

# The fukushima daiichi nuclear disaster

[Literature](#), [Russian Literature](#)



The contemporary society is faced with major environmental challenges such as global warming and climate change, which have necessitated a rethink in the way humans utilize natural resources. Production of energy especially from fossil fuels has been categorized as one of the major contributing factors to environmental degradation and more focus is now being directed to other ways of producing clean energy. Hydropower is considered as a clean source of renewable energy based on the fact that it highly depends on the availability of running water, mainly from rivers, which is trapped into dams where it is used to drive turbines and then released back to the river (Sherman, 2006).

However, it is notable that the success of hydropower production is affected by weather variations. Dry conditions lead to water loss through evaporation and also a reduction of water levels in the rivers due to lack of rainfall. This means that there is low availability of water to fill the dams to the required capacity hence reducing the velocity necessary to turn the turbines.

Consequently, less power is produced and when that happens, consumers are forced to contend with the possibility of power rationing. Similarly, during heavy rainfall, a lot of silting occurs in the dams and this limits the capacity of the dams to hold sufficient amount of water thereby disrupting power generation (Sherman, 2006).

Building of dams requires significantly large chunks of land. This means that displacement of communities may have to take place in order to create space for the construction of dams, which may necessitate compensation thereby raising the initial cost of building these dams. By year 2000, statistics indicate that close to 80 million people had been relocated to allow

dam construction worldwide (Sherman, 2006). In addition, arable land may have to be utilized for this purpose and this has the potential of hampering food security in the alienated regions. It may also be important to note that where dams are constructed near human settlement, catastrophes may occur as a result of dam failure. Case in point is the Banqiao dam failure in 1975, whereby more than 100,000 people lost their lives whereas millions lost their livelihoods after typhoon Nina hit China resulting to unexpected widespread flooding. Several dams including Banqiao collapsed as a result and an area of approximately 12,000 square kilometers downstream was submerged (Sherman, 2006).

Nuclear energy is considered as a viable alternative to hydroelectricity and fossil fuels. It is produced from uranium in a process known as fission. However, unlike hydroelectricity, nuclear energy is non-renewable based on the fact that it depends on uranium, which is mined and processed before being transported to nuclear plants where fission is accomplished. Once mining is done, it is not possible to replenish uranium deposits. In this aspect, it is true to state that despite nuclear energy being environmental friendly, its production involves the use of fossil fuels i. e. to transport uranium ore, mining and other processes involved before actual production of power can be accomplished (Bodansky, 2007). This is in contrast to hydroelectricity, which requires no transportation.

Mining involves digging huge mine pits on the ground and these result to degradation of the environment and may also lead to displacement of communities in addition to the fact that dust particles produced during this activity could be hazardous to miners and those living in the nearby

surroundings. The production of nuclear energy is done with a lot of cautionary measures in place due to its radioactive nature. However, natural disasters and accidents cannot be ruled out as possible catalysts for the exposure of humans to radioactivity, which is harmful to their health as it causes cancer. Case in point is the Chernobyl disaster of Ukraine in 1986. Apparently, the crew of Chernobyl power plant encountered a technical hitch caused by power surge, which triggered a chain of reactions resulting to an explosion. This in effect led to the emission of radioactive materials into the atmosphere resulting to contamination that resulted to more than 900000 deaths (Grossman, 2010). It may be important to note that the effects of exposure to radiation may take a long time before a person may exhibit illnesses such as cancer and therefore, monitoring has continued for the population residing in areas that were exposed, who are estimated at 5 million people. These are from areas such as Ukraine, Belarus, Russia and some parts of Europe, which suffered most from the incident. Indeed, 2005 reports indicated that more than 5000 people suffered from thyroid cancer, almost 20 years after, cases which are directly linked to the nuclear disaster (Grossman, 2010).

The Fukushima Daiichi nuclear disaster is also rated among the worst two nuclear incidents, the other being the Chernobyl disaster. It occurred in Japan in the year 2011 after the country was hit by a Tsunami triggered by the Tohoku earthquake. Despite the fact that no deaths were linked directly to radioactivity as a result of the accident, reports indicate that there is a probability that more than 100 people will die as a result of exposure, but over a long period of time (Hirose, 2006).

Nuclear energy is environmental friendly but compared to hydroelectricity, it involves a lot of risks to human existence especially in this era of terrorism and numerous earthquakes occurring every now and then.

#### References

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