

IAEA-CPS-92/18 18 November 1992 Original: ENGLISH

COUNTRY PROGRAMME SUMMARY

THE AGENCY'S TECHNICAL CO-OPERATION

PROGRAMME WITH

CAMEROON

1982 - 1992 COUNTRY PROGRAMME SUMMARIES

DEPARTMENT OF TECHNICAL CO-OPERATION

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COUNTRY PROGRAMME SUMMARY

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CAMEROON

1982 - 1992

COUNTRY PROGRAMME SUMMARIES

EVALUATION SECTION

DEPARTMENT OF TECHNICAL CO-OPERATION

THE AGENCY'S TECHNICAL CO-OPERATION PROGRAMME WITH

CAMEROON

1982 - 1992

COUNTRY PROGRAMME SUMMARIES

This report contains a review of the Agency's technical co-operation activities in Cameroon carried out during 1982-1992. In terms of coverage and analytical depth, country programme summaries stand somewhere midway between indepth 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.

CAMEROON INTRODUCTION Assistance by Source **TACF** Assistance Extrabudgetary and In Kind Assistance TC Project Disbursements by Sector Assistance by Type Assistance by Component/Sector L Cameroon's Ranking as TC Recipient Top Five Recipients E Financial Summary of Assistance 10 Projects by Sector (Allotments/Disbursements) OF 11 Projects by Sector (Completed & Operational) 12 TC Project Components by Sector 13 C Agency Fellows 14 Fellowships 12 M/M and Longer 15 0 Fellows Holding More than One Award 16 **Training Course Participants** 17 N Multiple Participants in Training Courses 18 **Projects Completed** 19 T Operational Projects 20 Counterpart Institutions (by Project) 21-22 E Counterpart Institutions (by Institute) 23-24 Long-Term Assignments 25 Research Contracts/Agreements 26 Cameroonian Experts or Lecturers 27 Fellowships and Scientific Visits Hosted 28 29 Regional/Interregional Courses Hosted

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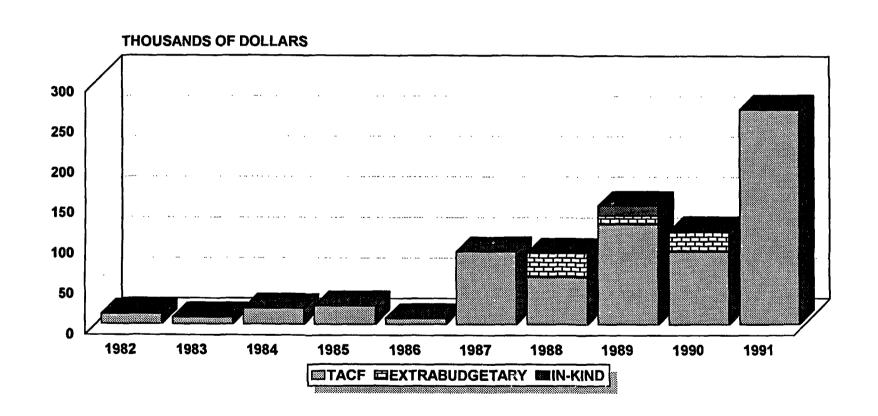
INTRODUCTION

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 \$1.3 million of Agency support received, Cameroon ranks 68 ** among all recipients of technical assistance in the period 1958 through 1991.

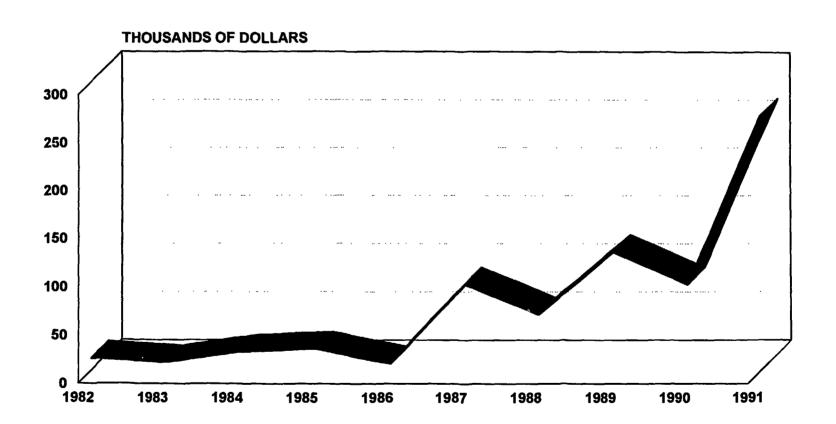
More than half of the assistance received during the past ten years has been provided in the form of equipment (61%), followed by expert services (24%) and training (15%). The best part of the resources were provided by the Technical Assistance and Co-operation Fund (90%); the remaining ten per cent were made available through extrabudgetary contributions (8%) and assistance in kind (2%).

With regard to project disbursements by sector, the four major areas have been nuclear physics and chemistry (38%), agriculture (23%), nuclear medicine (14%) and hydrology (13%).

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

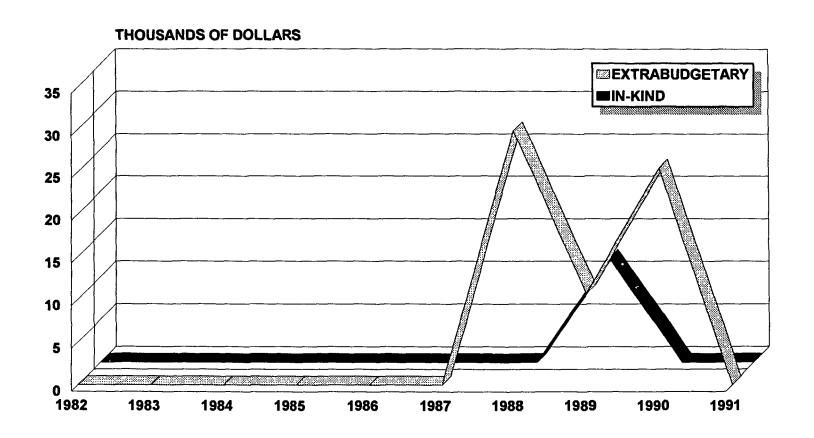


TACF ASSISTANCE PROVIDED TO CAMEROON (1982 - 1991)

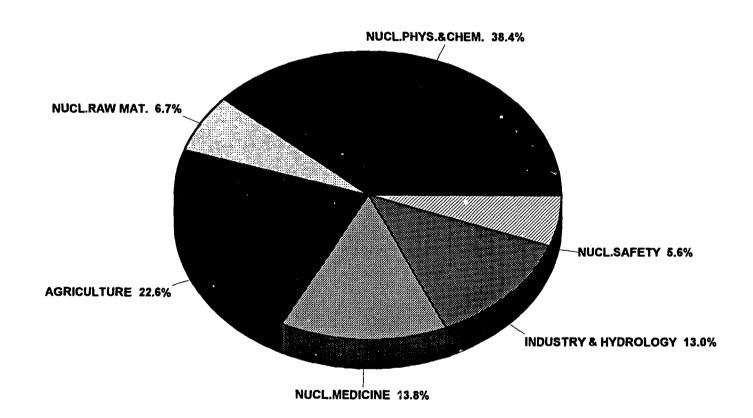


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EXTRABUDGETARY AND IN-KIND ASSISTANCE PROVIDED TO CAMEROON (1982 - 1991)

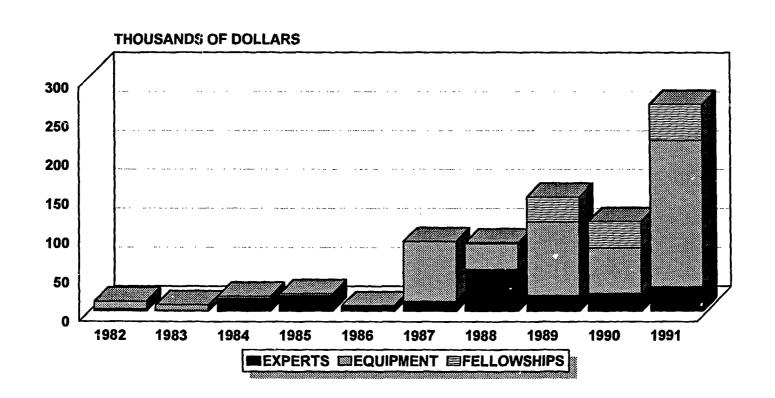


TC PROJECT DISBURSEMENTS IN CAMEROON BY SECTOR (1982 - 1991)

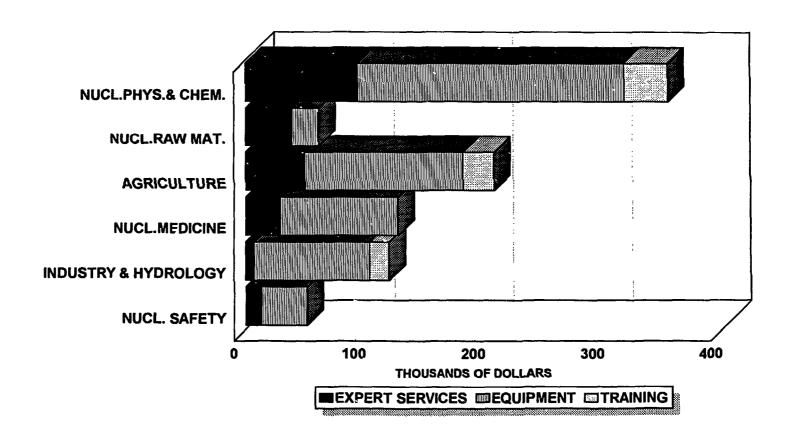


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ASSISTANCE PROVIDED BY THE AGENCY TO CAMEROON BY TYPE (1982 -1991)



EXPERT SERVICES, EQUIPMENT AND PROJECT- FUNDED TRAINING PROVIDED TO CAMEROON BY SECTOR (1982 - 1992)



THE AGENCY'S TECHNICAL CO-OPERATION PROGRAMME WITH CAMEROON ALL SOURCES

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

YEAR	RANKING	AMOUNT	
1958-81	54 th	508.4	
1982	72 nd	12.2	
1983	74 th	8.0	
1984	74 th	19.1	
1985	72 nd	22.2	
1986	79 th	6.9	
1987	66 th	88.9	
1988	63 rd	87.4	
1989	59 th	145.5	
1990	67 th	114.5	
1991	44 th	265.3	
1958-91	68 th	1278.4	

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

ALL SOURCES

Year	1	11	111	IV	٧	CAMEROON
1958-81	BRA 7907.9	IND 6670.7	ARG 5200.4	PAK 5091.2	CHI 5005.7	54 th - 508.4
1982	EGY 807.5	PER 746.4	CUB 715.7	COL 667.7	THA 654.3	72 nd - 12.2
1983	EGY 2077.9	PER 1116.8	VIE 948.1	PHI 778.6	IRA 722.1	74 th - 8.0
1984	EGY 3625.9	PER 1750.4	THA 1094.6	CUB 1028.7	PHI 881.2	74 th - 19.1
1985	EGY 2494.8	PER 1120.7	THA 1117.4	BGD 1068.2	PHI 963.7	72 nd - 22.2
1986	EGY 2317.0	BRA 1452.9	THA 1169.4	POL 1050.3	BGD 896.4	79 th - 6.9
1987	HUN 3452.6	EGY 1775.4	THA 1742.4	INS 1312.5	YUG 1223.2	66 th - 88.9
1988	EGY 1486.9	BUL 1361.6	CPR 1278.5	THA 1158.7	BRA 1096.7	63 rd - 87.4
1989	CPR 1542.3	EGY 1505.1	THA 1205.3	BRA 1096.5	INS 999.1	59 th - 145.5
1990	POL 2308.1	CPR 2005.0	VIE 1589.2	INS 1412.6	BRA 1229.1	67 th - 114.5
1991	INS 1305.2	CPR 975.0	EGY 959.8	BRA 951.2	BUL 934.7	44 th - 265.3
1958-91	EGY 22222.3	BRA 17021.1	THA 14596.1	PER 12631.1	INS 12383.8	68 th - 1278.4

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

TECHNICAL ASSISTANCE AND CO-OPERATION FUND

Year	t	T i	111	IV	٧	CAMEROON
1958-81	HUN 2533.0	PAK 2010.9	EGY 1898.7	THA 1712.8	BRA 1704.8	65 th - 181.9
1982	EGY 507.1	HUN 438.2	CUB 430.7	ECU 398.4	ZAM 354.9	72 nd - 12.2
1983	EGY 1049.4	VIE 897.4	POL 667.8	PAK 498.5	PHI 430.0	72 nd - 8.0
1984	EGY 1197.2	CUB 655.6	ECU 565.6	BGD 506.3	BUL 472.4	72 nd - 19.1
1985	BGD 991.8	VIE 745.0	THA 708.7	BRA 571.8	POR 538.7	70 th - 22.2
1986	BRA 1381.8	THA 871.9	POL 833.5	BGD 823.9	SYR 751.8	77 th - 6.9
1987	HUN 3305.2	DRK 986.8	BUL 888.5	INS 885.8	EGY 878.9	64 th - 88.9
1988	BUL 1195.6	PER 856.5	EGY 768.6	INS 751.7	MAL 656.0	65 th - 57.6
1989	EGY 990.9	CPR 868.2	POR 769.6	CH1 756.9	MAL 619.4	56 th - 122.6
1990	POL 1562.3	VIE 1518.8	DRK 1156.2	IRA 958.0	YUG 933.4	67 th - 89.1
1991	BUL 893.1	PAK 868.8	INS 855.1	VIE 817.6	CPR 814.5	40 th - 265.3
1958-91	EGY 9591.3	HUN 8256.5	POL 7793.5	BRA 7433.5	PAK 7346.0	70 th + 873.8

ASSISTANCE PROVIDED BY THE AGENCY TO CAMEROON

Financial Summary 1982 - 1991 (In thousands of dollars)

		AS	SSISTANCE PRO	VIDED, BY TY	PE			ASS	ISTANCE PROV	IDED, BY SOUR	CE	
Year	Experts	Equipment	Fellow- ships	Group training	Sub- contracts	Total	UNDP	TACF CC	TACF NCC	Extra- budgetary	In-kind	Total
1982	2.5	9.7			-	12.2	-	12.2	•	-	•	12.2
1983	-	8.0	•	-	-	8.0	-	8.0	•	-	-	8.0
1984	16.5	2.6	•	-	-	19.1		19.1	-	-	-	19.1
1985	19.6	2.6	•	-	-	22.2	_	22.2	-		-	22.2
1986	6.3	0.6	•	-	-	6.9	-	6.9			-	6.9
1987	12.6	76.3		-	-	88.9	•	52.7	36.2	•	-	88.9
1988	53.5	32.5	1.4	-		87.4	-	57.6	-	29.8	•	87.4
1989	20.1	94,3	31.1	-	•	145.5	•	118.7	3.9	10.7	12.2	145.5
1990	22.7	58,1	33.7	•	-	114.5	•	89.1	-	25.4	-	114.5
1991	30.9	187.9	46.5		-	265.3	-	265.3			-	265.3
1982-91	184.7	472.6	112.7	-	-	770.0	•	651.8	40.1	65.9	12.2	770.0

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TECHNICAL CO-OPERATION PROJECTS IN CAMEROON 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	-	•	-	-	•
Nuclear physics and chemistry	3	359 577	22.3	353 454	38.4
Nuclear raw materials	2	65 500	4.1	61 209	6.6
Nuclear engineering and technology		-	-	-	<u>-</u>
Nuclear techniques in agriculture	3	239 914	14.8	207 903	22.6
Nuclear medicine	2	672 900	41.6	126 493	13.8
Nuclear techniques in biology	-			-	•
Nuclear techniques in industry and hydrology	1	124 512	7.7	119 288	13.0
Nuclear safety	2	153 250	9.5	51 101	5.6
TOTAL	13	1 615 753	100.0	919 448	100.0

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

Sector	No. of projects	Total project allotments \$	Total project disbursements \$
Completed projects			
General atomic energy development	•	•	•
Nuclear physics and chemistry	-	-	-
Nuclear raw materials	2	65 600	61 209
Nuclear engineering and technology	-	-	•
Nuclear techniques in agriculture	1	21 150	8 186
Nuclear medicine	-	-	•
Nuclear techniques in biology	-	•	•
Nuclear techniques in industry & hydrology	•	•	•
Nuclear safety	1	7 200	5 163
TOTAL	4	93 950	74 558
Operational projects			
General atomic energy development	-	•	<u>-</u>
Nuclear physics and chemistry	3	359 577	353 454
Nuclear raw materials	-	-	-
Nuclear engineering and technology	-	•	-
Nuclear techniques in agriculture	2	218 764	199 717
Nuclear medicine	2	672 900	126 493
Nuclear techniques in biology	-	-	•
Nuclear techniques in industry & hydrology	1	124 512	119 288
Nuclear safety	1	146 050	45 938
TOTAL	9	1 521 803	844 890

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

i		TOTAL PROJEC	T ALLOTMENTS		TOTAL PROJECT DISBURSEMENTS				
FIELD	EXPERT SERVICES		EGUIPMENT	TRAINING	EXPERT S	ERVICES	EQUIPMENT	TRAINING	
	M/M	\$	\$	\$	M/M	\$	\$	\$	
General atomic energy development	-	-	-	-	-	•	•		
Nuclear physics and chemistry	10/04	94 428	227 340	37 809	7/19	93 484	223 347	36 623	
Nuclear raw materials	7/00	42 600	23 000	,	6/12	38 477	22 732	•	
Nuclear engineering and technology	•	-	•	•	•	-	-	-	
Nuclear techniques in agriculture	6/18	54 090	142 720	43 104	4/07	49 599	132 168	26 136	
Nuclear medicine	12/00	115 200	537 000	20 700	3/11	28 455	98 038	-	
Nuclear techniques in biology	•	•	•	•	•	-	-	-	
Muclear techniques in industry & hydrology	1/09	10 620	96 783	17 109	1/09	7 022	96 030	16 236	
Nuclear safety	3/00	25 350	100 000	27 900	1/17	12 913	38 188	•	
TOTAL	40/01	342 288	1 126 843	146 622	24/15	229 950	610 503	78 995	

AGENCY FELLOWS FROM CAMEROON

1982 - 1992¹ (As of mid-November 1992)

Sector	No. of fellowships	No. of months/days	Host countries
General atomic energy development	-		-
Nuclear physics	-	•	
Nuclear chemistry	-	•	-
Nuclear raw materials	-	-	•
Nuclear engineering and technology	-	·	·
Nuclear techniques in agriculture	5	23/13	BEL, CAN, FRA, IVC, IAEA
Nuclear medicine	-	-	-
Nuclear techniques in biology	2	12/14	UK
Nuclear techniques in industry and hydrology	3	11/07	FRA
Nuclear safety	1	6/00	CAN
TOTAL	11	53/04	

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

CAMEROON
FELLOWSHIPS 12 N/M AND LONGER
1982 - 1992
(As of mid-November 1992)

Name	Field of study	Host country	Date	Duration	Project
FOBA	Soil science	BEL	Sep.91 - Aug.92	12/00	CMR/5/004

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

NONE

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AGENCY TRAINING COURSES WITH CAMEROONIAN PARTICIPATION

1982 - 1992 (As of mid-November 1992)

Field	Number of participants	Number of courses
General atomic energy development	4	4
Nuclear physics	1	1
Nuclear chemistry	-	-
Nuclear raw materials	4	4
Nuclear engineering and technology	3	3
Nuclear techniques in agriculture	7	7
Nuclear medicine	4	4
Nuclear techniques in biology	-	-
Nuclear techniques in industry & hydrology	7	4
Nuclear safety	8	7
TOTAL	38	34

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

Name	Course No.	Course title	Year	Location
BEDIMO	RAF/8/012 (003)	RWS on hydrosedimentology	1990	MLI
	RAF/8/012 (004)	RWS on isotope hydrology and sedimentology	1991	MLI
MANGUELLE-DICOUM Biyong	INT/9/077 (001) RAF/6/004 (001) RAF/6/007 (002)	ITC for radiation protection officers in regulatory bodies RTC on radioimmunoassay RTC on bulk reagent methodology, reagent preparation and quality control for radioimmunoassay of thyroid-related hormones	1987 1990 1992	GDR ETH TUN
NAAH	RAF/8/012 (003)	RWS on hydrosedimentology	1990	ML I
	RAF/8/012 (005)	RWS on the study of non-saturated zones	1991	SEN
SIMO	INT/0/039 (001)	IWS on IAEA technical co-operation practices and procedures	1984	SUD
	INT/9/074 (001)	ITC on radiation protection	1987	FRA
	INT/9/099 (001)	ITC on management of radioactive wastes with regard to radioisotope applications	1989	GER
TAKOUD JOU	RAF/0/005 (001) RAF/0/006 (001) RAF/5/012 (001)	Regional seminar on nuclear science for peace and development RTC on design, management and evaluation techniques of IAEA technical co-operation projects RTC on the use of isotopes and radiation techniques in studies of biological nitrogen fixation and soil/plant nutrition	UGA GHA GHA	1990 1991 1988

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

			ALLOTMENTS				DISBURSEMENTS				
STARTED	PROJECT NO.	TITLE	EX	PERTS	EQUIPMENT	TRAINING	EXP	ERTS	EQUIPMENT	TRAINING	COMPLETED
			M/M	\$	\$	\$	M/M	\$	\$	\$	
1982	CMR/3/005	Raw materials analysis	1/00	5 400	17 000	•	0/16	2 374	17 533	•	1983
1983	CMR/3/006	Nuclear analytical laboratory	6/00	37 200	6 000	•	6/02	36 103	5 199	-	1985
1987	CMR/5/005	Improvement of rubber tree (hevea) productivity	1/00	7 050	-	14 100	0/04	5 066	-	6 120	1992
1988	CMR/9/002	Radioactive waste management	1/00	7 200		٠	0/09	5 163	-		1989
	TOTAL	4 projects	9/00	56 850	23 000	14 100	6/25	45 706	22 732	6 120	

OPERATIONAL PROJECTS IN CAMEROON (As of mid-November 1992)

	PROJECT NO.	TITLE	ALLOTMENTS				DISBURSEMENTS			
STARTED			EXPERTS		EQUIPMENT	TRAINING	EXI	PERTS	EQUIPMENT	TRAINING
			H/M	\$\$	\$	\$	H/M	\$	s	\$
1987	CMR/1/002	Nuclear analytical laboratory	3/09	41 723	40 451	-	2/09	31 239	42 799	•
1987	CMR/1/003	Training in nuclear physics	4/10	31 030	105 439	109	4/12	48 561	104 455	109
1989	CMR/2/002	Isotope techniques in human nutrition studies	2/15	21 675	81 450	37 700	0/28	13 684	76 093	36 514
1986	CMR/5/004	Establishment of an agricultural laboratory	2/18	19 140	97 720	29 004	2/07	27 646	92 161	20 016
1991	CMR/5/006	Nuclear techniques in animal diseases	3/00	27 900	45 000	-	1/26	19 887	40 007	-
1991	CMR/6/002	Intracavitary radiation therapy for cancer	5/00	46 950	477 000	-	1/13	9 079	70 345	-
1991	CMR/6/003	Radioimmunoassay laboratory	7/00	68 250	60 000	20 700	1/28	19 376	27 693	•
1989	CMR/8/002	Isotope techniques in hydrology	1/ú9	10 620	96 783	17 109	1/09	7 022	96 030	16 236
1991	CMR/9/003	Radiation protection	2/00	18 150	100 000	27 900	1/08	7 750	38 188	•
	TOTAL	9 projects	31/01	285 438	1 103 843	132 522	17/20	184 244	587 771	72 875

COUNTERPART INSTITUTIONS IN CAMEROON (I)

(By Project)

Project No. Institute Counterpart(s)

NUCLEAR PHYSICS AND CHEMISTRY

CMR/1/002 Institute of Geological and TAKOUDJOU

Mining Research,

Laboratory for Energy Research.

Yaoundé

CMR/1/003 University of Yaoundé, OWONO

Faculty of Sciences, Department of Physics,

Yaoundé

CMR/2/002 Nuírition Centre, BELL

Institute of Medical Research and

Studies of Medical Plants,

Yaoundé

NUCLEAR RAW MATERIALS

CMR/3/005 Institute of Geological and DJAPA NGASSAM

Mining Research,

Yaoundé

CMR/3/006 Institute of Geological and MABOUKA EKOUE

Mining Research,

Laboratory for Energy Research,

Yaoundé

AGRICULTURE

CMR/5/004 Institute of Geological and TAKOUDJOU

Mining Research,

Laboratory for Energy Research,

Yaoundé

CMR/5/005 Research Institute of Agronomy, LYONGA

Centre of Ekona,

Buea

CMR/5/006 National Veterinary Laboratory,

Department of Virology,

Garoua

ZOYEM

ROUSSEL

COUNTERPART INSTITUTIONS IN CAMEROON (I)

(By Project)

Project No. Institute Counterpart(s)

NUCLEAR MEDICINE

CMR/6/002 1. General Reference Hospital, MOUELE SONE

Douala

2. General Reference Hospital, YOMI

Yaoundé

CMR/6/003 Yaoundé General Hospital, DONG

Nuclear Medicine Unit,

Yaoundé

NUCLEAR TECHNIQUES IN HYDROLOGY

CMR/8/002 Institute of Geological and NAAH

Mining Research,

Centre of Hydrological Research,

Yaoundé

NUCLEAR SAFETY

CMR/9/002 Institute of Geological and SIMO

Mining Research,

Laboratory for Energy Research,

Yaoundé

CMR/9/003 Ministry of Education, Information TAKOUDJOU

and Research,

Centre for Application of Nuclear Techniques,

Yaoundé

COUNTERPART INSTITUTIONS IN CAMEROON (II)

(By Institute)

YAOUNDE

Institute of Geological and Mining Research Yaoundé

CMR/3/005

Raw Materials Analysis

Institute of Geological and Mining Research Laboratory for Energy Research Yaoundé

CMR/1/002 Nuclear Analytical Laboratory
CMR/3/006 Nuclear Analytical Laboratory

CMR/5/004 Establishment of an Agricultural Laboratory

CMR/9/002 Radioactive Waste Management

Institute of Geological and Mining Research Centre of Hydrological Research Yaoundé

CMR/8/002

Isotope Techniques in Hydrology

Ministry of Education, Information and Research Centre for Application of Nuclear Techniques Yaoundé

CMR/9/003

Radiation Protection

University of Yaoundé Faculty of Sciences Department of Physics Yaoundé

CMR/1/003

Training in Nuclear Physics

Nutrition Centre Institute of Medical Research and Studies of Medical Plants Yaoundé

CMR/2/002

Isotope Techniques in Human Nutrition Studies

COUNTERPART INSTITUTIONS IN CAMEROON (II)

(By Institute)

YAOUNDE (cont'd)

Yaoundé General Hospital Nuclear Medicine Unit Yaoundé

CMR/6/003 Radioimmunoassay Laboratory

General Reference Hospital Yaoundé

CMR/6/002 Intracavitary Radiation Therapy for Cancer

BUEA

Research Institute of Agronomy Centre of Ekona Buea

CMR/5/005 Improvement of Rubber Tree (hevea) Productivity

GAROUA

National Veterinary Laboratory Department of Virology Garoua

CMR/5/006 Nuclear Techniques in Animal Diseases

DOUALA

General Reference Hospital Douala

CMR/6/002 Intracavitary Radiation Treatment for Cancer

THE AGENCY'S TECHNICAL CO-OPERATION PROGRAMME WITH CAMEROON

LONG-TERM EXPERT ASSIGNMENTS (1982 - 1992)

NONE

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

Field of activity	No. of contracts/ agreements	Amount allocated \$
Nuclear techniques in agriculture	2	14 000
Nuclear medicine	2	36 000
TOTAL	4	50 000

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^{1/} New awards since 1982

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

NONE

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

NONE

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

Course No.	Course Title	Participants	Year
RAF/5/006 (001)	RWS on the establishment and use of a monoclonal antibody-based competitive ELISA system for the sero-monitoring of rinderpest	12	1991