

Drawing lessons from experience in technical co-operation

by D.A. Kay*

The Agency's Technical Co-operation programme has shown broad and dynamic growth during the past 20 years, in response to the expanding requirements of developing Member States for assistance in the application of nuclear techniques. In the decade 1973–1983, the Agency supplied to developing Member States expert services worth more than US\$ 40 million, equipment worth more than US\$ 65 million, and about US\$ 41 million in fellowships and direct training. The value of projects being implemented under the Agency's Technical Assistance programme exceeded US\$ 8 million only in 1971; in 1983 about 670 technical co-operation projects worth more than US\$ 40 million were under way in more than 70 countries. The regional distribution of the Agency's Technical Co-operation programme has also shown a remarkable geographic spread, reflecting the priority that widespread Member States assign to the application of nuclear techniques to meet critical problems. In 1983, for example, the distribution of Technical Assistance and Co-operation Fund resources was approximately as follows: Latin America 27%; Asia and Pacific 27%; Africa 23%; Europe and the Middle East 20%; and interregional 3%.

Recently, the five largest technical fields, accounting together for roughly 75% of Agency assistance, have been nuclear engineering and technology, nuclear safety, agriculture, physics, and the application of isotopes and radiation in industry and in hydrology. The balance of effort in the technical co-operation programme is distributed between medicine, geology and mining, chemistry, biology, and general atomic energy development. Underlying the assistance extended by the Agency in all of these fields has been a significant growth in the complexity, duration, and multisectoral nature of the technical co-operation projects being funded. Member States are now requiring of the Agency much less short-term, easily specified assistance, and are requesting that the Agency direct its efforts toward strengthening local scientific infrastructures, creating new institutional capacities, and promoting greater integration between technical assistance and longer-term national, social, and economic objectives. This growth in the complexity of the technical co-operation effort is a tribute to the success of past Agency programmes

to build basic scientific capacity in nuclear science, and to make it relevant to the needs of developing countries. However, it is also a challenge to the Agency to continue to improve its programme of technical co-operation efforts to meet the new requirements of Member States in the years ahead.

Concern with the need to increase the impact of the Agency's Technical Co-operation programme which, with its recognized performance, was attracting both growing resources and increasing requests for assistance, led the Board of Governors and Secretariat to embark in 1982 upon a technical co-operation policy review, designed to identify specific policy recommendations that should guide the development of the Agency's technical co-operation activities. This review pointed to the desirability of more multi-year programming; the need for special assistance to Member States which particularly require help in project identification and planning; the need for integrated or packaged projects designed to provide States with the full range of capabilities necessary to meet particularly critical problems; the requirement that regional and interregional projects receive more attention in situations where separate national projects may not address a problem shared by several States adequately or cost-effectively; and the need for the Agency to keep its Technical Co-operation programme under constant review in order to identify situations in which a dynamic shift in previously programmed but unimplemented resources would allow it to respond more effectively to the needs of developing Member States [1].

It is in this context of striving to maintain and improve technical co-operation capabilities through the drawing of lessons from its operations that the Agency has recently implemented a systematic approach to the evaluation of technical co-operation activities, to ensure that evaluation forms an integral part of the technical co-operation programme cycle. The intention is that the findings of evaluation exercises should be useful to the Agency, recipient countries, and donors, in adjusting project objectives, initiating corrective action where necessary, and assessing the adequacy and quality of results in order to identify follow-up development assistance needs. Evaluation should thereby contribute to improved planning and to the effective implementation of future projects. In this context,

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evaluation is clearly not a negative exercise in criticism, but a means by which equally valuable lessons can be learned both from projects that fully achieve their objectives, and from those that have been less than fully successful. Just as in the undertaking of a project itself, the Agency in its evaluation activities takes account of the concerns and needs of national authorities.

To take the leadership in carrying out these evaluation activities, a Technical Co-operation Evaluation Unit was established in 1983 under the direct authority of the Deputy Director General, Head of the Department of Technical Co-operation. This Unit is also responsible for developing the methodologies to be used in evaluating technical co-operation activities, advising on and implementing strategies for evaluation, co-ordinating, and supervising all technical co-operation evaluation activities, monitoring the application of established evaluation procedures for the purpose of ensuring uniform compliance with and the improvement of existing methods, monitoring the follow-up of existing evaluation recommendations, and representing the Agency at UN inter-agency meetings on technical co-operation evaluation [2].

After reviewing the practices of other international agencies and those of bilateral donors, national evaluation procedures and the Agency's own requirements and special characteristics, the Unit released in provisional form an *Evaluation Procedures Manual for IAEA Technical Co-operation Projects* [3]. Although the provisional version of this Manual is likely to require revision in light of operational experience, it will serve as the cornerstone of the Agency's efforts in evaluating technical co-operation activities.

Major evaluation activities that have already begun are in three main areas. First, 59 projects representative of important areas of Agency technical assistance such as nuclear medicine, dosimetry, nuclear techniques in agriculture, radiation protection, nuclear engineering and technology, and nuclear physics and chemistry, have been chosen for preliminary evaluation. At this stage, the design, operation, and accomplishments in effectively meeting the needs of Member States are being carefully reviewed. When this review has been completed, a smaller group of these projects will be selected for more intensive evaluation in collaboration with national authorities and outside experts. The larger concern of this intensive evaluation is with the lessons that can be learned from the projects, the indicated follow-on requirements of recipient countries for further assistance, and any indicated new programming dimensions for the Agency itself.

A second main area of current evaluation activity concerns the training course component of the Agency's Technical Co-operation programme. The resources being programmed for training courses, approximately US\$ 3.3 million in 1983, represent approximately 10% of the technical assistance delivered by the Agency, and

the number of trainees that have participated in Agency-run courses (more than 700 in 1983) represent a major contribution to nuclear sciences in developing countries. In view of this, the Board of Governors and Secretariat have been concerned with ensuring the effectiveness and impact of the Agency's training courses. A major evaluation was begun in 1983 designed to produce:

- Detailed knowledge of the effectiveness of training procedures (including their selection and instruction methods) and the extent to which they meet the needs of Member States and of trainees;
- Data on the impact of the Agency's training programme, on the trainees' subsequent careers, and on the capabilities of Member States;
- Development of more effective procedures for the evaluation of individual training courses and of their long-term impact; and
- Recommendations directed towards increasing the efficiency and effectiveness of training activities.

This evaluation has involved a very large survey of more than 600 former trainees and more than 100 lectures in Agency courses, and its results will be available in 1984. It is planned to follow this evaluation with a similar detailed examination of the effectiveness and impact of the Agency Fellowship programme.

The third main area of on-going evaluation activity concerns the UNDP regional (RCA) project on industrial applications of isotopes and radiation technology, which is the largest regional UNDP-funded project under way in Asia [4]. The activities of this important project have as their immediate objective the introduction into industrial use of isotopes and radiation technology in the areas of minerals, paper, rubber, steel, petrochemicals, and fertilizers. The success of the project in achieving this objective will produce an enhanced industrial capability in Asia. A Senior Board of Advisors, drawn from the industrial leadership of the 12 countries participating in this project, oversees its direction. At the request of this Senior Board, a system of practical success indicators was designed to reflect accurately the project's performance and accomplishments, and the implementation of this system is under way. In addition, as technology transfer to industry in the region is the major goal of this project, the Senior Board has requested a detailed evaluation of the impact of the project's training courses and demonstrations. In addition to the important nature of this evaluation itself, this effort represents the type of close collaboration initiated by recipient states themselves and the local project management and carried out with the assistance of the Department of Technical Co-operation's Evaluation Unit that it is hoped will be achieved in the case of other complex, multi-year projects.

The drawing of lessons from operational experience to improve the effectiveness and impact of future activities is the hallmark of a well-functioning technical

co-operation programme. As the size and complexity of the Agency's programme has grown, new steps have had to be taken to strengthen and systematize this process. The Agency now has in operation a comprehensive system of evaluation procedures, and the 1984 programme will see the first general production and application of the results of this system. This activity represents a carefully designed strategy based on discussions in the Board of Governors and is being carried out in collaboration with Member States. The most immediate beneficial outcome of this evaluation approach will be that it offers a means of detecting problems and taking corrective action in a timely fashion before serious consequences develop. In the long run, the results produced by

evaluation will play a key rôle in shaping the Agency's efforts to serve as a catalyst and vehicle for innovation in the provision of technical assistance, and to increase its responsiveness to the evolving needs of Member States.

References

- [1] GOV/INF/426, 29 October 1982.
- [2] GOV/INF/444, 20 December 1983.
- [3] Copies of the Manual may be obtained from the Department of Technical Co-operation, IAEA.
- [4] See the article by Mr Kobayashi, Co-ordinator of the RCA, in this issue.

