



## Nuclear Energy in India – Boon or Bane?

### Description

#### Background:-

- Nuclear power is the fourth-largest source of electricity in India after thermal, hydroelectric and renewable sources of electricity.
- There are 442 nuclear reactors in the world. And some more nuclear plants are in construction.
- As of 2010, India has 20 nuclear reactors in operation in six nuclear power plants, generating 4,780 MW, while 5 other plants are under construction and are expected to generate an additional 2,720 MW.
- India plans to increase nuclear power output to 64,000 MW by 2032. It aims to supply 25% of electricity from nuclear power by 2050.
- Six nuclear power plants in India are located in Kaiga in Karnataka, Kakrapar in Gujarat, Kalpakkam in Tamil Nadu, Narora in Uttar Pradesh, Rawatbhata in Rajasthan, Tarapur in Maharashtra.
- India involved in ITER ( International Thermonuclear Experimental Reactor ), which consists European Union, United States, Japan, China, South Korea, Russia as other members.
- Indo – US nuclear deal was done on July 18th, 2005, under which India agreed to separate its civil and military nuclear facilities and place all its civil nuclear facilities under International Atomic Energy Agency (IAEA) safeguards and, in exchange, the United States agreed to work toward full civil nuclear cooperation with India.

#### In Favor:-

- Nuclear fission produces energy equal to 10 million times of the energy produced by burning of an atom of fossil fuel or hydro or wind power.
- Through Nuclear plants, we can save our planet from Global warming as there is no release of greenhouse gases (carbon dioxide, methane, ozone, chlorofluorocarbon) during nuclear

reaction.

- By burning fossil fuels, poisonous CO<sub>2</sub> releases.
- Uranium is obtained from open-cut mines, which is not expensive. And Currently, the high reserves of uranium found on Earth, are expected to last for another 100 years.
- Nuclear fuel is inexpensive and easier to transport.
- Nuclear Energy can be produced in large quantities over short periods of time.
- When compared to the fossil fuel waste, the nuclear waste which occurs due to the production of nuclear power is small in quantity.
- We can save oil reserves which are going to be run out at some point.

### **In Against:-**

- Nuclear plants are dangerous if it explodes. Thousands of people suffered in the nuclear accident happened in Chernobyl in 1986. Recently, on march 11th, 2011, four nuclear reactors exploded in Japan due to earth quake. And there are 17 nuclear plant explosions happened in the world till now.
- Nuclear power releases radiation, which causes severe health problems to the people in it's surroundings. The radiation released by this, lasts for tens of thousands of years in the environment.
- In Japan, at the place of nuclear reactors which are exploded, high radio activity was found in water, leafy vegetables, sea food, and in the people, who are working for reconstruction those power plants now.
- Nuclear reactors last for about 40 to 50 years.
- Terrorists may take advantage of this and may produce nuclear weapons, which is a great risk for entire world.
- Even though it produces small amount of waste, it is highly hazardous. And the long-term storage of this waste is too difficult.
- Nuclear plant is highly expensive.
- Uranium is not renewable. If the resources of uranium are completely used, there isn't any more.

### **Conclusion:-**

It's definitely a bane as it is highly dangerous. What is the use of this power, when people are suffering from severe health problems. It's not too difficult to live without power, but it's difficult to live without good health. Growth of Technology should not be a danger for human survival. We should work more on alternatives such as solar energy and hydroelectric energies etc.

**Your Turn :-** What are your thoughts on this topic? Feel free to express your opinion in the comment section below.

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