

RESTRICTED



ABSTRACT

Nuclear power is concerned as one of the best alternative sources to obtain more reliable clean electricity. By early 2020, more than 450 nuclear power plants were operated sharing 10% of world electricity demand. Due to the non-renewable, diminishing nature of fossil fuels and the unrealistic nature of renewable electricity sources, nuclear has been identified as a possible source for Sri Lanka beyond 2030. Despite several advantages, nuclear security and safety issues are identified as the major bottlenecks to promote the use of nuclear energy. Hence, the objectives of this research were to find the existing situation and capability of Sri Lanka on nuclear security and find the adequacy of them and identify the areas to be improved in the future. The researcher used qualitative methodology and primary data were gathered through in-depth and focus group interviews while secondary data from published documents. Thematic analysis was adopted and identified nuclear safety, security, safeguard measures together with emergency preparedness, environmental concerns, and energy and national security nexus as main themes. Based on them, the discussion was developed to achieve objectives with special concern on case study on nuclear accidents. During this research, it was found that Sri Lanka has taken possible measures in the field and needs improvements such as establishing the nuclear security committee, adoption of nuclear safeguard frameworks, enhance the early warning capabilities and laboratory facilities. Further, despite acquiring nuclear power plants, the country needs to consider more on nuclear safety and security aspects due to nuclear neighbors and the rapid increment of the use of radioactive materials for peaceful industries. Hence, the researcher recommends enhancing the training, education and awareness on nuclear safety and security to promote the nuclear security culture in Sri Lanka.

Keywords: Nuclear security, national security, safeguard, emergency preparedness