

Crisis Assessment Series

SYRIA



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Context

The Syrian crisis has devastated the country and set it back decades in terms of development. The Syria Information and Research Initiative (SIRI) was designed to respond to the main challenges represented by the Syrian conflict and offer an innovative solution to the problem of coordinating humanitarian and developmental efforts across World Bank Group (WBG) and other development partners. As part of this initiative, a damage assessment was conducted in the Syrian city of Dar'a. Following this assessment the World Bank's Middle East and North Africa (MENA) regional team requested GFDRR support to conduct a damage and needs assessment for six Syrian cities.

The objective of this assessment was to estimate the effects of the crisis on the population, infrastructure, and service delivery, and understand the preliminary recovery needs.

Total damages for the six cities range between
US\$5,962
to **US\$7,287**
million

GFDRR's role

The ongoing conflict in Syria posed a unique challenge where the damage assessment had to be conducted without having any presence on the ground. Therefore, the GFDRR assessment team developed an innovative methodology to assess damages in a remote manner using satellite imagery analysis, social media analytics and data mining. Social media analytics played a major role in this assessment to validate the damage information gathered from satellite imagery analysis. Market expertise was solicited to do this analysis under the guidance of GFDRR and the World Bank sector teams. The GFDRR team also developed an accuracy rating metrics as part of this assessment to get a better understanding of the confidence level of the final damage data.

The GFDRR team led the project with the key objective to be the silo breakers eliciting a multitude of sector specialists from the World Bank Global Practices. These specialists contributed to the assessment with background context, data verification, analysis of damage characterization, impact on service delivery, and sector recommendations.



Key Results

- 1 A preliminary report that identifies:
 - (1) quantitative range of estimates of the physical damages to key public and private assets in the selected sectors including: housing; education; health; water and sanitation; energy; and transportation; for the cities of Dar'a; Aleppo; Homs; Hama; Idlib, and; Latakia; (2) the impact of the crisis on associated service delivery; (3) key elements of an enabling environment and infrastructure needs to motivate Internally Displaced Persons (IDPs) return to their place of origin.
- 2 A GIS based data visualization and sharing platform was created to facilitate data analysis and sharing. The platform allowed the teams to convert the large sector data sets into easily understandable visuals over the base map of each city.
- 3 The work conducted in the Syria DNA activity provided an internal watching brief to the WBG leadership. It positions the WBG to be prepared to mobilize quickly in the event that hostilities reduce to operable developmental activity levels. An update was carried out establishing new damage data reflecting the current status of the assessed cities as of March 2016.
- 4 GFDRR leveraged its relationship with its partners which will also prove valuable in obtaining a situation awareness as the conflict evolves, and provide insight on areas that require prioritization in a post-conflict recovery scenario.
- 5 The assessment techniques and innovative methodology pioneered by this activity informed a subsequent Iraq damage appraisal that was conducted through GFDRR support in a record time of ten days.



Aleppo, Syria. Photo credit: © Richard Harvey | Dreamstime.com

GFDRR developed an innovative methodology to assess Syria's crisis damages remotely using satellite imagery and social media analytics.

TOTAL VALUE OF DAMAGES BY SECTOR FOR SIX CITIES (US\$ M as of March 2016)*

Sector	LOW ESTIMATE	HIGH ESTIMATE
Education	176	215
Energy	1,182	1,445
Health	321	392
Housing	4,056	4,958
Roads	128	156
WATSAN	99	121
Total	5,962	7,287

* Damage estimates of physical infrastructure using historical unit cost. Reconstruction needs would be higher due to inflation, security premium, scarcity of material/labor, etc.

Aleppo is the most affected city accounting for roughly 58% of the estimated damages



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Latakia
is experiencing increased pressure on infrastructure and services from the influx of IDPs.

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