

## IAEA Technical Co-operation Activities: Asia and the Pacific

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# Workshop on Training Nuclear Laboratory Technicians

*This is the fourth in a series of articles on the technical assistance activities of the IAEA. The regional workshop was held in Seoul, Republic of Korea, in October 1975. The report is by Sigurd Stein Roeed, Technical Officer for the workshop. Experts from Bangladesh, India, Indonesia, Iran, Republic of Korea, Malaysia, Philippines, Sri Lanka, Thailand, ILO, UNESCO, WHO and the Colombo Plan were in attendance.*

The workshop was held to exchange information on existing facilities and programmes in Asia and the Pacific for training nuclear laboratory technicians, to identify future training needs and to assess the need for IAEA's involvement in this field. As the participants outlined the requirements for nuclear laboratory technician training and the facilities available in their respective countries, it became evident that, in addition to the training of radioisotope laboratory technicians, they also wished to review the need for technician training for the operation of nuclear power plants and industrial application of atomic energy. The terms of reference of the workshop were extended accordingly.

The opening address by Chang Suk Lee, the Korean Vice Minister of Science and Technology, noted the valuable contribution to quality control and other industrial uses that nuclear techniques have made in his country. He also reviewed the application of nuclear techniques in Korean agriculture and medicine.

The participants explored various forms of co-operation that could be established between countries of the region. Exchange programmes, not only for students but also for expert teachers, and the exchange or loan of equipment were suggested.

It was felt that some generalized training courses could be organized on a regional basis, and two countries advocated the setting up of a regional training centre. One suggestion was to arrange regional training courses in special fields that would move from one country to another. The need was felt for periodic regional meetings on training methods, course content and other questions relating to training of laboratory technicians. The IAEA was requested to act as a clearinghouse for information on available training facilities in the region and to advise on the curricula for technician training courses. The Agency was also asked to organize short courses for the training of instructors of technicians in the various fields of atomic energy.

Professor H. Glubrecht of the IAEA spoke about programmes for training and qualification of laboratory technicians in nuclear agriculture, nuclear chemistry, nuclear physics and nuclear medicine. IAEA activities in the field of technician training under its Technical Assistance Programme were described in another paper. Fourteen-week training courses are given at the ILO Turin Centre, partly with UNDP support. These courses are mainly concerned with the maintenance and repair of electronic nuclear equipment.

Dr. Aminul Huq, Adviser on Intra-Regional Training at the Colombo Plan Bureau, explained the technician training programme which the Bureau has been implementing since 1964. The programme is promotional in nature and the chief activities thus far have been a series of regional colloquia, national seminars and country workshops to focus attention on the problems relating to the education and training of technicians. Some major projects have emerged as a result of the colloquia, and one of them is the Staff College for Technician Education in Singapore. The objective of the Staff College is to improve the quality of technician education and training by meeting the need for technician teachers and educators, and the need for senior staff in technician education.

Byung Don Min from the Atomic Power Department of the Korea Electricity Company gave a paper on "Nuclear Manpower and Training Problems in a Developing Country", and Professor Byung Hun Lee of the Hanyang University gave a paper entitled "Objective of Nuclear Science Education for Undergraduates and Professionals in Korea". The participants, taking note of the nuclear and electronic facilities in Korea, made a request that the Government of Korea offer some fellowships to other countries in that region.

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The symposium was attended by 187 participants and seven observers representing 40 countries and one international organization.

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## Exploration of Uranium Ore Deposits

The projected demand for uranium over the next quarter century indicates that the discovery of new uranium reserves must rise from a recent annual rate of about 40 000 tonnes to between 200 000 and 300 000 tonnes per year by the early 1990's. It is estimated that by the year 2000 some \$20 000 million will have to be spent on uranium exploration.

The IAEA Symposium on the Formation of Uranium Ore Deposits, held in Athens in May 1974, made an important contribution to understanding the geological basis of uranium deposits. Finding sufficient uranium reserves for future needs, however, is not only a financial and geological problem, but also a technological one. The IAEA and the Nuclear Energy Agency of OECD felt that it was a suitable time to convene another symposium to evaluate uranium exploration techniques and to consider what action may be necessary to initiate further research and development.

At the 1976 symposium, it became clear that progress is being made in the development of improved methods for finding poorly exposed or concealed ore bodies. High-sensitivity airborne gamma-ray spectrometry, which was something of an unproven novelty four years ago, at least in the eyes of some, has become an accepted technique that is now being applied on an extensive scale throughout North America, and its use is beginning elsewhere. Attention is now beginning to focus on how to extract maximum information from the results of these surveys and how to combine this information with other geoscience data.