RADIOLOGICAL INVESTIGATIONS IN RONGELAP ISLAND 1999

THE FIRST REPORT

Prepared for
The People of Rongelap
As a Humanitarian Support

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SUMMARY

It was difficult to find that large risk exists in Rongelap Island (the main island of Rongelap Atoll) in 1999 from the radiation protection point of view. However radiological states in a northern island Kaballe was still somewhat high. The radiological information in the whole atoll will be needed for people of Rongelap after their return to the home island since the northern islands will be their farms. Continuos supply of imported food for people of Rongelap will play an important role to reduce internal exposure in the near future.

The summary of the first report of our investigation is as follows.

1. Radiological investigations were carried out by Japanese scientists in collaboration with a non governmental organization mainly in Rongelap Island July 1999.
2. The first report has been prepared for the people of Rongelap as a humanitarian support.
3. The scientific report will be presented in Eighth International Conference on "Low-level measurements of Actinides and Long-lived Radionuclides in Biological and Environmental Samples" Oarai Japan October 16 –20, 2000.
4. Constructions of infrastructure and radiological cleanup have been carried out as reestablishment project of Rongelap Island in Rongelap Atoll of Marshall Islands since July 1998. The results of this investigation will be an urgent and important information for the people of Rongelap Island who consider their return to the island.
5. Alpha, beta and gamma surveys and in-situ spectroscopy were carried out. Pit film technique was applied to samples of coconuts and soil for detecting Plutonium.
6. Portable whole-body counting of Cs-137 was carried out for workers in Rongelap Island who may take radioactivities by food-chain or by inhalation.
7. Radiologically abnormal value was not recognized in all 17 sites including beach where we investigated in Rongelap Island.
8. Depth profile of beta ray showed normal state in a hole with 150 cm depth at center of Rongelap island. Moreover no Cs-137 was detected in the hole.

9. Contamination level of Cs-137 was less than 40kBq/m^2 at all the 17 site. The value was enough low for residents. The value is much less than that in the contaminated territory due to Chernobyl accident.

10. The effective half time of Cs-137 decrease on the ground, which is estimated to be 6.1 y is much shorter than physical half-life of Cs-137 (30y).

11. Radiation in Rongelap Island 2000 is estimated to be five times less than that in 1985. This radiation level is close to the values in Tokyo.

12. Whole-body counting of Cs-137 was done for 6 in 15 workers. They take US imported food and sometimes local foods such as coconut, pig, chicken, coconut crab and fish. The results, which showed the maximum, average and minimum values were of 46, 27 and 17 Bq/kg respectively, were acceptable level.

13. Annual external and internal doses which were estimated to be 0.10 and 0.07 mSv/y as in Rongelap Island 1999, were pretty low.

14. Activity of Pu-239, 240 for soil was 93 Bq/kg as the top 5cm and 3.9 kBq/m^2 in Rongelap Island 1999.

15. Pit films have not been analyzed yet.

16. The plutonium analysis for local foods will be a future work.

17. The present results show us that radiological states in Rongelap Island contaminated USA nuclear test of Bravo 1954 have been recovered till 1999.

18. We investigated 3 sites in Kaballe Island where was located 25 km far from Rongelap island in northeast direction. One site is relatively high contaminated, Cs-137 of 3.4 MBq/m^2 and beta ray of 1200 cpm. The other islands were not investigated.

19. It was difficult to find that large risk exists in Rongelap Island from the radiation protection point of view.

20. Continuos supply of imported food for people of Rongelap will play an important role to reduce internal exposure in the near future since the northern islands are their farms.