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THE AGENCY'S ANNUAL REPORT TO THE ECONOMIC AND SOCIAL COUNCIL OF THE UNITED NATIONS FOR 1963-64

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ANNUAL REPORT BY THE INTERNATIONAL ATOMIC ENERGY AGENCY TO THE ECONOMIC AND SOCIAL COUNCIL FOR 1963-64

(For the period 1 April 1963 - 31 March 1964)

CONTENTS

List of Abbreviations

ACC	Administrative Committee on Co-ordination
Agency	International Atomic Energy Agency
Board	Board of Governors of the International Atomic Energy Agency
ECAFE	United Nations Economic Commission for Asia and the Far East
ECOSOC	Economic and Social Council of the United Nations
EPTA	United Nations Expanded Programme of Technical Assistance
FAO	Food and Agriculture Organization of the United Nations
ILO	International Labour Organisation or International Labour Office
UNCSAT	United Nations Conference on the Application of Science and Technology
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNSCEAR	United Nations Scientific Committee on the Effects of Atomic Radiation
WHO	World Health Organization
WMO	World Meteorological Organization

NOTE

All sums of money are expressed in United States dollars.

INTRODUCTION

The Development Decade

1. In Resolution 984 (XXXVI) ECOSOC requested the agencies to include in their annual reports information on the extent to which their activities corresponded to the priority areas of work for the Development Decade contained in the report of the Special Committee on Co-ordination [1].

2. As shown below most of the Agency's work falls within four of the Development Decade areas:

I. Industrial development

- A. The development of nuclear power and reactor technology
- B. Application of radioisotopes and radiation in industry

II. Development of human resources

- A. The training of scientific and technical personnel for nuclear energy development
- B. The use of radioisotopes and radiation in medicine

III. Development of agricultural production

The use of radioisotopes and radiation:

- (i) To increase crop yields;
- (ii) To control insect pests;
- (iii) To preserve food; and
- (iv) To improve animal husbandry.

IV. Development of natural resources

- A. The use of radioisotope techniques to develop water resources, and related hydrological problems
- B. The use of nuclear energy to desalt water
- C. The development of nuclear raw materials

The other area, the development of international trade, is not of direct interest to the Agency.

3. This report covers the Agency's activities during the period 1 April 1963 to 31 March 1964. Information on the other activities of the Agency is given in its report to the General Assembly of the United Nations for 1962-63. [2]

4. Attention is drawn to the long-term programme for the Agency's activities [3] which will serve as a guide in planning and executing the Agency's work over the years beginning in 1965. The programme coincides with the second half of the Development Decade. The Council's attention is also drawn to Resolution GC(VII)/RES/153 adopted by the General Conference on 1 October 1963, regarding the Agency's role in promoting the peaceful uses of atomic energy during the Development Decade.

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[1] United Nations document E/3778, para. 11.

[2] GC(VII)/228 and INFCIRC/46.

[3] INFCIRC/50.

Economic and social consequences of disarmament

5. Pursuant to ECOSOC Resolution 982 (XXXVI) regarding the economic and social consequences of disarmament the General Conference adopted a resolution which was sponsored by the Union of Soviet Socialist Republics, the United Kingdom of Great Britain and Northern Ireland and the United States of America, in which it noted with deep satisfaction the treaty signed on 5 August 1963 banning nuclear weapons tests in the atmosphere, in outer space and under water, and reaffirmed its request to the Director General to give his fullest co-operation to the Secretary-General of the United Nations in the fulfilment of the task entrusted to him by the Council's resolution [4].

Membership to the Agency

6. Since the last report to the Council the Agency's membership has increased from 81 to 87, the new Members being Algeria, Gabon, the Ivory Coast, Libya, Nigeria and the Syrian Arab Republic.

Level of the programme and budget

7. The Agency's Regular Budget for 1963 amounted to $7 337 500 and actual expenditure to $6 893 613. For 1964 the Regular Budget has been set at $7 444 500. The Operational Budget, which is financed primarily out of voluntary contributions, amounted to $2 224 600 in 1963 and has been set at $2 367 500 in 1964.

[4] Resolution GC(VII)/RES/160.

CHAPTER I

DEVELOPMENT DECADE ACTIVITIES

1. Industrial development

(a) The development of nuclear power and reactor technology

8. The demand for electric power is increasing rapidly throughout the world. In industrial countries the rate of growth exceeds 7% except in a few cases where very high levels of electric energy consumption have already been reached. Although this rate varies widely in developing areas, it exceeds 9.5% in all developing countries undergoing a process of industrialization.

9. In North America per capita consumption of electric power is 26 times larger than in Asia. It has been estimated that developing countries would require more than ten times their present electric power production or three and a half times the world production in order to reach the degree of industrialization of the technically advanced countries.

10. The share of nuclear power in meeting world energy requirements is increasing rapidly. In June 1962, there were only 19 nuclear power stations in operation with a total capacity of 1.6 million kW. By the end of 1963, this number increased to 55 with a total capacity of 4.5 million kW. By 1966 and 1970 the total capacity is expected to increase to 9.5 and 15-18 million kW respectively [5].

11. The Agency's activities in this area are dealt with in paragraphs 12-26 below.

(i) The development of nuclear power from the economic point of view

12. Large power reactors of industrially proven types are becoming competitive in high fuel cost areas. The development of economically competitive small and medium sized power reactors is however particularly important to most developing countries. Arrangements with Canada, the United States and the United Kingdom have facilitated the Agency's work in studying the construction and operation of nuclear power plants in these countries. Technical information and progress reports based on these studies have been prepared by the Agency for distribution to the interested countries.

13. The Conference on New Nuclear Materials Technology held by the Agency in Prague in July 1963 stressed the work being done to develop non-metallic forms of reactor fuel to improve the performance of nuclear power stations and reduce power costs.

14. The prospects for nuclear power are being viewed with increasing optimism. Experience gained with some 20 nuclear power stations had shown them to be safe and reliable. It had been possible to increase the original rated capacity of many of the stations without making major changes and thereby considerably reduce their cost per kilowatt installed. The Conference on Operating Experience with Power Reactors held by the Agency in Vienna in June last year confirmed these conclusions, and noted with satisfaction the contribution that the Agency can make by training technical personnel from developing countries and by disseminating information on nuclear power technology.

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[5] "Prospects and Problems of Nuclear Power in Developing Areas": paper presented to UNCSAT by the Agency.

15. Recent economic and technical developments in nuclear power will be reviewed by the Third International Conference on the Peaceful Uses of Atomic Energy, scheduled to be held in Geneva from 31 August to 9 September 1964.

(ii) The comparative economics of conventional and nuclear power

16. The Agency's previous work on methods of estimating the costs of generating power in individual nuclear stations has been extended to cover the economic aspects of integrating nuclear power plants into electric grids. The complex problems connected with such integration are arising in countries where nuclear power is expected shortly to contribute significantly to the total energy production.

17. Because power projects involve large capital expenditures it is necessary to make detailed surveys of these projects. The Agency is in a position to carry out comprehensive and impartial studies to help developing countries make a choice between nuclear or conventional energy in order to meet their power needs. In this connection the "Pre-investment Study on Power, including Nuclear Power, in Luzon" in the Philippines, for which the Agency is acting as Executing Agency, is designed to assist the Government of the Philippines to make an objective appraisal of the prospects of nuclear power in that country. This study will also evolve standard methods of assessing the feasibility of introducing nuclear power which may be of help to other developing countries.

(iii) Developments in reactor technology, safety and utilization

Safety

18. In consequence of the growing number of research and power reactors, the Agency is paying particular attention to the safety aspects of the design and operation of reactors as well as the disposal of wastes.

19. A manual is being prepared on the safe operation of research reactors and a survey is being made of reactor incidents. Work is proceeding on setting standards and preparing manuals dealing with the safety of workers in nuclear centres, the control of air pollution, action to be taken in the case of emergencies, permissible emergency doses to the public, the transport and packaging of radioactive material and the provision of radiological protection services. The Agency has also undertaken studies with the object of finding inexpensive methods of treating radioactive wastes with a minimum release of radiation.

20. In March 1963 the Agency held a symposium in Bombay on the Criteria for Selecting Sites for Reactors and Nuclear Research Centres. One of the main conclusions was that, in addition to the general rules, information on individual cases must be collected and studied with the help of small groups of experts. Such groups of experts were convened by the Agency to advise on the selection of a site for the proposed Ishurdi reactor in East Pakistan, and to advise the Government of the United Arab Republic on the safety aspects of selecting a site for the proposed 150 MW(e) power reactor. Groups of experts were also convened by the Agency to review the safety aspects of the Thai research reactor, the Philippine research reactor, and the Pinstech research reactor in West Pakistan.

21. A Symposium on Radiological Health and Safety in Nuclear Materials Mining and Milling, jointly sponsored with ILO and WHO, was held in August 1963 in Vienna. It discussed, inter alia, occupational diseases, in particular lung cancer, among uranium miners and methods of prevention.

Management of research reactors

22. Many developing countries are facing difficulties in making the best use of the research reactors which they have built. The problems include integrating the work of the research reactor into the general research programme of the country, training technical staff and formulating and implementing suitable research programmes with the limited staff and funds available.

23. In order to help overcome these difficulties the Agency considers that a regional approach is most suitable. It is accordingly arranging a series of regional meetings similar to the one held in Bangkok in December 1962 [6] to acquaint scientists from the new research reactors in neighbouring countries with problems of interest to the area and to work out suitable plans. A study group meeting for the Mediterranean area in Athens and a regional meeting for Latin American countries in São Paulo, Brazil, were held in September 1963 and November 1963 respectively.

24. In December 1963, and as a sequel to the Bangkok meeting, where the need of holding periodic conferences devoted to special topics of interest to the region was emphasized, the Agency convened in Manila a study group to consider the operational problems of research reactors and their use for isotope production and activation analysis. Similar specialized meetings will be held in other regions in 1964 and 1965. The possible establishment of joint research projects on a regional basis is also being tried.

25. Arrangements for continued scientific co-operation in reactor physics under the Agency's auspices were made in June 1963 between nuclear research institutes in Norway, Poland and Yugoslavia. It is planned to foster this pattern of co-operation between other centres as well.

(iv) Other applications of nuclear power

26. An interesting possibility for nuclear power is the dual use of nuclear reactors to produce electricity and desalt water. This is described more fully in paragraphs 53 to 55 below.

(b) Application of radioisotopes and radiation in industry

27. The main industrial uses of isotopes and radiation at present are:

(a) To irradiate foodstuffs and thereby increase their storage life;

(b) To sterilize medical equipment;

(c) To produce or modify industrial chemicals;

(d) To control factors such as thickness, pressure, density levels and temperatures in production processes and the composition of chemical process streams; and

(e) To control the quality of ingots, weldings, concrete blocks, etc.

28. These techniques are not yet available to most developing countries. The Agency, therefore, finds it necessary to follow closely the possibility of applying them to meet the needs of industry in the less-developed areas of the world [7]. A comprehensive survey is being made of the present applications of isotopes in industry and the economic benefits they entail. The results of the survey will be reviewed in 1964 and a guide will be published on the application of radioisotope techniques in countries at an early stage of industrialization.

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[6] See document INFCIRC/43, para. 28.

[7] In the United States total savings to the national economy are now estimated at about $1 000 000 000 a year. (Dr. Glenn Seaborg, at a public discussion organized by the Agency on 24 September 1963.)

29. A manual on isotope production for the use of countries having small reactor facilities is also in preparation.

30. A Conference on the Application of Large Radiation Sources in Industry was held in Salzburg in May 1963 to review progress made since the Warsaw Conference of 1959 on the same subject. The use of radiation to bring about an improvement or qualitative change in various substances, or to create new ones, was discussed at the meeting. The use of radiation to sterilize packaged medical supplies and its influence on catalysts were also examined.

2. Development of human resources

(a) The training of scientific and technical personnel for nuclear energy development

31. Requirements for assistance from the Agency vary widely. In countries taking the first steps toward technical and scientific development the Agency's work is mainly to assist in raising standards of education in the physical sciences, in collaboration with UNESCO, and to help university laboratories. Requirements for more specialized assistance in addition to the foregoing come from a group of countries which are introducing nuclear science techniques in agriculture and medicine. A third group, which consists of those that are building or already have built research reactors, require specialized training in reactor operation. Finally certain Member States, building nuclear power reactors or undertaking large-scale research, require highly specialized advice and advanced training [8].

(b) The use of radioisotopes and radiation in medicine

32. In co-operation with WHO the Agency is undertaking to introduce recent techniques in the medical applications of isotopes and radiation sources to developing countries. Special attention is being given to the diagnosis and treatment of tropical and endemic diseases. In this connection work on some 30 projects is done under the research contract programme. Information concerning the applications of radioisotopes in medicine is regularly provided to more than 900 laboratories and individual scientists, mostly in developing countries.

33. The Agency is also sponsoring work on new methods of applying radioisotopes in medical research. Twelve institutes are participating in the co-ordinated research programme on the use of calcium-47 for the study of bone metabolism and a co-ordinated programme has been started for the development of techniques in the use of iodine-125 that are particularly suited for application in tropical countries, such as the study of endemic goitre.

34. The Agency has continued its work in connection with the international standardization and calibration of thyroid radioiodine up-take measurements, in which 100 medical isotopes laboratories have so far participated.

35. In April 1963 an inter-regional adviser on the physical aspects of radiotherapy was appointed in the Eastern Mediterranean area. His task is to help plan and set up new cobalt and caesium teletherapy centres in the countries concerned.

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[8] For details of the Agency's training activities see paras. 57 to 64 below.

3. Development of agricultural production

36. The development of agricultural production is of great importance to the economy of many countries. The Agency, in co-operation with FAO, is assisting developing countries in the application of isotopes in this connection. The first Special Fund project on nuclear research and training in agriculture [9], for which the Agency is acting as Executing Agency, is in Yugoslavia; the project became operational in April 1963. The Government of Yugoslavia has reconstructed a laboratory building at an approximate cost equivalent to $100 000 as part of its contribution to the project. A contract was signed for the design and construction of a phytotron installation, valued at $200 000.

(a) The increasing of crop yields

37. The equivalent of several ... million dollars is spent each year on fertilizers. In 1962 the Agency started a co-ordinated research programme to promote the better use of fertilizers in the rice-growing countries of the world. Radioisotope tracer studies which were conducted under the programme have proved useful in devising more efficient fertilization techniques. These studies have resolved the problem of placement methods of phosphorus which had long been investigated by conventional means without much success. The Agency's Laboratory and institutes in several countries in South East Asia, the Far East and Europe are co-operating in such research and the project is being extended to other countries and other types of fertilizer. The more efficient use of fertilizers would have a marked effect on national economies, particularly of developing countries, for which fertilizer costs are a significant item of national expenditure.

38. Following the recommendations of a panel of experts held in Vienna in July 1963 the Agency has begun a similar co-ordinated research programme to determine the best time and method of placing nitrogen and phosphorus fertilizers for maize growing in Latin America.

39. During the period under review, a co-ordinated research programme on the application of radioisotopes to studies of plant nutrient supply and movement in soil systems was initiated. Institutes in Belgium, Hungary, Poland and the United Arab Republic as well as the Agency's Laboratory are co-operating in such studies.

40. In September 1963 FAO and the Agency, in co-operation with the International Soil Science Society, held a technical meeting in Braunschweig-Volkenröde, Federal Republic of Germany, to discuss recent findings and discoveries in the use of radioisotopes as a technique of tracing organic matters in soils.

41. Following the advice of a panel of experts convened in Vienna in September 1963, the Agency started preparation of a training manual on the use of radioisotopes and radiation in studies of plant pathology. The use of radiation in plant breeding has already resulted in a number of superior varieties. Possibilities are being explored of using a combination of different types of radiation to induce particular, desired mutations. The Agency is supporting and directing research in this field and is preparing a manual on radiation breeding techniques.

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[9] See document INFCIRC/43, para. 20.

(b) The control of insect pests

42. The use of vast quantities of chemical insecticides to reduce crop and animal losses caused by insect pests presents a potential hazard to man and animal. Isotope techniques are a most valuable method for studying toxic residues left by such insecticides. Moreover, the application of radiation shows great promise as a safe means of eliminating certain insect pests by the induced male sterility technique. The Agency has begun a co-ordinated research programme on the application of this technique for the control of various insect pests, such as the olive fly, the Queensland fruit fly, the Mediterranean fruit fly, and the tsetse fly; institutes in Australia, Belgium, El Salvador, Israel, Italy, Rhodesia and Tunisia are participating in this programme. Work on the eradication of the olive fly is also proceeding in Greece under the technical assistance programme.

43. In April 1963 FAO and the Agency held a symposium in Athens on the application of radioisotopes and radiation in the control of plant and animal insect pests. The possible use of the sterile male technique, the application of isotopes to study the life and behaviour of insects, as well as other related subjects were examined.

(c) The preserving of food

44. Vast quantities of food are lost in storage each year; it is estimated that the amount of stored grain consumed or spoiled by insects would be sufficient to feed more than one hundred million people. Bacteria, moulds, yeasts and other organisms cause spoilage which costs several thousand million dollars a year [10]. The problem is especially of concern in tropical and sub-tropical areas.

45. In this context it is desirable to find the extent to which ionizing radiation can be used to reduce storage losses. In October and November 1963 the Agency made a comprehensive survey of the control of insect pests in stored grain in Pakistan and indicated the possible use of radiation in the grain handling system. Technical assistance was also given to India in planning a programme of food preservation by irradiation. In March 1964 a similar study was begun in Turkey.

46. Following a meeting of a panel of experts in December 1962 on radiation control of harmful organisms of food and feeds, the Agency published a report and has given research contracts to scientists in the Netherlands and Thailand. The Agency's programme, therefore, stresses applications that seem particularly promising for certain developing areas, for instance disinfestation of grain [11] and control of salmonella.

47. Research contracts were also awarded on factors influencing the radiosensitivity of food spoilage micro-organisms to institutes in Belgium, Greece, India, Japan and the United Kingdom; this work is being co-ordinated with the Agency's activities in radiobiology which also deal with radiation sensitivity mechanisms in biological systems.

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[10] In the United States alone the loss caused by insects is estimated at $3 530 million a year. (Agricultural statistics (1957) United States Department of Agriculture, Washington D. C.)

[11] Irradiation has the advantage over chemical fumigation of sterilizing the egg as well as the insect.

(d) The improving of animal husbandry

48. Radioisotope tracer techniques are being increasingly used to study animal metabolism, nutrition and physiology, and preparations are being made with FAO for a symposium on this subject in 1964. The use of ionizing radiation is the only known method of preparing effective vaccines against helminth diseases which affect both man and animals. Following the meeting of a panel in December 1963, the Agency, in co-operation with FAO and WHO, will foster research and training on this subject and keep the research programmes under review by regular meetings.

4. Development of natural resources

(a) The use of radioisotope techniques to develop water resources and related hydrological problems

49. Recent studies have shown that data of much economic significance on the availability of groundwater in arid and semi-arid areas and for the development of water resources in general can be obtained at relatively small cost and effort by the use of isotope techniques in connection with tritium and stable isotopes. These techniques can be of great use in many of the numerous projects for water resources development that the United Nations Special Fund is sponsoring. They are mainly applied in the following two categories:

(i) To measure the flow and direction, trace connections, and determine the age and recharge rate of groundwater bodies, and the flow rate of streams; and

(ii) To study silting in rivers and lakes.

50. In the first category, the Agency, serving as a sub-contractor in a Special Fund project that is being executed by FAO, has completed a study of groundwater connections in the Peloponnese in Greece. A similar study is being made in the Antalya region of Turkey, and a study of the recharge rate of groundwater in Jordan has been started. These projects are carried out by the Agency's scientific staff and the results are analysed in its Laboratory.

51. The Agency is investigating the turnover rate of Lake Chala in Kenya and possible sub-surface connections between this lake and a number of springs. It is also helping to set up a tritium laboratory in Salisbury, Southern Rhodesia.

52. In the second category, the Agency has made field experiments to trace the movement of silt in the Tonle Sap Great Lake region of Cambodia, as part of the international project for the development of the Lower Mekong River Basin.

(b) The use of nuclear energy to desalt water

53. In the near future shortage of fresh water will become one of the most urgent problems to many countries. It has been estimated that two thirds of the total land surface of the world is arid or semi-arid, and that at least 60 developing States and territories associated with the United Nations suffer from varieties of water shortage that in time can only be remedied by using brackish water and sea water. [12]

[12] "Saline Water Conversion - A Programme to Develop a New Source of Fresh Water" (US Department of the Interior, Office of Saline Water) 1962.

54. Studies made by national research centres have shown that the use of nuclear energy to desalt water for domestic and industrial consumption might become economically competitive. In view of the significance of this work the Agency arranged meetings in March and September 1963 of specialists to discuss the results obtained and to make them available to interested countries.

55. The Council will be aware that a study of the use of conventional power to make fresh water available in Southern Tunisia by desalination has been undertaken by the United Nations for the purpose of solving the problem of water shortage in that area. At the invitation of the Government of Tunisia an Agency expert has also studied the possibilities of using nuclear power to produce both electricity and desalinated water for that area. The Government of Tunisia has therefore been provided with advice on both the conventional as well as the nuclear power solution of the problem. Combined power and desalting projects are also under consideration by the United States, and the Agency is co-operating in studying the feasibility of these projects. It is making arrangements to follow the development of this work and to review technological progress in desalination studies every six months.

(c) The development of nuclear raw materials

56. It has been estimated that known reserves of natural uranium and thorium will be sufficient to meet demands of nuclear power production until the latter part of the next decade. Prospecting for new reserves may now be useful to meet possible shortages after that date, as well as to establish, in the light of possible future needs, the total national resources of the countries concerned. Seven Agency experts have given technical assistance on prospecting and processing of nuclear materials to eight countries during the period under review.

CHAPTER II

TRENDS IN THE AGENCY'S TECHNICAL ASSISTANCE AND TRAINING PROGRAMMES

57. As in previous years voluntary contributions from Member States constantly fail to reach the target, and the financing of the Agency's regular technical assistance programme remains in difficulty. In 1963, $1 435 394 were pledged for a target of $2 million. Pledges of voluntary contributions for 1964 only reached $1 227 756 by 29 February 1964 also for a target of $2 million. Data on Agency funds for technical assistance is given below.

Agency funds for technical assistance

Item	1959 $	1960 $	1961 $	1962 $	1963 $
Target for voluntary contributions to the General Fund	1 500 000	1 500 000	1 800 000	2 000 000	2 000 000
Amount pledged	1 183 044	996 103	1 261 570	1 380 470	1 405 394
Budgeted for technical assistance	1 100 000	1 367 000	1 361 000	1 625 000	1 799 000
Funds available for technical assistance	875 133	1 007 842	980 881	1 146 294	1 209 173

58. The requests made for technical assistance continue to increase rapidly. The total resources available for technical assistance over the last years have increased from $1 647 204 in 1960 to $1 989 553 in 1962, and $2 149 400 in 1963, the increase being mainly due to the Agency's allocations under EPTA.

59. In 1963, the Agency gave technical assistance to developing Member States to improve scientific documentation services. It also awarded 56% of its research contracts funds to centres and laboratories in developing countries. This form of aid has been found particularly useful as a means of stimulating and supporting scientific research on problems of local interest and of ensuring that good use is made of the scientific equipment and local scientific manpower that such centres have. The research contracts programme, like other technical assistance activities of the Agency, is affected by the financial problem described in paragraph 57 above.

60. As far as fellowships are concerned, 295 fellowships were awarded in 1963 (160 from the Agency's own resources and EPTA funds, 2 from the Special Fund and 133 made available by Member States).

61. During the period under review the number of visiting professors has increased. The number of international and regional training courses has also increased [13]. Experience has shown that best results are obtained from regional courses of longer duration. However, courses of short duration, which provide opportunities for young scientists from developing countries to exchange ideas with experienced senior scientists, have also proved useful.

62. In co-operation with the nuclear energy facilities of the Austrian Studiengesellschaft the Agency has started an activity of long-term training of fellows in a course of 18 months' duration coupled with special research projects for students from developing countries.

63. The Middle Eastern Regional Radioisotope Centre for the Arab Countries [14] is now functioning and two training courses have been held at its headquarters in Cairo.

64. An agreement between the Agency and the Government of Italy for the establishment of an International Centre for Theoretical Physics at Trieste [15] was signed in Rome on 11 October 1963. It is expected that the Centre will start operating in mid-1964. Besides the opportunity it will give to scientists from developing countries to make graduate and post-graduate studies, the Centre is expected to promote international co-operation in theoretical physics research.

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[13] The most important of the training courses organized by or with the help of the Agency during the period under review are:

Regional Training Course on the Applications of Radioisotopes in Medicine, Buenos Aires, 12 August - 2 December 1963;

Advanced International Training Course on the Physics of Radiotherapy, London, 2 September 1963 - 31 January 1964;

Regional Training Course on the Application of Radioactive Isotopes in Soil-Plant Relations, Ankara, 1 October - 25 November 1963;

IAEA/FAO International Training Course on the Use of Radiation and Isotopes in Entomology, Gainesville, Florida, 7 October - 30 November 1963;

International Training Course on Bio-assay of Radionuclides, Seibersdorf, Austria, 4 November - 2 December 1963; and

Inter-regional Training Course on the Maintenance and Repair of Nuclear Electronic Equipment, Colombo, 13 January - end of June 1964.

[14] INFCIRC/38 and Add. 1/Rev. 1.

[15] INFCIRC/51 and Corr. 1.

CHAPTER III

CO-ORDINATION WITH OTHER ORGANIZATIONS

65. It has often been stressed by the Agency that nuclear energy is not a scientific discipline in itself, but a means of fostering and of bringing together several different disciplines and technologies. In medicine and agriculture borderline activities may however overlap with the Agency's work. The primary responsibility of the Agency for work in the field of atomic energy was recognized by the Council in its Resolution 986 (XXXVI) whereby the Council also affirmed that the Agency should act as the primary sponsor, in co-operation, where appropriate, with the specialized agencies concerned, of activities in which atomic energy or research relating thereto forms the major part of the subject matter.

66. On 1 October 1963 the General Conference of the Agency adopted a resolution on the co-ordination of atomic energy activities, in which it took note of the Council's resolution, affirmed the Agency's readiness to co-operate fully with the United Nations and the specialized agencies in seeking more effective co-ordination and requested the Board of Governors and the Director General to take such further steps as might be necessary to ensure co-ordination at the earliest possible stage in the development of the Agency's programmes and projects. [16]

67. In November 1963 the Directors General of WHO and the Agency discussed the general question of scientific co-operation between the two agencies and agreed to certain practical arrangements, including the appointment, on a trial basis, of scientific liaison officers. A joint mission was subsequently sent to Algeria in connection with the possible establishment of a medical therapy centre.

68. In February 1964 the Directors General of FAO and the Agency met in Rome and agreed to study the practical problems involved in establishing a joint division; they also agreed that, as a first step, the two organizations would appoint technical liaison officers to serve in Vienna and in Rome respectively.

69. As the Council will recall [17], inter-secretariat working groups have been established which periodically review current activities and plan future co-operation. In November 1963 the first meeting was held of an inter-secretariat working group consisting of representatives of UNESCO and the Agency, and further meetings of the FAO/Agency and WHO/Agency working groups were held.

70. The General Assembly has been concerned with the co-ordination in matters of energy and power. The General Conference, in Resolution GC(VII)/RES/155 adopted on 1 October 1963, referred to the General Assembly's interest and strongly recommended closer co-ordination of the Agency's activities in the matter, and in particular its studies of the comparative economics of conventional and nuclear power, with those of the United Nations, including its regional economic commissions, as well as those of intergovernmental organizations having relationship agreements with the United Nations or the Agency. To promote more effective co-operation the Agency has seconded a power economist from its staff to the Resources and Transport Branch of the United Nations. It may be noted that, in view of the satisfactory results of this arrangement, a similar pattern is to be followed by the Agency and WHO.

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[16] Resolution GC(VII)/RES/149.

[17] See document INFCIRC/43, para. 11.

71. The Agency is also keeping the United Nations Committee on Industrial Development fully informed of its activities relating to industrialization.

72. In 1963 a specialist in nuclear technology was appointed as a regional officer for scientific liaison with Member States in Asia and the Far East. The regional officer is stationed in Bangkok at the ECAFE headquarters. It is planned that this post will be filled in rotation by specialists in the various branches of atomic energy, thus meeting successively the various needs of the region. On 30 September 1963 the General Conference also approved an agreement for co-operation between the Agency and the Commission for Technical Co-operation in Africa. [18]

[18] INFCIRC/25/Add. 1.