

DISASTER PLANNING MANAGEMENT IN THE CIVIL DEFENSE THIRD REGION

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I. INTRODUCTION

1.1 PERU'S LOCATION

1.1.1. Geography: Peru is located in the Central Western part of South America, between 68° 36' and 81° 31' west of the Greenwich Meridian, and between 0° 8' and 18° 93' latitude south of the Equator. Peru is located in the Pacifico Belt area with plate interaction. This interaction generate seismic, and volcanic activity in the Andean Mountain range causes earthquakes, floods, landslides, volcanic eruptions and drought. Its surface is the 1'285,215.86 km².

1.1.2. Landscape: There are three definite regions in Peru: Coast, Highlands and jungle:

- The coast is a strip of land about 40 to 80 km. wide. It is barrenland with a few fertile valleys.
- The Andes form the highlands. This mountain range has three banches western mountain range, central mountain range and eastern mountain range.
- The jungle is mostly made up by large forests in the Amazon. It is about 62% of the Peruvian territory.

1.1.3. Rivers and Lakes: The Andes give origin to important river basin:

- The Pacific Basin with sixty rivers
- The Amazon Basin with the several rivers, and,
- The Titicaca Lake Basin with the Ilave, Coata, and Ramis rivers. Is the highest lake in the world with 3,812 m.s.n.m and with 4,996 square meters of area and depth of about 275 meters, is located in Southern Peru, Dpto. Puno.

1.1.4. Climate: In spite of the fact that Peru is located in a tropical latitude, the climate varies from region to region due to altitude, the Peruvian sea currents and others factors. The coast is warm and wet due to the warm Peruvian sea currents. The weather temperatures range from 13 celsius degrees in winter to 26 celsius degrees in summer. There is a lot of cloud formation which later causes mist.

In the highlands varies from cool to icy cold in the snow covered mountain peaks. The rain season is between november and April. The temperature ranges from -4° to 18° celsius.

In the jungle is very warm every years and rain frecuently.

1.1.5. Population: There are about 22 million inhabitant in Peru. Most of the population is "mestiza" that is descendent from indians and spaniards. There is also a lot of while people. Black

and Asian people are the minorities.

1.1.5. Economy: Agriculture is the main source of employment, 60% of the population work in agriculture.

Agriculture is industry oriented in the coast, there are several irrigation projects already producing. The main crop are cotton, sugar cane and rice.

The main crops in the highlands are cereals, potatoes, corn, quinoa. There is also a lot of cattle raising in the highlands. Wood industries are located mainly in the jungle.

Mining also plays an important role in Peruvian economy. Peru is the first world producer of vanadium and bismuth, the fourth world producer of silver, and the sixth world producer of lead.

II. RESPONSIBLE INSTITUTION OF DISASTER MANAGEMENT MINORITIES IN PERU

Before the earthquake that took place in the city of "Huaraz" in MAY 31, 1970 and killed 50,000 people, 20,000 people missing there was not institution in Peru that coordinated planned assistance in case of emergency or disaster.

It is then that the Peruvian Government created an organization in charge of protecting people, preventing damages, providing assistance and helping rebuild things in case of disaster. This organizations was called ' CIVIL DEFENSE NATIONAL

SYSTEM'. Legislation was later modified and now the organization described it follows:

- a. The Civil Defense National Institute The head man is an Army Officer appointed by the Ministry of Defense. The institute's headquarters is in Lima - Peru.
- b. The Regional Civil Defense Offices. There are five of them in Peru. Each one has Army Officer as Director.
- c. The Regional, Sub Regional, Provincial and District Committees. Their bases are Civil Authorities.
- d. The Regional and Sub Regional Civil Defense Offices in Regional Governments.
- e. Civil Defense Offices in Institutions and Public Companies.
- f. The Civil Defense Offices in each community.

The Civil Defense organization works in three phases

1. Prevention
2. Emergency, and
3. Rehabilitation

1. Prevention Phase

Prevention and risk reducing activities are developed, for example:

- a. Prediction and identification of disasters in coordination with scientific institutions.

- b. Making plans to cope with disasters in the best possible conditions.
- c. Estimate the human potential and material resources we count with in case of a disaster.
- d. Identify and study latent risks of disaster
- e. Prepare and enable the population to face disasters.
- f. Organize, instruct and train assistance brigades.
- g. Carry out simulations at work, school, and homes.

2. Emergency Phase

This phase is the one in which everything that was planned is applied to reality. Perhaps the plans need adjustments. We try to mobilize all the existing resources in the area. It is in this phase when we activate the Emergency Operation Center in charge of the highest authority of the area where the disaster happened.

Later we do the following activities:

- a. Preliminary evaluation of the damages to determine the disaster's magnitude and needs it has generated.
- b. Search, rescue and assistance.
- c. Evacuate the population if necessary.
- d. Medical assistance to injured people.
- e. Provide food fit for the type of disaster, and according to eating habits of the area.
- f. Provide clothing and shelter.

- g. Insure provisional housing.
- h. Make transportations means available to carry assistance personnel and supplies to the disaster area.
- i. Establish means of communications with the disaster area.
- j. Enforce the law to insure tranquility and stop pillages. We do this in coordination with the police.

3. Rehabilitation Phase

We do what is needed to make population return to normal life as soon as possible, for example:

- a. Complete the preliminary evaluation to make decisions towards vital rehabilitation.
- b. Continue assistance through the organizations in charge of the area.
- c. Reconstruct public facilities, public utilities, etc.

III. RISKS OR DANGERS BY NATURAL DISASTER IN CIVIL DEFENSE THIRD REGION

The Third Region is located in the Southern of Peru and comprises the Arequipa, Moquegua, Tacna and Puno areas, the total territory is 166,851.34 Km² and a population of about 2'332,400, The Third Region are affected by:

2.1. Seismic Risk.- There is a lot of seismic activity as consequence of the interaction between the Nazca layer and South

American layer. There have been several big earthquakes (6 to 8 degrees in the Richter scale) They caused great damage, killed many people. The strong earthquakes occurred in 1600, 1958, 1960, 1979, 1987, 1991.

2.2 Flood Danger.- There are heavy rains in the highlands and sometimes rivers or lakes flood inhabited areas, buildings and farm land. The most destructive floods took place in 1972, 1973, 1985, 1989, 1991, 1992.

2.3 Landslide Danger.- There are landslides in the areas with steep slopes, unstable material. Landslides are caused by strong seismic activity (earthquakes), or water leaks in the rainy season. Those landslides occurred in: 1972, 1975, 1978, 1979, 1980, 1991.

2.4 Volcanic Eruption Danger.- Peru's volcanos are at 15 degrees south latitude. This area is in the Civil Defense Third Region. Sabancaya volcano poses risk at present. It is located in Caylloma - Arequipa. This volcano reactivated in Nov. 1986 and its activity increased on May 28, 1990 and it continues. There are also other volcanoes that emit fumes for example the Misti, Ubinas and Tutupaca. The volcanic eruption that caused the greatest damage was the Huaynaputina volcano eruption in the year 1600.

2.5 Drought Danger.- There is drought when there is no rain in the highlands. Drought affects agriculture, cattle raising, water supply, electricity generation, etc. and produces great damage to the economy of the population. There were in: 1965, 1979, 1983, 1992.

2.6 Tsunami Danger.- There are few tsunamis. They damaged public facilities and the population. There were in 1590, 1784, 1986.

IV. DISASTERS PLANNING MANAGEMENT IN THE CIVIL DEFENSE THIRD REGION AREQUIPA-PERU

Disasters occur most often in poor countries and cause the most suffering among poor people. The poor are the most vulnerable to disasters because of the buildings in which they live and the sites upon which those buildings are constructed. These are precisely the societies for whom development is most urgently needed. Yet by ignoring likely disasters, many development efforts do nothing to decrease the likelihood of disasters, and many actually increase vulnerability to them. Lives can be saved and the economic effects of disaster reduced:

- As an emergency response to injury and damaged property immediately after an event.
- By reducing the vulnerability of basic service and production infrastructure (nonresidential structures).
- By reducing the vulnerability of human shelters and settlements.

Development planning should also take into account the ways alternative actions may promote, or undermine, society's attitudes about what is possible in terms of growth. All development efforts

should provide for disaster prevention. Not to do so is economically irrational and politically unwise.

Even the most efficiently managed disaster recovery operation leaves a society vulnerable to natural hazards. Prevention not only minimizes damages but promotes a stable environments incentives for investment and enterprise, and the sense that people can control their own economic destiny. These are crucial for sustainable long-term development.

Each society is responsible for preparedness, but it also requires the commitment of the world community. Disasters preparedness and response are usually multisectoral and interdisciplinary, requiring the involvement of a number of ministries, sectors, Civil Defense, and areas at the same time when guidelines for action do not exist or are inadequate a disaster has a worse effect on the country and its people than it need have. Civil Defense National Institute in Peru is the institution in charge of protect the population planning activities about the Disaster Prevention:

1. Identifying the Potential Hazards

It is important to know the phenomenon with or without cyclic occurrence which is a potential threat so as to be able to plan the course of action to take in case it happened and thus diminish its danger.

In Peru , each region has its own phenomena that are typical hazards of the area.

Civil Defense coordinates with other institutions the

development of studies to know about the phenomenae's origins and causes, and the way to diminish their consequences by means of learning about their nature.

2. Diagnosis

Once the hazard is identified, there is the zone's diagnosis in which there is a detailed description of the area. This is later studied considering the geological, metereological, hydrological and topographical characteristics of the area.

3. Predicting

The predicting of hazards coming true is based in statistical data and other references. It is essential a careful observation of the proccess by which we predictor or infer the possibility of hazards taking place. For example: A flood can be predicted because it usually takes place in a rainy season.

4. Analysis of the difficulties that may arise and of the available resources.

To determine what to do with the available resources and problems that may arise it is essential to make an analysis of the real situation. For example: If there is a flood we have to consider the making of an evacuation plan to the safe areas, roads and ways to get there, police assintance, food supply, etc.

5. The Making of the Plan