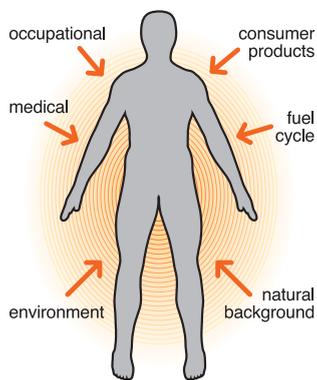




Building Self-sustainability and Self-reliance in to Radiation Protection Infrastructures in the Asia-Pacific region

As the use of nuclear energy and radiation expands, radiation protection becomes an ever important essential element. In 1986 the Chernobyl accident vividly demonstrated that the results of major nuclear accidents can produce human tragedies as well as significant economic damage. This example underlined the urgent need for establishing not only national systems in radiation protection to try to prevent disasters in advance but also regional networks for information exchange, because the release of radioactive materials into the environment can affect a nation, a region and the world beyond.



Sources of Radiation

In this context, the first RCA project on radiation protection infrastructures was initiated in response to the Chernobyl accident and, between 1987 and 2006, the RCA programme successfully implemented seven RCA projects in this area. The inputs from these projects have strongly supported RCA Member States efforts to develop and further improve their national radiation protection infrastructures.

Based on the capabilities and capacities of their established national radiation protection infrastructures, the RCA Member States carried forward with a new project that commenced in 2007. It had the objective of establishing self-sustainable and self-reliant regional networks in four crucial areas: the Asian Network of Cardiologists; the Asia Region ALARA (keeping radiation "As Low As Reasonably Achievable") Network (ARAN); the Regional Emergency Responders Network; and, the Regional Regulators Network.

Each of these four networks is being initiated mainly by their respective websites and these are being further supported by other means, such as publications, conferences, and newsletters.

With the exception of the Asian Network of Cardiologists, the other networks have not been able to be fully established during the project. However the action plans have been developed by each of the Networks and these could be evaluated as taking a great step forward in building up the radiation protection infrastructures.

With regard to Asian Network of Cardiologists in radiation protection, it was established to achieve regional sustainability in medical exposure control for patients and staff. As a result, a cadre of cardiologists was created to train other cardiologists in radiation protection and the newsletters on radiation protection in cardiology were launched, which are available at the IAEA Radiation Protection for Patients web site. Members of this network are actively participating in disseminating knowledge on radiation protection in the region by giving lectures and organising sessions at cardiology conferences. The network is further extending its activities through collaboration with interventional cardiologists from other regions, such as Latin America and Eastern Europe.



CT and PET Scan Radiation Protection

ALARA is a widely applied basic radiation protection concept recommended by International Commission on Radiological Protection (ICRP) in 1977 and in compliance with which every reasonable effort is made to maintain exposures to radiation as far below the dose limits as possible. This project established a regional network to apply this concept. It has focused on controlling occupational exposures, mainly in industrial sector. A website for exchanging information among Member States is going to be operated by one of the Member States.



Check food for radioactive contamination with radiation meter



Radiation protection group with their precision instruments that measure radioactivity

The Regional Emergency Responders' Network established by this project set out to enhance emergency preparedness and response capabilities of the RCA Member States, since nuclear and radiological incidents and emergencies could have transboundary impacts. A website has also been identified as a platform for information exchange and it will be hosted by Bangladesh. It will cover comprehensive country scenarios, including national emergency preparedness and response schemes, exercise schedules and other relevant information such as international standards and relevant technical documents.

The Regional Regulators Network in radiation protection was formed to facilitate electronic communication between regulators as well as to arrange regular face-to-face discussions on topics of regulatory interest to the region. An action plan for developing a website was set up for operational use of the network, utilizing the IAEA website RaSaReN (Radiation Safety Regulator Network). In this case, a website linking to all networks, including Member States websites, is planned to be developed by Vietnam. With this network, it could be expected that there will be improved information exchange on safety standards and practices; further enhancement of the Member States' capabilities for establishing regulatory standards; and, early notification of radiation emergencies .



**RADIOACTIVE
MATERIAL**

Under this project the RCA networks have been successfully established or initiated with the action plans for each area aimed at sustaining radiation protection; further promoting expansion of nuclear energy and radiation materials; and their sustainable development and maintenance. For the future, it is important that the Member States cooperate among themselves and establish their own radiation protection infrastructures.

One special outcome of this project has broken new ground for the RCA. Member States have recognised that RCA projects should not conclude immediately when the IAEA project funds ceases, since additional time and project activities are need to firmly implant transferred technologies and to establish confidence and competencies at a national level. The participating countries have agreed to support a self-funded continuation of this project and formulated three action plans covering events over the next two years. This is the first time that such an undertaking has been made by the RCA Member States for any project.

Besides, recognizing that the networks will be operated mainly by the respective websites, it will be also necessary for Member States to consider support for the countries hosting the websites in terms of expenditure, organisation and human resources.

With the successful operation of the networks, the project will have contributed significantly to reaching regional self-sustainability and self-reliance in the radiation protection in the Asia-Pacific region.



Regional Co-operative Agreement

For Research, Development and Training
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