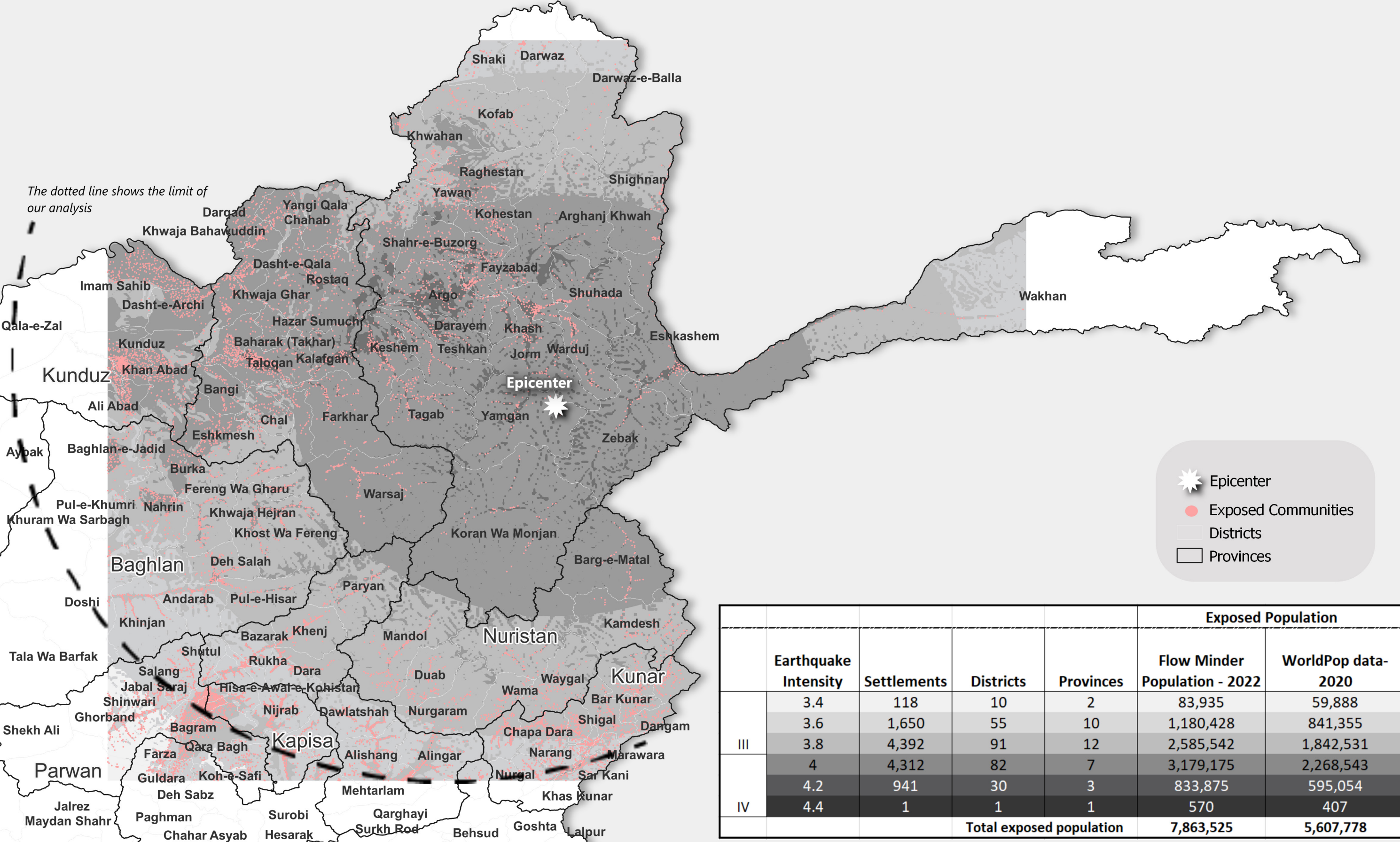


AFGHANISTAN - EARTHQUAKE EXPOSED COMMUNITIES

MACROSEISMIC INTENSITY IV (FAIR) DURING 6.5 MAGNITUDE EARTHQUAKE ON 21 MARCH 2023

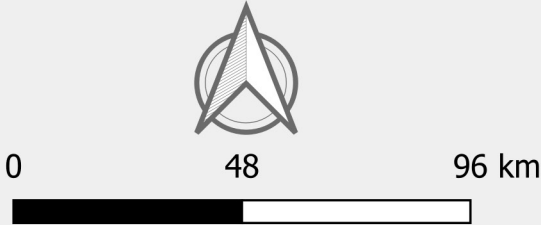
FOR HUMANITARIAN USE ONLY
PRODUCTION DATE : 23 MARCH 2023



Methodology:
The map shows the highest macroseismic intensity reached during the 6.5 magnitude Earthquake 2023-03-21 16:47:23 (UTC+4:30). Communities within the zone III (Weak) & IV (Fair) or higher were identified as exposed communities based on which population numbers were aggregated using flowminder population data 2022 in comparison with Worldpop data 2020

Data sources:
- USGS Macroseismic Intensity ShakeMaps
- OCHA Administrative boundaries and communities
- Population data from Flowminder and Worldpop
- REACH HSM November 2022
- Coordinate System:GCS WGS 1984
Contact: reach.mapping@impact-initiatives.org

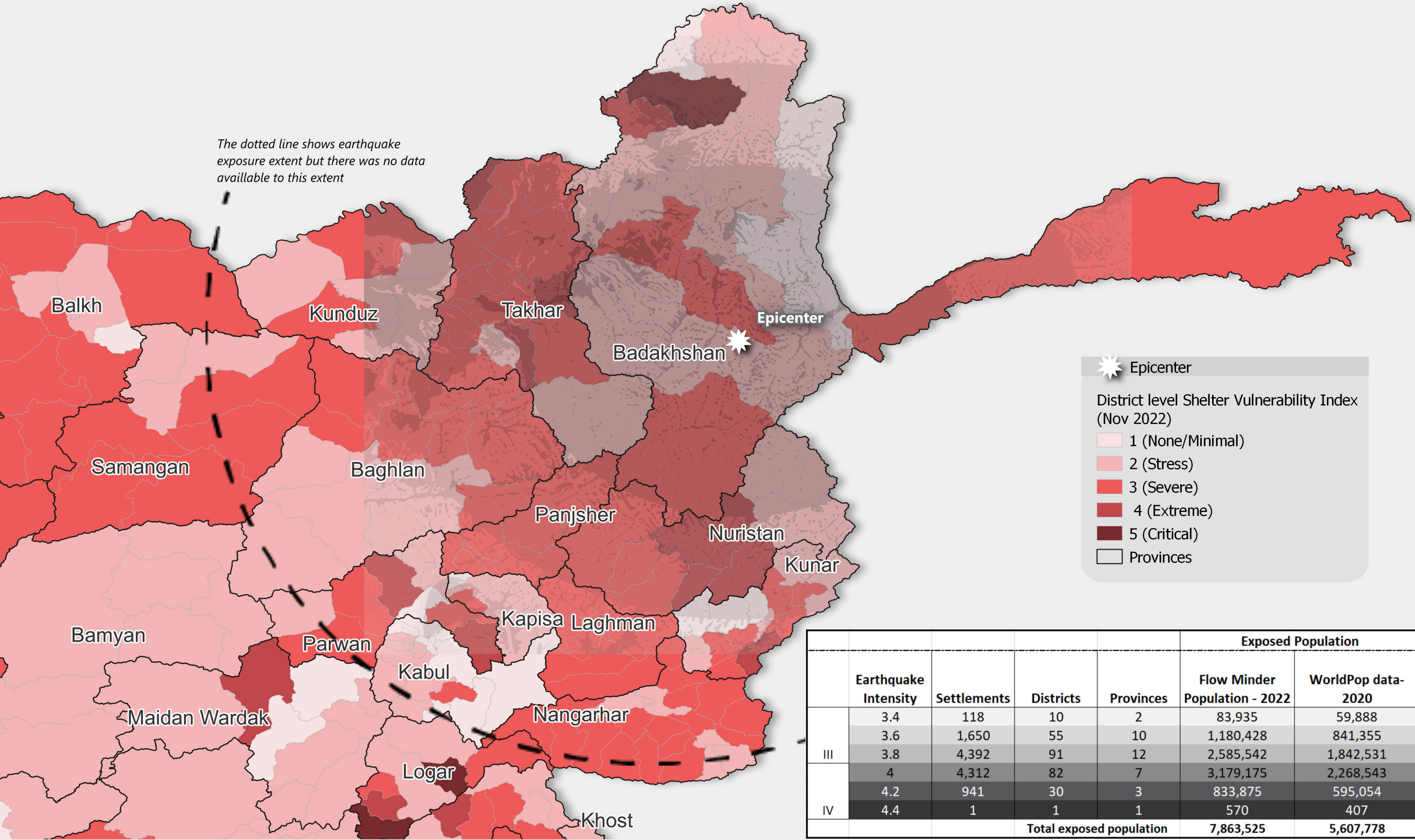
Note: Data, designations and boundaries contained on this map are not warranted to be error-free and do not imply acceptance by REACH partners, associates or donors mentioned on this map



AFGHANISTAN - EARTHQUAKE EXPOSED COMMUNITIES: SHELTER VULNERABILITY

MACROSEISMIC INTENSITY IV (FAIR) DURING 6.5 MAGNITUDE EARTHQUAKE ON 21 MARCH 2023

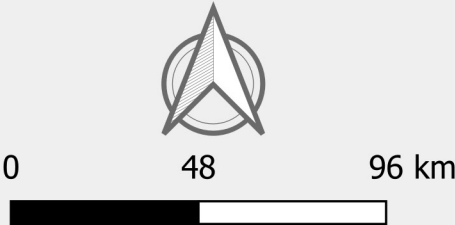
FOR HUMANITARIAN USE ONLY
PRODUCTION DATE : 23 MARCH 2023

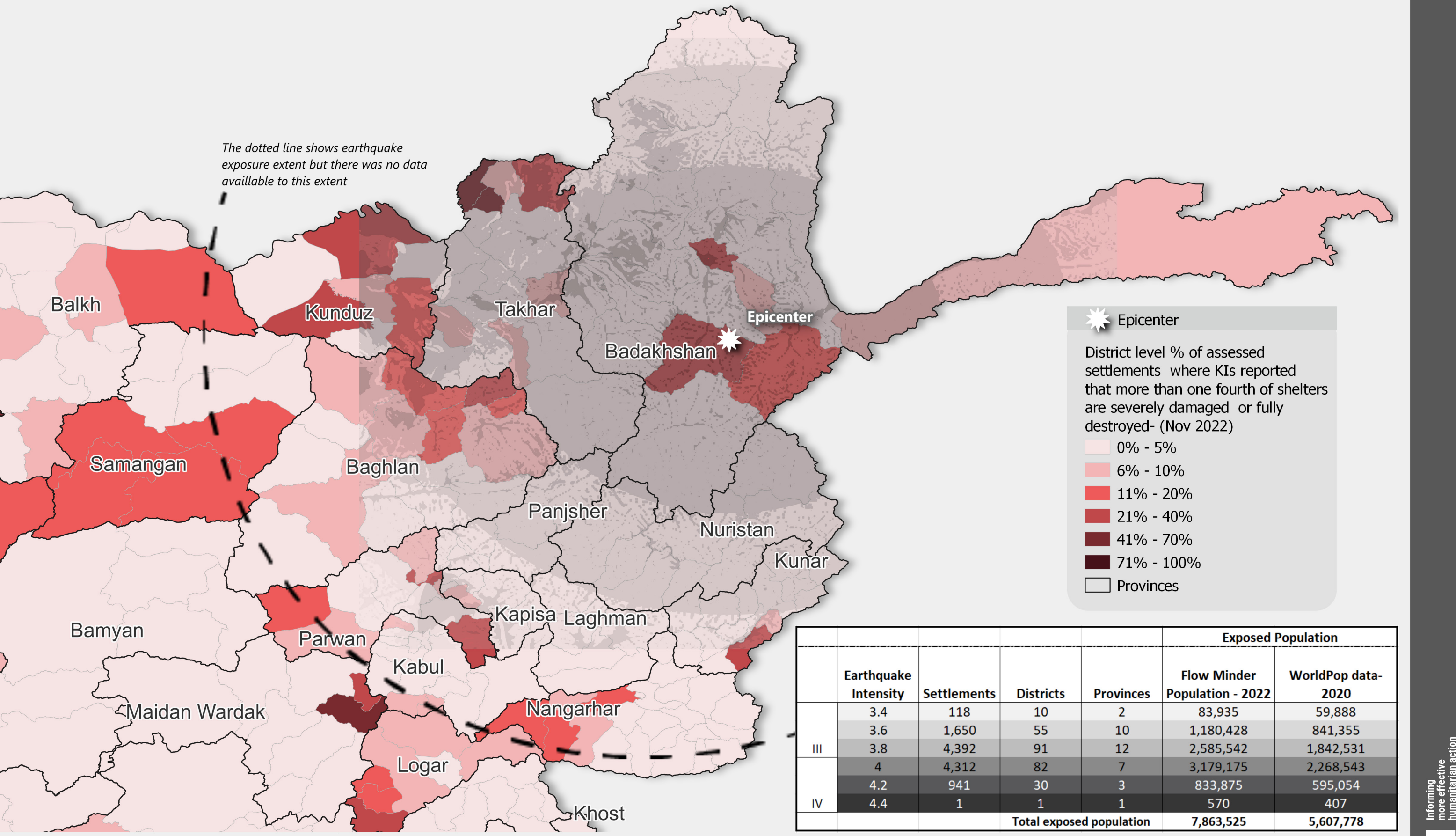


Methodology:
Shades of grey indicate the highest microseismic intensity reached during the 6.5 magnitude Earthquake of 2023-03-21 16:47:23 (UTC+4:30).
Shades of red reflect Shelter Vulnerability Index severities and provide an overview of the most common shelter vulnerability profiles found in settlements as of November 2022. The Index is based on the share of damaged shelters, most common shelter type and most common shelter issues reported in assessed settlements. For more information on the Index, please refer to the methodology on p.6.

Data sources:
- USGS Macro seismic Intensity ShakeMaps
- OCHA Administrative boundaries and communities
- Population data from Flowminder and Worldpop
- REACH HSM November 2022
- Coordinate System: GCS WGS 1984
Contact: reach.mapping@impact-initiatives.org

Note: Data, designations and boundaries contained on this map are not warranted to be error-free and do not imply acceptance by REACH partners, associates or donors mentioned on this map

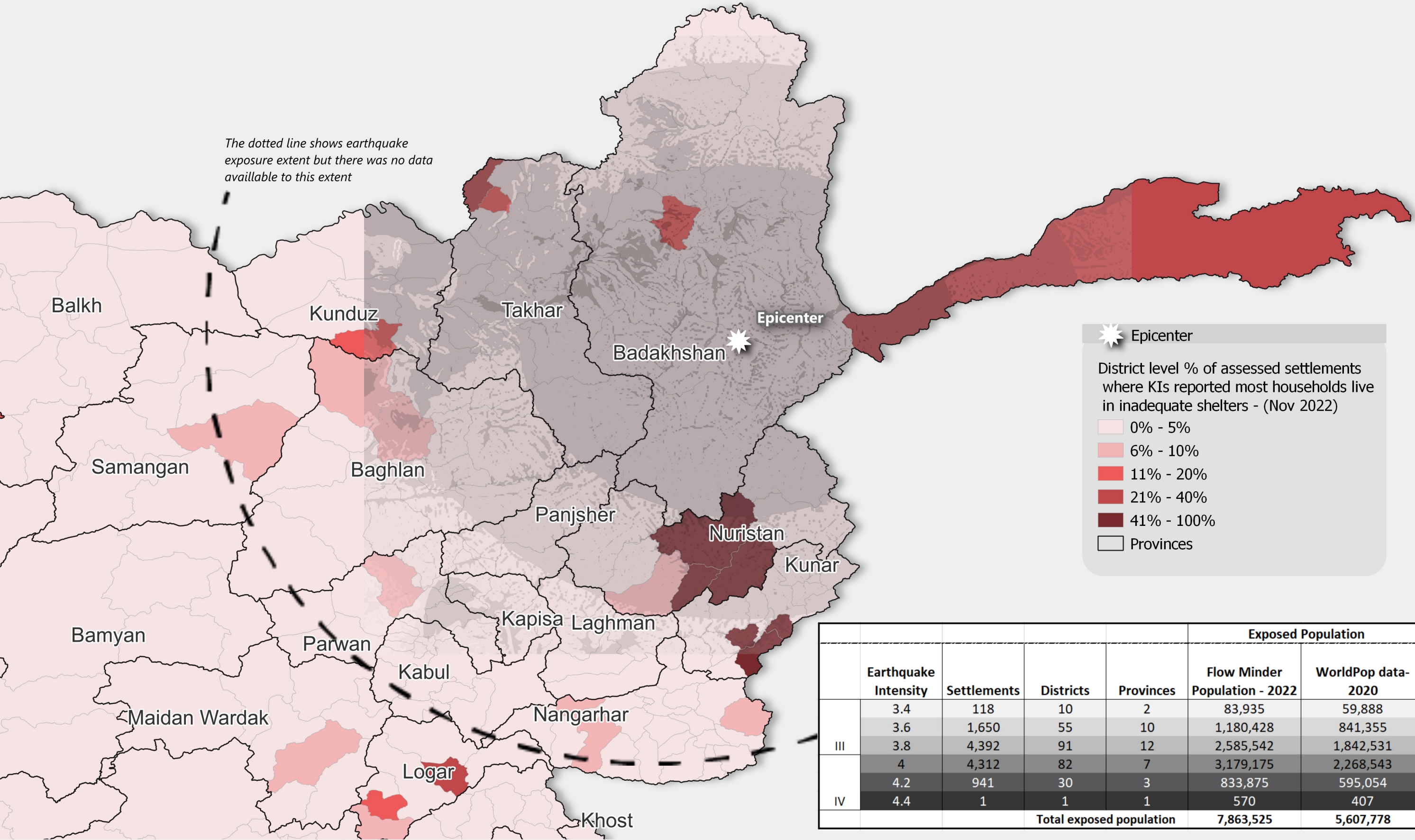




AFGHANISTAN - EARTHQUAKE EXPOSED COMMUNITIES: INADEQUATE SHELTER

MACROSEISMIC INTENSITY IV (FAIR) DURING 6.5 MAGNITUDE EARTHQUAKE ON 21 MARCH 2023

FOR HUMANITARIAN USE ONLY
PRODUCTION DATE : 23 MARCH 2023



Methodology:
Shades of grey indicate the highest microseismic intensity reached during the 6.5 magnitude Earthquake of 2023-03-21 16:47:23 (UTC+4:30). Shades of red reflect the share of assessed settlements in each district where KI's reported most households live in inadequate shelters, according to HSM data collected in November 2022. Types of shelter considered as "inadequate" include unfinished shelters, transitional shelters (including built by NGOs), makeshift shelters, collective centers, emergency shelters built by NGOs as well as households living in the open space.

Data sources:
- USGS Macro seismic Intensity ShakeMaps
- OCHA Administrative boundaries and communities
- Population data from Flowminder and Worldpop
- REACH HSM November 2022
- Coordinate System:GCS WGS 1984
Contact: reach.mapping@impact-initiatives.org

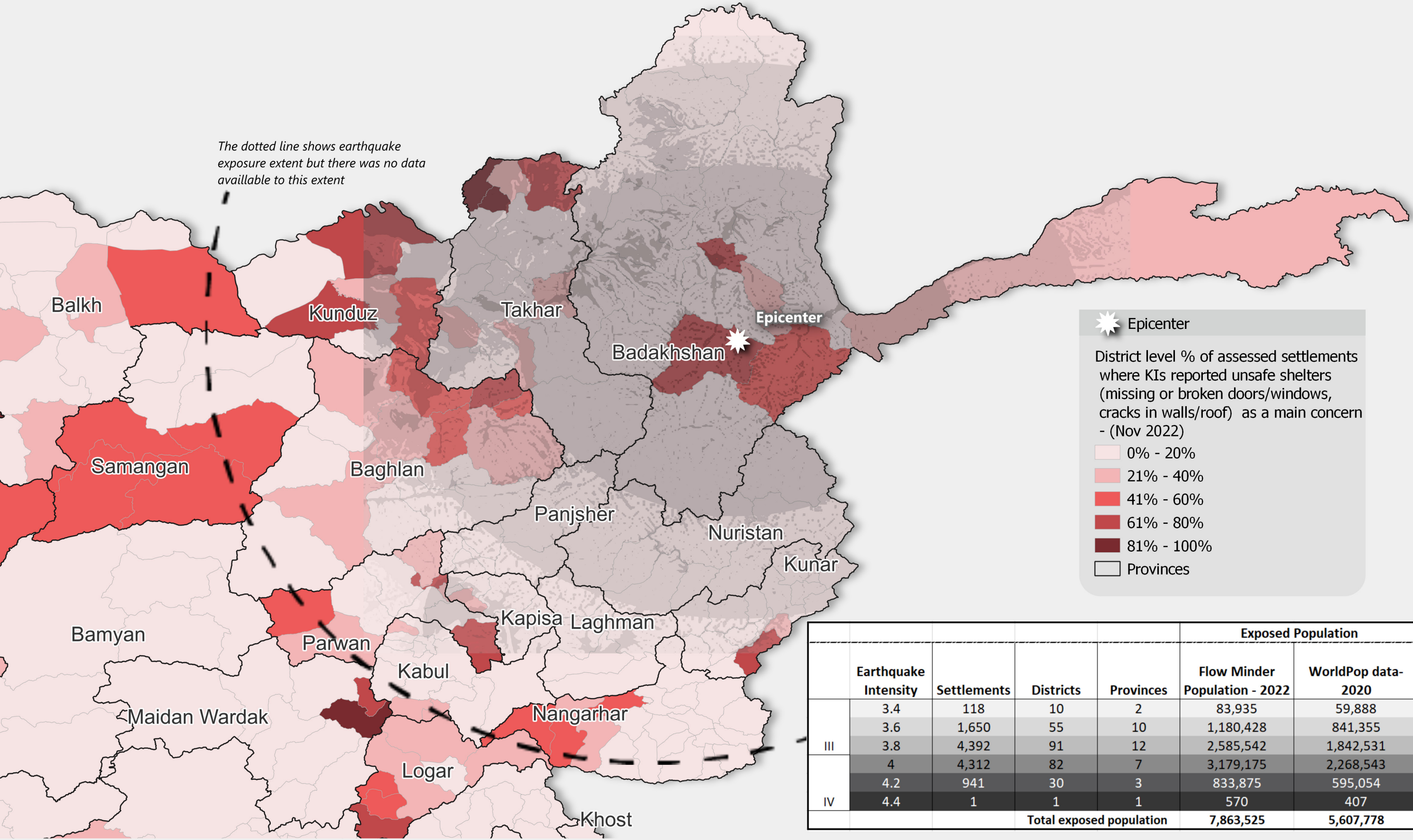
Note: Data, designations and boundaries contained on this map are not warranted to be error-free and do not imply acceptance by REACH partners, associates or donors mentioned on this map



AFGHANISTAN - EARTHQUAKE EXPOSED COMMUNITIES: UNSAFE SHELTERS

MACROSEISMIC INTENSITY IV (FAIR) DURING 6.5 MAGNITUDE EARTHQUAKE ON 21 MARCH 2023

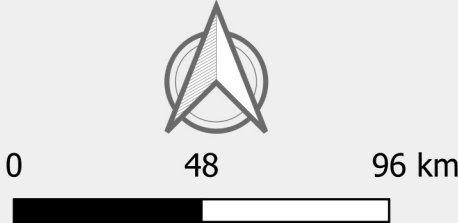
FOR HUMANITARIAN USE ONLY
PRODUCTION DATE : 23 MARCH 2023



Methodology:
Shades of grey indicate the highest microseismic intensity reached during the 6.5 magnitude Earthquake of 2023-03-21 16:47:23 (UTC+4:30).
Shades of red reflect the share of assessed settlements in each district where KIs reported unsafe shelters (ie. with doors or windows missing or broken, unable to close properly, and cracks in the walls or roof) as a main shelter-related concern, according to HSM data collected in November 2022.

Data sources:
- USGS Macroseismic Intensity ShakeMaps
- OCHA Administrative boundaries and communities
- Population data from Flowminder and Worldpop
- REACH HSM November 2022
- Coordinate System: GCS WGS 1984
Contact: reach.mapping@impact-initiatives.org

Note: Data, designations and boundaries contained on this map are not warranted to be error-free and do not imply acceptance by REACH partners, associates or donors mentioned on this map



METHODOLOGY OVERVIEW

Humanitarian Situation Monitoring

The HSM methodology uses settlements as the unit of analysis. A structured survey tool was used to interview key informants (KIs) about the humanitarian situation in their settlement. A sampling frame covering 401 districts in all 34 provinces of Afghanistan was used with a minimum coverage of 10% of total settlements in each district. The November 2022 round of HSM data collection took place between October 30th 2022 and November 23rd 2022. A total of 10,443 KI interviews were included in the analysis - including 644 (6%) with female KIs. For more information on the HSM methodology, please refer to the [research Terms of Reference](#).

Shelter Vulnerability Index

The Shelter Vulnerability Index is an index aimed at providing district-level information on the most common shelter vulnerability profiles found in settlements. Building upon the district prioritization framework used for the [ES-NFI Rapid Assessment Mechanism](#), and on ES-NFI indicators from the Joint Intersectoral Analysis Framework, the framework looks at three shelter indicators extracted from REACH’s November 2022 Humanitarian Situation Monitoring data: share of damaged shelters, most common shelter

Shelter Vulnerability Index Framework

Indicator	Question	Ques- tion weight	Severity				
			None/Minimal 1	Stress 2	Severe 3	Extreme 4	Critical 5
% of settlements by share of severely damaged shelters	In the past 3 months, what proportion of shelters in your settlement have been severely damaged (damage to foundations, roof, walls etc) or fully destroyed and have not been repaired?	3	No shelter (0%)	Few shelters (1 - 25%)	Some shelters (26 - 50%)	Many shelters (51 - 75%)	Almost all / all shelters (76 - 100%)
% of settlements by most common shelter type	What type of housing/shelter is most common in these settlements?	2	Permanent shelter with poor material Or Permanent shelter with robust material Or Partially built concrete houses	Mud Houses	Unfinished shelter Or Transitional shelter Or Transitional shelter built by NGO	Makeshift shelter Or Collective center	Emergency shelter Or Open space
% of settlements by most common shelter issues	What, if any, are the concerns regarding housing/shelter in these settlements?	1	None	Overcrowded Or Presence of dirt of debris	Unable to afford rent Or Lack of or defective sewage Or Lack of water supply Or Poor ventilation Or Leaks during rain Or No insulation/heating	Unable to afford construction Or No authorization for repairs Or No labour/material available for repairs Or No separate/private space for women and girls	Unsafe (doors or windows missing, broken, unable to shut properly, cracks in roof or walls)

type and most common shelter issues. To calculate the composite score, each assessed settlement first received an individual severity score for each indicator (see table below). Average district severities were then computed for each indicator, before being weighted and aggregated. Results were normalized and rounded to match a 1-to-5 scale.

Geo-spatial data

The geospatial data on earthquake intensity was extracted from the United States Geological Survey [earthquake shakemap](#). The shades of grey reflect levels of earthquake intensity based on the Mercalli scale. Intensity levels represented on the map vary between intensity III (Weak) and IV (Light). Population and settlement figures are based on Flowminder (2022) and Worldpop (2020) data.

Limitations

- The HSM methodology relies on KI interviews and is indicative of KI perspectives on the assessed settlements. Results may not reflect experiences of individual households within the assessed settlements.
- In rare cases, the sample size per district is relatively low, i.e. 6 KIs per district.
- The HSM data used in the maps dates from November 2022 and does not reflect changes to shelter condition that could have occurred during the winter season.