

The nuclear power option

A rational policy argument from Bangladesh

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BANGLADESH, at present, is badly in need of producing more electricity than what it is producing now. But generation of electricity from conventional sources can be costly and, more significantly, polluting in the environmental sense. As such, power generation from nuclear plants is advocated by some quarters. No long supply chain of raw materials and other inventories is required in operating a major nuclear power plant. Operation of a big coal-based power plant to supply a city like Dhaka would require annually about a 1000-kilometre line of railway wagons filled with coal along with the back-up of mining the coal and the attendant polluting processes spread over large areas. Power generation with oil for a similar purpose would call for at least four or five super tanker loads of heavy imported oil. Power generation with natural gas requires the laying of pipelines extensively from the gas fields to the power stations. The supply chain for a big nuclear power plant, by comparison, is incredibly shorter and manageable. It can feed on one truck of cheap and plentiful uranium imported from stable countries like Canada or Australia. Gas and acid emissions from a nuclear power plant is zero; toxic ash and dust, none. Environmentalists are, however, concerned for the safe disposal of radioactive wastes that are generated in the process.

It is argued that the fear of nuclear energy from the health and environment perspectives is exaggerated. Notwithstanding the operation of environmental organisations such as Greenpeace, the fear of radiation is more in the imaginations of people than in the real world. Humans worldwide are always being bombarded with more radiation from natural sources. Radiation from power plants and the like is a very tiny part of the total radiation. According to the UK's National Radiological Protection Board, doses from the entire nuclear industry there amount to less than one per cent of the total exposure to people in UK.

Even if Bangladesh operates several fairly large size nuclear power plants for about a hundred years, the total radioactive wastes from these would probably fill a medium-sized ditch. But the wastes should be put in sealed containers and kept in a bunker-like concrete underground storage to ensure against leakage. Nuclear waste does indeed take a long time to decay. Much of the remaining waste can be returned to the fuel cycle and re-processed. If nuclear power plants were not safe then France would not be meeting 78 per cent of its power needs from them. As it is, the world's nuclear champion is safe and the health of its people among the very best in the world.

Therefore, the case for Bangladesh to plan for large-scale generation of nuclear power should be examined with seriousness. Nuclear power generation is also cheap. Counting out the initial establishment costs, the per unit of electricity generated from nuclear power plant is said to be much like that of a coal or gas fired plant. Bangladesh would do best to get Chinese assistance to build a number of nuclear power plants and train manpower for the purpose within a short time frame. Possibilities for similar cooperation may be explored also with other countries.