

**CULTURE AND THE FUKUSHIMA TRIFECTA: THE EFFECTS OF CULTURE ON
JAPANESE MITIGATION AND DISASTER RESPONSE**

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Introduction:

It is important to understand what culture is and how it affects not only society but the functioning of the government as well. Culture is defined as the customary beliefs, social forms, and material traits of a racial, religious, or social group; the characteristic features of everyday existence shared by people in a place or time. It is also defined as the set of shared attitudes, values, goals, and practices that characterizes an institution or organization (Webster, 2017). Culture is something that shapes all aspects of a society and therefore is important to recognize. This paper examines how societal and political culture affected Japan's mitigation and response of the Fukushima disaster.

The Disaster:

On March 11, 2011, Japan was struck by a 9.0 magnitude earthquake which was considered the most powerful earthquake to hit Japan. The earthquake was also considered one of the top five most powerful earthquakes ever recorded in history (Beauregard, 2015). Because of the earthquake, a tsunami hit and destroyed the coast of Honshu. Based on data scholars have collected, it is believed that approximately 18,000 people were killed because of the earthquake and tsunami and 2,700 bodies were never found (Beauregard, 2015). Japan has around 1,500 earthquakes each year so many buildings and plants are built to withstand earthquakes.

Background on the use of nuclear energy:

Japan is the only country in the world to suffer a nuclear attack. The United States used atomic bombs on the cities of Hiroshima and Nagasaki in World War II. After this, Japan began building nuclear power plants to ensure energy independence (Kinefuchi, 2015). Although about 200,000 Japanese were killed during the nuclear attacks, they saw nuclear power as a key to rebuilding their nation (Kinefuchi, 2015). Japan is ranked third in ownership of nuclear power plants and before the meltdown of Fukushima Daiichi Nuclear Plant in March 2011, Japan's nuclear energy provided about 30% of electricity (Kinefuchi, 2015). Nuclear power plants in Japan are built to withstand earthquakes and tsunamis because they are so common. When the 2011 earthquake hit, there was no thought of the Fukushima plant not being able to withstand the disasters. The nuclear reactors were built to shut down within seconds of an earthquake and backup generators would turn on to continue cooling off the radioactive liquid inside of the reactors (PBS, 2017). Although the plants have been designed to withstand natural disasters such as earthquakes and tsunamis, backup coolers and systems must be updated regularly to ensure that they continue to work properly in the event of a disaster. Sensors and control rods were driven into the operating reactors to cool and completely shut the reactors down in the case of an earthquake or tsunami (Liakounakou, 2014). During an inspection in 2009, Tokyo Electric Power Company (TEPCO) was informed by a government committee of scientists that their tsunami defenses were not adequate and no improvements were made (PBS, 2017). Because no changes were made, the tsunami flooded the plant and the backup

generators were ruined by the tsunami and there was now no way of keeping the nuclear fuel from melting. To regain power in the nuclear plant, workers ran to the parking lot and removed their car batteries to cool the reactors. Alexia Liakounakou explains in her research that many blamed the Japanese culture of group-decision making for the inadequate response to the reactors shutting down. She explains that although group decision making is effective, it hindered the ability to make quick decisions (Liakounakou, 2014).

Cultural Implications:

Although the Japanese government had earthquake and tsunami precautions built into their system, these preparations were not made for an earthquake of this magnitude. Vice Admiral Terry J. Benedict conducted a report that explained that the Japanese culture was to blame for the lack of preparation for an earthquake of that magnitude and the tsunami that followed. In Japan, there is a culture of compliance and deference to authority. Earthquake drills are held in schools each month and buildings are built with deep foundations and shock absorbent technology to withstand an earthquake. Families are required to have earthquake kits filled with the necessities to get them through the hours or even days they would be trapped (PBS, 2017). Building codes also required skyscrapers to sway to prevent collapse. The Japanese people felt no reason to question the government on earthquake policy because for years they were under the impression that they would be continued to be prepared for earthquakes and tsunamis (Phillips and DeLeon, 2017). About 50,000 of Japanese people are over 100 years old and this older population may have contributed to the culture's devotion of

sticking to the existing disaster program, the Japanese government is a unilateral system and the people are taught to not question authority (Phillips and DeLeon, 2017). 100,000 people residing in Fukushima were told it was mandatory that they leave their homes due to radiation coming from the nuclear reactors. Many people were reluctant to leave, they wanted to continue looking for their family members and were previously under the impression that everything was under control.

Political Culture:

The Japanese political culture also played a large role in deterring an effective mitigation process and later an effective recovery process. The Japanese continued to operate under a unilateral system of government that was deemed ineffective well after the end of the cold war (Howe and Oh, 2013). The Japanese system was considered ineffective and counterproductive because governing structure was compiled of the bureaucracy, the dominant party and the corporations (Howe and Oh, 2013). In 2009, the Liberal Democratic Party (LDP), was overthrown by the Democratic party of Japan (DPJ). The platform of the DPJ's first prime minister Yukio Hatoyama was to remove power from the bureaucrats. The government wanted to have a political system that was more cabinet- oriented. The party leaders would take initiative in the decision-making process and would rely on public opinion (Watanabe, 2016). However, this placed power solely in the hands of the prime minister and his appointees who made trillions of dollars in budget cuts that would go on to further negatively affect Japanese infrastructure, the party wanted to take the money set aside to keep

buildings up to code and spend it on “the people” (Shinoda, 2012). Hatoyama’s leadership style affected the confidence the people had in the single party system because the DPJ claimed to desire to advocate for the people but followed their own agendas. The people of Japan wanted the nations reliance on nuclear party to diminish and phase out but the party strongly advocated for the use of nuclear energy to increase prior to Fukushima. Although there was this lack of trust of the government, the political hierarchy prevented people from fighting for reforms. Hatoyama did not lay a good foundation for his successor Naoto Kan who has been accused of mismanaging the Fukushima disaster. Under Kan’s leadership, there was no responsibility taken by the government and TEPCO for the mismanaged recovery effort. Both the government and TEPCO continued to shift blame for the lack of transparency which led to the mismanagement of the Fukushima recovery effort. TEPCO executives claimed that they had no idea a disaster of this magnitude would ever occur (PBS, 2017). Kan was specifically criticized for his poor choice in advisors; those he appointed delayed the response process by slowing the flow of information distribution during the crisis.

This delay of information left the government scrambling to put together a response effort and relay accurate information to the Japanese people (Tatsumi, 2013). TEPCO came up with an effort to manually dump radioactive particles radioactive particles on the nuclear reactors to keep them from exploding hours after the nuclear incident began. Due to lack of planning, the prime minister had no choice but to authorize the response effort, it was the only

thing that had been suggested. Under the unilateral organizational framework, there can be too much demand for, or too little supply of, information across various stakeholders from each stakeholder's perspective (Howe and Oh, 2013). TEPCO failed to mention that they had no idea how to vent a nuclear reactor without power but to make it seem like they had everything under control, they neglected to inform the prime minister of this (PBS, 2017). Both TEPCO executives and the Japanese government failed to acknowledge that this was the beginning of a nuclear meltdown. Prime minister Kan was also criticized for interfering with the nuclear recovery effort, his job was to authorize not to get involved which is another proponent of the Japanese political culture (PBS, 2017).

Conclusion:

Japan is in desperate need of a two-party system and even after the 2011 trifecta, the Japanese government is still reluctant to change its ways. This reluctance to reform preparation measures is what hindered Japan's ability to effectively mitigate and respond to the Fukushima disaster. Although the incident was not nearly as horrendous as it could have been due to the previous disaster precautions Japan built into the infrastructure and school systems. It is not commonly thought of that culture may be an important factor to study in disaster mitigation and response efforts, but Japan is a prime example of reasons nations should be aware of how their culture may affect this area.

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