Briefing Note – 22 March 2017

PERU

Floods in Piura, Lambayeque, Lima, Ica and Arequipa

Need for international assistance	Not required	Low	Moderate	Significant	Major
		X			

Expected impact	Very low	Low	Moderate	Significant	Major
		X			

Crisis overview

Since December 2016, above-average rains have caused flooding and landslides in 24 of the 25 regions of Peru. Over 99,000 people have suffered losses and over 600,000 people have been affected. 12 regions have declared a state of emergency. Piura and Lambayeque in the northwest, and Ica and Arequipa in the southwest are most affected. Piura, Lambayeque, Lima, Ica and Arequipa are particularly affected by infrastructure damage such as road and bridge collapse, damage to sewage and drainage systems, and health concerns.

Affected area	Resident pop.	No. people affected	No. people who suffered losses	Deaths	Injured	Missing
Lima	9,383,251	13,622	2,964	3	24	1
Lambayeque	1, 260,650	72,851	30,910	3		
Piura	1,799,607	211,184	14,933	6	10	
Ica	711,932	57,533	3,197		60	
Arequipa	1,152,303	540				

Key findings

Anticipated scope and scale

The rains have caused the worst flooding for 20 years, with 10 times the normal levels of rainfall across the country (The Washington Post 20/03/2017). Heavy rains are expected until at least April, notably along the coast, including Lima (IFRC 20/03/2017, Skymetweather 21/03/2017). Piura, Lambayeque, Ica, and Arequipa are severely affected. Despite existing vulnerabilities as a result of previous natural disasters, national and international response is underway, which should help mitigate the life-threatening consequences of the crisis.

Priorities for humanitarian intervention

- **WASH**: Shortages of drinking water in Lima and Arequipa and the collapse of several sewage and drainage systems in four or the five regions. Risk of communicable disease outbreak.
- **Health**: Increasing reports of dengue and chikungunya in Lambayeque, Piura and Ica. The first death from dengue country-wide was reported on 21 March in Lambayeque.
- **Shelter:** Thousands of houses have been destroyed in the five regions.

Humanitarian constraints

Ongoing rains are restricting movement country-wide. Road damage and travel restrictions imposed by the government because of the rains are also likely to limit aid delivery to affected populations in Lima, Piura, Lambayeque, Ica and Arequipa.

Limitations

It is unclear where displaced people are sheltering while waiting for the government to set up camps.

Crisis impact

As of 18 March, 99,475 people have suffered losses and 626,300 people have been affected, mostly by their houses being destroyed. 78 people have been killed, 263 people injured and 20 are missing (Government of Peru 19/03/2017, Humanity Road 21/03/2017). 8,000 people are displaced (GDACS 21/03/2017).12 regions have declared a state of emergency (Humanity Road 20/03/2017). As of 16 March, the most affected regions are Piura and Lambayeque in the northwest, and Ica and Arequipa in the southwest (OCHA 20/03/2017).

In Lima, Lambayeque, Piura, Ica, and Arequipa, flooding and landslides have resulted in severe damage to sewage and drainage systems, which is limiting safe drinking water and facilitating the spread of diseases. Hundreds of hectares of crops have been damaged in these regions, and food shortages are starting to be reported in markets in Lima. Houses have collapsed or been severely damaged.

WASH

Several vector-borne diseases are endemic in Peru, notably malaria and dengue. The current damage to the sanitation and health system is likely to accelerate the spread of water-borne diseases, as well as increase vulnerability to vector-borne diseases.

Lima: Drinking water shortages have been reported in Lima since 16 March and affects almost the entire population of 9 million. Access has been interrupted because the water system is clogged up by floodwaters and mudslides, and water cannot be treated. (Reuters 19/03/2017, Humanity Road 20/03/2017, La Tercera 21/03/2017). A sewage system has collapsed in Lima (Reuters 19/03/2017).

Lambayeque: In Chiclayo, the drainage system was reported to have collapsed on 20 March (OCHA 20/03/2017). Latrines have collapsed in peri-urban areas of Chiclayo. Access to safe water in Chiclayo is currently limited (OCHA 20/03/2017). This heightens the risk of the spreading of dengue, zika and chikungunya, as well as water-borne diseases. Chiclayo is a relatively poor area with already limited WASH facilities.

Piura: The drainage system collapsed in Piura as of 20 March (OCHA 20/03/2017).

Arequipa: In Charcani, Tayma district, the rupture of a pipe interrupted drinking water supply in Yura, Cerro Colorado, Alto Selva Negra, parts of Alto de Cayma, Miraflores and Paucarpata (IFRC 19/03/2017). More than 300,000 residents of the city of Arequipa, representing 30% of the people in the province, are still without potable water as of 21 March. It is estimated that the service will only be restored in three days. A water company is distributing potable water through tanker trucks, but it is not able to supply everyone (Government 21/03/2017).

Health

A health emergency was declared on 15 February (ECHO 15/02/2017).

Lambayeque: Six health facilities collapsed in Lambayeque (OCHA 20/03/2017). As of 21 March, 182 cases of dengue were reported. On 21 March, the first death from dengue country-wide was reported in Lambayeque (La Republica 21/03/2017). In 2016, 16 people were killed by dengue (RPP Noticias 20/03/2017).

Piura: A health emergency was declared on 15 February (ECHO 15/02/2017). 90 health facilities were affected by flooding in Piura (OCHA 20/03/2017). Piura is heavily affected by dengue and chikungunya, as well as water-borne diseases such as diarrhoea (RPP Noticias 08/03/2017). 246 cases of dengue were reported on 19 March, up from 209 the week before. The number seems to be increasing (Diario Peru21, 19/03/2017). As of 29 February, 10 cases of chikungunya had also been confirmed in the region (Andina 20/02/2017).

Ica: 49 cases of dengue have been reported due to contaminated water (local media 13/02/2017).

Yellow fever cases are also currently reported in neighbouring countries, notably Brazil, and seven cases were confirmed including two deaths reported in Peru as of 16 March. Cases of yellow fever are reported every year in Peru (WHO, PAHO 16/03/2017). It is transmitted by non-human primates and infected mosquitoes.

Shelter

Lima: 436 houses collapsed and 399 are not fit for habitation (INDECI 20/03/2017).

Lambayeque: 2,464 houses collapsed and 4,406 are not fit for habitation (INDECI 20/03/2017).

Piura: 2,168 houses collapsed and 1,212 are not fit for habitation (INDECI 18/03/2017).

Ica: As of 20 March, 308 houses collapsed and 452 houses are not fit for habitation (Government 20/03/2017).

Food

Lima: Food shortages are reported in supermarkets in Lima, and water shortages are affecting supermarkets' ability to function (Humanity Road 20/03/2017). There are reports that

food prices are rising in markets (VOA New 19/03/2017). 185 hectares of agricultural land have been destroyed as of 20 March (INDECI 20/03/2017).

Piura: 139 hectares of agricultural land have been destroyed (INDECI 18/03/2017).

Lambayeque: Six hectares of agricultural land have been destroyed (INDECI 20/03/2017).

Ica: At least 2,874 hectares of crops have been destroyed (IFRC 19/03/2017). On 14 March, Mata Gente river overflowed in the high Andean areas of the province of Chincha, destroying houses, public places, and extensive areas of crops in the town of Huamanpari (Government 20/03/2017).

Arequipa: 243 hectares of crops have been lost (IFRC 19/03/2017).

Education

Lima: Classes were suspended on 15 March until at least 27 March (El Universo 15/03/2017).

Lambayeque: Since 15 March, classes have been suspended until further notice (Andina 15/03/2017).

Ica: About 180 education facilities have been affected and 11 are now uninhabitable (Government 20/03/2017).

Humanitarian and operational constraints

Ongoing rains are likely to keep obstructing movement country-wide and limit aid delivery.

Lima: Road damage is severe and travel restricted by the Peruvian Ministry of Transport and Communications. As of 20 March, the Central Highway linking Carretera Central in Lima to Chanchamayo is restricted to only emergency vehicles for the next 10 days (Humanity Road 20/03/2017). In Lima, bridges and roads have been destroyed, restricting access to affected populations (IFRC 19/03/2017).

Piura and Lambayeque: The road between Piura and Chiclayo in Lambayeque, is currently not working (IFRC 19/03/2017). On 13 March, in Lambayeque, a bridge collapsed, leaving 3,000 people unreachable (PAHO 13/03/2017).

Ica: On 31 January heavy rainfall resulted in the overflow of Rio Grande river, affecting Rio Grande bridge. On 15 March, Mata Gente river overflowed in the high Andean areas of the province of Chincha and impacted communication infrastructures (Government 20/03/2017). 92 kilometres of rural roads, two bridges and 39 irrigation canals have been destroyed (IFRC 19/03/2017).

Arequipa: 41 kilometres of rural roads have been destroyed, notably in the district of Pampa Marca and Cotawasi province as of 17 March. 10 bridges and 30 irrigation canals have also been destroyed (IFRC 19/03/2017).

Aggravating factors

Previous natural disasters

Peru is regularly affected by the El Niño phenomenon, and is also prone to earthquakes and volcanic eruptions, which have led to evacuations and shelter needs in the past.

Population density

About 40% of Peru's population live on the coast, which are the areas most affected by floods (Visual Geography). Among the regions currently flooded, Lima has the highest population density in Peru with about 3,000 people per square kilometer (World Population review). The most densely populated areas after Lima are the coastal regions, including Lambayeque and Piura. It is likely that these more densely populated areas will suffer more significant damage and that more people will be affected.

Housing type

People in shanty towns in Lima live in temporary structures made out of straw mats, scrap wood and other disposable materials. These structures are likely to be more vulnerable to hazards (Encyclopedia 2007). Many of those currently affected by the weather conditions are poor households living in makeshift homes on floodplains (Reuters 19/03/2017).

Response capacity

Local and national response capacity

The Peruvian government activated the National Disaster Risk Management Committee (CONAGERD), responsible for disaster management in Peru, and has declared emergencies in 12 regions. Armed forces are deployed in Huachipa and Chosica in the

region of Lima to support road clearance. The Peruvian army has also evacuated people by helicopter, notably in Lambayeque (RT 15/03/2017). The INDECI (Instituto Nacional de Defensa Civil), Peru's Defence ministry, is distributing food aid (Humanity Road 20/03/2017).

Emergency camps have been set up by the government outside Lima (Euro news 21/03/2017). More shelters are expected to be set up in other areas, including Lambayeque and Piura (PAHO 16/03/2017).

A yellow alert was issued by the national health system to strengthen epidemiological surveillance at the beginning of February (ECHO 07/02/2017).

In Lambayeque, Chiclayo municipality has started to repair damaged infrastructures (El Comercio 21/03/2017).

In Ica, the Provincial Municipality of Ica and the districts of Los Molinos and Tinguiña have delivered tents and plastic sheets to the affected households. However, as of beginning February, it managed to respond to only 20% of the affected population (Act Alliance 03/02/2017). 157 tents have been distributed in the province, as well as 18 mattresses (Government 20/03/2017). 120 hygiene kits have been distributed in La Tinguina y San Jose de los Molinos district. Food distributions are being planned for the rest of the week for 894 families in the districts of La Tinguina, Los Aquijes and Parcona (OCHA 19/03/2017).

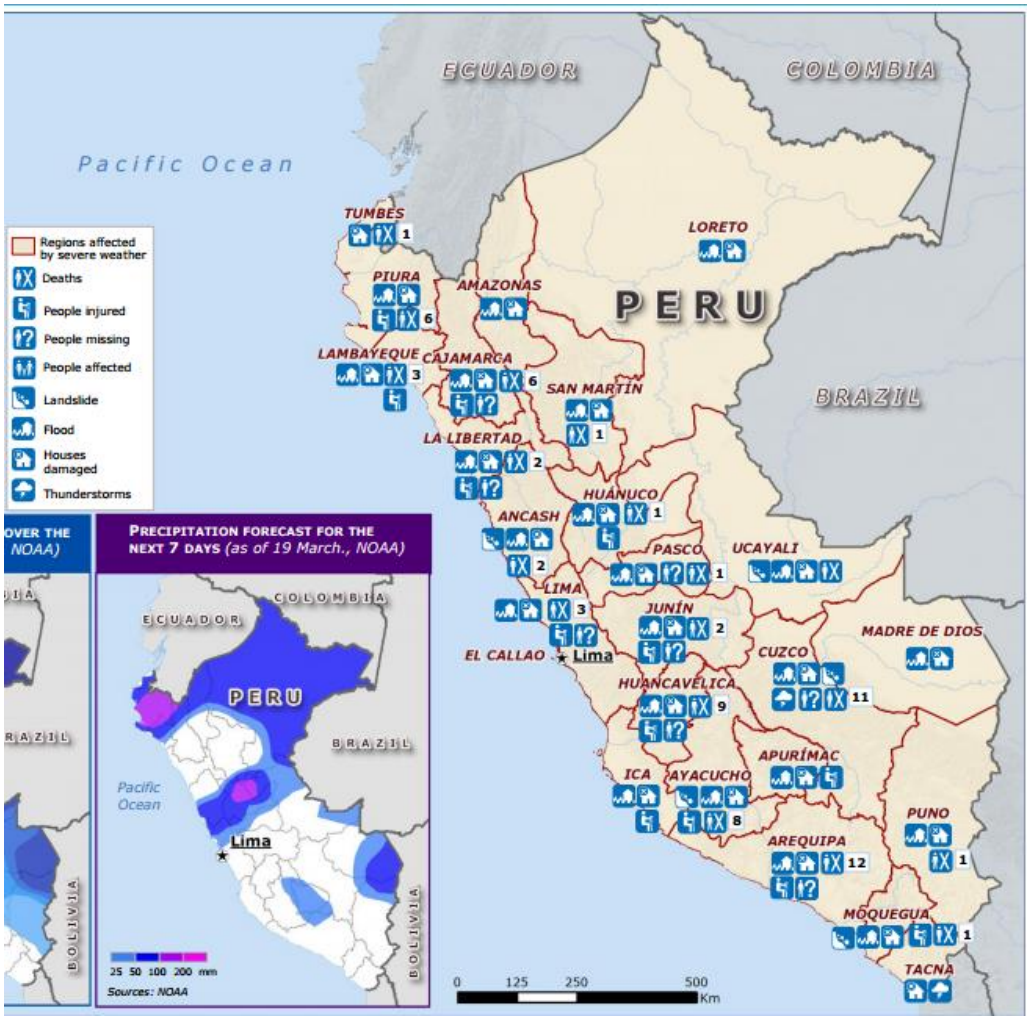
International response capacity

UNDAC is in the country since 20 March. Among other NGOs responding to the crisis, the Red Cross Peru has mobilised emergency teams. Colombia, Ecuador, Chile, and Paraguay are also sending relief supplies and rescue teams (Humanity Road 21/03/2017).

Information gaps and needs

It is unclear where people who are displaced are sheltering.

Areas affected by floods as of 20 March



Source: ECHO 20/03/2017

Key characteristics

Key indicators	National	Piura	Lambayeque	Lima	Ica	Arequipa
Total population	30,741,062	1,799,607	1,260,650	9,383,251	711,932	1,152,303
% population in rural areas	21%					
Gender and age distribution of population	**0-14: 26.62%** **15-24: 18.63%** **25-54: 39.91%** **55-64: 7.62%** **>65: 7.21%**	47% of population is male 53% of population is female	47% of population is male 53% of population is female	45% of population is male 55% of population is female	49.6% Male and 50.4% Female	49.2% Male and 50.8% Female
State capital	Lima	Piura	Chiclayo	Huacho	Ica	Arequipa
Population density	**25/** km²	**50.1/** km²	80.1/ km²	236.6/ km²	33.2/km²	18.9/km²
WASH Access to improved drinking water Access to improved sanitation	91.4% (urban) 69.2% (rural) 72%					
Health figures Maternal mortality: Infant mortality:	68 deaths / 100,000 live births 19 deaths /1,000 live births	7 deaths/ 100,000 live births 35 deaths /1,000 live births	2 deaths / 100,000 live births 65 deaths / 1,000 live births	10 deaths / 100,000 live births 14 deaths / 1,000 live births	1 death / 100,000 live births 10.8 deaths / 1,000 live births	6 deaths / 100,000 live births 17.3 deaths / 1,000 live births
Lighting and cooking sources	36% of population use solid fuels for cooking 30% of population use wood for cooking					
Literacy rates	94.5% of population over age 15					

Sources: Piura Peru 2012 ; Comision Multisectorial 2015 ; Government Census 2007 ; CIA World Factbook 01/07/2016 ; Global Alliance for Clean Cookstoves 2016; Worldometers 2017 ; World Bank 2015 ; Monografias 2015 ; Ministerio de Salud 2016; Instituto Nacional de Estadistica e Informatica 2009