent WATSAN reconstruction package put together by the Palestinian Authority, CMWU, the UN and other partners confirms this assessment and indicates that “what needs to be done to seriously address WATSAN runs in the hundreds of million dollars”. Major interventions are also needed to repair and maintain water networks and decrease water losses that have in some places

reached over 60%. With regard to sewage treatment and discharge, major structural projects need to be implemented to increase the Gaza Strip sewage treatment capacity. In addition, repair, maintenance and expansion of sewage networks need to take place to decrease sewage infiltration in underground water sources.

The continued blockade, however, is preventing any of these interventions from coming to life. Painstaking negotiations have been on-going for the past few years, between the Palestinian authorities, United Nations agencies and the Israeli authorities, around key water and sanitation projects; but these have led to very little progress. One very alarming example is the Khan Younis Waste Water Treatment Plant project, which aims to serve 217,000 residents and could be operational by 2013 if imports of materials were not restricted. Once operational, the plant will have huge positive impacts on the protection of ground water resources and the improvement of environmental conditions in the Khan Younis Governorate.



## B. Housing

The most visible and urgent unmet need in Gaza continues to be the repair and reconstruction of homes damaged during Cast Lead. More than 61,000 households were directly affected by damages to their houses during the Cast Lead operation; 20,000 people were displaced due to complete or severe destruction of their homes. In addition, thousands of families fled their homes seeking safer shelter during hostilities. The occasioned destruction and damage of houses compounded an already precarious situation that was inherited from the particular circumstances of the Gaza Strip and from the two years of blockade during which no construction could take place due to the lack of construction materials.



Historically, housing in the Gaza Strip has been severely constrained by the following factors:

1. **Housing prices:** Because of high land prices, curtailment of free movement of goods into the Gaza Strip, and low income levels, housing units have become unaffordable, especially after the closure of the borders for Palestinian workers in Israel after the second Intifada.
2. **Population density:** Eight refugee camps are located within the Gaza Strip. These refugee camps have one of the highest population densities in the world.<sup>5</sup> Around half a million refugees live on an area that does not exceed 20 km<sup>2</sup>.
3. **Depletion of housing stock:** The persistent Israeli policy of house demolition has depleted the available housing stock and forced the eviction of around 180,000 Gazans from their houses over the past ten years. The United Nations General Assembly report of May 2007 noted that during the period between 28/9/2000 and 15/6/2006, 28,997 houses in the Gaza Strip were either totally or partially destroyed.

<sup>5</sup> UNRWA's official website.



4. **Population growth:** The natural population growth is putting an additional strain on an already-overstretched housing sector, especially in the context of the current blockade, in which no construction materials are allowed.
5. **Changing social norms:** Newly-formed families find it less acceptable to live within extended families under the same roof, and have begun seeking nuclear family dwellings.
6. **Illegal occupancy:** Thirty Seven squatter areas have been reported within the Gaza Strip, inhabited by 30,000 individuals.

## Damages

The damage to the housing sector affected a large number of areas within the densely-populated Gaza Strip. Results from UNRWA and UNDP housing damage survey<sup>6</sup> show that 61,068 families, comprising an estimated 433,583 individuals, had their shelters demolished or damaged, as detailed below.

Table 15. Houses Damaged by Cast Lead

Item	Damage Severity			Total
	Totally Demolished	Major Damages	Minor Damages	
Refugee Housing Units	2,202	1,689	43,996	47,887
Non-Refugee Housing Units	1,223	1,154	10,804	13,181
<b>Total Housing Units</b>	<b>3,425</b>	<b>2,843</b>	<b>54,800</b>	<b>61,068</b>

The table shows that 3,425 housing units were completely destroyed, 2,843 sustained major (structural) damages and 54,800 sustained minor damages. In addition, damages to houses by governorate, and the estimated cost of these damages, irrespective of the severity of the damage, are given below.<sup>7</sup>

Table 16. Damages to Housing Because of Cast Lead

North	Gaza	Middle	Khan Younis	Rafah	Gaza Strip
Damages (USD)					
99,738,961	60,569,980	25,296,494	21,512,647	28,357,117	235,475,199
% of Overall (Gaza Strip) Damages					
42	26	11	9	12	100
Number of Affected Families					
22,360	15,870	7,177	8,779	6,882	61,068
% of Total Number of Affected Families					
37	26	12	14	11	100

6 Data collated by Shelter/Non-Food Items (NFI) Cluster - Gaza Situation Overview – Shelter sector in Gaza. 2 November 2009.  
7 Source: UNDP and UNRWA.

The table shows that the total cost of damages is USD 235,475,199. The bulk of the damage is concentrated in the Northern Governorate (42% of the estimated damage), followed by the Gaza governorate (26%).<sup>8</sup>

In addition to the scale of the damage, one of the reasons why damages to the housing sub-sector continue to be especially painful is that since June 2007 when the blockade was first imposed, construction materials have been scarce resulting in families not being able to repair damages nor to complete partially constructed new housing units.

Figure 6. Damages to Houses Along the Rafah - Egypt Border<sup>9</sup>



8 Similar findings were reported by Eunida's Damage Assessment and Needs Identification in the Gaza Strip, March 2009, which reported that damages to the housing sector had been concentrated on the Governorates of North Gaza (35%), Middle Gaza (21%) and Gaza City (19%).

9 UNEP, 2009. Environmental Assessment of the Gaza Strip following the escalation of hostilities in December 2008 – January 2009.

## Early Recovery Response

Due to the prohibition on the entry of construction materials in the Gaza Strip, few partners have supported the reconstruction and repair of destroyed and damaged houses. Instead, the bulk of the support provided went in the form of cash assistance and compensation schemes, essentially implemented by UNDP, with funds made available by the Palestinian National Authority, UNRWA and the Ministry of Public Works in Gaza.

The principle of the UNDP and UNRWA cash assistance / compensation schemes was to provide cash assistance to households whose housing units had been totally destroyed or had sustained major damages and actual compensation of damages for households whose housing units only sustained minor damages. USD 5,000 was provided for entirely destroyed houses, and USD 3,000 for major damages to enable households to cover rental fees and other living expenses until reconstruction and repair can take place; in addition, up to USD 5,000 was provided for houses with minor damages based on actual estimate of damages. The latter caseload was then to be considered as fully compensated for the damages sustained in their houses. In practice, UNRWA also introduced a conditional compensation mechanism during the implementation of the programme to foster self-help initiatives and ensure that the funding provided would be used for actual repairs.<sup>10</sup>

Table 17. Cash Assistance and Compensation Interventions (USD) <sup>11</sup>

	UNRWA (Refugees)			UNDP (Non-refugees)			Total
	Total Damage	Major Damage	Minor Damage	Total Damage	Major Damage	Minor Damage	
No. of Damaged Housing Units	2,202	1,689	43,996	1,223	1,154	10,804	61,068
Cost of Damaged Housing Units	83,676,000	15,793,486	40,610,428	66,742,900	12,694,292	15,958,093	235,475,199
No. of Housing Units Received payments	2,100	1,529	41,783	1,144	1,056	6,962	54,574
Disbursed Payments	10,500,000	4,587,000	38,923,600	5,720,000	3,168,000	12,060,962	74,959,562



10 UNRWA was able to fully compensate 150 households whose houses sustained major damages for a total amount of USD 1,535,075 on top of their caseload of 41,783 households with minor housing damages.

11 UNDP and UNRWA database

The total amount of these interventions is USD 74,959,562 and has benefited so far 54,574 families out of a caseload of 61,068 households. Implementation of the cash assistance and compensation scheme is on-going and, once completed – and depending on availability of funds - will have covered the entire caseload of affected households. In addition to the above, Gaza authorities have also provided cash assistance as rental subsidies to owners of totally and severely damaged houses and have disbursed up to USD 23.8 million to this effect. Payments were made to beneficiaries irrespective of their status (refugee or non-refugee).

Out of the total funding allocated for the UNDP and UNRWA programmes, a total of USD 52,519,637 was used in compensation and conditional compensation schemes, benefiting 48,895 households. The remainder was disbursed as cash assistance for 5,679 households with totally destroyed or severely damaged houses. 80% of the affected families have thus received full compensation for the damages incurred. This, however, accounts for only 22% of the cost of the estimated damages, as all compensated beneficiaries are households with damages below USD 5,000 to their houses except 150 cases with major damages that have been fully compensated by UNRWA.

### *Actual Repair*

Although there is anecdotal evidence that private individuals have rebuilt their totally destroyed houses using material available on the local market and imported from the tunnels, none of the known partners have carried out any intervention for the reconstruction of totally destroyed houses.<sup>12</sup> In addition, very few partners have supported the repair of major and minor damages in houses. The Israeli blockade and prohibition on the import of construction materials are the main reasons why partners have generally refrained from engaging in this direction.

A notable exception is Al-Rahma Charity Association which has, with funding from the Islamic Development Bank worth of USD 430,000, supported the emergency propping and rehabilitation works of 368 severely damaged housing units. Al-Rahma is currently engaged in the rehabilitation of another 400 houses with funds from their headquarters in Kuwait. Similarly, Islamic Relief Palestine (IRPAL) has started a project to enhance the living conditions of severely deprived families, including the rehabilitation of houses. In addition, UNRWA, through its conditional compensation programme, has been able to ensure that the compensation money received by affected families would be used for actual repairs. The outcome of the intervention has been positive, in particular for houses with minor damages, and UNRWA has thus ensured that a large portion of their caseload of 43,996 households could use the funds to repair their houses. With the tunnel economy growing and with a wider range and greater quantity of materials available on the market, more ambitious plans are being made in 2010 for the reconstruction / construction of houses, in particular by the public authorities in Gaza.

<sup>12</sup> Funding has, however, been received by a number of partners, such as the funds received by UNDP and UNHABITAT (for a total amount of around USD 15 million) from the Custodian of the Two Holy Mosques Campaign for Relief of the Palestinian People in Gaza (Saudi Arabia) for the construction of 200 housing units. Due to the blockade, the projects have not been implemented.

Despite the limited engagement from international and national partners in the reconstruction and repair of destroyed and damaged houses, two assessments conducted by UNDP<sup>13</sup> and UNRWA show that a large number of private individuals have been able to repair their houses, using the materials available locally and imported from the tunnels, despite the higher prices of these materials. The below table is an extrapolation of the survey results on the total number of affected households:

Table 18. Assessment Survey results for Actual Repair (Interventions and Self Repair) (USD)

	Refugees			Non refugees			Total
	Total Damage	Major Damage	Minor Damage	Total Damage	Major Damage	Minor Damage	
No. of Damaged Housing Units	2,202	1,689	43,996	1,223	1,154	10,804	61,068
Cost of Damaged Housing Units	83,676,000	15,793,486	40,610,428	66,742,900	12,694,292	15,958,093	235,475,199
No. of Housing Units (Completely repaired)	0	726	18,918	0	37	1,455	21,136
No. of Housing Units (Partially repaired)	0	743	19,358	0	623	4,341	25,065
Total No. of Housing units (completely or partially repaired)	0	1,469	38,276	0	659	5,796	46,201
<b>Total Cost of the Repair (USD)</b>	<b>0</b>	<b>6,791,199</b>	<b>37,058,758</b>	<b>0</b>	<b>2,389,066</b>	<b>4,894,347</b>	<b>51,133,370</b>

The two assessments conducted show that 75.6% of the affected households made repairs to their houses (87% for refugees and 49% for non-refugee) in 2009, and that 34.6% of them (43% refugee and 11.3% non-refugee) have been able to fully repair their houses. The remaining 41% (44% refugee and 37.7% non-refugee) only succeeded to make partial repairs, or are in the process of making repairs. The difference between UNRWA and UNDP results is largely explained by the conditional compensation system that UNRWA initiated during the implementation of its cash assistance / compensation programme.

The UNDP survey also shows that in the absence of a conditional compensation system, it has been particularly difficult for families with major damages in their houses to fully rehabilitate them (only 3% of them succeeded, against 13.5% for houses with minor damages), but also that a larger proportion of them have still invested funds in repairs (54% against 40.2% for houses with minor damages). The UNDP survey also shows that nearly half of the affected households have not been able to spend any funds (whether they received assistance or not) to repair their houses, but have used or saved the funds received for other basic needs.

13 The UNDP assessment consisted of a door-to-door survey of a representative sample of 501 houses, including houses with major and minor damages and compensated and non-compensated households.

Overall, 27% of the houses with major damages and 37% of the houses with minor repairs were fixed and 48% of the houses with major damages and 43% of the houses with minor repairs were partially fixed. With regard to the value of the repairs implemented compared to the estimated cost of the damages, it appears that 60% of the damages have been repaired, comprising 32% of the major damages and 74% of the minor damages. Again, the value of the repairs for non-refugee damaged houses is considerably lower, with a total of 25% of the total damages, 19% of the major damages and 30% of the minor damages. Overall, the value of the repairs falls below the overall cost of the reconstruction and rehabilitation of the destroyed and damaged houses: the repairs implemented in 2009 represent only 22% of the total reconstruction and restoration needs.

## Needs

As highlighted above, housing needs in the Gaza Strip are obviously not limited to the reconstruction of homes destroyed or damaged during Cast Lead, but also include i) housing units that were destroyed and damaged in previous Israeli military operations and in minor operations following Cast Lead - their total number reached 6,325 destroyed houses, 2,693 houses with major damages and 6,055 houses with minor damages;<sup>14</sup> ii) the completion of the construction of 2,886 housing units by UNDP and UNRWA that was suspended in June 2007; and iii) the construction of new housing units to replace derelict homes in refugee camps and to meet the demands resulting from natural growth. As a result, the current number of housing units needing replacement is 17,822, and the total funding needed to overcome, at least partially, the current housing crisis in the Gaza Strip would be no less than USD 829,285,488. The task looks even more formidable, given the limited achievements, at least thus far, with regard to the reconstruction of completely destroyed houses.



<sup>14</sup> The figures do not include the number of houses with major and minor damages that have been fully compensated by UNDP and UNRWA. However, UNRWA has included all refugee houses with minor damages in their compensation scheme. All eligible cases under this category will be compensated by end of May 2010



Table 19. Housing Needs Summary One Year After Cast Lead

Housing Need Description	# of Housing Units Needed	Estimated Cost (USD)	Notes
<b>Repairs</b>			
Completing repair of 2693 severely damaged housing units	2,693	25,417,629	Sums as determined through UNDP and UNRWA surveys / assessments
Completing repair of 5,480 slightly damaged housing units	6,055	5,583,959	
Repairs Subtotal	8,748	31,001,588	
<b>New Construction</b>			
Reconstruction of 3425 housing units	3,425	150,418,900	Sums as determined through UNDP and UNRWA surveys / assessments as on Feb. 2009
Pre-Cast Lead Destroyed Housing Units	2,900	130,500,000	1500 for non-refugees and 1400 for refugees
Completing the construction of frozen housing units from June 2007	2,886	129,870,000	UNRWA and UNDP
Rehousing of refugees in derelict housing	5,611	252,495,000	UNRWA's responsibility
Natural growth needs for year 2010	3,000	135,000,000	Conservative rough estimate
Subtotal new construction	17,822	798,283,900	
<b>Total</b>	<b>20,515*</b>	<b>829,285,488</b>	

\*Includes all new housing units and only severely damaged housing units.

**Assumptions:**

1. Cost of 1 m<sup>2</sup> of buildings = USD 300 / m<sup>2</sup>
2. Built area per housing unit = 150 m<sup>2</sup>

## C. Energy



The Gaza Strip has been suffering from a continuous electricity deficit since 2006. Following the declaration of the Gaza Strip as a 'hostile entity' in November 2007, Israel decided to reduce the amount of all types of fuel allowed into Gaza, including benzene, diesel, cooking gas, and industrial fuel. This reduction created a protracted energy crisis, with negative implications on the provision of key services, as well as the ability of Palestinians in Gaza to run their households. One component of this energy crisis is the electricity deficit created by the reduction in the production levels of Gaza's sole power plant. Production levels had already been reduced drastically following the destruction of six electric transformers by the Israeli air force in June 2006, and the restrictions on imports of fuel further compounded this problem. In the two years preceding the Cast Lead operation, the power plant was forced to shut down completely for several days at a time due to lack of fuel, which resulted in power blackouts across the Gaza Strip lasting up to sixteen hours a day.

### **The Gaza Strip is fed by electric power from three sources:**

- 1. The power generation station:** This is the sole local power source. Power output of the station varies according to the industrial fuel allowed in by Israel, and is around 52 MW.
- 2. Ten Israeli feeding lines:** Currently, Israel is the main source of electric power supplied to the Gaza Strip. Power provided to the Gaza Strip from Israel reaches 120 MW. Consumption charges are paid through the Net Lending Account of the Palestinian Authority.
- 3. Two Egyptian feeding lines:** Egypt supplies the Gaza Strip with 17 MW. Consumption is financed from GEDCO's subscription revenues.



Currently, the electricity deficit reaches 30% against a low current demand of 270 MW, due to the fact that the industrial and agricultural sectors have effectively ceased functioning as a result of the blockade and Cast Lead. This deficit usually increases during the winter months due to higher consumption levels; and is translated into 3-4 days a week of electricity blackouts, with between 6 and 8 hours of blackout each time, assuming the absence of faults both on local and Egyptian and Israeli feeding lines.

### **Damages and Early Recovery Response**

The Palestinian Energy Authority, in cooperation with GEDCO, carried out a damage assessment in the aftermath of Cast Lead. Damages to networks, distribution transformers and high-voltage lines were assessed. Immediate damages were estimated at USD 10,412,500 as reflected in the PNERRP.

A number of donors have shown interest in repairing damages to the electricity network, including Norway, the EU, the World Bank and the Islamic Development Bank. To date, USD 5,772,500 were spent on Cast Lead repairs (44.56% of needs). In addition, IDB contributed USD 5.0 million through UNDP for repairing / rehabilitating pre-Cast Lead damages to the electricity network, namely the rehabilitation and maintenance of the Transforming Station and the rehabilitation and maintenance of existing networks. Expenditures on Cast Lead repairs are shown in the following table.

Table 20. Electricity Network-Related Expenditures on Cast Lead Repairs

	<b>Item</b>	<b>Estimated Cost of Damage (USD)</b>	<b>Cost of Repaired Damage (USD)</b>	<b>Cost of Un-Repaired Damage (USD)</b>	<b>Donor</b>
1	Electric Distribution Transformers	2,980,000	1,591,382	1,388,618	Norwegian grant, EU, World Bank
2	Electric cables and wires	2,770,000	1,393,106	1,376,894	EU, World Bank
3	Steel Column	1,650,000	300,000	1,350,000	World Bank
4	Wooden Columns	375,000	250,000	125,000	World Bank
5	Cars for Electricity Distribution Company	150,000	-	150,000	
6	Electrical and Metal Installation Works	2,187,500	1,105,512	1,081,988	Norwegian grant, EU, World Bank
7	Concrete Works	300,000	-	300,000	
<b>Total</b>		<b>10,412,500</b>	<b>4,640,000</b>	<b>5,772,500</b>	

GEDCO repaired partial damages and restored a supply of electricity to the residents of the Gaza Strip in 2009. These repairs, however, were done in an ad hoc and makeshift manner, utilizing non-standard repair procedures,<sup>15</sup> and using stocks available locally. GEDCO has been unable, to date, to restore completely damaged networks, due to the unavailability of materials, especially cement. There are 150 electricity-related materials (e.g. high voltage cables, transformers, wires and switches) at zero stock level and approximately 400 others in short supply as a result of the blockade.<sup>16</sup> Due to the makeshift repairs of the network, electricity network losses increased from 27% before Cast Lead to 35% after it.

In addition, the electric power supply has shown a drastic reduction in quality. Despite the repairs conducted by GEDCO, due to the extensive damage to the electricity network, 15-20% of residents have been totally disconnected from the network, especially in the areas that were subjected to the land incursions during Cast Lead. In addition, 25% of residents do not get electric power on a regular basis, due to the partial damages to the networks and electricity poles. The remaining 60% of residents get electrical power intermittently, because of minor faults in connections and the unstable supply of industrial fuel to the local power generation station.

Some of the regular maintenance needs of GEDCO are different types cables, wires of different types, different types of wooden poles, steel poles, steel arms, steel bases, steel fittings, different types of fuses and 36 kV Switch-Disconnectors. The total cost of the remaining needs shown in the afore-mentioned table is USD 5,772,500.

The shortage of propane gas for domestic use in the Gaza Strip has led residents to depend on electric power for cooking, and, with fixed supplies of electricity, this will increase the deficit and faults, and consequently blackout hours. This also puts the technicians at GEDCO under tremendous pressure to respond to more frequent faults.

Israel has recently allowed the entrance of GEDCO-purchased and other donated electric supplies, but the quantities allowed in are limited, and cannot reasonably be expected to respond effectively to any of the problems the electricity network is subject to.



15 GEDCO connected to the electricity network areas which sustained significant damages during Cast Lead using wooden poles instead of steel poles and inadequate cables and wires sizes and fittings.

16 OCHA. The humanitarian impact of two years of blockade on the Gaza Strip. August 2009.

## D. Transportation

Transportation in the Gaza Strip depends almost exclusively on the road network. The Gaza Strip boasts an airport that has been completely closed for several years, after it was destroyed by the Israeli military, and a number of small fishing ports with a reduced fleet of fishing boats, the movements of which are restricted by Israeli limitations on how far fishing boats can move out to sea, reinforced by a constant, heavily armed Israeli naval presence. Gazans, then, have no access to transportation by either sea or air. The impacts of the blockade on road transportation can be summarized as follows:

1. Total suspension of all road construction and development projects, including projects nearing completion, due to the unavailability of materials. In addition, all road maintenance projects have been suspended, which has accelerated the deterioration of the surface conditions of many roads. Poor road surface conditions have also resulted in traffic congestion, especially in major roads in urban centers.
2. All imports of vehicles and spare parts were suspended, which has resulted in vehicle price inflation and in the stoppage of many vehicles and their accelerated deterioration.
3. Gazan transport is now heavily dependent on animal traction and on ingenuity in keeping cars on the road, including, during the severest fuel shortages, a dangerous practice of adapting vehicles to run on propane cooking fuel.



### **Damages**

Damages to the transportation system have been aggravated by Cast Lead. The PNERRP report estimate for road damages were USD 78 million. This report can update this estimate, reducing it to USD 14,877,650<sup>17</sup>. The North Gaza governorate sustained the most significant damages to the road network, with 51.7% of the total damages. The governorate of Rafah sustained the second highest damages, with 42.0%.

<sup>17</sup> The estimates provided in the PNERRP report, which was conducted rapidly due to the urgency of its preparation, considered damages not exclusively resulting from Cast Lead but due to previous incursions.

Damages to the road network by governorate are given in the following table.

Table 21. Damages to the Road Network by Governorate

Governorate	Area (m <sup>2</sup> )	Cost (USD)	% of Total Damaged	
			Area	Cost
North	234,990	8,224,650	51.7	55.3
Gaza	10,000	350,000	2.2	2.4
Middle	6,800	238,000	1.5	1.6
Khan Younis	12,143	425,000	2.7	2.9
Rafah	191,000	5,640,000	42.0	37.9
<b>Total</b>	<b>454,933</b>	<b>14,877,650</b>	<b>100.0</b>	<b>100.0</b>

In addition, the following damages to bridges were reported:

1. The box culvert at Al Zahra, which had already been damaged during previous Israeli operations, sustained further damage by bombing during Cast Lead. It is no longer stable and requires complete reconstruction.
2. The bridge linking Beit Hanoon directly to Gaza City was damaged in previous Israeli operations but was targeted once more during Cast Lead. It has been repaired temporarily and is functional. Permanent repair is needed.
3. Al Sikka Bridge, constructed on Wadi Gaza, was totally destroyed in Israeli military operations before Cast Lead. In addition, the Johr El Deik Bridge constructed on Wadi Gaza was targeted and partially damaged before Cast Lead. Both bridges appear to have been re-targeted during Cast Lead.

## Early Recovery Response

Due to the blockade and the prohibition on imports of construction materials in the Gaza Strip, no interventions were implemented in 2009 to remedy Cast Lead damages inflicted on transportation in the Gaza Strip. There is anecdotal evidence of repairs to streets and roads implemented by the Gaza authorities in the second half of 2009, often using interlocks produced from recycled crushed rubble. These repairs, however, are limited to patching existing holes and cracks induced by wear and tear and cannot compare with the scale of the needs of the sector.

## Needs

Future transportation needs comprise the following

1. Repair of damaged roads, in a total area of 454,933 m<sup>2</sup> and at a total cost of USD 14,877,650 as shown in the table below. The table takes into consideration the Road Cost Index, which shows an increase of 6.52% in road construction costs in the most recent estimate of the index in December 2009.

Table 22. Road Network Repair Needs by Governorate Considering the Road Cost Index

Governorate	Area (m2)	Cost (USD) - Year 2009	Cost (USD) - Year 2010
North	234,990	8,224,650	8,760,897
Gaza	10,000	350,000	372,820
Middle	6,800	238,000	253,518
Khan Younis	12,143	425,000	452,710
Rafah	191,000	5,640,000	6,007,728
<b>Total</b>	<b>454,933</b>	<b>14,877,650</b>	<b>15,847,673</b>

- Permanently replace the temporary repairs made to the box culvert at Al Zahra in the Middle Gaza governorate and the bridge linking Beit Hanoun to Gaza City. The total cost of the permanent repairs is USD 415,428 taking into consideration the Road Cost Index.
- Repair damages to the fishing ports of Gaza, Middle Gaza, Khan Younis and Rafah, which took place in Israeli military operations before Cast Lead.<sup>18</sup> The total cost of the repairs is USD 1,047,000 broken down as per the following table.

Table 23. Fishing Ports Repair Needs

Governorate	Cost of Repairs (USD)
Gaza	520,000
Middle	40,000
Khan Younis	30,000
Rafah	457,000
<b>Total</b>	<b>1,047,000</b>

- Repair of the Gaza International Airport, including the 28m high control tower, ancillary buildings, the damaged runway and other structures at a cost of USD 31,000,000.<sup>19</sup>

The summary of the transportation needs is given in the following table. The total interventions needed are estimated at USD 48,310,101.

Table 24. Summary of Transportation Needs

Means of Transportation	Cost of Need (USD)	% of Total Transportation Needs
Roads	15,847,673	32.8
Bridges	415,428	0.9
Fishing Port	1,047,000	2.2
Airport	31,000,000	64.2
<b>Total</b>	<b>48,310,101</b>	<b>100.0</b>

18 This estimate is for damages to the fishing ports only, and does not include an estimate of the amount needed to rehabilitate them. In particular, the port at Gaza City is in need of considerable maintenance including dredging, a redesign of the harbor wall and upgrade of the boat repair yard.

19 This work relies on political negotiations to open Gaza's airspace.

## E. Telecommunications

The PalTel Group has a monopoly over the provision of landline and mobile telephone services within the Gaza Strip. Landline telecommunications are provided by PalTel and mobile telecommunications by JAWWAL. Telecommunication services have become degraded due to the lack of essential spare parts and new equipment for upgrades and repairs of previously damaged equipment. In some cases, spare parts have been in storage awaiting approval from Israel for importation into the Gaza Strip for more than four years.<sup>20</sup>

### **Damages**

Damage to the landline and mobile networks caused major disruptions in telecommunications for both the local government and the community in general.<sup>21</sup> Prior to Cast Lead there were about 113,000 landline subscribers and about 550,000 mobile subscribers. In the immediate aftermath of Cast lead, this number was reduced to around 103,000 landline and 220,000 mobile subscribers.<sup>22</sup>

Many households were unable to communicate with family and friends within and outside Gaza during Cast Lead. In addition, many households found it difficult to communicate with emergency services such as ambulances and medical care facilities.

#### **PalTel company damages include:**

1. Total destruction of the Jabalya main switch.
2. Total destruction of Beit Lahia multi service axis names (MSANs).
3. Partial damage of PalTel buildings, including the company's headquarters.
4. Partial damage of Zawaidah main warehouse building including widespread destruction of stored spare parts.
5. Partial damage to the overhead cable network.

#### **JAWWAL company damages include:**

1. Destruction of two 30m towers located in Jabal ElKashef and the Eastern Cemetery.
2. Destruction of one 42m tower located in the area of the Jabalya Municipality, close to the PalTel main switch.
3. Destruction of two 12m poles, eight inch diameter, located in Alzahra city and Alzaitoun neighborhood.
4. Destruction of one vehicle fitted with mobile transmitting equipment.
5. Destruction of one 13.5KVA diesel generator.
6. Destruction and damage to civil works such as fences, two guard rooms, showrooms, towers foundations in the headquarters and branches along the Gaza Strip.
7. Destruction of six cabinets and equipment rooms located close to the destroyed poles and towers.

<sup>20</sup> Eunida. Damage Assessment and Needs Identification in the Gaza Strip. March 2009.

<sup>21</sup> Eunida. Damage Assessment and Needs Identification in the Gaza Strip. March 2009.

<sup>22</sup> Ibid.



## Early Recovery Response

Most damages to PALTEL's landlines were repaired, at a total cost of USD 526,798 distributed as follows.

Table 25. Breakdown of Repairs to PALTEL's Landlines

Item	Cost of Repairs (USD)
Paltel Warehouse	375,000
Jabalya Switching Station	75,000
Landline restoration in all Gaza Strip	76,798
<b>Total</b>	<b>526,798</b>

All damages reported by JAWWAL have been repaired, at a total cost of USD 1,057,143 or 740,000 Jordanian Dinars (JD). With regard to completely damaged radio sites, three green field towers and six roof top towers were reconstructed in nearby locations. Five green field towers and six roof top towers, which had been partially damaged, were also repaired. In addition, partial damages to showrooms and buildings were remedied.

In this regard, it is important to note that the reconstruction and repair of the damages consumed equipment and spare parts that had been planned for use in network expansions. Consequently, important network development projects have been delayed.

## Needs

Minor repairs are still needed for landlines in areas subjected to total destruction, e.g. the eastern parts of Jabalya. However, because of the limited scope of the repairs needed, it can be assumed that all Cast Lead – related damages have been remedied.

UNEP

Section

[ C ]





# Livelihoods and the Economy

- *Agriculture*
- *Industrial, Trading and Other Private Sector Establishments*
- *Employment and Livelihoods*
- *Banking and Cash Availability*

## A. Agriculture

Agriculture plays a critical role in protecting and promoting livelihoods, not only in rural communities, and has traditionally been a shock-absorber for communities when other social safety nets failed to operate.<sup>1</sup>



The Gaza Strip has a total of 12,300 Ha of agricultural land with the capacity to produce 350,000 to 400,000 tons of agricultural products annually,<sup>2</sup> one third of which was, until recently, intended for export (strawberries, carnations, sweet peppers and cherry tomatoes). The Agricultural sector has traditionally been a major employer of Palestinians in the Gaza Strip. Before the blockade was imposed in June 2007, the sector provided permanent and temporary jobs for around 40,000 people in the Gaza Strip (representing 13% of the workforce) and provided food for a quarter of the population.<sup>3</sup>

The comprehensive Israeli blockade on the agricultural sector has prevented the export of agricultural products and denied entry for agricultural inputs, which has led to a significant reduction of the agricultural sector's productive capacity. Local farmers reported that their agricultural income had dropped by at least 40 % since June 2007 due to the increased cost of production and raw materials.<sup>4</sup>

1 OCHA. Agriculture Sector Report. 2<sup>nd</sup> March 2009. Impact of Gaza Crisis.  
2 Eunida. Damage Assessment Report.  
3 Ibid.  
4 Ibid.

## Damages

Over 46% of the agricultural land in the Gaza Strip has been damaged or became inaccessible as a result of Cast Lead, particularly since the Buffer Zone in the immediate vicinity of the Wall has been increased, a restriction that continues to be militarily enforced.<sup>5</sup> Approximately 16-17% of agricultural land was severely damaged by bombing, military vehicles' movements and leveling, and indiscriminate actions, including 17.5% of the orchards of mature trees and 9.2% of open fields.<sup>7</sup> In addition, over 4,000 cattle, sheep and goats and more than one million birds and chickens (broilers and egg layers) were killed during Cast Lead, with evidence of livestock being the direct target of Israeli machine guns.<sup>8</sup>

Estimates of the cost of damages to the agricultural sector are very consistent, and show that agriculture sustained damages worth USD 180,719,000 distributed as follows:

Table 26. Damages to Agriculture Resulting From Cast Lead

Sub-sector	Sub-Sector	Damages (USD)	% of Total
Plant production	Fruit trees and open fields (irrigated crops, rain fed crops, strawberries)	84,786,000	31.5
Animal production	Cattle, sheep & goats, broilers, layers, beehives, other animals & birds, animal feed	18,133,000	6.7
Infrastructure	Green houses, nurseries, water storage facilities (water ponds, wells), agricultural equipment (inputs & materials), agricultural roads, marketing infrastructure, fisheries, animal farms, irrigation networks, main pipelines, other infrastructure losses, agricultural stores, Ministry of Agriculture losses	77,800,000	28.9
Immediate & Direct Costs		180,719,000	
Longer-Term Costs		88,242,000	32.8
<b>Total Costs</b>		<b>268,961,000</b>	<b>100.0</b>

The table shows that 31.5% of total damages were sustained by plant production, 6.7% by animal production and 28.9% (USD million 77.8) by agricultural infrastructure. The importance of agricultural infrastructure is considered as a substantial element for restoring the agricultural activities in the different sub-sectors for those subsistence farmers who are only relying on the agricultural activities to make a living.

Figure 7. Damage to Agricultural Land to the South East of the Gaza Strip<sup>9</sup>



5 Ibid.

6 (1,986 Ha)

7 Agricultural survey of UNDP/PAPP and key actors, NGOs in the agricultural field in the Gaza Strip

8 The Palestinian National Early Recovery and Reconstruction Plan for Gaza 2009-2010 and agricultural survey.

9 UNEP, 2009. Environmental Assessment of the Gaza Strip following the escalation of hostilities in December 2008 – January 2009.

## Early Recovery Response

The tables below provide a detailed description of the sustained damage, of the interventions that took place in 2009 and of the remaining needs of the sector.

Table 27: Damages, Repairs and Needs - Cultivated Land and Related Infrastructure

Cultivated land and related infrastructure					
Items	Baseline	Interventions	Cost of interv. (USD)	Remaining needs	Cost of needs (USD)
<b>Orchards</b>	17,575 (don.)	2,238 (don.)	7,675,000	15,237 (don.)	30,426,600
<b>Fencing (lm)</b>	550,000 (lm)	-	-	550,000 (lm)	5,500,000
<b>Open field crops</b>	7,300 (don.)	5,926 (don.)	3,475,600	1,374 (don.)	1,099,200
<b>Rain fed crops</b>	4,375 (don.)	1,000 (don.)	260,000	3,375 (don.)	877,500
<b>Greenhouses (partially damaged)</b>	700 (don.)	2,2382 (don.)	5,595,000	-	-
<b>Greenhouses (totally damaged)</b>	550 (don.)	-	-	550 (don.)	10,000,000
<b>Nurseries (partially damaged)</b>	19 (no.)	4 (no.)	80,000	15 (no.)	250,000
<b>Nurseries (totally damaged)</b>	33 (no.)	-	-	33 (no.)	1,250,000
<b>Buffer zone losses</b>	10,000,000	-	-	10,000,000	10,000,000
<b>SUB-TOTAL</b>			<b>17,085,600</b>		<b>59,403,300</b>

This table shows that, despite USD 17,085,600 worth of interventions and the rehabilitation of around 9,000 donums of damaged land, much remains to be done in order for the sector to recover from the Cast Lead operation. Mature orchards, in particular, will take a long time to recover, with 15,000 donums of land to be replanted. The table also shows that, due to the blockade and the prohibition on the import of materials, only partial rehabilitation of the supporting infrastructure could be performed.



In addition, Israel's enforcement of a newly expanded Buffer Zone has not only denied many farmers of their livelihood, but also has made idle 23,000 donums of land, i.e. 28% of Gaza's agricultural land constituting 7.3% of the entire area of the Gaza Strip. These lands cannot be worked without severe personal risk.<sup>10</sup> The socio-economic impact of this restriction in terms of employment and food security has thus far resulted in almost 30% of the agricultural workers (11,600) losing their jobs.<sup>11</sup>

Table 28: Damages, Repairs and Needs - Animal Production

Animal production					
Items	Baseline	Interventions	Cost of interv. (USD)	Remaining needs	Cost of needs (USD)
<b>Cattle (no.)</b>	1,000 (no.)	-	-	1,000 (no.)	1,800,000
<b>Sheep &amp; goats (no.)</b>	3,000 (no.)	320 (no.)	96,000	2,680 (no.)	2,680,000
<b>Broilers (no.)</b>	500,000 (no.)	500,000 (no.)	1,795,300	-	-
<b>Layers (no.)</b>	199,000 (no.)	140,000 (no.)	502,700	59,000 (no.)	500,000
<b>Feeds &amp; equipments</b>	2,200 (ton)	-	-	2,200 (ton)	2,000,000
<b>Poultry &amp; livestock farms</b>	525 (farms)	-	-	525 (farms)	14,000,000
<b>Hatcheries</b>	3 Hatcheries	-	-	3 Hatcheries	1,000,000
<b>Beehives</b>	5,000 (no.)	-	-	5000 (no.)	1,500,000
<b>Total losses in fishery</b>	626,180	Various	1,000,000	-	-
<b>SUB-TOTAL</b>			<b>3,394,000</b>		<b>23,480,000</b>

With regard to animal production, beyond the replenishment of live animals stocks (sheep, goats and chickens), no interventions targeting the damaged supporting infrastructure could take place. Un-repaired damages to farms and hatcheries continue to drastically limit the productive capacity of farmers.

Moreover, Gaza's fishing industry has been leveled by the further reduction in 2009 of the area in which Gaza fishermen can fish from six to three nautical miles. As per the Oslo agreements, Gaza's fishing rights extended to 20 nautical miles. Up to 2000, Palestinians in Gaza were permitted to fish up to 12 nautical miles. In 2000, this area was reduced to six miles. Out of 10,000 fishermen, only 3,400 are currently working.<sup>12</sup> As a consequence of this policy, the monthly catch of fish has been divided by 100 over 10 years: while it used to be around 1,500 tons a month, it has currently fallen down to 15-20 tons today.

Table 29: Damages, Repairs and Needs - Supporting Infrastructure (Roads, Water, Irrigation, Storage, Marketing)

Supporting infrastructure (roads, water, irrigation, storage, marketing)					
Items	Baseline	Interventions	Cost of interv. (USD)	Remaining needs	Cost of needs (USD)
<b>water wells</b>	250 (wells)	128 reg. wells	3,200,000	122 (wells)	4,270,000
<b>Water ponds and irrigation facilities</b>	500 (no.)	-	-	500 (no.)	4,000,000
<b>Main pipe line (lm)</b>	200,000 (L.M)	-	-	200,000 (lm)	4,000,000
<b>Agricultural roads</b>	200 km	286 km	1,144,000	-	-
<b>Agricultural stores</b>	700 (no.)	-	-	700 (no.)	5,000,000
<b>Agricult. Equipment</b>	60 (no.)	-	-	60 (no.)	900,000
<b>Agricultural inputs</b>	2,000,000	Various	8,872,000	-	-
<b>SUB-TOTAL</b>			<b>13,216,000</b>		<b>18,170,000</b>

A number of interventions were implemented by partners to rehabilitate the damaged supporting infrastructure, in particular to registered wells and agricultural roads. Nevertheless, and this

<sup>12</sup> World Bank, Palestinian Economic Prospects: Gaza Recovery and West Bank Revival, June 2009

is valid for the entire agricultural sector, most of the interventions remained focused on the distribution of agricultural inputs, (including fodder, seeds, seedlings, pesticides) instead of the rehabilitation of productive assets, and were often designed from a strictly humanitarian perspective for the benefit of low-productivity, small scale / backyard farmers. The distribution of inputs to the subsistence farming sector exceeded by far the estimated needs, and should not be pursued at the same rate in the future. More focus should now be placed on the rehabilitation of infrastructure and on supporting productive capacities of commercial farmers, as a significant sector in driving forward Gaza's economic recovery. More focus should also be placed on building the resilience of the sector and reducing its dependence on imports and exports.

Table 30: Agriculture Sector – Summary of Interventions and Needs

Sub-sector <sup>13</sup>	2009 Interventions. (USD)	Remaining needs (USD)
Cultivated Land	17,085,600	59,403,300
Animal Production	3,394,000	23,480,000
Supporting Infrastructure	13,216	18,170,000
<b>Grand Total</b>	<b>33,695,600</b>	<b>101,053,300<sup>14</sup></b>

Overall, USD 33,695,600 was spent on interventions in the agricultural sector. Main contributors were the Netherlands, the European Commission, the Islamic Development Bank, Switzerland, the Arab Fund and the Arab Organization for Agricultural Development and Investment. It is, however, interesting to note that most of the European-funded interventions focused on the provision of agricultural inputs more than on the rehabilitation of infrastructure.

These interventions constitute around 25% of the cost of the damages. This means that USD 100 million is still needed to fully rehabilitate the sector. Despite commendable efforts from a number of partners, including UNDP, FAO and national NGOs, the sustainability of the agriculture sector in the Gaza Strip remains problematic.

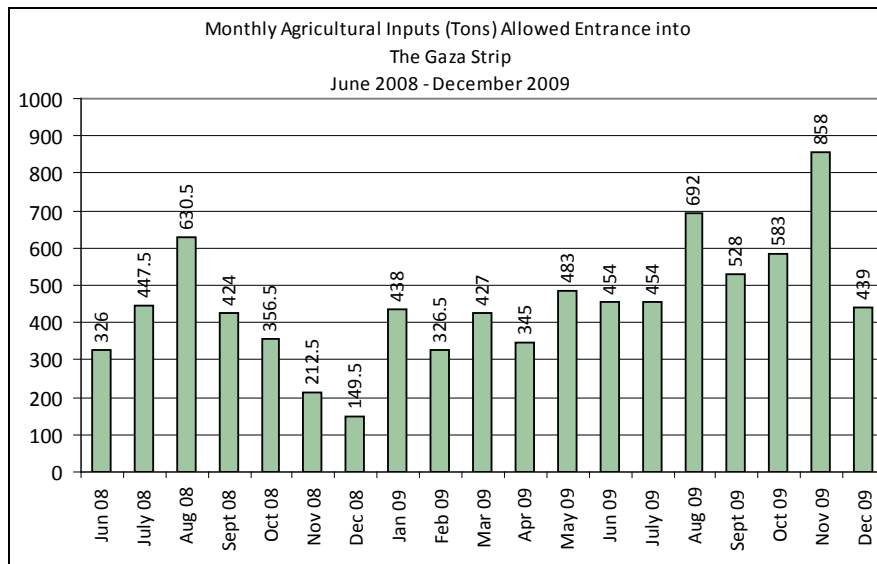
The late months of 2009 brought what appeared to be an easing of the blockade, at least with regard to agricultural inputs. However, the import regime remains entirely unpredictable. From a low of 149.5 tons of inputs allowed entrance in December 2008, i.e. before Cast Lead, to a high of 858 tons in November 2009, as shown in figure 8, the unstable admittance regime adds even greater threats to the more usual risks associated with agriculture, such as climate and disease. On the exportation side, the resumption of some level of exports of carnation flowers and strawberries in December 2009 brought some improvement to the sector. Export levels remain, however, substantially lower than in previous years. During 2009, only 20 truckloads of flowers were exported through the crossing points compared to 5500 truckloads before the

<sup>13</sup> The table does not follow the same categorization applied in the PNERRP, especially with regard to the supporting infrastructure, but follows a thematic categorization approach: the infrastructure that is directly related to the agriculture sub-sector is reflected here and not in the infrastructure sub-sector.

<sup>14</sup> The difference between the current estimate of damages of USD 134,748,900 and the PNERRP estimate of USD 180,719,000 is due to the fact that this estimate does not include the cost (loss) of seasonal agricultural products or the economic value of some agricultural facilities, such as hatcheries and poultry and livestock production farms. The estimate also does not include the damaged governmental assets pertaining to the Ministry of Agriculture in Gaza.

blockade (Jan 2005 –May 2007). In addition, delays on permits for strawberry exports incurred revenue losses for farmers who missed the European peak season. In the current circumstances, the dependency of the Gaza agriculture on external markets is not a sustainable solution for the recovery prospects of the agriculture sector.

Figure 8. Monthly Agricultural Inputs (Tons) Allowed Entrance into the Gaza Strip between June 2008 and December 2009



Despite these obstacles, agriculture has the capacity to recover from the effects of Cast Lead provided that certain conditions are met, which include:

- a) The opening of the commercial crossings to allow for free movement of goods and a resumption of trade activities that have been suspended since June 2007.
- b) Securing unfettered access to the Buffer Zone to restart agriculture activities, including recovery and rehabilitation of agriculture assets in this area.
- c) Securing reliable and affordable sources of power necessary for agricultural operations to commence.
- d) Cash resources to help spur marketing activities.<sup>15</sup>



15 OCHA, Agriculture Sector Report, 2<sup>nd</sup> March 2009, Impact of Gaza Crisis.



## Needs

Repairing the damages to the agricultural infrastructure and restoring Gaza's agricultural productivity capacity are essential in order to improve food security and create both short and long-term employment.<sup>16</sup> Particular focus should be placed on supporting the rehabilitation of damaged orchard farms as well as the infrastructure of livestock and poultry farms, and of totally destroyed greenhouses. Additional future needs of the agricultural sector include the following:<sup>17</sup>

1. Introduce high irrigation technology systems to the farmers in order to maintain and conserve the limited water resources available in Gaza.
2. Promote aquaculture ponds to cope with the limitations imposed on the fishing area.
3. Develop employment opportunities for farmers whose agriculture lands were destroyed, within an overall objective of empowering farmers at the household level.
4. Formulate a comprehensive vision, plan, definition of stakeholders' roles based on an organizational capacity assessment, and establish a monitoring and evaluation system.
5. Provide micro-finance and loan programmes for agricultural investment.
6. Establish bio-agriculture laboratories, agricultural training centers, and veterinary medicine service centers.
7. Establish observation sites and horticulture farms in Al-Mawasi zone.
8. Strengthen postgraduate studies in specific agriculture specializations.
9. Expand pilot agricultural projects, such as aquaculture ponds; and
10. In horticulture, deploy new vegetable and livestock varieties.

<sup>16</sup> Eunida. Damage Assessment Report.

<sup>17</sup> NGO Development Center (NDC). Rapid Needs Assessment of the NGO Sector to Respond to Repercussions of Israel's Offensive on the Gaza Strip. March 2009.



## B. Industrial, Trading and Other Private Sector Establishments

As in other sectors, the closure policy continues to overshadow industrial, trading and other private sector establishments in the Gaza Strip. In 2009, limited quantities of consumable goods were allowed access in the form of mainly humanitarian assistance goods and, as shown above, limited quantities of agricultural products were allowed out especially close to the end of the year. The prohibition of construction materials has, to a great extent, prevented the revitalization of the Gaza economy and the reconstruction of industrial production facilities.

In March 2009, the Private Sector Coordination Council (PSCC) issued a report concerning the value of damages to industrial, commercial, and services sectors, based on the preliminary damage assessment conducted in partnership with UNDP in the immediate aftermath of the war. The PSCC report confirmed the total estimated value of damages indicated in the PNERRP of USD140 million, although its estimate of the distribution of damages differed. The data of the PSCC report was taken into consideration in drafting this report. Another assessment of damages was performed by Development Alternatives Inc. (DAI) under the auspices of the PNA and the EU. The assessment report was concluded by the end of 2009, but was not officially released and therefore could not be taken into consideration in this report. It is worth mentioning, however, that DAI findings differ from previous assessments and that assessed damages are lower. The UNDP-PSCC assessment was conducted immediately after the Cast Lead operation and was not a comprehensive assessment of damages. The damage estimates provided in this report have therefore to be considered with caution.

### **Damages**

Before and after Cast Lead, the closure of border crossings severely impacted the industrial sector. Soon after June 2007, 3,750 industrial establishments were shut down, i.e. 90% of the total industrial entities and 33,000 workers were laid off, or 94% of the number of workers employed in the sector.<sup>18</sup>

Reports concerning damages incurred by the private sector (excluding agriculture) indicated that about 1,165 private sector establishments were totally or partially destroyed as a result of Cast Lead, of which 324, i.e. one third, were industrial establishments (44% were totally destroyed, while 56% were partially destroyed).<sup>19</sup> The following table shows the breakdown of losses by sub-sector, as reported in the PNERRP.

18 Private sector Coordination Council. The situation and needs of the Private Sector in Gaza after the War.

19 PFI and PALTRADE joint report one year after Cast Lead.

Table 31. Cast Lead Losses to Industrial, Trading and Other Private Sector Establishments

Sub Sector	Estimated Costs (USD)			% of sub-sector	% of sectors
	Buildings and Equipment	Goods	Total		
<b>Industrial</b>					
Aluminum Workshops	1,163,795	0	1,163,795	1,87%	
Construction	36,785,928	100,000	36,885,928	59,25%	
Plastics	3,557,276	0	3,557,276	5,71%	
Agriculture	4,436,000	0	4,436,000	7,13%	
Pharmaceutical	120,000	0	120,000	0,19%	
Chemicals	1,445,000	0	1,445,000	2,32%	
Fabric	1,684,839	0	1,684,839	2,71%	
Furniture	947,751	144,000	1,091,751	1,75%	
Carpentry	4,476,044	0	4,476,044	7,19%	
Metal workshops	6,682,855	0	6,682,855	10,74%	
Tailors	698,929	0	698,929	1,12%	
Paper	8,000	0	8,000	0,01%	
Industrial Total	62,006,417	244,000	62,250,417	100%	44.54%
<b>Commercial</b>					
Commercial Enterprises	51,937,244	11,842	51,949,086	74,88%	
Commercial shops	9,798,801	7,632,066	17,430,867	25,12%	
Commercial Total	61,736,045	7,643,908	69,379,953	100,00%	49.64%
<b>Services</b>					
Contractors	2,989,074	0	2,989,074	36,78%	
Information	133,000	0	133,000	1,64%	
Insurance	67,850	0	67,850	0,83%	
Information Technology	340,680	0	340,680	4,19%	
Tourist facilities	4,585,536	0	4,585,536	56,42%	
Trucking	10,000	650	10,650	0,13%	
Services Total	8,126,140	650	8,126,790	100,00%	5.81%
<b>Grand Total</b>					
	<b>131,868,602</b>	<b>7,888,558</b>	<b>139,757,160</b>		<b>100.00%</b>
<b>% of costs</b>	<b>94%</b>	<b>6%</b>	<b>100%</b>		

The main damages of the offensive were the destruction of the main production elements 'buildings and equipment' which represent 94% of the total damages. Destroyed goods constituted a small percentage, 6%, of the total destruction. This is due to the fact that most of the manufacturing plants had already shut down and no finished goods existed; and no raw and construction goods were allowed to enter Gaza before Cast Lead.

In addition to direct losses, the sector suffered from indirect losses, such as loss of market share, loss of customers, and loss of establishment location, which is a major marketing asset. This is particularly true for the industrial sub-sector, as the majority of the industrial establishments were located on the eastern part of Gaza that was totally destroyed, with the exception of the Gaza Industrial Estate.

In addition, the loss of income during the closure period before and after Cast Lead will be difficult to compensate for in the near future. Moreover, many industrial establishments' owners left Gaza and established businesses outside of the oPt. This will have long-lasting consequences on the capacity of the Gazan economy to recover.

### *Situation Analysis*

In January 2010, the Palestinian Federation of Industries (PFI) and Palestine Trade center (PALTRADE) published a joint report on the performance of damaged industrial establishments one year after Cast Lead. Although the report only focuses on the industrial sub-sector, findings can, to some extent, be extrapolated to the entire private sector. According to PSCC, the industrial sub-sector sustained 61% of the value of damages inflicted to the private sector.<sup>20</sup> In addition, the industrial sector plays a key role in the functioning of the Gaza economy, including trade and services.

The PFI survey shows that, although no construction materials were allowed into the Gaza Strip during 2009, 54%<sup>21</sup> of the destroyed industrial establishments were reconstructed using available construction materials while 46% of the industrial establishments were not reconstructed at all.<sup>22</sup> Moreover, an impressive 97% of the reconstructed establishments succeeded in re-establishing their businesses, albeit to a limited capacity, while only 3% of them failed to sustain activities any longer. Interestingly, the private sector recovery took place in the absence of any type of support from international donors or humanitarian and development partners. The only notable exceptions are the UNDP-DEEP project that focuses on micro and small enterprise development through micro-finance schemes, and parts of UNRWA's micro-credit programme.

According to the study, 42% of the industrial establishments could not be reconstructed due to a lack of construction materials, 41% due to a lack of financial resources and 17% due to the loss of market share due to the tunnel economy.<sup>23</sup> The following table shows the industrial sector situation over the past three years.

20 The PSCC report differs from the PNERRP on the distribution of damages across sectors. The PNERRP reported that 44.5% of the damages were sustained by the industrial sub-sector. The PSCC report provides, however, a more comprehensive assessment of the damages to the private sector than the PNERRP.

21 PFI and PALTRADE joint report one year after Cast Lead.

22 Ibid.

23 3- PFI and PALTRADE joint report one year after Cast Lead.

Table 32. Industrial Sector Situation, Before Blockade, During Blockade and at the End of 2009

Details	Before blockade	Beginning of blockade	End of 2009	Notes
<b>Number of Working Establishments</b>	3,900	117	1,170	1. 10% of establishments are working at 20-50% capacity; 2. 20% of establishments are working at 10% capacity 3. 70% of establishments are closed
<b>Number of Workers</b>	35,000	2,000	5,000	

The table above shows that more industrial establishments are operating today than before the war. 30% of the existing establishments have been able to resume activities, albeit at limited capacity, against 3% before Cast Lead. In addition, the sector currently employs 5,000 workers, against 2,000 workers before Cast Lead, i.e. 14.29% of the pre-closure workforce of 35,000 against 5.71% before Cast Lead.

Production capacity will, however, continue to be low until the first truckload of raw materials enter the Gaza strip. Seventy-eight percent of the establishments surveyed by PFI reported that their sales had dropped by more than 76%. The report also indicated that only 10% of the raw materials required for production are available in the local market either because they were previously stored or brought through tunnels, while 65% of the raw materials needed would in fact be available from Israel and 25% would have to be imported from abroad. Unexpectedly, however, 21% of the production machinery is available in the local market, 'either brand new or used', while 44% would have to be available from Israel and 35% would have to be imported from abroad.

## Needs

The actual value of interventions and the actual value of the remaining needs have not been determined in any earlier reports. However, assuming that 54% of the damaged and destroyed establishments have been rehabilitated, and that it is reasonable to consider that about half of the rehabilitated establishments have been only partially rehabilitated, this means that the total value of the repairs performed by private owners themselves does not exceed 40.5% of the value of the damages. This means that the total amount of funding needed to fully reconstruct the damaged private sector facilities is around USD 83,000,000, if the total needs identified in the PNERRP are taken into consideration.

This estimate is, however, only based on an assessment of the industrial sub-sector. Additional assessments are needed on the status of the trading and services sub-sectors. Nevertheless, if the industrial sub-sector was able to partly recover from Cast Lead despite the continued blockade, it is likely that the trading and services sectors have recorded a similar level of progress, if not greater, in view of the increasing role of the tunnel economy and the nature of the products imported from Egypt. The decrease in unemployment rates witnessed in Gaza in 2009 (see below section) also reinforces this assumption.



### *Nature of Required Interventions*

1. Although Gaza Industrial Estate establishments were negatively affected as a result of the blockade, they were not directly attacked by the Israelis during the last Cast Lead offensive because of the regional and international agreements governing the development, maintenance and operations of the industrial zones. This indicates that the industrial zones model is a good strategy to be adopted for Gaza's long term economic revitalization plans.
2. The immediate opening of the crossing points between Gaza and Israel for the free movement of goods, especially construction and raw materials, is essential to economic revitalization and reconstruction.
3. As indicated in the PFI and PALTRADE joint report, 21% of the industrial establishments can purchase the required machines from the local market. The study suggests supporting those establishments in order for them to be able to purchase machines from local market and resume their operations.
4. Donors are also urged to increase their employment programmes in order to keep the existing skilled workers inside Gaza and mitigate high unemployment rates. UNRWA's private sector support project implemented in the second half of 2009 goes in this direction.

## C. Employment and Livelihoods



The already weakened economy of Gaza has drastically deteriorated since the imposition of the blockade in 2007. Gazans have been severely impacted and unemployment rates have grown dramatically. According to the Palestinian Central Bureau of Statistics (PCBS), in the first quarter of 2009 over 140,000 Palestinians in Gaza, who were willing and able to work, were unemployed, constituting 41.85 % of Gaza's workforce, up from 32.3 % in the second quarter of 2007. Youth aged 20-24 years suffered the highest unemployment rate since 62.2% of them were jobless during the first half of 2009, while youth 15-19 unemployment rate was 57.5% and the unemployment rate of those aged 25-29 was 45.3%.

Meanwhile, women unemployment rates reached 46.4%, i.e. 4.6% higher than the average. This is a direct consequence of the difficult economic circumstances, that have forced more women to enter the labor market.

In the UNDP Social Development Assessment, male and female Gazans alike commented that the gendered effects of very high unemployment among men, in a culture where men traditionally are the sole breadwinners, are dramatic for families and communities. In focus groups, women described their unemployed spouses as "irritable and difficult" and impatient towards their children, whereas mature men in the focus groups expressed thankfulness towards their wives for their resourcefulness at contributing to the family income.

## Situation Analysis

During 2009, however, and in comparison to 2008, significant improvements of employment rates took place. In the fourth quarter of 2009, the number of Palestinians of Gaza willing and able to work while unemployed fell to 120,300 (39.3% of the workforce), compared to 140,000 (41.8% of the workforce) in the first quarter of 2009, and 156,000 in the second half of 2008 (47.5% of the workforce), and 133,913 in the first half of 2008 (but 42.33% of the workforce). The highest unemployment rate was in Khan Younis Governorate of 50.4% while it was 39.1% in Rafah and 38.2 in Gaza city.



Improvements were noted over the year on nearly all segments of private sector activity, including private services, commerce, manufacturing and agriculture (for the last quarter of 2009).

While this is certainly a direct consequence of the rehabilitation and repair activities that have taken place over the year (funded and not funded from donor sources), as well as of the limited revitalization of the Gaza economy induced by the tunnel economy, these factors cannot account alone for the growth in the number of employed people in the Gaza Strip and the decrease of unemployment rates. The PCBS labour survey shows a consistent increase in the number of employees in the Gaza public sector. In addition, externally funded emergency and recovery activities, including job-creation programmes and livelihood support activities have also contributed to these improvements.

## Early Recovery Response

The following table describes the different job-creation programmes and other livelihood support interventions that were implemented by international and national partners in 2009<sup>24</sup>.

Table 33. Job creation and livelihood support interventions in 2009

Job Creation - Cash-for-Work		
Organization	N° of beneficiaries	Total funding (USD)
UNRWA	38,437	34,149,596
UNDP	7,000	2,767,089
Takaful	12,210	2,442,000
ACF	7,050	
OXFAM	4,090	2,396,495
IR-PAL	2,386	1,942,920
COOPI	1,620	
CHF	1,028	
CARE	575	832,160
FAO	400	574,152
PU	305	357,915
STC	na	126,295
<b>Sub-total</b>	<b>75,101</b>	<b>45,588,622</b>
Backyard food production - subsistence farming		
Organization	N° of beneficiaries	Total funding (USD)
CARE	14,135	4,480,200
CRIC	1,543	1,500,000
FAO	1,125	1,402,424
OXFAM	1,336	498,062
FCD	na	500,396
CordAid	160	454,001
PARC	2,000	348,129
SCC	na	270,086
Dev of Pal Farm Assoc.	Na	122,100
ALADA	117	49,000
APHEDA	70	34,000
<b>Sub-total</b>	<b>20,486</b>	<b>9,658,398</b>
Micro-credit		
Organization	N° of beneficiaries	Total funding (USD)
UNRWA	2,399	3,693,600
UNDP/PAPP	672	3,984,300
<b>Sub-total</b>	<b>3,071</b>	<b>7,677,900</b>
<b>Grand Total</b>	<b>98,658</b>	<b>62,924,920</b>

24 Every effort has been exerted to provide an exhaustive table of all employment interventions. However, for the sake of objectivity, no guarantees can be made with regard to the completeness of data provided herein.



The table shows that no less than USD 62,924,920 was invested by partners in 2009 in various job-creation programmes and other emergency livelihoods interventions. These interventions account for a significant part of the changes in unemployment rates observed in 2009. While the numbers of beneficiaries reflected in the table cannot be equated to the number of jobs created and are only indicative of the scale of the interventions, the UNRWA Job-Creation Programme alone generated 2,768,748 workdays in 2009, i.e. more than 9,600 full-time jobs in one year.

Nevertheless, most of the interventions implemented in 2009 focused on immediate provision of short-term jobs, and on emergency livelihoods support to subsistence farmers or poor urban dwellers. The sustainability of these interventions is thus low, and the gains achieved in 2009 will only be maintained if these programmes are not discontinued in the years to come or if they are replaced by more durable interventions. The only major sustainable livelihoods interventions implemented in 2009 were the UNRWA and UNDP micro-finance and credit schemes. In 2009, UNRWA provided 1,623 enterprise loans worth of USD 1.95 million and 776 consumption and housing loans, worth of USD 1.74 million. For its part, UNDP supported 672 poor households under its DEEP programme, for a total investment of USD 3.98 million.

## Needs

The analysis above does not take into consideration the cash assistance and compensation schemes provided in 2009, nor does it reflect the changes in the public sector workforce or the value of the food assistance provided by partners in 2009. It is undeniable that these latter interventions have also generated a level of wealth that has resulted in a greater degree of economic recovery. However, due to the nature of these interventions, an important portion of the progress witnessed in 2009 will be unsustainable, as it essentially depends on aid flows that are likely to falter in 2010 and in subsequent years.

This is particularly true, when one considers that most of the funding provided went for cash assistance and compensation schemes, as well as for short-term employment schemes. While these have contributed to generate a certain level of disposable income, they have essentially supported a demand-driven revitalization of the economy that is not generating sufficient sustainable income opportunities. Moreover, the PCBS Labour Survey also shows that, despite these improvements, real purchasing power has continued to decline, and that employment growth is thus not leading to a decrease of poverty levels. The dilapidated state of the private sector, despite the rehabilitation of industrial entities noted above and the limited recovery of trade and services induced by the tunnel economy and progress in the agricultural sector will remain the main obstacle to sustainable growth and employment creation. In addition, the tunnel economy is affecting the social dynamics of the private sector, a problem that could create tensions in the coming years.

## *Intervention Requirements*

To solve the unemployment problem, the normalization of economic activity through the immediate opening of the crossing points between Gaza and the West Bank and Israel is essential. This will enable the import of raw and construction materials and other production inputs and the export of finished goods and agricultural products to resume and will strongly contribute to solving the unemployment problem, and accordingly, add to the revitalization of the whole economy.



In the meantime, however, the following interventions are needed:

1. Financial support for the Gazan private sector, including local industrial entities, services, micro and small enterprises, through grants to enable them to rehabilitate their facilities, resume operations, develop new businesses and acquire local raw materials and other inputs in order to resume or extend operations and accordingly to create additional job opportunities.
2. Increase opportunities for poor and vulnerable groups to find paid employment, or to start a meaningful livelihood activity. To that aim, the interventions should make available small grants and loans, for job placements (in the private sector and with NGOs) and for livelihood activities, through the Micro Finance Institutions.
3. Maintain, if not increase, the (short-term) employment programmes until durable economic recovery and development can take place.
4. Increase investments in the agricultural sector in view of its traditional labour absorption capacity.
5. Invest in the ICT sector that is currently showing a promising future, in particular under the current circumstances. Given the relatively high level of education, it is estimated that outsourcing and software development have particular potential to attract investments and generate skilled employment in the Gaza Strip. Women and young workers, and workers with disabilities, could be the primary beneficiaries of jobs created in this sector if interventions are carefully planned to target these groups.

## D. Banking and Cash Availability

During 2009, the banking and cash problems faced in Gaza have been exacerbated. Israeli restrictions on cash movements from and to Gaza have toughened and today, the State of Israel has almost totally banned cash transfers into the Gaza Strip.

The functional currencies in Gaza are Israeli Shekels (NIS), the United States Dollar (USD) and the Jordanian Dinar (JD). From 2007 until the end of 2009, there was a shortage of cash available in the banking system in at least one currency. The year 2009 was characterized by the shortage of USD and the plentiful supply of the NIS, which forced the banks to pay their customers using NIS even if the customer's account was in USD or JD. Paying customers in NIS caused many problems between banks and their customers because the exchange rate in the black market, the parallel monetary system, was considerably higher than that of the official rate used by banks.

The shortage of the USD currency is caused mainly by the Israeli ban on the free movement of currencies between Israel and Gaza and between the West Bank and Gaza. In addition, the tunnels between Gaza and Egypt contributed to the aggravation of the USD currency shortage problem since payments for consumable goods bought through tunnels are settled using cash USD.

According to the Palestinian Monetary Authority (PMA), Israel has allowed a total of 450 million shekels inside the Gaza Strip. On the other hand no cash in JD or USD was allowed to enter in or transfer out of Gaza during 2009, while the need for currencies is 6-8 million Jordanian Dinars (JD) and 16-18 million USD for daily tendering.<sup>25</sup>

The currency problems depicted above distorted the Palestinian economy and negatively affected the banking sector and a large percentage of Gaza residents since it created a parallel illegal economy outside the controlled economy and the legal banking system norms. The following consequences were caused by the shortage of USD and the plethora of NIS.

1- Local banks experienced huge losses, which threatened the smaller banks' ability to continue their operations. Losses stemmed from the following:

A- Inability of the banks to serve their customers. Banks are unable to receive NIS currency deposits and to offer USD currency payments since banks are already saturated with NIS cash currency while thirsty for USD cash currency. This situation impeded the local banks from achieving their marketing and financial objectives.

B- Maintaining huge amounts of the NIS cash currency increased the insurance costs and risks faced by banks since the more cash currency banks keep, the higher the insurance premium and the higher the risks; in addition, it deprived the banks from investment revenues from the excess NIS cash funds.

25 Sami Abu Shamalla Internet Report « <http://palestinian.ning.com/profiles/blogs/cash-flow-in-the-gaza-strip>.

C– Shortage of the USD currency disturbed the bank-customer relationship and forced many customers to deal in cash and not through banking system.

D– Banks incur losses on their accounts at the Israeli correspondent banks. Local customers, wishing to transfer money outside, usually deposit money in Gaza banks and the banks transfer outside through their Israeli correspondent bank accounts. Transferring money from the Israeli accounts and not being able to reimburse those accounts (since transferring the physical money is prohibited) leads to bank overdrafts and accordingly Israeli correspondent banks impose interest on the local banks while in effect local banks have significant amounts of NIS currency. Incurring interest while maintaining the actual cash in Gaza has a double negative effect on the local banks financial position although it undoubtedly benefits the Israeli banking system.

- 2 - Residents of Gaza, including needy people who receive humanitarian support, lose the opportunity of getting a higher rate for their dollars compared to the rate offered by money exchanges. This negatively affects their purchasing power. Although residents received the official rate for their dollars, they believe that they lost an opportunity to raise their standard of living in the light of the prevailed recession and slump.
- 3- The Palestinian economy as a whole is negatively affected by the currency shortage. Due to the shortage of currencies available to the banking system, an alternative monetary system is created beyond the legal authorities' control, which might lead to the increase of money laundering and exploitation of residents' savings in risky and uncontrolled investments.

Solving the banking and currency problem requires the following:

1. Lifting the ban on the free movement of currencies from Israel and Gaza and from West bank and Gaza.
2. Opening the crossing points between Gaza and both of Israel and Egypt for free and legal movement of goods and people.
3. Imposing the official exchange rate on the money exchanges which will make all currencies flow through the banking system.







Section

[ D ]



# Governance Sector

- *Local Authorities and Public Administration*
- *Civil Society and CBOs*

## A. Local Authorities & Public Administration

The importance of public Institutions at local and governmental level stems from the fact that they deliver basic services, such as buildings approval and control, slaughtering of animals, local taxation and others. This sub-sector includes governmental and municipal buildings and spaces, municipal buildings, public records, archives, social centers, markets, slaughterhouses, and parks and gardens.

### *Damages*

The Israeli bombardment damaged, either totally or partially, the Palestinian Legislative Council, the Gaza prison, the Government Palace, the Archives building, the General Personnel Council, the Presidential compound and the Ministries of Interior, Justice, and Culture. In addition, a number of municipal facilities were damaged including commercial centers such as markets, slaughterhouses and stores. The attacks on the Palestinian Legislative Council and the Gaza prison were found to have constituted deliberate attacks on civilian objects in violation of the rule of customary international humanitarian law whereby attacks must be strictly limited to military objectives.<sup>1</sup>

Figure 9. Damage to One of the Buildings of the Palestinian Legislative Council<sup>2</sup>



1 Human Rights Council. HUMAN RIGHTS IN PALESTINE AND OTHER OCCUPIED ARAB TERRITORIES. Report of the United Nations Fact-Finding Mission on the Gaza Conflict. 25/9/2009.

2 UNEP, 2009. Environmental Assessment of the Gaza Strip following the escalation of hostilities in December 2008 – January 2009.



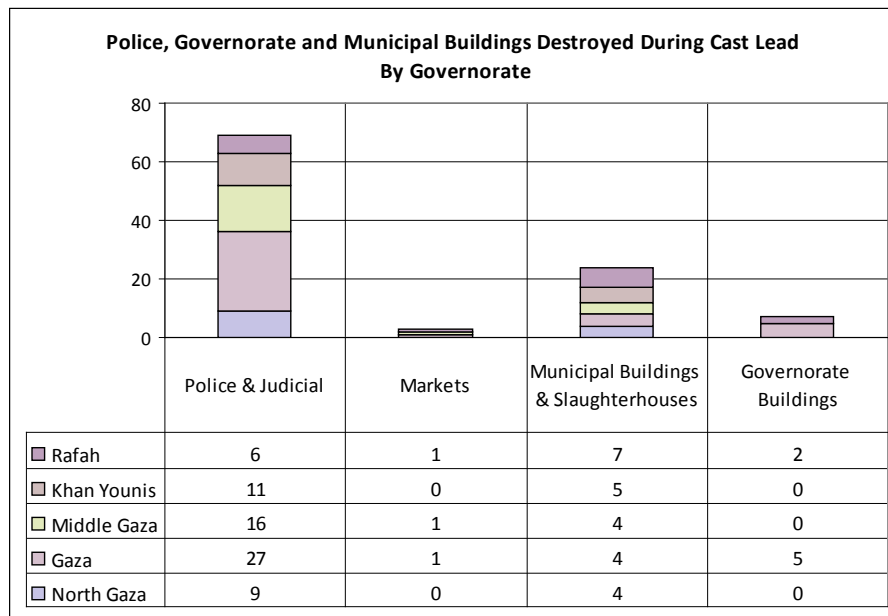
The total number of local authority and public administration buildings destroyed by Cast Lead is 103. 67.0% of all the local authority buildings were police and judicial buildings, 23.3% were municipal buildings and slaughterhouses and 6.8% were governorate buildings. This is shown in the following table.

Table 34. Distribution of Destroyed Local Authority and Public Administration Buildings by Building Type

Buildings Destroyed	Police & Judicial	Markets	Municipal Buildings & Slaughterhouses	Governorate Buildings	Total
#	69	3	24	7	103
%	67.0	2.9	23.3	6.8	100

In addition, the distribution of destroyed buildings by governorate is given in the following figure.

Figure 10. Police, Governorate and Municipal Buildings Destroyed During Cast Lead by Governorate



The damages to the destroyed local authority and public administration are estimated at USD 81,991,832. The governorate of Gaza sustained the highest level of damage, as 36% of the total number of local authority and public administration buildings and 69% of damage costs were inflicted on the governorate of Gaza. This is shown in the following table.

Table 35. Distribution of Destroyed Local Authority and Public Administration Buildings by Governorate

Governorate	#	% of Total Number	Damage Cost (USD)	% of Total Cost
North Gaza	13	13	3,378,130	4
Gaza	37	36	56,603,300	69
Middle Gaza	21	20	7,784,622	9
Khan Younis	16	16	4,566,830	6
Rafah	16	16	9,658,950	12
<b>Total</b>	<b>103</b>	<b>100</b>	<b>81,991,832</b>	<b>100</b>



### **Early Recovery Response**

No donor-funded intervention took place in 2009 for the rehabilitation of public administration buildings. In response to the destruction of police and judicial buildings, the Gaza government has rented alternative premises and performed some rehabilitation of buildings. However, the needs of the sector remain considerable.

### **Needs**

The needs of the local authorities and public administration sub-sector are as given under damages. Needs are estimated at USD 81,991,832 to reconstruct 105 local authority and public administration buildings.

## B. Civil Society and CBOs

The role played by Palestinian CBOs and NGOs in social and economic development is more pronounced than in neighboring countries with comparable levels of development and has always complemented that of government. Compared to public services, services offered by NGOs are more flexible, diversified, innovative and dynamic than similar services provided by government; but NGO interventions are limited in scope.

The number of Palestinian NGOs has increased from approximately 930 in the year 2000 to about 1,500 in 2007, which, in addition to the local need for services provided by CBOs and NGOs, can be attributed to the considerable portion of the international aid that is channeled through these civil society institutions, estimated at about 10% cent of international aid to the oPt.<sup>3</sup>

### *Damages*

Twenty-eight civil Society organizations and CBOs sustained damages to facilities and equipment because of Cast Lead. Damages to facilities and equipment are estimated at USD 5,886,795. The details of the damages by governorate are shown in the following table.

Table 36. Civil Society and CBO Cast Lead Damages

Governorate	Damages (USD)	% of Damages	No of NGOs
North Gaza	789,085	13.4	5
Gaza	1,783,460	30.3	9
Middle Gaza	413,000	7.0	4
Khan Younis	57,250	1.0	2
Rafah	2,844,000	48.3	5
<b>Total</b>	<b>5,886,795</b>	<b>100.0</b>	<b>25</b>

### *Early Recovery Response*

The repercussions of Cast Lead were greater than the operational capacity of NGOs in the Gaza Strip to cope. NGO work has been immensely affected by the siege and closure of borders, shortage of materials and equipment, creation of the buffer zone, inadequate funding, internal political divide, inadequate integrated planning and coordination and partnership among NGOs and governmental institutions.<sup>4</sup>

3 Palestine Economic Policy Research Institute (MAS) and NDC. (2009). Tracking External Donor Funding to Palestinian Non Governmental Organizations in the West Bank and Gaza Strip 1999 -2008.

4 NGO Development Center, March 2009. Rapid Needs Assessment of the NGO Sector to Respond to Repercussions of Israel's Offensive on the Gaza Strip.

Interventions to repair physical damages of Cast Lead have almost been non-existent. To date USD 138,510 were spent on CBO repairs, which represent only 2.3% of total damages to CBOs. Furthermore, around 60% of the interventions were self-repairs, and only 40% (USD 33,000) were from funds external to CBOs. Specific interventions include the following:

1. Repairs to the Gaza Mental Health Programme, at a cost of USD 15,000, funded by the Danish Government, the Swiss Development Agency (SDC), and the Norwegian Aid Agency.
2. The Red Crescent Society was self-repaired, and so were the Association of Deaf Children and the Palestinian Farmers' Association. Associated costs were USD 10,000, 20,000 and 21,500 respectively.
3. The Union of Health Work Committees was repaired using USD 18,000 from Islamic Relief.

## Needs

Needs still remaining after one year of the cessation of the Cast Lead operation comprise reconstruction and repairs of facilities that remain un-repaired or partially repaired. It is estimated that USD 5,748,285 is still needed to reconstruct and repair Civil Society and CBOs. The distribution of needs is given in the following table.

Table 37. Civil Society and CBO Cast Lead Remedial Needs One Year After Cast Lead

Governorate	Needs (USD)	% of Needs	No of NGOs
North Gaza	789,085	13.7	5
Gaza	1,719,200	29.9	5
Middle Gaza	360,000	6.3	1
Khan Younis	36,000	0.6	1
Rafah	2,844,000	49.5	5
<b>Total</b>	<b>5,748,285</b>	<b>100.0</b>	<b>17</b>

The table shows that the governorate of Rafah has the highest needs, considering the value of damages / needs still to be met. Second is the governorate of Gaza, where 29.9% of total reconstruction and repair needs are those of Civil Society and CBOs.





Section

[ E ]



# Natural Resources

- *Water Quality*
- *Land, Soil, and Biodiversity*
- *Rubble Removal and UXOs*
- *Solid Waste Management*

## A. Water Quality



The 378 square-kilometer Strip is underlain by an unconfined aquifer contained in sandstone, known as the coastal aquifer. The aquifer used to have quality freshwater and was shallow, which facilitated the development of agriculture. The Gaza Strip receives an average rainfall of 300 mm per year and up to 46% of the rain that falls recharges the aquifer. This net positive balance of water inflow used to ensure that the aquifer did not experience salt water intrusion. However, the water aquifer was first exposed to over-drafting during the presence of the settlements and has continued due to the incremental growth of the population. Due to over abstraction to cover water demand, there has been a steady drop in water level and a corresponding increase in salinity. No solution has yet been implemented to address the water deficit challenge and the situation continues to deteriorate. It is estimated that the annual recharge from rainfall in the Gaza Strip to the coastal aquifer is about 45 million cubic meters, while abstraction is about 163 million cubic meters per year (CMWU, 2008), which is clearly unsustainable. The coastal aquifer has been under pressure not only from over-abstraction, and the associated increase in salinity, but also from extremely high loads of contamination from the percolation of sewage and irrigation water, which, over the years, has resulted in a gradual increase in the level of Nitrates in abstracted water.

In addition to damages to the wastewater networks, the main water-quality damage sustained during Cast Lead was the targeting of the anaerobic pond no. 3 of the Gaza Wastewater Treatment Plant, which resulted in the spillage of over 100,000 m<sup>3</sup> of wastewater and sludge into adjacent agricultural lands, estimated by UNDP to be 55,000 m<sup>2</sup> in area. However, the water quality challenge is one that predates Cast Lead, and is expected to continue to be a challenge to the Gaza Strip in the years to come



## Needs

Apart from a number of water and sanitation projects that provided marginal improvements to the availability of potable water and to the piping, discharge and treatment of sewage, as referenced in the water and sanitation section above, no projects were implemented to remedy water quality deterioration in 2009. Therefore, needs remain as stated in PNERRP, which lists the two following proposed interventions to improve water quality:

1. Provide emergency monitoring of the quality of water resources and supplies for affected areas in the Gaza Strip, at an estimated cost of USD 0.4 million.
2. Construct the comprehensive wastewater treatment Plant in Khan Younis with relevant infiltration schemes. This is an underfunded project that requires additional USD 41.27 million. The currently available funds provided by the Japanese government are USD 14.83 million to be executed by UNDP.

## B. Land, Soil, and Biodiversity



The destruction of the vegetation cover during Cast Lead has degraded the land in several ways,<sup>1</sup> as detailed below. The cumulative impact of these various forms of degradation is a high cost of restoration and a long-term reduction in agricultural productivity.

1. The mechanical ripping of vegetation has moved and thinned the topsoil cover over large areas. This degradation of the top productive layer will impact future cultivation of the land.
2. The passage of heavy traction vehicles has compacted the soil. The soil will need to be tilled with heavy ploughing machinery to make it suitable for agriculture again. Such machinery is not currently available in the Gaza Strip.
3. The destruction of the vegetation cover will make the land vulnerable to desertification. Destruction of tree cover will also accelerate soil erosion during rainfall.
4. Farmers may not be able to grow the same crops or reforest the damaged areas, because of the general increase in the salinity of the water used for irrigation. Young fruit and olive saplings are less tolerant of salinity, and may not adapt adequately to brackish water, as mature trees did.

1 UNEP, 2009. Environmental Assessment of the Gaza Strip following the escalation of hostilities in December 2008 – January 2009

## Needs

No projects were implemented to remedy the deteriorating land and soil conditions. Therefore, the needs remain as stated in PNERRP, which proposes the decontamination and restoration of affected agricultural areas at an estimated cost of USD 0.33 million. This figure may not be accurate as further investigation is needed to comprehensively assess the sector and estimate ongoing deterioration over the last year.

## C. Rubble Removal and UXOs

The most obvious impact of Cast Lead is the large quantity of demolition debris that was generated in the Gaza Strip. Rubble removal in the immediate aftermath of Cast Lead was characterized by the lack of official direction regarding storage locations and a random depositing of rubble removed from access roads and residential and business areas along roadsides and in vacant lots. UNDP, the key agency carrying out rubble removal reports around 600,000 Tons of rubble in the Gaza Strip, with 15,000 homes having been damaged or destroyed and extensive damage to factories located on the northern and eastern edges of the Gaza Strip.<sup>2</sup>



<sup>2</sup> Disaster Waste Recovery. Gaza Analysis Mission. 9<sup>th</sup> to 17<sup>th</sup> April, 2009. Prepared by Gary Morris – Iveson.

Table 38. Quantities of Construction Debris in the Gaza Strip by Governorate<sup>3</sup>

Area	Estimated quantity of rubble (tons)
Gaza City	216,571
North Area	158,606
Middle Area	58,850
Khan Yunis	54,068
Rafah	100,541
<b>Total</b>	<b>588,637</b>

The population of Gaza has been put at a higher risk because of Cast Lead due to a number of factors, which include the presence of unexploded ordnance (UXO) and other hazardous materials. According to UNICEF, since the Cast Lead ceasefire began on 18 January 2009, there have been a total of twelve people killed (average age 17.5 years) from UXOs, with 50% (six) of these fatalities being children. Twenty three people have been injured, four of whom were children.<sup>4</sup> The main threats appear to be UXOs, estimated at 10% of total munitions used, anti-tank mines used occasionally as bolt charges to destroy buildings and white phosphorus.<sup>5</sup>

### Early Recovery Response

Significant progress has been made with regard to rubble removal in the northern parts of the Gaza Strip. By early March 2010, 325,350 tons of rubble had been collected and removed by a number of agencies, which are UNDP (with funds from CIDA (Gaza), SIDA (North)), CHF, UNRWA, Local Authorities and MAG (through EoD teams to deal with ERW), with UNDP taking the lead role, followed by UNRWA. The amount of rubble removed thus far constitutes around 55% of all rubble generated in Cast Lead, according to UNDP estimates of the amount of rubble (588, 683 tons). Other activities related to rubble removal and recycling have been identified, as given below. <sup>6</sup> The amounts of rubble removed in these activities, however, remain undetermined.

Table 39. Rubble Removal Activities Additional to UNDP, UNRWA and Local Authorities

Agency	Project	Location
<b>NRC</b>	Small-scale rubble collection to be sent to the UNDP crusher project	Rafah and Khan Yunis
<b>Mercy Corps</b>	Collection from 400 damaged homes through CfW. No current plans to transport rubble after collection.	Southern Gaza Strip
<b>Islamic Relief</b>	Completed rubble collection project in March 2009 <sup>8</sup> aimed at improving access to residents in demolished residential areas	North Gaza

3 Source: UNDP/PAPP May 2009.

4 OCHA. The humanitarian impact of two years of blockade on the Gaza Strip. August 2009.

5 Disaster Waste Recovery. Gaza Analysis Mission. 9<sup>th</sup> to 17<sup>th</sup> April, 2009. Prepared by Gary Morris – Iveson.

6 Ibid.

It is also important to note that to date; a total of 20 tons of hazardous asbestos has been removed and stored properly.

numerous small-scale privately-owned rubble crushing plants are currently operating in the Gaza Strip. The plants provide livelihood opportunities to a growing number of Gazans and have enabled the restarting of construction businesses, albeit to a limited extent. Crushed rubble is used for the production of interlocks and concrete blocks that are used for the repair of houses. Needless to say that there is an apparent local need for standard building material substitutes to respond to the blockade restriction on the delivery of building materials in the Gaza Strip. This can be attributed to the reliance of these projects on equipment and vehicles not currently available in the Gaza Strip due to the blockade.

### ***Needs***

No additional funding is needed to meet Cast Lead rubble removal needs. Rubble removal from Middle and Southern governorates will start in the second quarter of 2010 and is expected to be finished by the end of the first half of 2010. Crushing operations are likely to continue until the end of 2010.

## D. Solid Waste Management



Solid Waste Management, to include management of household, medical business, commercial and manufacturing waste, has always been a well recognized environmental challenge in the Gaza Strip, even before Operation Cast Lead. Attempts have been made in the past to address this issue and there have been some improvements, but the general situation remains far from satisfactory.

Currently, the main actors involved in SMW in the Gaza Strip are as given below.<sup>7</sup> The municipalities and UNRWA shoulder the significant part of SMW responsibilities in the Gaza Strip.

Table 40. Main Actors in SWM in the Gaza Strip

Agency	Activity
<b>Municipality of Gaza</b>	150 municipal donkey carts and 150 donkey carts provided by an Italian NGO, in addition to vehicles for community collection and transfer to the landfill
<b>SWM Council of Northern Gaza (Beit Hanoun, Beit Lahya and Jabalya)</b>	The council reports collection of household waste, benefitting 200,000 using roadside skips and vehicular transfer to the landfill.
<b>Municipality of Rafah</b>	A small number of vehicles run community collection, which covers less than 50% of households. The municipality also uses house-to-house collection, through contracts with small and micro-scale private sector contractors.
<b>Municipality of Khan Younis</b>	A small number of vehicles run community collection, and cover less than 50% of households.
<b>UNRWA</b>	Collects waste from camps under its mandate, to include the Gaza Middle Area camps, and other camps within urban centers in the Gaza Strip, such as Shati and Jabalya camps.

Cast Lead has complicated an already inadequate solid waste management system, as follows:

1. Damage to collection vehicles, the lack of spare parts due to the blockade, the destruction of roads and access routes, and the lack of access to landfill sites.
2. The regular collection of waste all but ceased as the movements of people and vehicles were restricted across the Gaza Strip. As a consequence, many municipalities had to resort to measures such as setting fire to accumulated waste or opening new dumpsites, including previously closed landfills, as temporary storage areas.
3. Waste could not be segregated as incinerators did not function due to electricity shortages. All landfills thus indiscriminately received hazardous materials such as healthcare waste.
4. Finally, maintenance of existing landfills was severely impaired during the period, and standard practices such as covering and grading could not take place.

7 Ibid.

While the quantity of waste, with the exception of demolition waste resulting from Israeli bombardment of buildings all over the Gaza Strip, appear to remain essentially the same compared to pre-war levels, Cast Lead has further stressed SMW systems that had already been under-resourced before the war.<sup>8</sup> An interesting development, at least in the city of Gaza, has been the introduction and expansion of the use of donkey carts to collect domestic waste from households.<sup>9</sup>

Landfills appear to constitute a major challenge to SMW in the Gaza Strip, due to limited land availability for use in landfilling and to uncontrolled landfilling practices<sup>10</sup>. The only GTZ-engineered landfill in the Gaza Strip, which is located at Juhur ad Dik to the south of Gaza city has limited capacity, reported to be less than 2 years, but more importantly, is within what Israel has come to consider its extended border buffer zone. As such, it is subject to sporadic closures. General landfill issues include:

1. location (too close to communities).
2. geology (located over very permeable sand).
3. construction (no protective layers below); and
4. controls (entry, scavengers, animals, air quality monitoring, etc.).

Furthermore, recycling and composting appear very limited in scope. Recycling appears to be limited to the recycling of thermoplastics, namely medium density PE, under the coordination of the Palestinian Federation of Industries.<sup>11</sup> Local plastic manufacturers have been forced to recycle plastics in response to the curtailment of raw material imports through the crossing points under Israeli control. Composting, despite the apparent local need to circumvent blockade restrictions on importing fertilizers and the limited land available for landfilling, appears to be very limited. Local know-how is however available, and a local NGO<sup>12</sup> has carried out a number of small composting projects in the southern parts of the Gaza Strip (Khan Younis and Rafah).

### ***Hazardous Healthcare Waste (HHCW)***

WHO defines HHCW as “waste generated by hospitals, laboratories, doctors’ surgeries and any other facility where health services to humans or animals are delivered.” A hazardous healthcare waste management plan appears to govern the collection of hazardous waste from the key hospitals in the Gaza Strip under normal conditions. However, the same cannot be said of hazardous waste generated in the extensive network of PHC clinics distributed all over the Gaza Strip. According to the WHO, there are some 2,100 hospital beds in the Gaza Strip which would be expected to have generated some 60 tons waste during the 22 days of the conflict.

8 Ibid.

9 An Italian NGO, Cooperazione Internazionale (COOPI) provided financial support to the Municipality of Gaza to expand the use of donkey cart to collect waste.

10 During UNEP’s mission to the Gaza Strip in January 2009, all the landfills visited by the UNEP team showed evidence that asbestos had been dumped in them, though it is impossible to attribute this Cast Lead alone. As stated in UNEP’s Post Conflict Environmental Assessment, and more worryingly, some locations tested positive for crocidolite (blue asbestos), which is generally considered to be 500 times more carcinogenic than chrysotile (white asbestos).

11 Ibid.

12 Palestinian Friends of the Environment (PEF).

This would include approximately 48 tons of municipal solid waste, 10 tons of infectious/pathogenic waste and 2 tons of hazardous waste made up of blood, body fluids, etc. There are 3 hazardous waste incineration units in the Gaza Strip, but, in addition to the fact that they were inoperable during Cast Lead due to electricity blackouts, the standards of operation of these units have not been ascertained.<sup>13</sup> Hazardous healthcare waste could not be transported to regular landfills during Cast Lead as municipal collection services had collapsed. Despite this, much of the backlog appears to have been cleared through incineration and disposal to landfills. UNEP visits to landfills revealed evidence of HHCW in the waste stream. In all cases, the waste was not disposed of in separate areas, or in marked or specially colored plastic bags, but was openly accessible. Management of HHCW is a serious environmental issue in the Gaza Strip that needs to be remedied as a matter of urgency.

### ***Early Recovery Response***

No PNERRP projects were implemented with regard to SWM.<sup>14</sup> Needs according to PNERRP are:

1. Expansion and rehabilitation of existing landfills. The cost of this intervention is estimated to be USD 4.0 million.
2. Enhancement of hazardous healthcare waste management. The cost of this intervention is estimated to be USD 3.0 million.

Therefore, SWM needs are estimated at USD 7.0 million.

13 Disaster Waste Recovery. Gaza Analysis Mission. 9<sup>th</sup> to 17<sup>th</sup> April, 2009. Prepared by Gary Morris – Iveson.

14 Some job creation activities were carried out in 2009, by UNRWA, JCP – UNDP, COOPI and others, related to the transfer of solid waste to solid waste transfer stations, as well as road sweeping. As important as those project might have been, they did not address the needs as expressed in PNERRP.





# Facts and Figures

# 1. Summary of Recovery and Reconstruction Interventions

Table 41. Cast Lead Interventions<sup>1</sup> and Needs One Year After

Rehabilitation and Repairs			
PNERRP Sub-Sector	Interventions (USD)	Remaining Needs (USD)	% of Coverage
Health <sup>2</sup>	5,792,458	214,095	96.4%
Education	5,630,340	26,509,182	17.5%
Water and Sanitation	4,693,300	1,310,000	78.2%
Housing	51,133,370	184,341,829	21.7%
Energy	5,772,500	4,640,000	55.4%
Transportation	-	15,847,673	0.0%
Telecommunications	1,583,941	-	100.0%
Agriculture	33,282,511	101,053,300	24.8%
Private sector (non-agri)	56,601,650	83,155,510	40.5%
Public governance	-	81,991,832	0.0%
Civil society and CBOs	138,510	5,748,285	0.2%
Water quality	-	15,400,000	0.0%
Land and Soil	-	330,000	0.0%
Rubble removal and UXOs	8,800,000	-	100.0%
Solid Waste Management	-	7,000,000	0.0%
<b>Total</b>	<b>173,303,921</b>	<b>527,212,036</b>	<b>24.7%</b>

Table 42. Cast Lead Other Recovery Interventions One Year After

Cash-based and Other Interventions	
PNERRP Sub-Sector	Interventions (USD)
Social protection and safety nets	53,617,888
Housing	23,826,192
Employment and livelihoods	62,924,920
Psychosocial support	14,450,045
<b>Total</b>	<b>154,819,045</b>

<sup>1</sup> Completed and underway

<sup>2</sup> This includes the 2.8 million contribution from AFD for Al-Quds hospital

## 2. Basic services

### A- Health

- 1. Cast Lead:** 16 health workers killed, 25 injured, 29 ambulances destroyed, 40% chronically ill not treated. 40 PHCs out of 60 (USD 341,930) and 12 Hospitals out of 24 (USD 4,262,000) damaged.
- 2. Post Cast Lead:** 33 PHCs fully and 5 partially repaired, 12 hospitals repaired and repairs are underway. Services delivered match, and to some extent, exceed those of 2008.
- 3. Major actors:** Qatar Red Crescent (9 hospitals and most PHCs – USD 2 million), Mercy Malaysia (Al-Wafa hospitals – USD 550,000), AFD (Al-Quds – USD 2.8 million), Islamic Relief.

### B- Education

- 1. Prior to Cast Lead:** 451,704 pupils, 637 schools, 53% MOEHE (383), 44% UNRWA (221), 3% private (33). 88% UNRWA and 82% MOEHE schools in shift system due to overcrowding
- 2. Cast Lead:** 250 students, 15 teachers killed, 866 students, 19 teachers wounded. 217 schools, 60 kindergartens and all 8 universities affected, including 18 facilities totally destroyed (8 gov., 2 private schools (American School of Gaza), 8 kindergartens). Damages to universities account for 77% of the total damages (USD 25 million out of USD 32 million).

Table 43. Damages and Repairs to the Educational Facilities of the Gaza Strip

Educational Facility	Responsible Party	Estimated Cost of Damage (USD)	% of Total Damages	Cost of Repaired Items (USD)	% of Total Repairs	Unrepaired damage (USD)	% of Repairs to Damages
Schools	Government	3,438,000	11	2,058,000	37	1,380,000	60
	UNRWA	729,397	2	61,175	1	668,222	8
	Private	2,889,000	9	52,000	1	2,837,000	2
Universities		24,828,125	77	3,334,665	59	21,541,460	13
Kindergartens		207,000	1	124,500	2	82,500	60
<b>Total</b>		<b>32,091,522</b>	<b>100</b>	<b>5,630,340</b>	<b>100</b>	<b>26,509,182</b>	<b>17.5</b>

- 3. Post Cast Lead:** 33 schools fully repaired, including 29 MOEHE schools with major damages. None of the destroyed private schools (including American School) repaired. UNRWA schools, only partial repairs were implemented. 184 schools need repairs. However, only USD 11,500 is needed per school. 4 universities out of 8 repaired. Major repairs (Islamic University – USD 16 million) pending due to unavailability of materials.
- 4. Major actors:** Islamic Relief, Qatar Charity, private donations, Human Appeal International (UAE), Muslim Hands, World Assembly of Muslim Youth.

## C- Water and Sanitation

1. **Cast Lead:** 50,000 people with no access to potable water, 200,000 with intermittent access. 11 wells destroyed, 4 reservoirs, 20 km of water pipes, sewage networks and pumping stations in 4 locations. North Gaza Treatment Plant damaged, 100,000 m<sup>3</sup> of sewage spill in Gaza Sewage Treatment Plant, 500,000 m<sup>3</sup> of sewage spill after destruction of sewage pipeline. Estimated cost of damages: USD 6 million.

Table 44. Damages and Repairs to Water and Sanitation Facilities of the Gaza Strip

	Damage estimate (USD)	Interventions (USD)	Remaining needs (USD)
Water Wells	1,007,000	416,500.00	0
Water Reservoirs			600,000
Water House Connections and water networks, Waste Water Networks plus contingency	4,647,740	3,963,850.00	710,000
			0
Water and Wastewater Facilities	134,000	129,000.00	0
North Gaza Emergency Sewage Treatment Plant (NGEST)	183,950	183,950.00	0
	<b>5,972,690</b>	<b>4,693,300</b>	<b>1,310,000</b>

2. **Post Cast Lead:** All damages repaired, except Jabalya reservoir (USD 500,000) and water networks. Only sector for which Israeli government allowed some materials and spare parts that enabled repairs to be implemented
3. **Main actors:** Local authorities, UNICEF, ICRC, OXFAM, ACF, GCV, Care, Save the Children, Islamic Relief, Qatar Charity, Muslim Hands.

## D- Housing

1. **Cast Lead:** 3,425 houses totally destroyed, 2,843 major damages, 54,800 minor damages. Cost: USD 235 million. 61,000 families affected, 6,200 displaced.
2. **UNRWA – UNDP cash assistance and compensation scheme:** USD 74,959,562. No intervention to repair or reconstruct houses, except Al-Rahma Charity and UNRWA's conditional compensation scheme.
3. **75.6% of affected households have implemented repairs.** 60% of the damages repaired. 27% of houses with major damages and 37% of houses with minor damages repaired; 48% of houses with major damages and 43% of houses with minor damages partially repaired. Repairs implemented only represent 22% of the total reconstruction and repair needed.

## 3. Livelihoods and the Economy

### A- Agriculture

1. **Cast Lead:** 46% of agricultural land damaged or inaccessible (buffer zone). 2,000 ha (17% of arable land) severely damaged, 17% of orchards destroyed, 9% of open fields. 4,000 cattle and sheep and 1,000,000 chickens killed. Major damages to supporting infrastructure. Total damages estimated to USD 180 million.
2. **Post Cast Lead:** 9,000 donums of damaged land rehabilitated. Live animal stocks partly replenished. 130 wells, 290 km of agricultural roads, 2,238 donums of greenhouses rehabilitated. Total funding: USD 33,695,600.
3. **However,** most of the support constituted by agricultural inputs to the detriment of infrastructure rehabilitation. 15,000 of orchards to be replanted, worth of USD 40,000,000 of poultry and livestock farms, totally destroyed greenhouses, storing and irrigation water infrastructure to be rehabilitated. Total remaining needs: USD 100 million.

### B- Private Sector

1. **Second Intifada:** 3,750 industrial establishments (90%) closed, 33,000 employees laid off. December 2008: 117 industrial establishments functioning.
2. **Cast Lead:** 1,165 private sector establishments destroyed by Cast Lead, 30% industrial.
3. **Post-Cast Lead:** 54% of damaged and destroyed establishments rehabilitated. 97% of them succeed to sustain their operations. 1,170 establishments operating, albeit at limited capacity. Recovery of the sector without external support.

### C- Livelihoods and Employment

1. **Unemployment 2007:** 32.3%; unemployment 2009 (1<sup>st</sup> quarter): 41.5%. Youth: 62.6%
2. **Significant improvements noticed in 2009, for all segments of the private sector:** 120,300 unemployed (39.3%) last quarter 2009, 140,000 unemployed in 1<sup>st</sup> quarter 2009, 156,000 2<sup>nd</sup> half 2008.
3. **Economic “recovery” supported by:** i) tunnel economy, ii) repair activities, iii) cash-based programmes and cash-for-work schemes and iv) public sector expansion. More than USD 60 million worth of cash-for-work and emergency livelihood support provided in 2009. UNRWA provided the equivalent of 9,600 full-time jobs in 2009.
4. **Economic recovery largely unsustainable.** High dependency on external funding that will falter in 2010;

### D- Social Safety Nets

1. 1.1 million Gazans are recipients of food aid from UNRWA and WFP, in addition to NFIs. 60% of Gaza population find it impossible to provide USD 250 to respond to emergency needs and can only steadfast on a day-by-day basis at best.
2. USD 53,617,888 worth of safety nets interventions were implemented by the EU via MOLSA (63.9%), UNRWA (24.8%), the WB (6.8%) and the (Gaza) Ministry of Awqaf (4.5%).

## 4. Utilities Infrastructure

### *A- Energy*

1. **Prior to Cast Lead:** 30% electricity deficit. 3-4 days of blackout per week. Cast Lead: USD 10,412,500 damages to the electricity network.
2. Partial repairs implemented by GEDCO immediately after Cast Lead, for a total value of USD 4,640,000, utilizing existing stocks. Totally destroyed parts of the network un-repaired. Repairs supported by Norway, EU, WB, IDB.
3. 15-20% of Gaza disconnected from the network, 25% partly disconnected, 60% receive intermittent electricity. Spare parts stocks at zero level or in short supply.

### *B- Transportation*

1. **No road construction project since the blockade.** Deterioration of transport infrastructure.
2. **Cast Lead damages to roads and bridges:** USD 15 million.
3. **No interventions (or anecdotal) reported in 2009.** Lack of funding and access constraints.

### *C- Telecommunications*

1. **Prior to Cast Lead:** 113,000 landlines, 550,000 mobile subscribers. Post Cast Lead: 103,000 landlines, 220,000 mobile subscribers.
2. **Cast Lead damages to telecommunications:** USD 1.5 million.
3. Repairs implemented by PALTEL and JAWWAL using (depleting) available stocks.

## 5. Governance and civil society

### *A- Local Authorities and Public Administration*

1. **Cast Lead:** Palestinian Legislative Council building, Government Palace, Archives Building, GPC, Presidential compound, Ministries of Interior, Justice and Culture, destroyed. In addition, 103 local authorities building (67% police and judiciary, 23% municipal, 7% regional) targeted. USD 82 million worth of damages.
2. **Post Cast Lead:** no support received in the sector. Anecdotal rehabilitation. Relocation of services.

### *Civil Society*

1. **Cast Lead:** 28 civil society buildings damaged and destroyed. USD 5.9 million of damages.
2. **Post Cast Lead:** Anecdotal rehabilitation implemented.



# ONE

YEAR AFTER



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