

Introduction
radioactive elements
into the surrounding
areas.



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Introduction

The world is characterized by two major sources of energy. Non renewable energy sources include fossil fuels and coal. Renewable energy sources include hydropower, geothermal, biomass, solar, wind and nuclear energy. The latter form of energy is gaining much popularity for its ability to get replenished again and again. The nuclear energy in particular is becoming one of the major sources of electricity in Japan, Germany, USA, Britain and France (Sorensen, 2004). The high energy outputs realized from nuclear plants has helped mitigate the effects of global warming associated with fossil fuels. Whereas nuclear energy bears several advantages, negative impacts of the energy are inevitable.

This paper outlines the negative impacts of nuclear energy in France.

Nuclear Energy

Nuclear energy refers to the energy derived from the reaction of radioactive elements such as uranium, radium and titanium. The energy realized from nuclear plants is usually a product of fission.

Through the process, heat energy is released from the bombardment of the nucleus and the neutrons. Heat energy creates steam used to run electricity producing turbines (Sorensen, 2004). Nuclear reactors may be characterized by nuclear meltdown.

Poor cooling of the radioactive material used may affect the containment of the reactor. The result of this phenomenon may be the release of radioactive elements into the surrounding areas.

Environmental Impacts

Environmental impacts that range from soil to water pollution may be encountered. The pollution may be detrimental to existing flora and fauna. A place experiencing nuclear meltdown may be rendered unsafe for human and animal habitation. Radiation sickness, increased rates of cancer and death are common in areas of nuclear meltdown. To avert nuclear meltdown, nuclear reactor designs include redundant systems. Nuclear waste has a greater probability of causing negative environmental and human impacts.

Nuclear waste refers to the products and by products that accrue from the fission process (Sorensen, 2004) . In reality, fission changes the atomic composition of nuclear fuel rods. The resulting compounds are usually radioactive in nature. For instance, the fission of uranium rods yields plutonium.

It is held that the radioactivity of plutonium may last for about 240, 000 years. On-site storage of nuclear waste at nuclear plants is rampant. Most developed countries have suggested long term, underground storage initiatives. It is impossible to guarantee containment of nuclear waste in transportation conditions or at the underground site (Sorensen, 2004). In France, nuclear waste has been a subject of controversy since 1960.

Experiments conducted by the Commission of Atomic Energy (CEA) aimed at ensuring that nuclear waste containers were stored under the Mediterranean Sea (Barthe, 2009). However these attempts caused political mobilization. CEA enjoyed monopolistic rights in nuclear research for a long time, ANDRA was instituted in 1979.

It was tasked with the management of nuclear waste. The major consideration under waste management was the processing of irradiated fuels by COGEMA (later referred to as AREVA). The creation of these two agencies not only averted the monopolistic privileges enjoyed by CEA. Rather, more nuclear waste management options were sought (Barthe, 2009). The need to manage the nuclear waste affected the economic parameters attached to nuclear energy. It is important to note that the invention and adoption of new waste management techniques had negative economic ramifications on the government.

Economic constraints had to be considered in the choice of nuclear waste management adopted. The fact that Electricite' de France (EDF) produces 79% of the total electricity means that nuclear waste is a national issue in France (Jasper, 2002).

Effects of State Owned Monopoly

Political framing has played a crucial role in the shift of the nuclear waste menace from the technological to social domains. Politicians who felt sidelined in nuclear energy issues rose to have their voices heard. Politicians, particularly members of parliament, proposed new research options (Jasper, 2002).

They aimed at devising processes of separation and transmutation of long life elements such as plutonium. In addition above -the- ground storage solutions were proposed. Geological storage was however regarded the best option due to its cost effectiveness. Political interference has therefore been instrumental in the diversification of nuclear waste management problems.

Nuclear Weapons

France has been making weapons for many years and makes use of nuclear energy as the basic protection of self-defense. France and other developed countries have long forgotten the impact of the Hiroshima and Nagasaki bombing in Japan (Sayare, 2010). Scientists show much interest in the nuclear field despite the effects associated with it. Political leaders of ' nuclear states' regard nuclear weapons to be defender of peace. However, nuclear weapons pose a great threat to the existence of mankind. It is for this reason that banning of such weapons should be advocated for. Studies reveal that French army exposed troops to nuclear radiation. The deliberate exposure of men to nuclear radiation in 1961 has been criticized.

Psychological and physical effects were suffered thereafter (Sayare, 2010). A 1998 report reveals that soldiers were subjected to potentially dangerous conditions by their officials. 210 nuclear weapons test were conducted in the Algerian Sahara and French Polynesia between 1960 and 1996. It is believed that the health conditions of about 150, 000 military personnel and civilians were negatively affected. The atomic test, Green Jerboa was conducted on 25th April 1961. In the test, 300 army personnel were involved. Tactical experiments were applied. The test revealed that special clothing was not totally effective in averting possible nuclear risks (Sayare, 2010).

Live Human Test Subjects

However, France had all along rejected claims of negative health ramification as a result of nuclear testing programs. The government has nevertheless yielded to pressure and decided to compensate all the victims of nuclear test

programs. Critics have insisted that the compensation program has a limited scope. The French government set about \$ 13.

5 million to compensate those who suffered from the nuclear tests (Cowell, 2009). The medical and judicial processes associated with the claims are rigorous. Comparatively, the USA has since 1990 paid a sum of \$ i. 4 billion to 20, 761 nuclear tests victims.

Workers involved in above -ground tests, uranium miners, ore transporters and those exposed to test radiations have been compensated. It is for this reason that the French government is viewed as insensitive to human ethics. France has for decades wished to establish nuclear energy independence. This saw its withdrawal from NATO's integrated military command. The 43 years as a non-member of NATO has not been good. President Nicolas Sarkozy insisted that France was ready to become a NATO member again. France has over the years aimed at reducing its nuclear arsenal.

However, little is known regarding its nuclear capacity. The Federation of American Scientists revealed that French warheads stood at 348; 288 submarines, 50 air launched missiles and 10 bombers (Cowell, 2009). France has been known to protect its nuclear tests. Rainbow Warrior was sunk in New Zealand in 1985 to ensure that nuclear tests remained undisrupted. It is now clear that the government is willing to document the procedures associated with nuclear tests.

Effective Use of Nuclear Energy

It is important to appreciate that nuclear energy is a sustainable source of energy. However, the energy should not be used for nuclear weapons.
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Public opinions regarding the negative effects of nuclear energy should not be ignored. Destructive nuclear armaments should be destroyed to avert serious physical and psychological effects. The setting up of a powerful organization to control the production of nuclear weapons should be advocated for. Government agencies should sensitize people on the dangers of prolonged exposure to radioactive elements. Nuclear waste should be handled in a safe manner to prevent future effects. The French government has enjoyed potential benefits from nuclear energy. The fact that 75% of the country's electricity is derived from nuclear power is good.

Recent Events

However, the government should address issues of negative effects posed by nuclear reactions. The compensation of nuclear test victims was initiated in 2010. The government should also speed up the documentation of nuclear tests. This will ensure that all people become aware of the negative effects of nuclear energy and waste. The latest nuclear disaster experienced in Japan has challenged many countries, France included, as far as their perception of nuclear energy is concerned. They have appreciated the fact that this source of energy can prove more disastrous than it can be beneficial especially if not well managed. Despite the fact that nuclear energy is useful, negative effects may last for many years to come.

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