

SOCIAL AND ECONOMIC ASPECTS IN THE MITIGATION OF EARTHQUAKE DISASTERS

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It is a well-known fact that Indonesia is located along the equator and bordered by two continents, to wit Asia and Australia, as well as by two oceans, the Indian and the Pacific Ocean.

Indonesia is an archipelagoan country, consisting of approximately 14,000 islands and a population of approximately 147,500,000 people, the largest part whereof, approximately 92,000,000 people are located in Java with an area of approximately 130,000 square kilometers with an average population density of 700 people per square kilometer.

Indonesia itself is located on three earthquake-belts. The first earthquake-belt is known as the Alpidic or Tethys mountain-system, stretching from the Asian mainland southward, west of the island of Sumatra, and subsequently turning east, south of the island of Java, towards the Moluccan Archipelago.

The second earthquake-belt is the Pacific Circumbelt, constituting a part of East Asiatic System, stretching from the islands of Japan all the way down south through the Philippines, the northern part of Celebes and the Molucca islands. The third belt is the Australian Circumbelt, constituting a part of the East Asiatic System, going from the New Zealand islands through Australia and the Province of Irian Java.

Under these circumstances, Indonesia is subjected to an extremely high degree of seismic activities, with an average annual earthquake incidence rate of 350, where 4 to 10 earthquakes are of considerably formidable magnitudes. Relative to earthquake-mitigation and preparedness activities in Indonesia a number of seismic stations have been established, the combined capacity whereof is still inadequate however for the need of monitoring earthquakes occurring all over Indonesia, whether they be of a tectonic nature as the earthquakes that have been mentioned, above, of a volcanic nature, caused by volcanic activities or caused by landslides occurring on land as well as at sea. One hundred twenty seven volcanoes exist in Indonesia of which 70 are still considerably active. Consequently, Indonesia is subjected to a considerably high earthquake incidence-rate of volcanic nature.

In its endeavor to mitigate the sufferings of earthquake victims, whether the earthquakes are of a tectonic or volcanic nature or caused by landslides, the Government has realized the following measures:

1. Mechanisms for the mitigation of natural disaster have been created at all levels, from the Central level down to the grassroots level, to wit:

- a. At the Central level - a National Natural Disasters Mitigation Coordinating Agency has been established chaired by the Minister Coordinator of People's Welfare, seconded by three other Ministers as Deputy Chairmen, namely: the Minister of Social Affairs, the Minister of Home Affairs, and the Minister of Public Works; with a membership of 21, consisting of representatives of all departments involved in disaster mitigation, the Search and Rescue Agency, the Indonesian Red Cross, etc. etc.
 - b. At the Province level. Provincial coordinating agencies under the name of Natural Disasters Mitigation Coordinating Units have been established, chaired by the Governor in the case, with a representative of the Armed Forces as Deputy Chairman and with a membership consisting of representatives of all agencies bearing a relation to all disaster mitigating activities.
 - c. With similar patterns in the organizational structure of disaster mitigation administering agencies at Regency- and Municipality levels as well as a further sub-ordinated level, namely the Village level.
2. The natural disaster mitigating apparatus has the function of implementing activities of a preventive as well as of a repressive nature.
- a. Preventive measures. Moving the population of natural disaster-prone areas to more secure sites through local settlement activities, wherein more secure sites in the vicinity of disaster-prone sites are selected as new settlement sites, or through transmigration activities wherein the population in the case is moved to either other areas or to other islands. Especially in the transmigration program the people are given agricultural sites that already have been prepared to be planted immediately, dwellings, as well as complementary elements of the social, educational, health, roadwork infrastructure, etc. etc.
 - b. Relief and recovery assistance. Relief and recovery assistance covers in sequential order the following phases:
 1. Search and rescue activities to help the victims of earthquakes and other disasters, located in remote areas that are difficult to reach by conventional means of transportation.
 2. The first aid phase, wherein aid is given to the victims of disasters by the dissemination of food, clothing, shelter, medicines, hospitalization, sanitation, etc. etc.
 - c. The phase of rehabilitation. This phase covers the following activities:
 1. Aid for demolished or wrecked dwellings;
 2. Aid for demolished or wrecked agricultural plant and equipment;
 3. Aid for houses of worship, such as mosques, churches, temples, etc. etc.
 4. Aid for the economic infrastructure such as shops, market places, etc. etc.
 5. Aid for the rehabilitation of public utilities such as the road network, the irrigation network, drinking water facilities, bridges, etc. etc.
 6. The rehabilitation of Government buildings such as hospitals, schools, office buildings, Government employee housing, etc. etc.
 7. Intensification of labor-intensive activities by the provision of funds for financing people to repair their agricultural equipment and structures, irrigation systems, village roads, etc.

3. The phase of developmental assistance. As a follow-up to rehabilitative assistance developmental activities are initiated in the rehabilitated areas, such as:
 - a. The construction of new roads;
 - b. The construction of market places;
 - c. The provision of credit assistance for economic ventures;
 - d. The dissemination of agricultural packets;
 - e. The expansion and multiplication of educational, social and cultural facilities, the provision of means of transportation and means of production, special seeds and seedlings, etc. etc.
4. Assistance to preventive activities. The Government has given priority to people located in areas that are chronically subjected to natural disasters, such as earthquakes, for transmigration to other secure areas within or outside of the island of Java with no limits imposed on the numbers of people that are to be transmigrated.

Prior to their transmigration the candidates are given occupational training to equip them with skills of trade and capabilities so that in their new settlement they will be in the position to develop in the socio-cultural as well as in the economic sense.

This system of transmigration is known as the village removal system, wherein entire village populations are transmigrated as complete communities, even including their communal equipment in the field of performing arts and other cultural fields.

In such cases the Government even provides assistance by distributing equipment to practice their respective branch of arts, sports equipment, and equipment for the practice of worship and religion.

The transmigration policy of the Government as implemented by the Department of Manpower and Transmigration and aimed at moving people from over-populated areas in Java and Bali with an annual target of moving 500,000 people has reserved an allotment specifically for victims of natural disasters. In addition, the Department of Social Affairs, either solitarily or in cooperation with the Department of Manpower and Transmigration, is carrying out its own transmigration program, especially for the resettlement of the population of areas that are chronically afflicted by earthquakes.

Similarly, other departments of government such as the Department of Agriculture and more specifically the Directorate General of Forestry, in relation to the granting of forest exploitation concessions, are obligated to provide new settlement sites for people who have to be moved to new settlements.

5. Assistance for Relief and Recovery.
 - a. SAR assistance, the time and duration whereof are unspecified and adjusted to the existing needs;
 - b. First aid consisting of rice and secondary food supplies, as well as sanitation, medicines, health maintenance, cooking utensils distribution according to circumstance and existing needs;

- c. Rehabilitative assistance, the provision of dwellings that are ready to be occupied, agricultural plots of approximately 3 ha. each, prepared for immediate planting and agricultural equipment, food supplies for a duration of 18 months, as well as assistance to overcome other needs.
- d. Assistance for development activities, usually included in the budget allocation of the respective Departments.