Workshop on Large-Scale Disaster Recovery in APEC

Peru Earthquake, 2007

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Head of National Institute Civil Defense

Taipei, 2008 September 22
Peru is located in the “Pacific ring of fire”

Peru is permanently exposed to natural and man-made disasters.
Geography characteristics

<table>
<thead>
<tr>
<th>Natural Regions in PERU</th>
<th>Territory 1’285,215 Km²</th>
<th>Population (*) 27’219,264p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coast</td>
<td>12%</td>
<td>53.6% Lima city is 32%</td>
</tr>
<tr>
<td>Mountain</td>
<td>30%</td>
<td>37.1%</td>
</tr>
<tr>
<td>Jungle</td>
<td>58%</td>
<td>9.3%</td>
</tr>
</tbody>
</table>

Source: Statistical summary 2005 INIE, PERU
Millenarian civilization, with a traditional prevention culture

Machu Picchu - Cusco
<table>
<thead>
<tr>
<th>Hazard</th>
<th>Pacific ring of fire /</th>
<th>Earthquake High / (vulcanic activity / Tsunami)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tropical zone /</td>
<td>Climatic change / (El Niño Phenomenon /, floods / low temperature / droughts)</td>
</tr>
<tr>
<td></td>
<td>Andes’ Mountains/</td>
<td>Geological events / (landslides, Avalanches)</td>
</tr>
</tbody>
</table>

**FENOMENEOLOGY**
TECTONIC PLATES

Perú
Andes
Brasil
Océano Pacífico
Océano Atlántico
Placa de Nazca
Placa Sudamericana

Corte A-A
ANCASH EARTHQUAKE - 1970

- Located 50 km to the west of CHIMBOTE at depth of 64 km:
  - Magnitude 7.8 Richter
  - VI a VIII Mercalli degree

- Secondary effect “landslide over YUNGAY”:
  - 67,000 victims
  - 150,000 people harmed
  - 800,000 people without home
  - 2’000,000 people affected
  - 95% of houses destroyed
  - US $ 500 millions loss

31 MAY 1970
LANDSLIDE OVER YUNGAY AND RANRAHIRCA - 1970

Two cities disappear from landscape

Huascaran
North
(6,655 m.)

Huascaran
South
(6,768 m.)

Yungay
(2485 msnm)

Yungay's cemetery

Santa River

Ranrahira

Santa River
The National System for Civil Defence (SINADECI) was created in 1972. It is the national coordination mechanism of DRR; and the Civil Defence Institute, is the entity responsible for national DRR coordination.

- It has a National Policy on Disaster Prevention and Response.
- A territorial structure based on local governments, ensures the participation of decentralised organisations.
- Participation of public and private institutions, and the population as an integrated network is a key element for ensuring a participatory approach, based on a distribution of responsibilities.
NATIONAL PLAN FOR DISASTER PREVENTION AND RESPONSE

Since 2004

Main strategic instrument for national disaster prevention and response

STRATEGIES

1. Risk Analysis and monitoring
2. Promotion of risk reduction activities
3. Incorporation of prevention into development planning
4. Institutional development
5. Local communities participation
6. Strengthening of disaster response capacities
At operation-level there are Emergency Operations Centers (COE).

For crisis or disaster management exists a Civil Defence Committee with five commissions: operations, logistics, health, law and order, and communications. Furthermore there are two advisory commissions: Planning and Science & Technology.

For crisis or emergency management a Civil Defence Committee is installed permanently in the COE, financed with the current budget of participant institutions.
PISCO EARTHQUAKE - 2007

AUGUST 15TH, 2007
EARTHQUAKE - 2007

Aug. 15, 07
18:41 Hrs.

Epicenter: 60 Km. West of Pisco.
Depth: 40 Km.
Magnitude: 7.0 Richter (ML) 7.9 Mw
Intensity: Variable
Seismic registry: from 174 Km

Seismograph of Ñaña Station of IGP
7.0 ML
(7.9 MW)
THE EARTHQUAKE: DAMAGES EVALUATION

VICTIMS POPULATION: 434,614
AFFECTED POPULATION: 221,060
HOUSINGS DESTROYED: 93,708
TOTAL INJURED: 1,292
TOTAL DIES: 596
OLD CHURCHES DESTROYED
DESTROYED OR BURNED BUILDINGS
HOUSES DESTROYED
DAMAGE TO VIAL INFRASTRUCTURE

Panamericana Highway
LIQUEFACTION - TAMBO DE MORA
TSUNAMI IN PISCO’S COASTAL
Damage assessment
Rapid intervention teams
Rescue of people
Delivery of humanitarian aid
Evacuating the wounded from Pisco to Lima, by air
Call for International Cooperation
FIRST ASSISTANCE ARRIVES, STORAGE ARRANGES INSIDE COLISEUM AND SCHOOL AND ARMED FORCES ACTIONS.
SEARCHING AND RESCUE TEAMS
EVACUEES

SUPPORT TO THE SEARCHING AND RESCUE TEAMS
EMERGENCY WATER SUPPLY
EMERGENCY’S ATTENTION

HUMANITARIAN ASSISTANCE GOODS MOVING

TERRESTRIAL

INDECI’S GENERAL STOREHOUSE

- CAÑETE
- CHINCHA
- PISCO
- ICA
- HUANCAVELICA
- YAUYOS
- CASTROVIRREYNA

298

2,089 TM

MARITIMO

NAVY’S BASE

SAN MARTIN HARBOR (PISCO)

ICA
YAUYOS
CASTROVIRREYNA

10

11,270 TM

AEREO

AERIAL GROUP Nº 8

AERIAL BASE Nº 51 (PISCO)

- CAÑETE
- CHINCHA
- PISCO
- ICA
- HUANCAVELICA
- YAUYOS
- CASTROVIRREYNA

(*) CCFFAA

211

1,000 TM

TOTAL 14,400 METRIC TONS
SHIPPING BRIGDE ESTABLISHMENT
CONVOY TRUCKS
INTERNATIONAL COOPERATION
INTERNATIONAL ASSISTANCE

SUMMARY
Nations: 23
Goods: 3,133 TM
Specialists: 160

Planisferio político

Sistema Nacional de Defensa Civil
SERVICES REHABILITATION

WATER AND SEWING

ELECTRICAL ENERGY
INFRASTRUCTURE REHABILITATION

ROADS, EXPRESS WAY

SCHOOLS, CLASSROOMS
CLEANLINESS AND DEBRIS REMOVAL
TEMPORARY HOUSING
SUPPORT OF VICTIMS AND FAMILIES

About:

- “Diary allowance” ($300 by evacuated)
- "Burial allowance" ($1,000 by victim)
- "Allowance for Housing collapse" ($2,000 by family)
- Structural assessment of housing
- Public Consultations of attention to victims
RESTAURATION PLAN

THECNICAL SUPPORT TO RECOVERY
Estudios aprobados por respectivas Ordenanzas Municipales
FUND FOR THE RECONSTRUCTION OF AREAS AFFECTED BY THE EARTHQUAKE OF AUGUST 15 - FORSUR

ACT created by the Sept. 04. 2007
Attached to the PCM
Headquarters: ICA
MAIN FUNCTIONS

- Removal of rubble
- Planning for the rehabilitation and reconstruction
- Design of the infrastructure of the villages affected
- Implementation of rehabilitation and reconstruction
- Prioritize work and investments
- Authorize the recruitment for work
- Designate company to audit their funds.
- Issuing certificates of donations received
- Others
Chair: Representative of the Private Sector

Members:

- Regional Presidents of Ica, Lima and Huancavelica provinces
- Mayors provincial Ica, Chincha, Pisco and Canete
- Representatives ministry of Transport, Health, Housing, Energy and Mines and Education.
- 5 representatives of the private sector.
PHASE I: PLAN FOR RECONSTRUCTION

• Reconstruction of up to 50,000 homes.

• It allocates an initial fund of $138 million
  - $100 million from the state,
  - $38 million international humanitarian aid

• Works at housing, roads, electricity, telecommunications and water networks, will be carried out by private companies for outsourcing system (service)

• Housing will be subsidized and financed with loans from easy access to the affected population.

• Granting of a grant of $6,000 for each owner of the new houses, almost equivalent to 60-70% of the value of the house.
PHASE II: Plan for Reconstruction of the South

Ministry of Housing, Construction and Sanitation
April 17, 2008

Status as of March 2008: 188 projects by S/. 257,998,000

• S/. 144,208,000 are funded by FORSUR
• S/. 113,791,000 for the sectors and cooperating sources involved in the process of reconstruction.
PHASE II: Plan for Reconstruction of the South

Objective: To advance the recovery of public infrastructure and the beautification of the cities affected, supporting the economic and social development of the population, as well as capacity building.

- The Reconstruction Plan as a model for the rehabilitation and reconstruction of cities affected by natural disasters.
- Declaring 616 priority projects requiring funding of 1292 million new soles:
  - Public housing: S/. 500 million
  - Water and sanitation: S/. 149 million
  - Health Infrastructure: S/. 155 million
  - Education: S/. 324 million
  - Urbanism: S/. 141 million
  - Industrial Sector: S/. 23 million
“Civil Defense everybody’s task

Thank you

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