

Beirut Explosion Impact Assessment

Status update #1

August 19, 2020



Status update # 1 sections

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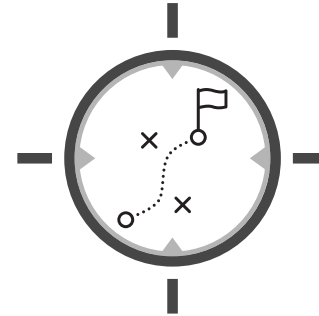


Strategy& impact assessment objectives

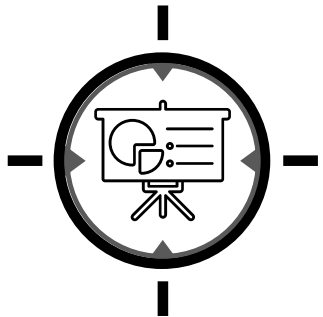
Strategy& Middle East's impact assessment objectives



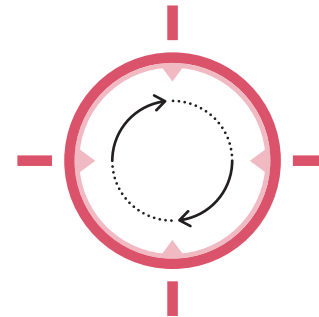
Conduct an impact assessment to **quantify the infrastructure, social and economic effects of the Beirut explosion**



Support **channeling funding, in-kind donations, and alternative support** to target the districts, households and businesses in most need



Provide a consolidated view of the impact of the explosion on **housing, food, healthcare, education, culture and businesses generally**



Reduce duplication in the mobilization of resources



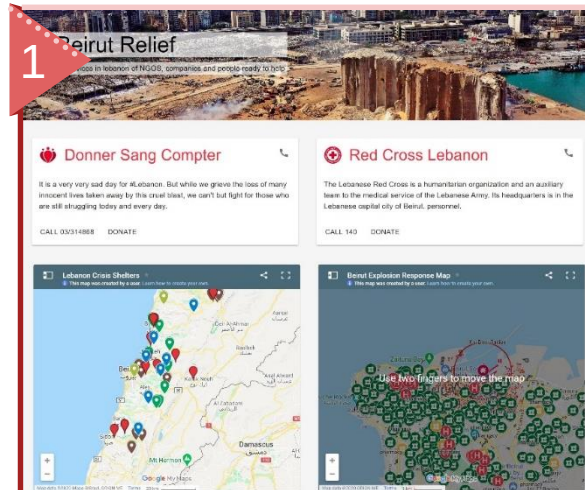
DISCLAIMER

Given the urgency of providing information and analysis to the public, Strategy& will be issuing regular status updates before publishing the final consolidated report.

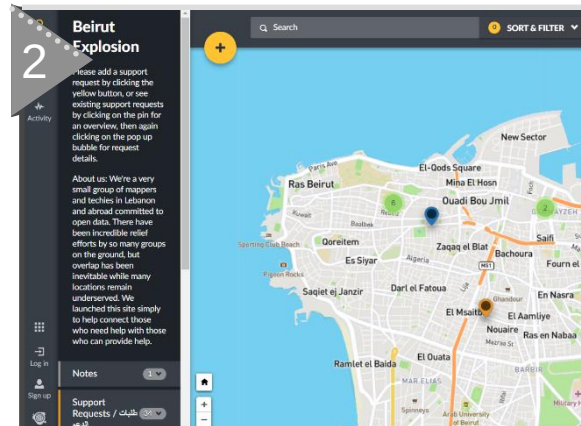
Publicly available information



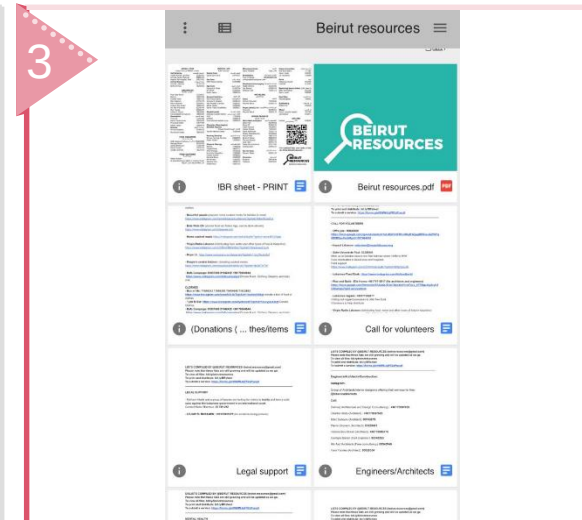
Online information aggregation initiatives



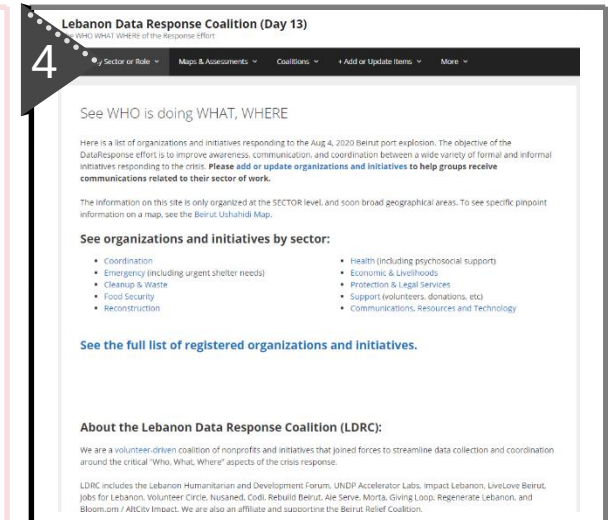
Elda3em.com is a web application developed by El Gherbal Initiative. The WebApp displays all the initiatives providing aid to the victims of the explosion in Beirut, including two interactive maps for finding shelter and identifying damages



A WebApp was developed by a small group of mappers and techies in Lebanon and abroad. The WebApp is a platform that allows volunteers and residents to submit support requests; the requests then appear on a map for everyone to see (<https://beirut.ushahidi.io/views/map>)



A google drive was set up by group of volunteers. The drive includes Beirut explosion recovery directory for donations, call for volunteers, engineers/architects, legal support, medical aid, mental health, NGO donations links, recycling, repair services and shelters



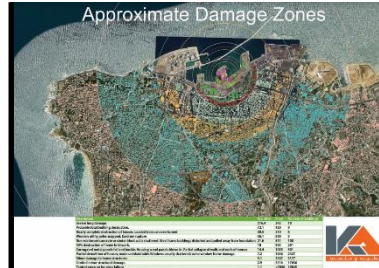
Lebanon Data Response Coalition is a group of nonprofits and initiatives that joined forces to streamline data collection and coordination around the critical “Who, What, Where” aspects of the crisis response

Published needs assessment reports



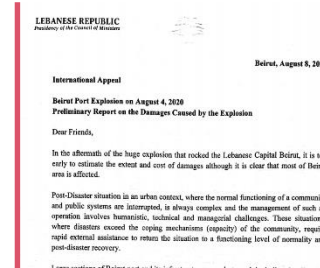
RAPID NEEDS ASSESSMENT REPORT (ACTED)

Map of assessed locations and findings on population affected, shelter, food, health care, water and sanitation needs, protection, livelihoods, cash and markets, and logistics (10-15 interviews focusing on few areas in Beirut)



APPROXIMATE DAMAGE ZONES (KHATIB & ALAMI)

Map of the approximate damage zones with a description of the effect of the explosion by zone, including the radius and number of buildings



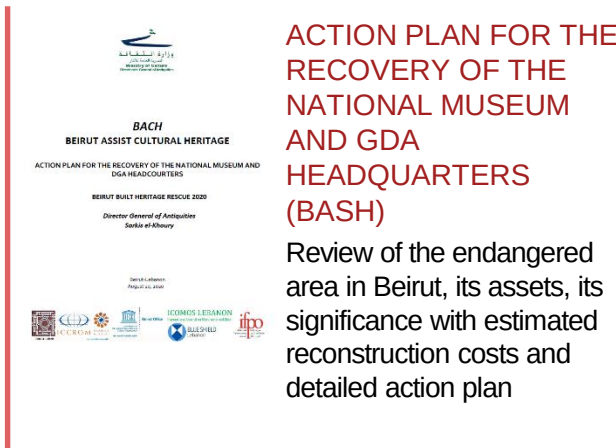
DAMAGE REPORT (COUNCIL OF MINISTERS)

Preliminary Report on the Damage Caused by the Explosion



DISASTER MANAGEMENT SECTOR – BEIRUT PORT EXPLOSION RESPONSE – ASSESSMENT RESULTS (LEBANESE RED CROSS)

Multi-Sectoral Needs Assessment and Damage Assessment Needs Analysis in the affected areas in Beirut (~280 households spread across 5 districts)



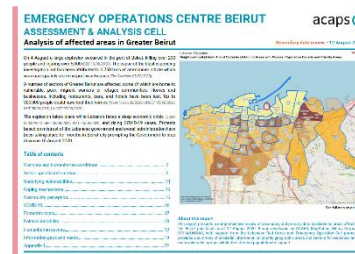
ACTION PLAN FOR THE RECOVERY OF THE NATIONAL MUSEUM AND GDA HEADQUARTERS (BACH)

Review of the endangered area in Beirut, its assets, its significance with estimated reconstruction costs and detailed action plan

الرقم	الوصف	القيمة
1	إجمالي عدد السكان	1,000,000
2	عدد السكان في بيروت	500,000
3	عدد السكان في المناطق المحيطة	500,000
4	عدد السكان في المناطق النائية	500,000
5	عدد السكان في المناطق الحضرية	500,000
6	عدد السكان في المناطق الريفية	500,000
7	عدد السكان في المناطق الساحلية	500,000
8	عدد السكان في المناطق الجبلية	500,000
9	عدد السكان في المناطق الصحراوية	500,000
10	عدد السكان في المناطق الغابية	500,000
11	عدد السكان في المناطق الزراعية	500,000
12	عدد السكان في المناطق الصناعية	500,000
13	عدد السكان في المناطق التجارية	500,000
14	عدد السكان في المناطق التعليمية	500,000
15	عدد السكان في المناطق الصحية	500,000
16	عدد السكان في المناطق الثقافية	500,000
17	عدد السكان في المناطق الرياضية	500,000
18	عدد السكان في المناطق الترفيهية	500,000
19	عدد السكان في المناطق الدينية	500,000
20	عدد السكان في المناطق الحكومية	500,000

BEIRUT STATISTICS

Description of the importance of the Beirut Port and estimate of the losses



EMERGENCY OPERATIONS CENTRE BEIRUT - ANALYSIS OF AFFECTED AREAS IN GREATER BEIRUT (ACAPS)

Comprehensive review of data available on areas affected by the explosion, on priority geographic areas and sectors, and the main vulnerable groups within the affected population that require support



LEBANON FLASH APPEAL (UN-OCHA)

Report on the Lebanese crisis, presenting a three-phase plan to transition from immediate humanitarian relief into recovery, reconstruction, and eventually longer-term economic recovery

High-level overview of the impact of the Beirut explosion



Infrastructure damage

**Port of Beirut**

US\$ ~15Bn cost of damages

16 warehouses out of commission

**Buildings**

US\$ ~5Bn cost of damage:

- **30 - 40** buildings destroyed
- **~3,400** buildings uninhabitable
- **~40,000** total buildings affected (Council of Ministers)

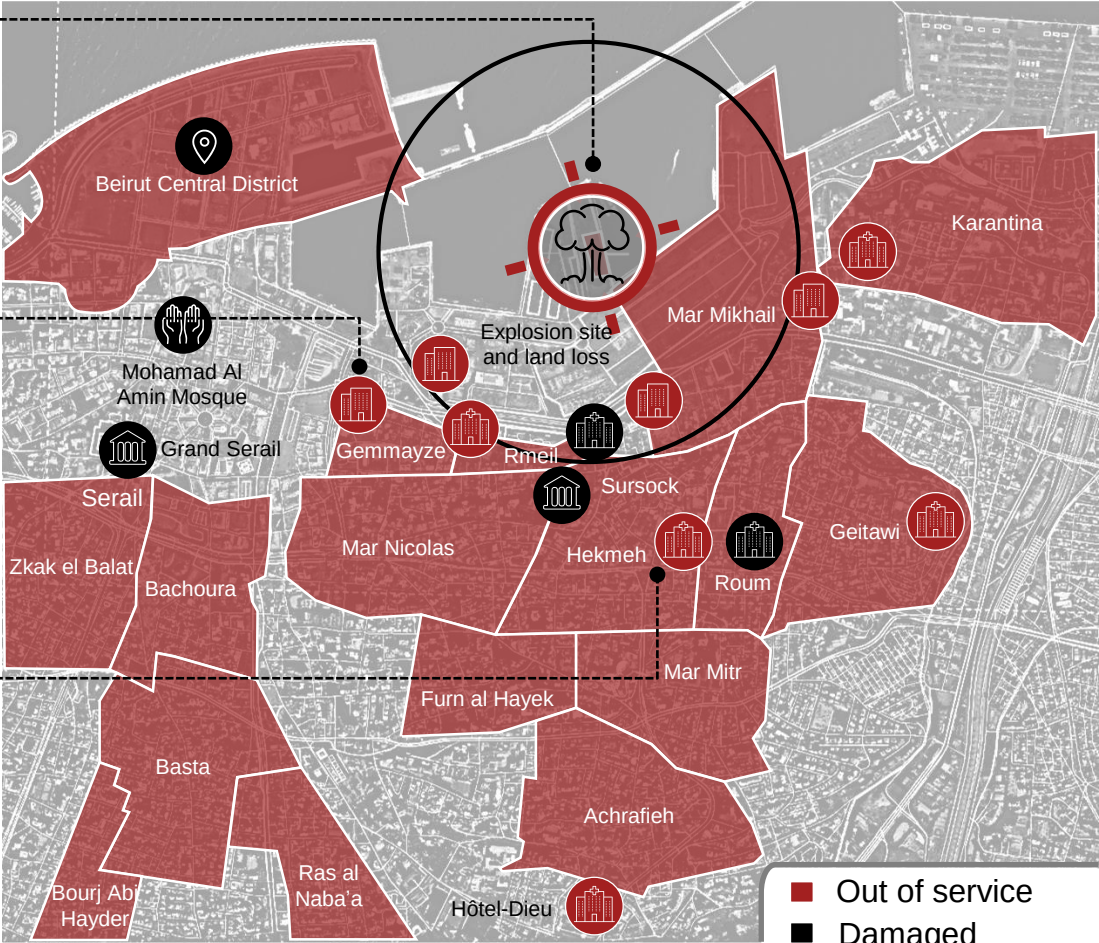
**Hospitals**

4 severely damaged requiring **US\$ ~66 Mn**

13 others with low to moderate damages

(WHO, hospital interviews)

Strategy&



1) TVET = Technical and Vocational Education and Training
Note: Some affected neighbourhoods out of scope of map are Bourj Hammoud and Naba'a.
Source: New York Times, Lebanese Council of Ministers' Report, Ministry of Culture, UNICEF, ACTED, UNESCO, Strategy& analysis

40% of Beirut has been severely damaged

**Schools**

~120 schools moderately to severely damaged

~8 universities and **~20** TVET¹⁾ centers affected (UNICEF, UN-OCHA)

**Cultural sites**

480 heritage buildings damaged (Ministry of Culture)

160 other buildings with special features (Ministry of Culture)

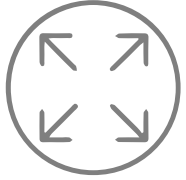
**Public infrastructure**

Charles Helou and port adjacent roads damaged

EDL headquarters destroyed

Transmission / distribution network damaged

Affected people



> 778,000
people living in a
two miles radius from
explosion (USAID)



> 178
dead
(UN-OCHA, UNHCR)



> 6,000
injured
(UN-OCHA)



> 30
people
still missing
(UN-OCHA)



>300,000
displaced; and elderly
refusing to leave
damaged houses
(ACTED, UN-OCHA)



>150,000
needing urgent
humanitarian assistance
(ACTED)



> 80,000
– 100,000
children affected
(UNICEF)



> 63,000
students affected by
damage to education
centers
(UNICEF)

Note: Numbers are preliminary estimates that are likely to increase with the on-going search and rescue operations
Sources: USAID, UN, UNICEF, BBC, UN-OCHA, ACTED, Strategy& analysis

Affected sectors



Local and international donor support



Local and international 3rd sector support



Note: Rise up is an initiative

Source: Interviews, Desktop research, Qudurat Development Foundation, Strategy& analysis

Examples of coalitions formed by local and international organizations



Regional and international support

The int'l community, led by France, raised US\$ ~300 million for Lebanon

HEALTHCARE

Britain 	US\$ 6.6 Mn aid package including search and rescue help and expert medical support
Cyprus 	2 helicopters, 10 rescuers and 8 rescue dogs
Czech Republic 	A team of 37 rescuers and sniffer dogs
Denmark 	600 chemical protective suits, meant for the protection of search and rescue workers
Egypt 	2 planes with medical supplies
France 	55 security personnel, 6 tons of health equipment and ~10 emergency doctors

Germany 	47-strong rescue team, US\$ 1.2 Mn in immediate aid via the German Red Cross
Greece 	A team of 12 personnel, a rescue dog and two special purpose vehicles
Iraq 	A plane with emergency medical aid
Italy 	2 Air Force planes with 8 tons of medical equipment and a team of experts
Kuwait 	Medical aid and other essentials
Netherlands 	A 67-person search and rescue team

Norway 	40 tons of medical equipment and US\$ 2.79 Mn in financial help
Poland 	Medical materials and trained rescuers
Qatar 	4 flights with medical aid, 2 field hospitals of 500 beds each, equipped with medical supplies
Russia 	5 planes carrying medical equipment, a field hospital and medical personnel
Tunisia 	2 planes carrying food and medical aid, willingness to treat 100 injured in its hospitals
Turkey 	Help in the search for survivors, digging through debris to look for people and recover bodies

HEALTHCARE AND FOOD SECURITY

Australia 	US\$ 1.4 Mn to World Food Program and Red Cross for food, medical care and essential items
Iran 	9 tons of food, medicine, medical equipment, medical personnel and a field hospital
Jordan 	Medical aid, a field hospital, a rescue team, food and medical supplies
Morocco 	295 tons of basic foodstuffs, 10 tons of drugs, 11 tons of medical material and a field hospital
UAE 	40 tons of critical medical and food supplies as well as nutritional supplements

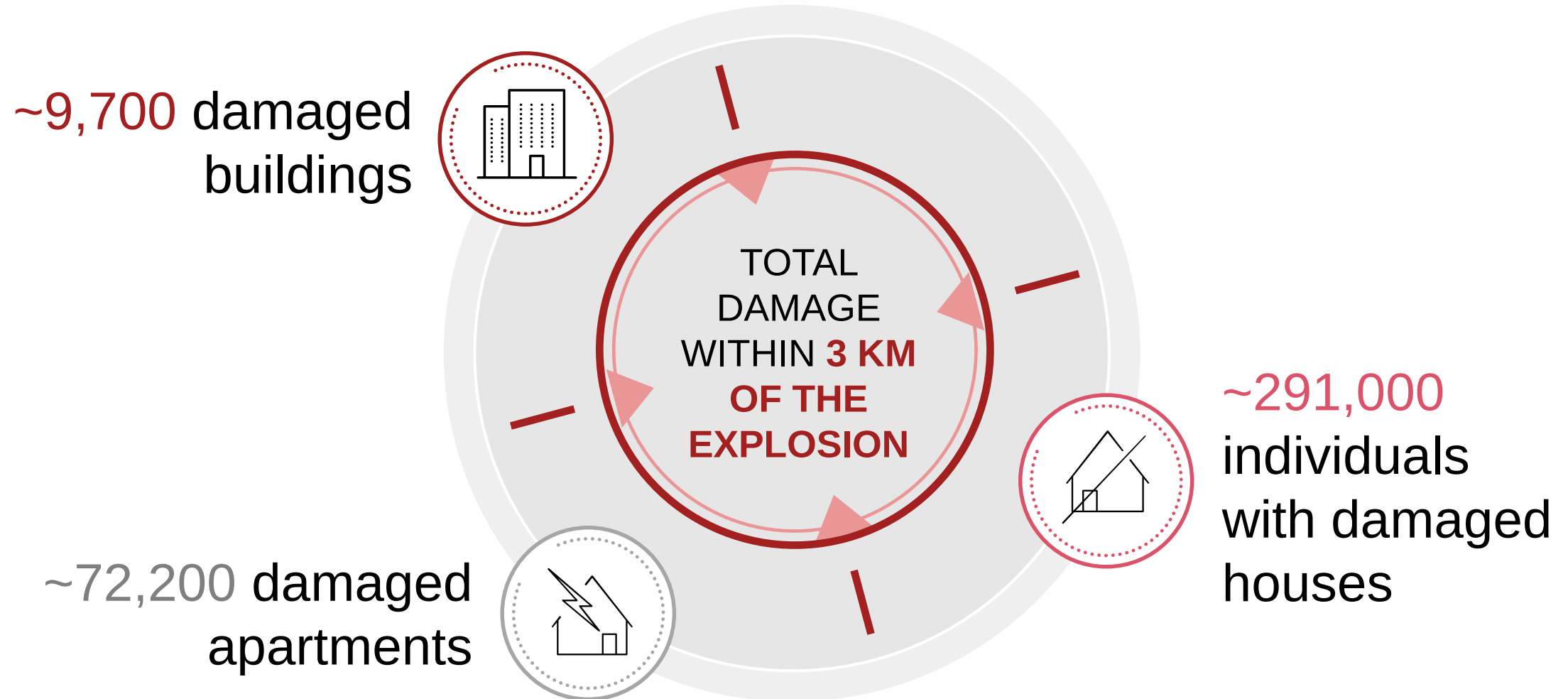
HEALTHCARE AND HOUSING

Hungary 	US\$ 1.2 Mn of humanitarian aid to help with life-saving efforts and reconstruction
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Impact on housing

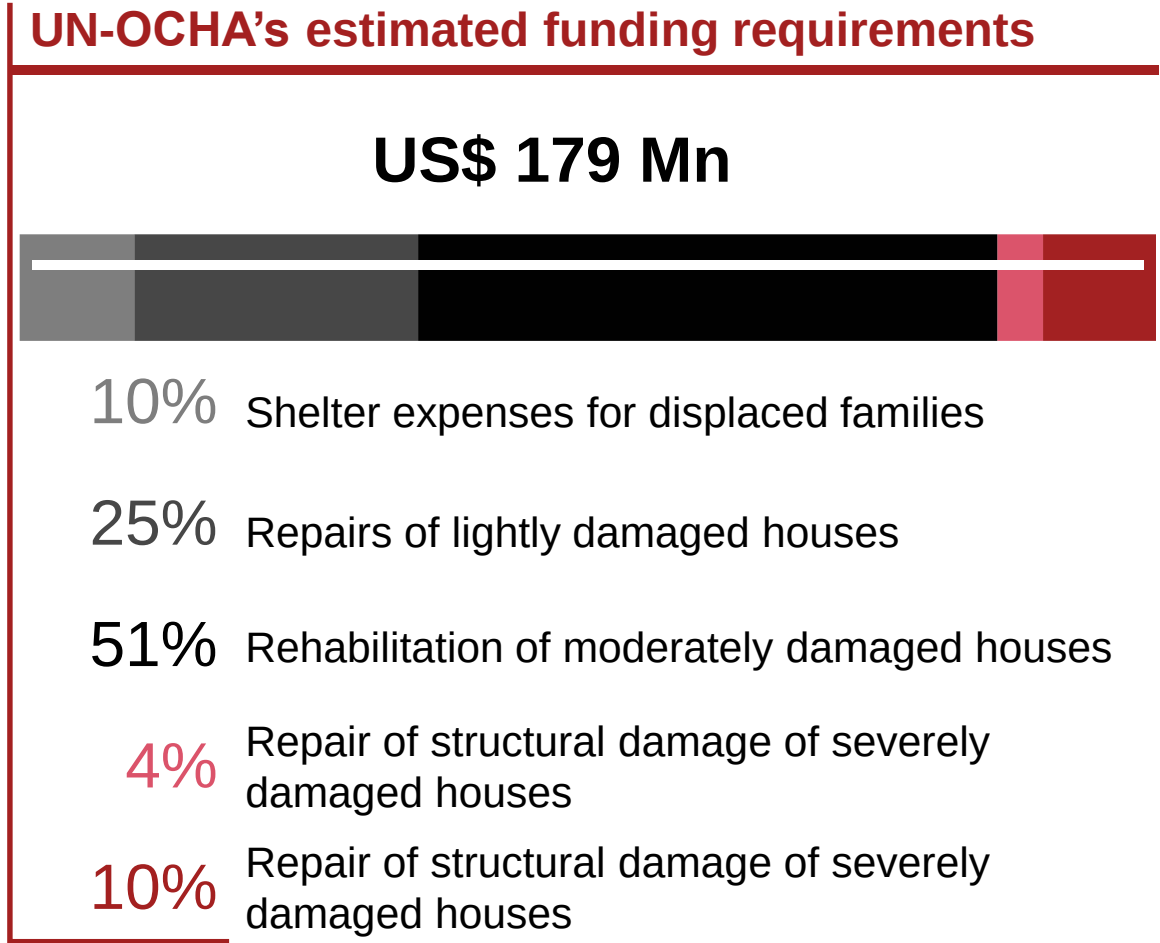
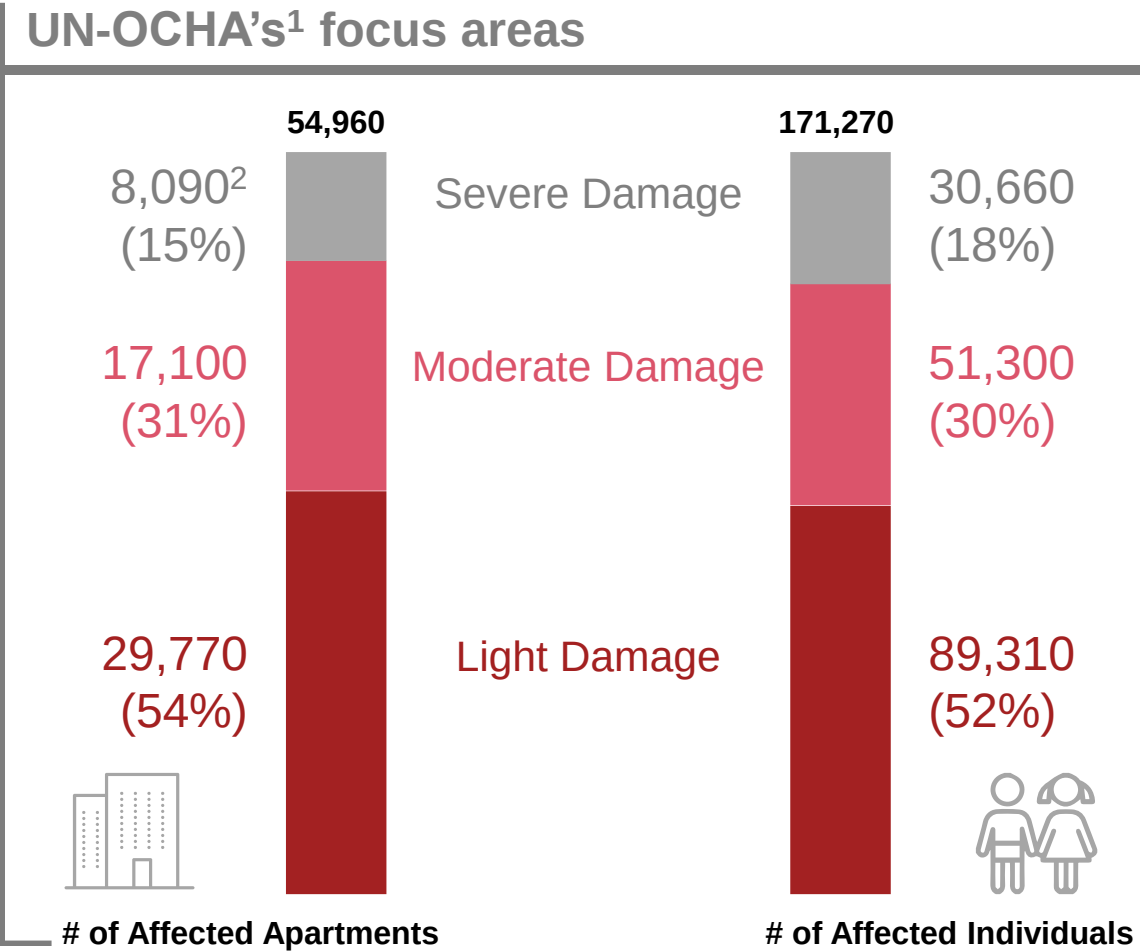


Housing damage



UN-OCHA's funding requirements¹ for housing

UN-OCHA is the United Nations Office for the Coordination of Humanitarian Affairs



1) Covers only UN-OCHA's focus areas (i.e., ~171K affected individuals)
2) Average a) 30,660 / 4 members per household (~7660) and 1144 severely damaged buildings x ~7.5 apartments per building (~8520 apartments)
Source: UN-OCHA's Lebanon Flash Appeal Report, Strategy& analysis

Impact on food security



Pre-explosion food security risks

LEBANON IMPORTS 85% OF FOOD NEEDS, including 80% of wheat supply, mostly through Beirut port (*UN-OCHA*)

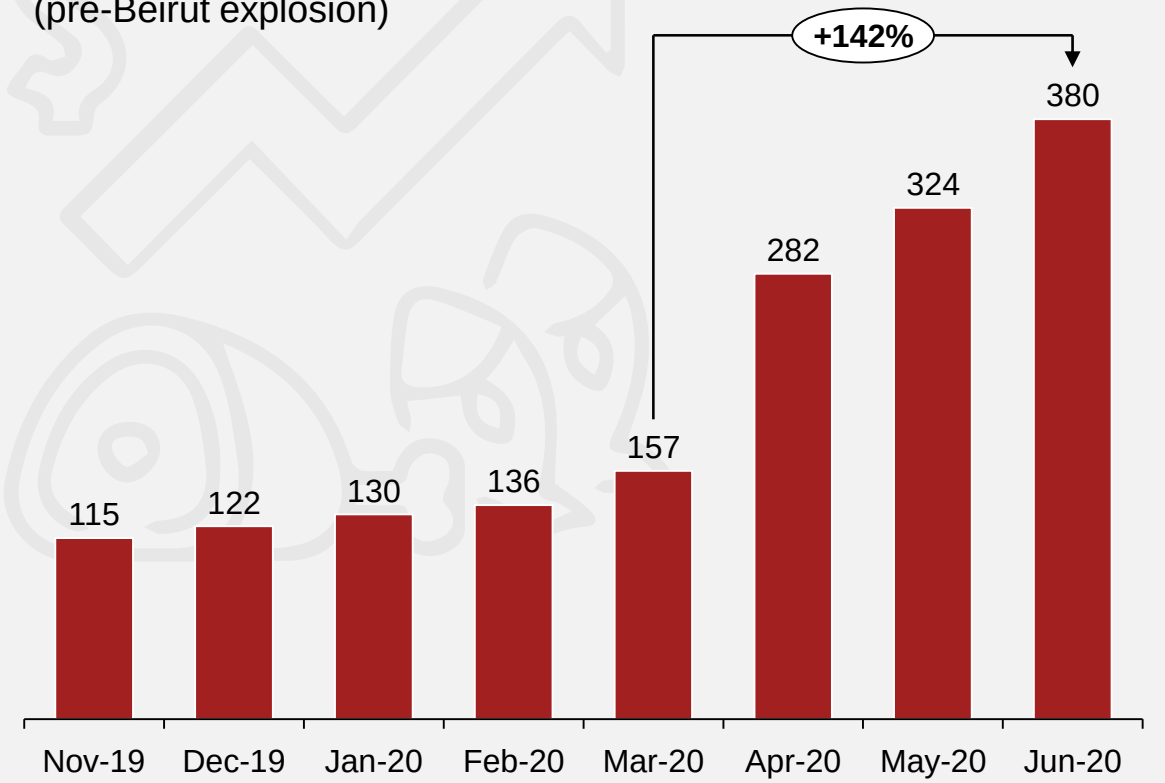
Meanwhile, **AGRICULTURAL PRODUCTION HAS BEEN DECREASING** even before COVID-19, by 47% for plants and 26% for animals (*FAO*)

CURRENCY VOLATILY AND CAPITAL CONTROLS are restricting the import of food products, with risk of continuous increase in prices amidst the ongoing economic and political crisis

HALF OF THE LEBANESE SURVEYED in June by the United Nations' World Food Programme (WFP) were already worrying about **LACK OF FOOD**

LOW HOUSEHOLD COPING ABILITY
Many people exhausted savings and were forced to decrease food intake of expensive and imported items, such as meat or baby milk

FOOD ITEMS PRICE INDEX
(pre-Beirut explosion)



Impact of Beirut explosion on food security

IMPACT ON FOOD SUPPLY



- **15,000 metric tons of staple food** stored in port warehouses was **lost**, leaving 6 weeks of stock compared to a 3 months standards supply (UN-OCHA, WFP)



- Several **milling facilities** around the port and the silos containing reserves of grains **are damaged**, with storage capacities being compromised (WFP, UNICEF)



- Beirut Port, where the majority of the total imports used to be processed, **will not be operational for at least a month** (OCHA)



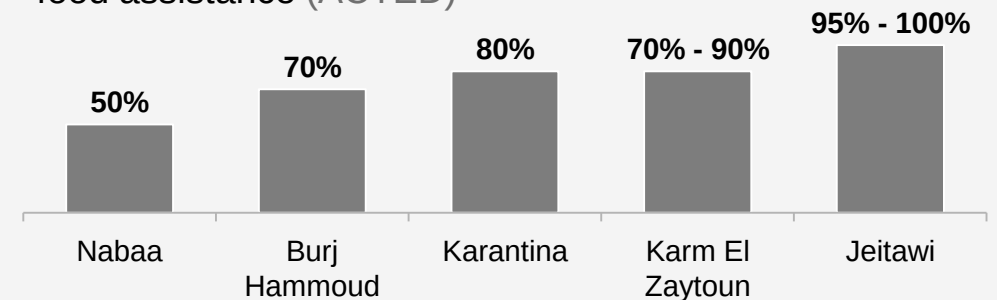
- **Sea traffic is shifting to Tripoli** which is 85 km north of the capital and has lower logistic capacity, which could result in more **upward pressure** on staple food prices



- **Food shops and markets** might not resume operations due to the lack of funds and unavailability of reconstruction material on the market

IMPACT ON FOOD DEMAND

- **~150,000 individuals are in need of immediate humanitarian assistance** as a result of the explosion (ACTED)
- **~300,000 people** are targeted for food assistance through UN-OCHA
- A number of NGOs are providing food support **with limited coordination** on channeling towards most in need
- Majority of individuals in these areas (graph below) require food assistance (ACTED)



Examples of initiated and ongoing food security support



READY-MADE MEALS AND FOOD PARCELS

- Local support networks and NGOs such as WFP, Caritas and Farah Social Institution are providing food parcels to those in need
- Ministry of Social Affairs requested WFP to distribute food parcels to the 5,000 most vulnerable people affected by the explosion



WHEAT SUPPLY

- WFP intends deliver an immediate supply of wheat flour (50,000 metric tons) to prevent shortage
- Airlifting of mobile storage units and other equipment is being pursued as a temporary solution for destroyed silos



CASH SUPPORT

- Discussions between WFP, Basic Assistance Working Group, and Lebanon Crisis Response Plan underway to provide cash assistance to the affected population
- 105,000 Lebanese currently receive WFP food ecards under National Poverty Targeting Program



Impact on healthcare



Healthcare sector damage



17 hospitals have been damaged, of which **4** (*Saint George, Hopital des Soeurs du Rosaire, Karantina, and Geitawi Hospitals*) **been severely damaged** and are currently non-operational



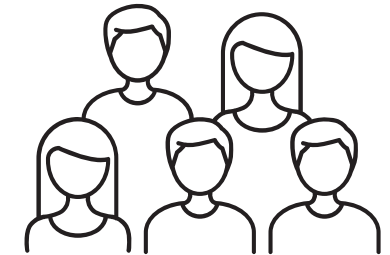
22 of **55** primary healthcare centers (~40%) that are within 15 km of the explosion **have suffered moderate to serious damage**



27 containers, out of which **17** medical supplies containers and **10** personal protective equipment containers have been destroyed, as well as **10%** of vaccines in cold rooms that UNICEF had provided



↓ **Decrease in the number of available health personnel** as many were injured and killed in the explosion



Sharp decline in healthcare provision for **~1 million residents** who rely on healthcare facilities located in the perimeter of the explosion

EXISTING CHALLENGES



Laid off health personnel due to economic constraints

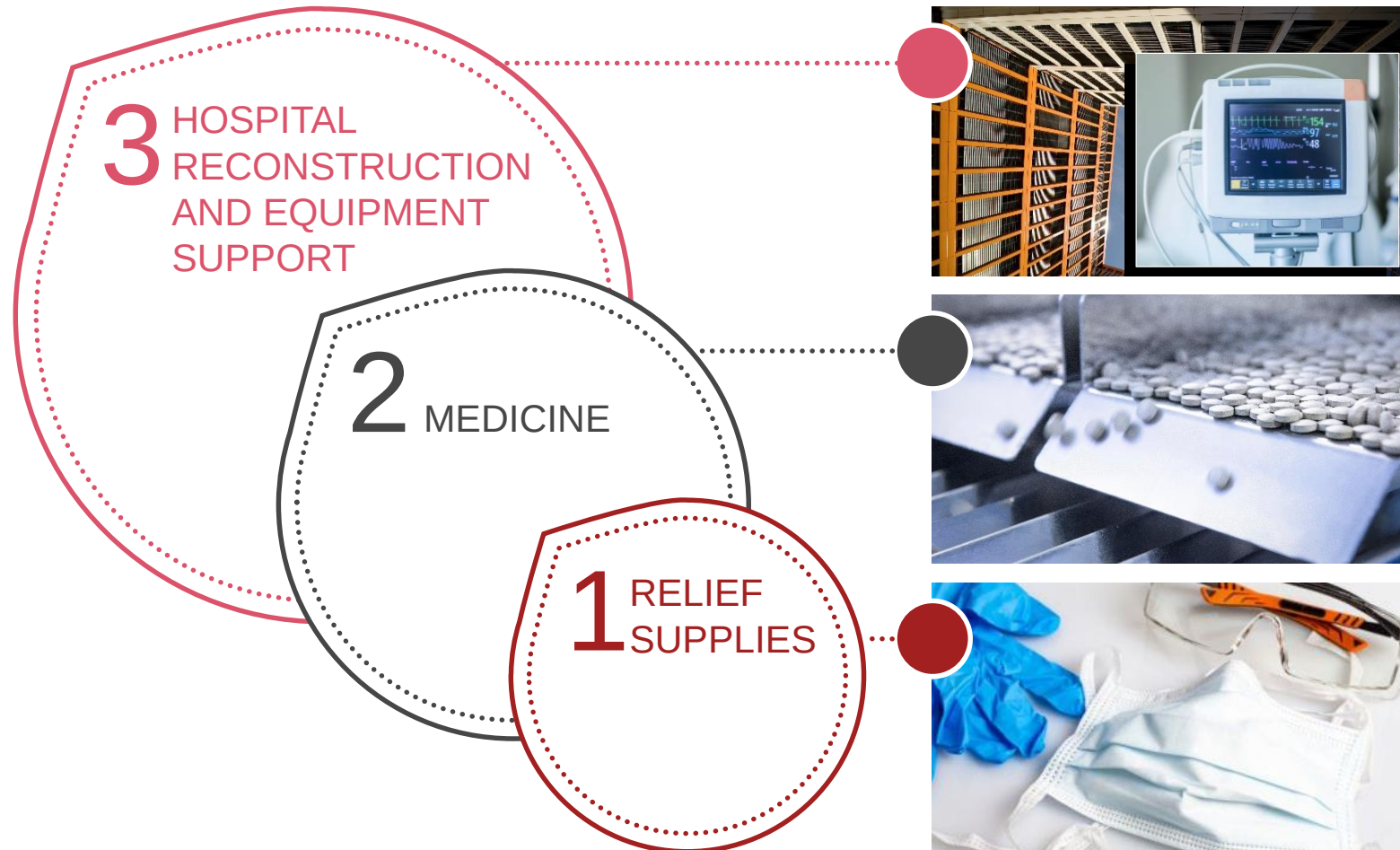


Closed wards in underfunded hospitals due to the economic crisis



COVID-19 causing financial challenges to facilities; **significant increase in cases have been reported post-explosion**

Healthcare sector support requirements

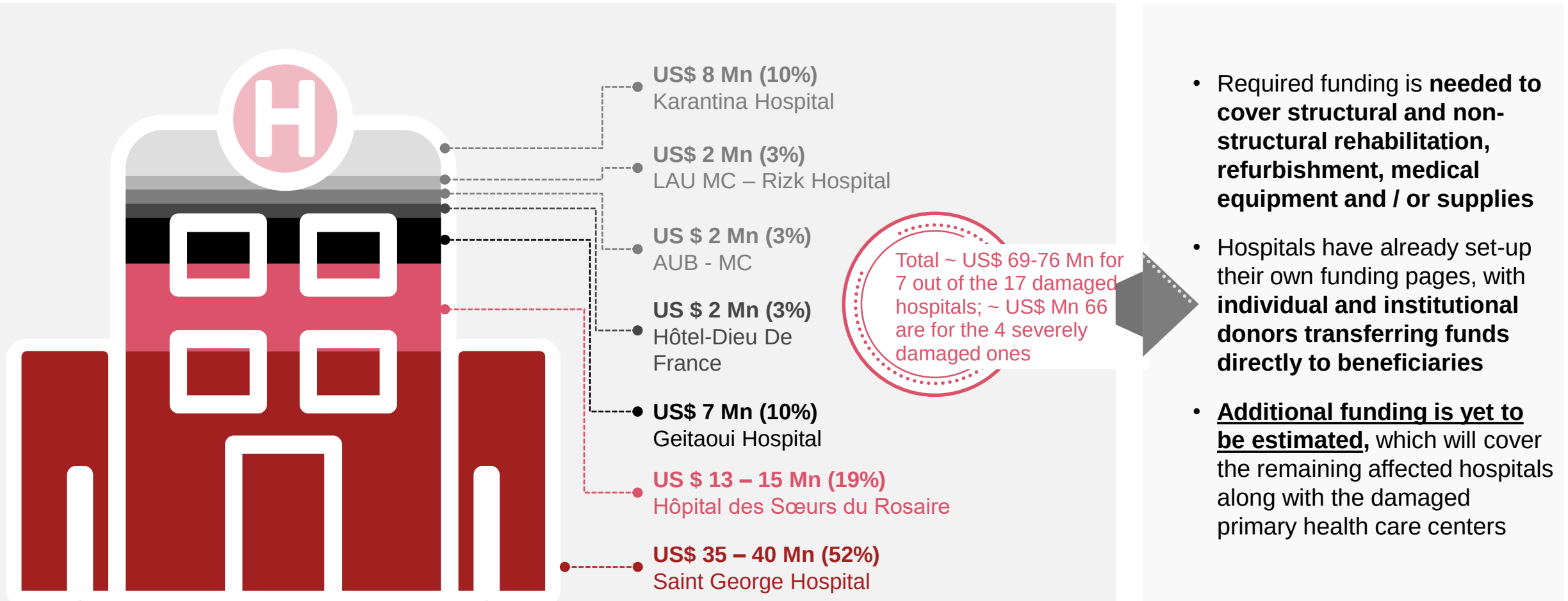


Need for major **reconstruction support for at least two hospitals** and **equipment support** for other severely damaged health infrastructure

Need for **drugs to manage acute diseases and chronic illness** in affected areas

Need for relief supplies, in particular **personal protective equipment** and **mobile medical units**. Lebanon does not have any local production of medical supplies

Partial healthcare funding requirements for 7 affected hospitals



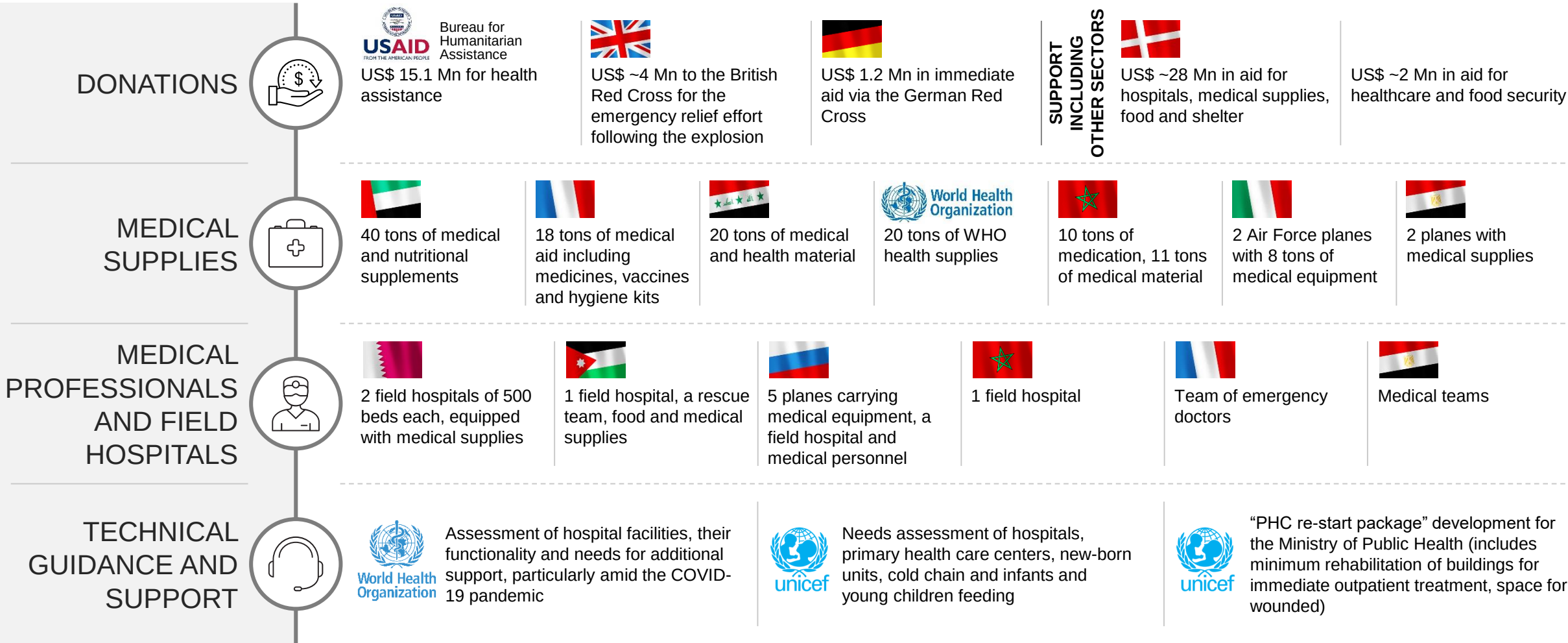
1) Assessment for remaining hospitals and affected primary healthcare centers are yet to be determined

2) Funding required for old hospital building (US\$ 2.5 million) and new hospital building (US\$ 5 million); Swiss government secured funding for the old hospital building

Source: Interviews, Research, Qudurat Development Foundation, Strategy& analysis

International support for the healthcare sector

More than US\$ ~10 million pledged to the Lebanese Red Cross so far



Impact on education



Education sector damage



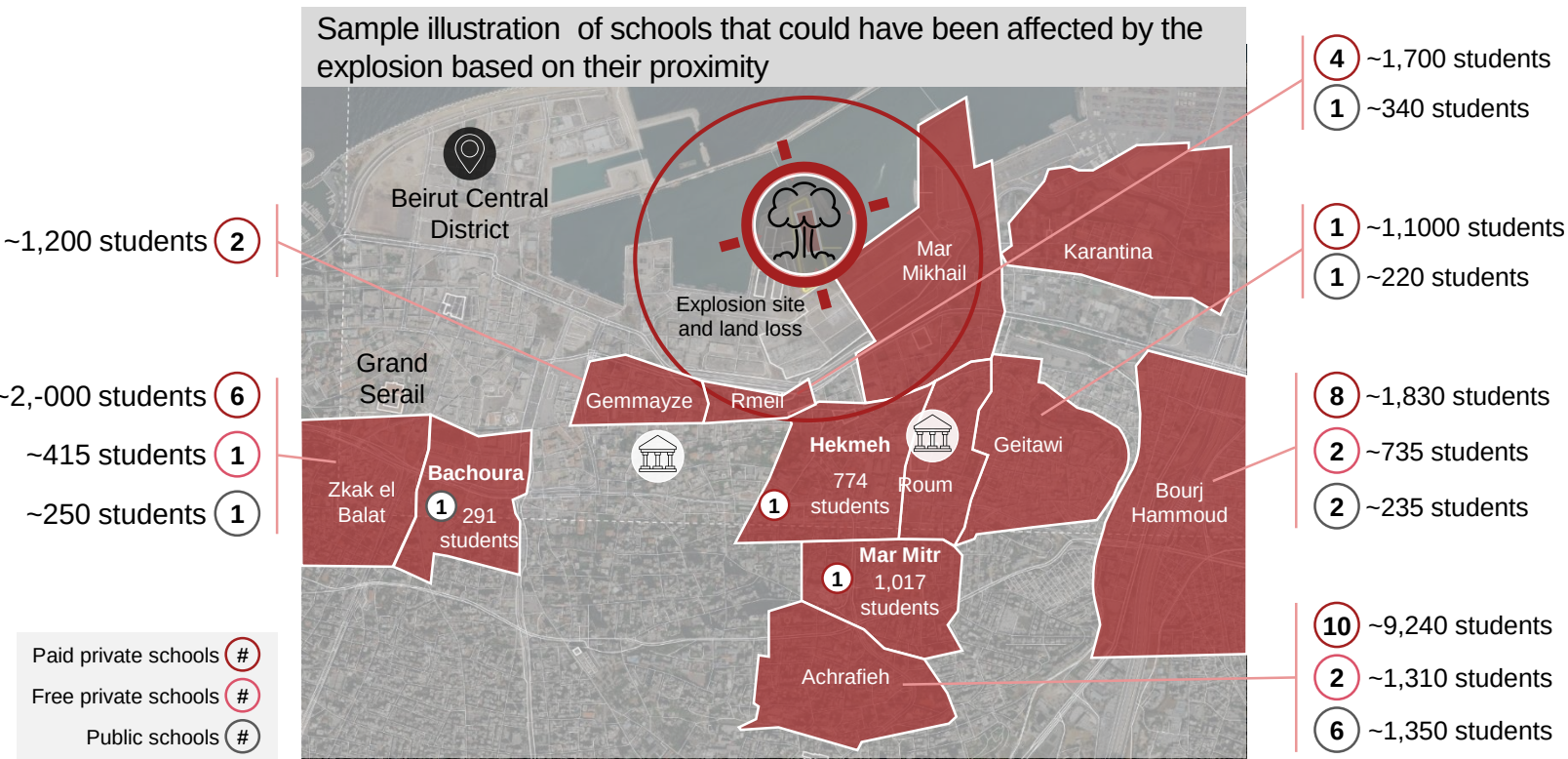
120 severe-to-medium damaged schools



8+ damaged universities



20 damaged TVETs



EXISTING CHALLENGES

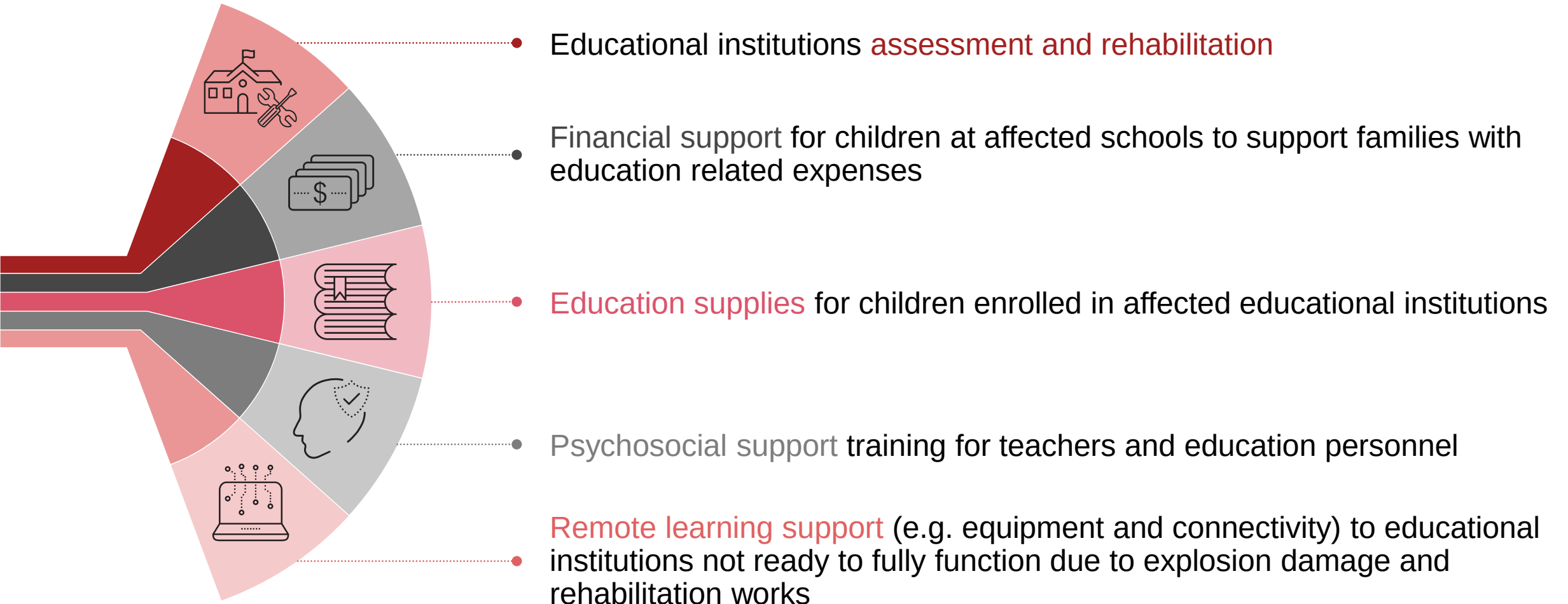


~63,000 affected school and TVET students



6,000+ teachers and administrative staff jobs affected

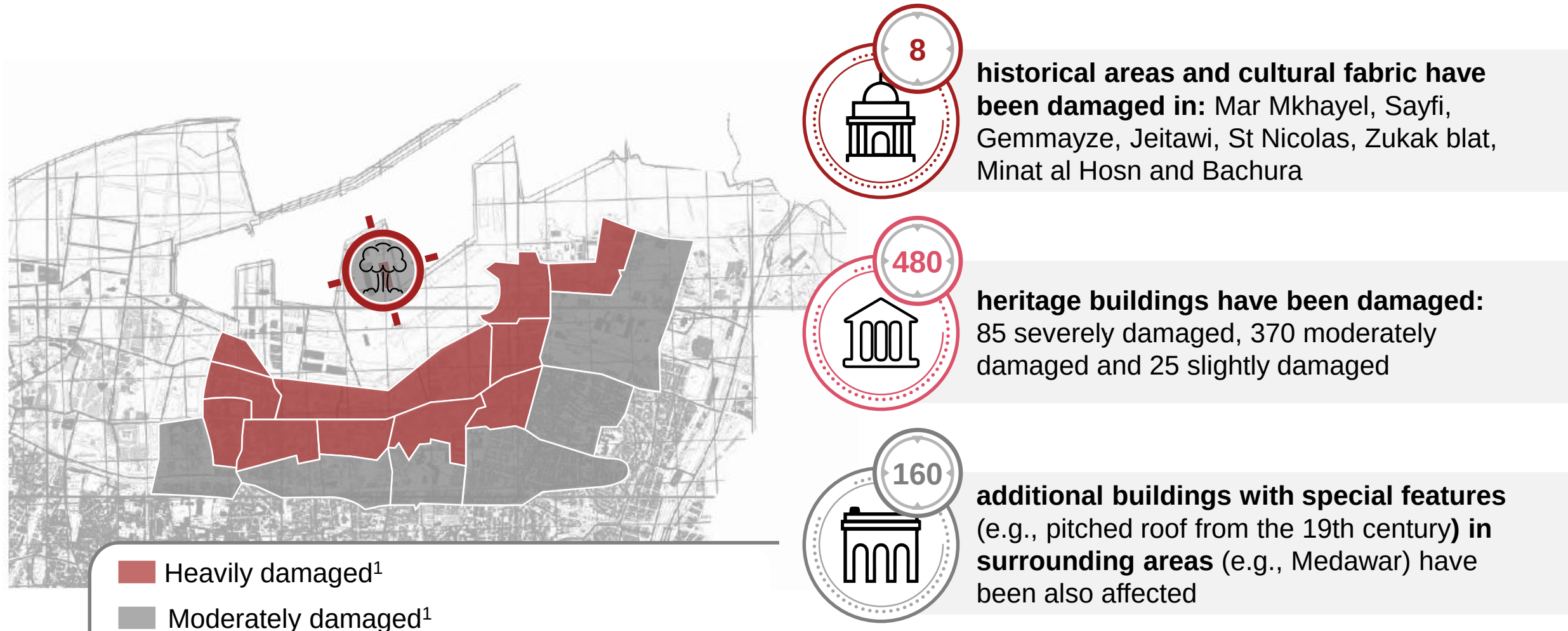
Education sector support requirements



Impact on culture

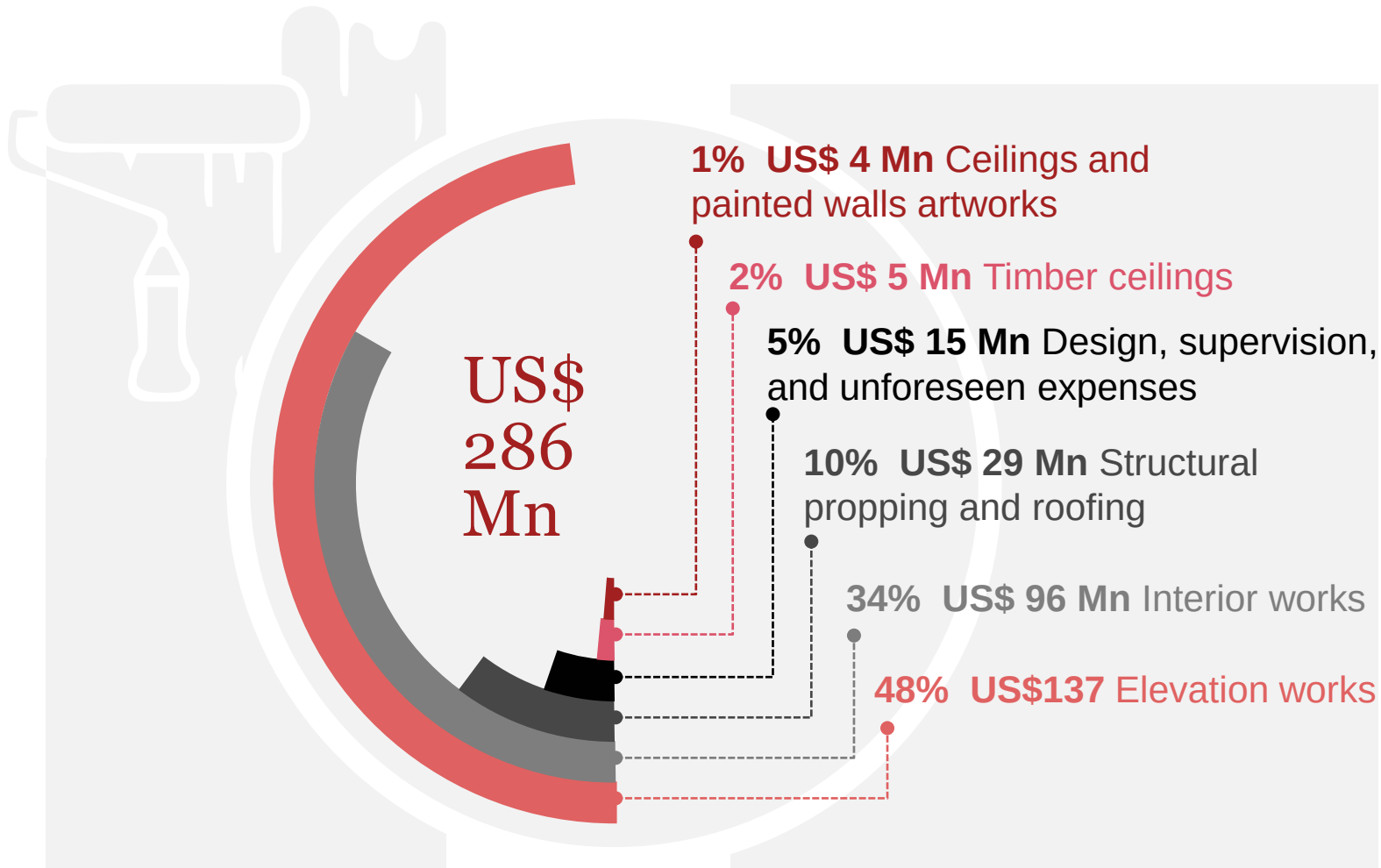


Damage to cultural heritage



1) Damage ranges from loss of openings and cracks to detachment of elements and total collapse
Source: Ministry of Culture – Directorate General of Antiquities' Beirut Built Heritage Rescue 2020 Report, Strategy& analysis

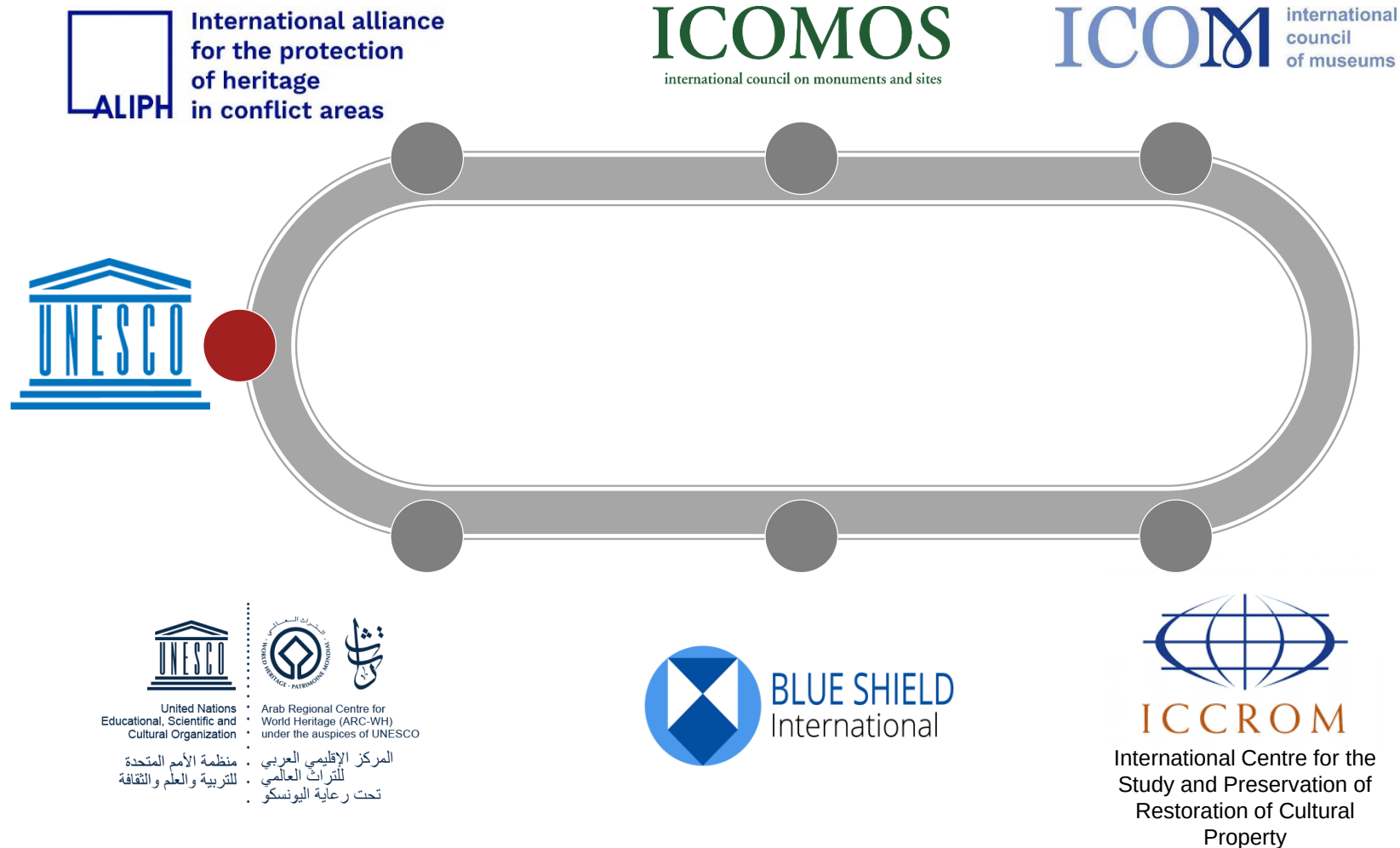
Cultural heritage funding requirements



- **Funding required covers the reconstruction of 640 affected cultural buildings** (480 heritage buildings and 160 buildings with special features)

- **The estimated funding required does not cover the reconstruction of damaged creative industries sites** (e.g., art / design galleries, museums)

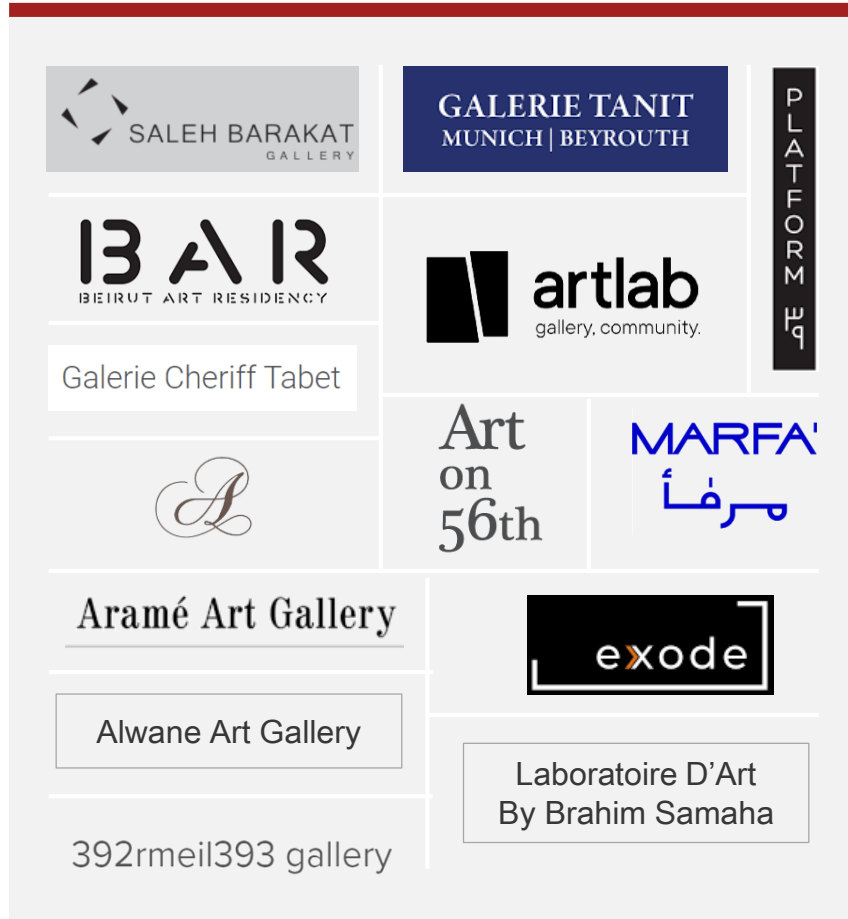
Governance structure for the culture sector recovery



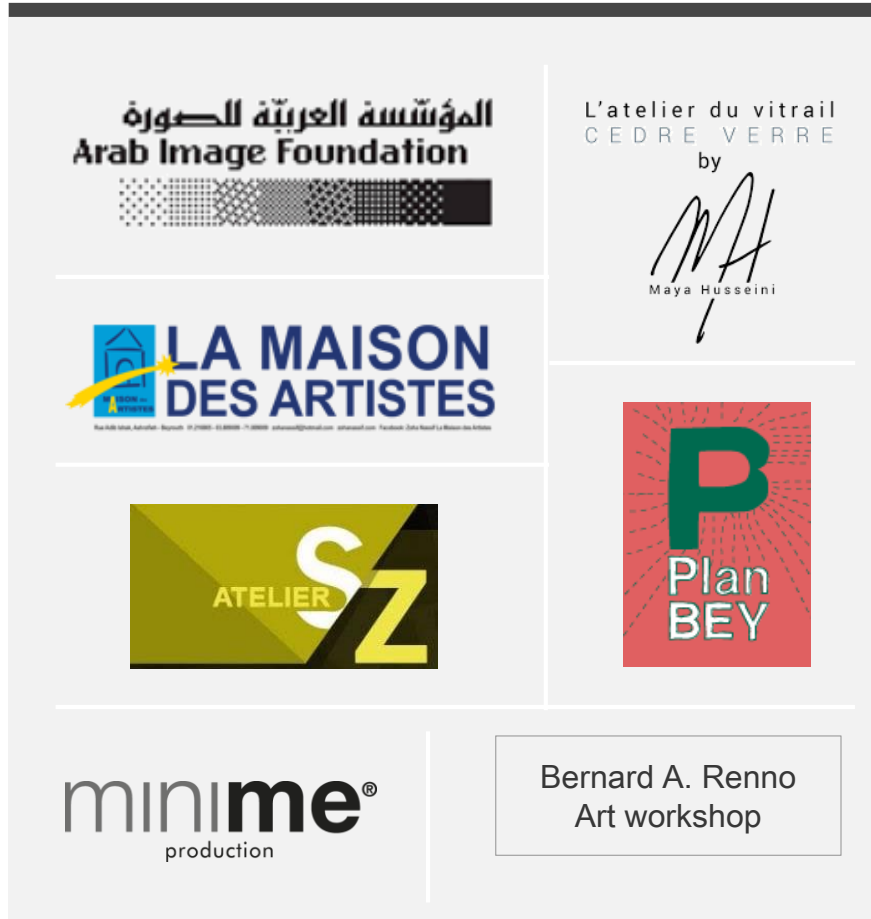
- **UNESCO vowed to lead efforts to protect vulnerable heritage in Lebanon**
- **25+ members and practitioners of the heritage protection community (e.g., Arab Regional Centre For World Heritage; Blueshield International, EUROPA Nostra) from over 10+ countries have pledged to contribute to the reconstruction of the damaged heritage**

Creative industries damage

ART / DESIGN GALLERIES



ART WORKSHOPS



ART VENTERS



MUSEUMS



“My Say” survey results on households and businesses



“My Say Survey” results: Housing and water for hygiene

HOUSING



Q: As a consequence of the disaster, how would you measure your need for housing?

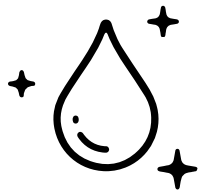
~1,045
respondents

- 12% Minor need
- 8% Moderate need
- 9% Extreme need

~250
vulnerable¹
respondents

- 19% Minor need
- 15% Moderate need
- 15% Extreme need

WATER FOR HYGIENE



Q: As a consequence of the disaster, how would you measure your need for water for hygiene?

~1,010
respondents

- 14% Minor need
- 11% Moderate need
- 12% Extreme need

~250
vulnerable¹
respondents

- 19% Minor need
- 13% Moderate need
- 16% Extreme need

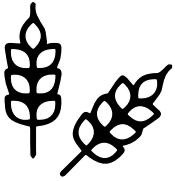
Disclaimer: The survey results are based on a total of 1,779 respondents; The numbers will be updated once a larger sample is analysed

1) A vulnerable respondent is considered to be one in need of financial aid, has suffered from a partial or total house damage, and who has not received formal assistance yet

Source: MySay Survey, Strategy& analysis

“My Say Survey” results: Food and drinking water

FOOD



Q: As a consequence of the disaster, how would you measure your need for food?

~1,030
respondents

- 21% Minor need
- 13% Moderate need
- 10% Extreme need

~160
vulnerable¹
respondents

- 34% Minor need
- 25% Moderate need
- 17% Extreme need

DRINKING WATER



Q: As a consequence of the disaster, how would you measure your need for drinking water?

~1,020
respondents

- 16% Minor need
- 12% Moderate need
- 12% Extreme need

~250
vulnerable¹
respondents

- 22% Minor need
- 17% Moderate need
- 15% Extreme need

Disclaimer: The survey results are based on a total of 1,779 respondents; The numbers will be updated once a larger sample is analysed

1) A vulnerable respondent is considered to be one who is in need of financial aid, has suffered from a partial or total house damage, and who has not received formal assistance yet (and an additional filter was applied to food, which included people noting change in food quantity and quality)

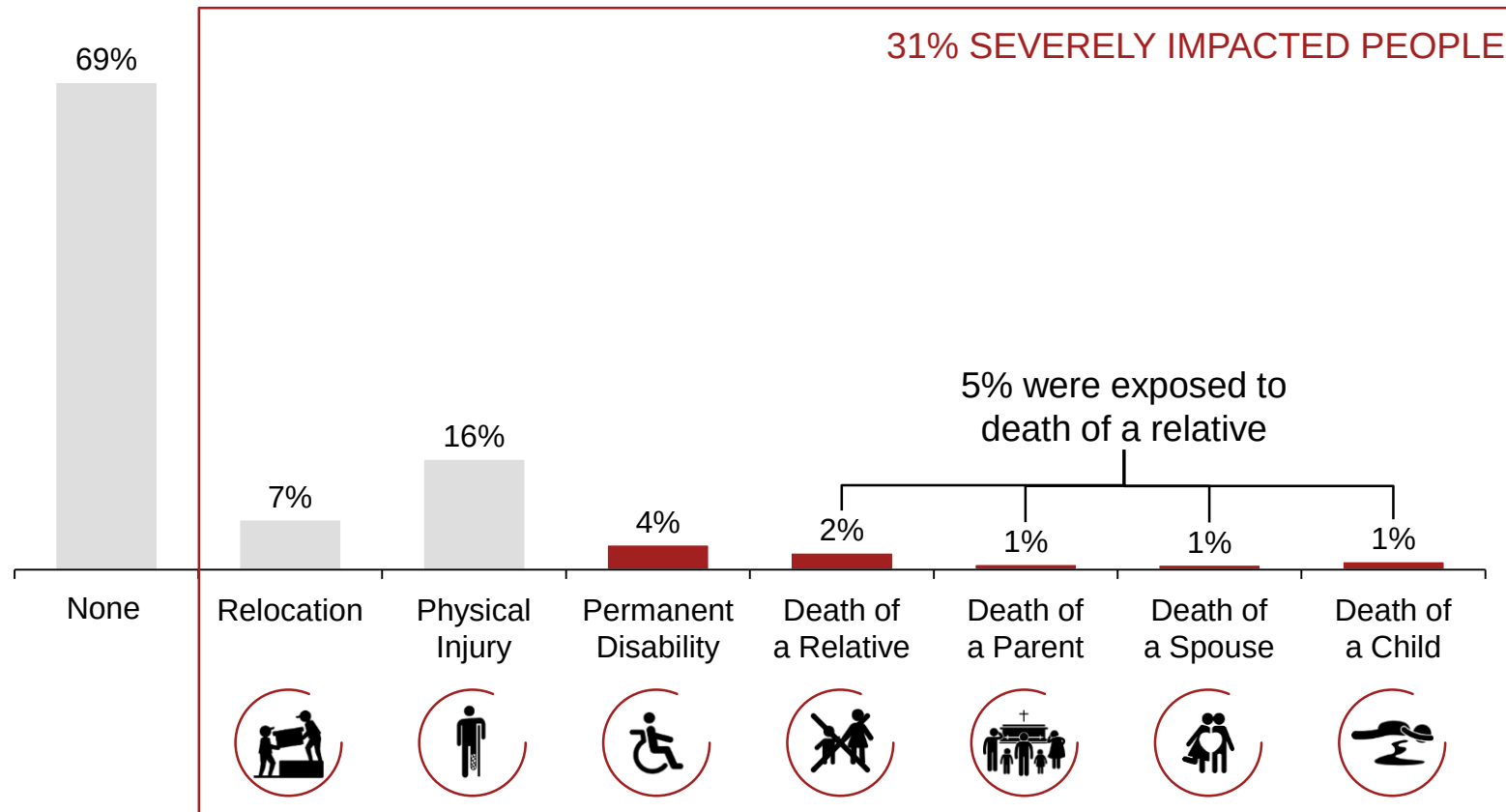
Source: MySay Survey, Strategy& analysis

“My Say Survey” results: Social impacts and medical needs

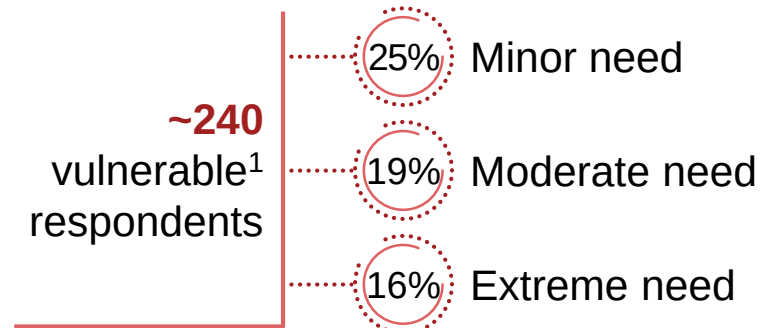
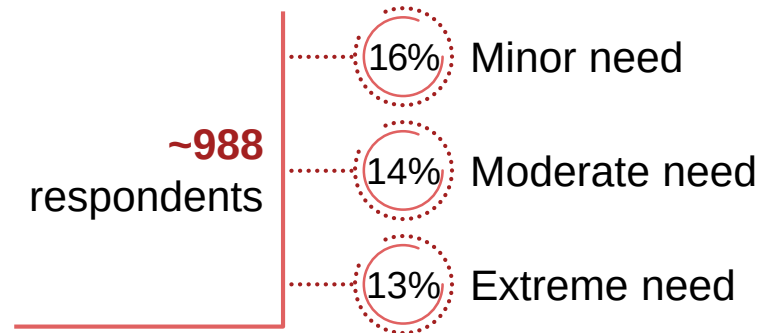
SOCIAL IMPACTS (~1,500 respondents)



Q: Have you or any of your family members in Beirut been exposed to any of the following as a result of this disaster?



MEDICAL NEEDS



Disclaimer: The survey results are based on a total of 1,779 respondents; The numbers will be updated once a larger sample is analysed

1) A vulnerable respondent is considered to be one in need of financial aid, has suffered from a partial or total house damage, and who has not received formal assistance yet

Source: MySay Survey, Strategy& analysis

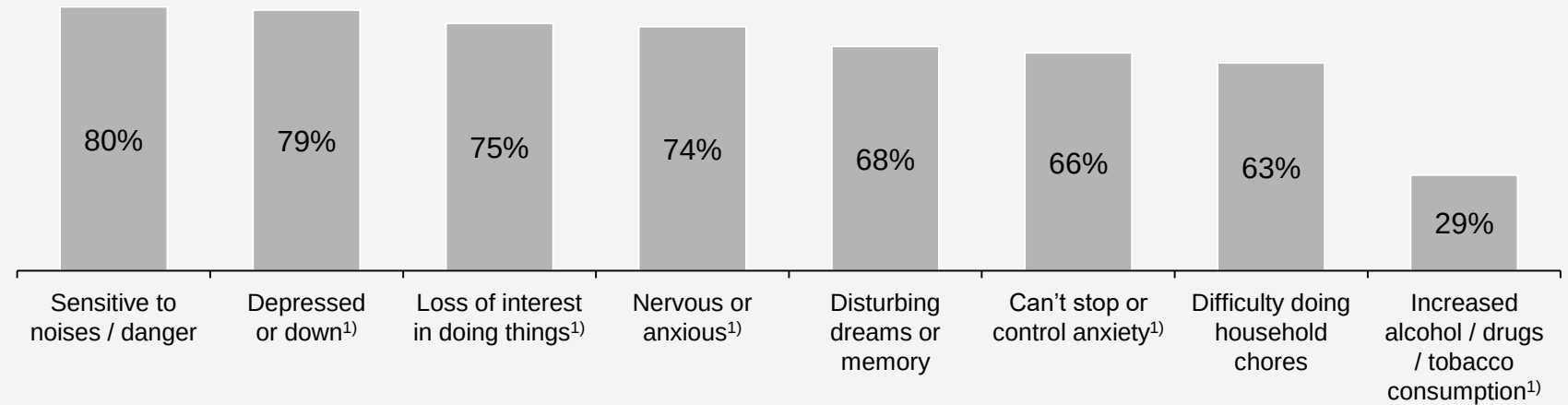
“My Say Survey” results: Mental health and need for psychological support



37%

of survey respondents
(out of ~1,000
respondents) are
aware of their need
for **psychological
support** ¹⁾

RESPONDENTS FACING PERSISTENT PSYCHOLOGICAL IMPACT
(Percent of total respondents for each of the following impacts; preliminary sample ~524)



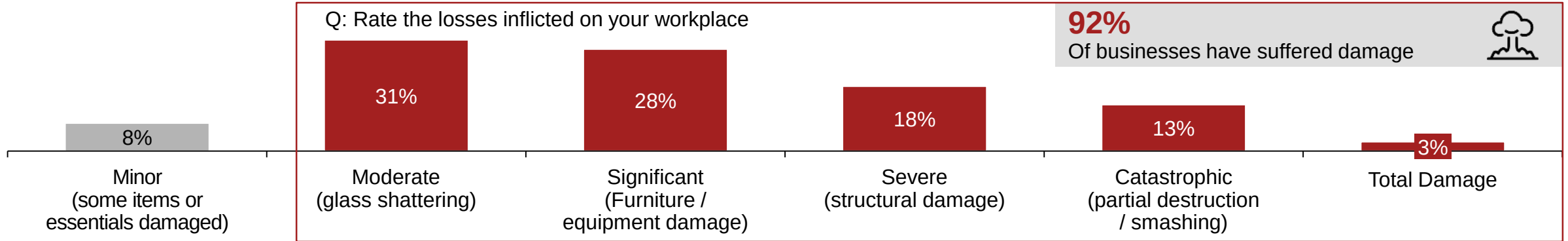
Disclaimer: The survey results are based on a total of 1,779 respondents; The numbers will be updated once a larger sample is analysed

1) People who responded as more than half the days, moderate or severe to the survey questions

2) Respondents with 3 to 5 yes = moderate need; more than 5 yes = urgent need / Source: MySay Survey, Strategy& analysis

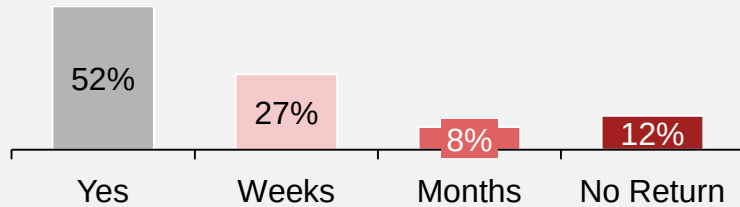
“My Say Survey” results: Impact on businesses

DAMAGES TO BUSINESSES (Percent of total respondents; ~90 respondents)



RETURN TO WORK

Q: Has your organization returned to work after the explosion? If not, how long does it need?

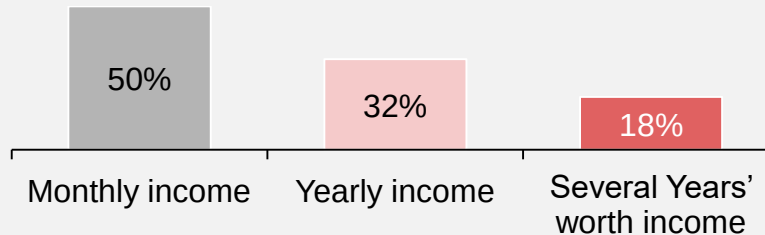


12%
Of businesses are shutting down



REPAIR COSTS

Q: How much will it cost you to repair your workplace?

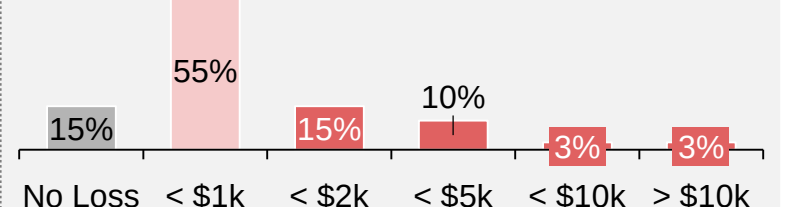


50%
Have lost at least a yearly income on repairs



DAILY LOSSES

Q: How much money are you losing daily after the explosion?



25%
Of businesses are losing \$1-5k daily

