Post War & Disaster Reconstruction Challenges

West Bank & Gaza - Palestine
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Video (3 minutes)

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The Occupied Territories are three separate areas: the Gaza Strip, which it has held under blockade for more than a decade; the West Bank, where it exercises full military control; and East Jerusalem, which it has annexed to its sovereign territory.

The West Bank, including East Jerusalem, has a land area of **5,640 km²** with over **3.0 Million inhabitants**. Only access from WB is to Israel, and Jordan. the conflict between Palestinians and Israel has led to the Intifada and the incursion of Israeli Military into the Main Cities and Towns and the closure of the West Bank with **checkpoints. 59 permanent checkpoints** located deep within the West Bank which are considered points of entry into Israel.

These checkpoints are always staffed, and inspections are rigorous.
The Gaza Strip with a about **365 km square** with over **2.0 Million inhabitants**. The Gaza Strip has been under blockade by Israel since 2007. There three main access to Gaza with high restriction of entry and exist.

The first Access is from **Eretz** which is designated for permitted civilians from Israel and the West Bank and Gaza Residents, **Rafah Access** which is designated for Gaza Resident to enter and exist Egypt, and the third access **Kerem Abu Salem** which is designated for entry of Goods. The restricted blockade, the conflict between Palestinians and Israel has led to **5 wars** since 2007.
2008-2009 War

- Damage assessment by the World Health Organization, Out of the 122 health facilities assessed, 15 of Gaza's 27 hospitals and 41 Primary Health Care centers suffered damage,

- UNDP estimates that 14,000 homes, 68 government buildings, and 31 non-governmental organization offices (NGOs) suffered damage.

- About 600,000 tons of concrete rubble needing to be removed. Cost of Damages was estimated to be almost $2 billion.

- Displacement of tens of thousands of people, approximately 20,000 people remained displaced one year after the ceasefire.

- Cost of Damages was estimated to be almost $2 billion.
2012 War
- The Gaza War, which lasted from July 8 until August 26, 2012. According to the United Nations Office for the Coordination of Humanitarian Affairs, Over 8,000 homes in Gaza were demolished or severely damaged.

2014 War
- The Gaza War, lasting for 51 days in 2014. According to the United Nations Office for the Coordination of Humanitarian Affairs, Over 18,000 homes in Gaza were demolished or severely damaged.
DAMAGE ASSESSMENTS

2021 War

- The War lasted 11 days and resulted in 1,800 were destroyed, 16,800 other housing partially damaged.
- 5 large residential towers have been completely destroyed.
- Government buildings, a police headquarters and other service facilities have been destroyed.
- 66 schools, 3 mosques destroyed, and 40 mosques and 1 church has also sustained minor damages.
DAMAGE ASSESSMENTS

2021 War

- 120,000 Palestinians displaced from their homes.
- Gaza’s largest bookstore destroyed.
- Gaza’s desalinization plant disabled.
- Gaza’s infrastructure including Power, electricity, sewage pipes, and 50% of the water pipeline network destroyed.
- 800,000 Gazans lacked access to clean drinking water, and were receiving five hours of electricity daily.
2022 War

- The Gaza War which lasted 3 days resulted in Power Plant, shut down for 2 days.
- 1,761 housing units have sustained damages. 18 housing units were destroyed and 68 severely damaged. In addition, and
- 1,675 housing units sustained moderate to minor damage and
- 450 Palestinians have been internally displaced, and 8,500 people have been impacted by the damages.
IMAGES OF TYPE OF DESTRUCTION
Engineering Challenges

**Structural Parts Affected in buildings:**
- Foundations and Ground Beams
- Columns & Column Necks
- Roofs

**Architectural Parts Affected in Building**
- Windows
- Doors
- Interior finishes
- Electrical and Mechanical Installation

**Infrastructure**
- Power
- Water
- Wastewaters
- Roads
Engineering Challenges

Checking Damages After Stoppage of the War

• In the case of damaged columns, the area carried by the damaged column is to be reinforced.

• In the case of Damaged floor ceilings and of damage the bearing corridors, the areas are to be reinforcement.

• In the case of Damage from bombing the bottom of the buildings, the foundation and ground beams and column necks must be checked, for Reinforcement if possible.
Engineering Challenges

Checking Damages After Stoppage of the War

- In the case of damaged Interior finished works - doors, windows, kitchens, bathrooms, Electrical and Mechanical Installation, they should be identified and quantified for each house or apartment.

- In the case of Damaged infrastructure; Power, Water Wastewater and Road, should be Immediately identified restoration were possible should be done Immediately.
The United Nations Development Program worked with the local private sector to remove some 2.5 million metric tons of rubble left behind from wars in 2009, 2012 and 2014.

The 11 days of hostilities in 2021 generated (275,000 tons) of rubble. It was estimated that 27,500 working day will be needed for removal of these rubble.
The residential, public, commercial, and industrial buildings that have been totally or severely damaged and deemed unsafe will be dismantled, and the debris from major roads and public areas will be cleared. The rubble, once safely removed, will be transported to the landfill for ‘non-concrete debris, or to the designated crushing site to be recycled.

The challenge, in regulating the use of recycled rubble in construction
Safety Challenges

**Human & Health Safety**
Lack of food, Water, and Shelter, Injuries, diseases, Mental Health, disabilities and contamination of Environment, Which will result in Direct and Indirect Death

**Personnel Safety**
Some of the damaged sites contain asbestos and other toxic materials, while others may contain Explosives and Unexploded Objects.

**Access Safety**
During removal of rubble will allow people to regain access to basic services, reduce the risk of buildings collapsing on them, removal of rubble, blocking roads and pavements
International financial support will be made possible under the following three prerequisites:

▪ the GNC takes effective control in Gaza, including “full control over the Gaza crossings, customs authorities, and civil service reform;”

▪ a robust and efficient monitoring mechanism is set up “to prevent aid being used for non-intended purposes;

▪ and border crossings are opened between Israel and Gaza “to allow Palestinian entrepreneurs to trade between Gaza and the West Bank, and to access world markets.”
Hence !!

- The fragile nature of Fatah-Hamas reconciliation agreement after years of mistrust and animosity, the open conflict between Israel and Hamas despite the open-ended ceasefire, and the political uncertainty.

- And the reintegration of public institutions between Gaza and the West Bank, the control of border crossings with Israel and Egypt, and the implementation of the PA plan for Gaza’s reconstruction.

- And the extent to which the Israeli government will be willing to fully end its blockade on the strip includes removing Israeli-imposed buffer zones 35 percent of its agricultural land, and allowing full access to Gaza’s territorial waters.
These Are highly sticking questions threatening Palestinian reconciliation and jeopardizing the prospects of getting Gaza reconstruction project off the ground. There is good reason to believe that, apart from providing badly needed humanitarian relief aid, the process of rebuilding war(s)-ravaged Gaza Always stop before it even starts.
1. The UN, Israel, and the PA established the Gaza Reconstruction Mechanism (GRM) which was meant to allow for a rebuilding of Gaza without directly working with Hamas.

2. However, the mechanism proved to be ineffective and slow because:

   - it has failed to include the Gaza governing bodies or civil society organizations.
   - it allows Israel to use its veto power through a case-by-case approval of the entry of construction materials in Gaza, including pipes, machinery such as generators.
   - GRM allow the entry of large amounts of construction materials but Rebar and Cement excluded from the GRM.

3. The most bizarre and outrageous outcome of the GRM, according to experts, is the fact that at least 65 percent of all materials have been purchased from Israeli companies, meaning that Israel has actually greatly benefited from its destruction of Gaza.
The Gaza Reconstruction and Materials Monitoring System (GRAMMS) is an advanced online real-time information management system. The strict monitoring emanates from Israeli fears that some materials – for example, pipes – may have a “dual-use” for building tunnels or be used for other military purposes.

“OXFAM has reported that under the current circumstances, it would take more than a century for Gaza to be fully restored.”

Impact on Consultants

CHALLENGES FOR RECONSTRUCTION
CHALLENGES FOR RECONSTRUCTION

Impact On Consultants

- In the case of damaged Consulting Engineering Offices.
- In the case of damaged Contractor’s offices and Equipment.
- In the case of displaced consultant’s Staff.
- In the Case of People and Qualified Professionals Fleeing Outside the Country.
- In the case of loss of lives from Consultant’s Staff.
- In the case of damaged Governments and Major Institution Buildings.
The increase in Consulting Work is Estimated between 15% to 18% per year But

- In year 2002 a drop of 40% in consulting Work Due to the Intifada during the incursion and closure of the West Bank.

- From 2006 through 2009 the post War of 2008-2009 War and the conflict between Fatah and Hamas, the Consulting Work increase by only 6% over 3 years, a 2% increase per year which is way below the average.
In two years (2011-2012) an increase of consulting work by 2.5% instead of 18% due to the 2012 War.

In two years (2014-2015) an increase of consulting work by 2% instead of 18% due to the 51 day war in 2014.

Restriction on movement of People and Goods. Israeli restrictions impose a life of constant uncertainty, making it difficult to perform everyday tasks or make plans, and frustrates the development of a stable economy.
Consulting Companies Are Forced to Closed their Offices.
Consulting Companies Are Forced to Axed their Staff.
Consulting Companies Are Forced to Relocate their Staff.
Consulting Companies Are forced to stop business in one of the Countries because of Embargo on the aggressor.
Consultant Are forced to follow the political well of their government and abide by the enforced Sanctions.
Consulting Companies may forced to suspend all their operation and focuses on the safety of their staff.

Impact On Consultants

CHALLENGES FOR RECONSTRUCTION
CONCLUSIONS

- Conflicts, Short or prolonged wars create destruction & Disaster followed by complicated post war reconstruction efforts.

- The Range and magnitude of destruction are variable and include direct and indirect death, Displacement of people, destruction of private homes, public buildings, major infrastructure, commercial buildings and health care facilities.

- There are many challenges we face in the post war reconstruction, including Engineering consultancy, Safety, Financial, logistical and political, All these challenges jeopardize the Reconstruction efforts.

- Wars impact all parts of lives and Business and there is NO WINNER.
THANK YOU...