



สำนักงานปรมาณูเพื่อสันติ
OFFICE OF ATOMS FOR PEACE

ASEANTOM and Its Current Activities

by
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- *ASEANTOM Activities*
- *IAEA/RAS9077*
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Who are we?

ASEAN Network of Regulatory Bodies on Atomic Energy (ASEANTOM)



Who are we? (Cont.)



- Initiated by OAP during the International Conference on Safety, Security and Safeguards in Nuclear Energy, 1 - 2 September 2011 in Bangkok, Thailand on the occasion of 50th years anniversary of OAP.
- Term of Reference (ToR) was signed in 2013

Who are we? (Cont.)

A main objective of ASEANTOM is to;

“strengthen nuclear safety, security, and safeguards within the ASEAN community by enhancing cooperation and complementing the work among MS with the existing mechanisms at the national, regional, and international levels”



Who are we? (Cont.)



Recognized and acknowledged

ASEANTOM Activities

➤ Annual Meetings;

- Thailand (2014)
- Malaysia (2015)
- Austria (2016)
- Philippines (2017)



➤ ASENTOM Activities (Cont.)

- *The 1st Technical Meeting on Environmental Radiation Monitoring Network in ASEAN, Chiang Mai, Thailand (2014)*
 - *Discuss on a possibility to establish the regional network*
 - *Submit a concept paper to IAEA*

- *The 2nd Technical Meeting on the ASEAN Environmental Radiation Monitoring Network, Phuket, Thailand (2015)*
 - *Further identify gaps and needs*
 - *Update on the proposed project and other related project*

*Regional Cooperation Project Concept in South
East Asia to Support Regional Environmental
Radioactivity Database & Nuclear Emergency
Preparedness and Response*



*Supporting Regional Nuclear Emergency
Preparedness and Response in the Member States of
ASEAN Region (RAS/9/077)*

➤ ASENTOM Activities (Cont.)

- *The 1st Regional Workshop on Introduction to Nuclear Forensics and Biological Dosimetry, Bangkok, Thailand (2016)*



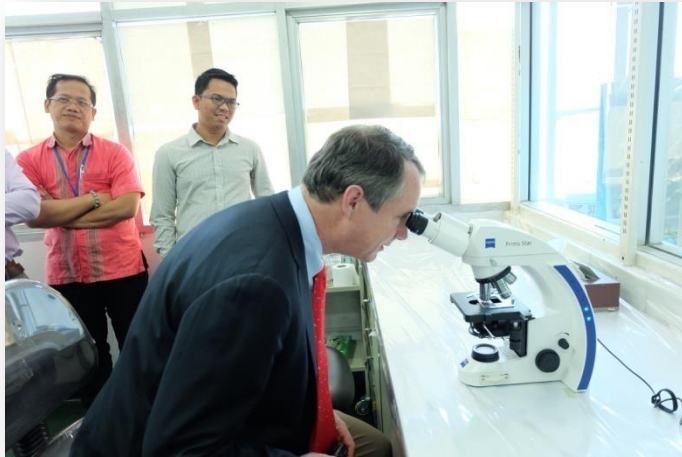
➤ ASENTOM Activities (Cont.)

Workshop Objectives

- To introduce nuclear forensics & biological dosimetry activities among ASEAN
- To identify current status and goals for nuclear forensics & biological dosimetry in the region
- To establish the national capabilities and awareness of nuclear forensics & biological dosimetry
- To update information sharing and technical updates in both nuclear forensics & biological dosimetry fields
- To discuss the regional work plan of nuclear forensics & biological dosimetry
- To establish common knowledge in the ASEAN countries about nuclear forensics & biological dosimetry

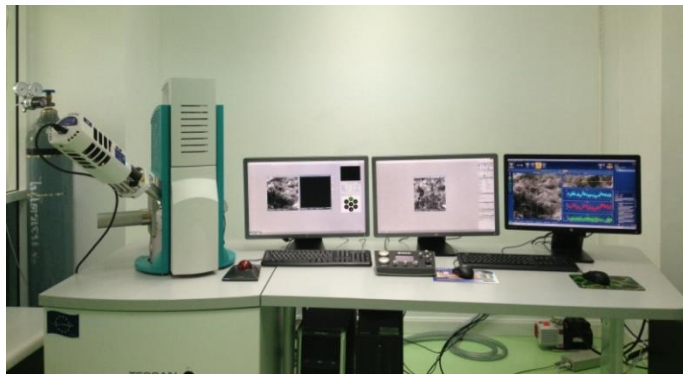


Nuclear Forensics Center





Nuclear Forensics Center



SEM/EDX



ICP-MS



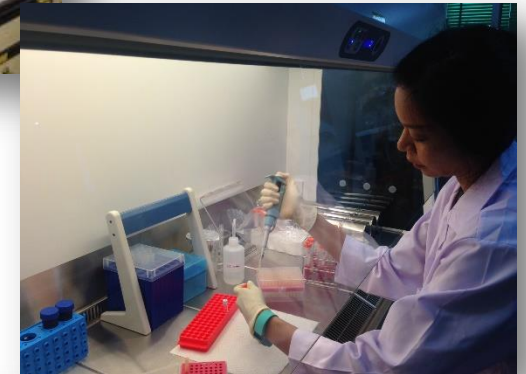
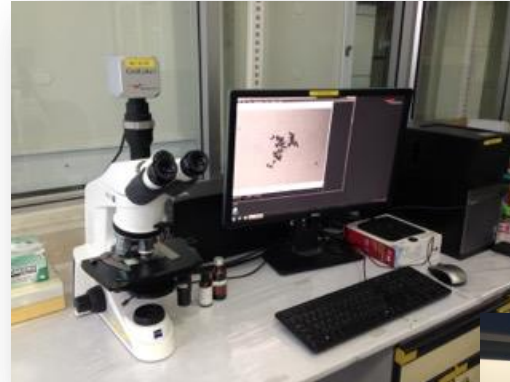
HPGe Detector



Gamma Spectrometry

Biological Dosimetry Lab & Network

Thailand



➤ ASENTOM Activities (Cont.)

- *The 2nd Regional Workshop on Capacity Building and Strengthening the Nuclear and Radiation Safety and Security Network in the ASEAN Region, 6-9 March 2017, Bangkok, Thailand (OAP Fund)*
 - *Nuclear Forensics*
 - *Radiation Biodosimetry*
 - *Radiation Metrology*
 - *Environmental Radioactivity Measurement & Emergency Preparedness and Response*



➤ ASENTOM Activities (Cont.)

Objectives:

- *To provide participants with intensive workshop on several areas of nuclear and radiation safety and security including nuclear forensics, radiation biodosimetry, radiation metrology, environmental radioactivity measurement, and emergency preparedness and response*
- *To have a perfect opportunity for exchanging their knowledge and experience among experts from the ASEANTOM MSs*
- *To strengthen the regional network*



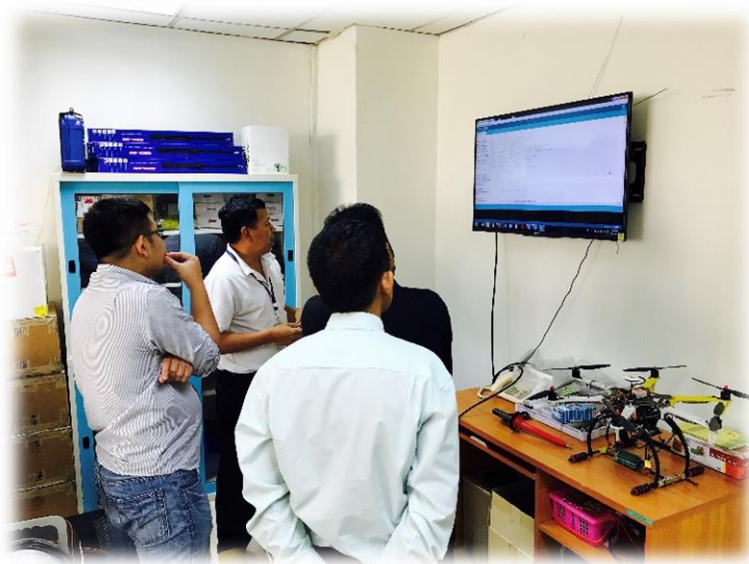


The 2nd Regional Workshop on Capacity Building and Strengthening the Nuclear and Radiation Safety and Security Network in the ASEAN Region, 6-9 March 2017, Bangkok, Thailand

➤ ASENTOM Activities (Cont.)

- *Thai-Lao PDR Technical Cooperation: Capacity Building on Radiation Safety and Radioactivity Measurement and Monitoring in the Environment, 7-8 Aug 2017, Vientiane, Lao PDR (OAP Fund)*
 - *To transfer knowledge and experience in developing and maintaining On-line Radiation Monitoring Device*
 - *To set up On-line Radiation Monitoring Network in Lao PDR*
 - *Activities: Meeting, On the Job Training, and Expert Mission*







➤ ASENTOM Activities (Cont.)

- *Thai-Cambodia Technical Cooperation: Capacity Building on Radiation Safety and Radioactivity Measurement and Monitoring in the Environment, 26-27 Feb 2018, Siem Reap, Cambodia (OAP Fund)*
 - *To transfer knowledge and experience in developing and maintaining On-line Radiation Monitoring Device*
 - *To set up On-line Radiation Monitoring Network in Cambodia*
 - *Activities: Meeting, On the Job Training, and Expert Mission*



➤ IAEA/RAS9077

RAS/9/077 : Supporting Regional Nuclear Emergency Preparedness and Response in the Member States of ASEAN Region

“To enable MSs in the region to share and exchange information in a timely manner so as to better prepare, plan and respond effectively to potential nuclear and radiological emergencies”



➤ IAEA/RAS9077 (Cont.)

- *Duration: 4 years (2016-2019)*
- *Budget: EUR605,500*
- *Activities:*
 - *Training Courses*
 - *Workshops*
 - *Expert Missions*
 - *Meetings*
 - *Home-based Assignments*
 - *Scientific Visits*





MYANMAR



THAILAND

A

CAMBODIA



SINGAPORE



INDONESIA



LAOS



VIETNAM



MALAYSIA



PHILIPPINES



BRUNEI DARUSSALAM

Outcome: To enable MSs in the region to share and exchange information in a timely manner so as to better prepare, plan and respond effectively to potential nuclear and radiological emergencies

Outputs:

Project
management
team
operational

Concept for a
regional
monitoring
system
network
established

Harmonized
assessment
capabilities are
in place

Public
information
strategy is
developed

Monitoring
capabilities are
improved

Year	Input	Component	Fund Source	Budget Estimate (Euros)
2016	2.1.1 RW1 (20P 5d) Regional workshop on hazard assessment and national self-assessments on EPR approach	Meeting	Agency	66,000
2016	2.1.2 EM1 (10Ex 5d) To support national hazard assessments	Expert	Agency	50,000
2016	2.1.3 EM2 (1Ex 10d) HBA to review, revise and consolidate a hazard assessment for the region	Expert	Agency	3,000
2016	3.1.1 EM9 (1Ex 10d) HBA to assess existing capabilities and prepare an action plan towards harmonization (results from previous similar activities to be considered)	Expert	Agency	3,000
2016	5.1.3 SV2 (10SV 5d) Group SVs (as needed) Scientific visit for a week each to other countries with deep expertise and experience in radiation monitoring	Scientific Visit	Agency	30,000
	Sub-Total for 2016			152,000
2017	3.2.2 RW3 (20P 5d) Workshop on regional protocols for information sharing (IRMIS to be considered as an option) Note: IRMIS to be considered as an option	Meeting	Agency	60,000
2017	2.2.2 EM4 (1Ex 10d) HBA to analyse the data from the survey and define an action plan	Expert	Agency	3,000
2017	3.2.4 M1 (20P 5d) Sharing of information on preparedness arrangements to promote cross-learning amongst Member States in the region Note: Specific input to be discussed during RCM	Meeting	Agency	80,000
2017	2.2.1 EM3 (1Ex 5d) HBA to design a survey on assessment and prognosis capabilities	Expert	Agency	2,000
2017	2.3.1 EM6 (1Ex 5d) HBA for defining functional requirements for information sharing (2) (In consistency with 2.2.2)	Expert	Agency	2,000
2017	2.3.2 EM7 (1Ex 5d) HBA for defining technical requirements for information sharing (3) (In consistency with 2.3.1)	Expert	Agency	2,000
	Sub-Total for 2017			149,000
2018	4.1.1 RTC3 (20P 5d) Regional Training Course on Public Communication	Training Course	Agency	66,500
2018	4.1.2 RW4 (20P 5d) To develop a regional plan for public communication	Meeting	Agency	63,000
2018	2.4.3 EM8 (5Ex 5d) To seek advice from international experts on technical requirements for regional radiation monitoring Note: Specific topics and host to be defined after first RCM	Expert	Agency	25,000
	Sub-Total for 2018			154,500
2019	3.2.3 RTC2 (P20 5d) To attend training course on radiation monitoring, acquiring expertise in areas such as sample collection, preparation and analysis from established institutions. Note: Specific topics to be considered during the RCM	Training Course	Agency	63,000
2019	5.1.4 EM12 (5Ex 5d) As needed to seek advice from international experts on technical requirements for regional radiation monitoring	Expert	Agency	25,000
2019	1.1.1 M2 (20P 5d) Final Project meeting	Meeting	Agency	60,000
2019	5.1.1 EM10 (1Ex 5d) HBA to prepare a survey on capabilities related to early warning systems	Expert	Agency	2,000
	Sub-Total for 2019			150,000
			Grand Total	605,500

➤ IAEA/RAS9077 (Cont.)

1. Kick-off Meeting of the TC Project RAS9077

- Kuala Lumpur, Malaysia

- February 2016



Kick-off Meeting of RAS9077, Kuala Lumpur, Malaysia

➤ IAEA/RAS9077 (Cont.)

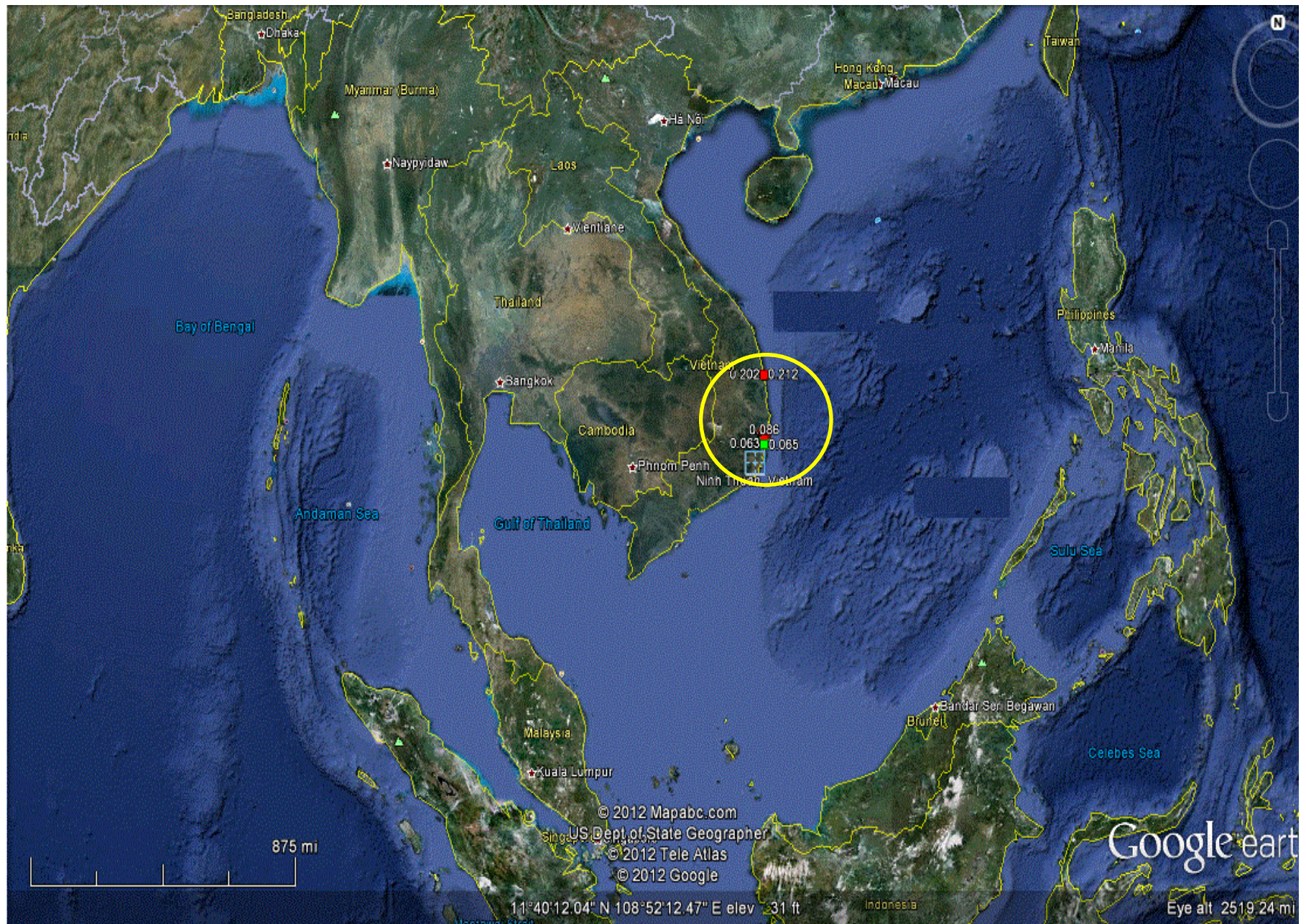
2. Regional Workshop on Project Coordination & Hazard Assessment (RAS9077)

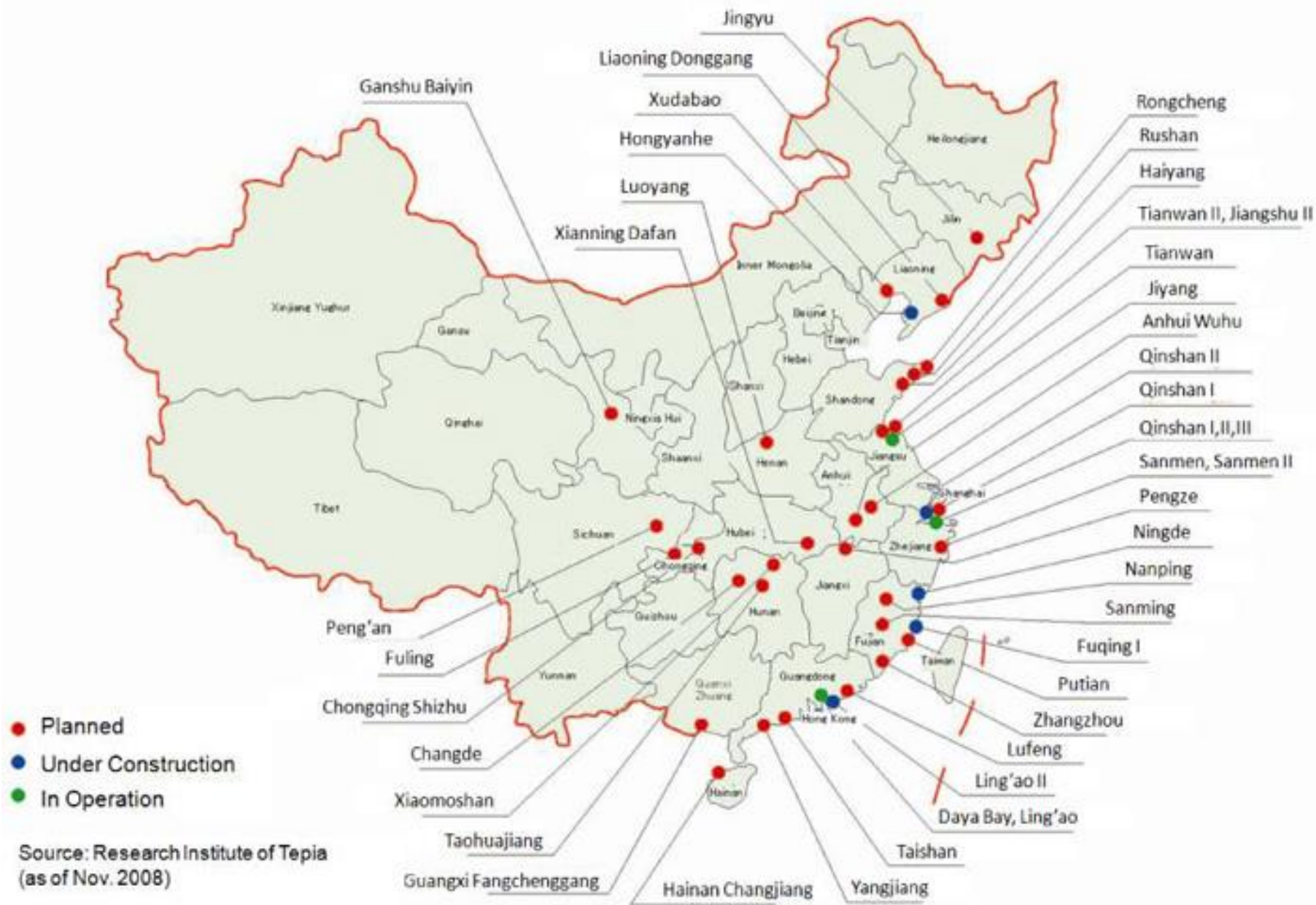
- Bangkok, Thailand*
- 23-27 May 2016*
- 9 ASEAN countries*
- Introduction on and Familiarization with EPRIMS, USIE, and IRMIS*
- National Hazard Assessment*
- A Review of the Nuclear and Radiological Hazard Assessment*
- Draft Concept on Monitoring Needs for the ASEAN Region*

➤ IAEA/RAS9077 (Cont.)

- A Review of the Nuclear and Radiological Hazard Assessment

- The NPP's under construction in Viet Nam, at Ninh Thuan Province. The operating NPPs in India, South Korea, Taiwan, China, and Japan
- The NPP being constructed in Bangladesh
- Research and training reactors in Indonesia Malaysia Philippines Thailand Viet Nam
- Nuclear powered vessels (NPVs) or Floating NPPs
- Medical, research laboratories and industrial equipment that use radioactive sources
- Research laboratories (e.g. at universities) using radioactive material
- Radioactive storage facilities, including nuclear waste management sites.





Source: Research Institute of Tepia
(as of Nov. 2008)

➤ IAEA/RAS9077 (Cont.)

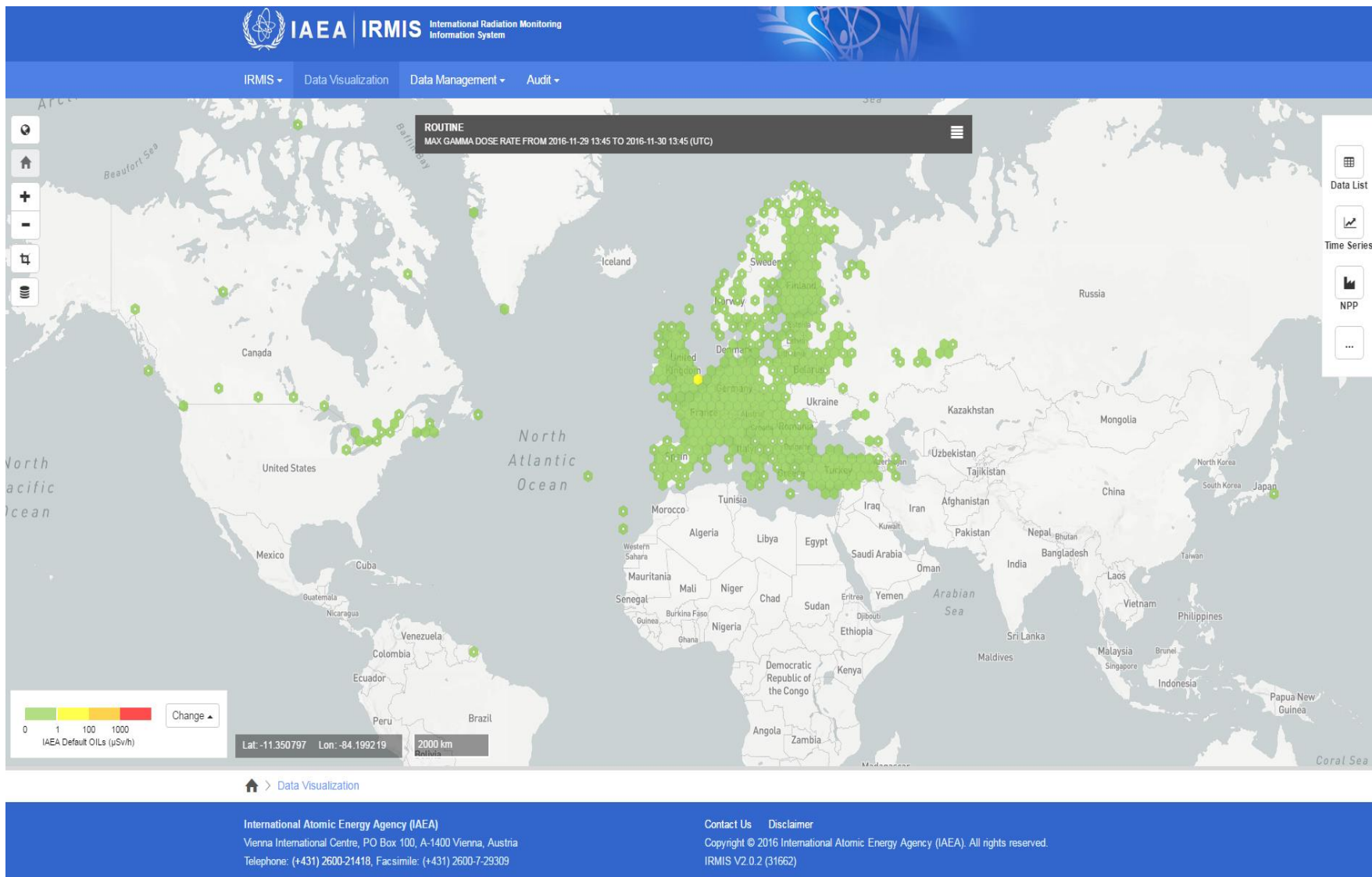
- Draft Concept on Monitoring Needs for the ASEAN Region

- **Group I** – Some of the ‘core’ countries of the ASEAN MSs (Indonesia, Malaysia and Thailand) have already established and operated a radiation Early Warning System
- **Group II** – Other ‘core’ countries (Philippines and Vietnam) are in the process of building up the national EWS. Vietnam is advised to consider establishing a couple of radiation monitoring stations on the Chinese border, between the reactor site at Guangxi Fangchenggang NPP and in Vietnam
- **Group III** – Singapore is in the process of enhancing environmental radiation monitoring capabilities.
- **Group IV** – Brunei Darussalam, Cambodia, Laos and Myanmar, the first priority should be the establishment of a small basic EWS.

➤ IAEA/RAS9077 (Cont.)

3. Regional Workshop on Radiation Monitoring and Information Sharing in an Emergency, 12-16 December 2016, Quezon, Philippines (RAS9077)

- 9 ASEAN countries*
- Address the national and regional needs in the region for information sharing and strengthening radiation monitoring in a nuclear or radiological emergency*
- Use of International Radiation Monitoring Information System (IRMIS)*
- Malaysia, Indonesia, and Thailand submitting data to IRMIS but not successful yet*



International Radiation Monitoring Information System (IRMIS)

➤ IAEA/RAS9077 (Cont.)

4. ASEAN Regional Workshop on Communication with the Public in a Nuclear or Radiological Emergency, 23-27 May 2016, Singapore, Singapore (RAS9077)

- 10 ASEAN countries*
- Exchange the national capability and arrangement for public communication*
- Discuss and provide inputs for Drafting **Concept of the Regional Protocol on Public Communication***

➤ IAEA/RAS9077 (Cont.)

5. Regional Workshop on Assessment and Decision Making on Protective Actions and Other Response Actions in a Nuclear or Radiological Emergency, 28 Aug – 1 Sep 2017, Pattaya, Thailand (RAS9077)

- 10 ASEAN countries*
- Exchange of information on national assessment capabilities and arrangements*
- Discuss and provide inputs for Draft of the regional protocol on Assessment and Decision Making on Protective Actions and Other Response Actions in a Nuclear or Radiological Emergency*

➤ IAEA/RAS9077 (Cont.)

6. Regional School of Radiation Emergency Management, 27 Nov – 15 Dec 2017, Seoul, Republic of Korea

- Korea Institute of Radiological and Medical Sciences (KIRAMS)*
- 26 participants from 10 ASEAN countries*

7. Group Scientific Visit, 18 – 22 Dec 2017, Tokai, Japan

- Japan Atomic Energy Agency (JAEA)*
- 7 participants from 6 ASEAN countries*

➤ European Commission

1. Feasibility Study on Enhancing Regional Cooperation on Emergency Preparedness & Response in Southeast Asia (2013-2015)

- 6 ASEAN countries*
- Collect all necessary information and seek a possibility to establish the regional emergency centre in ASEAN*
- Share the best practices and standards in EP&R arrangement based on the EU experiences including the introduction of the uses of DSSs*
- Action plan for Implementing the ASEAN Strategy for Regional Cooperation on Radiological and Nuclear EP&R*

➤ European Commission (Cont.)

2. Enhancing Emergency Preparedness and Response in ASEAN: Technical Support for Decision Making (Project Ref: REG 3.01/16)

“To enhance the quality and coherence of decision making within ASEAN following a radiological or nuclear emergency through the installation and use within emergency centres, at national and ASEAN levels, of ‘state of the art’ tools/software to support decision making or ‘Decision Support Systems (DSS)’”



European
Commission

Participating Countries:

- ❖ Brunei Darussalam
- ❖ Cambodia
- ❖ Indonesia
- ❖ Lao P.D.R
- ❖ Malaysia
- ❖ Myanmar
- ❖ Singapore
- ❖ The Philippines
- ❖ Thailand
- ❖ Vietnam



➤ European Commission (Cont.)

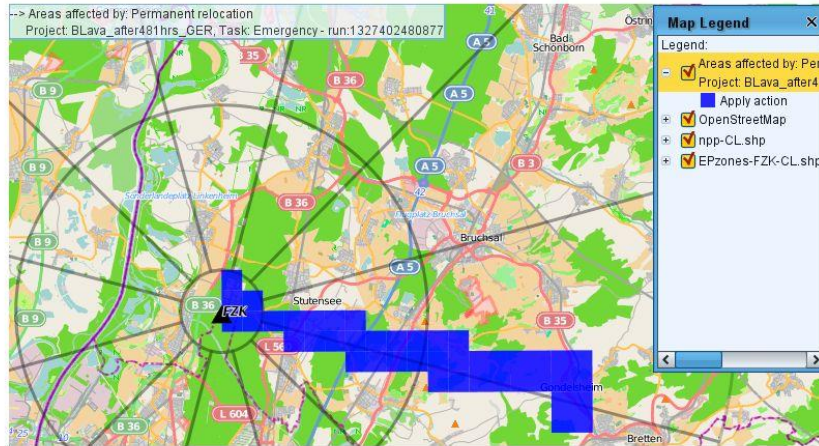
- *Duration: 3 years (2018-2020)*
- *Budget: EUR1,000,000*
- *Activities: Training Courses,
Workshops,
Meetings
On the Job Training / Fellowship*
- *Installation & Customization of either RODOS or ARGOS*



JRodos: Potential permanent relocation area, for 481 hours scenario duration



- Map of the area where the effective dose from ground exposure in the first year [mSv] exceeds a level of 100 mSv

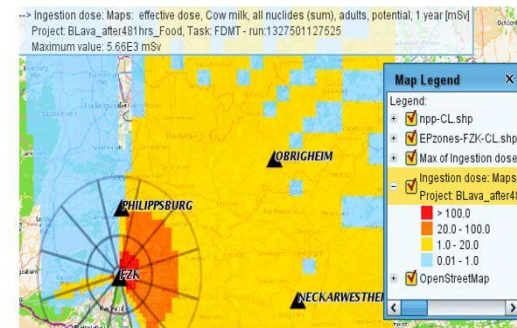


JRodos Software

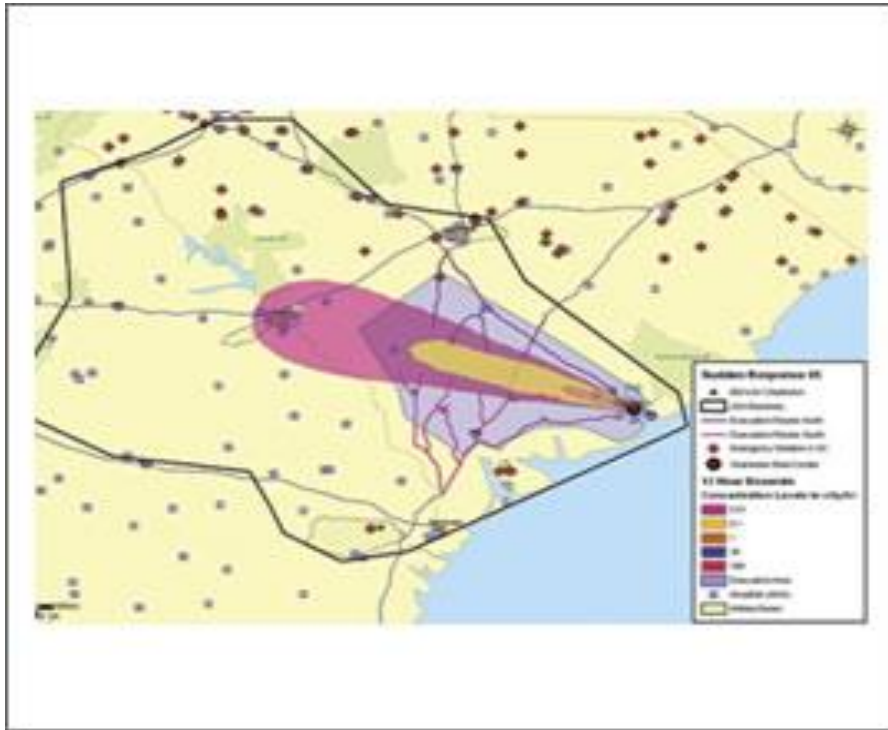
JRodos: Results for the ingestion pathways, for milk, winter wheat, potatoes (1)



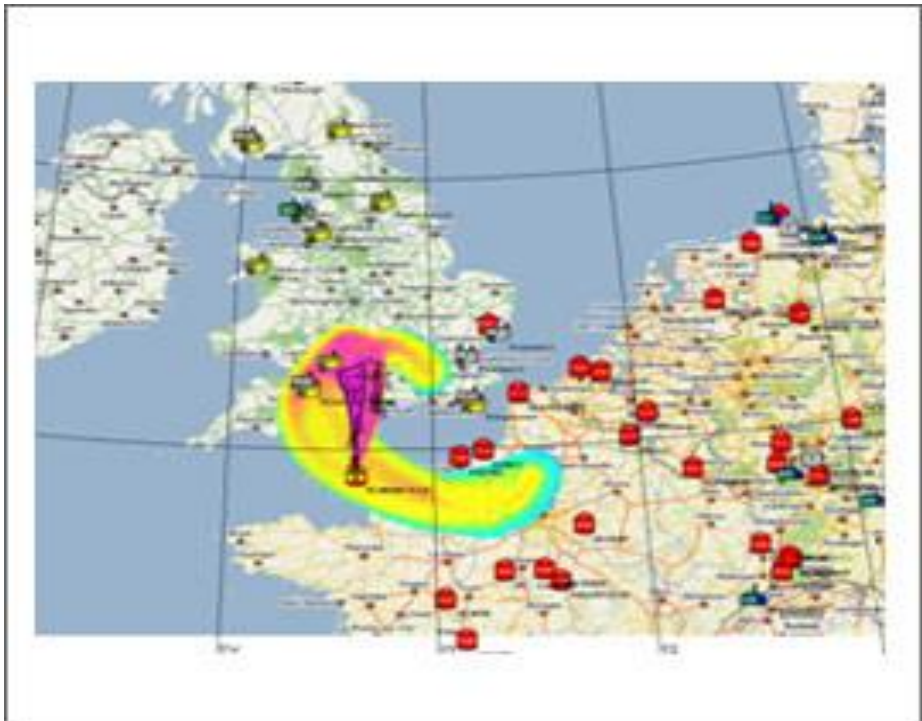
- Map of the effective doses [mSv] from the consumption of the foodstuff "ready for consumption" in the first year after the accident, assuming local production and consumption, without restrictions on food marketing or consumption.



*Example
Effective
dose
from milk
consumption*



ARGOS Software



Future Plans

- *Under RAS9077*

2018

1. *Regional Workshop to discuss on Assessment and Decision Making on Protective Actions and Other Response Actions in a Nuclear or Radiological Emergency & on the Regional Protocol on Public Communication: 19-23 March 2018 in Singapore*
2. *Regional Workshop on the Use of IRMIS in support of public protective actions and decision making: to be determined*
3. *Regional Workshop on Emergency Monitoring and International Data Sharing: proposed to be between 2-6 July 2018 in Indonesia*

2019

1. *Final Project Meeting: Thailand*

Future Plans (cont.)

- *Under the EC Funds*

2018

1. Kick-Off Meeting + Regional Workshop: *12-16 Feb 2018 in Thailand*
2. On the Job Training / Fellowship (1 month): *to be determined*
3. Exploring and Discussion on a possibility to set up the regional emergency centre for data sharing & exchange (EURDEP for example):
A new possible EC project expected to implement in 2021

- *Under the OAP Funds*

2019

1. Follow-up on Thai-Lao PDR & Thai-Cambodia Technical Cooperation

**Thank You for
Your Kind
Attention**

