

Environmental youth organizations are preparing “environmentally revolutionary” activities as part of an international youth conference (“The Climate is Right for Change”), including a planned “Climate Action Day” to help one to overcome one’s inhibition threshold and prepare to put these tactics into practice back home.

Younger children are also targeted by various campaigns and “happenings,” including: “We’re Making Climate the Issue,” “Solar School,” “Children’s Action for Protection of the Climate,” or “Young Artists’ Climate Summit.” Then there is “Performance: The Forest,” where participants are to allow themselves to become sensitive to the “Feelings of the Forest.” In plain language, this bafflegab translates into modernist, chaotic mystery plays for the neo-pagan United Nations world-cult, in which artists operate as a combination of priests and shamans. Several German federal ministers are providing subsidies for all this.

The Protestant Church in Germany is joining the party with its own Climate Worship Service, and a roundtable discussion on “Climate Protection as an Ecumenical Task.” The Evangelical Academy is contributing to a meeting on “How Do We Bring the Climate Summit Down to the Level of Everyday Life.”

With its own film festival, the summit is supposed to awaken feelings of self-pity or utopian daydreams, for example with the series, “Energy Culture: A Glance at Everyday Life in the 20th Century.”

Women, of course, are treated as if they were “entirely different” from the human race, and therefore offered something all their own: Thus the “Women for Peace and Ecology” have organized actions, called “CliMagic,” cultural events for “Mother Earth,” or on the so-called “Legacy of the Indians.” In a Climate Tribunal, they will sit in judgment over the male perpetrators. Everything serves as a setting for its corresponding “art.” Naturally, neither an “International Women’s Forum” nor an event like “Weathercocks and Weather-Witches—Climate Protection from the Feminist Point of View” could be lacking under these circumstances.

The preparations and then the theatrical performance of the summit itself will be reported by the Berlin City Council in the monthly magazine *Klima 95*, founded last September, which the federal government funds. The magazine differs neither in form nor in content from propaganda that comes from Greenpeace or other such entities. In it one reads such well-known “truths” as: “Every day 100 animal and plant species become extinct, 55,000 hectares of tropical forest are annihilated, the deserts expand another 20,000 hectares.”

As for the future, into which the U.N. wants to lead us with such initiatives, the circumstances of the summit presage nothing good. Illusions of any kind are, in any event, inadvisable. Citizens who do not wish to befriend this new “fascism with an ecological face,” and do not share the associated pseudo-religious image of man and nature, will see themselves quickly pushed aside as Politically Incorrect “dinosaurs.”

## The Kobe earthquake and the lessons for urban infrastructure

by Rogelio A. Maduro

On Jan. 17, the cities of Kobe and Osaka, Japan were hit by one of the most destructive earthquakes of this century. More than 107,000 buildings, houses, and factories were destroyed, and over 5,350 people were killed. Although the earthquake registered 6.9 on the Richter scale—not a huge earthquake according to most records—the Kobe earthquake hit the highest level in the Japanese scale that measures ground shaking. In other words, the seismic waves caused by the earthquake caused the most intense kind of ground tremors that can be measured.

Part of the reason for the intensity of the tremors is that Kobe lay directly in the path of the earthquake fault and that most of Kobe is located on loose soils, mostly landfills. Intense ground shaking liquefies loose soils. Also, loose soils, found in much of the Los Angeles area in California, amplify seismic waves.

This intense ground shaking is the first of several unexpected developments. It is now very important to draw the lessons of the Kobe earthquake to prepare for future earthquakes. This article is an introduction to the subject, the first in a series of articles analyzing the engineering and scientific issues.

### Predictions for Los Angeles

In January, three separate scientific studies were released warning that the Los Angeles area faces a very high probability that it will be hit by a major earthquake in the next 30 years. One of the reports, released by the Southern California Earthquake Center, a coalition of academic and government scientists, warned that Southern California faces an 86% chance of suffering an earthquake of magnitude 7 or larger by the year 2024.

The probability of an earthquake has been increased due to the discovery of a large number of thrust faults in the area (similar to the kind of fault that caused the Northridge earthquake near Los Angeles a year ago). In addition, historical earthquake data in California indicate that Southern California should expect six magnitude-7 earthquakes every century. So far this century, Southern California has suffered only one such quake. Thus, scientists believe that either

a truly big earthquake is about to occur, or several major ones.

In addition to California, major earthquakes are expected to take place in other parts of the world (see box).

Although there are some hopeful lessons from Kobe, most indications are that both Japan and the United States are woefully unprepared for the expected earthquakes.

### Some hopeful lessons

One of the hopeful lessons from the Kobe earthquake is that buildings that were built to the latest earthquake-proofing standards survived very well. Unfortunately, buildings built to earlier standards did very poorly.

Another hopeful lesson is that programs to stabilize landfills worked very well. In the past 20 years, more than 200,000 special gravel drains and buried stone columns were installed in certain areas of Kobe. These areas suffered minimal damage.

On the negative side, the amount of devastation caused by the Kobe earthquake was unexpected. This is a serious warning, given the fact that Japan has one of the best earthquake preparation programs in the world. Scores of "earthquake proof" highways, railways, and subways were destroyed. Miles and miles of water, gas, and sewer lines were

broken or otherwise damaged. Broken gas lines led to huge fires in several sections of the city.

A great deal of damage was done to the poor suburbs of Kobe, one of the weakest areas in Japanese earthquake damage-prevention efforts. In Kobe, as in many areas of Japan, older homes use a wooden post-and-beam construction style, where vertical posts brace long horizontal roof beams. Moreover, the traditional roofing for these structures in Japan is heavy terra cotta tile. This housing design is excellent for preventing damage from typhoons. However, it makes the structures inflexible and inherently unstable in earthquakes.

The earthquake itself was a surprise. It took place in what was considered a minor fault. The major earthquake, and thus most of the preparations, had been expected near Tokyo, where a major earthquake had killed over 140,000 people in 1923. Still, the Kobe earthquake should not have been unexpected. There was a major earthquake in the Kobe area in 1948, which, however, caused little damage, because most of Kobe had already been destroyed by American bombers.

Thus, that warning went unheeded. This warning now has to be heeded, because many of the world's most important cities sit on top of "minor faults."

## Is a major earthquake coming in the Himalayas?

A massive earthquake could hit the central Himalayan region of India at any time, geophysicists are warning. A group of Indian and American geophysicists has been studying historical data and more recent data collected using the latest satellite technology. The data indicate that the central Himalayas in India is due to suffer a major earthquake, of magnitude 8 or 9 on the Richter scale (the Kobe earthquake was magnitude 6.9; since the scale is logarithmic, this quake could be 10 to 100 times greater than the Japanese earthquake). Such an earthquake would devastate a region with a population of more than 200 million and several major dams. "It is like the Sword of Damocles hanging over you," said Roger Bilham of the University of Colorado at Boulder.

The Himalayan range was formed as the Indian subcontinent drifted northward and collided with the Asian continent, a process that began 40 to 50 million years ago. Bilham and his colleagues used the Global Positioning System (GPS), a network of satellites and ground stations, to chart the progress of a set of points on the Indian and

Asian tectonic plates between 1991 and 1994. They found that India is still crunching into Asia at a speed of two centimeters per year, the same rate at which the two sides of the San Andreas Fault in California are sliding past each other.

### First direct measurement

These are the first direct measurements of the movement of the Indian subcontinent in relation to Asia, according to Vinod Gaur, former director of the Indian Geophysical Institute. Gaur is now based at the Center for Mathematical Modelling and Computer Simulation in Bangalore. Bilham, Gaur, and their colleagues recently presented their data at a meeting of the American Geophysical Union in San Francisco.

The India plate is moving down and under the Asian plate. The GPS data, however, indicate that all along the border with Nepal, the margins of the plates are stuck, according to Roland Burgmann, a geophysicist at Stanford University in California. Instead of one plate sliding smoothly under the other, the plates are colliding, storing energy like a spring. When the plate margins finally slip to release this energy, an earthquake results. How big the earthquake will be depends on how much stress has accumulated along the boundary of the two plates.

—*Ramtanu Maitra and Rogelio A. Maduro*