

## Social and Intelligent Contributions by Earth Scientists for Natural Disasters

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### 1. Introduction:

Japanese disaster-prone archipelago of volcanic earthquakes has become a world leader in science and technology to respond quickly to support our life against destructive disaster. However, to discuss with everyday life of citizens as seen from the perspective of earth scientists of long-term activity of the Earth, has not been sufficiently discussed so far. The purpose of the paper is to propose an appropriate and continuous way for the future from the view of earth science (also in Japan) against the declaration of safety addressed by the government committee of the earthquake in L'Aquila, Italy four years ago.

### 2. Earthquake formation and life-time from the views by earth scientist:

Large natural disaster which is based on rapid phenomena generated short shock-wave (volcanic eruption, earthquake and meteoritic impact) produces change of topography and environments on our surface. Therefore, it should recognize that disaster with lasting injury death is inevitable for human beings and living life formed on the surface surely. Thus, it is required individual situation (risk) control on a daily life with our intelligent increase against active Earth.

### 3. Main difference in time of earthquake and living life:

Living people might expect daily safety based on disaster treatment by one-day unit. The Earth scientists are discussed by long time-unit of million years activity to apply short micro-time unit of life-time. Due to differences in the length of time, it is assumed that data of Earth Science is uncertainty, or that Earth Science (Earthquake or layers) is not scientific differed from theoretical sciences or chemistry. Earth Sciences with wide multi-complex system (as air, water, rock circulatory system) should be required to be understood widely even in individual citizens.

### 4. General request to earthquake security treatment:

Human life in units from day to year is expected what is life without the earthquake security is expected. However, the frequency of a large earthquake is based on long Earth activity (with multi-processes) and fundamentally different from short life-time, where it is inevitable for earthquake disaster prevention for life-time unit. It is necessary to be understood that the predictions from the theoretical data-analysis and experimental data is the best scientific security (cf. trace of giant tsunami when the dinosaurs became extinct in the asteroid collision and remain deposits in the coastal Gulf of Mexico). It is important to build a museum and educational park for education (cf. the village ruined by the huge tsunami park in the southern part of the Hawaiian island). And it is important to support our individual increase of risk situations (cf. Japan equivalent place of earthquake in the western United States, where earthquake information on aired in public at the airport to watch and decide own behavior by ourselves).

### 5. Requests for mass-media and courts:

We expect that mass media and courts should recognized difference between our lifetime activity and the global perspective of researchers in units of different "time". Final self-guard is dependent to individual daily behavior for any disasters. The present court affairs on earthquake in Italy are local situation without continuous global risk-control, which should ask daily behaviors of the lived residents rather than all the bureaucratic and professional information. Thus, we should proceed our knowledge globally to determine on own final action by self-guards which will be supported widely by university and mass-media activities.

### 6. Summary:

The most safety strategy by the citizens from views on dynamic active Earth is to prepare global data with wide multi-dimensional data processing by university-laboratory and governmental offices, and to increase any situation (risk) control of the citizens by their own self-guards.

Keywords: Natural disasters, Earth Scientists, Social contribution, Intelligent contribution, Huge earthquake, Huge Tsunami