



Pakistan

Languages, Flood Risks, and Cellphone Infrastructure



According to the Center for Disaster Philanthropy, "Pakistan is one of the countries most affected by extreme weather events due to climate change".

(Center for Disaster Philanthropy, 2023)

This results in significantly damaging flooding events, including those in 2022. There are also over 70 languages spoken and significant gaps in telecommunications infrastructure.

Response plans and warning systems need to consider these factors to design communication strategies that reach those most at risk

To inform better planning and response, we compiled data on flood risk, cellphone infrastructure and language use in an interactive map that highlights important gaps and barriers to effective communication with at-risk populations.

The following maps and analysis are based on data from:

- UNICEF 2017-2020, Multiple Indicator Cluster Surveys (MICS6)
- World Food Program (WFP) 2017, Integrated Context Analysis (ICA) Pakistan
- OpenCellID 2023, Data Cell position Pakistan

Flood Risk and Language Use

All regions of Pakistan are linguistically diverse.

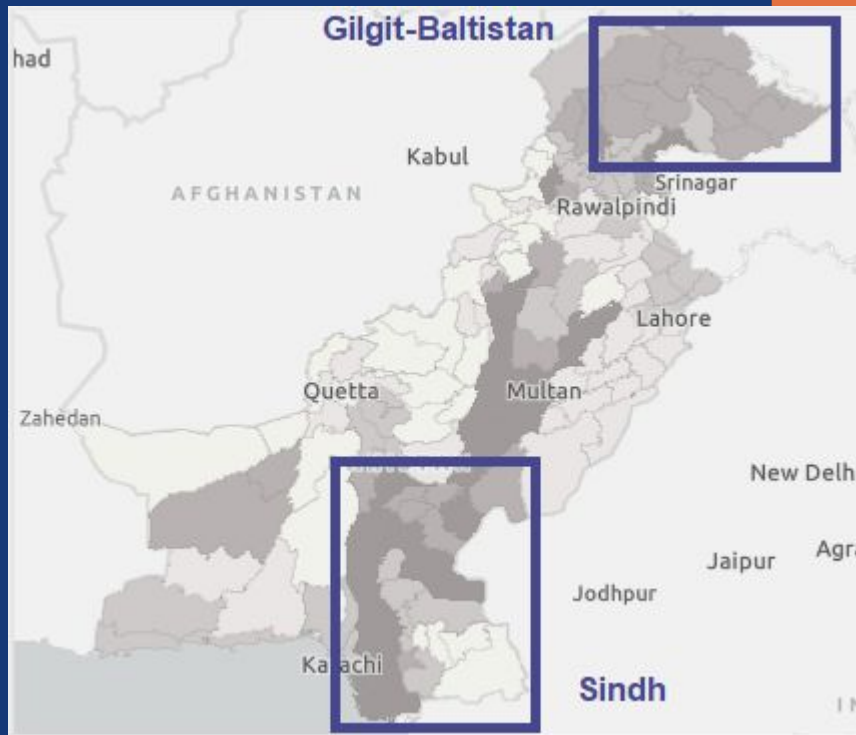
- In areas facing high flood risk, communicating in regional and local languages is vital.
- Gilgit-Baltistan and Sindh regions have the highest recorded flood risk. Urdu - the official language - is not the primary language in either of these regions. Many smaller languages are also spoken.
- Organizations and authorities need to understand the languages used in order to communicate effectively about flood response and recovery.



URDU	ENGLISH
	SARAIKI
SINDHI	SHENA
	PUNJABI
KOHISTANI/GUARAJI	
HINDKO	KHOWAR (CHITRALI)
	OTHER LANGUAGES
BALUCHI	DARI/FARSI
	PUSHTO

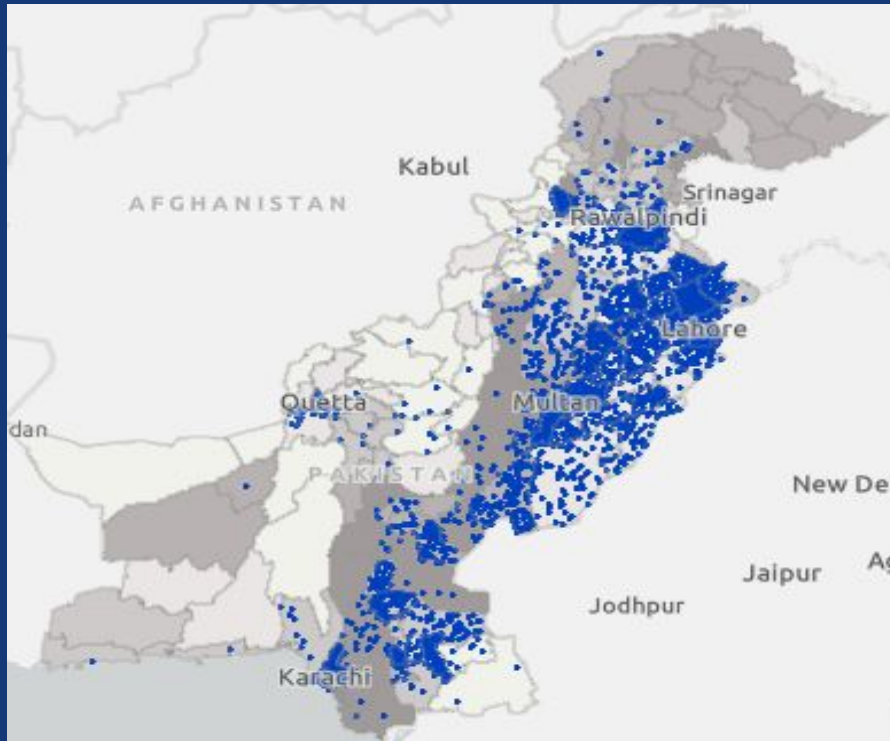
Flood Risk and Language Use

Gilgit-Baltistan and Sindh regions have the highest recorded flood risk, so understanding communication needs and preferences in these areas is a priority for effective response planning.



Flood Risk and Language Use

Urdu - the national language - is not the main language spoken in either of these regions, so responders need to know which languages are relevant to communicate about flood prevention, response and recovery



Legend

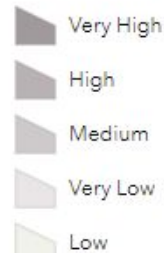
Languages

Urdu

1 Dot = 2,050 speakers



Flood hazard risk



Each dot represents 2,050 Urdu speakers in the area

Flood Risk and Cell Service Coverage

Some remote areas at risk of floods are more likely to have lower cell tower density.

- Cellphone ownership is high (more so among men) and messaging apps are popular in Pakistan.
- Our mapping of cell towers and flood risk found that many areas at high or very high risk of flooding have a less dense coverage.
 - Gilgit-Baltistan region has one of the highest levels of flood risk but one of the least dense cell infrastructure services.
- People more in need of communication during flood response and recovery may experience barriers receiving and sharing SMS and other cell-based communication.



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Flood Risk and Cell Service Coverage

Gilgit-Baltistan region has one of the highest flood risks but one of the lowest levels of cell infrastructure density.



Legend

Cell tower position

Flood hazard risk

- Very High
- High
- Medium
- Very Low
- Low

Linguistic Diversity

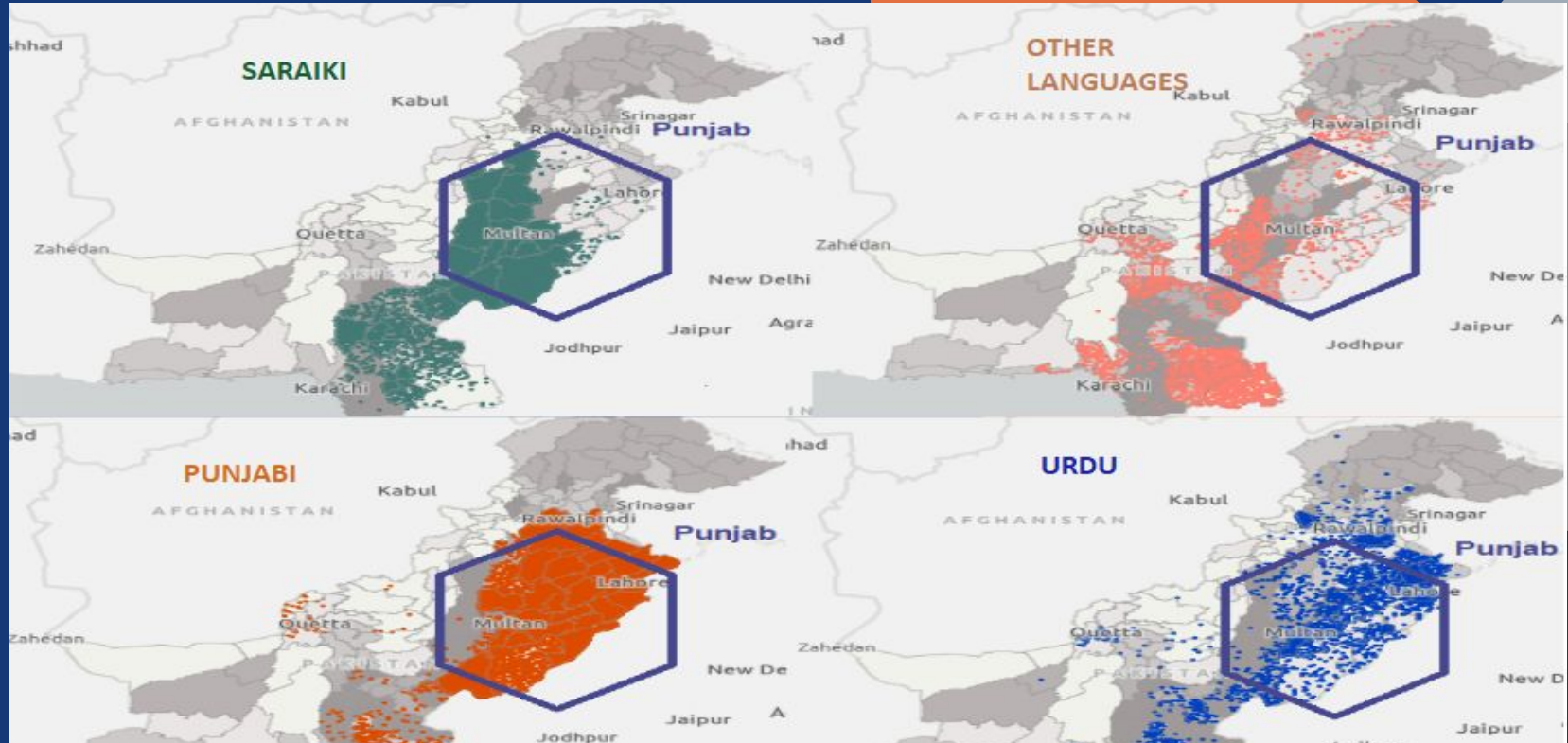
Linguistic diversity across Pakistan highlights the importance of building language awareness into communication planning.

- Punjab and Sindh are the most linguistically diverse provinces according to MICS6 data, but this does not represent the full linguistic diversity as the MICS did not gather data on every language spoken in Pakistan.
- Several minority and marginalized languages were collapsed into an "other language" category.
- Organizations need to collect and use language data for the communities they work with.



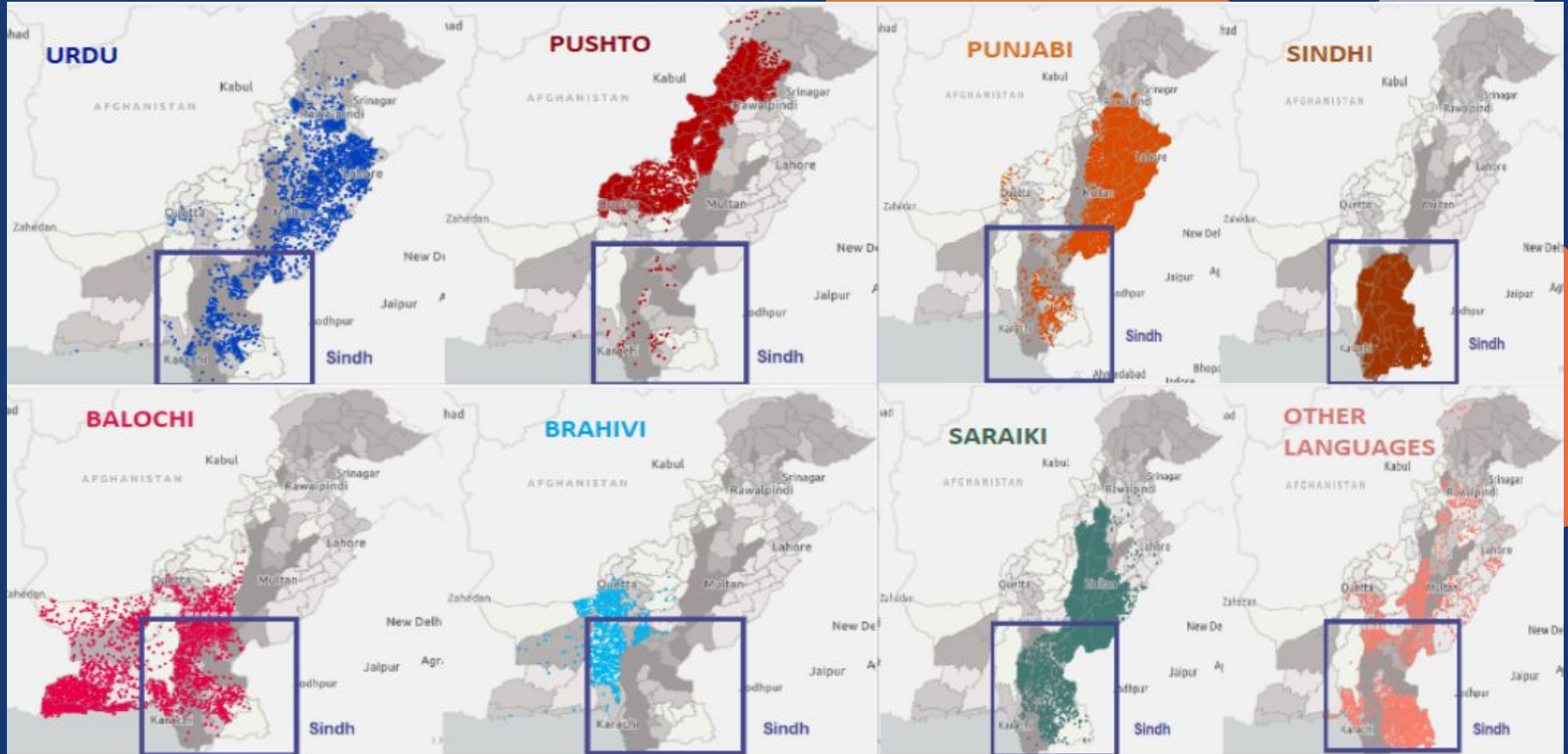
Linguistic Diversity

Punjab is one of the most linguistically diverse provinces according to MICS6 data , emphasizing the need to collect language data and plan multilingual communication.



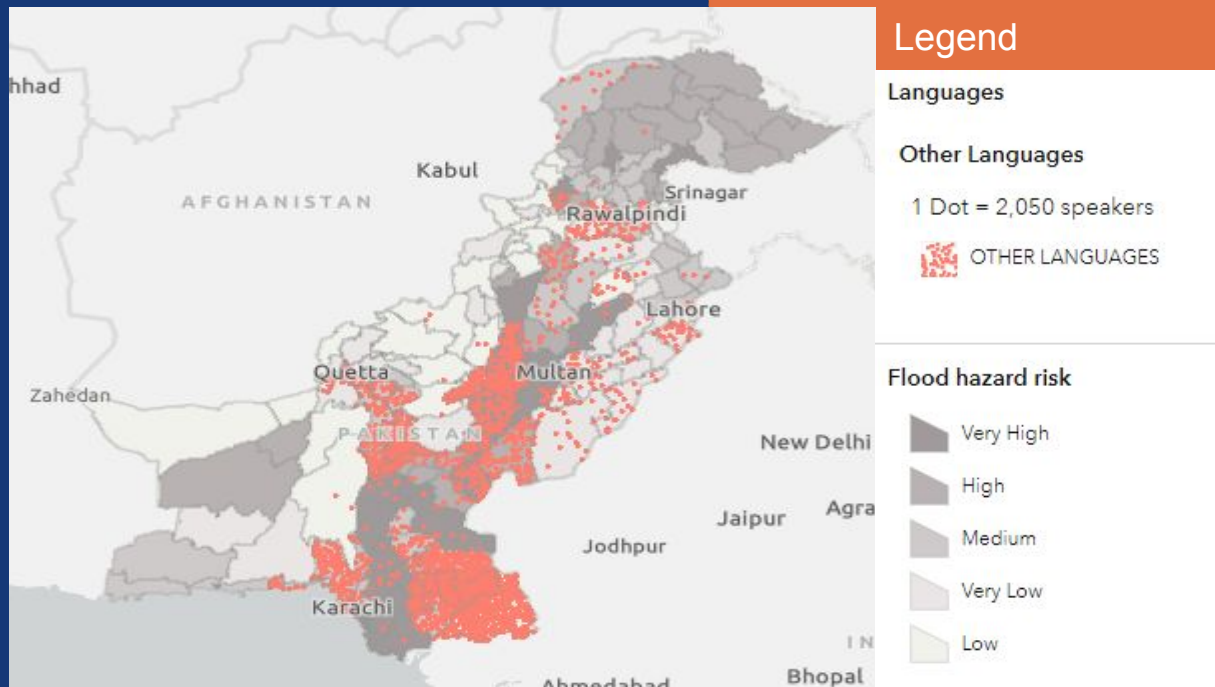
Linguistic Diversity

Sindh is one of the most linguistically diverse provinces according to MICS6 data.



Linguistic Diversity

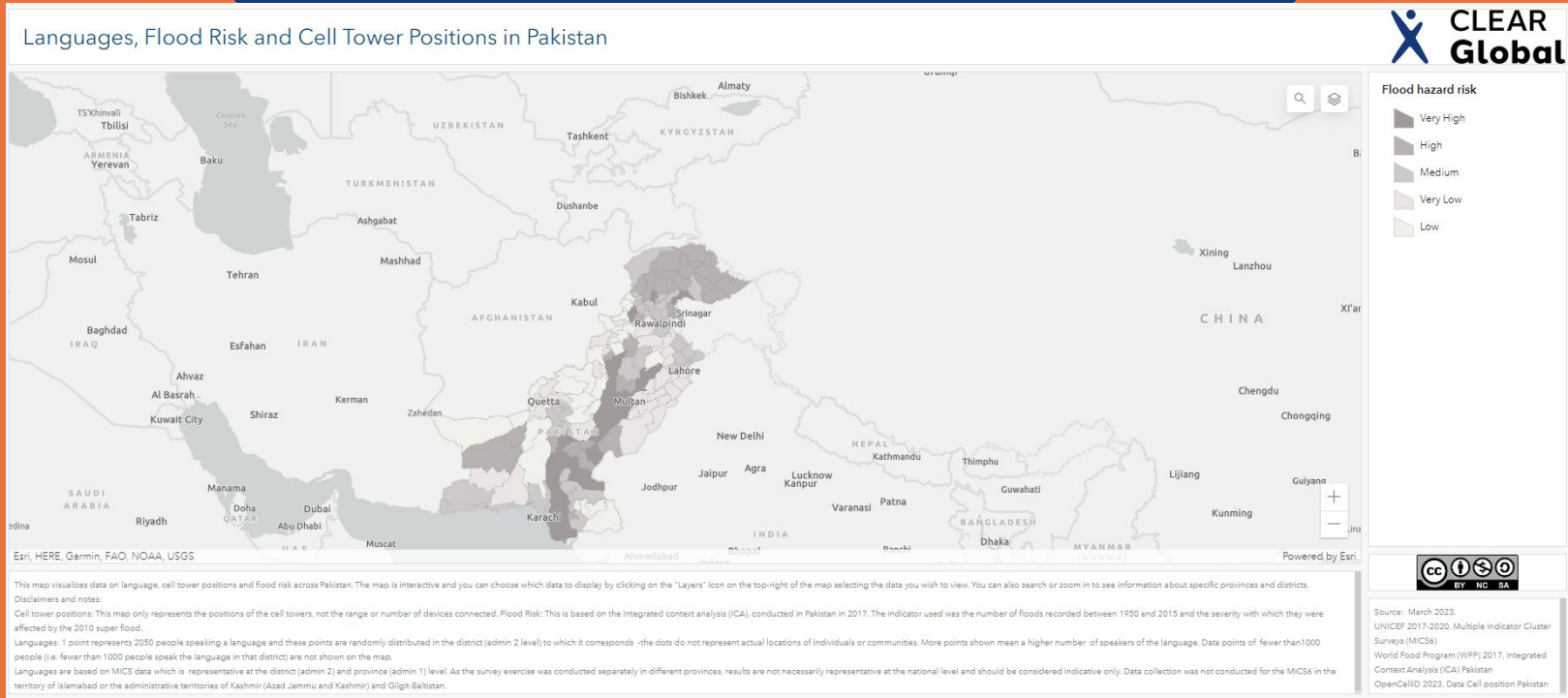
Considerable gaps remain: MICS did not gather data on every language spoken in Pakistan, as several languages were collapsed into an "Other language" category.



According to other sources, there are over 70 different languages spoken in Pakistan. Therefore, grouping all these into an "other" category generalizes the many languages that exist across the country and obscures a much wider linguistic diversity, making it harder for responders to know which languages to use to reach marginalized communities.

Pakistan Dashboard

You can see the full data on languages, cell tower position and flood risk on our interactive dashboard, available here: [LINK](#)



Disclaimers and notes:

- Cell tower positions: This map only represents the positions of the cell towers, not the range or number of devices connected.
- Flood Risk: This is based on the ICA conducted in 2017. The indicator used was the number of floods recorded between 1950 and 2015 and the severity with which people were affected by the 2010 super flood.
- Languages: 1 dot represents 2050 people speaking a language. These points are randomly distributed in the district (admin 2 level) to which they correspond. The dots do not represent actual locations of individuals or communities. More points indicate a higher number of speakers of the language. Data points of fewer than 2050 people (i.e. fewer than 2050 people speak the language in that district) are not shown on the map.
- Languages are based on MICS data, which is representative at the district (admin 2) and province (admin 1) level. The survey exercise was conducted separately in different provinces, so results are not necessarily representative at the national level and should be considered indicative only. Data collection was not conducted for the MICS6 in the territory of Islamabad or the administrative territories of Kashmir (Azad Jammu and Kashmir) and Gilgit-Baltistan.

URDU

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This research was developed with funding from the H2H Network. As part of this project, CLEAR Global also conducted qualitative research in Sindh and South Punjab on the reach and accessibility of flood-related communication, in partnership with Pattan Development Organization.

The H2H Network is driving change across the humanitarian system, getting more to people in need, by coordinating and convening humanitarian-to-humanitarian support and services. The H2H Network and its fund are supported by UK aid - from the British people, and the U.S. Agency for International Development - from the American people, and is hosted by the Danish Refugee Council.

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H2H Network
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