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INTERNATIONAL ATOMIC ENERGY AGENCY

IAEA-CPS-92/22
20 November 1992
Original: ENGLISH

COUNTRY PROGRAMME SUMMARY

THE AGENCY'S TECHNICAL CO-OPERATION

PROGRAMME WITH

SIERRA LEONE

1982 - 1992

COUNTRY PROGRAMME SUMMARIES

DEPARTMENT OF TECHNICAL CO-OPERATION

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SIERRA LEONE

1982 - 1992

COUNTRY PROGRAMME SUMMARIES

EVALUATION SECTION
DEPARTMENT OF TECHNICAL CO-OPERATION

**THE AGENCY'S TECHNICAL CO-OPERATION
PROGRAMME WITH
SIERRA LEONE
1982 - 1992
COUNTRY PROGRAMME SUMMARIES**

This report contains a review of the Agency's technical co-operation activities in Sierra Leone carried out during 1982 - 1992. In terms of coverage and analytical depth, country programme summaries stand somewhere midway between in-depth country programme evaluations and individual project evaluations. They attempt to provide a comprehensive, descriptive picture of the Agency's co-operation with a Member State in a manner that will be particularly useful for programming decisions. The attempt is very much to describe -- largely through statistical data -- not to provide independent analysis and evaluation.

SIERRA LEONE

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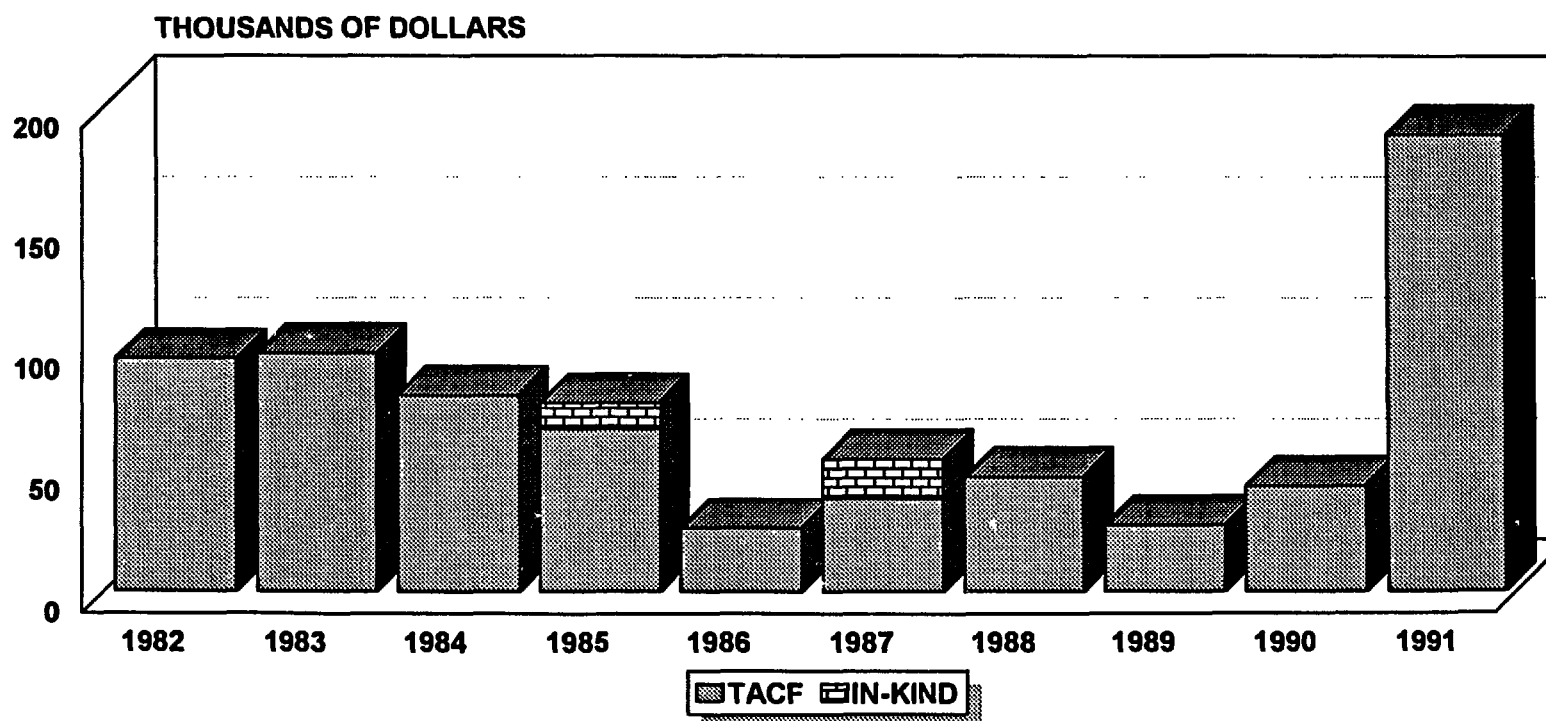
INTRODUCTION

The country programme summary reported on here is one in the series of such studies being undertaken of the Agency's TC programme with Member States. With over \$1.1 million of Agency support received, Sierra Leone ranks 70th among all recipients of technical assistance in the period 1958 through 1991.

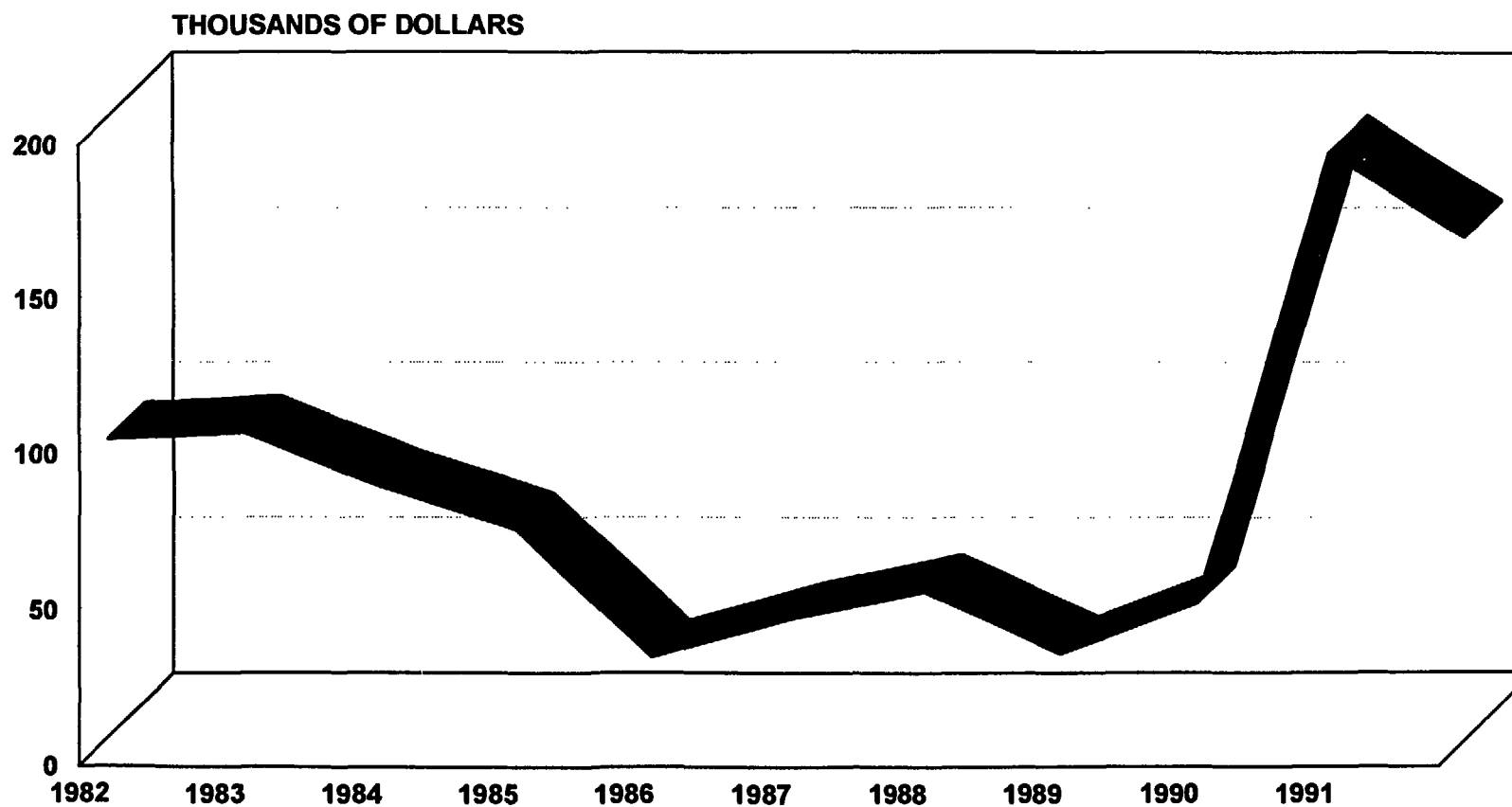
Almost equal shares of the assistance during the past ten years have been provided in the form of equipment (40%) and expert services (37%), while the share of the training component was 23%. The best part of the resources was provided by the Technical Assistance and Co-operation Fund (96%), the remaining 4% was made available through assistance in kind.

During the past ten years, project activities -- and disbursements -- have concentrated exclusively on three major areas: nuclear medicine (52%), general atomic energy development (25%) and agriculture (23%).

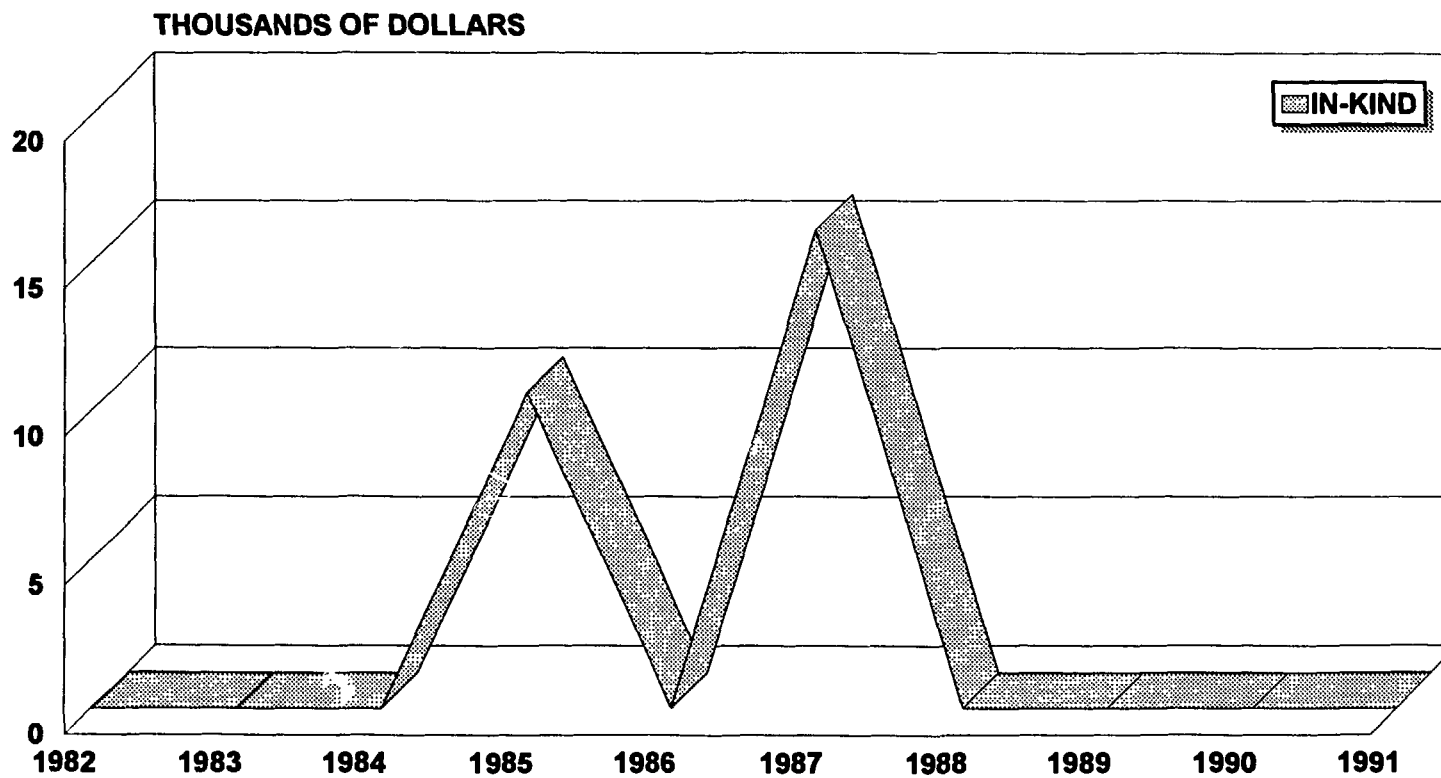
ASSISTANCE PROVIDED BY THE AGENCY TO SIERRA LEONE BY SOURCE (1982 - 1991)



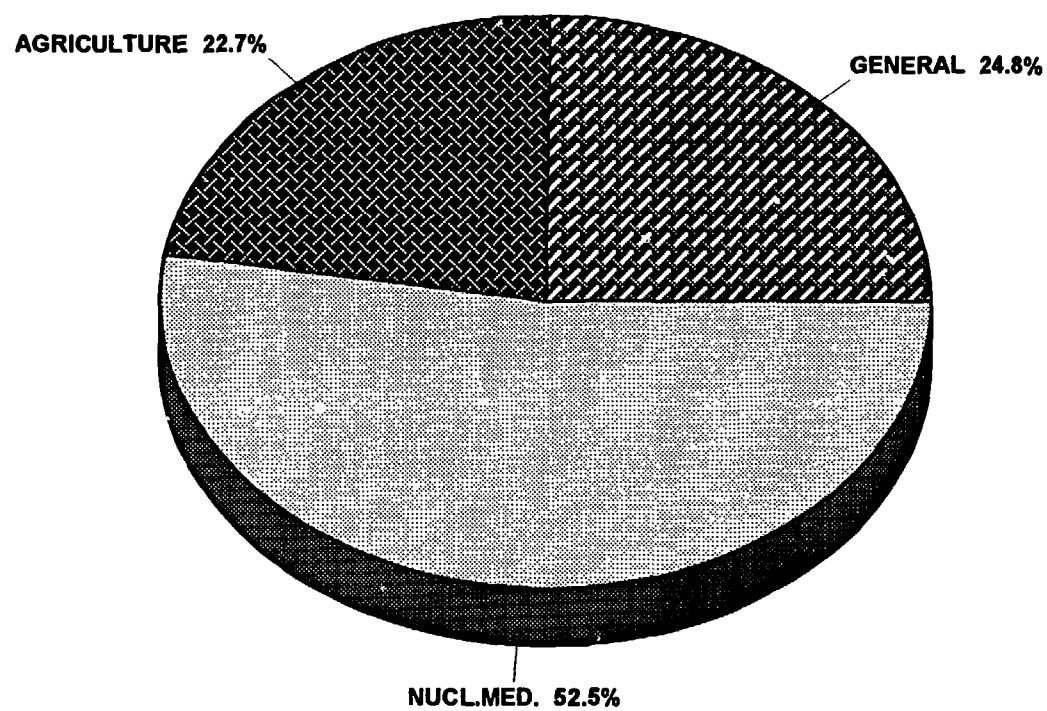
TACF ASSISTANCE PROVIDED TO SIERRA LEONE (1982 - 1991)



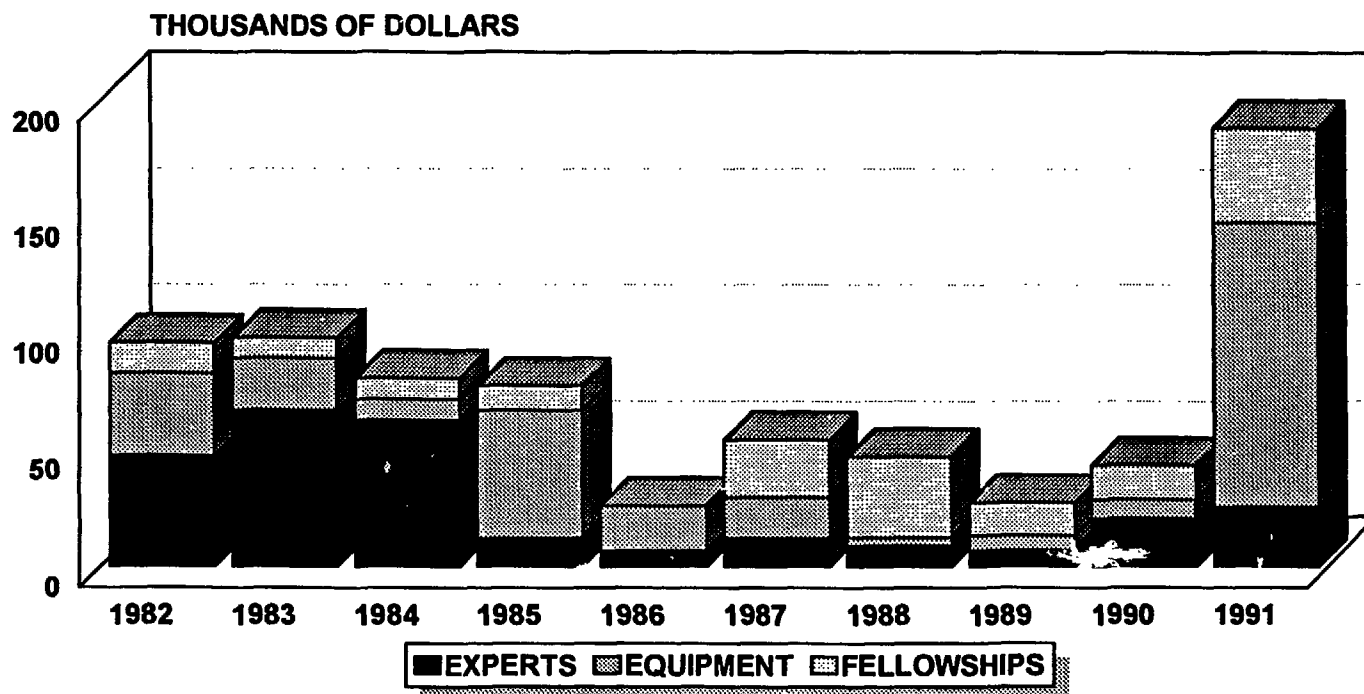
IN-KIND ASSISTANCE PROVIDED TO SIERRA LEONE (1982 - 1991)



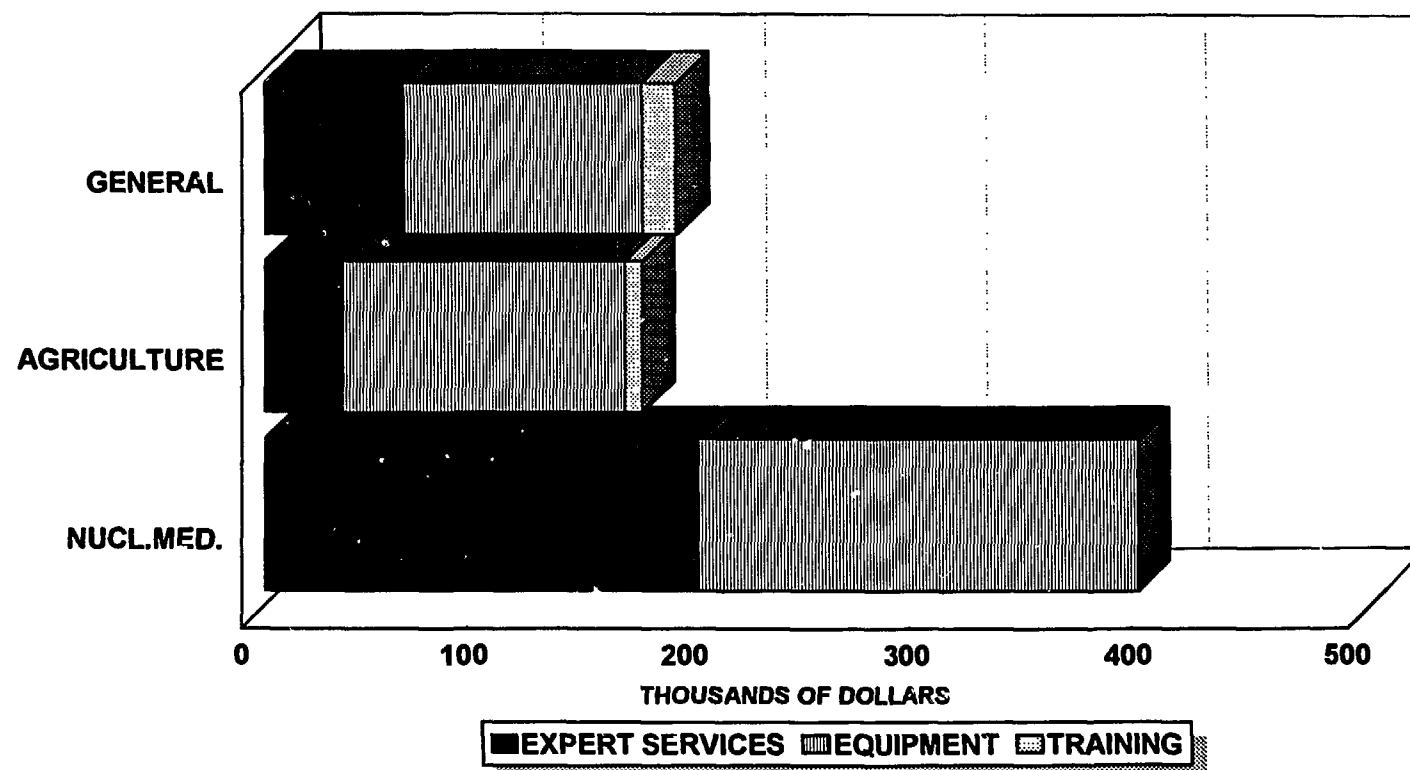
TC PROJECT DISBURSEMENTS IN SIERRA LEONE BY SECTOR (1982 - 1992)



ASSISTANCE PROVIDED BY THE AGENCY TO SIERRA LEONE BY TYPE (1982 - 1991)



EXPERT SERVICES, EQUIPMENT AND PROJECT-FUNDED TRAINING PROVIDED TO SIERRA LEONE BY SECTOR (1982 - 1991)



THE AGENCY'S TECHNICAL CO-OPERATION PROGRAMME WITH SIERRA LEONE

ALL SOURCES

SIERRA LEONE'S RANKING AS A TC RECIPIENT
1958 - 1991
(in \$1000)

YEAR	RANKING	AMOUNT
1958-81	62 nd	400.2
1982	53 rd	95.8
1983	58 th	98.0
1984	62 nd	80.5
1985	63 rd	77.4
1986	73 rd	26.0
1987	69 th	54.3
1988	70 th	47.0
1989	75 th	27.3
1990	76 th	43.3
1991	57 th	188.5
1958-91	70 th	1138.4

TOP FIVE RECIPIENTS OF AGENCY ASSISTANCE
1958 - 1991 (in \$1000)

ALL SOURCES

Year	I	II	III	IV	V	SIERRA LEONE
1958-81	BRA 7907.9	IND 6670.7	ARG 5200.4	PAK 5091.2	CHI 5005.7	62 nd - 400.2
1982	EGY 807.5	PER 746.4	CUB 715.7	COL 667.7	THA 654.3	53 rd - 95.8
1983	EGY 2077.9	PER 1116.8	VIE 948.1	PHI 778.6	IRA 722.1	58 th - 98.0
1984	EGY 3625.9	PER 1750.4	THA 1094.6	CUB 1028.7	PHI 881.2	62 nd - 80.6
1985	EGY 2494.8	PER 1120.7	THA 1117.4	BGD 1068.2	PHI 963.7	63 rd - 77.4
1986	EGY 2317.0	BRA 1452.9	THA 1169.4	POL 1050.3	BGD 896.4	73 rd - 26.0
1987	HUN 3452.6	EGY 1775.4	THA 1742.4	INS 1312.5	YUG 1223.2	69 th - 54.3
1988	EGY 1486.9	BUL 1361.6	CPR 1278.5	THA 1158.7	BRA 1096.7	70 th - 47.0
1989	CPR 1542.3	EGY 1505.1	THA 1205.3	BRA 1096.5	INS 999.1	75 th - 27.3
1990	POL 2308.1	CPR 2005.0	VIE 1589.2	INS 1412.6	BRA 1229.1	76 th - 43.3
1991	INS 1305.2	CPR 975.0	EGY 959.8	BRA 951.2	BUL 934.7	57 th - 188.5
1958-91	EGY 22222.3	BRA 17021.1	THA 14596.1	PER 12631.1	INS 12383.8	70 th - 1138.4

"TOP FIVE" RECIPIENTS OF AGENCY ASSISTANCE
1958 - 1991 (in \$1000)

TECHNICAL ASSISTANCE AND CO-OPERATION FUND

Year	I	II	III	IV	V	SIERRA LEONE
1958-81	HUN 2553.0	PAK 2010.9	EGY 1898.7	THA 1712.8	BRA 1704.8	71 st - 123.7
1982	EGY 507.1	HUN 438.2	CUB 430.7	ECU 398.4	ZAM 354.9	46 th - 95.8
1983	EGY 1049.4	VIE 897.4	POL 667.8	PAK 498.5	PHI 430.0	51 st - 98.0
1984	EGY 1197.2	CUB 655.6	ECU 565.6	BGD 506.3	BUL 472.4	59 th - 80.6
1985	BGD 991.8	VIE 745.0	THA 708.7	BRA 571.8	POR 538.7	63 rd - 66.8
1986	BRA 1381.8	THA 871.9	POL 833.5	BGD 823.9	SYR 751.8	71 st - 26.0
1987	HUN 3305.2	DRK 986.8	BUL 888.5	INS 885.8	EGY 878.9	70 th - 38.2
1988	BUL 1195.6	PER 856.5	EGY 768.6	INS 751.7	HAL 656.0	69 th - 47.0
1989	EGY 990.9	CPR 868.2	POR 769.6	CHI 756.9	HAL 619.4	73 rd - 27.3
1990	POL 1562.3	VIE 1518.8	DRK 1156.2	IRA 958.0	YUG 933.4	75 th - 43.3
1991	BUL 893.1	PAK 868.8	INS 855.1	VIE 817.6	CPR 814.5	51 st - 188.5
1958-91	EGY 9591.3	HUN 8256.5	POL 7793.5	BRA 7433.5	PAK 7346.0	72 nd - 835.2

ASSISTANCE PROVIDED BY THE AGENCY TO SIERRA LEONE

Financial Summary 1982 - 1991
(In thousands of dollars)

Year	ASSISTANCE PROVIDED, BY TYPE						ASSISTANCE PROVIDED, BY SOURCE					
	Experts	Equipment	Fellowships	Group training	Sub-contracts	Total	UNDP	TACF CC	TACF NCC	Extra-budgetary	In-kind	Total
1982	47.4	35.4	13.0	-	-	95.8	-	94.0	1.8	-	-	95.8
1983	67.0	22.2	8.8	-	-	98.0	-	94.8	3.2	-	-	98.0
1984	62.8	8.9	8.9	-	-	80.6	-	80.1	0.5	-	-	80.6
1985	12.2	54.6	10.6	-	-	77.4	-	66.8	-	-	10.6	77.4
1986	6.8	19.2	-	-	-	26.0	-	26.0	-	-	-	26.0
1987	12.2	17.4	24.7	-	-	54.3	-	38.2	-	-	16.1	54.3
1988	9.1	3.4	34.5	-	-	47.0	-	47.0	-	-	-	47.0
1989	7.2	6.1	14.0	-	-	27.3	-	27.3	-	-	-	27.3
1990	20.7	7.8	14.8	-	-	43.3	-	43.3	-	-	-	43.3
1991	25.5	122.0	41.0	-	-	188.5	-	188.5	-	-	-	188.5
1982-91	270.9	297.0	170.3	-	-	738.2	-	706.0	5.5	-	26.7	738.2

TECHNICAL CO-OPERATION PROJECTS IN SIERRA LEONE
BY SECTOR

PROJECTS COMPLETED AND OPERATIONAL 1982 - 1992

TOTAL PROJECT ALLOTMENTS AND DISBURSEMENTS
(as of mid-November 1992)

SECTOR	NO. OF PROJECTS	ALLOTMENTS \$	% OF TOTAL	DISBURSEMENTS \$	% OF TOTAL
General atomic energy development	2	570 034	37.5	185 469	24.8
Nuclear physics and chemistry	-	-	-	-	-
Nuclear raw materials	-	-	-	-	-
Nuclear engineering and technology	-	-	-	-	-
Nuclear techniques in agriculture	2	521 802	34.3	170 248	22.7
Nuclear medicine	2	429 194	28.2	393 166	52.5
Nuclear techniques in biology	-	-	-	-	-
Nuclear techniques in industry and hydrology	-	-	-	-	-
Nuclear safety	-	-	-	-	-
TOTAL	6	1 521 030	100.0	748 883	100.0

TECHNICAL CO-OPERATION PROJECTS IN SIERRA LEONE
COMPLETED AND OPERATIONAL, BY SECTOR, 1982 - 1992
(As of mid-November 1992)

Sector	No. of projects	Total project allotments \$	Total project disbursements \$
<u>Completed projects</u>			
General atomic energy development	1	151 018	149 898
Nuclear physics and chemistry	-	-	-
Nuclear raw materials	-	-	-
Nuclear engineering and technology	-	-	-
Nuclear techniques in agriculture	-	-	-
Nuclear medicine	1	273 144	295 879
Nuclear techniques in biology	-	-	-
Nuclear techniques in industry & hydrology	-	-	-
Nuclear safety	-	-	-
TOTAL	2	424 162	445 777
<u>Operational projects</u>			
General atomic energy development	1	419 016	35 571
Nuclear physics and chemistry	-	-	-
Nuclear raw materials	-	-	-
Nuclear engineering and technology	-	-	-
Nuclear techniques in agriculture	2	521 802	170 248
Nuclear medicine	1	156 050	97 287
Nuclear techniques in biology	-	-	-
Nuclear techniques in industry & hydrology	-	-	-
Nuclear safety	-	-	-
TOTAL	4	1 096 868	303 106

EXPERT SERVICES, EQUIPMENT AND PROJECT-FUNDED TRAINING PROVIDED TO SIERRA LEONE, BY SECTOR
 PROJECTS COMPLETED AND OPERATIONAL 1982 - 1992
 (As of mid-November 1992)

FIELD	TOTAL PROJECT ALLOTMENTS				TOTAL PROJECT DISBURSEMENTS			
	EXPERT SERVICES		EQUIPMENT	TRAINING	EXPERT SERVICES		EQUIPMENT	TRAINING
	M/M	\$	\$	\$	M/M	\$	\$	\$
General atomic energy development	14/27	109 935	387 499	72 600	9/26	62 556	107 602	15 311
Nuclear physics and chemistry	-	-	-	-	-	-	-	-
Nuclear raw materials	-	-	-	-	-	-	-	-
Nuclear engineering and technology	-	-	-	-	-	-	-	-
Nuclear techniques in agriculture	13/05	124 775	213 035	183 992	3/07	34 557	127 513	8 178
Nuclear medicine	32/00	198 350	230 844	-	29/05	195 152	198 014	-
Nuclear techniques in biology	-	-	-	-	-	-	-	-
Nuclear techniques in industry & hydrology	-	-	-	-	-	-	-	-
Nuclear safety	-	-	-	-	-	-	-	-
TOTAL	60/02	433 060	831 378	256 592	42/08	292 265	433 129	23 489

AGENCY FELLOWS FROM SIERRA LEONE

1982 - 1992¹
(As of mid-November 1992)

Sector	No. of fellowships	No. of months/days	Host countries
General atomic energy development	1	2/24	UK
Nuclear physics	-	-	-
Nuclear chemistry	4	8/16	ITA, NIR, SUD, UK
Nuclear raw materials	1	3/01	IND
Nuclear engineering and technology	3	13/02	CPR, UK
Nuclear techniques in agriculture	4	22/18	USA, UK, IAEA
Nuclear medicine	4	41/21	IND, YUG, UK
Nuclear techniques in biology	-	-	-
Nuclear techniques in industry and hydrology	1	0/12	IAEA
Nuclear safety	-	-	-
TOTAL	18	92/04	

¹/ Only includes fellows who have completed or at least started training.

SIERRA LEONE
 FELLOWSHIPS LONGER THAN 12 M/M
 1982 - 1992
 (As of mid-November 1992)

Name	Field of study	Host country	Date	Duration	Project
DABOH	Nuclear medicine technology	UK	Mar.88 - Mar.89	12/01	SIL/6/003
KPAKIMA	Nuclear medicine technology	UK	Mar.88 - Mar.89	12/01	SIL/6/003
SHERIFF	Nuclear medicine	YUG	Sep.87 - Sep.88	12/00	SIL/6/003

SIERRA LEONEAN NATIONALS WHO WERE AWARDED MORE THAN ONE
FELLOWSHIP OR SCIENTIFIC VISIT
1982 - 1992
(As of mid-November 1992)

Name	Field of study	Host country	Date	Duration	Project
BUCKNOR	1. Handling of radioisotope 2. Nuclear instrumentation, electronics and reactor control	UK CPR	Apr.87 - Oct.87 Jan.92 - Apr.92	6/00 3/01	SIL/0/004 SIL/0/005
LABOR	1. Nuclear electronic instruments 2. General industrial applications of isotopes techniques 3. Analytical chemistry	UK IAEA UK	Jan.84 - May 84 Jan.91 - Feb.91 Feb.92 - May 92	4/01 0/12 2/29	SIL/0/004 RAF/0/007 SIL/0/005
NONIE	1. Neutron activation analysis 2. Analytical chemistry	UK NIR SLD	Oct.83 - Jan.84 Feb.88	3/01 0/12	SIL/0/004 -
SESAY	1. Analytical chemistry 2. Radiation protection in uranium exploration	ITA IND	Aug.87 - Oct.87 Jan.92 - Apr.92	2/04 3/01	- RAF/0/007

AGENCY TRAINING COURSES WITH SIERRA LEONEAN PARTICIPATION

1982 - 1992
(As of mid-November 1992)

Field	Number of participants	Number of courses
General atomic energy development	1	1
Nuclear physics	3	1
Nuclear chemistry	-	-
Nuclear raw materials	-	-
Nuclear engineering and technology	2	2
Nuclear techniques in agriculture	12	10
Nuclear medicine	2	2
Nuclear techniques in biology	-	-
Nuclear techniques in industry & hydrology	1	1
Nuclear safety	5	4
TOTAL	26	21

MULTIPLE PARTICIPATION IN AGENCY TRAINING COURSES
BY SIERRA LEONEAN NATIONALS
1982 - 1992
(As of mid-November 1992)

Name	Course No.	Course title	Year	Location
GORDON-HARRIS	RAF/9/005 (002)	Meeting on regional co-operation in radiation protection in Africa	1989	URT
	RAF/9/005 (004)	RWS on basic radiation and development of national infrastructure for radiation safety	1990	NIR
	RAF/9/005 (007)	RWS on emergency planning, preparedness and international co-operation	1991	AUS
	RAF/9/005 (008)	Regional meeting on co-operation in radiation protection in Africa	1992	URT

PROJECTS COMPLETED IN SIERRA LEONE SINCE 1982
(As of mid-November 1992)

STARTED	PROJECT NO.	TITLE	ALLOTMENTS				DISBURSEMENTS				COMPLETED
			EXPERTS		EQUIPMENT	TRAINING	EXPERTS		EQUIPMENT	TRAINING	
			M/M	\$	\$	\$	M/M	\$	\$	\$	
1982	SIL/0/004	Nuclear science laboratory	9/18	59 430	91 588	-	9/18	58 310	91 588	-	1991
1981	SIL/6/003	Radioisotopes in medicine	27/00	154 700	118 444	-	27/01	176 654	119 225	-	1989
	TOTAL	2 projects	36/18	214 130	210 032	-	36/19	234 964	210 813	-	

OPERATIONAL PROJECTS IN SIERRA LEONE
(As of mid-November 1992)

STARTED	PROJECT NO.	TITLE	ALLOTMENTS				DISBURSEMENTS			
			EXPERTS		EQUIPMENT	TRAINING	EXPERTS		EQUIPMENT	TRAINING
			M/M	\$	\$	\$	M/M	\$	\$	\$
1991	SIL/0/005	Nuclear science laboratory (phase II)	5/09	50 505	295 911	72 600	0/08	4 246	16 014	15 311
1991	SIL/5/002	Nitrogen fixation in legume and rice cultivation	7/00	65 100	130 400	55 900	0/24	5 490	80 852	-
1991	SIL/5/003	Animal science	6/05	59 675	82 635	128 092	2/13	29 067	46 661	8 178
1989	SIL/6/004	Radioisotopes in medicine (phase II)	5/00	43 650	112 400	-	2/04	18 498	78 789	-
	TOTAL	4 projects	23/14	218 930	621 346	256 592	5/19	57 301	222 316	23 489

COUNTERPART INSTITUTIONS IN SIERRA LEONE (I)
(By Project)

<u>Project No.</u>	<u>Institute</u>	<u>Counterpart(s)</u>
<u>GENERAL ATOMIC ENERGY DEVELOPMENT</u>		
SIL/0/004	University of Sierra Leone, Fourah Bay College, Physics Department, Freetown	AWUNOR-RENNER
SIL/0/005	University of Sierra Leone, Fourah Bay College, Physics Department, Freetown	AWUNOR-RENNER
<u>AGRICULTURE</u>		
SIL/5/002	1. University of Sierra Leone, Njala University College, Soil Science Department, Freetown 2. Rice Research Station Rokupr, Freetown	AMARA MONDE
SIL/5/003	Central Veterinary Laboratory, Teko, Makeni	BARRIE
<u>NUCLEAR MEDICINE</u>		
SIL/6/003	Connaught Hospital, Department of Radiology and Nuclear Medicine, Freetown	GORDON-HARRIS SHERIFF
SIL/6/004	Connaught Hospital, Department of Radiology and Nuclear Medicine, Freetown	GORDON-HARRIS

COUNTERPART INSTITUTIONS IN SIERRA LEONE (II)

(By Institute)

FREETOWN

**University of Sierra Leone
Fourah Bay College
Physics Department
Freetown**

SIL/0/004 Nuclear Science Laboratory
SIL/0/005 Nuclear Science Laboratory (Phase II)

**University of Sierra Leone
Njala University College
Soil Science Department
Freetown**

SIL/5/002 Nitrogen Fixation in Legume and Rice Cultivation

**Rice Research Station Rokupr
Freetown**

SIL/5/002 Nitrogen Fixation in Legume and Rice Cultivation

**Connaught Hospital
Department of Radiology and Nuclear Medicine
Freetown**

SIL/6/003 Radioisotopes in Medicine
SIL/6/004 Radioisotopes in Medicine (Phase II)

TEKO, MAKENI

**Central Veterinary Laboratory
Teko, Makeni**

SIL/5/003 Animal Science

THE AGENCY'S TECHNICAL CO-OPERATION PROGRAMME WITH SIERRA LEONE

**LONG-TERM EXPERT ASSIGNMENTS
(1982 - 1992)**

Project SIL/6/003 Radioisotopes in Medicine

- Task 02 - Physician for Reviewing and Expanding the Unit

Z. SZYBINSKI (POL)

Jun 82 - Jun 84

24 months

- To assist in up-grading the Radioisotope Unit and to advise local staff on its operation.
- To provide training for local staff.

RESEARCH CONTRACTS/AGREEMENTS IN SIERRA LEONE SINCE 1982 ¹
(As of mid-November 1992)

Field of activity	No. of contracts/ agreements	Amount allocated \$
Nuclear techniques in agriculture	1	6 000
TOTAL	1	6 000

¹ New awards since 1982

**SCIENTISTS FROM SIERRA LEONE SERVING AS AGENCY
TECHNICAL CO-OPERATION EXPERTS OR
TRAINING COURSE LECTURERS
1982 - 1992
(As of mid-November 1992)**

Name	No. of assignments	Project(s)
AMARA	1	RAF/5/010
CHINSMAN	2	RAF/5/005
TOTAL	3	

**AGENCY FELLOWSHIPS AND SCIENTIFIC VISITS
HOSTED BY SIERRA LEONE
1982 - 1992
(As of mid-November 1992)**

NONE

**REGIONAL AND INTERREGIONAL TRAINING EVENTS
HOSTED BY SIERRA LEONE
1982 - 1992
(As of mid-November 1992)**

NONE