

ARMAGEDDON

## Fukushima—An International Catastrophe

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It is humanly difficult to accept. Yet the worst fears nuclear opponents have voiced for years are becoming true in the nuclear disaster unfolding in Japan. End March, people were almost three weeks into the catastrophe at Fukushima-Daiichi that began on the 11th. Within days it was apparent that the country was likely to face a massive problem of radiation, with the concomitant risks of increased cancer deaths for Japan's population. Now, as the failures of the nuclear complex's owner, TEPCO, to timely re-establish the functioning of the cooling systems in all four damaged reactors is all too apparent, there is an increasing likelihood that the crisis will turn into an international catastrophe. Thus, according to European nuclear experts, a massive bubble of melted fuel rods and metal has probably formed on the bottom of nuclear reactor no. 3. Coincidentally, it is precisely this reactor where plutonium has been used as a part of mixed, uranium-plutonium, fuel rods. Plutonium is the very most toxic element on earth. Even digestion or inhalation of miniscule quantities are likely to cause lung, bone and liver cancer in humans. Experts disagree over whether the lava-type boiling bubble could seek its way through the concrete socle of the reactor. It is also possible that the bubble will leak sideways. Already, extremely high levels of radiation have been registered in the turbine hall of one of the reactors, and in samples taken nearby from the sea. No less alarming: plutonium has been traced at four or five different spots in the soil near the complex.

Further, as the nuclear crisis deepens and slowly takes on an Armageddon shape, soul searching is slowly starting over the lack of foresight by Japan's policymakers. First, it is well known internationally that Japan is a nation prone to earthquakes and tsunamis. The very word tsunami is a Japanese word, and the capital Tokyo has repeatedly been visited by major earthquakes in history. Further, the huge tsunami floods that were thrown up in the past make living along the coast by nature very hazardous. The tsunamis which ravaged Japan in 1896 and 1933 for instance, according to Japanese geologists resulted in flood waves respectively 38 and 29 metres in height. The flood waves that hit Japan's coast on March the 11th did not have this towering size for sure. Yet they were thrice as tall as the wall of protection which had been built near the Fukushima-Daiichi complex, to protect it against the effects of a potential tsunami. When the complex was constructed, some forty years back, account was taken not of tsunamis which have previously occurred in Japan itself, but of the tsunami in faraway Chile in 1956! Government guidelines on the security of nuclear reactors reportedly ignored the thematic of tsunamis until 2006. Hence, the Japanese authorities have arguably provoked the nuclear disaster themselves, by ignoring the possibility that Fukushima-Daiichi's system of electricity generators would be overwhelmed by sea water—as has occurred.

Secondly, not only had Japan been forewarned by its own experts and political critics that tsunamis and/or earthquakes represent grave potential risks for the country's population. In fact, sufficient practical experience at Japan's nuclear reactors had been gained, experience on which more prudent policymakers could build. The most telling example is the severe earthquake which damaged the country's largest nuclear plant in Kashiwazaki, in 2007. According to several stories published these last weeks, the Kashiwazaki nuclear complex was built in an active seismic area, i.e. on a line of fracture for a potential earthquake. Further, the complex turned out not to be equipped to face an earthquake with the force that struck that year, i.e. an earthquake 6.8 in strength on the scale of Richter. Like the Fukushima nuclear plant, the Kashiwazaki complex happens to be owned by TEPCO, the

Tokyo Electric Power Company which is known to be one of the largest electricity corporations worldwide. Subsequent to the 2007 accident, TEPCO was severely criticized by the Japanese government. One of the problems it reportedly had underestimated, is the problem of radioactive water leaking into the sea. Thus, blame was duly apportioned. Yet with hindsight it is all too evident that no efforts were made—either by TEPCO or by the Japanese government—to rethink the country’s US-inspired nuclear energy policies.

The genesis of the Fukushima disaster consists of yet a third important element. This element raises questions regarding the way the entire nuclear lobby operates, the lobby notably consisting in the Japanese Ministry of Economics, inspection bodies and the country’s powerful energy corporations. In 2002, 10 Japanese electricity suppliers were charged with having dissimulated accidents in nuclear reactors, scandalous practices which started way back in the 1970s, when Japan had barely entered the nuclear era. Fukushima’s operator company TEPCO again was the prime target of the given scandal! Striking details regarding this history of falsification have just been revealed by a reliable source, i.e. Eisaku Sato. Between 1998 and 2006 Sato was the, very popular, governor of the Fukushima prefecture. In a recent interview in the French daily *Le Monde*, Sato has stated that TEPCO in 2002 was forced to admit it had falsified inspection reports on the damages to two reactor cores caused in previous accidents. Moreover, not only had TEPCO falsified crucial documents, Japan’s nuclear security agency NISA, when finding out about the falsifications, had also kept quiet and had failed to expose the truth. The scandal triggered the temporary closure of reactor no.1 of Fukushima. It also led to repeat inspections of 16 reactors elsewhere, but not to any structural changes. Hence, Sato does not hesitate to term the present catastrophe as one induced by ‘lack of human prudence’. The ageing of the Japan’s park of nuclear reactors played its role in making accidents increasingly likely. But the lack of democracy with regard to energy-policymaking too was bound to take its toll.

What lessons to draw from these stories on the human failures that triggered the Fukushima catastrophe? Given the huge interests that are at stake—the power of the nuclear lobby in Japan and worldwide, it is quite likely that policymakers will seek to apportion personal and institutional blame, so as to be able to continue with production of nuclear energy. That danger is already evident. Thus, faced with growing public anger by the country’s population, the government of Japan has stated that it is considering nationalization of TEPCO. Such a measure may serve to pre-empt bankruptcy for the institution bearing primary responsibility for the catastrophe. Yet it may easily help turn attention away from more fundamental questions which need to be posed. Leading international critics and opponents have for years argued that full-scale ecological catastrophes such as have twice occurred in the former Soviet Union—in the military-nuclear complex of Cheliabinsk in 1957, and in the civilian nuclear complex of Chernobyl in 1986—sooner or later were bound to occur elsewhere. Isn’t it time the wisdom of continuing with nuclear energy be radically questioned? To restate Fukushima’s provisional lesson for the world: nuclear production is inherently hazardous, and corporate owners profiting from the sale of nuclear energy have an inherent interest in belittling the risks. □□□