

THE  
AGENCY'S TECHNICAL  
CO-OPERATION ACTIVITIES  
IN 1983

Report by the Director General

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GC(XXVIII)/INF/219

Printed by the  
International Atomic Energy Agency  
in Austria - August 1984



INTERNATIONAL ATOMIC ENERGY AGENCY



## P R E F A C E

Following its usual practice, the Board of Governors has requested the communication to the General Conference of the material it used in reviewing the Agency's technical co-operation activities in 1983; this material is accordingly reproduced in the present document. The review was carried out pursuant to paragraph 19 of the Revised Guiding Principles and General Operating Rules to Govern the Provision of Technical Assistance by the Agency.<sup>1/</sup>

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<sup>1/</sup> INFCIRC/267.

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LIST OF ABBREVIATIONS

Agency	International Atomic Energy Agency
CC	Convertible currencies
CEC	Commission of the European Communities
FAO	Food and Agriculture Organization of the United Nations
IAEA	International Atomic Energy Agency
IBRD	International Bank for Reconstruction and Development (World Bank)
NCC	Non-convertible currencies
NENF	Division of Nuclear Fuel Cycle
NENP	Division of Nuclear Power
NENS	Division of Nuclear Safety
OPE	Office for Projects Execution, UNDP
RIAL	Agency's Laboratories
RIFA	Joint FAO/IAEA Division of Isotope and Radiation Applications of Atomic Energy for Food and Agricultural Development
RILS	Division of Life Sciences
RIRL	Division of Research and Laboratories
SIDA	Swedish International Development Authority
TACF	Technical Assistance and Co-operation Fund
TCDC	Technical Co-operation among Developing Countries
UN/TCD	Department of Technical Co-operation for Development, United Nations
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFSSTD	United Nations Financing System for Science and Technology for Development
UNIDO	United Nations Industrial Development Organization
WHO	World Health Organization
WMO	World Meteorological Organization

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Byelorussian SSR	Byelorussian Soviet Socialist Republic
Dem. Kampuchea	Democratic Kampuchea
Dem. P.R. Korea	Democratic People's Republic of Korea
German D.R.	German Democratic Republic
Germany, F.R.	Federal Republic of Germany
Iran, I.R.	Islamic Republic of Iran
Korea, R.	Republic of Korea
Libyan A.J.	Libyan Arab Jamahiriya
St. Christopher	St. Christopher-Nevis
Syrian A.R.	Syrian Arab Republic
Ukrainian SSR	Ukrainian Soviet Socialist Republic
USSR	Union of Soviet Socialist Republics
U.A. Emirates	United Arab Emirates
UK	United Kingdom of Great Britain and Northern Ireland
U.R. Cameroon	United Republic of Cameroon
U.R. Tanzania	United Republic of Tanzania
USA	United States of America

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Note: All sums of money are expressed in US dollars and have been rounded off to the nearest hundred or thousands dollars in most instances. Percentages have also been rounded off in statistical tables and figures.



## PART I. SUMMARY AND KEY POINTS

1. Resources available to the Agency's Technical Co-operation Programme passed the \$30 million mark during 1983, reaching nearly \$35 million by the end of the year. This represents a 25% increase over the 1982 level.

2. At 56% of total resources, the Technical Assistance and Co-operation Fund again represented the largest source of funds available in 1983. While UNDP and in-kind assistance decreased further during the year, extrabudgetary funds rose from 15% of total resources in 1982 to 27% in 1983.

3. Following a record level of \$4.5 million for 1982, extrabudgetary resources made available for 1983 more than doubled, reaching \$9.4 million. This included \$3.4 million for footnote-a/ projects, a 21% increase over the result achieved in 1982. By the end of the year, about two thirds of the funds needed for all footnote-a/ projects approved for 1983 had been secured, and it is expected that it will be possible to make additional 1983 footnote-a/ projects operational in 1984.

4. The pace of programme implementation had slowed to some extent in late 1982, a development which persisted during the first months of 1983. These difficulties were overcome in the second quarter, and there has been a marked improvement since then. Total programme expenditures in 1983 rose by 16% to a level of \$26.6 million. Whereas implementation of activities financed from the Technical Assistance and Co-operation Fund increased by 24% over 1982, expenditures of extrabudgetary resources rose by only 6%, owing mainly to the unusually late receipt of payments. A higher level of expenditures from extrabudgetary funds is expected in 1984.

5. Both expert assignments processed and man-months delivered exceeded the 1000 mark for the first time. During the year, 1099 expert assignments were undertaken, totalling 1020 man-months. Efforts made to improve the provision of expert services resulted in a decrease in the expert component's share of the assistance approved but still awaiting implementation (earmarkings). Missions carried out by staff members increased at roughly the same rate as all expert assignments and stood at 30% of the total in 1983.

6. During the year, 1336 scientists and technicians from developing countries received training (1982: 1295). There has been an increasing demand for training in the fields of reactor technology and nuclear safety. Resources spent for training in these fields accounted for 37% of the total; agriculture and medicine were the next most important fields.

7. Expenditures for equipment reached \$14.7 million in 1983, representing about half of the total programme delivered.

8. The modality of providing assistance through sub-contracted services was used in several projects, sub-contracts accounting for 4.6% of total programme delivery. Miscellaneous project expenditures, such as for communications and technical reports, were not singled out in previous reports; in 1983, they amounted to 0.6% of the total.

9. In last year's report on technical co-operation, a shift in the distribution of funds towards nuclear engineering and technology and industrial applications of isotopes and radiation techniques was noted. This became more pronounced in 1983.

10. The support given to the Agency's technical co-operation programmes by developing countries increased further in 1983. Fifteen developing Member States made 21 experts available as in-kind assistance for technical co-operation project assignments. Training course lecturers made available as in-kind assistance by developing countries accounted for 27% of all such lecturers provided during the year. Out of the 35 training courses in the 1983 programme, 16 were held in developing countries. About one quarter of all fellowships made available as in-kind assistance were furnished by developing Member States.

11. A trend towards still greater integration of technical co-operation projects with other activities of the Agency emerged in 1983, technical co-operation activities receiving more technical support from staff members of other Departments of the Secretariat.

12. The technical co-operation policy review initiated in 1982 was completed in June 1983. Implementation of policy measures approved by the Board started in 1983 and, as far as programming is concerned, these are already reflected in the 1984 programme.

13. The Technical Co-operation Evaluation Unit, which started operation in June 1983, issued an Evaluation Procedures Manual embodying a simple and cost-effective methodology and began work on the evaluation of Agency-supported training courses held during the period 1977-1983 and of individual projects.

14. Development of the technical co-operation computer system continued in 1983, the emphasis shifting from data input to statistical analysis and the production of reports; efforts concentrated largely on the formulation and production of periodic reports designed to support management decisions, especially as they relate to the implementation process. Work started on the incorporation into the system of data on UNDP-financed projects.

PART II. REVIEW OF THE AGENCY'S  
TECHNICAL CO-OPERATION  
ACTIVITIES

A. TECHNICAL SUPPORT PROVIDED  
TO PROJECTS AND PROGRAMMES

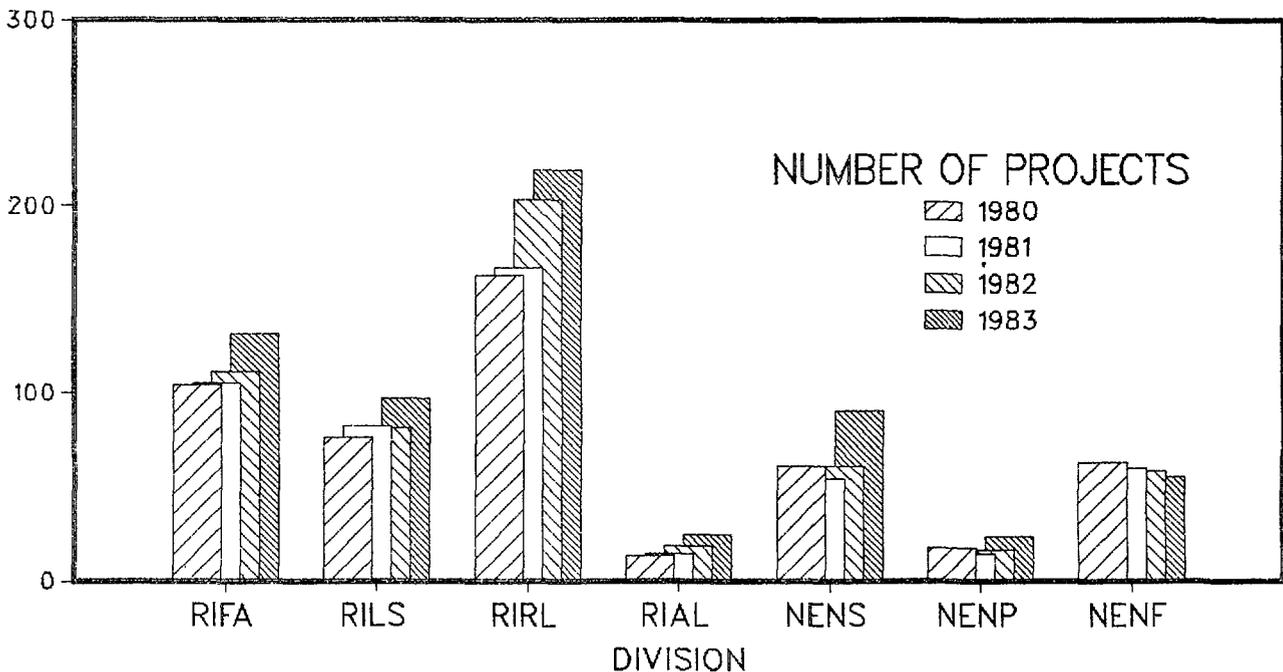
15. The involvement of the "technical-substantive" Departments (essentially the Department of Research and Isotopes and the Department of Nuclear Energy and Safety) in various aspects of technical co-operation was described in Part II of the report for 1982.

16. In 1983, 92 technical officers in these Departments provided support to 646 on-going projects (not including UNDP projects); 60% of the Professional manpower available in the Department of Research and Isotopes and the Department of Nuclear Energy and Safety were involved in one way or another in implementing technical co-operation projects.

Department/Division	Number of projects	Number of technical officers
Research and isotopes		
Joint FAO/IAEA Division	132	16
Life Sciences	97	9
Research and Laboratories	219	16
Agency's Laboratories	24	8
Sub-total	<u>472</u>	<u>49</u>
Nuclear energy and safety		
Nuclear Fuel Cycle	55	10
Nuclear Power	23	9
Nuclear Safety	90	17
Sub-total	<u>168</u>	<u>36</u>
Other	6	7
TOTAL	<u>646</u>	<u>92</u>

The number of projects per technical officer was particularly high in the Division of Research and Laboratories, the Division of Life Sciences, and the Joint FAO/IAEA Division.

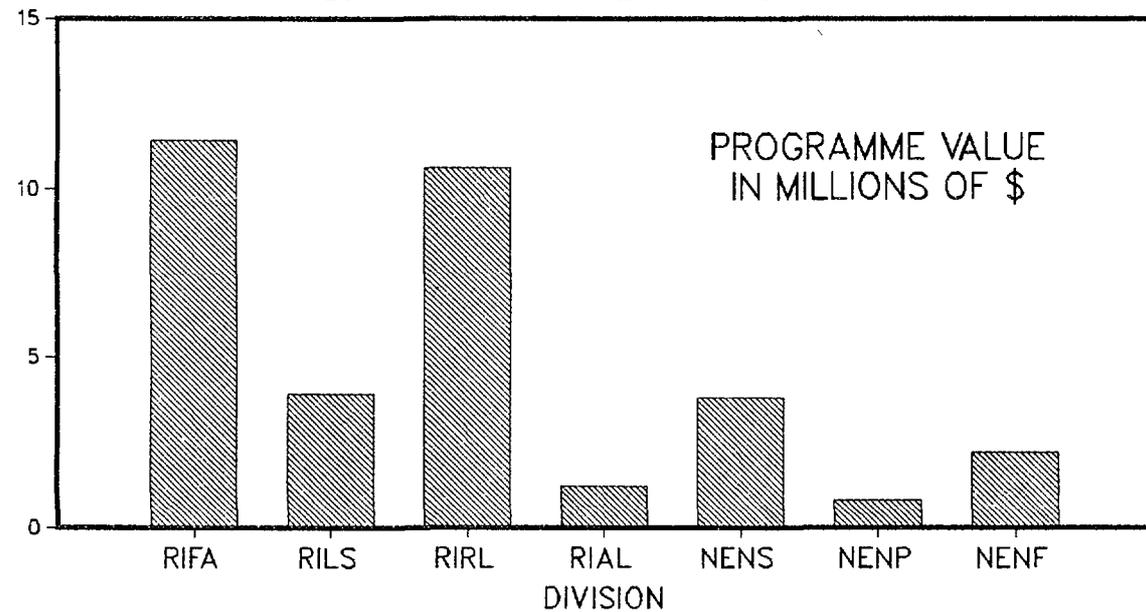
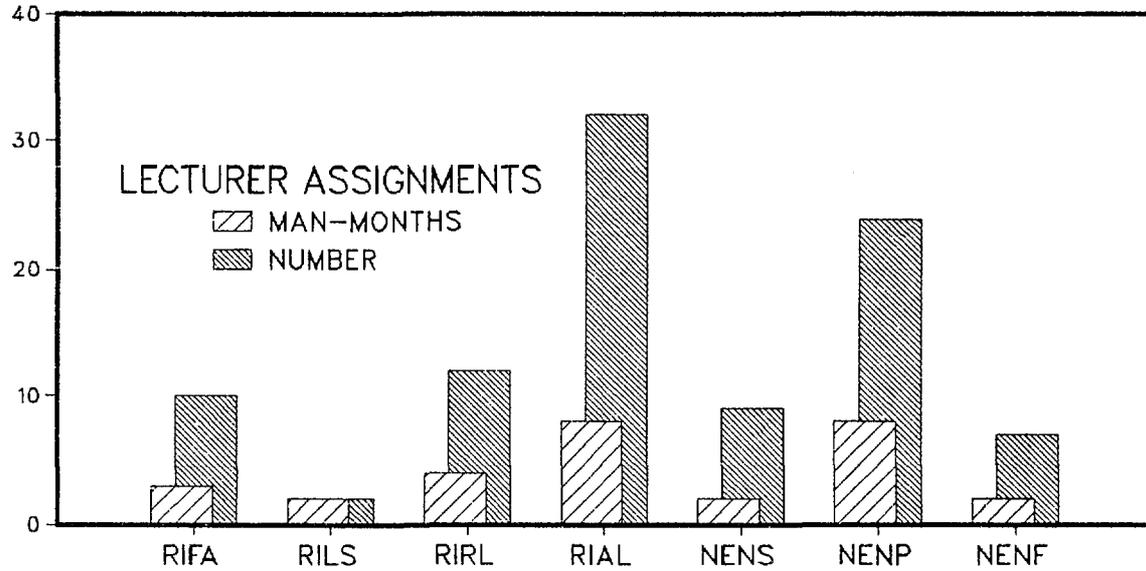
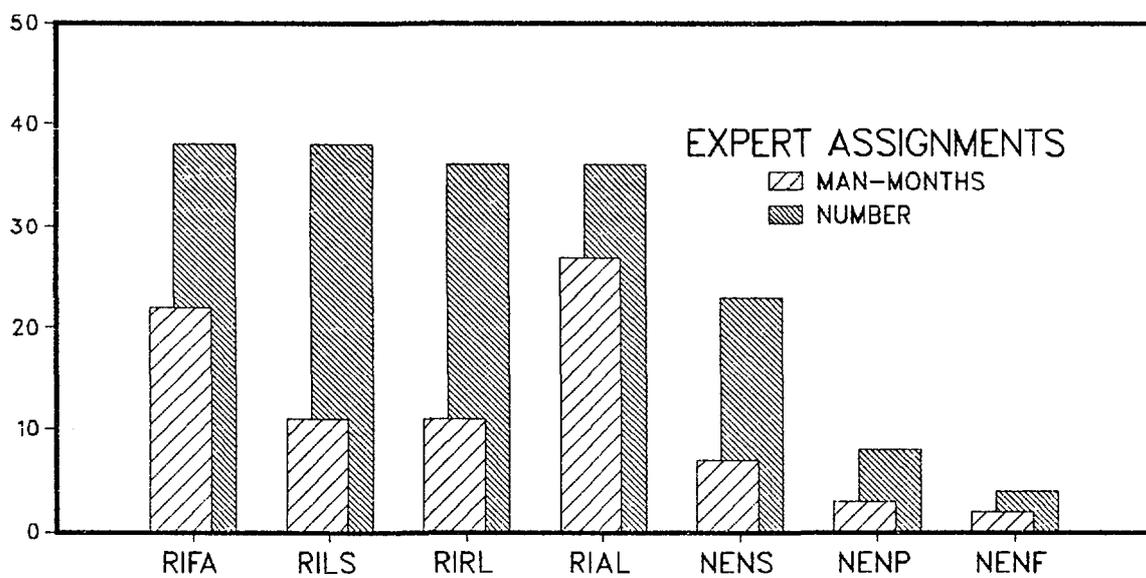
17. There has been considerable fluctuation over the years in the number of projects supported by the various Divisions in the Department of Research and Isotopes and the Department of Nuclear Energy and Safety, reflecting changing needs for technical assistance in the Agency's Member States. The changes between 1980 and 1983 are given in the figure below.



A marked increase was noted in 1982 in the number of projects being supported/monitored by staff of the Agency's Laboratories; although the number for 1983 was still relatively low (24), it was 84.6% higher than that for 1982. Most of these projects are being looked after by the Chemistry and Medical Applications Sections.

18. During the year, technical staff of the Agency's Secretariat carried out 333 technical co-operation assignments (1982: 293 assignments), serving as lecturers in 124 cases and as project experts in 209 cases. As in 1982, missions by Agency staff accounted for 30% of all expert assignments. Technical Divisions made some 120 man-months (roughly 7% of their staff resources) available for these missions. Support provided by staff of technical Divisions is summarized in the bar charts on the following page.

## TECHNICAL SUPPORT FOR TECHNICAL CO-OPERATION PROJECTS IN 1983



19. Technical staff also contributed to training activities by evaluating fellowship applications. For the 1983 Agency fellowship programme, 725 applications were processed, as shown in the following table.

Department/Division	Number of staff members involved	Number of applications evaluated
Research and isotopes		
Joint FAO/IAEA Division	20	135
Life Sciences	9	107
Research and Laboratories	16	179
Agency's Laboratories	6	43
Sub-total	51	464
Nuclear energy and safety		
Nuclear Fuel Cycle	16	95
Nuclear Power	11	59
Nuclear Safety	18	98
Sub-total	45	252
Other	5	9
TOTAL	101	725

20. In addition, technical officers appraised more than 300 project requests received from Member States for the 1984 technical co-operation programme.

21. It is expected that technical officers will participate increasingly in technical co-operation evaluation activities.

#### B. RESOURCES: \$34 513 000

22. The total resources available to the Agency for technical co-operation activities in 1983 amounted to roughly \$34.5 million, an increase of 25.3% over the 1982 level. Whereas both the Technical Assistance and Co-operation Fund and extrabudgetary resources showed increases as compared with 1982, assistance in kind and UNDP resources declined further. This development has accentuated even more the predominance of the Technical Assistance and Co-operation Fund and of extrabudgetary funds, which, together, accounted for 83% of total 1983 resources. UNDP resources decreased by 20% from the 1982 level and in-kind assistance by 12.9%.

23. The performance of individual funds in 1983 is discussed in more detail below.

1. Technical Assistance and Co-operation Fund: \$19 241 000

24. Resources for the Technical Assistance and Co-operation Fund rose by 20.2%. The increase in the Fund's resources over the past three years is shown in the following table.

Programme year	TACF resources (\$)	Annual increase (%)
1981	12 956 000	21.9
1982	16 003 000	23.5
1983	19 241 000	20.2

Whereas contributions in convertible currencies rose by only 17%, non-convertible currencies and miscellaneous income grew at a faster rate (23.6% and 47.5% respectively). The share of the Technical Assistance and Co-operation Fund in total resources was roughly 56% in 1983, which is slightly below the 1982 figure.

25. The 1983 target for voluntary contributions to the Technical Assistance and Co-operation Fund was set at \$19 million. By 31 December 1983, a total of \$17 615 572 had been pledged, which is 92.7% of the target. Nevertheless, resources available to the Fund exceeded the target by \$241 000 owing to the receipt of \$1.6 million in the form of miscellaneous income. As at 31 December 1983, \$5.2 million of the amounts pledged had not been paid, bringing the outstanding total to a level almost five times higher than that prevailing one year earlier. These figures indicate a substantial increase in late payments of pledges in 1983. As in previous years, a significant number of Member States - 48 in 1983 - had neither made pledges nor paid their contribution by 31 December. Although their combined calculated share of voluntary contributions amounted to only 3.6% of the 1983 target, these countries represent more than 40% of the Agency's membership. Moreover, several countries pledged amounts considerably smaller than their calculated shares, the total shortfall amounting to 3.7% of the 1983 target.

26. Total additional income in 1983 amounted to \$1 625 531 (miscellaneous income of \$1 677 432 less exchange losses of \$51 901), an increase of 47.5% over the 1982 figure of \$1 101 852. The miscellaneous income consisted of: (i) interest income - \$1 107 241; (ii) assessed programme costs - \$632 758; and (iii) other income - \$27 433. Assessed programme costs are charged, in

local currency, to each recipient country at a rate of 8% of the value of the technical assistance actually delivered to that country each year; least developed countries (LDCs) are exempt from this assessment. There continued to be delays in the receipt of assessed programme cost payments and cumulative arrears passed the \$1 million mark, reaching \$1.3 million. Income generated from assessed programme costs is treated as a programme resource, its receipt enabling the Agency to provide assistance that would not otherwise be possible. Problems connected with the subject of assessed programme costs are at present being studied within the Secretariat.

27. For the 1983 Regular Programme, Member States had submitted 411 requests for technical assistance in the form of experts and equipment. Of these, 34 requests valued at \$2.5 million were met through incorporation into previously approved projects or through consolidation with other requests; 64 requests with an estimated value of \$11.1 million had to be rejected on technical grounds. The remaining 313 projects, which were approved by the Board, required resources totalling \$18.8 million for the provision of experts and equipment in 1983. Financing from the Technical Assistance and Co-operation Fund was available for the implementation of 243 projects valued at \$13.7 million - 73% of the total approved programme. This meant that 70 technically sound project proposals had to be placed in the footnote-a/ category as the \$5.1 million required to implement them were not immediately available. Of these projects, 71% (representing 65% of the required funds) had been made operational by the end of 1983, mainly through extrabudgetary resources received for this purpose. Thanks to combined financing through the Technical Assistance and Co-operation Fund and extrabudgetary resources, it was possible to begin implementation of 91% of the total assistance approved under the Regular Programme for 1983. It is expected that this result will further improve once funds are released in the rephasing of previously approved assistance, in line with the policy of dynamic programming approved by the Board in 1983.

2. Extrabudgetary funds: \$9 394 000

28. The marked increase in extrabudgetary resources, made available to the Agency in 1983 accounted to a great extent for the overall growth in resources during the reporting period. The annual increase in extrabudgetary funds for the programme years 1981-1983 is shown in the following table.

Programme year	Extrabudgetary resources (\$)	Annual increase (%)
1981	3 564 000	33.5
1982	4 413 000	23.8
1983	9 394 000	112.9

Of the \$9.4 million pledged for 1983, almost \$5 million had been made available in 1982 as it was originally expected that these funds would be needed early in 1983. As regards new resources for 1983, however, most of them became available unusually late - less than half of the extrabudgetary contributions ultimately made for 1983 had been pledged by November. In addition to the \$9.4 million pledged for 1983, extrabudgetary contributions amounting to \$2.9 million were received during 1983 for future programme years.

29. Despite the very satisfactory funding level attained in 1983, only one country was added to the list of donors of extrabudgetary funds - Chile, which made a contribution for fellowship training. It is hoped that, in coming years, other developing countries will follow suit within the framework of the emerging Regional Co-operative Agreement in Latin America. France, while making no new extrabudgetary contribution in 1983, announced that it would do so in 1984.

30. In 1983, Italy was the largest single contributor of extrabudgetary resources, providing 55% of the total. The United States of America followed with \$1.8 million, or 20%. In third place was the Federal Republic of Germany, which again made substantial contributions. The origin of the extrabudgetary resources received for 1983 is indicated in the following table. Extrabudgetary resources previously offered by Australia have since been placed in the "assistance in kind" category and therefore do not appear in the table.

Donor	Resources for 1983 programme year received in prior years (\$)	New resources for 1983 programme year (\$)	Total for 1983 programme year (\$)	Resources for future years made available in 1983 (\$)
Italy	4 200 000	1 005 400	5 205 400	2 870 600
USA	9 141	1 835 000	1 844 141	-
Germany, F.R.	44 000	850 431	894 431	2 804
Austria	493 976	-	493 976	-
Japan	-	270 000	270 000	-
United Kingdom	-	266 200	266 200	-
Sweden	184 555	61 698	246 253	-
Finland	-	103 670	103 670	-
Belgium	-	36 363	36 363	-
Chile	-	10 000	10 000	-
WMO	-	20 000	20 000	-
Funds in trust <sup>a/</sup>	-	3 078	3 078	-
<b>TOTAL</b>	<b>4 931 672</b>	<b>4 461 840</b>	<b>9 393 512</b>	<b>2 873 404</b>

<sup>a/</sup> Furnished by Member States to finance assistance for themselves.

31. Unlike in previous years, the largest portion of extrabudgetary contributions in 1983 was made available for projects in the Special Programme (roughly 57%). The most important of these is the Mediterranean fruit fly eradication project in Egypt. Resources were also received for two interregional projects, one dealing with the fate of tripanocide drugs in cattle and the other with the biology and biochemistry of microbes for biomass degradation. Two projects in Nigeria dealing with control of the tsetse fly using the sterile-insect technique were also funded from extrabudgetary resources (provided by four donors).

32. Extrabudgetary contributions made in respect of footnote-a/ projects totalled \$3 426 000 - 20% over the 1982 amount. Five countries provided funds for footnote-a/ projects in 1983.

33. The number of footnote-a/ projects made operational has increased steadily in recent years. Although contributions for footnote-a/ projects were made at a much later time in 1983 than in previous years, the value of such projects made operational in 1983 represented a new record.

Year	Approved footnote-a/ projects (\$)	Footnote-a/ projects made operational (\$)	Share of footnote-a/ projects made operational (%)
1981	2 331 600	1 887 000	80.5
1982	3 952 000	2 837 800	71.8
1983	5 125 400	3 351 870	65.4

34. The funds-in-trust amount of \$3078 given in the table following paragraph 30 represents extrabudgetary resources received from the Islamic Republic of Iran to supplement a project on radioisotope production approved under the Agency's Reserve Fund.

35. In addition to the extrabudgetary resources already mentioned, contributions were made by Australia and Japan for co-ordinated research contracts, which, although within the framework of the Regional Co-operative Agreement (RCA) for Asia and the Pacific, are not regarded as technical co-operation activities. The amounts made available during the period 1981-1983 for RCA activities not regarded as technical co-operation are shown in the following table.

Extrabudgetary funds for the  
Agency's research contract programme under the RCA

Year	Australia	Japan		Total (\$)
	Isotope applications in hydrology and sedimentology (\$)	Food irradiation (\$)	Medical applications (\$)	
1981	116 279	80 000	-	196 279
1982	63 092	74 763	-	137 855
1983	53 571	-	30 000	83 571
TOTAL	232 942	154 763	30 000	417 705

3. Assistance in kind: \$2 172 000

36. The value of in-kind assistance, the largest portion (78.4%) of which was in the form of fellowships and cost-free lecturers for Agency training courses, decreased again in 1983.

Year	In-kind resources (\$)	Annual change (%)	In-kind share of total resources (%)
1981	2 788 000	6.1	11.4
1982	2 493 000	-10.6	9.0
1983	2 172 000	-12.9	6.3

37. However, as forecast in the 1982 report, the value of expert services and equipment provided through in-kind contributions increased sharply, rising from \$115 100 in 1982 to \$465 800 in 1983. During 1983, three footnote-a/ projects were implemented by means of in-kind contributions. This mode of support for technical co-operation projects requires special arrangements for both implementation and reporting. Experience gained during 1983 shows that additional measures will be needed in order to enhance project impact and to achieve greater integration with other Agency technical co-operation activities. As regards implementation, consideration is being given to the award of nominal-payment Agency contracts to experts provided as in-kind assistance in order to strengthen their links to area officers and technical

staff members who are supporting the projects in question. A higher degree of integration will also improve project reporting. It was not possible to obtain full information on in-kind project inputs provided by donor countries in 1983; accordingly, the picture given in this report is not complete.

38. An additional resource not reflected in the statistical data is the value of lecturers and facilities made available by the governments of countries where regional and interregional training courses were held (see Annex II). The number of training courses held in developing Member States has increased steadily in recent years, as shown in the following table.

Year	Total number of training courses	Training courses held in developing Member States
1981	28	8
1982	36	11
1983	35	16

With almost half of all training courses held in developing countries, the number of cost-free lecturers and facilities provided by such countries reached a significant level in 1983. Without the assistance of the countries hosting Agency courses, it would not have been possible to conduct as many training activities.

#### 4. UNDP: \$3 706 000

39. In accordance with expectations, resources made available within the framework of UNDP-supported projects decreased further in 1983.

Year	UNDP resources (\$)	UNDP share of total Agency resources (%)
1981	5 186 000	21.1
1982	4 631 000	16.8
1983	3 706 000	10.8

As pointed out in several previous technical co-operation reports, the Agency exercises no control over the amount of UNDP resources made available to it, nor does UNDP itself determine shares for individual executing agencies. It is the government of each recipient country that establishes priorities within the framework of its "country programme" and decides how the available UNDP funds will be used to assist its development activities.

40. UNDP's 1983 pledging conference yielded the first increase (albeit a moderate one) of resources in several years. Nevertheless, UNDP has not yet found it possible to increase programming beyond the present level of 55% of individual country planning figures for the period 1982-1986. Three new UNDP projects were approved during 1983 for execution by the Agency.

41. Under UNDP's Sectoral Support Programme, resources are made available to executing agencies for programming missions to developing countries; in 1983 an amount of \$6000 was made available to the Agency for this purpose (1982: \$15 000).

42. UNDP reimburses the Agency for administrative overhead costs at a rate of 13% of the cost of the assistance delivered. Overheads received in 1983 amounted to \$477 755. In accordance with established practice, this money was credited to the Agency's Regular Budget as miscellaneous income. In addition, the Agency is entitled to request from UNDP "support cost flexibility". Following extensive discussions with UNDP concerning the methodology to be used to obtain information on overhead costs incurred by the Agency, requests for both 1982 and 1983 were approved during the year. Support cost flexibility amounted to \$330 000 for 1982 and \$334 000 for 1983.

C. UTILIZATION OF RESOURCES - ASSISTANCE DELIVERED: \$26 615 400

1. Trends in programme delivery

43. Before the assistance delivered in 1983 under each of the major fund categories is discussed, a few trends that apply generally to all funds should be mentioned.

44. As discussed in last year's report, implementation had slowed somewhat during the last quarter of 1982, owing largely to circumstances beyond the Secretariat's control. Although this trend continued during the first quarter

of 1983, delivery improved markedly from the second quarter onwards. For the whole of 1983, the rate of increase of assistance furnished is the highest registered in three years. The total volume of assistance delivered during the period 1981-1983 is given in the following table.

Year	Assistance delivered (\$)	Annual increase (%)
1981	20 960 300	11.3
1982	23 005 700	9.8
1983	26 615 400	15.7

45. In previous years, the distribution of resources over categories of funds was similar to that of expenditures. This was not the case in 1983, as shown in the following table.

Categories of funds	1982		1983	
	Resources (%)	Expenditures (%)	Resources (%)	Expenditures (%)
TACF	58.1	58.5	55.7	62.9
Extrabudgetary funds	16.0	14.1	27.2	12.8
Assistance in kind	9.1	10.8	6.3	8.2
UNDP	16.8	16.6	10.7	16.1

The main reason was the receipt of sizable extrabudgetary amounts late in the year, most of the corresponding expenditures being incurred only in 1984.

46. In 1983, 1099 expert assignments were carried out for a total of 1020 man-months. While the volume of expert services provided under UNDP-supported projects decreased notably - from 214.5 man-months in 1982 to 99 in 1983 - the

number of man-months delivered from Agency resources, including extrabudgetary funds, showed a healthy increase. Nevertheless, 1437 expert man-months had still to be delivered at the end of 1983; the figure at the end of 1982 was 1197.

Year	Man-months delivered (all funds)	Annual increase (%)	
		UNDP included	UNDP excluded
1981	851	5.6	5.5
1982	963	13.2	27.3
1983	1020	5.9	23.1

A previously noted trend towards shorter expert assignments continued. Also, the proportion of expert assignments carried out by Agency staff members was again high - at about 30%. As to the quality of the expert services provided, an Agency-external study indicated that Agency experts were more effective than those participating in most other multilateral development aid programmes. Efforts will continue to be made within the framework of the policies approved by the Board in 1983 to improve further the provision of expert services.

47. While difficulties were experienced in placing Agency trainees in early 1983, implementation of the training component increased during the remainder of the year. In all, 1336 scientists and technicians from developing countries received training during 1983. The highest share of resources (37% of the funds expended) went for training in the fields of reactor technology and nuclear safety; other important fields of study were nuclear applications in agriculture (19%) and medicine (12%). Most of the training was given in industrialized countries in Europe and North America, but during the past few years about 30% of all Agency-funded training has been given in developing countries. The number of scientific visits organized by the Agency increased from 41 in 1982 to 65 in 1983.

48. Expenditures under the "equipment component", which passed the \$10 million mark in 1982, reached \$14.7 million in 1983. At 55.4% of the total programme delivered, the equipment component was the largest one. It should be noted, however, that statistics on equipment delivery have traditionally included amounts expended for subcontracted services. In 1983, expenditures totalling some \$1.4 million for subcontracts and miscellaneous costs were included in the equipment component. The relative sizes of all technical co-operation components in 1983 are shown in the following table.

Component	Share of total expenditures (%)
Experts	20.8
Equipment	49.5
Training	24.5
Subcontracts	4.6
Miscellaneous <sup>a/</sup>	0.6

In order to reflect the changing modalities for the provision of technical assistance, it is intended to modify, in 1984, some of the tables reproduced in the statistical portion of the report. In line with the practice in other multilateral technical co-operation programmes, information will be given on five programme components, as in the foregoing table.

49. Shifts in the preferences of Member States for different fields of activity were analysed in the 1982 report. In 1983, there was considerably more interest in nuclear engineering and technology, expenditures in this sector increasing by \$1.4 million, and a decrease in projects dealing with nuclear raw materials prospecting and mining. A trend towards greater interest in industrial applications of radiation and isotope techniques, which was noted in 1982, seems to have been maintained in 1983; for the first time in recent years, expenditures for industrial projects amounted to more than 10% of the total volume of assistance delivered. It is at present not possible to say how significant these developments are.

2. Technical Assistance and Co-operation Fund: \$16 736 100

50. In 1983, for the third consecutive year, expenditures incurred against the Technical Assistance and Co-operation Fund increased at a higher rate than the resources available to the Fund.

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<sup>a/</sup> For example, communications and the production of project reports.

Year	Delivery from TACF (\$)	Annual increase in delivery (%)	Annual increase in resources (%)
1981	10 436 500	33.6	21.9
1982	13 450 800	28.9	23.5
1983	16 737 100	24.4	20.2

In addition to actual expenditures, commitments made in respect of assistance still to be delivered (such as experts already under contract who will be on assignment in 1984) rose from \$11 099 000 in 1982 to \$11 488 000 in 1983. The implementation effort is best reflected by the total new obligations incurred during the year; for the Technical Assistance and Co-operation Fund, new obligations amounted to \$17 125 000 (1982: \$14 996 000).

51. For a number of years, earmarkings (amounts set aside for funding assistance approved but still awaiting implementation) against the Technical Assistance and Co-operation Fund have been increasing; during 1983, they reached \$11.8 million (1982: \$9 million). Earmarkings represent a financial cushion which safeguards the liquidity of the Fund, but in recent years they have been higher than necessary. Accordingly, in line with the policies approved by the Board in 1983, it is intended to keep obligations higher than income for a short period and thus to increase the resource flow to developing Member States until earmarkings drop to some 30% of the expected annual delivery. It is expected that the main impact of this measure will be felt in 1985-1986, but it is hoped that some results will already be visible during 1984.

52. Traditionally, expert services still to be delivered have made up the highest share of earmarkings. This was also the case in 1983, although there was some improvement.

Year	Share of total earmarkings (%)			
	Experts	Equipment	Fellowships	Training courses
1981	65	27	2	6
1982	60	27	6	7
1983	57	31	6	6

53. By 31 December 1983, 63% of the 1983 programme financed from the Technical Assistance and Co-operation Fund had been implemented, as had 86% of

the 1982 and 95% of the 1981 programmes. A year earlier, on 31 December 1982, 67% of the 1982 programme had been implemented, and the figures for the two prior programme years, 1981 and 1980, were 87% and 93% respectively.

54. In the last two years, the practice of monitoring implementation by calendar year rather than by programme year has become generally accepted. Implementation is measured by comparing obligations incurred (reflecting implementation action) with the total accumulated programme awaiting implementation (reflecting resources allocated). Before the concept of dynamic programming was introduced, the adjusted programme (i.e. all approved technical assistance still not implemented) did not necessarily coincide with the actual plans for implementation; from 1984 onwards, however, attempts will be made to match the adjusted programme to the plans in as realistic a fashion as possible. As 1983 was a transition period, implementation rates do not provide an entirely realistic picture; the figures in the following table should be looked upon with this in mind.

Year	Implementation rate as at 30 September (%)	Implementation rate as at 31 December (%)
1981	52.7	61.8
1982	52.3	59.3
1983	49.0	57.9

55. The following table gives a comparison of cash resources available to the Technical Assistance and Co-operation Fund with programme commitments incurred.

1977 - 1983  
Comparison of available cash resources and programme commitments  
as at 31 December

(in thousands of dollars)

Year	Cash resources			Programme commitments			Balance		
	CC	NCC	Total	CC	NCC	Total	CC	NCC	Total
1977	4 799	2 814	7 613	6 155	1 482	7 637	(1 356)	1 332	(24)
1978	4 896	3 420	8 316	6 978	1 293	8 271	(2 082)	2 127	45
1979	6 418	3 579	9 997	7 672	2 117	9 789	(1 254)	1 462	208
1980	8 267	4 467	12 734	9 470	3 925	13 395	(1 203)	542	(661)
1981	11 336	3 721	15 057	11 277	3 843	15 120	59	(122)	(63)
1982	14 186	3 670	17 856	13 788	4 071	17 859	398	(401)	(3)
1983	17 044	3 351	20 395	17 407	3 442	20 849	(363)	(91)	(454)

The overprogramming in the last four years (indicated by the negative balances in the far right-hand column) reflects the increasing programme volume on one hand and a sustained implementation effort on the other. At the of end 1983, for the first time, both convertible and non-convertible resources showed a degree of overprogramming. This is preferable to the previous situation, where only convertible currencies (until 1980) or non-convertible currencies (1981 and 1982) had been overprogrammed.

56. In 1983, the Technical Assistance and Co-operation Fund financed 61% of all training provided as technical assistance by the Agency. The Fund met the cost of 98% of all scientific visits, 81% of all training courses and almost 50% of all fellowships.

57. Technical Assistance and Co-operation Fund resources have also been set aside since 1980 to finance the Reserve Fund, the level of which was raised from \$250 000 for 1982 to \$350 000 for 1983. The Reserve Fund enables the Agency to respond promptly to unforeseen, urgent needs and provides valuable supplements to the annual programmes of many Member States. Approvals under the Reserve Fund are shown in the following table.

Year	Approvals for new projects (\$)	Approvals for additional assistance to existing projects (\$)	Total approvals under the Reserve Fund (\$)
1981	130 000	63 900	193 900
1982	157 100	71 300	228 400
1983	321 000	29 000	350 000

In 1983, the level of approvals for the first time reached the full amount made available under the Reserve Fund. A new development in Reserve Fund utilization was the sizable portion (10%) allocated for training purposes.

3. Extrabudgetary funds: \$3 422 600

58. Expenditures incurred against extrabudgetary resources increased by only 5.8% over the 1982 level. This contrasts sharply with the marked increase in extrabudgetary resources made available for the 1983 programme, as shown in the following table.

Year	Expenditures from extrabudgetary funds		Extrabudgetary resources	
	Amounts (\$)	Increase over previous year (%)		Increase over previous year (%)
1981	2 742 100	9.7		33.5
1982	3 235 300	18.0		23.8
1983	3 422 600	5.8		112.9

59. The main factors accounting for the discrepancy between expenditures and resources were as follows:

- (a) Pledges and payments of extrabudgetary funds in 1983 came unusually late. Well over \$2 million in new resources were pledged as late as November and, although implementation action started immediately, utilization of these funds will be reflected only in the 1984 expenditure record;
- (b) The start-up of a large-scale Special Programme project (the Mediterranean fruit fly eradication project in Egypt), which accounted for some 10% of the 1982 programme resources, had to be delayed until the third quarter of 1983, with the result that the full impact of initiating this project will be felt only in 1984; and
- (c) In a number of cases, the utilization of extrabudgetary funds was made subject to special conditions which had a bearing on project implementation. Measures were introduced in 1983 to enable the Secretariat to respond to such conditions.

60. Of the extrabudgetary funds spent in 1983, the largest portion (50%) was used for Regular Programme projects, 40% were used for Special Programme projects and 10% for the Fellowship and Training Course Programmes.

61. The Mediterranean fruit fly eradication project in Egypt (Misr-Med) was declared operational in October 1983. Most of the training necessary for operators of the industrial-scale plant where the mass-rearing of sterile flies will take place, and for the release and related programmes, is being provided by Mexico under a TCDC agreement at no cost to the project. A cost-benefit analysis indicates that the project, once fully operational, will yield a net benefit to Egypt of at least \$50 million annually. In a second Special Programme project, capability for non-destructive testing (NDT) in Latin American industries is being strengthened. This project is being carried out jointly with UNFSST and UNIDO. By the end of 1983, the number of

participating countries had almost doubled, reaching 13. Training courses and workshops held at both the national and the regional level increased the skills of NDT workers in Latin America and helped to achieve greater uniformity in NDT certification standards.

4. Assistance in kind: \$2 172 500

62. Although a shift towards experts and equipment provided under in-kind arrangements occurred during 1983, training continued to be the largest beneficiary of the in-kind programme.

Distribution of in-kind assistance delivered			
Year	Experts (%)	Equipment (%)	Training (%)
1981	4.7	-	95.3
1982	3.8	0.8	95.4
1983	10.4	11.0	78.6

Approximately 25% of all the fellowships provided by the Agency in 1983 were the result of in-kind contributions.

63. Cost-free (so-called "Type II") fellowships are made available to the Agency as in-kind offers, which can take the form of fellowships, man-months of training or money from which training can be financed. The number of cost-free fellowships provided fell again in 1983, to about 34% below the 1982 figure.

64. Developing countries continued to play an increasingly active part in the in-kind programme. During the year, 15 developing Member States made 21 experts available for assignments in other developing countries, accounting for 24% of the experts provided as in-kind assistance in 1983. At 27%, the developing countries' share of in-kind lecturers for training courses held in other countries was even higher. Also, about one quarter of all in-kind fellowships in 1983 was made available by developing Member States.

65. The share of in-kind assistance provided to the region of Asia and the Pacific increased from 36% in 1982 to 46% in 1983. The shares for Africa and Latin America were 20% and 13% respectively.

5. UNDP: \$4 284 200

66. UNDP and the Agency use different terminologies to define "expenditure" in the technical co-operation context. In the Agency, the term refers solely to cash disbursements, whereas in UNDP it includes disbursements and unliquidated obligations (contractual obligations that have not yet led to disbursements). From the Agency's standpoint, expenditures on UNDP-financed projects increased by almost 12% in 1983, and UNDP's share of total expenditures decreased only slightly, as shown in the following table.

Year	Expenditures from UNDP funds (\$)	UNDP share of total expenditures (%)
1981	4 993 700	23.8
1982	3 826 600	16.7
1983	4 284 200	16.1

In 1982, the Agency had accumulated significant unliquidated obligations which were not regarded as "expenditures" under the Agency's definition of the term. These obligations were liquidated in 1983, whereby cash expenditures were raised to a level higher than that reflected in UNDP's budget and expenditure records.

67. During 1983, a total of 29 UNDP-financed projects were under implementation (1982: 30). Four projects were completed during the year and three new ones were approved.

68. Total obligations incurred in respect of UNDP projects during 1983 amounted to \$3.7 million, against \$4.6 million in 1982. Measured against planned expenditures as set forth in the 1983 budgets of all Agency-executed UNDP projects approved by the end of the year, an implementation rate of 91.8% was achieved.

69. As shown in the following table, the Agency acted as associated agency in the implementation of five projects for which three other United Nations organizations and one government were the executing agents. UNDP funds expended by the Agency in 1983 as an associated agency totalled \$99 214.

## IAEA expenditures as associated agency: 1983

Recipient	Project title/code	Executing Agency	Component	Expenditure (\$)
Brazil	Soil organic matter colloquium, BRA/80/022	OPE	Experts	19 243
			Fellows	5 790
			Sub-total	25 033
Haiti	Support to underground water research and exploration services, HAI/79/001	UN/TCD	Subcontract	4 565
			Miscellaneous	435
			Sub-total	5 000
Latin America	Regional technical assistance project in non-destructive testing (NDT), RLA/82/T01	UNIDO	Consultants	2 273
			Mission costs	7 226
			Sub-total	9 499
Lesotho	Exploration of minerals, LES/80/007	UN/TCD	Experts	48 950
Uruguay	Feasibility study for a nuclear centre, URU/83/003	Government of Uruguay	Consultants	10 732
TOTAL				99 214

As associated agency arrangements may become more frequent in the years ahead, information on the Agency's activities in this capacity will be included in future reports on technical assistance.

## D. SPECIAL ISSUES

1. Technical Co-operation Policy Review

70. The first review of technical co-operation policies was concluded by the Board in June 1983. In the review, issues relating to technical co-operation programming, project planning and evaluation were emphasized. On completion of the review, the Board approved five specific measures, and implementation of most of these began during the second half of 1983 (see paragraphs 71-75).

71. Although multi-year programming was encouraged, it was decided that at least 50% of the operational Regular Programme for each year should consist of new activities. As regards the 1984 technical co-operation programme, seventy of the 327 projects have allocations approved as part of earlier programmes. The share of resources allotted for new activities in 1984 was 66%.

72. Measures approved under the heading "project planning" should help needier or less experienced developing Member States in assessing priorities and in formulating project requests, thus increasing the benefits derived by these countries from Agency technical assistance. To expedite the introduction of these measures in 1984, an allocation of \$90 000 for pre-project assistance was included in the annual programme. Moreover, in recognition of problems common to many of the needier countries, specific fields were identified for which standardized or package projects will be developed. These fields include radiation protection, dosimetry and certain aspects of nuclear medicine.

73. Another set of measures is aimed at achieving greater integration of training with assistance provided in the form of projects. Changes were made in 1983 with the aim of integrating project-related fellowships, which accounted for about 50% of all on-going Agency fellowships in that year, into the computerized project monitoring system. It is expected that the training needs of most projects will be specified in technical co-operation programme documentation for 1985.

74. The Board recommended the intensification of development assistance designed to benefit groups of countries on a regional or interregional basis ("intercountry assistance"). Implementation of this recommendation started with the 1984 programme, in which the amounts programmed for intercountry projects were twice as high as in the programme approved for 1983. At \$1.9 million, they accounted for 8% of the 1984 programme.

75. "Dynamic programming" was also introduced through the review. The aim of this measure is to maintain realistic project planning during the entire implementation process, the resources approved for individual projects being adjusted as far as possible to requirements at any time ("rephasing"). Funds released from rephasing are to be used to finance additional activities in on-going projects and to meet the expected needs of projects approved by the Board but not yet operational. The reprogramming of resources no longer required is to be carried out jointly with developing Member States within the framework of the annual programming exercise. Implementation of these measures started in early 1984 with regard to projects financed from the Technical Assistance and Co-operation Fund.

76. Also, the Board stressed the importance of keeping the Agency's development assistance responsive to Member States' needs. The measures recommended in this regard include informal seminars on technical co-operation issues, formal policy reviews and periodic reporting on progress achieved.

## 2. Evaluation

77. The Technical Co-operation Evaluation Unit started operation in June 1983. In establishing an evaluation methodology which is simple and cost-effective, it has taken into full account the Agency's current needs and resources. A three-level approach has been developed, involving (i) the systematic use of information on project implementation and results achieved, (ii) the conduct of desk evaluation reviews, and (iii) intensive field evaluations. An Evaluation Procedures Manual describing this approach in detail and setting forth both procedures for carrying out evaluation activities and formats for evaluation reports was prepared and distributed to Member States.

78. At the first level of evaluation, information in the computerized monitoring system is used to identify difficulties and delays, thus permitting timely corrective action to be taken. At present, the system's primary function is to monitor the provision of experts, training, equipment and other project inputs. To meet the requirements of evaluation, however, it needs to be expanded so as to include information on project outputs - or concrete results to be achieved - and on the utilization of these outputs in relation to the objectives that projects were designed to attain. Such an expansion of the monitoring system would also make it possible to identify problem patterns common to groups of projects. Corrective action taken at this level is likely to have a more perceptible impact on the quality of technical co-operation activities than measures dealing only with implementation problems encountered in individual projects.

79. At the second level are desk evaluation reviews carried out by staff of the Unit. The information used is primarily that available in Agency files; in addition, informal interviews are held with area officers and technical staff. Recommendations resulting from these reviews have a threefold value: (i) they can be of help in improving the implementation of on-going projects; (ii) they can aid in the design of new projects in the same technical field; and (iii) they can lead to the development of improved procedures applying to technical co-operation activities in general. In 1983, work began on 59 desk evaluation reviews, in the fields of nuclear medicine, dosimetry, nuclear techniques in agriculture, radiation protection, nuclear engineering and technology, and nuclear physics and chemistry. Work also started on the evaluation of all Agency-supported training courses held in the period 1977-1983. This evaluation will be completed in 1984.

80. The most intensive form of evaluation, the field evaluation, represents the third level. In addition to the activities undertaken at levels one and two, the project site is visited, extensive interviews are conducted and field data are collected. The larger concern in this type of evaluation is with (i) the lessons learned from the project, (ii) the specification of requirements for further assistance, and (iii) and the

identification of any new directions that may be needed for future programmes. As work at the first two levels had not been completed for any project by the end of 1983, no field evaluations were undertaken during that year. Plans are being made, however, for six to ten such evaluations in 1984.

81. To familiarize Agency staff and government officials with the Agency's evaluation methodology and procedures, a workshop comprising four half-day sessions was designed in 1983 and training materials were prepared. For 1984, two regional courses are planned on project identification, design and evaluation, one each for Africa and the region of Asia and the Pacific.

82. Project reports constitute an important source of information for evaluation. In order to make such reports more useful for this purpose, the formats for project implementation reports (for on-going activities) and terminal reports (for projects nearing completion) were redesigned.

83. During 1983, work also began on aspects of project design. A review was initiated of experience gained to date with project request forms. As no objective evaluation is possible without a clear basis for comparison, improvements in these forms will be necessary in order to ensure consistent evaluation in the future. In a related development, work began on the development of quantifiable success indicators for a large project on industrial applications of isotopes and radiation technology being carried out under the RCA for Asia and the Pacific. Such indicators are particularly important for improving the chances of success of complex multi-year projects.

### 3. Technical co-operation computer system

84. Prior to 1983, work on the computerized programme monitoring system concentrated largely on adding information modules to the core system which had become operational in 1981 for the Regular and Special Programmes. Complete data on the Fellowship Programme had been incorporated in 1982, and work started in 1983 incorporating data on projects financed by UNDP.

85. In addition, considerable time and effort were expended in 1983 on improving the system's main outputs - namely, the reports used by all Agency staff involved in the implementation of technical co-operation activities. Reports providing summary information on developments different from those normally expected ("exception reports") were added to the list of status reports being produced. Following the introduction of more meaningful criteria for determining implementation rates, implementation reports were designed and periodic report production started. With the help of these reports, implementation is being analysed by factors such as source of funds, region, technical field and type of input (experts, equipment etc.).

86. An important obstacle to more widespread and frequent use of project monitoring information, especially by technical staff and senior managers in the Agency, has been the traditional unwieldy format of computer print-outs; distribution being costly in terms of both labour and time, copies of monitoring reports were being made available only to those most directly involved, and the inconvenient format and the volume of conventional computer reports meant that consultation, copying and filing were difficult, with the result that the information available was not being sufficiently utilized. These problems were overcome in 1983. Beginning in August, key reports of interest to many staff members became available in a reduced format (the same size as these pages) through the use of modern laser printing technology. At the same time, distribution was expanded to include technical officers in related fields and higher-level managers in the Department of Research and Isotopes and the Department of Nuclear Energy and Safety. As a result, information is now being put to much better use than in the past.

87. A number of smaller system enhancements were also made during the year. These have improved financial controls over the use of approved and available resources and further simplified procedures for entering and retrieving data via computer terminals.

#### 4. Study by the Joint Inspection Unit

88. The Joint Inspection Unit (JIU) decided to include an inspection of the Agency's development aid activities in its work programme for 1983-1984. The study included a desk review, based on materials in the Agency's files, of technical co-operation with four or five representative developing countries in Asia, Africa, Latin America and Europe. As particular emphasis is being placed on the utilization of Agency assistance by recipient countries and the ultimate impact of aid activities on national development, a group of JIU inspectors is undertaking visits to the countries in question. During these visits, Agency counterparts at various levels are being interviewed, field data collected and institutions that had participated in the Agency's programmes contacted.

89. The desk review was completed in 1983, and the field visits got under way before the end of the year. It is expected that the JIU report will become available in 1984.

PART III. EXPLANATORY NOTES TO STATISTICAL  
FIGURES, TABLES AND ANNEXES

Figure 1A. Resources available for Agency technical co-operation  
programmes: 1977-1983

90. This figure shows all resources made available to the Agency for technical co-operation activities from all funds for the programme years 1977-83. The difference between the amount shown for 1981 and 1982 under the Technical Assistance and Co-operation Fund and the corresponding figures in the report for 1982 is due to the receipt of 1981 and 1982 contributions in 1983. Modified figures for "Extrabudgetary funds" reflect, amongst other things, exchange rate fluctuations and reimbursements of funds previously made available. These are accounted for against the programme year for which the extrabudgetary contribution was made.

91. Amounts given in Figure 1A for UNDP resources correspond to total claims against UNDP resources for projects implemented during each calendar year. These amounts are also used in the Agency's accounts, reflecting UNDP's requirement to report expenditures as the sum of cash disbursements plus unliquidated obligations. UNDP funds for 1981-1983 include resources made available by the UNDP-administered United Nations Financing System for Science and Technology for Development.

92. It should be noted that the amounts shown in Figure 1A do not include resources made available for future years.

Figure 1B. Utilization of resources: 1982, 1983 and 1974-1983

93. This figure shows, by component and by major field of activity, the distribution of all assistance provided in 1982 and 1983, irrespective of source of funding.

Figure 1C. Assistance delivered by type of input: 1974-1983

94. The total assistance delivered (that is, expenditures) in the period 1974-1983 is broken down by year and type of input (training, experts and equipment), irrespective of source of funding.

Figure 2A. Distribution of expert services by field of activity:  
1982 and 1983

95. This table shows, for training course lecturers and experts separately, the total numbers and the percentages of man-months of expert services provided in each of the Agency's ten major fields of activity.

Figure 2B. Distribution of expert services by region: 1983

96. A graphic presentation is given of (i) the origin of experts (ii) their destination and (iii) the time spent at the destination, grouped by geographic region.

Figure 3A. Distribution of equipment expenditures by field of activity: 1982 and 1983

97. This figure shows the total amount of equipment provided in the ten major fields of activity and the corresponding share of the total.

Figure 3B. Distribution of equipment by region: 1983

98. Total equipment purchases, grouped by country of origin and recipient region, are shown in this figure; individual recipient countries are shown in Table 7. "Local payments" refer to customs, storage and internal transport charges in cases where these have been levied by recipient countries on equipment received.

Figure 4A. Distribution of trainees by field of activity: 1982 and 1983

99. Training course participants and fellowship holders are shown separately in this table, along with total number and the percentage of man-months of training provided in the Agency's major fields of activity.

Figure 4B. Summary data on training programmes: 1983

100. This graphic presentation shows where trainees studied, where they came from and how much training was received by their home regions. Individual recipient countries are shown in Tables 6B and 7.

Figure 5A. Distribution of expenditures by type and field of activity

101. In this figure, percentages (obtained by averaging over the past five years) are shown for equipment, expert services and training in the ten major fields of activity.

Figure 5B. Technical Assistance and Co-operation Fund expenditures by type of currency and region: 1983

102. This figure, which refers only to the Technical Assistance and Co-operation Fund, gives total 1983 expenditures broken down by region and for convertible and non-convertible currencies.

Figure 5C. Distribution of technical co-operation inputs by field and region: 1983

103. The pie charts indicate the relative shares of each field per region, and the table below the figure gives actual amounts.

Figure 5D. Distribution of technical co-operation expenditures by source and region: 1983

104. In this graphic presentation, expenditures from the Technical Assistance and Co-operation Fund, Extrabudgetary funds, Assistance in kind and from UNDP funds are shown for each region, as are total expenditures from all funds by region.

Figure 6. Utilization of the Technical Assistance and Co-operation Fund

105. The bar chart shows, over a ten-year period, the total resources available to the Technical Assistance and Co-operation Fund year by year - each year including the unobligated and unspent funds of prior years - as well as the expenditures and obligations incurred against these resources as at 31 December of each year. Obligations incurred against future years for approved multi-year projects are shown separately.

106. The graph below it shows, in per cent, the unobligated balance, unliquidated obligations and expenditures for the same period.

Table 1. Available resources: 1974-1983

107. This table is directly related to Figure 1A, but shows resources over a ten-year period. The Technical Assistance and Co-operation Fund is broken down by its various components. Total Agency resources (Technical Assistance and Co-operation Fund, Extrabudgetary funds and Assistance in kind) are shown separately from UNDP resources.

Table 2. Technical Assistance and Co-operation Fund: 1974-1983

108. The ten-year development of the target, of the amounts pledged and of the funds actually made available are shown (see Annex IV for 1983 contributions to the Technical Assistance and Co-operation Fund by Member States). The graphic presentation following the table shows, on a logarithmic scale, actual contributions to the Technical Assistance and Co-operation Fund from 1958 to 1983. For 1984, the actual target is shown. Indicative Planning Figures appear for the years 1985 and 1986.

Table 3A. Experts and lecturers by place of origin: 1983

109. This table shows the number of individual experts and lecturers who undertook technical co-operation assignments during 1983. In addition, numbers of assignments are provided. Data are broken down by source of funding, and a distinction is made between assignments as experts or training course lecturers.

Table 3B. Trainees in the field by place of study: 1983

110. A breakdown is given for trainees (fellows, training course participants and scientific visitors) based on place of study and source of funding.

Table 4. Distribution of technical co-operation expenditures by type: 1979-1983

111. This financial table shows the technical assistance provided from all funds during the last five years, broken down by programme components. It is the only table that shows (in column 10) the balance for assistance in kind. This balance represents the estimated value of man-months of training beyond the end of 1983 for fellows who had already started their studies in 1983.

Table 5A. Status of the Technical Assistance and Co-operation Fund by programme year and year of expenditure as at 31 December 1983

112. This table shows the status of the programme financed from the Technical Assistance and Co-operation Fund and analyses in detail the time-frame during which full utilization of Technical Assistance and Co-operation Fund resources takes place. With the introduction in 1984 of dynamic programming, Fund resources will be periodically rephased in line with changing planning requirements. Accordingly, from 1984 onwards, Table 5A will no longer serve a useful purpose and, for this reason, will not appear in future reports.

Table 5B. Extrabudgetary funds for technical co-operation activities by donor as at 31 December 1983

113. In line with what was stated in last year's report, former Table 5B, showing the status of extrabudgetary funds by programme year and year of expenditure, has been discontinued. Appearing in its place is former Table 5C, which shows the status of all extrabudgetary funds. The monies received, their utilization and the balance left for further implementation are given for each donor fund.

Table 6A. Recipients of expert services: 1983

114. A list is given of recipient countries showing the number of expert assignments and man-months provided to each country from Agency and UNDP resources. Experts not serving on country projects are shown under intercountry projects and training courses.

Table 6B. Recipients of training abroad: 1983

115. The list shows, by recipient country, the number of trainees and the total duration of their studies.

Table 7. Financial summary: 1983

116. This major table shows, by type of assistance and by fund, the total technical assistance furnished to each recipient country as well as to intercountry projects and training courses.

Table 8. Financial summary: 1958-1983

117. A summary is given of all assistance provided since the beginning of the Agency's technical co-operation activities, in 1958.

Annex I. Utilization of extrabudgetary and in-kind contributions

118. Related to Table 5B, this Annex shows, by donor and by type, the technical assistance provided during 1983 utilizing extrabudgetary resources and, separately, contributions in kind.

Annex II. Training courses and study tours: 1983

119. All courses organized by the Agency in 1983 are listed along with numbers of participants and amounts obligated. This is the only table in which local participants and participants not financed from Agency or UNDP resources are shown.

Annex III. Formal reports submitted to recipient-country governments

120. The reports produced are grouped by country, with an indication of the distribution status. Of the 220 reports produced in 1983, 136 have already been de-restricted by governments.

Annex IV. Voluntary contributions pledged and paid to the Technical Assistance and Co-operation Fund for 1983

121. Data on voluntary contributions by Member States to the Technical Assistance and Co-operation Fund are given in this table. Figures reflect the status as at 31 December 1983.

Annex V. Cost-free fellowships offered and awarded: 1983

122. Information is made available in this table on the number of cost-free fellowships offered by Member States and the number of awards.

Annex VI. Projects under implementation for UNDP

123. This table includes a project being implemented for the United Nations Financing System for Science and Technology for Development.

Annex VII. Regular and Special Programme projects completed or cancelled during 1983

124. Part A shows projects completed during the year, along with the years of approval and the assistance provided. Part B shows the cancelled projects.

Annex VIII. Footnote-a/ projects made operational or extended during 1983

125. These projects are shown with the source of the funds that made upgrading to operational status or extension possible.

Annex IX. Approvals against the Reserve Fund in 1983

126. Information is provided on Reserve Fund approvals for new and existing projects.

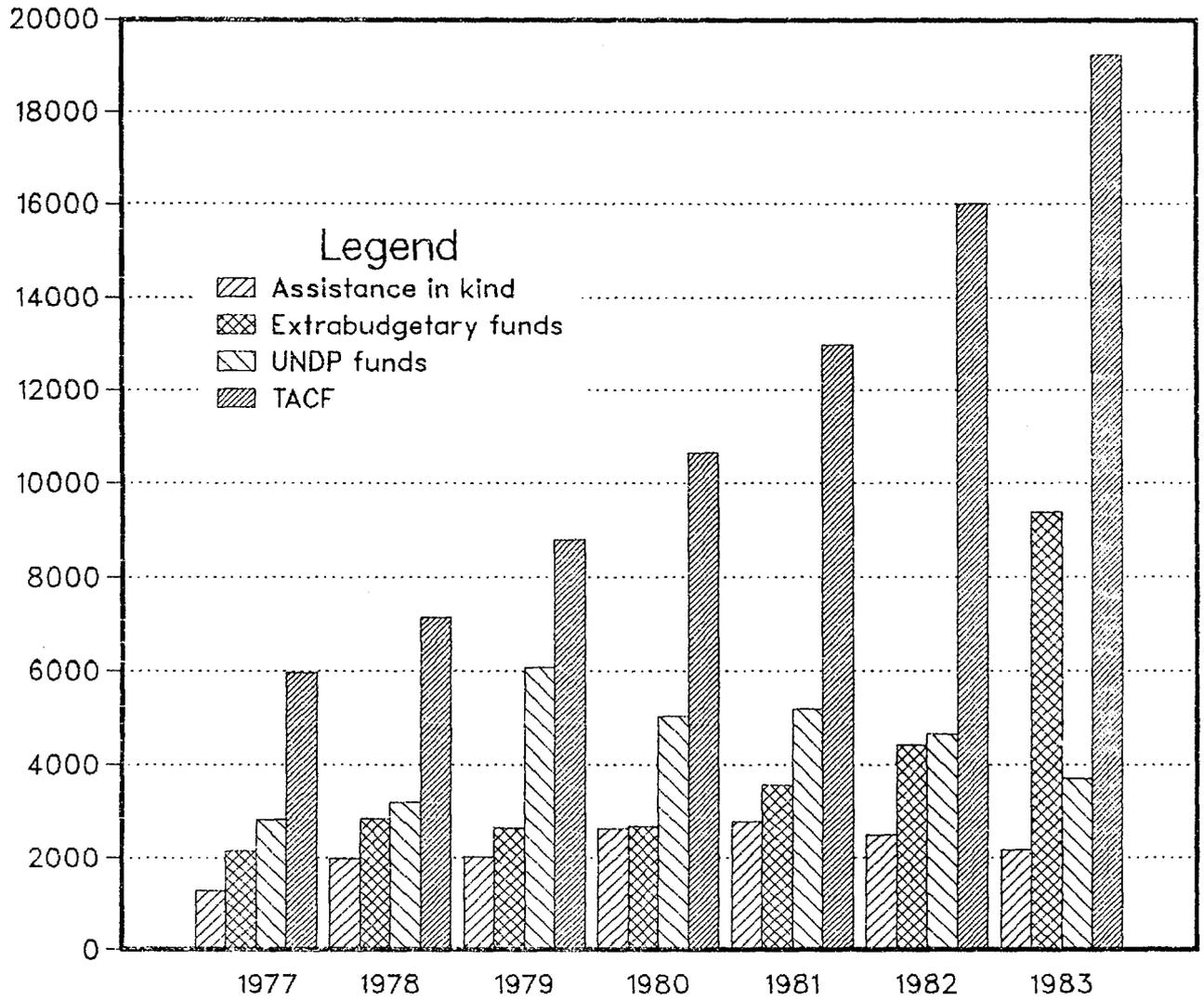
Annex X. Changes to approved projects

127. The Secretariat is obliged to furnish information on changes to approved projects under the provisions of the Revised Guiding Principles. While projects may undergo several changes in the course of a year, the list shows only net changes.



FIGURE 1A

RESOURCES AVAILABLE FOR  
AGENCY TECHNICAL CO-OPERATION PROGRAMMES, 1977 - 1983  
(in thousands of dollars)



TACF	5 962	7 122	8 802	10 632	12 956	16 003	19 241
Extra- budgetary funds	2 147	2 851	2 635	2 669	3 564	4 413	9 394
Assistance in kind	1 284	1 987	2 015	2 628	2 788	2 493	2 172
UNDP	2 836	3 205	6 066	5 018	5 186	4 631	3 706
<b>TOTAL</b>	<b>12 229</b>	<b>15 165</b>	<b>19 518</b>	<b>20 947</b>	<b>24 494</b>	<b>27 540</b>	<b>34 513</b>

FIGURE 1B  
UTILIZATION OF RESOURCES: 1982 and 1983  
(in thousands of dollars)

Field of activity	Year	Experts	Equipment	Fellowships	Share of total programme		
		\$	\$	\$	\$	%	
General atomic energy development	1982	746.9	1 610.6	258.2	2 615.7	11.4	
	1983	642.9	1 123.9	383.9	2 150.7	8.1	
Nuclear physics	1982	444.7	1 831.1	540.3	2 816.1	12.2	
	1983	381.4	1 878.0	346.2	2 605.6	9.8	
Nuclear chemistry	1982	83.9	774.3	342.0	1 200.2	5.2	
	1983	84.7	608.2	218.8	911.7	3.4	
Prospecting, mining and processing of nuclear materials	1982	1 094.8	1 192.0	270.5	2 557.3	11.1	
	1983	580.7	857.0	238.4	1 676.0	6.3	
Nuclear engineering and technology	1982	520.1	1 501.2	989.7	3 011.0	13.1	
	1983	763.0	2 470.3	1 143.9	4 377.3	16.5	
Application of isotopes and radiation in	Agriculture	1982	1 331.3	1 689.2	1 252.1	4 272.6	18.6
		1983	1 609.5	2 159.9	1 213.0	4 982.4	18.7
	Medicine	1982	325.7	952.5	928.8	2 207.0	9.6
		1983	412.6	1 016.6	821.6	2 250.8	8.5
	Biology	1982	27.2	105.3	153.6	286.1	1.2
		1983	20.0	111.1	171.4	302.5	1.1
	Industry and Hydrology	1982	457.7	1 003.8	263.2	1 724.7	7.5
		1983	893.3	2 824.6	435.8	4 153.7	15.6
Safety in nuclear energy	1982	624.2	850.3	840.5	2 315.0	10.1	
	1983	775.5	1 696.7	732.5	3 204.7	12.0	
Total assistance	1982	5 656.5	11 510.3	5 838.9	23 005.7	100.0	
	1983	6 163.6	14 746.3	5 705.5	26 615.4	100.0	

FIGURE 1C

ASSISTANCE DELIVERED  
BY TYPE OF INPUT: 1974-1983  
(in thousands of dollars)

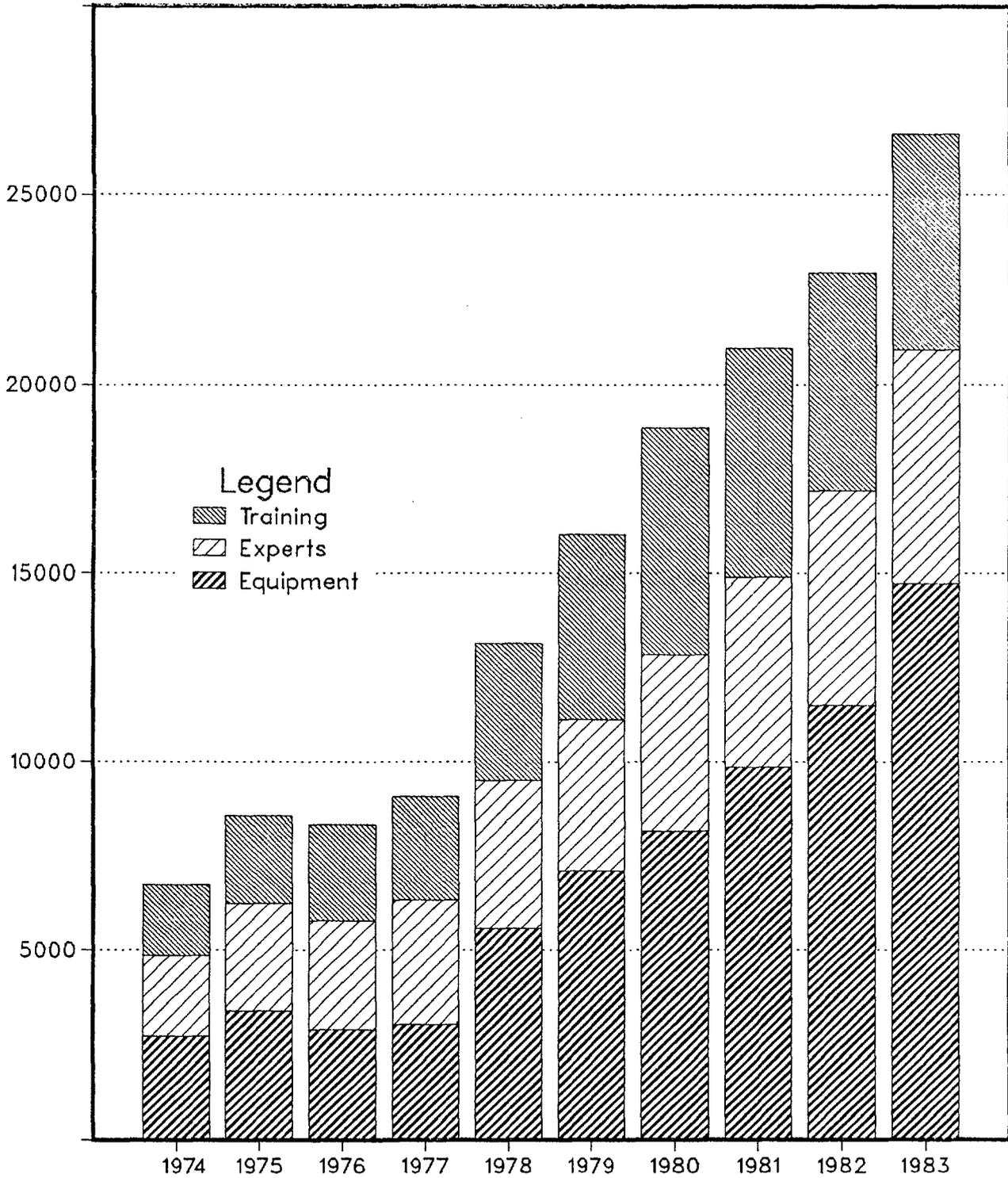


FIGURE 2A

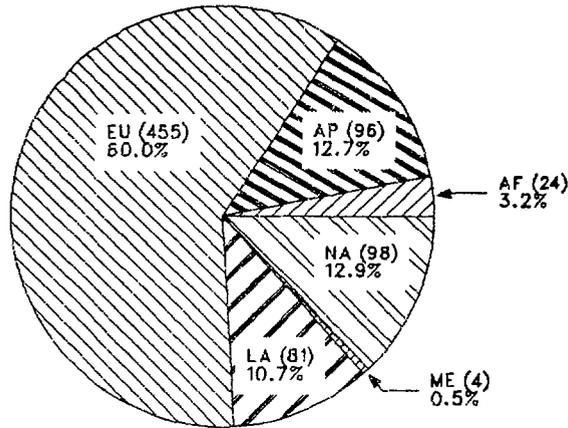
## DISTRIBUTION OF EXPERT SERVICES BY FIELD OF ACTIVITY: 1982 AND 1983

Year	Number of assignments			Field of activity	Number of man-months	Share of total (%)
	Training course lecturers	Experts	Total			
1982	71	83	154	General atomic energy development	101	10
1983	71	64	135		86	8
1982	49	55	104	Nuclear physics	112	12
1983	9	73	82		67	6
1982	15	8	23	Nuclear chemistry	15	2
1983	8	19	27		17	2
1982	7	52	59	Prospecting, mining and processing of nuclear materials	177	18
1983	10	40	50		88	9
1982	51	70	121	Nuclear engineering and technology	93	10
1983	38	123	161		108	11
1982	26	175	201	Application of isotopes and radiation in agriculture	236	24
1983	57	199	256		359	35
1982	8	39	47	Application of isotopes and radiation in medicine	57	6
1983	8	65	73		66	6
1982	-	6	6	Application of isotopes and radiation in biology	5	1
1983	-	5	5		2	1
1982	6	93	99	Application of isotopes and radiation in industry and hydrology	66	7
1983	23	151	174		106	10
1982	41	77	118	Safety in nuclear energy	101	10
1983	26	110	136		121	12

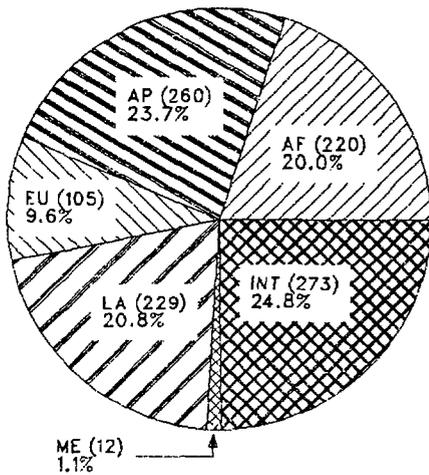
FIGURE 2B

DISTRIBUTION OF EXPERT SERVICES BY REGION: 1983

Where they came from:  
(758 experts)



Where they went:  
(1099 assignments)



Abbreviations	
AF	= Africa
AP	= Asia and the Pacific
EU	= Europe
LA	= Latin America
ME	= Middle East
NA	= North America
INT	= Interregional Projects and Training Courses

For how long:  
(1020 man-months)

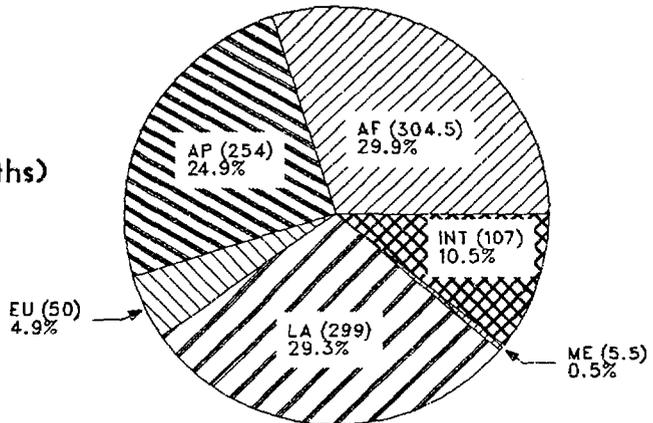


FIGURE 3A  
 DISTRIBUTION OF EQUIPMENT EXPENDITURES BY FIELD OF ACTIVITY: 1982 AND 1983  
 (in thousands of dollars)

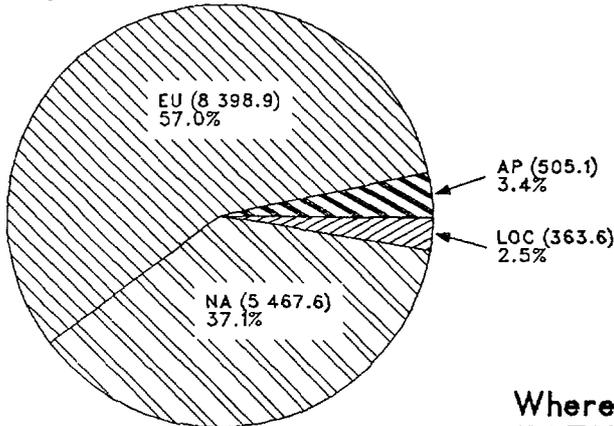
Field of activity	Year	\$	Share of total (%)	
General atomic energy development	1982	1 610.6	14	
	1983	1 123.9	8	
Nuclear physics	1982	1 831.1	16	
	1983	1 878.0	13	
Nuclear chemistry	1982	774.3	7	
	1983	608.2	4	
Prospecting, mining and processing of nuclear materials	1982	1 192.0	10	
	1983	857.0	6	
Nuclear engineering and technology	1982	1 501.2	13	
	1983	2 470.3	17	
Application of isotopes and radiation in	Agriculture	1982	1 689.2	15
		1983	2 159.9	14
	Medicine	1982	952.5	8
		1983	1 016.6	7
	Biology	1982	105.3	1
		1983	111.1	1
	Industry and Hydrology	1982	1 003.8	9
		1983	2 824.6	19
Safety in nuclear energy	1982	850.3	7	
	1983	1 696.7	11	

FIGURE 3B

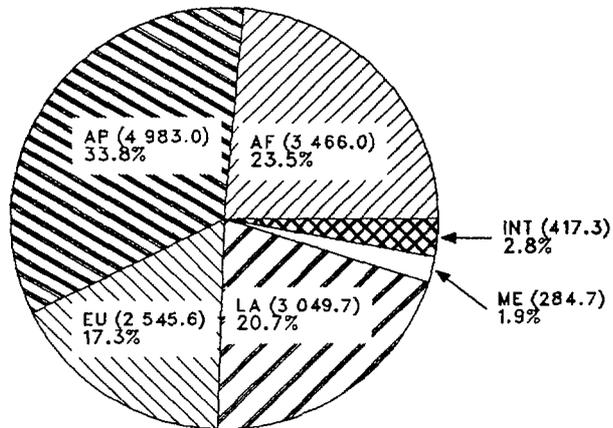
DISTRIBUTION OF EQUIPMENT BY REGION: 1983

(in thousands of dollars)

Where it came from:  
(14 746.3 purchased)



Where it went:  
(14 746.3 delivered)



Abbreviations

- AF = Africa
- AP = Asia and the Pacific
- EU = Europe
- LA = Latin America
- ME = Middle East
- NA = North America
- INT = Interregional Projects and Training Courses
- LOC = Local Payments

Where equipment was purchased:

Australia	241.5	Germany, F. R.	1 284.8	Peru	1.3
Austria	1 243.5	Hong Kong	11.6	Poland	152.3
Belgium	11.2	Hungary	583.9	Portugal	8.9
Brazil	0.4	India	19.8	Singapore	5.8
Bulgaria	62.0	Ireland	1.5	Spain	10.3
Canada	796.0	Italy	58.3	Sweden	99.4
Colombia	3.2	Japan	225.0	Switzerland	96.4
Czechoslovakia	151.8	Kenya	2.5	USSR	2 507.1
Denmark	12.1	Mexico	1.0	UK	1 055.3
Finland	72.0	Netherlands	104.9	USA	4 671.6
France	454.0	Nigeria	2.5	Yugoslavia	2.0
German D. R.	427.2	Pakistan	1.4	Zambia	0.2

FIGURE 4A

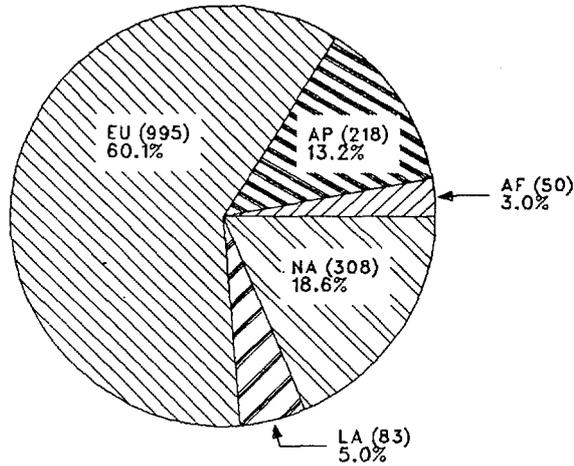
## DISTRIBUTION OF TRAINEES BY FIELD OF ACTIVITY: 1982 AND 1983

Year	Number of trainees			Field of activity	Number of man-months	Share of total (%)
	Training courses	Fellowships	Total			
1982	49	25	74	General atomic energy development	171	4
1983	143	18	161		257	6
1982	95	42	137	Nuclear physics	339	9
1983	27	69	96		269	7
1982	37	39	76	Nuclear chemistry	217	5
1983	21	36	57		199	5
1982	38	33	71	Prospecting, mining and processing of nuclear materials	141	4
1983	38	38	76		165	4
1982	128	110	238	Nuclear engineering and technology	788	20
1983	106	146	252		870	22
1982	108	124	232	Application of isotopes and radiation in agriculture	826	21
1983	109	142	251		762	19
1982	41	84	125	Application of isotopes and radiation in medicine	611	15
1983	54	87	141		502	12
1982	-	21	21	Application of isotopes and radiation in biology	127	3
1983	-	24	24		112	3
1982	44	35	79	Application of isotopes and radiation in industry and hydrology	151	4
1983	90	39	129		278	7
1982	163	79	242	Safety in nuclear energy	579	15
1983	71	78	149		611	15

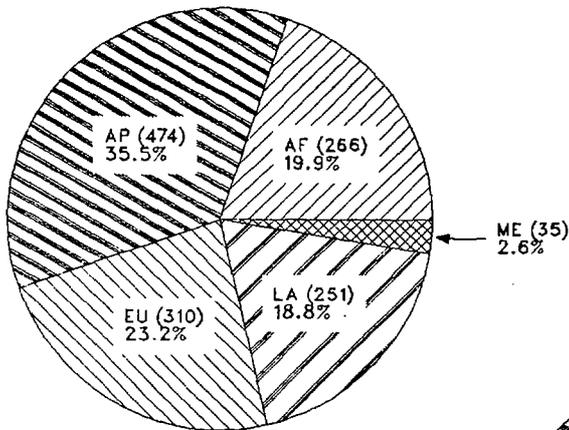
FIGURE 4B

SUMMARY DATA ON TRAINING PROGRAMMES: 1983

Where training was given:  
(1654 places of study)



Where trainees came from:  
(1336 persons)



Abbreviations	
AF	= Africa
AP	= Asia and the Pacific
EU	= Europe
LA	= Latin America
ME	= Middle East
NA	= North America

Amount of training received:  
(4025 man-months)

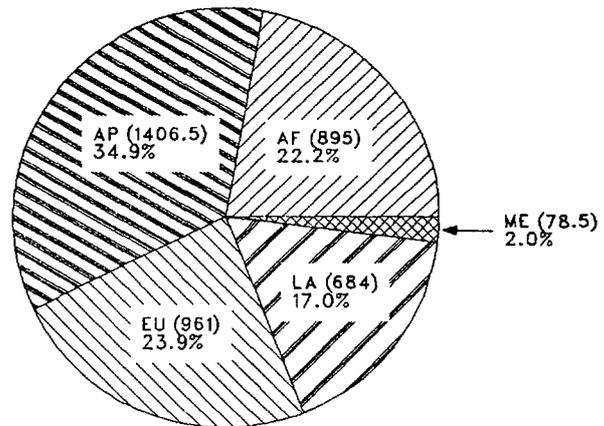


FIGURE 5A

DISTRIBUTION OF EXPENDITURES BY TYPE AND FIELD OF ACTIVITY  
(averaged over the past five years)

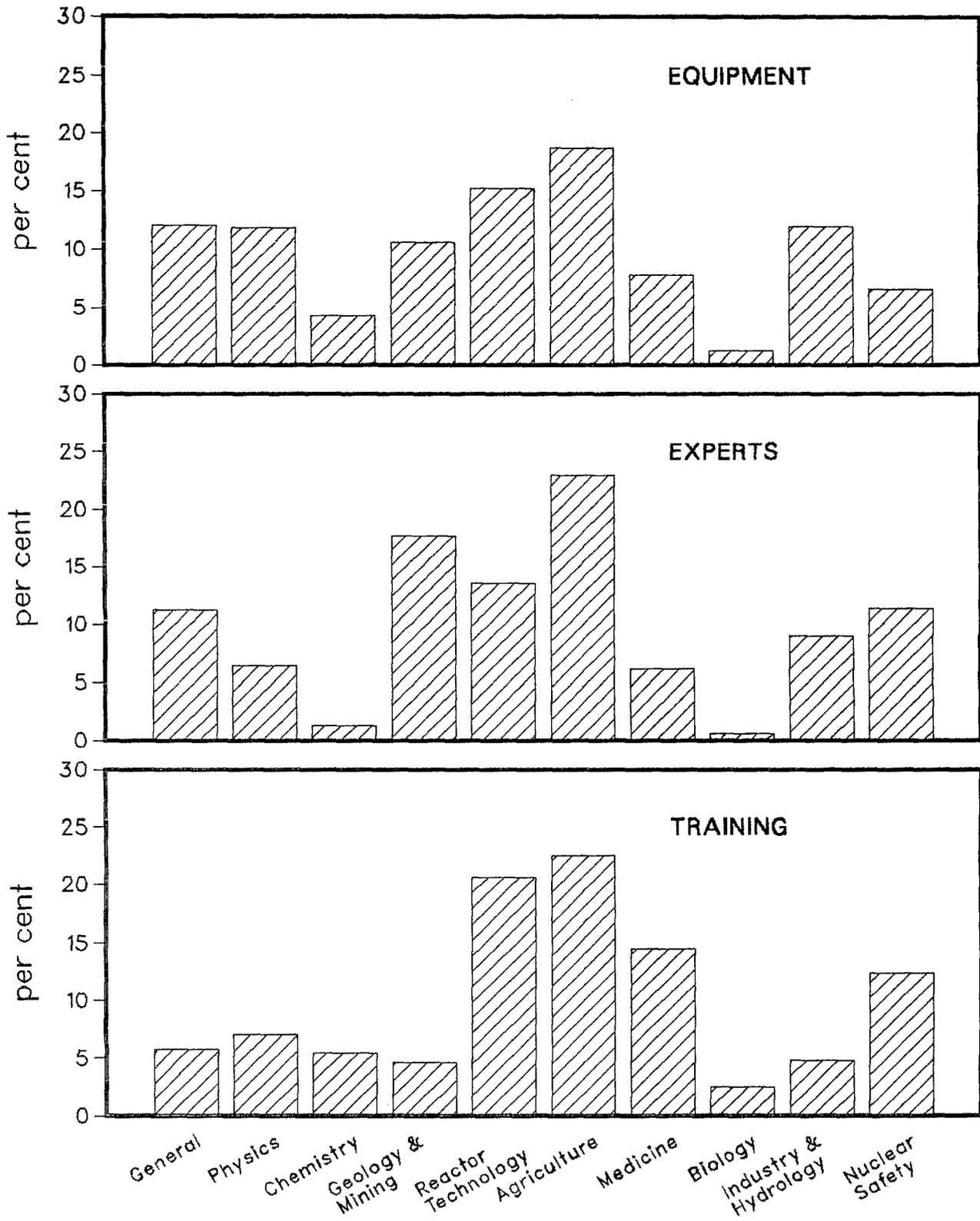
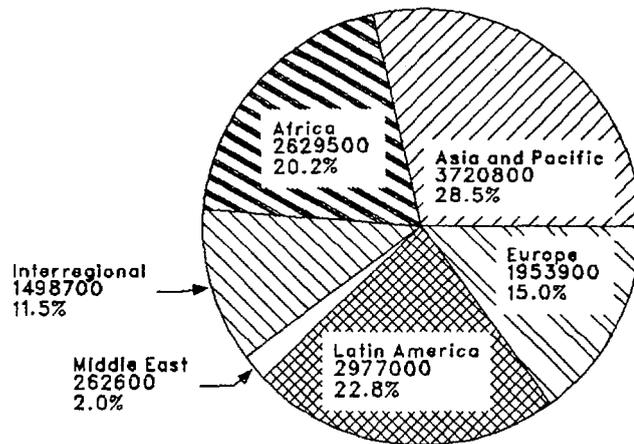


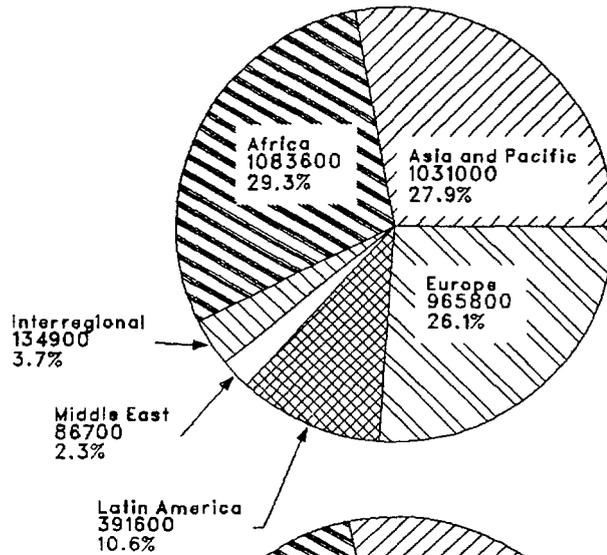
FIGURE 5B

TECHNICAL ASSISTANCE AND CO-OPERATION FUND EXPENDITURES  
BY TYPE OF CURRENCY AND REGION, 1983

CONVERTIBLE CURRENCY  
13 042 500 DOLLARS



NON-CONVERTIBLE CURRENCY  
3 693 600 DOLLARS



TOTAL  
16 736 100 DOLLARS

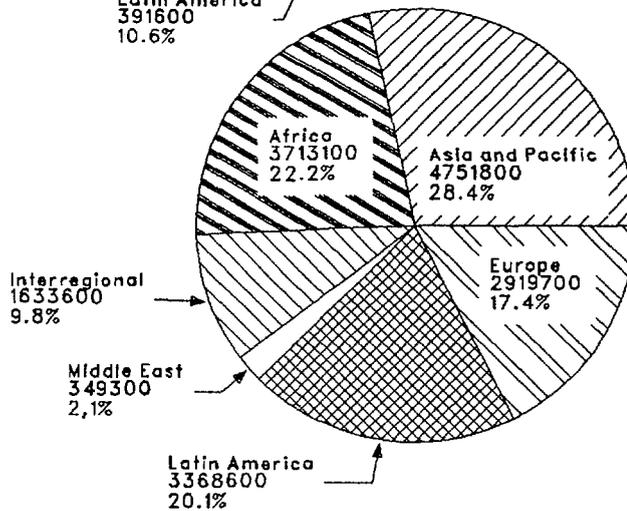
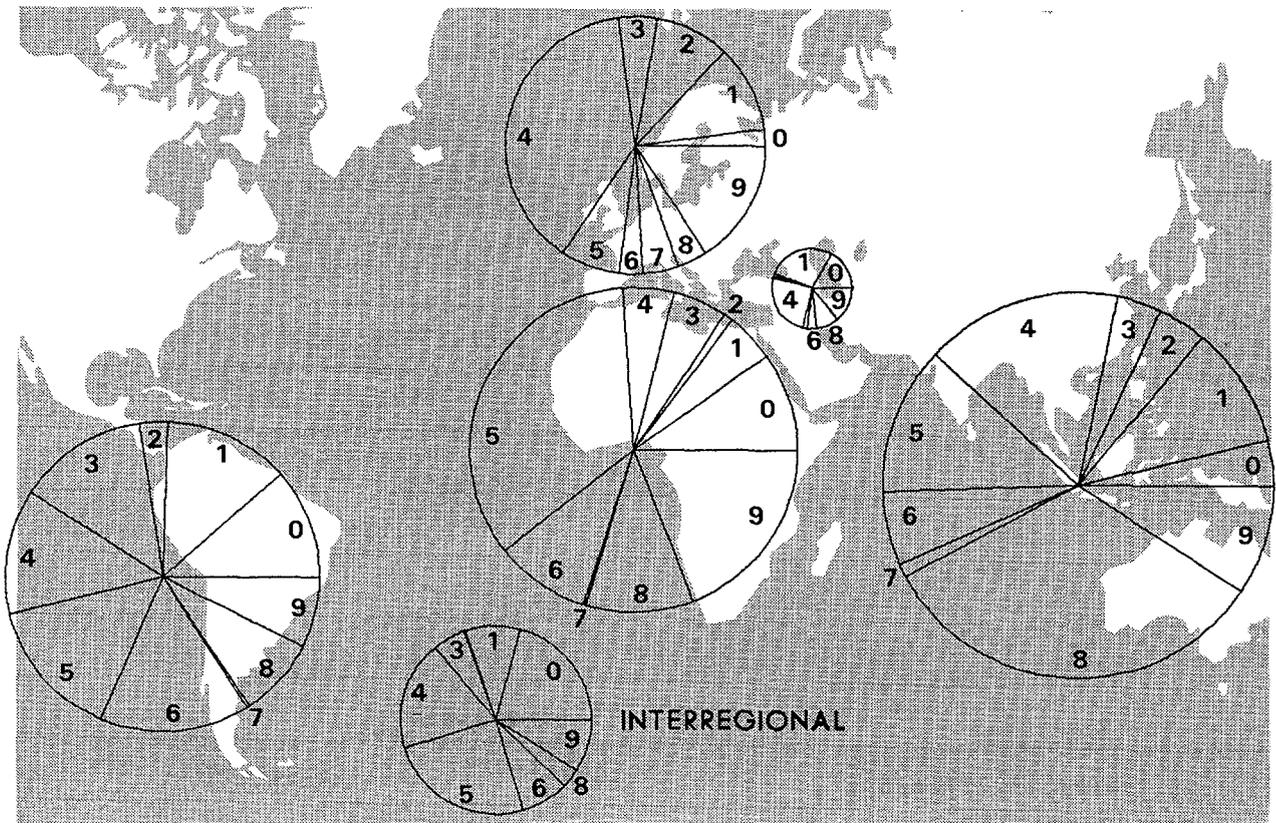


FIGURE 5C

DISTRIBUTION OF TECHNICAL CO-OPERATION INPUTS BY FIELD AND REGION, 1983



SUMMARY

(in thousands of dollars)

Field of activity	Africa \$	Asia and the Pacific \$	Europe \$	Latin America \$	Middle East \$	Inter- regional \$	All regions \$	
0 - General atomic energy development	619.0	328.0	80.3	626.6	64.6	432.2	2 150.7	
1 - Nuclear physics	300.8	882.0	421.6	707.3	102.8	191.1	2 605.6	
2 - Nuclear chemistry	54.9	340.9	347.5	159.0	3.6	5.8	911.7	
3 - Prospecting, mining and processing of nuclear materials	328.0	316.5	186.3	726.4	3.5	115.3	1 676.0	
4 - Nuclear engineering and technology	314.2	1 395.3	1 467.1	708.6	97.5	394.6	4 377.3	
Application of isotopes and radiation in	5 - Agriculture	2 132.0	1 069.5	282.7	977.1	7.7	513.4	4 982.4
	6 - Medicine	580.9	533.3	109.2	848.1	14.3	165.0	2 250.8
	7 - Biology	19.0	100.4	167.7	15.4	-	-	302.5
	8 - Industry and Hydrology	650.6	2 809.5	143.6	446.5	33.9	69.6	4 153.7
9 - Safety in nuclear energy	1 180.0	792.2	599.6	395.1	53.2	184.6	3 204.7	
Total	6 179.4	8 567.6	3 805.6	5 610.1	381.1	2 071.6	26 615.4	

FIGURE 5D

DISTRIBUTION OF TECHNICAL CO-OPERATION EXPENDITURES  
BY SOURCE AND REGION, 1983  
(in thousands of dollars)

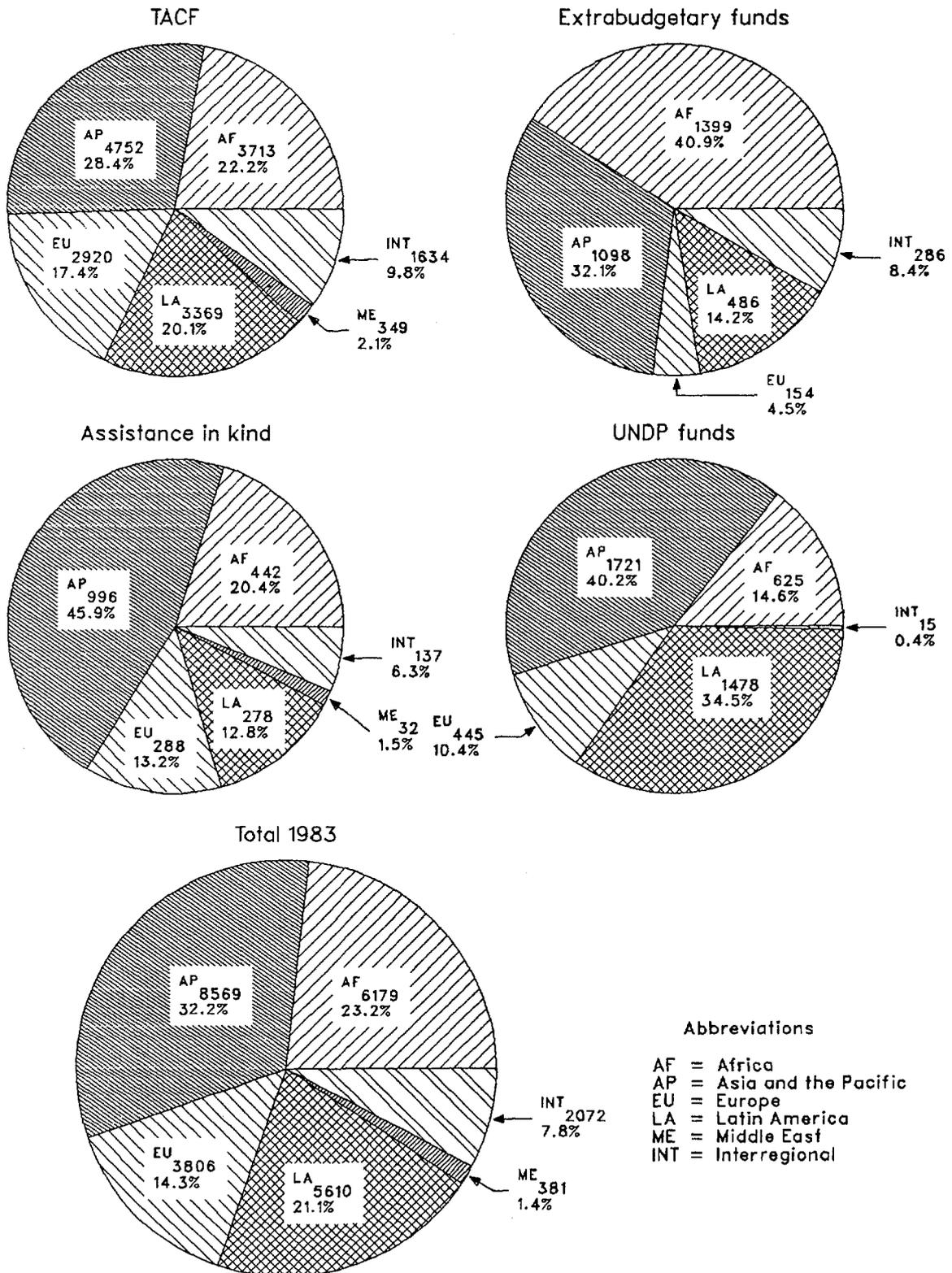


FIGURE 6

UTILIZATION OF THE TECHNICAL ASSISTANCE AND CO-OPERATION FUND  
(status at year-end)

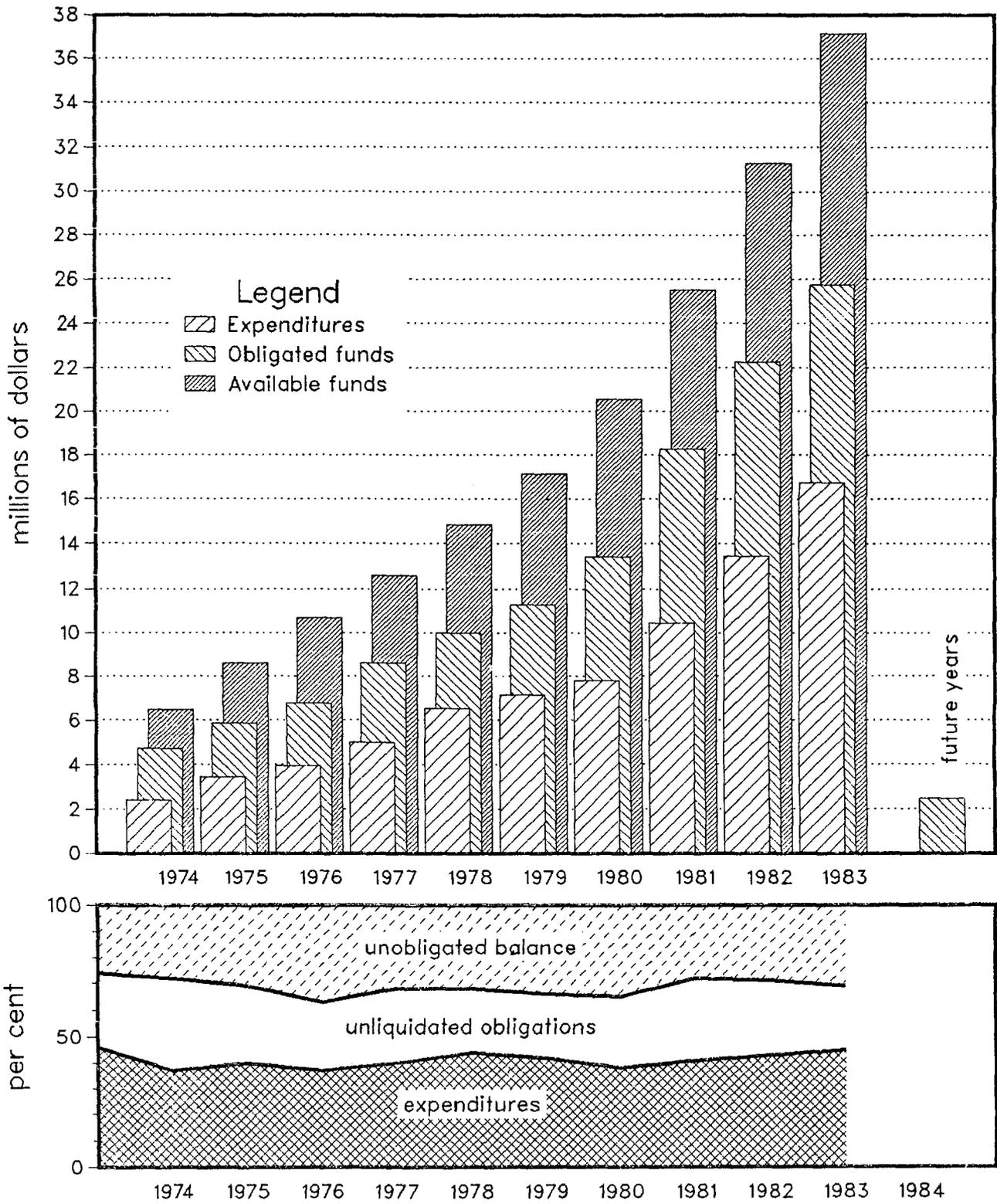


TABLE 1

AVAILABLE RESOURCES: 1974-1983  
(in thousands of dollars)

Year	Technical Assistance and Co-operation Fund				Other Agency resources			GRAND TOTAL (4+5)	
	Voluntary contributions		Additional income (1c)	Sub-total (1)	Extrabudgetary funds (2)	Assistance in kind (3)	Agency (1+2+3) (4)		
	Convertible currency (1a)	Non-convertible currency (1b)							
1974	2 424	661	263	3 348	369	1 078	4 795	3 082	7 877
1975	3 206	1 013	320	4 539	106	942	5 587	3 942	9 529
1976	3 982	1 080	430	5 492	729	1 021	7 242	3 002	10 244
1977	4 307	1 142	513	5 962	2 147	1 284	9 393	2 836	12 229
1978	5 090	1 362	670	7 122	2 851	1 987	11 960	3 205	15 165
1979	6 448	1 614	740	8 802	2 635	2 015	13 452	6 066	19 518
1980	7 977	2 083	572	10 632	2 669	2 628	15 929	5 018	20 947
1981	9 873	2 181	902	12 956	3 564	2 788	19 308	5 186	24 494
1982	12 112	2 789	1 102	16 003	4 413	2 493	22 909	4 631	27 540
1983	14 169	3 447	1 625	19 241	9 394	2 172	30 807	3 706	34 513
1974- 1983	69 588	17 372	7 137	94 097	28 877	18 408	141 382	40 674	182 056

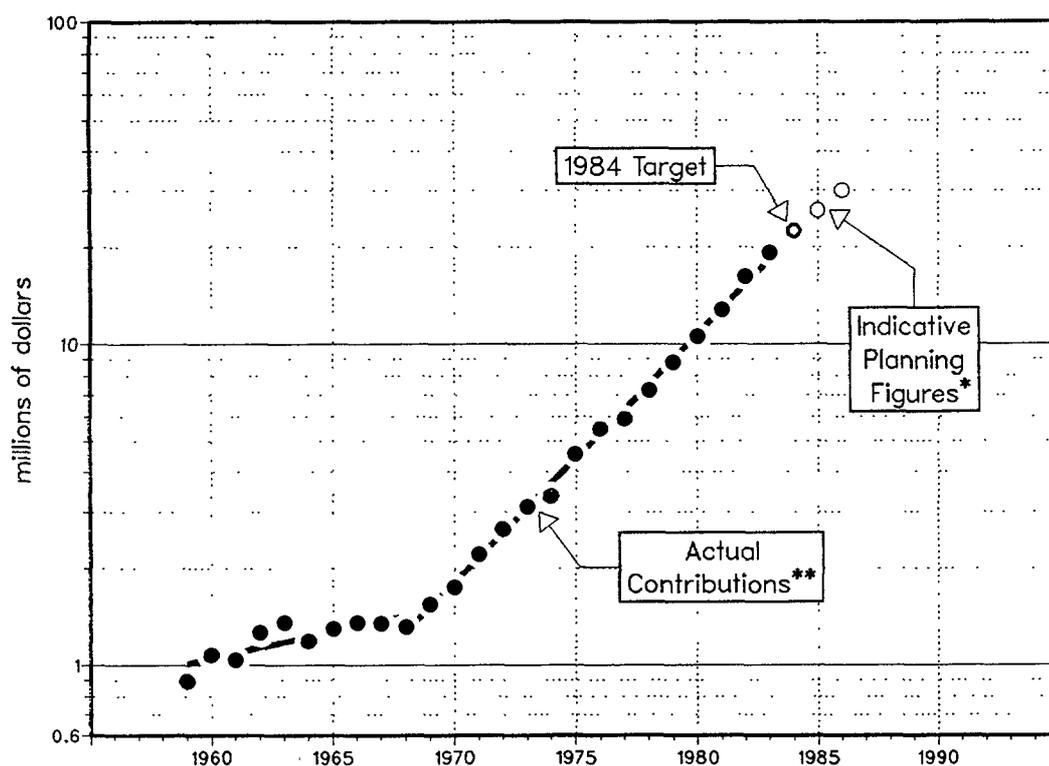
TABLE 2

## TECHNICAL ASSISTANCE AND CO-OPERATION FUND: 1974-1983

Year	Target for voluntary contributions to the Technical Assistance and Co-operation Fund	Amount pledged	Amount actually made available for technical co-operation by programme year <sup>a/</sup>
1974	3 000 000	3 084 761	3 347 781
1975	4 500 000	4 219 391	4 539 759
1976	5 500 000	5 061 957	5 492 167
1977	6 000 000	5 449 466	5 962 688
1978	7 000 000	6 451 332	7 121 508
1979	8 500 000	8 062 513	8 802 221
1980	10 500 000	10 059 733	10 632 033
1981	13 000 000	12 053 611	12 955 595
1982	16 000 000	14 901 346	16 003 198
1983	19 000 000	17 615 572	19 241 103

<sup>a/</sup> These amounts include "additional income" over and above the amounts pledged. For a breakdown of additional income in 1983 see para. 26.

### Technical Assistance and Co-operation Fund Voluntary Contributions



\* as approved by the Board of Governors

\*\* including Additional Income

TABLE 3A

## EXPERTS AND LECTURERS BY PLACE OF ORIGIN: 1983

Place of origin	Total individuals	Assignments				TOTAL
		UNDP		Agency		
		Experts	Lecturers	Experts	Lecturers	
Afghanistan	1	-	-	3	-	3
Albania	1	-	-	1	-	1
Argentina	21	6	-	13	8	27
Australia	10	6	-	5	3	14
Austria	18	-	-	17	5	22
Bangladesh	2	1	-	1	-	2
Belgium	7	1	-	5	1	7
Bolivia	3	-	-	4	-	4
Brazil	11	-	-	8	4	12
Bulgaria	9	-	-	9	2	11
Canada	19	3	-	19	3	25
Chile	5	-	-	3	2	5
Colombia	4	-	-	4	-	4
Czechoslovakia	6	-	-	5	1	6
Dem. P.R. Korea	3	-	-	3	-	3
Denmark	3	1	-	2	-	3
Ecuador	7	-	-	8	-	8
Egypt	13	-	-	14	1	15
Finland	10	-	-	12	-	12
France	52	1	-	35	19	55
German D.R.	4	-	-	3	1	4
Germany, F.R.	57	3	-	47	14	64
Ghana	1	-	-	1	-	1
Greece	2	-	-	2	-	2
Guatemala	1	-	-	2	-	2
Hungary	16	1	-	26	-	27
India	27	5	2	21	2	30
Indonesia	3	2	-	1	-	3
Israel	2	-	-	2	-	2
Italy	13	1	-	11	2	14
Jamaica	2	-	-	1	1	2
Japan	20	3	-	25	1	29
Jordan	1	-	-	1	-	1
Kenya	2	-	-	2	-	2
Korea, R.	3	1	-	2	-	3
Malaysia	6	5	-	5	-	10
Mexico	8	-	-	7	3	10
Morocco	1	-	-	1	-	1
Netherlands	6	2	-	6	2	10
New Zealand	1	-	-	3	-	3
Nigeria	3	-	-	2	2	4
Norway	1	2	-	-	-	2
Pakistan	6	1	-	4	1	6
Peru	7	-	-	7	-	7
Philippines	4	-	-	3	1	4
Poland	13	2	-	11	3	16
Portugal	2	-	-	2	-	2
Romania	3	-	-	2	1	3
Singapore	1	-	-	-	1	1
Spain	10	1	-	8	5	14

Place of origin	Total individuals	Assignments				TOTAL
		UNDP		Agency		
		Experts	Lecturers	Experts	Lecturers	
Sri Lanka	4	2	-	3	1	6
Sudan	4	-	-	4	-	4
Sweden	8	1	-	5	4	10
Switzerland	6	-	-	4	2	6
Thailand	4	8	-	3	-	11
Turkey	8	-	-	17	1	18
USSR	3	-	-	4	-	4
UK	38	7	1	46	7	61
USA	79	6	1	77	8	92
Uruguay	3	-	-	2	1	3
Venezuela	7	-	-	7	-	7
Yemen	1	-	-	1	-	1
Yugoslavia	16	1	-	15	2	18
IAEA	139	14	-	195	124	333
Other international organizations	7	-	1	-	6	7
<b>TOTAL</b>	<b>758</b>	<b>87</b>	<b>5</b>	<b>762</b>	<b>245</b>	<b>1 099</b>

TABLE 3B

## TRAINEES IN THE FIELD BY PLACE OF STUDY: 1983

Place of study	UNDP		Agency			TOTAL
	Fellows	Training course participants	Fellows	Training course participants	Scientific visitors	
Argentina	1	-	7	18	1	27
Australia	-	11	18	-	1	30
Austria	2	-	15	58	8	83
Bangladesh	-	9	-	-	-	9
Belgium	2	-	11	-	3	16
Brazil	1	-	4	-	-	5
Bulgaria	-	-	1	46	-	47
Byelorussian SSR	-	-	-	23	-	23
Canada	7	-	16	-	4	27
Chile	-	-	1	-	-	1
Colombia	-	-	-	-	6	6
Costa Rica	-	-	2	-	-	2
Czechoslovakia	-	-	7	25	-	32
Denmark	-	-	4	-	3	7
Egypt	-	-	1	-	-	1
Finland	1	-	6	-	1	8
France	2	-	34	56	14	106
German D.R.	-	-	8	39	-	47
Germany, F.R.	3	-	50	94	12	159
Greece	-	-	3	-	-	3
Hungary	-	-	12	42	2	56
India	-	21	16	-	3	40
Indonesia	-	6	3	-	2	11
Israel	-	-	1	-	-	1
Italy	1	-	20	-	3	24
Japan	-	37	3	-	1	41
Kenya	-	-	4	19	-	23
Korea, R.	1	11	-	-	2	14
Malaysia	-	-	1	-	-	1
Mexico	-	-	3	-	1	4
Netherlands	-	-	13	-	4	17
New Zealand	-	-	1	-	-	1
Nicaragua	-	-	12	-	-	12
Nigeria	-	-	-	-	3	3
Norway	-	-	1	-	-	1
Peru	-	-	-	-	2	2
Philippines	2	11	-	-	1	14
Poland	-	-	7	-	-	7
Romania	-	-	2	-	-	2
Senegal	-	-	1	-	-	1
Singapore	-	-	2	-	-	2
Spain	-	-	10	19	6	35
Sudan	-	-	-	-	2	2
Sweden	-	-	11	-	6	17
Switzerland	-	-	-	-	1	1
Thailand	-	12	-	20	-	32
Turkey	-	-	2	-	-	2
Ukrainian SSR	-	-	1	23	-	24
USSR	-	-	5	67	1	73
UK	2	-	86	-	5	93
USA	6	-	142	125	8	281
Upper Volta	-	-	-	-	5	5
Uruguay	1	-	1	21	1	24
Yugoslavia	1	-	3	46	2	52
Zambia	-	-	-	15	-	15
IAEA	2	-	42	17	18	79
Other international organizations	-	-	3	-	-	3
TOTAL	35	118	596	773	132	1 654 <sup>a/</sup>

<sup>a/</sup> The difference between the number of trainees (1336) and the number of places of study (1654) is due to the fact that a number of fellows, training course participants and scientific visitors went to more than one country/place.

TABLE 4

DISTRIBUTION OF TECHNICAL CO-OPERATION EXPENDITURES BY TYPE: 1979-1983  
(in thousands of dollars)

Year and source	Experts		Equipment		Fellowships		Scientific visits		Training courses		Inter-country projects		Sub-contracts		TOTAL		Assistance outstanding as at 31 December 1983		TOTAL (8+9+10)
	(1)		(2)		(3)		(4)		(5)		(6)		(7)		(8)		(9)	(10)	
	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	\$	
1979																			
UNDP funds	1 286.0	31.7	1 808.9	44.6	306.8	7.5	-	-	47.4	1.2	4.9	0.1	605.6	14.9	4 059.6	100.0	-	-	4 059.6
Agency funds	1 782.8	25.0	2 726.5	38.3	823.3	11.5	125.0	1.8	1 618.8	22.7	47.5	0.7	-	-	7 123.9	100.0	-	-	7 123.9
Extrabudgetary funds	378.9	13.5	1 784.3	63.9	339.9	12.2	3.1	0.1	259.0	9.3	-	-	28.6	1.0	2 793.8	100.0	-	-	2 793.8
Assistance in kind	67.7	3.4	24.8	1.2	1 687.5	83.7	5.5	0.3	229.3	11.4	-	-	-	-	2 014.8	100.0	-	-	2 014.8
TOTAL	3 515.4	22.0	6 344.5	39.7	3 157.5	19.7	133.6	0.8	2 154.5	13.5	52.4	0.3	634.2	4.0	15 992.1	100.0	-	-	15 992.1
1980																			
UNDP funds	1 574.4	26.7	3 089.8	52.4	608.2	10.3	-	-	104.8	1.8	102.3	1.8	413.9	7.0	5 893.4	100.0	-	-	5 893.4
Agency funds	1 999.1	25.6	3 070.1	39.3	1 295.8	16.6	103.1	1.3	1 327.9	17.0	17.7	0.2	-	-	7 813.7	100.0	-	-	7 813.7
Extrabudgetary funds	479.0	19.2	1 412.3	56.5	416.3	16.6	14.3	0.6	170.2	6.8	7.4	0.3	-	-	2 499.5	100.0	-	-	2 499.5
Assistance in kind	88.0	3.3	59.6	2.3	2 358.6	89.8	2.3	0.1	119.2	4.5	-	-	-	-	2 627.7	100.0	-	-	2 627.7
TOTAL	4 140.5	22.0	7 631.8	40.5	4 678.9	24.8	119.7	0.6	1 722.1	9.2	127.4	0.7	413.9	2.2	18 834.3	100.0	-	-	18 834.3
1981																			
UNDP funds	1 555.8	31.1	1 940.7	38.9	340.8	6.8	-	-	23.7	0.5	1 043.9	20.9	88.8	1.8	4 993.7	100.0	-	-	4 993.7
Agency funds	2 205.1	21.1	4 964.3	47.6	1 216.9	11.6	154.0	1.5	1 813.9	17.4	82.3	0.8	-	-	10 436.5	100.0	-	-	10 436.5
Extrabudgetary funds	517.5	18.9	1 636.5	59.7	236.9	8.6	4.0	0.2	326.9	11.9	1.1	0.0	19.2	0.7	2 742.1	100.0	-	-	2 742.1
Assistance in kind	121.5	4.4	-	-	2 551.5	91.5	-	-	104.1	3.7	10.9	0.4	-	-	2 788.0	100.0	-	-	2 788.0
TOTAL	4 399.9	21.0	8 541.5	40.8	4 346.1	20.7	158.0	0.8	2 268.6	10.8	1 138.2	5.4	108.0	0.5	20 960.3	100.0	-	-	20 960.3
1982																			
UNDP funds	1 105.0	28.9	1 686.0	44.1	196.8	5.1	-	-	313.0	8.2	362.8	9.5	163.0	4.2	3 826.6	100.0	-	-	3 826.6
Agency funds	2 681.5	19.9	6 886.6	51.2	1 539.4	11.5	112.4	0.8	1 810.9	13.5	403.7	3.0	16.3	0.1	13 450.8	100.0	-	-	13 450.8
Extrabudgetary funds	523.2	16.2	1 936.0	59.8	177.6	5.5	6.4	0.2	335.1	10.4	241.7	7.4	15.3	0.5	3 235.3	100.0	-	-	3 235.3
Assistance in kind	93.8	3.8	20.0	0.8	2 110.8	84.7	-	-	267.1	10.7	1.3	0.0	-	-	2 493.0	100.0	-	-	2 493.0
TOTAL	4 403.5	19.1	10 528.6	45.8	4 024.6	17.5	118.8	0.5	2 726.1	11.9	1 009.5	4.4	194.6	0.8	23 005.7	100.0	-	-	23 005.7
1983																			
UNDP funds	778.2	18.2	1 602.8	37.4	217.2	5.1	-	-	15.2	0.3	525.8	12.3	1 145.0	26.7	4 284.2	100.0	2 679.7	-	6 963.9
Agency funds	2 811.7	16.8	9 244.0	55.2	2 155.4	12.9	149.9	0.9	1 693.5	10.1	618.9	3.7	62.7	0.4	16 736.1	100.0	11 487.9	-	28 224.0
Extrabudgetary funds	1 069.5	31.2	1 606.7	46.9	263.3	7.7	2.3	0.1	207.9	6.1	267.7	7.8	5.2	0.2	3 422.6	100.0	2 511.0	-	5 933.6
Assistance in kind	171.3	7.9	-	-	1 520.5	70.0	-	-	185.2	8.5	295.5	13.6	-	-	2 172.5	100.0	-	680.4	2 890.9
TOTAL	4 830.7	18.1	12 453.5	46.8	4 156.7	15.6	152.2	0.6	2 101.8	7.9	1 707.9	6.4	1 212.9	4.6	26 615.4	100.0	16 678.6	680.4	44 012.4
1979-1983																			
UNDP funds	6 299.4	27.3	10 128.2	43.9	1 669.8	7.2	-	-	504.1	2.2	2 039.7	8.9	2 416.3	10.5	23 057.5	100.0	2 679.7	-	25 737.2
Agency funds	11 480.2	20.7	26 891.5	48.4	7 030.8	12.6	644.4	1.2	8 265.0	14.9	1 170.1	2.1	79.0	0.1	55 561.0	100.0	11 487.9	-	67 048.9
Extrabudgetary funds	2 968.1	20.2	8 375.8	57.0	1 434.0	9.8	30.1	0.2	1 299.1	8.8	517.9	3.5	68.3	0.5	14 693.3	100.0	2 511.0	-	17 204.3
Assistance in kind	542.3	4.5	104.4	0.8	10 228.9	84.6	7.8	0.1	904.9	7.5	307.7	2.5	-	-	12 096.0	100.0	-	680.4	12 814.4
GRAND TOTAL	21 290.0	20.2	45 499.9	43.2	20 363.5	19.3	682.3	0.7	10 973.1	10.4	4 035.4	3.8	2 563.6	2.4	105 407.8	100.0	16 678.6	680.4	122 804.8

TABLE 5A

STATUS OF THE TECHNICAL ASSISTANCE AND CO-OPERATION FUND BY  
PROGRAMME YEAR AND YEAR OF EXPENDITURE  
AS AT 31 DECEMBER 1983  
(in thousands of dollars)

Programme year	Funds made available	Year of expenditure											Total expenditures 1958-1983	Unliquidated obligations	Earmarkings	Balance
		1958-1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983				
1958-1973	22 991	19 816	1 678	840	324	172	47	11	5	-	-	-	22 893	-	-	98
1974	3 348	-	735	1 373	657	287	93	47	24	52	69	4	3 341	-	79	(72)
1975	4 539	-	-	1 211	1 474	850	359	100	66	102	4	22	4 188	3	21	327
1976	5 492	-	-	-	1 500	1 917	1 141	356	111	410	16	25	5 476	14	40	(38)
1977	5 962	-	-	-	-	1 771	2 292	1 237	315	108	53	53	5 829	15	9	109
1978	7 122	-	-	-	-	-	2 595	2 655	775	377	170	135	6 707	14	219	182
1979	8 802	-	-	-	-	-	-	2 718	3 135	1 495	632	185	8 165	23	248	366
1980	10 632	-	-	-	-	-	-	-	3 383	3 929	1 798	659	9 769	476	447	(60)
1981	12 956	-	-	-	-	-	-	-	-	3 963	4 503	1 947	10 413	798	590	1 155
1982	16 003	-	-	-	-	-	-	-	-	-	6 206	5 922	12 128	2 129	2 333	(587)
1983	19 241	-	-	-	-	-	-	-	-	-	-	7 784	7 784	5 548	7 843	(1 934)
TOTAL	117 088	19 816	2 413	3 424	3 955	4 997	6 527	7 124	7 814	10 436	13 451	16 736	96 693	9 020 <sup>a/</sup>	11 829 <sup>b/</sup>	(454)

<sup>a/</sup> Does not include unliquidated obligations totalling \$2 468 000 for future-year components of multi-year projects.

<sup>b/</sup> The difference between the total earmarkings of \$11 829 000 and the unobligated balance of \$8 907 000 in respect of the Technical Assistance and Co-operation Fund (see Statement V.A of the Agency's Accounts for 1983), namely \$2 922 000, is the sum of \$2 468 000 (mentioned in the above footnote) plus \$454 000, which is the cumulative programme deficit as at 31 December 1983.

TABLE 5B

EXTRABUDGETARY FUNDS FOR TECHNICAL CO-OPERATION ACTIVITIES BY DONOR  
AS AT 31 DECEMBER 1983

Country	Funds available 1 January 1983	New funds in 1983	Total funds available	Expenditures in 1983	Unliquidated obligations at year-end	Unobligated balance
<b>A. Funds for activities in countries other than donor</b>						
Australia	5 486	(7 571)	(2 085)	(2 085)	-	-
Austria	493 976	-	493 976	59 344	308 833	125 799
Belgium	44 882	36 363	81 245	12 169	9 713	59 363
Canada	42 269	-	42 269	10 069	4 099	28 101
Chile	-	10 000	10 000	-	-	10 000
Denmark	12 180	(11 812)	368	368	-	-
Finland	67 261	103 670	170 931	52 166	105 794	12 971
France	20 000	-	20 000	-	14 392	5 608
Germany, F.R.	879 383	853 235	1 732 618	491 741	278 347	962 530
Italy	4 781 232	3 876 000	8 657 232	914 427	499 328	7 243 477
Japan	92 023	270 000	362 023	197 187	94 670	70 166
Saudi Arabia	25 774	-	25 774	13 337	-	12 437
Sweden	1 457 578	55 743	1 513 321	774 433	358 075	380 813
USSR	23 661	(2 932)	20 729	10 728	-	10 001
UK	345 903	266 200	612 103	173 808	181 130	257 165
USA	1 667 458	1 835 000	3 502 458	686 340	194 457	2 621 661
WMO	-	20 000	20 000	-	20 000	-
<b>Sub-total</b>	<b>9 959 066</b>	<b>7 303 896</b>	<b>17 262 962</b>	<b>3 394 032</b>	<b>2 068 838</b>	<b>11 800 092</b>
<b>B. Funds for activities in donor country</b>						
Brazil	5 602	-	5 602	12 751	989	(8 139)
Ecuador	132	-	132	-	-	132
Iran, I.R.	5 085	3 078	8 163	7 075	-	1 088
Libyan A.J.	67	-	67	-	-	67
Nigeria	27 739	-	27 739	8 701	8 850	10 189
Thailand	433 800	-	433 800	-	432 390	1 410
<b>Sub-total</b>	<b>472 425</b>	<b>3 078</b>	<b>475 503</b>	<b>28 527</b>	<b>442 229</b>	<b>4 747</b>
<b>TOTAL</b>	<b>10 431 491</b>	<b>7 306 974</b>	<b>17 738 465</b>	<b>3 422 559</b>	<b>2 511 067</b>	<b>11 804 839<sup>a/</sup></b>

<sup>a/</sup> Includes funds totalling \$2 873 404 in respect of technical assistance activities programmed for 1984 - namely, \$2 870 600 from Italy and \$2 804 from the Federal Republic of Germany.

TABLE 6A

## RECIPIENTS OF EXPERT SERVICES: 1983

Recipient	Source of funds					
	UNDP		Agency		TOTAL	
	(1)	(2)	(1)	(2)	(1)	(2)
Afghanistan	-	-	7	8.5	7	8.5
Albania	-	-	5	4.0	5	4.0
Algeria	-	-	4	3.5	4	3.5
Argentina	10	22.0	-	-	10	22.0
Bangladesh	-	-	16	22.5	16	22.5
Bolivia	-	-	6	9.5	6	9.5
Brazil	-	-	23	31.0	23	31.0
Bulgaria	-	-	10	5.0	10	5.0
Burma	-	-	4	1.0	4	1.0
Chile	-	-	9	12.5	9	12.5
Colombia	1	0.5	11	8.5	12	9.0
Costa Rica	-	-	3	3.5	3	3.5
Cuba	-	-	4	5.0	4	5.0
Cyprus	-	-	2	1.0	2	1.0
Dem. P.R. Korea	-	-	6	1.0	6	1.0
Dominican Republic	-	-	3	5.0	3	5.0
Ecuador	5	20.0	14	20.0	19	40.0
Egypt	1	1.0	99	99.0	100	100.0
Ethiopia	-	-	1	0.5	1	0.5
Ghana	-	-	1	0.5	1	0.5
Greece	-	-	2	2.5	2	2.5
Guatemala	-	-	1	0.5	1	0.5
Hungary	3	0.5	10	2.5	13	3.0
India	-	-	11	10.0	11	10.0
Indonesia	6	21.5	15	13.0	21	34.5
Iran, I.R.	3	1.0	5	2.0	8	3.0
Iraq	-	-	1	1.0	1	1.0
Ivory Coast	-	-	3	2.0	3	2.0
Jamaica	-	-	3	2.0	3	2.0
Jordan	-	-	7	2.0	7	2.0
Kenya	-	-	7	15.0	7	15.0
Korea, R.	-	-	35	40.5	35	40.5
Libyan A.J.	-	-	6	18.0	6	18.0
Madagascar	1	0.5	6	4.5	7	5.0
Malaysia	-	-	12	13.5	12	13.5
Mali	-	-	4	5.5	4	5.5
Mexico	-	-	14	17.0	14	17.0
Mongolia	-	-	4	10.5	4	10.5
Morocco	-	-	8	17.5	8	17.5
Niger	-	-	2	10.0	2	10.0

Recipient	Source of funds					
	UNDP		Agency		TOTAL	
	(1)	(2)	(1)	(2)	(1)	(2)
Nigeria	1	1.0	23	47.0	24	48.0
Pakistan	-	-	5	10.5	5	10.5
Panama	-	-	3	2.0	3	2.0
Paraguay	-	-	2	8.0	2	8.0
Peru	15	15.0	28	48.5	43	63.5
Philippines	1	2.0	11	16.0	12	18.0
Poland	-	-	8	2.0	8	2.0
Portugal	-	-	9	2.5	9	2.5
Romania	1	0.5	3	2.0	4	2.5
Saudi Arabia	-	-	2	2.0	2	2.0
Senegal	2	2.5	4	4.5	6	7.0
Sierra Leone	-	-	2	13.0	2	13.0
Singapore	-	-	5	3.0	5	3.0
Sri Lanka	1	0.5	5	13.5	6	14.0
Sudan	-	-	14	14.0	14	14.0
Syrian A.R.	-	-	1	0.5	1	0.5
Thailand	-	-	13	9.0	13	9.0
Tunisia	-	-	3	4.0	3	4.0
Turkey	-	-	25	15.5	25	15.5
U.A. Emirates	-	-	1	0.5	1	0.5
U.R. Tanzania	-	-	5	13.0	5	13.0
Uganda	-	-	1	0.5	1	0.5
Uruguay	-	-	12	7.0	12	7.0
Venezuela	-	-	6	23.0	6	23.0
Viet Nam	-	-	10	9.0	10	9.0
Yugoslavia	5	3.0	22	9.0	27	12.0
Zaire	1	1.0	-	-	1	1.0
Zambia	-	-	10	19.0	10	19.0
Sub-total	57	92.5	617	729.5	674	822.0
Intercountry projects	30	6.0	145	109.5	175	115.5
Training courses	5	0.5	245	82.0	250	82.5
Sub-total	35	6.5	390	191.5	425	198.0
GRAND TOTAL	92	99.0	1 007	921.0	1 099	1 020.0

(1) Number of expert assignments. (2) Number of man-months served.

TABLE 6B

## RECIPIENTS OF TRAINING ABROAD: 1983

Recipient	UNDP				Agency						TOTAL	
	Fellows		Training course participants		Fellows		Scientific visitors		Training course participants		(1)	(2)
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)		
Albania	-	-	-	-	2	3.5	-	-	-	-	2	3.5
Algeria	-	-	-	-	4	10.0	-	-	5	8.0	9	18.0
Argentina	-	-	-	-	-	-	-	-	1	1.0	1	1.0
Bangladesh	-	-	3	4.0	27	121.0	2	1.0	6	7.0	38	133.0
Bolivia	-	-	-	-	6	27.5	-	-	10	26.0	16	53.5
Brazil	-	-	-	-	8	45.0	-	-	6	5.0	14	50.0
Bulgaria	-	-	-	-	25	180.0	2	0.5	13	16.0	40	196.5
Burma	-	-	1	0.5	-	-	-	-	1	0.5	2	1.0
Chile	-	-	-	-	3	9.0	-	-	12	26.0	15	35.0
China	-	-	1	0.5	-	-	-	-	4	4.5	5	5.0
Colombia	1	3.0	-	-	7	31.5	1	0.5	11	27.5	20	62.5
Costa Rica	-	-	-	-	1	2.0	-	-	5	7.0	6	9.0
Cuba	-	-	-	-	5	21.0	-	-	10	25.5	15	46.5
Cyprus	-	-	-	-	3	14.0	-	-	1	1.0	4	15.0
Czechoslovakia	-	-	-	-	9	53.0	-	-	14	17.0	23	70.0
Dem. P.R. Korea	-	-	-	-	8	65.0	-	-	4	6.0	12	71.0
Dominican Republic	-	-	-	-	4	10.0	-	-	1	3.0	5	13.0
Ecuador	-	-	-	-	6	31.0	8	6.0	9	25.5	23	62.5
Egypt	2	6.0	-	-	21	135.0	-	-	27	30.5	50	171.5
El Salvador	-	-	-	-	7	18.5	-	-	1	1.0	8	19.5
Ethiopia	1	12.0	-	-	3	6.5	2	0.5	5	6.0	11	25.0
Gabon	-	-	-	-	-	-	-	-	1	1.0	1	1.0
Ghana	-	-	-	-	17	116.0	-	-	6	8.5	23	124.5
Greece	-	-	-	-	3	10.5	1	0.5	3	4.0	7	15.0
Guatemala	-	-	-	-	3	5.0	-	-	4	5.5	7	10.5
Guinea	-	-	-	-	-	-	-	-	1	1.5	1	1.5
Hungary	-	-	-	-	20	99.5	9	3.5	12	15.0	41	118.0
Iceland	-	-	-	-	1	0.5	-	-	-	-	1	0.5
India	-	-	11	15.0	17	50.0	1	0.5	15	17.5	44	83.0
Indonesia	2	8.0	6	4.0	11	67.0	-	-	10	12.5	29	91.5
Iran, I.R.	2	1.0	-	-	6	25.5	-	-	8	8.5	16	35.0
Iraq	-	-	-	-	4	12.0	-	-	8	9.5	12	21.5
Ivory Coast	-	-	-	-	1	1.0	-	-	1	2.0	2	3.0
Jamaica	-	-	-	-	-	-	-	-	3	3.0	3	3.0
Jordan	-	-	-	-	1	3.5	1	0.5	7	10.0	9	14.0
Kenya	-	-	-	-	6	27.0	-	-	4	4.0	10	31.0
Korea, R.	-	-	4	5.0	14	61.5	5	2.0	19	24.5	42	93.0
Lebanon	-	-	-	-	-	-	-	-	2	3.0	2	3.0
Liberia	-	-	-	-	-	-	-	-	1	2.0	1	2.0
Libyan A.J.	-	-	-	-	2	7.5	-	-	11	14.0	13	21.5
Madagascar	3	16.5	-	-	4	13.5	1	0.5	1	2.0	9	32.5
Malawi	-	-	-	-	-	-	-	-	1	1.0	1	1.0
Malaysia	-	-	10	15.5	14	32.0	3	1.5	13	14.0	40	63.0
Mali	-	-	-	-	6	21.0	-	-	-	-	6	21.0
Mauritius	-	-	-	-	-	-	-	-	1	2.0	1	2.0
Mexico	-	-	-	-	12	62.0	-	-	30	33.0	42	95.0
Morocco	-	-	-	-	3	11.0	-	-	10	14.0	13	25.0
Namibia	-	-	-	-	-	-	-	-	1	1.5	1	1.5
Nepal	-	-	1	0.5	-	-	-	-	2	2.0	3	2.5
Nicaragua	-	-	-	-	-	-	-	-	1	1.0	1	1.0
Nigeria	-	-	-	-	12	63.0	4	1.5	7	9.0	23	73.5
Pakistan	-	-	8	14.5	26	185.5	4	1.5	13	16.0	51	217.5
Panama	-	-	-	-	4	14.5	1	0.5	4	11.5	9	26.5
Paraguay	-	-	-	-	5	31.5	1	0.5	4	10.5	10	42.5
Peru	1	2.0	-	-	9	53.0	4	2.0	17	42.5	31	99.5
Philippines	6	17.0	7	13.5	17	103.5	1	1.0	27	39.5	58	174.5
Poland	2	1.0	-	-	17	104.5	1	1.0	11	14.0	31	120.5
Portugal	-	-	-	-	6	15.0	3	2.0	12	13.5	21	30.5
Romania	9	29.5	-	-	2	4.5	1	1.0	22	28.0	34	63.0
Saudi Arabia	-	-	-	-	-	-	-	-	1	1.5	1	1.5

Recipient	UNDP				Agency				TOTAL			
	Fellows		Training course participants		Fellows		Scientific visitors	Training course participants				
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)		
Senegal	-	-	-	-	4	16.0	-	-	2	2.5	6	18.5
Sierra Leone	-	-	-	-	2	6.0	-	-	2	2.5	4	8.5
Singapore	-	-	4	2.5	2	4.5	-	-	-	-	6	7.0
Somalia	-	-	-	-	-	-	-	-	1	1.5	1	1.5
Spain	-	-	-	-	3	10.5	-	-	11	14.0	14	24.5
Sri Lanka	-	-	7	6.5	21	102.0	-	-	9	13.5	37	122.0
Sudan	-	-	-	-	16	81.0	1	0.5	10	13.5	27	95.0
Syrian A.R.	-	-	-	-	5	32.0	1	0.5	5	6.5	11	39.0
Thailand	-	-	11	13.5	32	169.0	-	-	20	24.0	63	206.5
Tunisia	-	-	-	-	4	24.0	-	-	3	6.0	7	30.0
Turkey	-	-	-	-	29	152.0	-	-	17	20.0	46	172.0
Uganda	-	-	-	-	4	35.0	-	-	3	3.5	7	38.5
U.R. Cameroon	-	-	-	-	-	-	-	-	2	2.0	2	2.0
U.R. Tanzania	-	-	-	-	5	15.0	2	1.0	6	9.0	13	25.0
Uruguay	-	-	-	-	6	22.0	1	1.0	7	11.0	14	34.0
Venezuela	-	-	-	-	1	1.0	1	1.0	9	18.0	11	20.0
Viet Nam	-	-	-	-	16	85.5	1	0.5	11	13.5	28	99.5
Yugoslavia	-	-	-	-	21	103.5	1	0.5	24	28.5	46	132.5
Zaire	1	8.0	-	-	9	46.5	-	-	1	1.0	11	55.5
Zambia	-	-	-	-	10	60.5	1	0.5	2	4.0	13	65.0
TOTAL	30	104.0	74	95.5	582	2950.5	65	34.0	585	841.0	1336	4025.0

(1) Number of trainees. (2) Number of man-months of training received.

TABLE 7

FINANCIAL SUMMARY: 1983  
(in thousands of dollars)

Recipient	Assistance provided, by type				Assistance provided, by source						Unliquidated obligations as at 31 December 1983	TOTAL (10)+(11)
	Experts	Equip-ment	Fellow-ships	TOTAL	UNDP	Convertible currency	Non-convertible currency	Extra-budgetary funds	In kind	TOTAL		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)		
Afghanistan	25.6	131.6	-	157.2	-	71.7	85.5	-	-	157.2	9.3	166.5
Albania	19.5	116.7	2.8	139.0	-	128.7	10.3	-	-	139.0	175.8	314.8
Algeria	14.6	106.3	10.4	131.3	-	124.1	-	-	7.2	131.3	81.0	212.3
Argentina	202.6	178.1	3.3	384.0	384.0	-	-	-	-	384.0	19.7	403.7
Bangladesh	119.2	237.8	179.5	536.5	0.3	412.1	6.3	54.8	63.0	536.5	291.1	827.7
Bolivia	46.4	112.9	25.7	185.0	-	144.1	-	31.0	9.9	185.0	99.3	284.3
Brazil	180.8	134.3	65.2	380.3	45.7	171.4	4.0	113.6	45.6	380.3	163.7	544.0
Bulgaria	11.8	153.8	196.8	362.4	0.6	257.2	8.9	-	93.7	362.4	81.0	443.4
Burma	11.4	175.3	-	186.7	-	108.0	78.7	-	-	186.7	91.5	278.2
Chile	101.6	73.6	9.4	184.6	5.0	179.6	-	-	-	184.6	62.9	247.5
Colombia	82.8	145.4	50.6	278.8	70.9	158.0	4.5	22.4	23.0	278.8	85.9	364.7
Costa Rica	32.6	17.6	3.2	53.4	-	36.5	-	10.7	6.2	53.4	14.8	68.2
Cuba	22.1	393.6	24.1	439.8	169.4	151.2	103.3	6.9	9.0	439.8	1 085.0	1 525.4
Cyprus	2.3	48.0	29.2	79.5	-	55.2	-	-	24.3	79.5	30.6	110.1
Czechoslovakia	-	-	50.0	50.0	-	45.7	-	-	4.3	50.0	18.0	68.0
Dem. P.R. Korea	7.5	143.9	74.0	225.4	-	153.4	-	-	72.0	225.4	27.9	253.3
Dominican Republic	21.5	154.6	14.6	190.7	-	185.8	1.3	-	3.6	190.7	42.2	232.9
Ecuador	251.1	348.1	47.5	646.7	226.6	252.9	122.9	-	44.3	646.7	635.1	1 281.8
Egypt	443.4	1 448.8	185.7	2 077.9	332.5	173.6	875.8	566.6	129.4	2 077.9	1 994.7	4 072.6
El Salvador	-	25.3	28.3	53.6	-	39.3	-	-	14.3	53.6	10.5	64.1
Ethiopia	1.2	53.4	28.7	83.3	19.9	29.4	34.0	-	-	83.3	64.6	147.9
Gabon	-	7.9	-	7.9	-	7.9	-	-	-	7.9	50.0	57.9
Ghana	2.8	122.5	174.7	300.0	-	133.8	34.3	28.5	103.4	300.0	120.8	420.8
Greece	25.8	286.8	16.9	329.5	4.2	110.4	119.4	95.5	-	329.5	85.0	414.5
Guatemala	3.4	86.3	5.5	95.2	-	75.2	18.6	-	1.4	95.2	40.4	135.6
Hong Kong	-	0.7	-	0.7	-	0.7	-	-	-	0.7	1.7	2.4
Hungary	8.0	138.0	111.7	257.7	7.8	145.9	104.0	-	-	257.7	271.4	529.1
Iceland	-	14.0	1.8	15.8	-	15.8	-	-	-	15.8	8.0	23.8
India	47.0	205.6	95.4	348.0	-	-	-	343.5	4.5	348.0	167.2	515.2
Indonesia	232.6	359.2	116.9	708.7	416.1	186.4	4.6	39.2	62.4	708.7	399.1	1 107.8
Iran, I.R.	21.6	667.4	33.1	722.1	670.3	35.3	-	7.1	9.4	722.1	245.0	967.1
Iraq	5.6	83.1	14.4	103.1	-	5.6	83.1	-	14.4	103.1	74.4	177.5
Ivory Coast	9.3	67.2	1.1	77.6	-	42.2	35.4	-	-	77.6	39.6	117.2
Jamaica	19.4	73.4	-	92.8	-	92.8	-	-	-	92.8	55.2	148.0
Jordan	10.0	27.2	4.7	41.9	-	38.8	-	-	3.1	41.9	15.3	57.2
Kenya	100.9	84.1	37.5	222.5	-	114.4	-	84.3	23.8	222.5	120.7	343.2
Korea, R.	286.8	132.3	121.2	540.3	-	331.9	-	103.5	104.9	540.3	206.9	747.2
Lebanon	-	66.4	-	66.4	-	66.4	-	-	-	66.4	62.0	128.4
Libyan A.J.	82.8	20.7	7.2	110.7	-	110.7	-	-	-	110.7	72.2	182.9
Madagascar	28.7	94.7	51.4	174.8	35.9	134.3	-	-	4.6	174.8	77.1	251.9
Malaysia	73.1	177.7	58.1	308.9	-	236.9	0.7	43.0	28.3	308.9	247.0	555.9
Mali	25.6	141.3	19.0	185.9	-	144.6	30.8	10.5	-	185.9	62.5	248.4
Mauritius	-	10.2	(0.8)	9.4	-	9.4	-	-	-	9.4	7.9	17.3
Mexico	102.2	26.3	83.4	211.9	-	172.8	6.3	16.9	15.9	211.9	181.5	393.4
Mongolia	50.0	151.2	-	201.2	-	130.8	70.4	-	-	201.2	76.8	278.0
Morocco	82.0	101.1	16.3	199.4	-	131.9	33.0	21.4	13.1	199.4	130.8	330.2
Niger	60.2	84.7	0.1	145.0	-	145.0	-	-	-	145.0	70.8	215.8
Nigeria	314.8	300.0	96.3	711.1	20.8	133.8	-	514.7	41.8	711.1	299.4	1 010.5
Pakistan	56.4	244.3	215.5	516.2	-	490.7	7.8	2.5	15.2	516.2	186.5	702.7
Panama	5.3	148.9	26.2	180.4	-	136.7	43.7	-	-	180.4	121.0	301.4
Paraguay	48.7	190.5	48.1	287.3	-	201.9	57.5	-	27.9	287.3	132.6	419.9
Peru	413.4	591.9	111.5	1 116.8	576.4	240.6	25.9	220.2	53.7	1 116.8	802.2	1 919.0
Philippines	111.9	424.3	242.4	778.6	107.5	430.0	-	145.9	95.2	778.6	218.0	996.6
Poland	10.7	563.2	111.5	685.4	3.2	175.5	492.3	-	14.4	685.4	605.8	1 291.2
Portugal	20.7	151.3	25.7	197.7	-	130.8	5.0	57.1	4.8	197.7	851.2	1 048.9
Romania	29.4	619.3	39.4	688.1	309.4	301.3	77.4	-	-	688.1	338.3	1 026.4
Saudi Arabia	20.5	-	-	20.5	-	20.5	-	-	-	20.5	-	20.5
Senegal	49.4	100.7	16.9	167.0	98.8	60.4	-	5.0	2.8	167.0	107.8	274.8
Sierra Leone	67.0	22.2	8.8	98.0	-	94.8	3.2	-	-	98.0	61.5	159.5
Singapore	41.6	101.5	8.1	151.2	-	74.9	-	76.3	-	151.2	103.3	254.5
Spain	-	-	10.4	10.4	-	10.4	-	-	-	10.4	11.1	21.5
Sri Lanka	91.2	206.3	121.9	419.4	1.0	282.1	65.5	50.3	20.5	419.4	169.6	589.0
Sudan	59.5	51.6	140.4	251.5	-	160.5	-	15.7	75.3	251.5	207.9	459.4
Svrian A.R.	1.5	107.0	36.5	145.0	-	127.1	3.6	-	14.3	145.0	37.9	182.9
Thailand	64.5	207.6	267.6	539.7	-	353.8	-	39.1	146.8	539.7	693.5	1 233.2

Recipient	Assistance provided, by type				Assistance provided, by source						Unliquidated obligations as at 31 December 1983	TOTAL (10)+(11)
	Experts	Equip-ment	Fellow-ships	TOTAL	UNDP	Convertible currency	Non-convertible currency	Extra-budgetary funds	In kind	TOTAL		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)		
Tunisia	15.5	65.2	21.8	102.5	-	48.8	13.4	40.3	-	102.5	112.8	215.3
Turkey	92.1	104.3	216.0	412.4	-	296.1	-	1.0	115.3	412.4	159.1	571.5
Uganda	-	-	46.6	46.6	-	46.6	-	-	-	46.6	29.4	76.0
United Arab Emirates	2.9	-	-	2.9	-	2.9	-	-	-	2.9	-	2.9
U.R. Cameroon	-	8.0	-	8.0	-	8.0	-	-	-	8.0	-	8.0
U.R. Tanzania	70.1	56.8	40.5	167.4	-	150.7	2.1	4.7	9.9	167.4	62.0	229.4
Uruguay	61.4	155.4	34.5	251.3	-	178.4	3.4	63.9	5.6	251.3	111.7	363.0
Venezuela	123.5	129.5	2.8	255.8	-	255.8	-	-	-	255.8	83.0	338.8
Viet Nam	48.8	793.6	105.7	948.1	-	185.8	711.6	3.8	46.9	948.1	68.3	1 016.4
Yugoslavia	79.1	344.7	144.1	567.9	119.7	271.0	148.5	-	28.7	567.9	399.5	967.4
Zaire	16.0	221.7	81.9	319.6	117.2	168.0	2.7	-	31.7	319.6	84.5	404.1
Zambia	116.0	201.1	73.3	390.4	-	264.3	19.0	107.1	-	390.4	136.6	527.0
Sub-total	4 907.7	13 540.0	4 293.0	22 740.7	3 743.2	10 800.0	3 558.7	2 947.0	1 691.8	22 740.7	14 169.1	36 909.8
<u>Intercountry projects</u>												
Africa	5.1	66.4	-	71.5	-	71.5	-	-	-	71.5	39.5	111.0
Asia and the Pacific	415.9	570.1	114.3	1 100.3	525.8	145.0	-	154.2	275.3	1 100.3	1 054.7	2 155.0
Latin America	164.7	16.4	-	181.1	-	164.8	-	-	16.3	181.1	100.2	281.3
Interregional	160.5	194.5	-	355.0	-	204.0	33.6	113.5	3.9	355.0	231.2	586.2
<u>Training courses</u>												
Africa	37.8	23.4	46.7	107.9	-	107.9	-	-	-	107.9	5.1	113.0
Asia and the Pacific	42.5	42.8	74.4	159.7	-	72.5	-	35.2	52.0	159.7	103.7	263.4
Latin America	39.4	40.0	46.5	125.9	-	124.6	-	0.2	1.1	125.9	41.3	167.2
Interregional	372.0	221.4	1 114.9	1 708.3	15.2	1 287.2	101.3	172.5	132.1	1 708.3	933.8	2 642.1
Sub-total	1 237.9	1 175.0	1 396.8	3 809.7	541.0	2 177.5	134.9	475.6	480.7	3 809.7	2 509.5	6 319.2
Miscellaneous	18.0	31.3	15.7	65.0	-	65.0	-	-	-	65.0	-	65.0
GRAND TOTAL	6 163.6	14 746.3	5 705.5	26 615.4	4 284.2	13 042.5	3 693.6	3 422.6	2 172.5	26 615.4	16 678.6	43 294.0

TABLE 8

FINANCIAL SUMMARY: 1958-1983  
(in thousands of dollars)

Recipient	Assistance provided, by type				Assistance provided, by source				
	Experts	Equip- ment	Fellow- ships	TOTAL	UNDP	Agency funds	Extra- budgetary funds <sup>a/</sup>	In kind	TOTAL
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Afghanistan	374.1	386.8	120.5	881.4	92.9	706.7	-	81.8	881.4
Albania	71.9	676.2	66.1	814.2	118.4	675.3	-	20.5	814.2
Algeria	105.9	241.4	130.3	477.6	21.7	402.5	-	53.4	477.6
Argentina	2 925.4	1 876.7	1 110.1	5 912.2	3 711.6	1 647.7	17.5	535.4	5 912.2
Austria	62.0	13.8	120.7	196.5	-	132.6	-	63.9	196.5
Bangladesh	718.0	1 442.2	1 435.9	3 596.1	63.0	1 475.6	969.5	1 088.0	3 596.1
Bolivia	365.8	913.6	238.8	1 518.2	153.4	982.5	229.7	152.6	1 518.2
Brazil	4 084.0	3 127.3	1 676.3	8 887.6	5 654.6	2 158.9	404.3	669.8	8 887.6
Bulgaria	94.6	1 180.1	1 278.6	2 553.3	543.9	1 457.7	-	551.7	2 553.3
Burma	746.4	944.1	200.6	1 891.1	537.0	1 250.5	-	103.6	1 891.1
Chad	116.3	30.6	-	146.9	146.9	-	-	-	146.9
Chile	2 374.5	1 954.1	1 096.1	5 424.7	3 602.7	1 459.3	-	362.7	5 424.7
Colombia	984.9	1 829.0	624.3	3 438.2	1 686.7	988.0	180.3	583.2	3 438.2
Costa Rica	343.0	576.5	160.5	1 080.0	-	666.7	231.0	182.3	1 080.0
Cuba	277.2	2 812.7	195.1	3 285.0	1 019.8	2 106.1	39.2	119.9	3 285.0
Cyprus	97.0	315.0	104.9	516.9	24.1	391.8	-	101.0	516.9
Czechoslovakia	-	104.8	894.9	999.7	6.2	609.0	12.9	371.6	999.7
Dem. P.R. Korea	18.2	763.0	275.9	1 057.1	-	793.1	23.9	240.1	1 057.1
Dominican Republic	43.9	180.6	21.3	245.8	-	235.5	3.9	6.4	245.8
Ecuador	846.8	1 116.9	237.9	2 201.6	357.1	1 381.8	191.4	271.3	2 201.6
Egypt	1 080.8	3 996.6	1 947.1	7 024.5	1 441.4	3 455.2	821.3	1 306.6	7 024.5
El Salvador	81.4	135.9	150.9	368.2	14.1	159.1	20.4	174.6	368.2
Ethiopia	357.6	274.1	193.4	825.1	437.5	336.8	-	50.8	825.1
Gabon	3.7	7.9	-	11.6	-	11.6	-	-	11.6
Ghana	452.9	890.8	1 766.8	3 110.5	269.0	1 320.9	289.5	1 231.1	3 110.5
Greece	1 865.3	1 051.0	999.3	3 915.6	1 561.9	1 520.6	257.2	575.9	3 915.6
Guatemala	124.9	321.4	53.5	499.8	56.2	300.0	51.2	92.4	499.8
Hong Kong	59.9	105.2	26.1	191.2	-	182.2	-	9.0	191.2
Hungary	95.2	2 843.5	1 209.4	4 148.1	630.5	3 221.6	8.0	288.0	4 148.1
Iceland	64.5	281.0	141.3	486.8	-	361.5	-	125.3	486.8
India	997.9	3 657.8	2 541.7	7 197.4	2 920.3	1 280.7	1 834.2	1 162.2	7 197.4
Indonesia	1 417.4	1 374.7	1 049.5	3 841.6	935.7	1 882.9	333.9	689.1	3 841.6
Iran, I.R.	679.9	747.5	482.5	1 909.9	1 129.1	497.9	9.5	273.4	1 909.9
Iraq	385.9	919.1	751.1	2 056.1	242.5	1 377.5	25.0	411.1	2 056.1
Israel	257.8	819.8	438.7	1 516.3	170.9	900.6	18.0	426.8	1 516.3
Ivory Coast	187.6	331.3	12.1	531.0	73.4	433.7	23.9	-	531.0
Jamaica	149.6	267.6	24.0	441.2	10.4	360.0	-	70.8	441.2
Jordan	285.1	402.9	190.2	878.2	89.3	586.0	100.6	102.3	878.2
Kenya	503.1	582.1	403.7	1 488.9	33.2	914.8	344.2	196.7	1 488.9
Korea, R.	1 504.4	1 219.2	1 816.0	4 539.6	566.8	2 024.0	589.6	1 359.2	4 539.6
Kuwait	12.0	-	3.9	15.9	-	15.9	-	-	15.9
Lebanon	248.5	207.1	96.7	552.3	139.3	358.4	31.4	23.2	552.3
Liberia	115.2	29.0	-	144.2	60.2	27.7	-	56.3	144.2
Libyan A.J.	202.3	188.2	98.4	488.9	7.3	425.3	2.5	53.8	488.9
Madagascar	1 145.0	1 091.5	143.8	2 380.3	1 420.5	677.3	244.2	38.3	2 380.3
Malaysia	655.5	1 017.5	620.8	2 293.8	1.6	1 345.7	488.0	458.5	2 293.8
Mali	392.6	479.7	174.9	1 047.2	13.4	916.5	50.7	66.6	1 047.2
Mauritius	17.5	51.5	11.2	80.2	-	76.4	3.8	-	80.2
Mexico	1 648.4	554.6	438.6	2 641.6	419.3	1 651.3	336.4	234.6	2 641.6
Mongolia	141.5	685.9	17.2	844.6	-	827.4	10.6	6.6	844.6
Morocco	1 380.3	904.4	257.1	2 541.8	900.1	1 304.3	128.7	208.7	2 541.8
Nicaragua	26.5	7.6	20.1	54.2	-	54.2	-	-	54.2
Niger	125.6	164.8	24.0	314.4	-	299.9	-	14.5	314.4
Nigeria	2 087.1	1 278.4	599.4	3 964.9	980.1	760.9	1 621.7	602.2	3 964.9
Niue	7.8	6.9	-	14.7	14.7	-	-	-	14.7
Pakistan	1 463.2	2 167.3	2 378.4	6 008.9	1 842.0	2 839.0	90.5	1 237.4	6 008.9
Panama	130.8	226.3	153.1	510.2	4.1	382.3	11.0	112.8	510.2
Paraguay	127.7	350.8	153.2	631.7	-	440.4	94.1	97.2	631.7
Peru	2 027.3	2 990.1	806.4	5 823.8	2 964.6	1 593.3	707.4	558.5	5 823.8
Philippines	1 261.4	2 126.4	2 410.0	5 797.8	1 383.4	2 132.8	610.0	1 671.6	5 797.8

Recipient	Assistance provided, by type				Assistance provided, by source				
	Experts	Equip- ment	Fellow- ships	TOTAL	UNDP	Agency funds	Extra- budgetary funds <sup>a/</sup>	In kind	TOTAL
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Poland	64.9	1 169.6	1 617.8	2 852.3	202.9	2 132.9	1.4	515.1	2 852.3
Portugal	156.2	610.8	164.8	931.8	-	565.1	281.1	85.6	931.8
Romania	664.8	3 081.5	769.7	4 516.0	2 277.0	1 972.5	39.3	227.2	4 516.0
St. Christopher	-	-	8.5	8.5	-	-	8.5	-	8.5
Saudi Arabia	52.3	8.6	12.8	73.7	-	66.7	-	7.0	73.7
Senegal	296.9	600.7	134.5	1 032.1	266.9	582.2	133.8	49.2	1 032.1
Sierra Leone	326.7	159.2	108.1	594.0	174.5	317.5	12.4	89.6	594.0
Singapore	193.0	620.0	71.3	884.3	-	730.4	101.1	52.8	884.3
Somalia	6.3	-	-	6.3	6.3	-	-	-	6.3
Spain	325.3	-	86.9	412.2	-	333.1	56.0	23.1	412.2
Sri Lanka	668.1	1 266.6	965.9	2 900.6	305.4	1 868.4	321.0	405.8	2 900.6
Sudan	518.6	908.2	899.0	2 325.8	296.7	1 400.8	289.6	338.7	2 325.8
Syria A.R.	154.9	351.3	283.8	790.0	229.6	471.8	4.5	84.1	790.0
Thailand	1 216.7	1 542.4	2 398.2	5 157.3	545.5	2 354.1	654.6	1 603.1	5 157.3
Tunisia	603.7	538.7	192.3	1 334.7	141.2	906.0	206.5	81.0	1 334.7
Turkey	1 446.7	1 572.4	2 138.6	5 157.7	1 628.7	2 027.9	123.5	1 377.6	5 157.7
Uganda	260.8	198.8	157.6	617.2	131.0	443.7	-	42.5	617.2
U.A. Emirates	19.7	-	-	19.7	-	19.7	-	-	19.7
U.R. Cameroon	327.4	157.0	44.2	528.6	297.3	202.1	22.4	6.8	528.6
U.R. Tanzania	257.7	353.8	231.1	842.6	9.6	740.4	7.1	85.5	842.6
Uruguay	469.5	1 267.8	249.5	1 986.8	173.6	1 096.6	454.4	262.2	1 986.8
Venezuela	670.9	381.9	246.7	1 299.5	130.7	920.5	65.9	182.4	1 299.5
Viet Nam	183.9	1 550.8	401.8	2 136.5	31.4	1 795.8	18.1	291.2	2 136.5
Yugoslavia	784.6	3 086.9	1 542.3	5 413.8	2 816.3	1 850.2	339.6	407.7	5 413.8
Zaire	481.9	966.3	500.3	1 948.5	549.9	1 027.1	89.7	281.8	1 948.5
Zambia	707.3	716.2	398.6	1 822.1	152.5	1 362.8	127.9	178.9	1 822.1
Other countries <sup>b/</sup>	390.3	214.9	1 335.2	1 940.4	397.6	754.8	-	788.0	1 940.4
Sub-total	49 670.1	76 567.2	47 552.8	173 790.1	49 237.4	82 721.0	14 819.5	27 012.2	173 790.1
<u>Interregional projects and training courses</u>									
Africa	191.4	186.5	178.7	556.6	328.9	222.8	-	4.9	556.6
Asia and the Pacific	1 673.7	1 829.1	862.8	4 365.6	2 796.5	744.6	359.0	465.5	4 365.6
Europe	21.0	18.6	17.3	56.9	56.9	-	-	-	56.9
Latin America	1 163.8	1 006.6	438.0	2 608.4	1 458.2	755.6	261.4	133.2	2 608.4
Middle East	5.8	1.2	5.3	12.3	12.3	-	-	-	12.3
Interregional	3 879.7	2 205.6	10 770.7	16 856.0	1 790.5	11 864.8	1 588.4	1 612.3	16 856.0
Sub-total	6 935.4	5 247.6	12 272.8	24 455.8	6 443.3	13 587.8	2 208.8	2 215.9	24 455.8
Miscellaneous	198.6	178.9	30.0	407.5	23.2	384.3	-	-	407.5
GRAND TOTAL	56 804.1	81 993.7	59 855.6	198 653.4	55 703.9	96 693.1	17 028.3	29 228.1	198 653.4

<sup>a/</sup> The assistance provided from extrabudgetary funds prior to 1977 is included under assistance "in kind".  
<sup>b/</sup> Includes the following countries which have not received technical assistance during the last ten or more years: China, Democratic Kampuchea, Denmark, Finland, France, the Federal Republic of Germany, Haiti, Italy, Japan, Monaco, the Netherlands, New Zealand, Norway, South Africa, Sweden, Switzerland, the United States of America and Zimbabwe.

ANNEX I

UTILIZATION OF EXTRABUDGETARY AND IN-KIND CONTRIBUTIONS

A. Assistance for activities in countries other than donor  
(in thousands of dollars)

Donor	Extrabudgetary					In kind					TOTAL
	Experts	Equipment	Fellowships	Other training	Sub-total	Experts	Equipment	Fellowships	Other training	Sub-total	
<u>Countries</u>											
Argentina	-	-	-	-	-	7.6	-	43.0	33.3	83.9	83.9
Australia	-	-	-	(2.1)	(2.1)	1.8	239.5	-	46.4	287.7	285.6
Austria	-	59.3	-	-	59.3	-	-	5.5	-	5.5	64.8
Belgium	2.1	10.1	-	-	12.2	-	-	39.3	0.3	39.6	51.8
Bolivia	-	-	-	-	-	2.2	-	-	-	2.2	2.2
Brazil	-	-	-	-	-	0.8	-	9.7	0.5	11.0	11.0
Canada	1.2	8.9	-	-	10.1	8.7	-	-	3.4	12.1	22.2
Chile	-	-	-	-	-	-	-	-	1.1	1.1	1.1
Colombia	-	-	-	-	-	1.3	-	-	-	1.3	1.3
Czechoslovakia	-	-	-	-	-	-	-	89.5	-	89.5	89.5
Denmark	-	-	-	0.4	0.4	1.1	-	16.8	-	17.9	18.3
Ecuador	-	-	-	-	-	6.2	-	-	-	6.2	6.2
Egypt	-	-	-	-	-	-	-	-	3.2	3.2	3.2
Finland	51.4	0.8	-	-	52.2	-	-	-	-	-	52.2
France	-	-	-	-	-	51.4	-	72.3	21.3	145.0	145.0
Germany, F.R.	126.2	351.9	-	13.6	491.7	12.2	-	149.9	31.5	193.6	685.3
Guatemala	-	-	-	-	-	1.6	-	-	-	1.6	1.6
Hungary	-	-	-	-	-	0.5	-	40.6	-	41.1	41.1
India	-	-	-	-	-	1.3	-	34.4	2.2	37.9	37.9
Israel	-	-	-	-	-	-	-	14.3	-	14.3	14.3
Italy	455.9	440.9	17.6	-	914.4	6.1	-	107.6	-	113.7	1 028.1
Jamaica	-	-	-	-	-	0.8	-	-	-	0.8	0.8
Japan	115.1	39.1	5.7	37.3	197.2	53.1	-	18.2	0.5	71.8	269.0
Mexico	-	-	-	-	-	6.4	-	2.4	1.8	10.6	10.6
Netherlands	-	-	-	-	-	4.5	-	26.3	-	30.8	30.8
New Zealand	-	-	-	-	-	3.1	-	-	-	3.1	3.1
Pakistan	-	-	-	-	-	-	-	-	0.6	0.6	0.6
Philippines	-	-	-	-	-	-	-	-	0.6	0.6	0.6
Poland	-	-	-	-	-	-	-	42.0	3.2	45.2	45.2
Romania	-	-	-	-	-	1.0	-	-	0.6	1.6	1.6
Saudi Arabia	10.9	2.4	-	-	13.3	-	-	-	-	-	13.3
Spain	-	-	-	-	-	-	-	6.8	1.3	8.1	8.1
Sweden	151.7	308.4	225.2	89.1	774.4	2.1	-	-	2.6	4.7	779.1
Switzerland	-	-	-	-	-	-	-	-	3.5	3.5	3.5
Turkey	-	-	-	-	-	0.5	-	-	-	0.5	0.5
USSR	-	-	10.7	-	10.7	-	-	-	-	-	10.7
UK	26.9	140.5	6.4	-	173.8	17.0	-	87.0	7.4	111.4	285.2
USA	278.7	338.1	-	69.6	686.4	33.4	-	714.9	4.8	753.1	1 439.5
Venezuela	-	-	-	-	-	1.6	-	-	-	1.6	1.6
Yugoslavia	-	-	-	-	-	-	-	-	1.1	1.1	1.1
<b>Sub-total</b>	<b>1 220.1</b>	<b>1 700.4</b>	<b>265.6</b>	<b>207.9</b>	<b>3 394.0</b>	<b>226.3</b>	<b>239.5</b>	<b>1 520.5</b>	<b>171.2</b>	<b>2 157.5</b>	<b>5 551.5</b>
<u>Organizations</u>											
CEC	-	-	-	-	-	-	-	-	0.6	0.6	0.6
IBRD	-	-	-	-	-	-	-	-	2.5	2.5	2.5
UNESCO	-	-	-	-	-	-	-	-	7.6	7.6	7.6
WHO	-	-	-	-	-	-	-	-	4.3	4.3	4.3
<b>Sub-total</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>15.0</b>	<b>15.0</b>	<b>15.0</b>
<b>GRAND TOTAL</b>	<b>1 220.1</b>	<b>1 700.4</b>	<b>265.6</b>	<b>207.9</b>	<b>3 394.0</b>	<b>226.3</b>	<b>239.5</b>	<b>1 520.5</b>	<b>186.2</b>	<b>2 172.5</b>	<b>5 566.5</b>

B. Assistance for activities in donor country  
(in thousands of dollars)

Donor	Project title and code	Assistance provided		
		Experts	Equipment	TOTAL
Brazil	Agricultural research and development, BRA/5/009	12.8	-	12.8
Iran, Islamic Rep.	Maintenance of radioisotope production capability, IRA/2/004	-	7.1	7.1
Nigeria	Nuclear physics, NIR/1/003	-	8.7	8.7
	TOTAL	12.8	15.8	28.6

A N N E X I I

TRAINING COURSES AND STUDY TOURS: 1983

Project title and code	Place(s) and dates	Source of funds	Participation <sup>a/</sup>			Amount(s) obligated <sup>b/</sup> (\$)
			(1)	(2)	(3)	
Regional training course on nuclear instrumentation, RAF/4/002	Lusaka, Zambia 28 February - 21 April	Agency	15	-	-	113 237 (CC)
Second UNDP (RCA) training/demonstration workshop on the use of nucleonic control systems in the paper industry, RAS/8/018	Ban Pong, Thailand, and Tokyo, Japan 28 March - 16 April	UNDP Japan	12	-	-	37 980 (CC) 8 362 (CC)
Interregional training course on radiological protection and nuclear safety, INT/9/046	Buenos Aires, Argentina 4 April - 30 November	Agency	18	-	-	65 632 (CC)
Interregional training course on the induction and use of mutations in plant breeding, INT/5/089	Seibersdorf, Austria 6 April - 19 May	Agency	16	-	-	80 716 (CC) 18 (NCC)
Interregional training course on uranium ore processing, INT/3/012	Madrid, Spain 11 April - 13 May	Agency	19	-	2	46 285 (CC)
Interregional training course on quality assurance, INT/4/063	Saclay, France 11 April - 18 May	Agency	29	1	-	66 208 (CC)
Interregional training course on electric system expansion planning, INT/0/029	Argonne, Illinois, USA 18 April - 17 June	Agency	26	-	1	106 577 (CC)
Study tour on nuclear power development, INT/0/033	Bulgaria, Czechoslovakia, USSR, German Democratic Republic and Hungary 7 May - 4 June	Agency	25	-	-	38 055 (CC) 103 188 (NCC)
Interregional training course on the use of isotope and radiation techniques in studies on soil/plant relationships, INT/5/086	Seibersdorf, Austria 16 May - 1 July	Agency SIDA	17	-	-	15 619 (CC) 88 754 (CC)
Interregional training course and study tour on induced mutations in plant breeding with special attention to cross-pollinating plant species, INT/5/090	Sofia, Bulgaria, Ukrainian SSR and Byelorussian SSR 16 May - 4 July	Agency	23	-	2	43 416 (CC) 102 661 (NCC)
FAO/IAEA interregional training course on the use of nitrogen-15 in soil science and plant nutrition, INT/5/085	Leipzig, German Democratic Republic 25 May - 17 June	Agency	14	-	-	32 558 (CC) 22 470 (NCC)
Interregional training course on energy planning in developing countries with special attention to nuclear energy, INT/0/032	Ljubljana, Yugoslavia, and technical visit to Munich, Federal Republic of Germany 6 June - 1 July	Agency	27	-	7	102 328 (CC)
Training workshop on monsoon rainfall prediction, INT/1/024	Dhaka, Bangladesh 20 - 23 June	UNFSSTD	9	-	73	14 986 (CC)
Interregional advanced training course on nuclear electronics, INT/4/064	Berlin (West) <sup>c/</sup> 18 July - 14 October	Agency  Federal Republic of Germany	15	-	-	132 090 (CC) 179 (NCC) 18 018 (CC)
Interregional training course and study tour on nuclear techniques in the study of parasitic infections of man, INT/6/028	Bethesda, Maryland, and Atlanta, Georgia, USA 8 - 30 August	Agency	30	-	14	121 789 (CC)

Project title and code	Place(s) and dates	Source of funds	Participation <sup>a/</sup>			Amount(s) obligated <sup>b/</sup> (\$)
			(1)	(2)	(3)	
UNDP regional (RCA) industrial training/demonstration workshop on on-stream analysis of mineral concentrators employing nucleonic control systems, RAS/8/022	Lucas Heights, Australia, and Quezon City and Baguio City, Philippines 29 August - 17 December	Australia	11	-	-	In kind
Interregional training course and study tour on nuclear medicine, INT/6/027	Moscow, USSR 1 September - 31 October	Agency	24	-	-	36 246 (CC) 135 262 (NCC)
Interregional training course and study tour on neutron physics and nuclear data measurements with accelerators and research reactors, INT/1/023	Tashkent, USSR 4 - 30 September	Agency	18	-	-	19 037 (CC) 67 055 (NCC)
Interregional training course on waste management in nuclear facilities, INT/9/044	Karlsruhe, Federal Republic of Germany 5 - 30 September	Agency	22	1	-	52 969 (CC)
Interregional training course on uranium prospection, INT/3/011	Skofja Loka, Yugoslavia 5 September - 7 October	Agency	19	-	5	76 297 (CC)
Interregional training course on probabilistic risk methods applied to safety analysis for nuclear power plants, INT/9/043	Argonne, Illinois, USA 6 September - 7 October	Agency	31	-	-	78 797 (CC)
International training course on physical protection of nuclear facilities and materials, INT/0/034	Albuquerque, New Mexico, USA 7 - 29 September	United States of America	17	9	-	69 541 (CC)
First advanced non-destructive testing training course for ultrasonic and radiographic inspection, RAS/8/019	Tokyo, Japan 12 September - 8 October	UNDP Japan	11	-	-	31 798 (CC) 7 219 (CC)
Interregional training course on environmental isotopes in hydrology, INT/8/023	Vienna, Austria 19 September - 7 October	Agency	25	-	-	63 793 (CC)
UNDP regional (RCA) industrial training/demonstration workshop on radiation sterilization of medical products, RAS/8/020	Bombay, India, and Seoul, Republic of Korea 26 September - 14 October	UNDP	11	-	-	39 746 (CC)
UNDP regional (RCA) industrial training/demonstration workshop on radiation vulcanization of natural rubber latex, RAS/8/025	Jakarta, Indonesia 1 October 1983 - 31 March 1984	UNDP	6	-	-	34 002 (CC)
UNDP regional (RCA) industrial training/demonstration workshop on nucleonic control systems for steel manufacture, RAS/8/021	Bokaro, India, and Tokyo, Japan 10 - 29 October	UNDP Japan	10	-	-	20 959 (CC) 4 930 (CC)
Interregional training course on nuclear power planning and feasibility studies, INT/0/031	Saclay, France 10 October - 18 November	Agency	27	-	-	72 069 (CC)
Interregional training course on control and instrumentation of nuclear power plants, INT/4/062	Karlsruhe, Federal Republic of Germany 10 October - 18 November	Agency	30	1	-	65 004 (CC)
Advanced interregional training course on research reactor utilization, INT/4/065	Budapest, Hungary 10 October - 18 November	Agency	17	-	-	49 654 (CC) 19 993 (NCC)
Interregional training course on nuclear project management tools and methods, INT/0/030	Argonne, Illinois, USA 11 October - 23 November	Agency	21	-	-	67 374 (CC)

Project title and code	Place(s) and dates	Source of funds	Participation <sup>a/</sup>			Amount(s) <sup>b/</sup> obligated <sup>c/</sup> (\$)
			(1)	(2)	(3)	
Interregional training course on the use of nuclear techniques in animal parasitology, INT/5/088	Nairobi, Kenya 17 October - 11 November	Agency	19	-	-	59 156 (CC)
UNDP regional (RCA) on-the-job training workshop on the maintenance of nuclear instruments, RAS/8/024	Tokyo, Japan 1 November - 20 December	UNDP Japan	5	-	-	29 850 (CC) 105 (CC)
Regional training course on nuclear techniques in pesticide research, RAS/5/014	Bangkok, Thailand 7 November - 2 December	Agency	20	-	4	94 402 (CC)
Regional training course on the production and control of radiopharmaceuticals. RLA/2/002	Montevideo, Uruguay 21 November - 16 December	Agency	20	-	-	72 841 (CC)

<sup>a/</sup> The figures under (1) denote the number of award holders whose cost of participation was met out of project funds; those under (2) denote the number of participants who attended at the expense of their government, or of another organization or programme; and those under (3) denote the number of local participants. No stipends or international travel costs were paid out of project funds in respect of participants shown under (2) and (3).

<sup>b/</sup> The amounts obligated (i.e. expenditures plus unliquidated obligations) do not include expenditures by host governments in respect of local lecturers, or expenditures for laboratory, lecture room and other facilities.

<sup>c/</sup> The interests of Berlin (West) are represented within the United Nations system by the Federal Republic of Germany.

A N N E X I I I

FORMAL REPORTS SUBMITTED TO RECIPIENT-COUNTRY GOVERNMENTS

Recipient	Subject and project code	Author(s)	Reference no. (IAEA/)	Distr. status <sup>a/</sup>
Albania	Nuclear analytical laboratory (ALB/2/005)	Adams, Freddy Camiel	TA-2057 (English)	D
	Nuclear analytical laboratory (ALB/2/005)	Cossutta, Domenico	TA-2086 (English)	D
Algeria	Establishment of facilities for uranium analysis (ALG/0/004)	Schlosser, Arthur J.	TA-2000 (English)	D
	Establishment of a secondary standards dosimetry laboratory (ALG/1/005)	Haider, Johann G.	TA-2022 (French)	D
	Food irradiation (ALG/5/005)	Baraldi, Delio	TA-2011 (French)	D
	Use of nuclear techniques in the measurement of silt transport through waterways (ALG/8/002)	Tazioli, Giulio Sergio	TA-2046 (French)	D
Argentina	Nuclear engineering: research reactor utilization (ARG/4/077)	Parkinson, Thomas F.	UNDP-ARG/78/020-11 (English)	R
	Nuclear engineering: iron and iron alloys and steels for nuclear operations (ARG/4/077)	Anderko, Kurt Peter	UNDP-ARG/78/020-12 (English)	R
	Nuclear engineering: inelastic properties of cladding and structured materials at high temperatures (ARG/4/077)	Bocek, Michael	UNDP-ARG/78/020-13 (English)	R
	Nuclear engineering: reactors and thermal aspects of reactor engineering (ARG/4/077)	Whitelaw, Robert L.	UNDP-ARG/78/020-14 (English)	R
	Nuclear engineering: Report of a consultancy mission (ARG/4/077)	Williams, M.M.R	UNDP-ARG/78/020-15 (English)	R
	Nuclear engineering: reactor physics and calculus (ARG/4/077)	Stamm'ler, Rudolf J.	UNDP-ARG/78/020-16 (English)	R
	Nuclear engineering: nuclear fuels (ARG/4/077)	Deramaix, Paul Jules	UNDP-ARG/78/020-17 (English)	R
	Nuclear engineering: Report of a consultancy mission (ARG/4/077)	Alonso Santos, Agustín	UNDP-ARG/78/020-18 (Spanish)	R
Bangladesh	Nuclear engineering: Report of a consultancy mission (ARG/4/077)	Ondracek, Gerhard	UNDP-ARG/78/020-19 (English)	R
	Nuclear engineering: curriculum development (ARG/4/077)	Williams, M.M.R	UNDP-ARG/78/020-20 (English)	R
	Use of tracers in studies of sediment movement (BGD/8/003)	Crickmore, Maurice J.	TA-2072 (English)	D
	Sterilization of pharmaceuticals (BGD/7/003)	Deshpande, Ramesh G.	TA-2116 (English)	D
	Radioisotopes in medicine (BGD/6/003)	Phillips, Glyn Owen	TA-2140 (English)	D
Bolivia	Radioimmunoassay services (BGD/6/003)	Seaton, Brian	TA-2149 (English)	R
	Groundnut research: a consultancy report (BGD/5/003)	Patil, Shivanagouda	SIDA-BGD/5/003-17 (English)	S
Bolivia	Radioisotopes in agriculture (BOL/5/004)	Guiraud, Gerard L.	TA-2016 (Spanish)	R
	Radioimmunoassay (BOL/6/011)	Vuister, Petrus H.	TA-2124 (Spanish)	D

Recipient	Subject and project code	Author(s)	Reference no. (IAEA/)	Distr. status <sup>a/</sup>	
Brazil	Radioactive waste management for Angra I (BRA/9/015)	Troup, Gerald Lee	TA-2002 (English)	R	
	Nuclear power plant safety analysis (BRA/9/015)	Burnett, Paul Thomas	TA-2019 (English)	D	
	Microautoradiography with electron microscope (BRA/5/009)	Bienz, Kurt Alfred	TA-2020 (English)	D	
	Analytical chemistry (BRA/5/009)	Pinta, Maurice	TA-2044 (English)	D	
	Resident inspection programme for operations (BRA/9/015)	Crews, Jesse Lou	TA-2045 (English)	D	
	Radiation protection: ÇNEN and FURNAS inspection programmes (BRA/9/015)	Cunningham, Lemoine J.	TA-2050 (English)	D	
	Forests and woods in Brazil (BRA/5/009)	Polge, Hubert	TA-2059 (English)	D	
	Radiation protection in uranium exploration, mining and milling (BRA/0/005)	Ahmed, Jasimuddin	TA-2130 (English)	R	
	Nuclear manpower qualification and training (BRA/0/004)	Durrands, Kenneth J.	UNDP-BRA/76/003-07 (English)	R	
Bulgaria	Development of a centre for the application of isotopes: project findings and recommendations (BUL/0/002)	Christov, Christo Dolnicar, Joze	UNDP-BUL/77/013-TR (English)	S	
	Burma	Radioisotopes in haematology (BUR/6/007)	Piyasena, Rienzil D.	TA-2010 (English)	D
		Radiobiochemistry (BUR/7/002)	Piyasena, Rienzil D.	TA-2117 (English)	D
		Tissue sterilization (BUR/7/004)	Phillips, Glyn Owen	TA-2139 (English)	D
	Chile	Reactor noise study (CHI/4/009)	Kostic-Velickovic, L.	TA-2039 (Spanish)	D
		Moessbauer spectrometry (CHI/1/012)	Wagner, Hans-Georg	TA-2042 (English)	D
		Uranium prospection (CHI/3/005)	Carrie, Raymond Paul	TA-2092 (English)	R
		Uranium prospection: methods and results (CHI/3/006)	Carrie, Raymond Paul	UNDP-CHI/79/001-05 (Spanish)	D
	Colombia	Irradiated vaccines against parasites (COL/5/005)	Duncan, James Lindsay	TA-2012 (English)	D
Nuclear centre development (COL/0/007)		Muranaka, Richard G. Vera Ruiz, Hernan G.	TA-2100 (English)	D	
Tick-borne parasites in cattle (COL/5/005)		Wright, Ian Gordon	TA-2111 (English)	D	
Costa Rica	Pesticide residues studies (COS/5/006)	Moza, Pran Nath	TA-2026 (English)	D	

Recipient	Subject and project code	Author(s)	Reference no. (IAEA/)	Distr. status <sup>a/</sup>
Costa Rica	Prospection for radioactive minerals (COS/3/003)	Simpson, Steven David	TA-2094 (English)	D
	Radiation protection (COS/9/003)	Flakus, Franz-Nikolaus	TA-2122 (English)	D
Cuba	Radioisotopes in industry (CUB/8/005)	Dziunikowski, Bohdan	TA-2047 (English)	D
Cyprus	Insect toxicology (CYP/5/011)	Georghiou, George Paul	TA-2084 (English)	D
Dem. P.R. Korea	Establishment of a national dosimeter calibration and standardization centre (DRK/1/003)	Haider, Johann G.	TA-2096 (English)	D
	Uranium ore and concentrate analysis (DRK/3/002)	Suschny, Otto	TA-2159 (English)	S
Ecuador	Secondary standards dosimetry laboratory (ECU/1/003)	Ruden, Bengt-Inge	TA-2055 (English)	D
	Uranium prospection (ECU/3/006)	Larumbe, Fernando H.	UNDP-ECU/80/002-01 (Spanish)	D
Egypt	Use of isotopes in agriculture (EGY/5/006)	Papanicolaou, E.	TA-1998 (English)	D
	Nuclear power manpower development (EGY/9/011)	Csik, Bela Jose	TA-2023 (English)	D
	Studies on buffalo reproduction using radioimmunoassay techniques (EGY/5/009)	Dobson, Hilary Vaughan	TA-2041 (English)	D
	Training course on the assessment and evaluation of a safety analysis review (EGY/9/010)	Kanter, Manuel Allen	TA-2056 (English)	D
	Zircaloy properties and behaviour (EGY/4/015)	Videm, Ketil	TA-2080 (English)	D
	Installation of an amino acid analyser for agricultural research (EGY/5/010)	Winkler, Uwe Ernst	TA-2093 (English)	D
	Accelerator feasibility study (EGY/0/006)	Ashby, David Eric T. Fedotov, Michael T. Humphries, Peter Leiser, Manfred Richter, Friedrich W. Shurygin, Anatoliy	TA-2115 (English)	R
Greece	Research reactor utilization (GRE/4/007)	Laporte, Andre Pierre	TA-2091 (English)	D
	Studies on plant water use efficiency (GRE/5/013)	Barrada, Yehia Abdel	TA-2134 (English)	D
	Laboratory investigations on uraniferous rocks from northern Greece (GRE/3/005)	Kurat, Gero	UNDP-GRE/79/004-04 (English)	R
	Project findings and recommendations (GRE/3/005)	Taupitz, Karl C.	UNDP-GRE/79/004-TR (English)	R
Guatemala	Technical assistance programming mission	Tauchid, Mohamad Vera Ruiz, Hernan G. Vose, Peter Brownhill Willstaetter Greig, P.	TA-PM-011 (Spanish)	D
India	Strengthening of nuclear research in agriculture (IND/5/010)	Soulsby, Ernest J.	SIDA-IND/5/010-08 (English)	D

Recipient	Subject and project code	Author(s)	Reference no. (IAEA/)	Distr. status <sup>a/</sup>
India	Nitrogen-15 techniques in animal science (IND/5/010)	Salter, Dallyn Neville	SIDA-IND/5/010-09 (English)	D
	Stoichiometric studies of rumen fermentation (IND/5/012)	Czerkawski, Julian W.	SIDA-IND/5/012-10 (English)	D
	Animal nutrition (IND/5/013)	Balch, Charles Clive	SIDA-IND/5/013-11 (English)	D
	Efficient use of insecticides (IND/5/011)	Bigley, Walter Stephen	SIDA-IND/5/011-12 (English)	D
	Report of a consultancy mission (IND/5/013)	Tucker, H. Allen	SIDA-IND/5/013-13 (English)	S
Indonesia	Nuclear power project management (INS/0/003)	Meyer, Peter-Juergen	TA-2032 (English)	D
	Secondary standards dosimetry laboratory (INS/1/010)	Lowenthal, Gerhard C.	TA-2083 (English)	D
	Nuclear materials analysis (INS/3/005)	Zaidi, Syed Mazahir H.	TA-2132 (English)	R
	Ion implantation techniques (INS/1/011)	Bhattacharya, Pradeep	TA-2146 (English)	R
	Reactor physics (INS/4/018)	Eberle, Rainer Rudolf	TA-2153 (English)	R
	Nuclear power programme (INS/0/003)	Wortman, Oscar	TA-2167 (English)	S
	Insect control (INS/5/018)	Offori, Evans Dunstan	UNDP-INS/78/074-01 (English)	R
Iraq	Establishment of an entomological laboratory (IRQ/5/006)	Rahalkar, Gangadhar W.	TA-2138 (English)	D
Jamaica	X-ray fluorescence analysis (JAM/2/003)	Valkovic, Vlado	TA-2017 (English)	D
	Research reactor planning (JAM/4/002)	Dimeglio, Aniello F.	TA-2075 (English)	D
Jordan	Isotopes in hydrology (JOR/8/002)	Rouse, John Edward	TA-2018 (English)	D
	Nuclear energy planning (JOR/0/002)	Kovacs, Joseph	TA-2060 (English)	D
Korea, R.	Feasibility study on commercial food irradiation (ROK/5/018)	Glubrecht, Helmut Loaharanu, Paisan	TA-2101 (English)	D
	Radioisotopes in agriculture (Che-Ju Island) (ROK/5/018)	Kucey, Reginald M.	TA-2105 (English)	D
	Ruminant nutrition (ROK/5/017)	Egan, Adrian Roderic	TA-2112 (English)	D
	Nuclear power plant safety (ROK/9/017)	Seminara, Joseph L.	TA-2121 (English)	R
	Nuclear power plant safety (ROK/9/009)	Lee, Jay Young	TA-2142 (English)	R
	Sintered UO <sub>2</sub> pellet study (ROK/4/010)	Assmann, Helmut	TA-2145 (English)	R
	Safe siting of nuclear power plants (ROK/9/011)	Grill, Richard Parker	TA-2151 (English)	S
	Soil-water relationship studies (ROK/5/019)	Ahuja, Lajpat Rai	TA-2152 (English)	S

Recipient	Subject and project code	Author(s)	Reference no. (IAEA/)	Distr. status <sup>a/</sup>
Korea, R.	Candu reactor pre-operational and start-up testing (ROK/9/015)	Pannell, Bernard James	TA-2154 (English)	R
	Radioactive waste disposal (ROK/9/021)	Chapman, Neil Anthony	TA-2160 (English)	R
	Pellet cladding (ROK/4/009)	Rolstad, Erik	TA-2161 (English)	R
	Nuclear power plant safety (ROK/9/015)	Gage, Leslie William	TA-2162 (English)	S
	Nuclear reactor safety analysis (ROK/9/016)	Jo, Jae Hyun	TA-2164 (English)	R
Kenya	Radiological protection and radioactive waste management (KEN/9/003)	West, Peter John	TA-1994 (English)	D
	Radiation techniques in studies of soil-water use efficiency (KEN/5/008)	Stolzy, Lewis Hal	TA-2028 (English)	D
	Nuclear techniques in the testing of roadway materials (KEN/8/004)	Brown, Wayne Richard	TA-2088 (English)	D
Libyan A.J.	Assessment of uraniferous potential: Murzuq and Al Kufrah basins (LIB/3/003)	Kanasiewicz, Jerzy S.	TA-2079 (English)	D
	Nuclear power plant siting: geology, seismology and soil mechanics (LIB/9/005)	Giuliani, Pietro Gurpinar, Aybars	TA-2109 (English)	D
Madagascar	Uranium research in the Folakara region (MAG/3/005)	Dempster, Alan N. Styzei, Sergio Chaves	UNDP-MAG/77/012-03 (French)	R
	Project findings and recommendations (MAG/3/005)	Searle, Derek Lawrence	UNDP-MAG/77/012-TR (French)	R
Malaysia	Radioisotopes in agriculture (MAL/5/006)	Milligan, Larry P.	TA-1987 (English)	R
	Research reactor centre (MAL/4/003)	Sandquist, Gary Marlin	TA-1995 (English)	D
	Analysis of nitrogen-15 by emission spectrometry (MAL/5/010)	Middelboe, Victor	TA-2063 (English)	D
	Pesticide residues (MAL/5/006)	Tanaka, Fred Shigeru	TA-2165 (English)	R
	Nuclear medicine services (MAL/6/007)	Brykalski, Dariusz	TA-2081 (English)	D
	Proposed laboratory animal services centre, Puspati (MAL/2/002)	Mcneill, James R.	TA-2089 (English)	D
	Animal production (MAL/5/006)	Robertshaw, David	TA-2114 (English)	D
Mali	Nuclear medicine laboratory planning (MLI/6/002)	Wahl, Richard	TA-1996 (French)	D
	Nuclear medicine laboratory (MLI/6/002)	Wahl, Richard	TA-2061 (French)	D
	Radioisotopes in hydrology (MLI/8/002)	Caillot, Alain Roger	TA-2125 (French)	D
Mexico	Nuclear power plant safety (MEX/9/022)	Lasher, Don Roderick	TA-2053 (English)	D
	Accident analysis (MEX/9/020)	Peter, Hartmut Rudolf	TA-2062 (English)	R

Recipient	Subject and project code	Author(s)	Reference no. (IAEA/)	Distr. a/ status
Mexico	Quality assurance (MEX/9/020)	Garland, Alfred Martin	TA-2067 (English)	D
	Nuclear safety of pressurized water reactors (MEX/9/024)	Rysy, Wolfgang	TA-2071 (English)	D
	Development of a nuclear safety computer program (MEX/9/023)	Hetrick, David Leroy	TA-2107 (English)	D
Mongolia	Nuclear electronics (MON/0/002)	Pahor, Joze	TA-2064 (English)	D
Morocco	Radioisotopes in animal science (MOR/5/014)	Deaver, Daniel Robert	TA-2038 (French)	D
	Uranium geochemical exploration in central Morocco (MOR/3/005)	Smith, Arthur Young	TA-2058 (French)	D
	Geochemical exploration methods for uranium (MOR/3/005)	Smith, Arthur Young	TA-2073 (French)	D
	Safety advisory mission (MOR/4/006)	Doumenc, Alain Gurpinar, Aybars Palabrica, Ricardo	TA-2087 (French)	D
	Laboratory determination of U, Th, Ra and K in rock samples (MOR/3/005)	Matolin, Milan	TA-2118 (French)	D
Nigeria	Nuclear physics at the Centre for Energy Research and Development, University of Ife (NIR/1/003)	Wacks, Morton Edward	TA-2173 (English)	S
	Animal nutrition (NIR/5/010)	Watson, Maxwell John	UNDP-NIR/72/005-04 (English)	R
	Animal parasitology (NIR/5/010)	Gray, George Douglas	UNDP-NIR/72/005-05 (English)	R
Pakistan	Quality assurance (PAK/4/017)	Muehling, Guenter	TA-2076 (English)	R
	Food preservation (PAK/5/015)	Ehlermann, Dieter A.E.	TA-2102 (English)	R
	Radioimmunoassay services (PAK/6/006)	Seaton, Brian	TA-2148 (English)	R
Panama	Uranium exploration (PAN/3/002)	Ortega Furlotti, A.	TA-2027 (Spanish)	D
Paraguay	Nuclear science (PAR/1/002)	Heitz, Charles P.	TA-2052 (English)	D
	Environmental isotopic investigations in Rio Pilcomayo basin (PAR/8/003)	Florkowski, Tadeusz Yurtsever, Yucel	TA-2127 (Spanish)	R
Peru	Processing techniques for uranium ores (PER/3/010)	Valentinuzzi, Omar	TA-2049 (Spanish)	R
	Uranium prospection (PER/3/010)	Cecchetto, Aldo Mario	TA-2054 (Spanish)	R
	Uranium prospection and evaluation (PER/5/010)	Anzulovich, Juan Cosme	UNDP-PER/76/002-10 (English)	R
	Soil-plant-water-fertilizer relationships (PER/5/010)	Libardi, Paulo Leonel	UNDP-PER/76/002-11 (English)	R
	Nuclear raw materials prospection and resource assessment (PER/3/011)	Belluco, Alberto E.	UNDP-PER/81/004-01 (Spanish)	R

Recipient	Subject and project code	Author(s)	Reference no. (IAEA/)	Distr. status <sup>a/</sup>
Peru	Prospection for and evaluation of nuclear raw materials (PER/3/011)	Belluco, Alberto E.	UNDP-PER/81/004-02 (Spanish)	R
	Nuclear applications in agriculture (PER/3/011)	Fried, Maurice	UNDP-PER/81/004-03 (English)	R
Philippines	Production of radioimmunoassay kits (PHI/2/006)	Shah, Kanchanlal B.	TA-2013 (English)	D
	National nuclear manpower training, licensing and regulation (PHI/0/003, PHI/9/010)	Hall, Ramon Edwin	TA-2103 (English)	D
Poland	Radioisotope techniques in environmental protection (POL/8/004)	Appelquist, Helge A.	TA-2004 (English)	D
Portugal	Legal infrastructure (POR/0/003)	Ha-Vinh, Phuong	TA-2015 (French)	R
	Nuclear power programme (POR/9/002)	Wright, Henry Albert	TA-2025 (English)	D
	Nuclear power programme (POR/9/002)	Rogers, Lester R.	TA-2078 (English)	D
	Laboratory design (POR/1/002)	Duftschnid, Klaus E.	TA-2136 (English)	D
Romania	Development of nuclear technology: project findings and recommendations (ROM/4/008)	Andreescu, Nicolae	UNDP-ROM/76/023-TR (English)	R
Saudi Arabia	Nuclear energy planning (SAU/0/002)	Bjergbakke, Erling	TA-2065 (English)	R
	Nuclear energy planning (SAU/0/002)	Donhoffer, Dieter	TA-2066 (English)	R
	Nuclear energy planning (SAU/0/002)	Dincer, Turgut Mustafa	TA-2070 (English)	R
Senegal	Estimation of water and mineral element losses in millet-peanut cultivation (SEN/5/011)	Pieri, Christian	TA-1988 (French)	D
	Use of radiotracers in fertilizer studies (SEN/5/014)	Truong, Binh	TA-2108 (French)	D
	Use of radioisotopes in agronomy (SEN/5/015)	Oosterveld, Martin	TA-2120 (French)	D
	Institute of Applied Nuclear Technology (SEN/0/003)	Hammer, Johannes Lauwers, J. Vandevyvere, S.	UNDP-SEN/77/005-02 (French)	D
Sierra Leone	Nuclear science laboratory: planning for a technical co-operation project (SIL/0/004)	Vuister, Petrus H.	TA-2021 (English)	D
Singapore	Industrial quality control (SIN/8/009)	Iddings, Frank Allen	TA-2168 (English)	S
Sri Lanka	Training in nuclear science and engineering (SRL/1/003)	Dolnicar, Joze	TA-2006 (English)	D
	Nuclear electronics (SRL/4/006)	Burr, Alexander Fuller	TA-2040 (English)	D
	Nuclear raw materials (SRL/3/004)	Smith, Arthur Young	TA-2085 (English)	D
	Radioisotopes in hydrology (SRL/8/007)	Dincer, Turgut Mustafa	TA-2166 (English)	S

Recipient	Subject and project code	Author(s)	Reference no. (IAEA/)	Distr. a/ status-
Sudan	Establishment of a radioisotope unit at the Central Veterinary Research Laboratory, Soba (SUD/5/007)	Maclean, John Mcphee	TA-2043 (English)	D
	Installation of equipment at the central veterinary research laboratories (SUD/5/007)	Ashe, Anthony Grenfell	TA-2048 (English)	D
	Computer-based data analysis (SUD/0/006)	Klessmann, Horst L.	TA-2069 (English)	D
	Use of neutron moisture probes (SUD/5/015)	Chang, Chi	TA-2090 (English)	D
	Radiation protection planning mission (SUD/9/003)	Hasling, Willy	TA-2119 (English)	D
	Moessbauer spectroscopy (SUD/0/006)	Wagner, Hans-Georg	TA-2135 (English)	D
Thailand	Nuclear medicine (THA/6/015)	Adams, Ralph M.	TA-2170 (English)	S
	Nuclear medicine teaching facilities (THA/6/014)	Wendhausen, Henning L.	TA-2171 (English)	S
	Pesticide residues (THA/5/021)	Schoellhammer, Herbert	TA-2172 (English)	S
Tunisia	Assessment of uranium potential in the D'Oued Belif (TUN/3/009)	Kissling, Daniel Andre	TA-2077 (French)	R
	Establishment of a laboratory for the control of industrial processes (TUN/8/007)	Dobrowolski, Marek K.	TA-2150 (French)	S
Turkey	Nuclear techniques in animal science (TUR/5/008)	Hunt, Stuart Edwin H.	TA-2005 (English)	D
	Nuclear power programme (TUR/9/005)	Gurpinar, Aybars	TA-2007 (English)	R
	Nuclear techniques in animal science (TUR/5/010)	Glatzel, Peter S.	TA-2037 (English)	D
	Nuclear power programme (TUR/9/005)	Gurpinar, Aybars	TA-2128 (English)	D
	Nuclear power programme (TUR/9/005)	Gurpinar, Aybars	TA-2131 (English)	D
	Nuclear power safety (TUR/9/005)	Celebi, Mehmet	TA-2133 (English)	D
	Nuclear techniques in animal science (TUR/5/010)	Glatzel, Peter S.	TA-2147 (English)	S
U.A. Emirates	Radiation protection in medicine (UAE/0/003)	Bianco, Andrea	TA-2144 (English)	S
Uruguay	Nuclear medicine (URU/6/010)	Born, Mark Leonard	TA-2003 (English)	D
	Endocrinology: development of radio-immunoassay procedures (URU/6/012)	Lemarchand-Beraud, T.	TA-2008 (English)	D
	Feasibility study for a nuclear technology centre (URU/0/006)	Buchtela, Karl Dolnicar, Joze Haack, Karsten Uhlenius, Karl Robert	TA-2031 (Spanish)	R

Recipient	Subject and project code	Author(s)	Reference no. (IAEA/)	Distr. a/ status <sup>b</sup>
Uruguay	Isotopes in agriculture (URU/5/012)	Zapata, Felipe	TA-2126 (Spanish)	R
	Animal parasitology (URU/5/013)	Duncan, James Lindsay	TA-2110 (English)	D
Venezuela	Radioisotopes in agriculture (VEN/5/006)	Hetier, Jean-Marie	TA-2001 (Spanish)	D
	Radioisotope production (VEN/8/006)	Marques, Roberto Oscar	TA-2068 (Spanish)	D
Viet Nam	Radiation monitoring (VIE/9/003)	Wardaszko, Tadeusz	TA-2014 (English)	D
	Techno-economic feasibility study (VIE/5/009)	Ahmed, Mainuddin	TA-2143 (English)	R
Yugoslavia	Nuclear power safety (YUG/9/010)	Epel, Lester Garrett, W. Seymour Hofmann, Werner	TA-1999 (English)	D
	Reactor training centre (YUG/4/017)	Gnospelius, Carl F.	TA-2029 (English)	D
	Radioecological modelling (YUG/9/012)	Policastro, Anthony J.	TA-2030 (English)	D
	Nuclear power safety (YUG/9/010)	Nyfors, Veikko Martti	TA-2082 (English)	D
	Prevlaka nuclear power plant: engineering aspects (YUG/4/021)	Collins, Harold Eggenberger, Andrew J. Giuliani, Pietro Jeschki, Wolfgang Karl Von Gadow, Andreas	TA-2113 (English)	D
	Nuclear power safety (YUG/9/010)	Virgilio, Martin J.	TA-2123 (English)	D
	Nuclear power safety (YUG/9/010)	Onusic, Jose Jr.	TA-2137 (English)	D
	Nuclear power safety (YUG/9/010)	Holmstroem, Heikki L.	TA-2163 (English)	S
	Ecology laboratory: project findings and recommendations (YUG/9/013)	Martincic, Rafael	UNDP-YUG/79/006-TR (English)	R
	Zambia	Nuclear analytical methods and instrumentation (ZAM/0/005)	Bacso, Jozsef	TA-2024 (English)
Expansion of radiation protection service (ZAM/9/004)		Bernardo, Benito C.	TA-2051 (English)	D
Use of nitrogen-15 tracer techniques in agriculture (ZAM/5/004)		Ernst, Dieter E.	TA-2074 (English)	D
Isotope techniques in fertilizer use efficiency (ZAM/5/004)		Karamanos, Rigas E.	TA-2129 (English)	D
Causes of poor reproductive performance of indigenous cattle (ZAM/5/010)		King, Gordon James	TA-2141 (English)	D
Evaluation of potential uses of a multi- purpose irradiation facility (ZAM/8/003)		Roushdy, Hamid Mohamad	TA-2169 (English)	S
Interregional	Nuclear data techniques and instrumentation: Republic of Korea (INT/1/018)	Mehta, Madhukar K.	TA-2009 (English)	D
	Nuclear instrument maintenance: Malaysia (INT/4/054)	Ambro, Peter Paul	TA-2033 (English)	D

Recipient	Subject and project code	Author(s)	Reference no. (IAEA/)	Distr. <sup>a/</sup> status
Interregional	Nuclear instrument maintenance and nuclear electronics: Philippines (INT/4/054)	Ambro, Peter Paul	TA-2034 (English)	D
	Nuclear instrument maintenance and nuclear electronics: Indonesia (INT/4/054)	Ambro, Peter Paul	TA-2035 (English)	D
	Nuclear instrument maintenance: Sri Lanka (INT/4/054)	Ambro, Peter Paul	TA-2036 (English)	D
	Nuclear electronics: Burma, Indonesia Malaysia and Viet Nam (INT/4/054)	Ambro, Peter Paul	TA-2095 (English)	D
	Teaching and introduction of power conditioning: Kenya (INT/4/054)	Lonseth, Arvid T.	TA-2097 (English)	D
	Teaching and introduction of power conditioning: Zambia (INT/4/054)	Lonseth, Arvid T.	TA-2098 (English)	D
	Teaching and introduction of power conditioning: Sudan (INT/4/054)	Lonseth, Arvid T.	TA-2099 (English)	D
	Teaching and introduction of power conditioning: Zaire (INT/4/054)	Lonseth, Arvid T.	TA-2104 (French)	D
	Nuclear data techniques and instrumentation: Viet Nam (INT/1/018)	Ribansky, Igor	TA-2106 (English)	D
	Nuclear data techniques and instrumentation: Indonesia (INT/1/018)	Boldeman, John William	TA-2155 (English)	S
	Nuclear data techniques and instrumentation: Malaysia (INT/1/018)	Boldeman, John William	TA-2156 (English)	S
	Nuclear data techniques and instrumentation: Bangladesh (INT/1/018)	Boldeman, John William	TA-2157 (English)	S
	Nuclear data techniques and instrumentation: Thailand (INT/1/018)	Boldeman, John William	TA-2158 (English)	S

<sup>a/</sup> D = De-restricted distribution; R = Restricted distribution; S = Restricted pending notification from Government.

ANNEX IV

VOLUNTARY CONTRIBUTIONS PLEDGED AND PAID  
TO THE TECHNICAL ASSISTANCE AND CO-OPERATION FUND FOR 1983  
as at 31 December 1983

Member State	1983 Base rate <sup>a/</sup> (%)	Share of \$19 million target for voluntary contributions for 1983 using the base rate <u>a/</u> (\$)	Pledged (\$)	Paid (\$)
(1)	(2)	(3)	(4)	(5)
Afghanistan	0.01	1 900	-	-
Albania	0.01	1 900	1 900	1 900
Algeria	0.12	22 800	-	-
Argentina	0.79	150 100	150 100	-
Australia	1.85	351 500	351 500	351 500
Austria	0.72	136 800	136 800	136 800
Bangladesh	0.04	7 600	-	-
Belgium	1.23	233 700	63 636	63 636
Bolivia	0.01	1 900	-	-
Brazil	1.28	243 200	243 200	-
Bulgaria	0.16	30 400	30 400	30 400
Burma	0.01	1 900	-	-
Byelorussian SSR	0.40	76 000	81 967	81 967
Canada	3.32	630 800	630 800	630 800
Chile	0.07	13 300	13 500	13 500
Colombia	0.11	20 900	20 900	-
Costa Rica	0.02	3 800	-	-
Cuba	0.11	20 900	20 900	20 900
Cyprus	0.01	1 900	1 900	1 900
Czechoslovakia	0.84	159 600	155 763	155 763
Dem. Kampuchea	0.01	1 900	-	-
Dem. P.R. Korea	0.05	9 500	9 500	9 500
Denmark	0.75	142 500	142 500	142 500
Dominican Republic	0.03	5 700	-	-
Ecuador	0.02	3 800	3 800	18
Egypt	0.07	13 300	13 300	13 300
El Salvador	0.01	1 900	-	-
Ethiopia	0.01	1 900	-	-
Finland	0.49	93 100	93 100	93 100
France	6.33	1 202 700	1 202 700	1 202 700
Gabon	0.02	3 800	-	-
German D.R.	1.41	267 900	267 900	267 900
Germany, F.R.	8.40	1 596 000	1 596 000	1 596 000
Ghana	0.03	5 700	-	-
Greece	0.35	66 500	66 500	66 500

Member State	1983 Base rate <sup>a/</sup> (%)	Share of \$19 million target for voluntary contributions for 1983 using the base rate <u>a/</u> (\$)	Pledged (\$)	Paid (\$)
(1)	(2)	(3)	(4)	(5)
Guatemala	0.02	3 800	3 500	3 200
Haiti	0.01	1 900	-	-
Holy See	0.01	1 900	-	-
Hungary	0.33	62 700	56 211	56 211
Iceland	0.03	5 700	5 700	5 700
India	0.61	115 900	115 900	115 900
Indonesia	0.16	30 400	30 400	30 400
Iran I.R.	0.66	125 400	-	-
Iraq	0.12	22 800	22 800	22 800
Ireland	0.16	30 400	-	-
Israel	0.25	47 500	-	-
Italy	3.49	663 100	345 912	345 912
Ivory Coast	0.03	5 700	-	-
Jamaica	0.02	3 800	-	-
Japan	9.69	1 841 100	1 841 100	1 841 100
Jordan	0.01	1 900	1 900	1 900
Kenya	0.01	1 900	-	-
Korea, R.	0.15	28 500	28 500	28 500
Kuwait	0.20	38 000	-	-
Lebanon	0.03	5 700	-	-
Liberia	0.01	1 900	-	-
Libyan A.J.	0.23	43 700	-	-
Liechtenstein	0.01	1 900	1 900	1 900
Luxembourg	0.05	9 500	-	-
Madagascar	0.01	1 900	1 900	-
Malaysia	0.09	17 100	17 100	17 100
Mali	0.01	1 900	-	-
Mauritius	0.01	1 900	-	-
Mexico	0.77	146 300	146 300	146 300
Monaco	0.01	1 900	-	-
Mongolia	0.01	1 900	1 900	1 900
Morocco	0.05	9 500	-	-
Namibia	-	-	-	-
Netherlands	1.65	313 500	313 500	313 500
New Zealand	0.27	51 300	-	-
Nicaragua	0.01	1 900	-	-
Niger	0.01	1 900	-	-
Nigeria	0.16	30 400	30 400	-
Norway	0.51	96 900	96 900	96 900
Pakistan	0.07	13 300	13 300	13 300

Member State	1983 Base rate <sup>a/</sup> (%)	Share of \$19 million target for voluntary contributions for 1983 using the base rate <u>a/</u> (\$)	Pledged (\$)	Paid (\$)
(1)	(2)	(3)	(4)	(5)
Panama	0.02	3 800	3 800	3 800
Paraguay	0.01	1 900	-	-
Peru	0.06	11 400	11 400	-
Philippines	0.10	19 000	13 000	13 000
Poland	1.25	237 500	218 900	218 900
Portugal	0.19	36 100	36 100	-
Qatar	0.03	5 700	-	-
Romania	0.21	39 900	39 900	-
Saudi Arabia	0.59	112 100	112 100	112 100
Senegal	0.01	1 900	-	-
Sierra Leone	0.01	1 900	-	-
Singapore	0.08	15 200	1 800	1 800
South Africa	0.43	81 700	-	-
Spain	1.72	326 800	30 000	26 316 <sup>b/</sup>
Sri Lanka	0.02	3 800	-	-
Sudan	0.01	1 900	-	-
Sweden	1.33	252 700	252 700	252 700
Switzerland	1.06	201 400	201 400	201 400
Syrian A.R.	0.03	5 700	-	-
Thailand	0.10	19 000	19 000	19 000
Tunisia	0.03	5 700	-	-
Turkey	0.30	57 000	57 000	50 593
Uganda	0.01	1 900	-	-
Ukrainian SSR	1.48	281 200	273 224	273 224
USSR	11.22	2 131 800	2 322 404	2 322 404
U.A. Emirates	0.10	19 000	19 000	19 000
UK	4.51	856 900	856 900	856 900
U.R. Cameroon	0.01	1 900	-	-
U.R. Tanzania	0.01	1 900	1 900	562 <sup>b/</sup>
USA	25.00	4 750 000	4 685 855	- <sup>b/</sup>
Uruguay	0.04	7 600	-	-
Venezuela	0.51	96 900	-	-
Viet Nam	0.03	5 700	-	-
Yugoslavia	0.43	81 700	81 700	81 700
Zaire	0.02	3 800	-	-
Zambia	0.02	3 800	3 800	-
<b>TOTAL</b>	<b>100.00</b>	<b>19 000 000</b>	<b>17 615 572</b>	<b>12 376 506</b>

<sup>a/</sup> As recommended in General Conference resolutions GC(V)/RES/100 and GC(XV)/RES/286.

<sup>b/</sup> The amount shown in column (4) had been received in full by 31 March 1984.

A N N E X V

COST-FREE FELLOWSHIPS OFFERED AND AWARDED: 1983

Donor	Offered		Awarded <sup>a/</sup>	
	Number	Man-months	Number	Man-months
Argentina	6	72	4	71 <sup>b/</sup>
Austria	- <sup>c/</sup>	-	1	10
Belgium	10	60	1	12
Brazil	10	120	5	22
Bulgaria	2	12	-	-
Czechoslovakia	9 <sup>d/</sup>	-	1 <sup>e/</sup>	12
Denmark	5	60	-	-
France	-	50	5	39
Germany, F.R.	-	110	8	73
Hungary	4	48	10	73
India	10	-	5	45
Israel	-	45	1	12
Italy	25	200	8	70
Japan	5	45	3	33
Mexico	2	24	-	-
Netherlands	8	-	5	39
Pakistan	6	-	-	-
Philippines	3	-	-	-
Poland	10	-	4	12
Spain	5	60	4	14
Thailand	2	-	-	-
United Kingdom	- <sup>c/</sup>	-	6	57
United States of America	- <sup>c/</sup>	-	49	426
Yugoslavia	-	22	-	-

<sup>a/</sup> Awards less rejections and withdrawals as at 31 December 1983.

<sup>b/</sup> Includes 54 man-months for training course participants.

<sup>c/</sup> A specific amount of money was made available rather than a given number of fellowships.

<sup>d/</sup> Includes five long-term fellowships for up to 60 man-months each.

<sup>e/</sup> Includes one long-term award, initially for 12 man-months.

A N N E X V I

PROJECTS UNDER IMPLEMENTATION FOR UNDP  
(in thousands of dollars)

Recipient	Project title and code	Total amount approved	Approved budgets					
			Prior to 1983	1983	1984	1985	1986	1987
Argentina	Nuclear engineering, ARG/78/020	2373	1838	231	214	90	-	-
Bangladesh	Exploration for uranium and thorium, BGD/77/008	66	63	3	-	-	-	-
Brazil	Nuclear manpower qualification and training, BRA/76/003	2631	2629	2	-	-	-	-
Bulgaria	Development of a centre for the application of isotopes, BUL/77/013	466	465	1	-	-	-	-
Chile	Uranium prospection - Phase II, CHI/79/001	455	454	1	-	-	-	-
Colombia	Prospection for radioactive minerals, COL/76/031	1470	1449	21	-	-	-	-
Cuba	Introduction of nuclear techniques into the national economy, CUB/77/001	1579	1179	150	100	50	100	-
Ecuador	Uranium prospection in Ecuador, ECU/80/002	523	162	167	194	-	-	-
Egypt	National Centre for Radiation Technology - Phase II, EGY/78/011	693	450	84	159	-	-	-
Hungary	Establishment of an automated radiation laboratory, HUN/82/002	63	5	41	8	9	-	-
Indonesia	Application of isotopes and radiation to increasing agricultural production, INS/78/074	1560	210	450	393	255	193	59
Iran, I.R.	Pilot demonstration plant for radio-sterilization and other applications of radiation technology, IRA/82/003	1551	5	745	511	290	-	-
Madagascar	Uranium prospection and evaluation, MAG/77/012	1444	1409	35	-	-	-	-
Nigeria	Use of nuclear techniques in animal production, NIR/72/005	583	575	8	-	-	-	-

Recipient	Project title and code	Total amount approved	Approved budgets					
			Prior to 1983	1983	1984	1985	1986	1987
Peru	Nuclear energy, PER/81/004	1258	365	504	263	126	-	-
Philippines	Philippine nuclear power manpower development programme, PHI/80/007	1114	304	224	319	267	-	-
Poland	Applications of nuclear techniques, POL/83/001	8	-	5	3	-	-	-
Romania	Development of nuclear technology - Phase II, ROM/76/023	647	657	(10)	-	-	-	-
	Assistance for nuclear power stations, ROM/82/001	700	258	186	181	75	-	-
Senegal	Assistance to the Institute for the Application of Nuclear Techniques, SEN/77/005	260	160	80	20	-	-	-
Sri Lanka	Radioactive tracer techniques for the study of coastal sedimentology, SRL/77/014	189	178	11	-	-	-	-
Yugoslavia	Industrial application of high-energy ionizing radiation, YUG/78/007	169	165	4	-	-	-	-
	Establishment of a uranium analysis laboratory at Zirovski Vrh Mine, Slovenia, YUG/78/008	80	69	11	-	-	-	-
	Ecological laboratory with a mobile unit, YUG/79/006	53	52	1	-	-	-	-
	Industrial application of high-energy ionizing radiation, YUG/82/007	147	-	93	38	16	-	-
	Ljubljana Nuclear Training Centre, YUG/83/007	105	-	36	59	10	-	-
Zaire	Strengthening of infrastructure - Centre régional d'études nucléaires - Regional Centre for Nuclear Studies (CREN), Kinshasa, ZAI/76/004	580	527	53	-	-	-	-
Asia and the Pacific	Support for regional co-operation in the industrial application of isotopes and radiation technology, RAS/79/061	4256	2100	872	428	456	400	-
Interregional	Applications of modern techniques in physics to development, INT/81/T04 (UNFSSTD)	334	317	17	-	-	-	-

A N N E X VII

REGULAR AND SPECIAL PROGRAMME PROJECTS COMPLETED OR  
CANCELLED DURING 1983

A. Completed projects

Recipient	Project title and code	Year of approval	Assistance provided	
			Experts (man-months)	Equipment (\$)
Bangladesh	X-ray fluorescence, BGD/2/006	1980	2	44 500
	Nuclear raw materials prospection, BGD/3/004	1978, 1979	14	96 200
	Groundwater hydrology, BGD/8/003	1981	1	-
	Industrial radiography, BGD/8/005	1983	-	42 300
Bolivia	Reactor physics, BOL/1/006	1980	2	68 100
	Radiation protection, BOL/9/004	1979	3	42 900
Bulgaria	Microbiology, BUL/7/002	1980, 1981 1982, 1983	-	270 400
Burma	Nuclear physics, BUR/1/010	1982	-	84 400
	Radiotherapy, BUR/6/011	1981, 1982	-	41 700
	Medical application of radioisotopes, BUR/6/012	1982	-	13 200
	Radiobiochemistry, BUR/7/002	1974	9	14 300
Chile	Moessbauer spectrometry, CHI/1/012	1982	3.5	19 400
	Uranium ore processing, CHI/3/004	1978, 1979	4	80 500

Recipient	Project title and code	Year of approval	Assistance provided	
			Experts (man-months)	Equipment (\$)
Chile	Delayed-neutron techniques, CHI/3/007	1982	2.5	13 300
	Reactor noise study, CHI/4/009	1980	2	-
Colombia	Nuclear power planning, COL/0/006	1982	2	-
	Nuclear centre development, COL/0/007	1983	1	-
	Pilot-scale uranium extraction, COL/3/006	1982	2	-
Cuba	Production of labelled compounds, CUB/2/004	1982	-	61 800
	Industrial applications, CUB/8/006	1979	-	107 600
Cyprus	Nuclear techniques in agriculture, CYP/5/011	1980, 1981 1982	5.5	116 300
Czechoslovakia	Irradiation facility, CZE/4/002	1979, 1980 1981, 1982	-	104 800
Dem. P.R. Korea	Radiopharmaceuticals, DRK/2/002	1981, 1982	0.5	291 300
Egypt	Accelerator feasibility study, EGY/0/006	1982	2.5	-
	Nuclear power safety training, EGY/9/010	1980	2	44 600
Ghana	Radioisotopes in medicine, GHA/6/004	1974, 1977	10	79 000
Greece	Reactor safety, GRE/9/008	1977, 1978 1979, 1981 1982	17	-

Recipient	Project title and code	Year of approval	Assistance provided	
			Experts (man-months)	Equipment (\$)
Guatemala	Applied nuclear science, GUA/0/003	1978,1982	5.5	91 200
Indonesia	Laser instrumentation, INS/1/008	1977	2.5	16 600
	Radioisotopes in poultry nutrition, INS/5/017	1979	3.5	20 500
	Isotopes in hydrology, INS/8/009	1980	0.5	-
Iraq	Establishment of an entomology laboratory, IRQ/5/006	1982	1	-
Ivory Coast	Radioisotopes in agriculture, IVC/5/007	1978, 1979	5	36 300
Jordan	Nuclear science, JOR/1/002	1978, 1979 1980	8.5	219 800
	Radioisotopes in hydrology, JOR/8/002	1977, 1978	1	106 700
Kenya	Accelerator study, KEN/1/002	1983	0.5	-
	Development of vaccine for bilharzia, KEN/7/002	1980	-	27 500
Korea, R.	Nuclear power plant quality assurance training, ROK/4/011	1982	4	-
	Radioisotopes in agriculture, ROK/5/018	1980, 1981	12	144 500
	Reactor safety analysis (KAERI), ROK/9/020	1982	3	-
Lebanon	Nuclear analytical techniques, LEB/0/002	1982	0.5	31 000
Libyan A.J.	Nuclear raw materials, LIB/3/003	1979	9	23 700

Recipient	Project title and code	Year of approval	Assistance provided	
			Experts (man-months)	Equipment (\$)
Malaysia	Radioactive minerals survey, MAL/3/004	1982	2	37 000
	Radioisotopes in animal science, MAL/5/009	1981	1	39 700
Mexico	National nuclear power training, MEX/0/003	1981	1	-
	Production of radioimmunoassay kits, MEX/2/009,	1983	0.5	-
	Training in safety aspects of nuclear power plants, MEX/9/024	1982	3	-
Mongolia	Nuclear data, MON/1/002	1982	2	-
Morocco	Safety assessment of a research reactor site, MOR/4/006	1983	1	-
Nigeria	Nuclear raw materials, NIR/3/002	1982	2	-
Pakistan	Uranium ore processing, PAK/3/006	1978	3.5	71 600
	Radioisotopes in soil studies, PAK/5/016	1981	-	29 400
	Cobalt-60 teletherapy source, PAK/6/005	1980	-	35 800
	Radioimmunoassay, PAK/6/006	1981	4	20 400
Peru	Uranium processing techniques, PER/3/010	1982	5	5 900
Philippines	National nuclear manpower training, PHI/0/003	1981	8	50 000
	Production of radioimmunoassay kits, PHI/2/006	1981	3	5 100

Recipient	Project title and code	Year of approval	Assistance provided	
			Experts (man-months)	Equipment (\$)
Philippines	Establishment of an electron linear accelerator facility, PHI/4/014	1981	0.5	-
	Radioisotopes in agriculture, PHI/5/016	1981	1	35 900
Poland	Radioisotope techniques in environmental protection, POL/8/004	1982	1	18 200
Portugal	Actinide chemistry, POR/2/008	1982	-	57 100
	Uranium exploration (ENU), POR/3/005	1983	-	41 500
	Environmental radioactivity, POR/9/003	1980, 1981	1	28 600
Romania	Provision of enriched uranium dioxide, ROM/4/011	1983	-	65 800
Saudi Arabia	Nuclear energy planning, SAU/0/002	1978, 1979	3.5	5 700
Senegal	Isotopes in agriculture, SEN/5/014	1980, 1981 1982	1.5	89 700
Singapore	Environmental pollution study, SIN/8/007	1980, 1981 1983	-	78 400
	Neutron monitoring, SIN/9/011	1981	-	26 300
	Radiation protection training, SIN/9/013	1983	-	12 400
Sri Lanka	Nuclear electronics, SRL/4/006	1980	2.5	41 300
Sudan	Liquid nitrogen plant, SUD/1/003	1982	-	45 500
	Crop-water relations, SUD/5/015	1982	2	9 700

Recipient	Project title and code	Year of approval	Assistance provided	
			Experts (man-months)	Equipment (\$)
Sudan	Planning mission in radiation protection, SUD/9/003	1983	0.5	-
Thailand	Radioisotopes in animal science, THA/5/020	1978, 1981	3	107 100
	Plant mutation breeding, THA/5/023	1980	4.5	-
	Nuclear medicine, THA/6/015	1981	4	162 000
Turkey	Liquid nitrogen facility, TUR/1/014	1982	-	6 700
	Nuclear techniques in animal science, TUR/5/008	1979, 1980 1981	1	77 800
U.A. Emirates	Nuclear energy applications planning, UAE/0/003	1983	0.5	-
U.R. Cameroon	Raw materials analysis, CMR/3/005	1982	0.5	17 500
Uruguay	Nuclear research centre, URU/0/005	1980	-	22 400
	Nuclear research centre, URU/0/006	1981	2	71 400
	Dosimetry service, URU/6/006	1977	4	27 900
	Nuclear medicine, URU/6/014	1982	-	121 700
Viet Nam	Nuclear physics, VIE/1/003	1979	1.5	58 400
	Nuclear physics teaching, VIE/1/004	1980	2.5	101 300
	Nuclear physics (Hanoi Univ.), VIE/1/006	1982	1	26 900
	Nuclear electronics laboratory, VIE/4/002	1981	6.5	54 200

Recipient	Project title and code	Year of approval	Assistance provided	
			Experts (man-months)	Equipment (\$)
Viet Nam	Food irradiation, VIE/5/009	1982	1	-
	Nuclear medicine, VIE/6/010	1980	-	61 700
Yugoslavia	Replenishment of cobalt-60 source, YUG/4/016	1981	-	118 400
	Nuclear materials studies, YUG/4/019	1982	-	183 700
	Plant physiology, YUG/5/026	1983	-	14 200
	Environmental radioactivity monitoring, YUG/9/014	1983	-	2 600
	Radioecology of the Danube River, YUG/9/017	1983	-	27 700
Zaire	Radiopharmaceuticals, ZAI/6/003	1978	2	28 600
Zambia	Nuclear physics, ZAM/0/004	1980, 1982	13	43 300
	Training in uranium exploration, ZAM/3/004	1983	-	12 300

B. Cancelled projects

Recipient	Project title and code	Year of approval	Assistance provided	
			Experts (man-months)	Equipment (\$)
Brazil	Development of in-pile irradiation loops, BRA/4/032	1982	3	-
	Determination of reactor operational parameters, BRA/4/033	1982	4	2 000

A N N E X   V I I I

FOOTNOTE-a/ PROJECTS MADE OPERATIONAL OR EXTENDED DURING 1983

Recipient	Project title and code	Experts		Equipment	
		Man-months	Source <sup>a/</sup>	\$	Source <sup>a/</sup>
Bangladesh	Neutron dosimetry, BGD/1/007	1	UK	30 000	UK
	Food irradiation, BGD/5/010	2	USA	25 000	USA
Bolivia	Nuclear centre infrastructure, BOL/0/005	3	USA	40 000	USA
	Computer gamma camera studies, BOL/6/012	3	USA	12 000	USA
Brazil	Plant mutation breeding, BRA/5/013	4	GFR	18 000	GFR
	Radioisotopes in medicine, BRA/6/010	12	GFR	100 000	GFR
Ecuador	Nuclear techniques in animal health and production, ECU/5/007	6	USA	20 000	USA
Egypt	Manpower development: safety analysis review and evaluation, EGY/4/018	21	GFR	-	-
	Manpower development: operations and maintenance training, EGY/4/019	2	UK	-	-
	Manpower development: project management, EGY/4/020	4	USA	-	-

Recipient	Project title and code	Experts		Equipment	
		Man-months	Source <sup>a/</sup>	\$	Source <sup>a/</sup>
	Manpower development: technician training, EGY/4/021	2	UK	-	-
	Manpower development: quality assurance and quality control, EGY/4/022	1	UK	-	-
	Intracavitary radiation therapy for cancer, EGY/6/004	9	ITA	148 800	ITA
Ghana	Eradication of riverine tsetse fly, GHA/5/011	3	UK	16 000	UK
Greece	Neutron activation in multi- element analysis, GRE/1/031	-	-	25 000	USA
Indonesia	Use of neutron beam in materials research, INS/1/014	14	GFR	-	-
	Radioimmunoassay services, INS/6/003	4	GFR	35 000	GFR
	Groundwater hydrology, INS/8/011	5	UK	125 000	UK
Korea, R.	Standardization of neutron measurements, ROK/1/007	1	USA	40 000	USA
	Uranium ore analysis, ROK/3/004	1	GFR	26 000	GFR
	Pesticide residues, ROK/5/021	3	USA	35 000	USA
	Postgraduate training in radiation safety, ROK/9/024	-	-	36 000	GFR

Recipient	Project title and code	Experts		Equipment	
		Man-months	Source <sup>a/</sup>	\$	Source <sup>a/</sup>
Malaysia	Neutron activation analysis <sup>c/</sup> , MAL/1/005	6 <u>b/</u>	JPN	-	-
	Fast neutron activation analysis, MAL/1/006	-	-	35 000	USA
	Food preservation <sup>c/</sup> , MAL/5/011	4 <u>b/</u>	JPN	-	-
	Radioisotopes in bio-chemistry <sup>c/</sup> , MAL/6/010	2 <u>b/</u>	JPN	-	-
Mali	Radioisotopes in agro-meteorology, MLI/5/007	-	-	10 000	USA
	Mutation breeding of rice and fonio, MLI/5/008	-	-	45 000	USA
Mexico	Use of radiation in food preservation, MEX/5/011	2	USA	-	-
Morocco	Training and research in nuclear science, MOR/1/006	2	USA	25 000	USA
Panama	Genetic improvement of bananas, plantains and sugar-cane, PAN/5/004	3	USA	82 000	USA
Peru	Development of nuclear research centre <sup>c/</sup> , PER/0/011	3	USA	110 000	USA
	Nuclear analytical services, PER/1/007	4	FIN	76 469	FIN
	Nuclear electronics, PER/4/007	2	GFR	40 000	GFR
	Medfly control, PER/5/012	18	ITA	181 200	ITA

Recipient	Project title and code	Experts		Equipment	
		Man-months	Source <sup>a/</sup>	\$	Source <sup>a/</sup>
Philippines	Nuclear medicine (cardiac function study), PHI/6/014	-	-	48 000	USA
	Nuclear licensing and regulation, PHI/9/013	6	USA	-	-
Poland	Radiochemical laboratory <sup>c/</sup> , POL/2/009	1	TACF	20 000	TACF
Portugal	Accelerator utilization, POR/1/003	-	-	91 000	USA
	Actinide chemistry, POR/2/009	-	-	60 000	USA
	Low-level radioactivity measurements, POR/8/003	-	-	45 000	USA
Romania	Nuclear medicine, ROM/6/008	-	-	12 000	USA
Sri Lanka	Nuclear techniques in industry, SRL/1/004	1	USA	57 000	USA
	Radiation processing/ vulcanization of natural rubber latex, SRL/8/010	2	USA	65 000	USA
Thailand	Nuclear electronics training laboratory, THA/4/009	6	USA	51 000	USA
	Fish production and preservation, THA/5/027	4	USA	15 000	USA
	Nuclear medicine, THA/6/016	6	USA	125 000	USA
Tunisia	Studies of plant water use in arid and semi-arid regions, TUN/5/006	2	TACF	20 000	TACF

Recipient	Project title and code	Experts		Equipment	
		Man-months	Source <sup>a/</sup>	\$	Source <sup>a/</sup>
Uruguay	Nuclear medicine, URU/6/015	-	-	60 000	USA
Venezuela	Calculation of isodose curves for radiotherapy, VEN/6/002	-	-	30 000	USA
Yugoslavia	Plant breeding, YUG/5/027	3	USA	60 000	USA
	Computational reactor safety evaluation I, YUG/9/015	-	-	107 000	GFR
Zaire	Industrial applications of nuclear techniques, ZAI/8/007	3	USA	32 000	USA

a/ Explanation of abbreviations: FIN = Finland, GFR = Federal Republic of Germany, ITA = Italy, JPN = Japan, TACF = Technical Assistance and Co-operation Fund, UK = United Kingdom, USA = United States of America.

b/ In-kind contribution.

c/ Project approved prior to 1983 and not included in 1983 programme.

A N N E X I X

APPROVALS AGAINST THE RESERVE FUND IN 1983

A. New projects

Recipient	Project title and number	Experts m/m	Equipment \$	Total \$
Bangladesh	Database development, BGD/0/003	1/00	-	6 200
Bulgaria	Computational safety analysis, BUL/9/007	3/14	15 000	25 000
Chile	Waste management, CHI/9/010	1/00	-	6 200
Colombia	Nuclear centre development, COL/0/007	1/00	-	5 500
Costa Rica	Nuclear medicine, COS/6/008	4/00	-	24 800
	Radiation protection, COS/9/003	1/00	-	6 200
Egypt	Medfly control (TCDC), EGY/5/014	-	25 000 <sup>a/</sup>	25 000
Guatemala	Uranium prospection, GUA/3/003	1/00	15 000	21 200
	Preparation and control of radiopharmaceuticals, GUA/6/006	1/00	17 000	23 200
Iran, I.R.	Nuclear techniques in hydrology, IRA/8/007	2/15	-	24 200
	Radiation protection, IRA/9/007	2/00	-	12 400
Jordan	Energy planning, JOR/0/003	4/00	-	24 800
Libyan A.J.	Siting of nuclear power plant, LIB/9/005	2/00	1 000	13 400
Morocco	Safety assessment of a research reactor site, MOR/4/006	2/00	-	12 400
Pakistan	Irradiation facility, PAK/5/020	-	12 500 <sup>b/</sup>	12 500
Peru	Nuclear power planning, PER/4/008	4/00	-	24 800
Sudan	Planning mission in radiation protection, SUD/9/003	/18	-	2 700
Tunisia	Neutron generator laboratory, TUN/1/006	/15	-	3 100

Recipient	Project title and number	Experts m/m	Equipment \$	Total \$
Regional Latin America	Nuclear science development, RLA/1/004	/24	17 400 <sup>a/</sup>	22 400
Inter- regional	Air pollution control, INT/9/047	-	25 000	25 000
	Sub-total	31/26	127 900	321 000

8. Supplementary assistance to existing projects

Cuba	Radioisotopes in industry, CUB/8/005	-	25 000	25 000
Iran, I.R.	Maintenance of radioisotope production capability, IRA/2/004	-	4 000	4 000
	Sub-total	-	29 000	29 000
	TOTAL	31/26	156 900	350 000

<sup>a/</sup> Assistance provided in the form of fellowships.

<sup>b/</sup> Assistance being provided under a sub-contract.

A N N E X X  
CHANGES TO APPROVED PROJECTS

Recipient	Project title and code	Existing approval 1 January 1983		Project changes in 1983	
		Experts (man-months/days)	Equipment (\$)	Experts <sup>a</sup> / (man-months/days)	Equipment (\$)
Afghanistan	Nuclear science, AFG/1/004	29/00	71 800 138 000 NCC <sup>b</sup> /	6/00	10 600 (2 599) NCC
Albania	Applied nuclear techniques and documentation, ALB/0/002	2/00	160 000 40 000 NCC	-	35 000 -
	Nuclear analytical laboratory, ALB/2/005	3/00	65 000	(0/28)	-
	Nuclear electronics, ALB/4/003	1/00	60 000	(1/00)	-
	Irradiation research facility, ALB/8/003	3/00	35 000 100 000 NCC	(3/00)	- 4 000 NCC
Bangladesh	X-ray fluorescence, BGD/2/006	2/00	42 500	-	500
	Nuclear raw materials prospection, BGD/3/004	15/00	97 000	(1/00)	-
	Nuclear materials prospection, BGD/3/005	9/00	42 000	1/00	-
	Nuclear medicine, BGD/6/006	3/00	18 000 20 000 NCC	-	2 500 -
	Nuclear medicine, BGD/6/007	3/00	10 000	-	14 500
	Sterilization of pharmaceuticals, BGD/7/003	2/00	24 000	-	(2 000)
	Industrial radiography, BGD/8/005	-	55 000	-	(12 000)
Bolivia	Nuclear centre infrastructure, BOL/0/005	3/00	40 000	-	50 000
	X-ray fluorescence, BOL/2/008	2/00	42 000 60 000 NCC	-	7 000 1 000 NCC
	Quality control of radiopharmaceuticals, BOL/2/009	3/00	21 400	0/03	14 000
	Uranium prospection, BOL/3/008	21/00	70 500	(10/23)	-
	Radioisotopes in agriculture, BOL/5/004	10/00	40 800 40 000 NCC	(4/15)	41 700 -
	Radiopharmaceuticals, BOL/6/010	0/05	28 100 60 500 NCC	-	8 500 (5 000) NCC
Brazil	Uranium resources, BRA/3/010	5/00	50 000	(1/00)	6 200
	Radiation defects in ferro-electric materials, BRA/4/029	12/00	7 500	-	3 000
	Agricultural research and development, BRA/5/009	44/00 17/00 FITC <sup>c</sup> /	103 000 8 000 NCC	12/00	- -
	Nuclear power programme, BRA/9/016	12/00	-	(5/00)	-
	Fuel cycle safety analysis, BRA/9/018	3/00	-	(1/00)	-
	Incorporation of radioactive substances, BRA/9/020	3/00	-	1/00	-

Recipient	Project title and code	Existing approval 1 January 1983		Project changes in 1983	
		Experts (man-months/days)	Equipment (\$)	Experts <sup>a</sup> / (man-months/days)	Equipment (\$)
Bulgaria	Research reactor modernization, BUL/4/002	9/00	150 000 1 000 000 NCC	(3/00)	- -
Burma	Radioisotopes in agriculture, BUR/5/005	6/00	90 000	-	(15 000)
	Nuclear medicine, BUR/6/013	-	30 000	-	15 000
Chile	Uranium ore processing, CHI/3/004	3/07	81 000	0/15	-
	Irradiation and testing of reactor materials, CHI/4/010	12/00	-	(6/00)	-
Colombia	Studies on nitrogen fertilizer use efficiency, COL/5/007	6/00	30 000 5 000 NCC	-	21 000 -
	Isotopes in hydrology, COL/8/010	3/00	176 000	2/00	(2 000)
Costa Rica	Cryogenic service, COS/1/006	-	5 000 60 000 NCC	-	4 000 2 000 NCC
Cuba	Ionizing radiation metrology, CUB/1/004	-	100 000	-	17 000
	Moessbauer spectrometry, CUB/4/007	-	71 000 162 000 NCC	-	3 000 -
	Industrial applications, CUB/8/006	-	6 000 105 000 NCC	-	- 7 513 NCC
	Isotopes in hydrology, CUB/8/007	3/00	40 000	-	2 000
	Environmental contamination, CUB/9/005	-	125 000 30 000 NCC	-	13 700 (13 700) NCC
Cyprus	Use of radioisotopes in insect toxicology, CYP/5/012	2/00	82 000	(1/23)	-
	Nuclear techniques in animal production, CYP/5/013	1/00	-	-	10 000
Dem. P.R. Korea	Radiopharmaceuticals, DRK/2/002	0/15	149 900 143 500 NCC	-	10 000 (7 600) NCC
Dominican Republic	Nuclear science laboratory, DOM/0/002	15/00	205 000 30 000 NCC	(6/00)	- -
	Moessbauer spectrometry, DOM/1/003	6/00	55 000	-	3 000
Ecuador	Secondary standards dosimetry laboratory, ECU/1/003	19/00	198 000	(1/00)	6 000
	Nuclear techniques in animal health and production, ECU/5/006	12/00	20 000	-	9 200
	Nuclear medicine, ECU/6/007	4/00	18 000 27 700 NCC	1/00	-
	Radiation technology, ECU/8/005	6/06	25 000 980 000 NCC	-	- (70 000) NCC

Recipient	Project title and code	Existing approval 1 January 1983		Project changes in 1983	
		Experts (man-months/days)	Equipment (\$)	Experts <sup>a/</sup> (man-months/days)	Equipment (\$)
Egypt	Accelerator modernization and use EGY/0/005	0/16	45 000	-	3 957
	Accelerator feasibility study, EGY/0/006	2/00	-	1/00	-
	Neutron spectrometry, EGY/1/013	3/00	5 000 50 000 NCC	(2/00)	41 600 -
	Radiopharmaceuticals, EGY/6/003	2/00	42 000	-	2 500
	Nuclear power safety training, EGY/9/010	10/15	11 300	(9/00)	35 000 <sup>d/</sup>
Greece	Neutron activation in multi-element analysis, GRE/1/031	-	25 000	-	5 000
	Radiopharmaceuticals, GRE/2/015	0/10	89 000 105 000 NCC	-	13 000 -
	Production of labelled organic compounds, GRE/2/016	1/00	30 000 10 000 NCC	-	(10 000) -
	Nuclear raw materials, GRE/3/006	21/00	100 000	(10/00)	-
	Reactor safety, GRE/9/008	19/05	-	(2/00)	-
	Environmental radioactivity, GRE/9/011	-	131 600	1/00	(36 200)
Guatemala	Applied nuclear science, GUA/0/003	9/00	79 800 10 000 NCC	-	2 000 -
	Preparation and control of radio- pharmaceuticals, GUA/6/006	1/00 <sup>e/</sup>	17 000 <sup>e/</sup>	-	2 500
Hungary	Cyclotron laboratory, HUN/4/004	5/00	1 000 2 087 254 NCC	(0/20)	4 000 -
	Agricultural residue studies, HUN/5/011	0/15	37 300	(0/15)	13 700
	Computational safety analysis, HUN/9/007	-	15 000	3/00	-
Indonesia	Uranium ore processing, INS/3/007	6/00	70 500	1/00	-
Jamaica	Applied radiochemistry, JAM/2/003	14/00	145 400	(0/24)	-
	Research reactor centre, JAM/4/002	6/00	50 000 25 000 NCC	(0/21)	36 700 (25 000) NCC
Jordan	Isotopes in hydrology, JOR/8/003	1/00	30 000	1/00	5 000
Kenya	Nuclear science laboratory, KEN/0/003	42/00	199 000 15 000 NCC	2/00	- -
	Accelerator study, KEN/1/002	2/00	-	(1/15)	-
	Radioisotopes in agriculture, KEN/5/008	9/00	41 000	-	8 000
	Non-destructive testing, KEN/8/004	6/00	51 000	-	8 000
	Radiation protection, KEN/9/003	6/00	78 000	-	5 000

Recipient	Project title and code	Existing approval 1 January 1983		Project changes in 1983	
		Experts (man-months/days)	Equipment (\$)	Experts <sup>a/</sup> (man-months/days)	Equipment (\$)
Korea, R.	Secondary standards dosimetry laboratory, ROK/1/006	6/00	60 000	(5/00)	27 000
	Nuclear power plant quality assurance training (ROK/4/011)	5/00	-	(4/00)	-
	Soil-water relationship studies, ROK/5/019	6/00	11 000	0/06	-
	Nuclear power plant safety, ROK/9/013	16/00	30 000	6/15	-
	Postgraduate training in radiation safety, ROK/9/024	-	36 000	-	4 000
Lebanon	Nuclear analytical techniques, LEB/0/002	1/00	30 000	(0/27)	-
	Nuclear analytical centre, LEB/0/003	13/00	225 000 60 000 NCC	-	- 3 000 NCC
Libyan A.J.	Nuclear raw materials, LIB/3/004	6/00	17 000	0/15	-
	Radioisotopes in agriculture, LIB/5/002	2/00	68 482 9 000 NCC	(2/00)	- -
	Radiation protection, LIB/9/004	6/00	25 000	9/00	-
Madagascar	Nuclear physics, MAG/1/004	15/00	73 400	(4/00)	30 400
Malaysia	Radioisotopes in animal science, MAL/5/005	6/00	30 000	(2/19)	26 500
	Radioisotopes in agriculture, MAL/5/006	7/00	15 000	(1/23)	-
	Radioisotopes in animal science, MAL/5/009	1/01	33 000 7 000 NCC	-	3 000 (2 500) NCC
	Radioisotopes in microbiology, MAL/7/002	6/00	-	0/07	-
	Nuclear applications in industry, MAL/8/003	4/00	65 600	(3/23)	21 940
Mali	Uranium analysis laboratory, MLI/3/004	4/00	15 000	(2/00)	9 600
Mauritius	Studies on soil moisture and fertilizer use efficiency, MAR/5/004	2/00	25 000	2/00	5 000
Mexico	Nuclear power plant safety evaluation, MEX/9/020	35/00	-	(4/00)	21 600
Mongolia	Application of nuclear technology, MON/0/002	6/00	193 000 42 000 NCC	-	(9 000) 9 000 NCC
	Plant mutation breeding, MON/5/002	6/00	32 000 61 000 NCC	-	3 000 (3 000) NCC
Morocco	Radioisotopes in agriculture, MOR/5/013	16/00	27 000 75 000 NCC	-	4 000 -

Recipient	Project title and code	Existing approval 1 January 1983		Project changes in 1983	
		Experts (man-months/days)	Equipment (\$)	Experts <sup>a</sup> / (man-months/days)	Equipment (\$)
Niger	Radioisotope laboratory, NER/0/003	12/00	22 300	1/00	-
Paraguay	Radioimmunoassay, PAR/6/004	6/00	49 000	2/00	-
	Isotopes in hydrology, PAR/8/003	3/00	10 000	(2/00)	-
Peru	Nuclear research centre, PER/0/007	3/00	46 600	-	2 000
	Nuclear research centre, PER/0/008	2/00	67 000 78 000 NCC	-	4 500 11 000 NCC
	Nuclear science training, PER/0/009	4/00	40 000	(1/00)	6 000
	Nuclear sciences, PER/0/010	9/15	183 835	2/15	-
	Activation analysis, PER/1/004	6/00	100 000	(1/00)	6 000
	Reactor physics, PER/1/005	6/00	30 000 10 000 NCC	-	- 10 000 NCC
	Secondary standards dosimetry laboratory, PER/1/006	-	48 000	0/15	-
	Nuclear analytical services, PER/1/007	4/00	90 000	(2/15)	13 530
	Medfly control, PER/5/012	32/00	397 200	8/00	-
	Nuclear medicine, PER/6/004	6/00	30 000	(1/00)	-
Philippines	Pesticide residues, PHI/5/017	4/00	50 000	-	5 000
	Nuclear medicine (Rizal Hospital), PHI/6/013	-	38 000 19 000 NCC	-	2 500 -
Poland	Radiochemical laboratory, POL/2/009	1/00	20 000	0/15	(3 100)
	Electron beam radiation processing, POL/4/003	3/00	100 000 1 033 000 NCC	(0/26)	- (200 000) NCC
	Monitoring of radioactivity in the Baltic Sea, POL/9/006	1/00	28 500	(0/18)	2 000
Portugal	Uranium ore processing, POR/3/006	1/00	65 000	-	(10 000)
	Irradiation facility, POR/8/002	4/00	170 000 800 000 NCC	(1/00)	- 3 500 NCC
Romania	Nuclear physics, ROM/1/003	7/00	269 400	(0/29)	-
	Applied actinide research, ROM/1/005	3/00	540 000	(0/25)	26 000
	Nuclear materials research, ROM/4/009	1/00	136 800	(1/00)	-
	Provision of enriched uranium dioxide, ROM/4/011	-	75 000 NCC	-	(5 000) NCC
Sierra Leone	Radioisotopes in medicine, SIL/6/003	12/00	51 000 39 500 NCC	12/00	- -
Singapore	Radioisotopes in hydrology, SIN/8/008	13/00	80 000	(2/00)	12 400

Recipient	Project title and code	Existing approval 1 January 1983		Project changes in 1983	
		Experts (man-months/days)	Equipment (\$)	Experts <sup>a/</sup> (man-months/days)	Equipment (\$)
Sri Lanka	Nuclear science training, SRL/0/002	4/00	10 000 20 000 NCC	-	25 000 (20 000) NCC
	Nuclear raw materials, SRL/3/004	3/00	10 000	-	5 000
	Radioisotopes in hydrology, SRL/8/007	4/00	23 000	-	3 000
	Non-destructive testing, SRL/8/008	3/00	40 000	1/00	-
Sudan	Radioisotopes in animal science, SUD/5/007	12/00	37 500 82 200 FIT	(3/00)	25 000 -
	Isotopes in animal science, SUD/5/013	4/00	20 200	(1/29)	11 420
	Nuclear medicine, SUD/6/009	1/00	25 000	1/15	-
Thailand	Radioisotope production facility, THA/4/008	11/00	30 000 75 000 NCC 433 800 FIT	-	30 000 (30 000) NCC -
	Radioisotopes in agriculture, THA/5/026	3/00	25 000	(1/00)	-
Tunisia	Radioisotopes in industry, TUN/8/007	19/00	192 500 65 000 NCC	2/00	3 000 -
Turkey	Secondary standards dosimetry laboratory, TUR/1/011	3/00	160 000	-	5 000
	Nuclear techniques in animal science, TUR/5/010	8/10	60 600	(1/15)	23 400
	Nuclear power programme, TUR/9/005	19/00	61 000	(3/00)	43 000 <sup>£/</sup>
U.R. Cameroon	Raw materials analysis, CMR/3/005	1/00	20 000	-	(3 000)
	Nuclear analytical laboratory, CMR/3/006	6/00	-	-	3 000
U.R. Tanzania	Nuclear physics, URT/1/003	8/11	100 600 37 000 NCC	-	12 000 -
	Radioisotopes in agriculture, URT/5/004	13/00	52 000 53 000 NCC	-	6 000 -
	Sediment dynamics, URT/8/005	2/00	10 000	-	15 000
Uruguay	Uranium prospection, URU/3/007	8/00	47 500 5 591 FIT	-	9 000
	Isotopes in agriculture, URU/5/012	3/00	18 400 30 000 NCC	-	18 000 -
	Radioisotopes in animal science, URU/5/013	13/00	92 000	(3/00)	-
	Whole-body counting system, URU/6/009	1/00	20 000	(1/00)	-

Recipient	Project title and code	Existing approval 1 January 1983		Project changes in 1983	
		Experts (man-months/days)	Equipment (\$)	Experts <sup>a/</sup> (man-months/days)	Equipment (\$)
Viet Nam	Nuclear physics teaching, VIE/1/004	2/00	39 000 60 000 NCC	-	2 500 -
	Nuclear fuel for research reactor, VIE/4/004	-	680 000 NCC	-	(80 000) NCC <sup>g/</sup>
	Plant mutation breeding, VIE/5/008	2/00	89 500 81 600 NCC	-	(4 300) -
	Radiation monitoring, VIE/9/003	2/15	76 350 21 750 NCC	-	7 800 -
Yugoslavia	Research reactor modernization, YUG/4/014	5/07	6 000 <sup>d/</sup> 1 350 000 NCC	-	3 500 (3 500) NCC
	Replenishment of cobalt-60 source, YUG/4/016	-	110 500 NCC	-	8 000 NCC
	Nuclear materials studies, YUG/4/019	-	144 000	-	40 000
	Reactor metallurgy, YUG/4/020	1/00	47 000	-	6 000
	Nuclear power safety, YUG/9/010	18/00	28 800 <sup>d/</sup>	(0/29)	30 000 <sup>f/</sup>
	Radioecology, YUG/9/011	1/00	70 000	-	4 000
Zaire	Computing facility, ZAI/0/004	1/00	62 200	(0/12)	1 920
	Neutron activation, ZAI/2/007	12/00	46 000	(2/29)	14 240
	Health physics, ZAI/9/002	3/15	-	(2/09)	-
	Radioactivity monitoring, ZAI/9/003	1/00	50 000	-	2 000
Zambia	Nuclear analytical laboratory, ZAM/0/005	14/00	262 500 91 000 NCC	-	- 2 500 NCC
	Isotopes in agriculture, ZAM/5/005	6/00	25 000	-	2 500
	Tsetse fly control, ZAM/5/009	8/00	133 513	-	(1 013)
Regional Asia and the Pacific	Radioisotopes in industry, RAS/8/011	33/00	-	10/15	19 000
Regional Latin America	Non-destructive testing in Latin America, RLA/8/005	19/00	65 000	11/10	(23 700)
Sub-totals		1 056/18	9 908 680	(35/06)	968 294
		-	10 295 304 NCC	-	(406 386) NCC
		17/00 FIT	521 591 FIT	-	-
TOTAL		1 073/18	20 725 575	(35/06)	561 908

<sup>a/</sup> Numbers in parentheses denote reductions - for example: (0/15) = minus 15 man-days and (4/00) = minus four man-months.

<sup>b/</sup> NCC denotes selected non-convertible currencies.

<sup>c/</sup> FIT denotes funds in trust - that is, assistance provided from funds made available by Member States to finance assistance for themselves.

<sup>d/</sup> Sub-contract.

<sup>e/</sup> Approved under the Reserve Fund during 1983.

<sup>f/</sup> Includes sub-contract component.

<sup>g/</sup> Future year component rephased to 1983 with resulting decrease.



