Partners for development: Expert assistance in Malaysia

Expert assignments under IAEA technical co-operation projects have helped Malaysia build up its own levels of expertise

by Ainul Hayati Daud

Since Malaysia became a member of the IAEA in 1969, it has actively participated in the technical co-operation programme (TC). Over the last 15 years, the country has implemented more than 60 projects, valued at nearly US $9 million in the form of equipment, expert services, and fellowship training.

Expert services have proven to be especially valuable over the past years, even though the provision of equipment and training also have played important roles. Since 1989, in terms of TC services received, Malaysia has become less dependent on the provision of equipment. The development of the basic facilities and infrastructure required for implementation of TC-supported projects has been mainly funded by the Government of Malaysia. Consequently, more assistance for training and expert services have been requested and received from the IAEA.

Malaysia considers expert assignments as opportunities in several respects. They enable the country to receive technical advice and guidance on a specific technology; share and adapt new ideas and technologies; and strengthen strategic alliances in the international arena of nuclear science and technology. An expert is always considered a friend, an advisor, and a partner in the peaceful development of nuclear science and technology.

This report reviews the expert assignments received by Malaysia under the TC programme over the 1980-95 time period. It provides data about the type of assignments and expert services, the institutions receiving the experts, and duration of the assignment. Also reviewed is the process of requesting and implementing an expert assignment in Malaysia, as well as the country's related objectives and plans.

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General developments and trends

During 1980-95, a total of 392 expert assignments were received by Malaysia. They were carried out by 273 experts from 48 countries to serve more than 20 institutions in various fields of nuclear science and technology.

Fields of activity. Nuclear science and technology covers a wide range of subjects and involves a variety of expertise. Over the years, Malaysia has focused on three main fields: the applications of nuclear techniques in agriculture; their application in industry and hydrology; and nuclear and radiation safety.

Over the 15-year period, there were 108 assignments involving 75 experts related to the use of nuclear techniques in agriculture; 69 assignments involving 48 experts in the areas of industry and hydrology (including industrial development, with emphasis on non-destructive testing, radiation technology, and hydrological and tracer studies); and 46 assignments involving 33 experts in nuclear safety-related activities in the field of radiation protection.

Home country of expert. The 273 experts assigned to Malaysia over the years were from 48 countries. Almost two-thirds of the experts on assignment to Malaysia were from industrialized countries. Western Europe was the leading region, providing 89 experts who completed 133 assignments (34%), followed by North America with 75 experts completing 101 assignments (26%), and Asia and the Pacific region with 65 experts carrying out 91 assignments (23%).

Among individual countries, the major providers are the United States (21%); United Kingdom (9%); Germany (7%); Canada (5%); Austria (4%); Australia (4%); Japan (4%); and France (3%). Among the developing countries, India (4%), Poland (2%), and Hungry (2%) take the lead in the number of experts they provide. At the same time, scientists from Malaysia have also contributed towards the implementation of

projects in Malaysia, by completing 18 assignments (5%). The scientists were recruited as TC programme experts and training course lecturers, or as participants in project formulation and research co-ordination meetings.

Institutions receiving experts. Since 1980, more than 20 institutions and hundreds of individuals in both government and private organizations have directly or indirectly benefitted from the IAEA's expert services. They include research institutes, the regulatory board, the utility company, universities, and research committees (a group of scientists from relevant institutions formed to carry out a multi-disciplinary and integrated project).

During the past 15 years, 20 institutions in Malaysia have received 392 expert assignments. Slightly more than half of these assignments (202) were received by research institutes. They are followed by research committees and universities, with 80 (20%) and 37 assignments (9%) respectively. The Malaysian Institute for Nuclear Technology Research (MINT) — which is responsible for the implementation and promotion of applications of nuclear science and technology in Malaysia — received the highest number of assignments, namely 161 (41%), involving 112 experts.

Length of tenure. The length of the assignments have varied considerably, depending on the activity and the nature of assignment, the type of expertise required, and the status of the expertise available in Malaysia. The majority of assignments (almost 61%) have had a term in the range of two to five weeks; about one-fifth were around one week long; and 6% were less than one week long. Longer term assignments (from several months to just over one year) were received mainly for project activities involving lengthy experiments and field work such as product formulation, exploration and mining of nuclear raw materials, monitoring of fertilizer uptake, and insect rearing. Assignments of less than one week were normally for pre-project fact-finding missions, project formulation meetings, lectures at training courses, and participation in a co-ordinated research meeting.

Over the years, the average duration of assignments has fallen from about five weeks to three weeks. At the same time, the number of assignments has doubled. This reflects the increasing self-reliance of the country's expertise, as external experts are being required only for more specialized assignments of shorter duration.

Also interesting to note is that the length of assignments from countries such as Australia (47 days) and Poland (56 days) have been high, even though the number of experts completing the assignment has been small. This indicates that experts from these countries were available for long-term assignments. On the other hand, the length of assignments for major providers of expert services, such as the United States, United Kingdom, Germany, and Canada have been mainly within the range of two to four weeks, even though the number of assignments completed were mostly higher than those from other countries. This implies that the experts from these countries were mainly available for short-term assignments in specialized activities.

When comparing the number and length of assignments for each institution, notable trends are observed. In the case of the Geological Survey Malaysia, Perak (GSMP), it received only 12 expert assignments but the duration per assignment was 73 days; the case is similar for the Geological Survey Malaysia, Sarawak (GSMS). This is because projects in the field of prospecting and mining of raw materials mainly involve activities such as field trips, data collection, and analysis, which require more extensive expert services.

The role of the Malaysian Institute for Nuclear Technology Research

The TC programme in Malaysia is administered by the Division of Policy, Planning and External Relations MINT through the Office of External Relations. Expert requests are received and reviewed before submission to the IAEA Technical Co-operation Department for recruitment through Malaysia's Science Attache in Vienna. The review looks at the relevance and the suitability of the request in relation to the implementation the project, including the proposed dates and duration of the assignment, the duties of the expert, and the background (justification) of the request. The actual recruitment is carried out by the Experts Section of the IAEA.

Once a curriculum vitae of a suitable expert is received from the IAEA, the project's contact officer in Malaysia is informed, approval is sought, and the date of the mission is proposed to the IAEA. Necessary arrangements such as a government clearance, visa (if required), reservation of accommodation, transportation and programme of assignment are then processed. At this stage, the project contact officer is encouraged to communicate directly with the expert to discuss technical details and the work plan for the mission. The IAEA is kept informed of the status of the arrangements.

Once the Office of External Relations receives confirmation and the expert's travel itinerary, the project contact officer is informed and all arrangements are finalized. Assistance such as transportation and provision of information about

Malaysian institutes, universities and organizations receiving IAEA expert assignments, 1980-95

- Atomic Energy Licensing Board (AELB)
- General Hospital Kuala Lumpur (GHKL)
- Geological Survey Malaysia, Perak (GSMP)
- Geological Survey Malaysia, Sarawak (GSMS)
- Institute for Medical Research (IMR)
- Lembaga Letrik Negara (Utility-Tenaga National Berhad)
- Malaysian Agricultural Research and Development Institute (MARDI)
- Malaysian Institute for Nuclear Technology Research (MINT)
- Rubber Research Institute Malaysia (RRIM)
- Standard for Industrial Research Institute Malaysia (SIRIM)
- *Research Committees,* including Research Committee for Marine (RCM); Research Committee for Mutation Breeding (RCMB); Research Committee for Sterile Insect Technique (RCSIT); Research Committee for Soil Science (RCSS); Research Committee for Tissue Graft (RCTG)
- University Kebangsaan Malaysia (UKM)
- University Malaya (UM)
- University Pertanian Malaysia (UPM)
- University Sains Malaysia (USM)

Malaysia is extended to the expert upon arrival to facilitate his or her assignment in Malaysia.

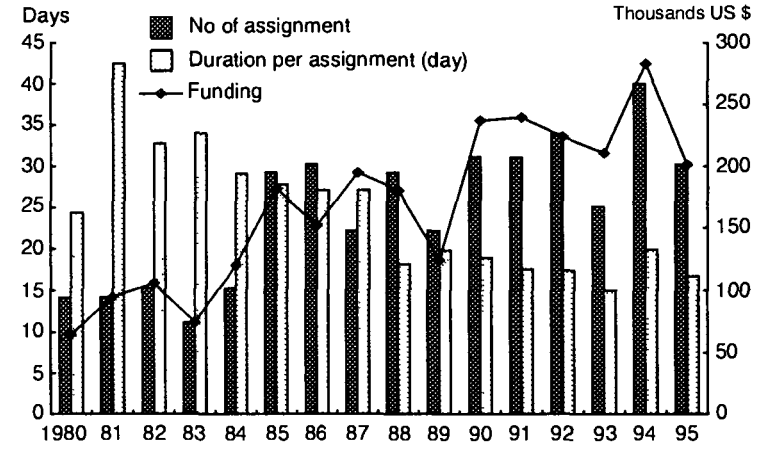
At the end of a mission, the Office of External Relations receives a detailed report including recommendations that need to be evaluated by the institute and the hosting project officer. The report is discussed and comments are made where necessary and a copy of the revised report is then transmitted to the IAEA. The project officer takes note of the recommendations and actions are taken accordingly. The Office of External Relation continues monitoring the implementation of the recommendations. It further maintains dossiers, records, and reports on the conduct and implementation of the mission.

Future challenges and directions

As applications of nuclear and related technologies in Malaysia become more developed, certain levels of expertise are being reached. The expertise extends to areas such as project management, non-destructive testing, radiation protection, energy studies, radioimmunoassay, agriculture, tissue grafting and banking, and radiation processing technology, hydrology, tracer and sealed source technology.

At this point in time, Malaysia is ready to participate in the IAEA's expert services programme to assist other countries in developing nuclear and related technologies. At the same time, Malaysia expects that its own requirements for expert assistance from the TC programme will increase, in line with the country's advancing use of nuclear technologies. However, as past trends have shown, the expert assignments should be of short duration and for sharply focused and specialized needs. ❐

Expert assignments received by Malaysia, 1980-95



Assistance received by Malaysia under the IAEA Technical Co-operation Programme, 1980-95