

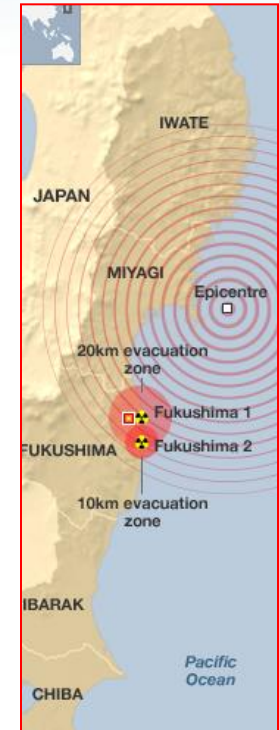
Marine Benchmark Study on the Possible Impact of the Fukushima Radioactive Releases in the Asia-Pacific Region (RAS/7/021)

- 2011 - 2015
- LCC: Mr Ron Szymczak, TRADEWINDS
- 20 participating RCA GPs plus 4 non-RCA PSIDS (Cook Is; Marshall Is; Kiribati; Solomon Is)



Background

- Fukushima Daiichi nuclear power plant accident March 2011.
- 33rd NRM - new project proposed to examine the possible impact of Fukushima radioactive releases on A-P Region.
- Widespread possible transboundary implications engaged all RCA GPs to the project.
- IAEA BoG approved participation by concerned non-GPs of the RCA (PSIDS).



Objectives

- To evaluate the extent and possible impact of the Fukushima releases into the marine environment of the A-P region.
- To support a coordinated approach to gathering field data and the assessment of radiological impact on the marine environment.
- To make scientific assessments of the data to help in the development of national countermeasures and environmental responses.



Expected Outcomes

Through a harmonised regional approach:

- Consolidated radioisotope data in water column, marine biota, marine sediments and suspended matter from all GPs.
- Assessment of the impact of these radioisotopes on the marine environment and risk to people.
- Optimisation and coordination of the available skills and resources in the region.
- Greater understanding of ocean circulation and dispersion environment.



Highlights - 2015

- Workshop to Review Implementation of QMS Programmes, *May*, PHI
- Meeting to review data, discuss and agree on the necessary activities toward the completion of the project, *July*, Monaco
- Final Project Assessment Meeting, *November*, JPN
- Third Proficiency Test for Cs, Sr and H-3 determination in seawater
- ASPAMARD - 27065 new data from JPN; 2546 from other GPs



Achievements – Output 1

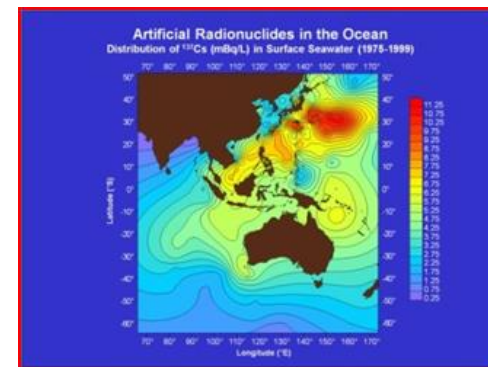
Effective project management and coordination at both a regional and national level

- PRMs in 2012, 2013, 2014, 2015
- Budgetary shortfall – some activities cancelled
- Extra meeting (Monaco) to mitigate situation
- 22 GPs submitted final project reports

Achievements - Output 2

Establishment of quality assured regional database of radioactive contamination of the marine environment in waters adjacent to RCA GPs

- **ASPAMARD database** revived and updated
- 118965 data; on-line data submission
- **Quality Assurance:** 16 GPs certified to ISO9001, ISO17025 and/or ISO14001
- **Proficiency Test Exercises:** four exercises - Cs-134/137 in all; Sr-90 in three; H-3 in two. Overall acceptance rates lower than expected.



Achievements - Output 3

Enhancement of regional capability to assess environmental health risks associated with the radioactive contamination in the marine

- **Training:** 8 RTCs; 155 participants; 83-92% pass rate
- **New laboratory facilities:** marine radiochemistry and/or radioecology in 12 GPs
- **Radiological dose/risk analysis:** range of local marine biota in 13 GPs
- **Marine radiological laboratories:** active in 5 GPs
- **New IAEA Wildlife Transfer Database:** AUL
- **IAEA MODARIA project:** advances in radiological dose modelling - AUL and THA participating



Other project outputs and highlights

- No impact from Fukushima accident releases detected in territorial waters of GPs beyond Japan
- No spatial or temporal trends observed in territorial waters of GPs
- Radionuclide levels in seawater are low and stable around Fukushima Daiichi NPS
- Increased capacity and expertise in marine monitoring in GPs
- PSIDS are now monitoring marine radioactivity
- Increased partnerships - international and bilateral

Linkages/ Partnerships

- On-going links - UNSCEAR, ICRP and MODARIA.
- New links:
 - › North Pacific Marine Science Organization (PICES)
 - › WorldFish Centre (CGIAR)
 - › Japan Fisheries Agency
 - › Oregon State University (USA)
 - › Lancaster Environment Centre (UK)
 - › Lawrence Livermore National Laboratory (USA)
- IAEA Environment Laboratories (Monaco) - key institution for cooperation, advice and technical support for project.



Constraints and Concerns

- Very short-notice of project initiation in 2011 constrained several GPs in acquiring national funding to meet the regional project schedule
- Extra-budgetary funding shortfalls - schedule lagged in 2014; cancellation of 2015 activities impacted final outcome
- Proposed workshop on 'Assessment of Radiological Risks at Advanced Level' (INS) was cancelled - gap in GP capabilities and incomplete regional risk assessment
- PTE acceptance rates lower than desired – low laboratory participation rate
- Poor participation at all levels by some GPs

Lessons Learned

- Strategy to separate 'new entrants' (e.g. PSIDS) from other RCA GPs in specifically designed RTCs and provision of targeted expert missions was successful
- Incorporating other IAEA facilities, programs and projects can enhance outcomes e.g. NAEL; MODARIA; Wildlife Transfer Database
- Greater GP participation required in PTE to assure quality of data generated by laboratories

Recommendations

To GPs:

- Sustain and continue national activities
- Encourage involvement of other stakeholder agencies
- Help publicise monitoring data – literature; ASPAMARD
- Promote TCDC – sample analysis and knowledge transfer
- Utilise TC national project mechanism
- PSIDS – better coordination of activities

To IAEA:

- Promote outcomes – GPs; stakeholders; general public
- Support for GPs that lack laboratory facilities
- Support annual PTEs

Future

- 2016-17 TC cycle – ‘Advancing technologies for monitoring and analysis of the potential impact of radioactive releases from nuclear power plants (NPPs) in Asia-Pacific marine ecosystems following the Fukushima Dai-ichi accident’
- Commencement – January 2017
- Some carryover activities of RAS 7021 necessary to close gap in GP capabilities e.g. regional risk assessment
- Addressing the ‘**Recommendations**’ will help maintain project continuity until re-start in 2017

Comments and Questions

