

SPECIAL EARTHQUAKE BULLETIN

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Basic Facts

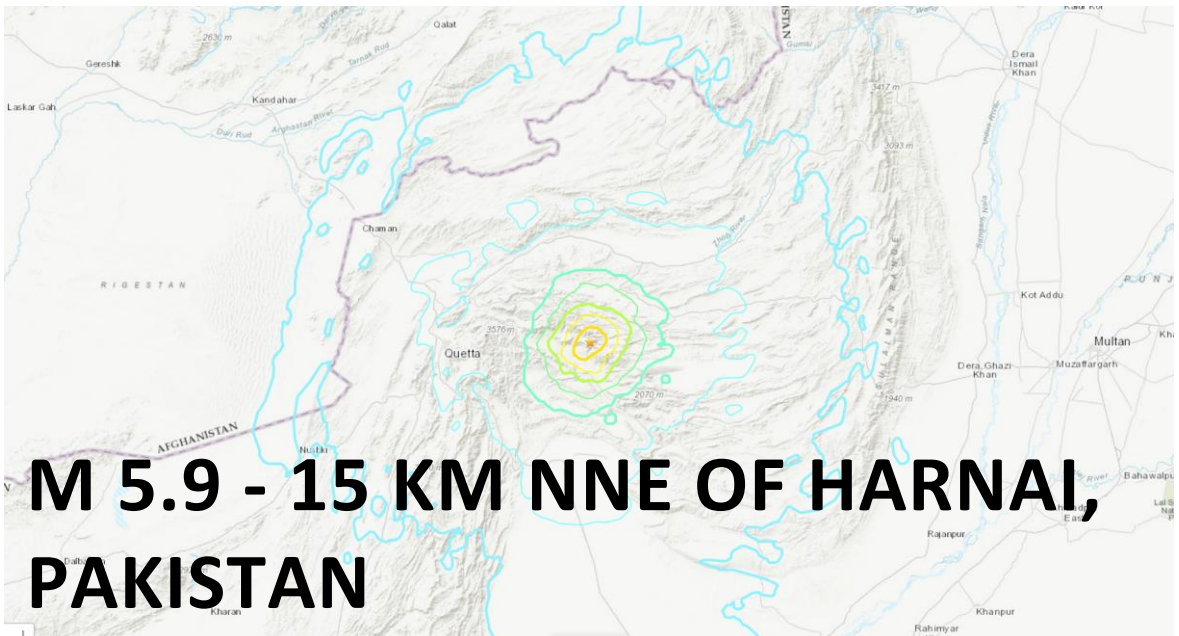
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Rizwan Mirza, CE
Editor-in-chief

A Magnitude 5.9 earthquake shook Harnai, Baluchistan, Pakistan, on 6th October, 2021, 22:01:08 (UTC), 3:01:08 am, 7th October, 2021, Pakistan Standard Time. The source is believed to be around 9 km deep. The location coordinates were 30.220°N 68.014°E.

Baluchistan is a sparsely populated province. While it is seismically active construction in this region is, by and large, vulnerable to earthquake shaking. The predominant building material is adobe block while other materials

such as timber and metal are also known to have been used. In order to supplement the other efforts, the effected persons were air-lifted to hospitals, by the military:

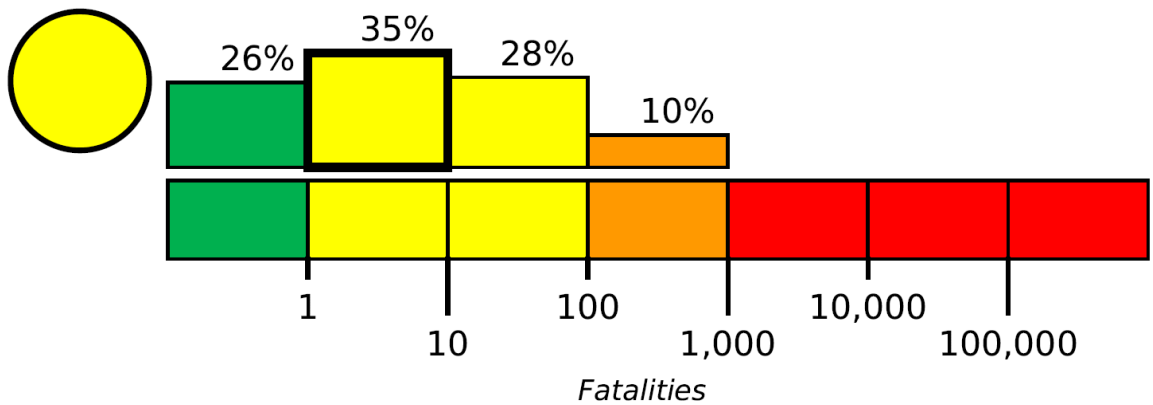


Estimated Losses

Human Life

At least 20 people were confirmed dead, including 6 children.

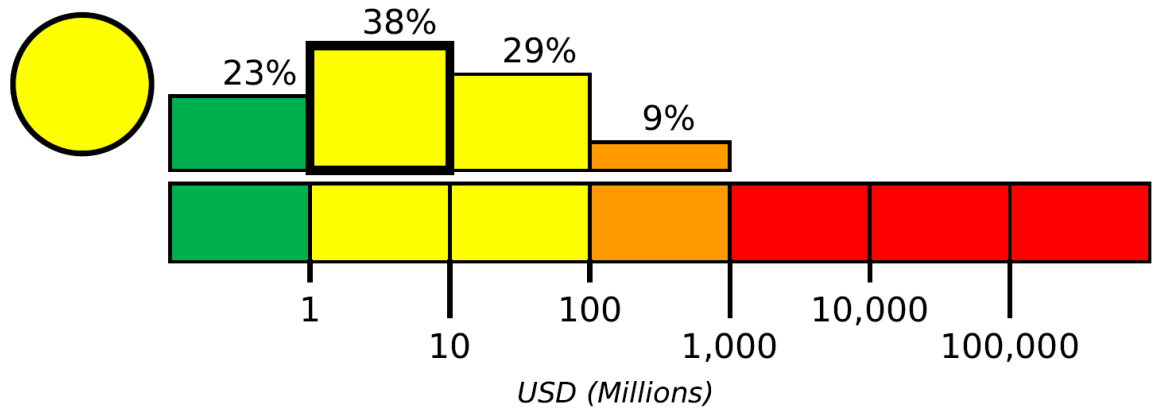
Estimated fatalities have been shown in the following probabilistic map:





Economic Loss

Estimated economic loss has been shown in the following probabilistic map:

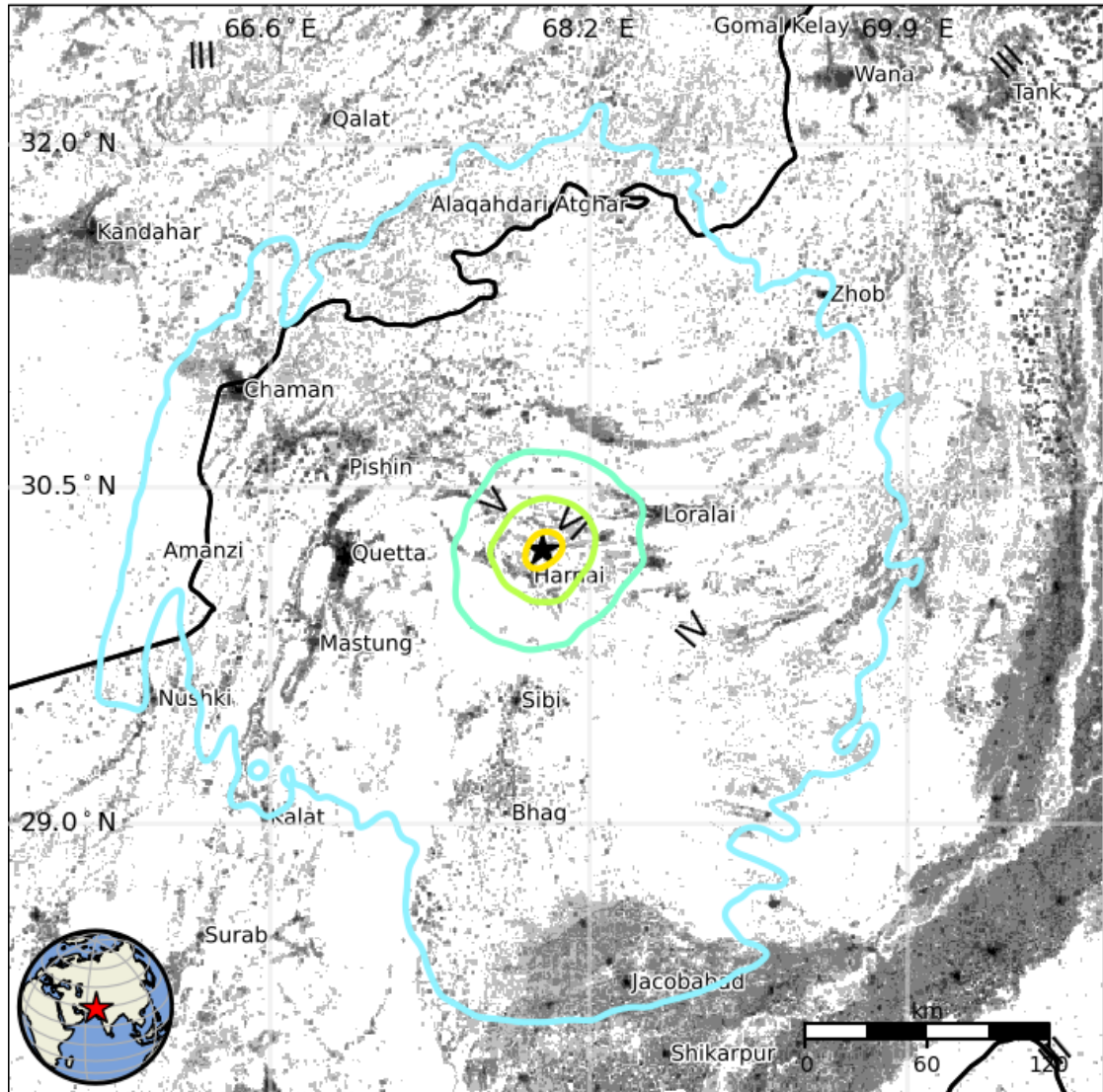


Images of damaged structures may be seen below:



Population Exposure

Following map shows the surrounding cities, along with the expected MMI corresponding to each:



The estimated population, and the MMI associated with the surrounding cities was as follows:

MMI	City	Population
VII	Harnai	11 k
V	Ziarat	1 k
V	Duki	6 k
IV	Loralai	38 k
IV	Quetta	734 k
IV	Kot Malik Barkhurdar	69 k
IV	Jacobabad	171 k
III	Dera Ghazi Khan	236 k
III	Qalat	12 k
III	Kandahar	391 k
III	Sadiqabad	190 k

Aggregate exposure of population to various intensity levels was follows:

MMI	Shaking	Population
I	Not Felt	0 k*
II-III	Weak	17,882 k*
IV	Light	7,788 k
V	Moderate	226 k
VI	Strong	73 k
VII	Very Strong	10 k
VIII	Severe	0 k
IX	Violent	0 k
X	Extreme	0 k

Fallout Summary

Following graphs show an overall technical, human and economic fallout of the event:

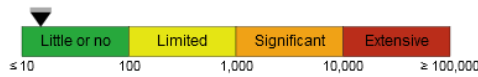
Landslides

Estimated Area Exposed to Hazard



Landslides triggered by this earthquake are estimated to be limited in number and (or) spatial extent.

Estimated Population Exposure



The number of people living near areas that could have produced landslides in this earthquake is low, but landslide damage or fatalities are still possible in highly susceptible areas. This is not a direct estimate of landslide fatalities or losses.

Liquefaction

Estimated Area Exposed to Hazard



Little or no liquefaction is expected, but some liquefaction could have occurred in highly susceptible areas.

Estimated Population Exposure



The number of people living near areas that could have produced liquefaction in this earthquake is low, but liquefaction damage or fatalities are still possible in highly susceptible areas. This is not a direct estimate of liquefaction fatalities or losses.



Upcoming Lecture

The 31st and next lecture of Continuing Education Initiative of PSCE is schedule to be held on Saturday, 13th November, 2021, Pakistan Standard Time, 14:00 to 16:00. The official announcement is as follows:



Pakistan Society of Civil Engineers

Licensed, by the Pakistan Engineering Council, as a Professional Engineering Body

▶ Continuous Professional Development Initiative ◀

PSCE LECTURE No. 36

Technical Lecture Counted Towards CPD Points Under
Professional Development of Engineers Bye-Laws, 2008 of the PEC

Basic Consideration and Application of SCC in Pakistan



Dr. Engr. Syed Ali Rizwan, PE

M.Sc. Structural Engineering (Surrey, UK), Ph. D. Engineering, Technical University, Freiberg, Germany
Dean, School of Engineering (SEN), University of Management and Technology, Lahore, Pakistan

Saturday, 13th November, 2021

14:00 to 16:00, Pakistan Standard Time (PKT)

Saturday, 13th November, 2021

9:00 to 11:00, Universal Time Coordinated (UCT)

Online lecture to be joined through ZOOM.

Details would be sent, by email, to the registered applicants, a day before the lecture.
For obtaining CPD points, live appearance of every participant is mandatory during the lecture.

Registration Fee:

PSCE associates: Free

Other engineers and allied professionals: PKR 500

Bank Details:

Account title: Pakistan Society of Civil Engineers

Account Number: 2008209912

Bank: Silk Bank Limited

Branch: Egerton Road Branch, Lahore 54000, Pakistan

Branch Code: 0003

IBAN: PK39 SAUD 0000 0320 0820 9912

Swift Code: SAUDPXXKXXX

Contact person for registration:

Mrs Sadia Naveed, Administrator

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- Decorate Your Workplace with the Graceful Membership Certificate
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Disclaimer

This issue is partly based on information obtained, in good faith, from secondary sources and no claim about veracity, originality or exhaustiveness is made. Through this document, no position is being intended or taken by the PSCE on the issue in question.

PSCE Newsletter



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