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**INTERNATIONAL ATOMIC ENERGY AGENCY**

IAEA-CPS-92/14  
10 November 1992  
Original: ENGLISH

## **COUNTRY PROGRAMME SUMMARY**

**THE AGENCY'S TECHNICAL CO-OPERATION**

**PROGRAMME WITH**

**ALGERIA**

**1982 - 1992**

**COUNTRY PROGRAMME SUMMARIES**

**DEPARTMENT OF TECHNICAL CO-OPERATION**

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## COUNTRY PROGRAMME SUMMARY

THE AGENCY'S TECHNICAL CO-OPERATION  
PROGRAMME WITH  
ALGERIA  
1982 - 1992  
COUNTRY PROGRAMME SUMMARIES

EVALUATION SECTION  
DEPARTMENT OF TECHNICAL CO-OPERATION

THE AGENCY'S TECHNICAL CO-OPERATION

PROGRAMME WITH

ALGERIA

1982 - 1992

COUNTRY PROGRAMME SUMMARIES

This report contains a review of the Agency's technical co-operation activities in Algeria 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.

**ALGERIA**

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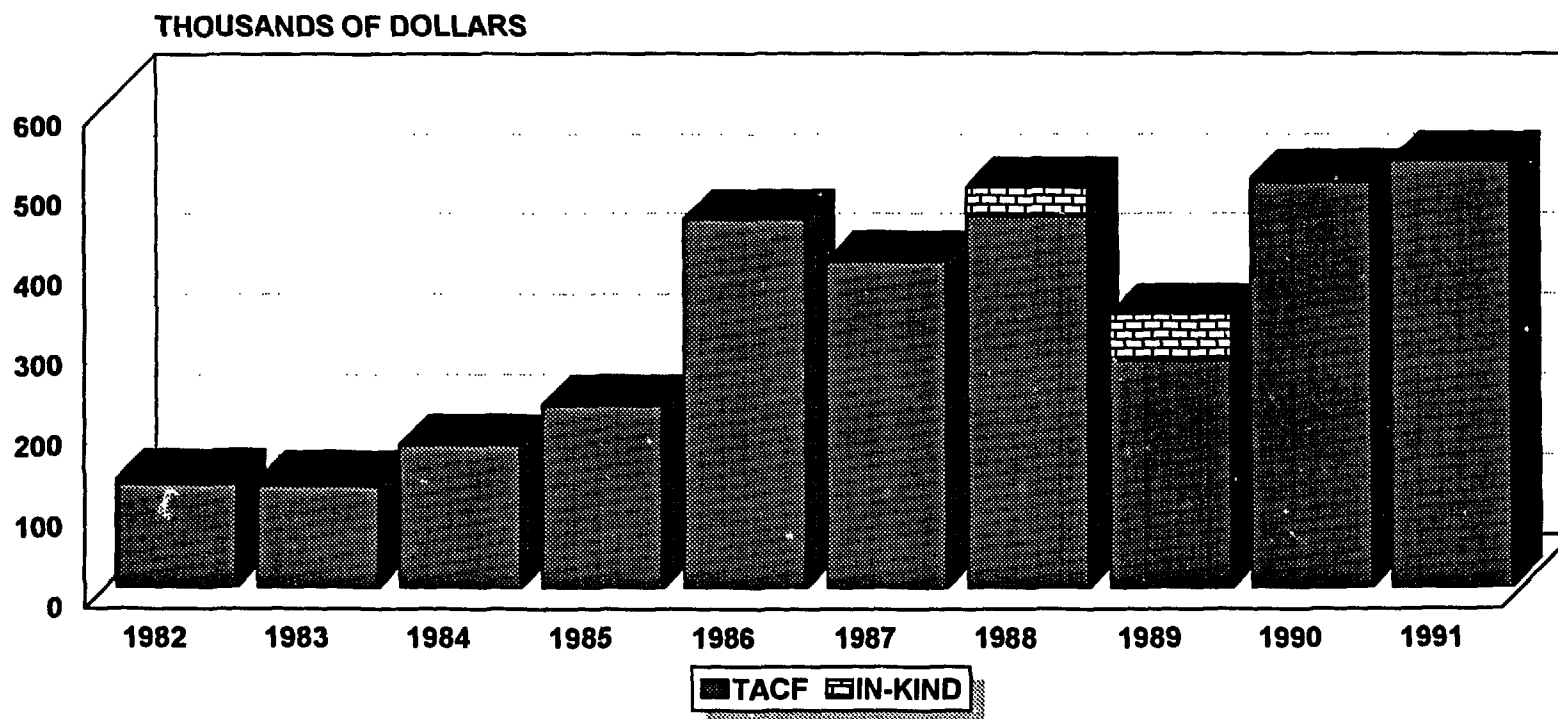
## INTRODUCTION

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 \$3.6 million of Agency support received, Algeria ranks 41<sup>st</sup> among all recipients of technical assistance in the period 1958-1991.

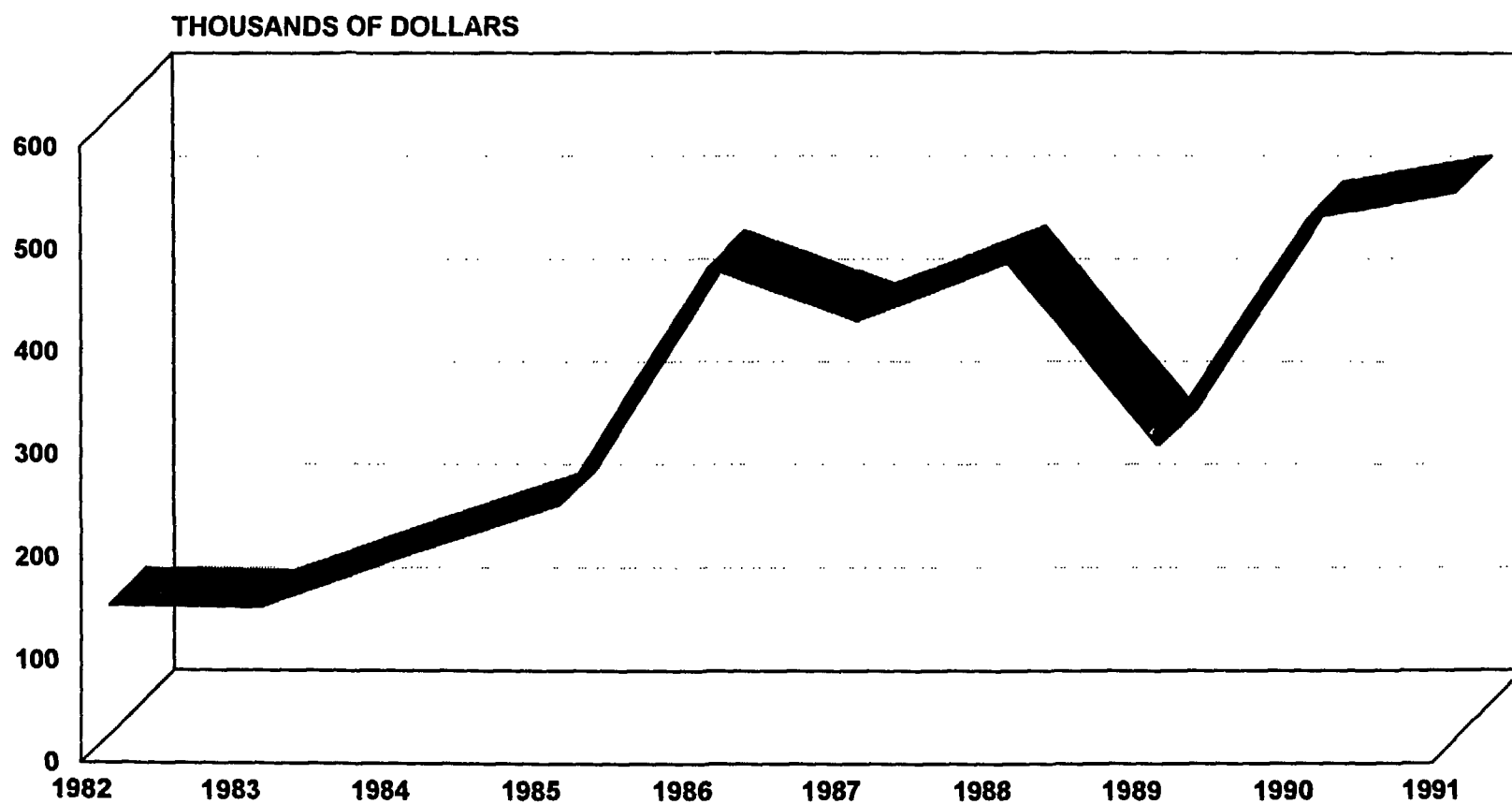
Seventy per cent of the assistance received during the past ten years has been in the form of equipment, followed by expert services (17%) and training (13%). Almost all of the resources were provided by the Technical Assistance and Co-operation Fund (97%), the remaining 3% were made available through assistance in kind.

With regard to project disbursement by sector, the three major areas have been nuclear physics and chemistry (28%), agriculture (27%) and nuclear medicine (20%).

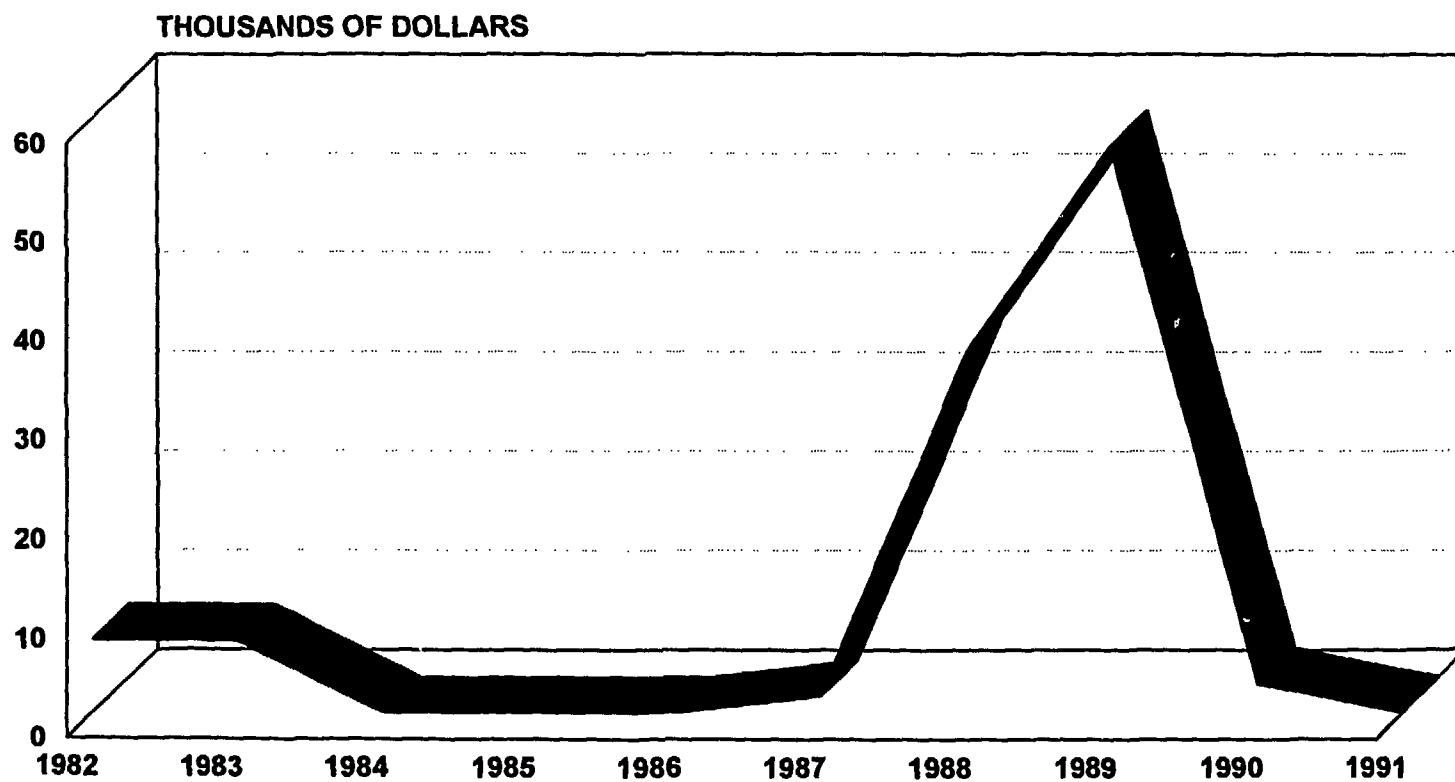
## ASSISTANCE PROVIDED BY THE AGENCY TO ALGERIA BY SOURCE (1982 - 1991)



## TACF ASSISTANCE PROVIDED TO ALGERIA (1982 - 1991)

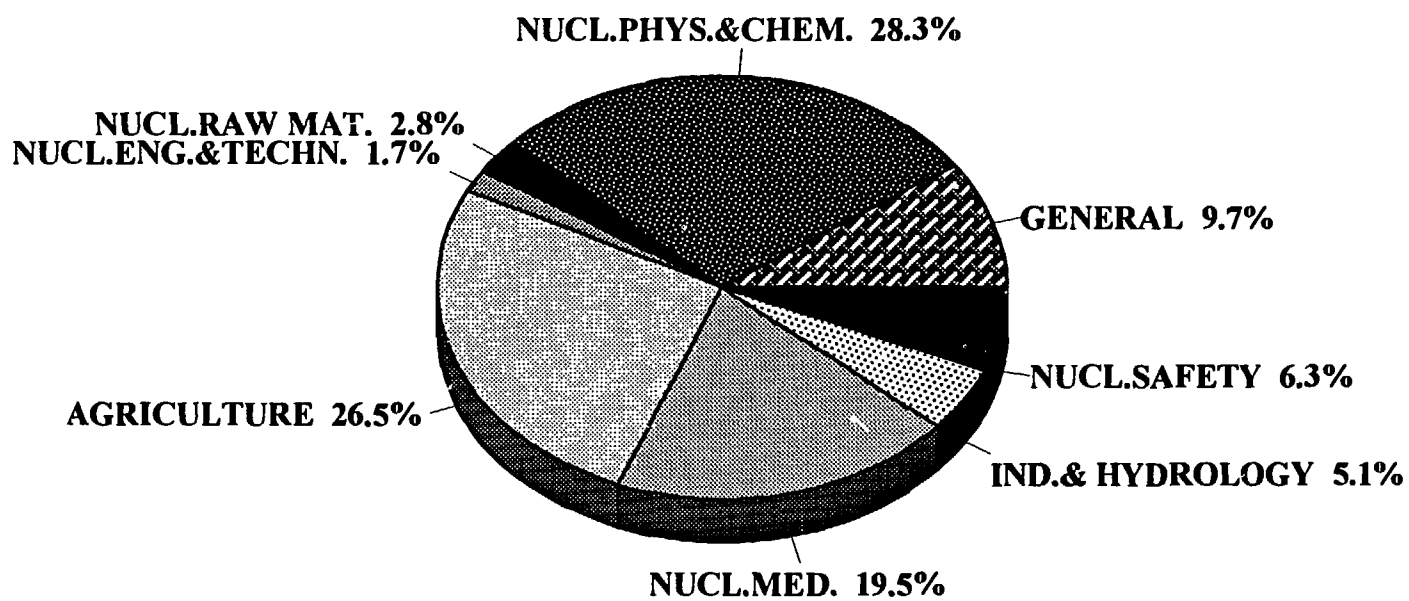


## IN-KIND ASSISTANCE PROVIDED TO ALGERIA (1982 - 1991)

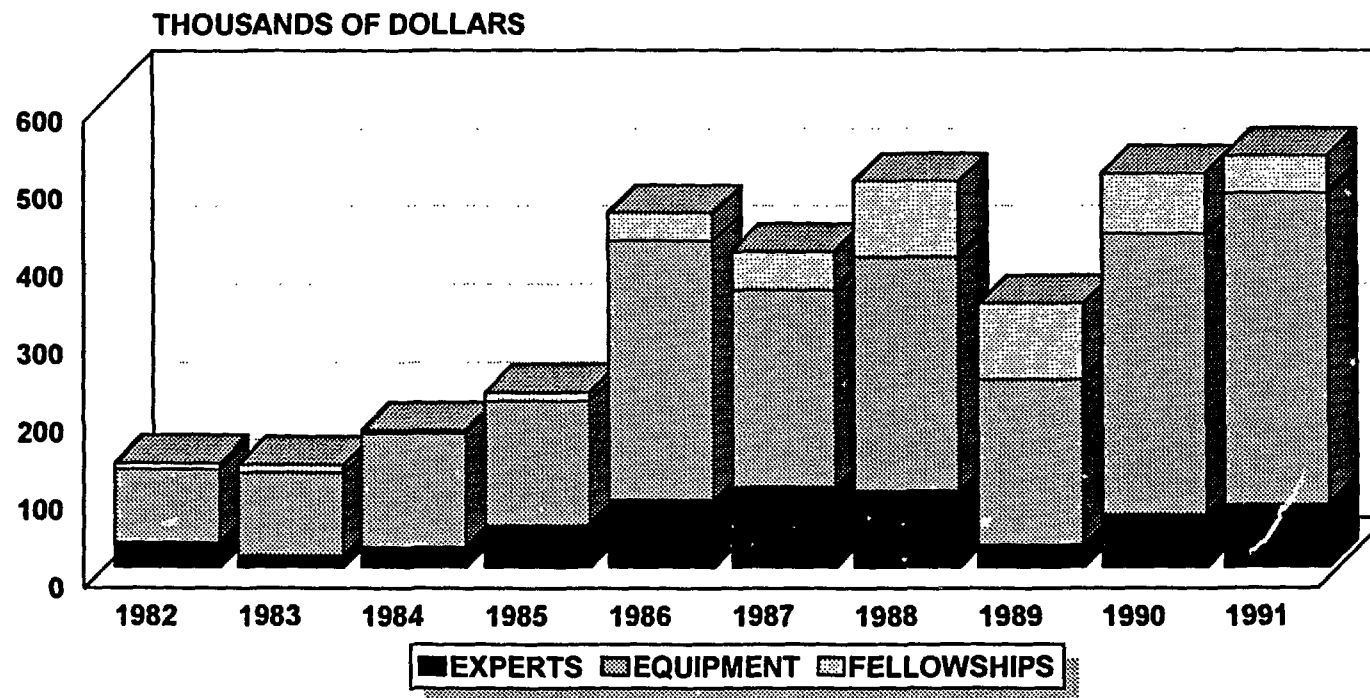




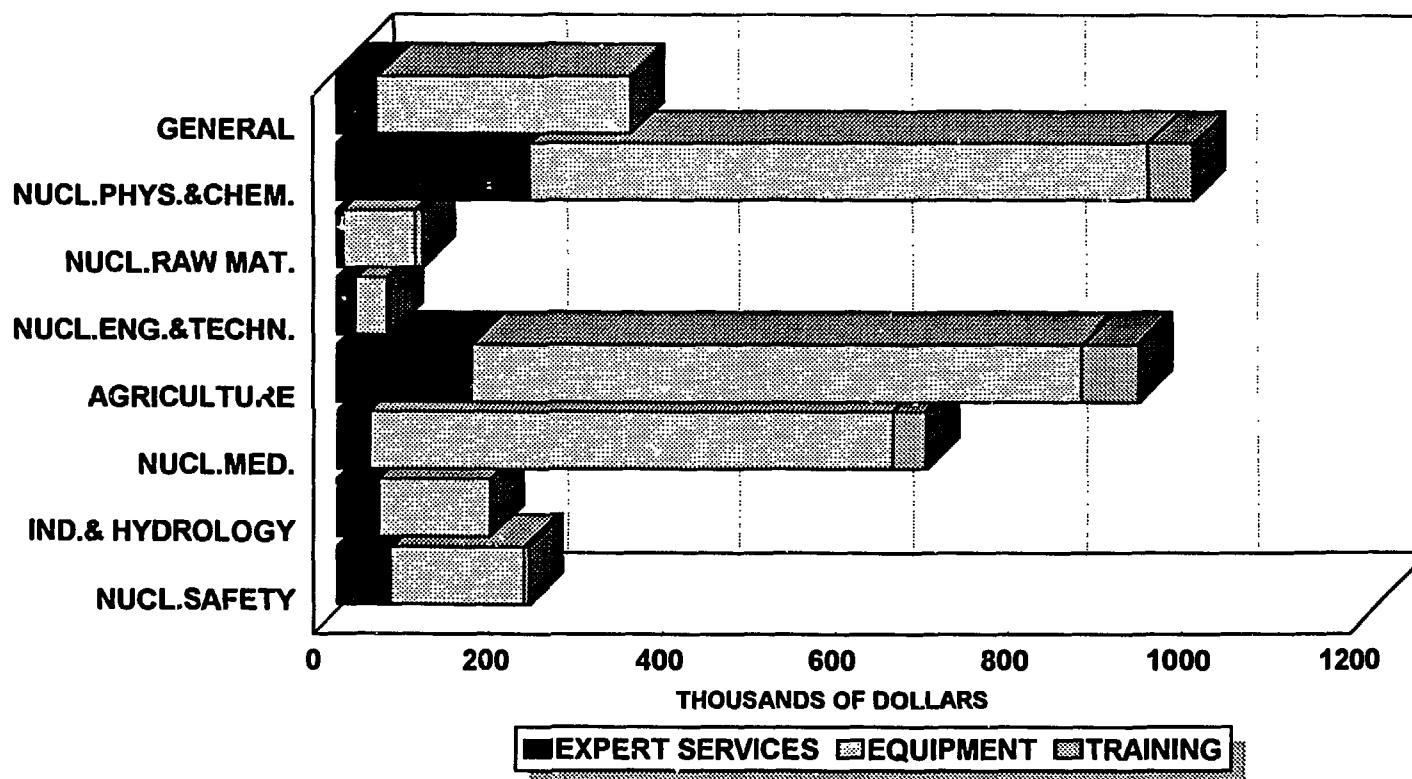
## TC PROJECT DISBURSEMENTS IN ALGERIA BY SECTOR (1982 - 1991)



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



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



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

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

YEAR	RANKING	AMOUNT
1958-81	72 <sup>nd</sup>	212.9
1982	49 <sup>th</sup>	133.4
1983	54 <sup>th</sup>	131.3
1984	45 <sup>th</sup>	175.3
1985	39 <sup>th</sup>	223.7
1986	26 <sup>th</sup>	454.5
1987	33 <sup>rd</sup>	403.9
1988	18 <sup>th</sup>	495.2
1989	34 <sup>th</sup>	337.9
1990	28 <sup>th</sup>	505.0
1991	28 <sup>th</sup>	527.8
1958-91	41 <sup>st</sup>	3600.9

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

ALL SOURCES

Year	I	II	III	IV	V	ALGERIA
1958-81	BRA 7907.9	IND 6670.7	ARG 5200.4	PAK 5091.2	CHI 5005.7	72 <sup>nd</sup> - 212.9
1982	EGY 807.5	PER 746.4	CUB 715.7	COL 667.7	THA 654.3	49 <sup>th</sup> - 133.4
1983	EGY 2077.9	PER 1116.8	VIE 948.1	PHI 778.6	IRA 722.1	54 <sup>th</sup> - 131.3
1984	EGY 3625.9	PER 1750.4	THA 1094.6	CUB 1028.7	PHI 881.2	45 <sup>th</sup> - 175.3
1985	EGY 2494.8	PER 1120.7	THA 1117.4	BGD 1068.2	PHI 963.7	39 <sup>th</sup> - 223.7
1986	EGY 2317.0	BRA 1452.9	THA 1169.4	POL 1050.3	BGD 896.4	26 <sup>th</sup> - 454.5
1987	HUN 3452.6	EGY 1775.4	THA 1742.4	INS 1312.5	YUG 1223.2	33 <sup>rd</sup> - 403.9
1988	EGY 1486.9	BUL 1361.6	CPR 1278.5	THA 1158.7	BRA 1096.7	18 <sup>th</sup> - 495.2
1989	CPR 1542.3	EGY 1505.1	THA 1205.3	BRA 1096.5	INS 999.1	34 <sup>th</sup> - 337.9
1990	POL 2308.1	CPR 2005.0	VIE 1589.2	INS 1412.6	BRA 1229.1	28 <sup>th</sup> - 505.0
1991	INS 1305.2	CPR 975.0	EGY 959.8	BRA 951.2	BUL 934.7	28 <sup>th</sup> - 527.8
1958-91	EGY 22222.3	BRA 17021.1	THA 14596.1	PER 12631.1	INS 12383.8	41 <sup>st</sup> - 3600.9

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

TECHNICAL ASSISTANCE AND CO-OPERATION FUND

Year	I	II	III	IV	V	ALGERIA
1958-81	HUN 2533.0	PAK 2010.9	EGY 1898.7	THA 1712.8	BRA 1704.8	69 <sup>th</sup> - 152.3
1982	EGY 507.1	HUN 438.2	CUB 430.7	ECU 398.4	ZAM 354.9	38 <sup>th</sup> - 126.1
1983	EGY 1049.4	VIE 897.4	POL 667.8	PAK 498.5	PHI 430.0	48 <sup>th</sup> - 124.1
1984	EGY 1197.2	CUB 655.6	ECU 565.6	BGD 506.3	BUL 472.4	37 <sup>th</sup> - 175.3
1985	BGD 991.8	VIE 745.0	THA 708.7	BRA 571.8	POR 538.7	29 <sup>th</sup> - 223.7
1986	BRA 1381.8	THA 871.9	POL 833.5	BGD 823.9	SYR 751.8	21 <sup>st</sup> - 454.5
1987	HUN 3305.2	DRK 986.8	BUL 888.5	INS 885.8	EGY 878.9	26 <sup>th</sup> - 402.2
1988	BUL 1195.6	PER 856.5	EGY 768.6	INS 751.7	MAL 656.0	13 <sup>th</sup> - 459.1
1989	EGY 990.9	CPR 868.2	POR 769.6	CHI 756.9	MAL 619.4	31 <sup>st</sup> - 280.9
1990	POL 1562.3	VIE 1518.8	DRK 1156.2	IRA 958.0	YUG 933.4	19 <sup>th</sup> - 502.1
1991	BUL 893.1	PAK 868.8	INS 855.1	VIE 817.6	CPR 814.5	20 <sup>th</sup> - 527.8
1958-91	EGY 9591.3	HUN 8256.5	POL 7793.5	BRA 7433.5	PAK 7346.0	32 <sup>nd</sup> - 3428.1

ASSISTANCE PROVIDED BY THE AGENCY TO ALGERIA

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	31.3	93.6	8.5	-	-	133.4	-	123.0	3.1	-	7.3	133.4
1983	14.6	106.3	10.4	-	-	131.3	-	124.1	-	-	7.2	131.3
1984	25.8	145.3	4.2	-	-	175.3	-	175.3	-	-	-	175.3
1985	53.5	159.2	11.0	-	-	223.7	-	223.7	-	-	-	223.7
1986	86.3	331.7	36.5	-	-	454.5	-	423.4	31.1	-	-	454.5
1987	102.4	252.7	48.8	-	-	403.9	-	376.5	25.7	-	1.7	403.9
1988	97.8	299.6	97.8	-	-	495.2	-	436.0	23.1	-	36.1	495.2
1989	28.9	211.5	97.5	-	-	337.9	-	244.3	36.6	-	57.0	337.9
1990	67.0	359.6	78.4	-	-	505.0	-	383.9	118.2	-	2.9	505.0
1991	79.5	400.1	48.2	-	-	527.8	-	457.6	70.2	-	-	527.8
1982-91	587.1	2 359.6	441.3	-	-	3 388.0	-	2 967.8	308.0	-	112.2	3 388.0

TECHNICAL CO-OPERATION PROJECTS IN ALGERIA  
BY SECTOR

PROJECTS COMPLETED AND OPERATIONAL 1982 - 1992

TOTAL PROJECT ALLOTMENTS AND DISBURSEMENTS  
(as of 31 October 1992)

SECTOR	NO. OF PROJECTS	ALLOTMENTS \$	% OF TOTAL	DISBURSEMENTS \$	% OF TOTAL
General atomic energy development	2	346 471	8.3	340 352	9.7
Nuclear physics and chemistry	10	1 290 255	30.8	990 478	28.3
Nuclear raw materials	3	198 183	4.7	97 927	2.8
Nuclear engineering and technology	2	63 474	1.5	60 346	1.7
Nuclear techniques in agriculture	9	1 006 970	24.1	928 144	26.6
Nuclear medicine	4	723 888	17.3	680 431	19.5
Nuclear techniques in biology	-	-	-	-	-
Nuclear techniques in industry and hydrology	4	183 433	4.4	177 124	5.1
Nuclear safety	5	370 659	8.9	221 622	6.3
TOTAL	39	4 183 333	100.0	3 496 424	100.0



TECHNICAL CO-OPERATION PROJECTS IN ALGERIA  
 COMPLETED AND OPERATIONAL, BY SECTOR, 1982 - 1992  
 (As of 31 October 1992)

Sector	No. of projects	Total project allotments \$	Total project disbursements \$
<u>Completed projects</u>			
General atomic energy development	2	346 471	340 352
Nuclear physics and chemistry	4	428 455	464 079
Nuclear raw materials	2	85 745	86 788
Nuclear engineering and technology	2	63 474	60 346
Nuclear techniques in agriculture	6	475 750	495 679
Nuclear medicine	2	180 667	183 087
Nuclear techniques in biology	-	-	-
Nuclear techniques in industry & hydrology	4	183 433	177 124
Nuclear safety	4	253 009	181 194
TOTAL	26	2 017 004	1 988 649
<u>Operational projects</u>			
General atomic energy development	-	-	-
Nuclear physics and chemistry	6	861 800	526 399
Nuclear raw materials	1	112 438	11 139
Nuclear engineering and technology	-	-	-
Nuclear techniques in agriculture	3	531 220	432 465
Nuclear medicine	2	543 221	497 344
Nuclear techniques in biology	-	-	-
Nuclear techniques in industry & hydrology	-	-	-
Nuclear safety	1	117 650	40 428
TOTAL	13	2 166 329	1 507 775

EXPERT SERVICES, EQUIPMENT AND PROJECT-FUNDED TRAINING PROVIDED TO ALGERIA, BY SECTOR  
 PROJECTS COMPLETED AND OPERATIONAL 1982 - 1992  
 (As of 31 October 1992)

FIELD	TOTAL PROJECT ALLOTMENTS				TOTAL PROJECT DISBURSEMENTS			
	EXPERT SERVICES		EQUIPMENT	TRAINING	EXPERT SERVICES		EQUIPMENT	TRAINING
	M/M	\$	\$	\$	M/M	\$	\$	\$
General atomic energy development	7/29	49 100	297 371	-	7/11	45 690	294 662	-
Nuclear physics and chemistry	40/25	337 050	881 248	71 957	25/04	222 990	716 365	51 123
Nuclear raw materials	3/15	30 300	159 511	8 372	1/01	7 850	81 705	8 372
Nuclear engineering and technology	2/19	20 588	40 453	2 433	2/19	22 079	35 834	2 433
Nuclear techniques in agriculture	24/15	181 117	756 376	69 477	18/20	155 658	704 616	67 870
Nuclear medicine	7/02	54 910	630 980	37 998	4/11	37 545	605 356	37 530
Nuclear techniques in biology	-	-	-	-	-	-	-	-
Nuclear techniques in industry & hydrology	8/20	55 433	128 000	-	8/17	48 508	128 616	-
Nuclear safety	14/23	98 935	251 509	20 215	8/06	61 814	153 993	5 815
TOTAL	109/28	827 433	3 145 448	210 452	75/29	602 134	2 721 147	173 143

AGENCY FELLOWS FROM ALGERIA

1982 - 1992<sup>1</sup>  
(As of 31 October 1992)

Sector	No. of fellowships	No. of months/days	Host countries
General atomic energy development	2	10/19	USCR, IAEA
Nuclear physics	12	42/22	HUN, FRA, BEL, UK
Nuclear chemistry	14	60/11	GER, HUN, GRE, BEL, IND, CZE
Nuclear raw materials	3	9/01	FRA, SYR
Nuclear engineering and technology	9	18/15	YUG, MAL, INS, FRA, HUN, UK, IAEA
Nuclear techniques in agriculture	21	73/13	NET, USA, ITA, BEL, FRA, MOR, GUA, GER, POL, IAEA
Nuclear medicine	3	15/02	FRA, IAEA
Nuclear techniques in biology	-	-	-
Nuclear techniques in industry and hydrology	8	29/12	ITA, MAL, IAEA
Nuclear safety	10	26/16	FRA, GER, BEL, MAL, ARG, IAEA
TOTAL	82	285/21	

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

ALGERIA  
FELLOWSHIPS LONGER THAN 12 M/M  
1982 - 1992  
(As of 31 October 1992)

Name	Field of study	Host country	Date	Duration	Project
BERKANE	Radiopharmacy	GRE	Feb.88 - Feb.89	12/00	ALG/6/003

ALGERIAN NATIONALS WHO WERE AWARDED MORE THAN ONE  
FELLOWSHIP OR SCIENTIFIC VISIT  
1982 - 1992  
(As of 31 October 1992)

Name	Field of study	Host country	Date	Duration	Project
BENNACEUR	1. Plant pathology 2. Pesticide residues	FRA GER IAEA	Sep.87 - Mar.88	6/00	ALG/5/007
			Feb.90 - Mar.90	0/12	RAF/0/003
BENZAID	1. Radiopharmacy 2. Radiopharmacy	GRE GER	Sep.87 - Oct.87	1/02	ALG/6/003
			Jan.90 - Feb.90	0/19	ALG/6/005
	3. Cyclotron	IND HUN	Apr.90	0/05	ALG/4/002
BERKANE	1. Radiopharmacy 2. Production & control of radiopharmaceuticals	GRE CZE	Feb.88 - Feb.89	12/00	ALG/6/003
			Jul.90 - Sep.90	2/01	RAF/0/003
FELLOUH	1. Neutron generator operation 2. Analytical chemistry	FRA BEL	Oct.83 - Nov.83	0/21	ALG/0/006
			Apr.92 - May 92	1/09	ALG/2/004

AGENCY TRAINING COURSES WITH ALGERIAN PARTICIPATION

1982 - 1992  
(As of 31 October 1992)

Field	Number of participants	Number of courses
General atomic energy development	14	7
Nuclear physics	10	10
Nuclear chemistry	2	2
Nuclear raw materials	2	2
Nuclear engineering and technology	20	16
Nuclear techniques in agriculture	24	16
Nuclear medicine	13	10
Nuclear techniques in biology	2	2
Nuclear techniques in industry & hydrology	4	4
Nuclear safety	19	16
TOTAL	110	85

MULTIPLE PARTICIPATION IN AGENCY TRAINING COURSES  
BY ALGERIAN NATIONALS  
1982 - 1992  
(As of 31 October 1992)

Name	Course No.	Course title	Year	Location
BENLEBNA	RAF/5/013 (001) RAF/5/013 (003)	Regional group training course on medfly SIT RWS on medfly trapping	1989 1990	ITA MOR
BENNAI	RAF/5/013 (001) RAF/5/013 (004)	Regional group training course on medfly SIT RWS on medfly trapping	1989 1990	ITA TUN
BENZAID	RAF/6/007 (001) RER/6/002 (002)	RWS on co-operation in radioimmunoassay RWS on radioimmunoassay	1991 1989	KEN KUW
IDIRI	INT/1/031 (001)	Study tour on the utilization of low energy accelerators	GER HUN ITA USSR ITA	1985
	INT/1/034 (001)	ITC on basic and applied nuclear physics		1985
KRIM	INT/0/041 (001)	ITC on nuclear power planning and feasibility studies	FRA	1986
	INT/9/053 (001)	ITC on safety of nuclear power plants and of fuel cycle installations	FRA	1984

PROJECTS COMPLETED IN ALGERIA SINCE 1982  
(As of 31 October 1992)

STARTED	PROJECT NO.	TITLE	ALLOTMENTS				DISBURSEMENTS				COMPLETED
			EXPERTS		EQUIPMENT	TRAINING	EXPERTS		EQUIPMENT	TRAINING	
			M/M	\$	\$	\$	M/M	\$	\$	\$	
1980	ALG/0/006	Activation analysis	6/29	43 700	297 371	-	6/29	43 665	294 662	-	1989
1982	ALG/0/008	Nuclear power studies	1/00	5 400	-	-	0/12	2 025	-	-	1982
1985	ALG/1/006	Nuclear track detector laboratory	2/27	20 430	41 000	-	3/04	30 164	42 590	-	1989
1986	ALG/1/007	Metrology and maintenance of nuclear instrumentation	4/05	29 225	58 333	-	4/05	42 013	58 332	-	1988
1989	ALG/1/009	Ion implantation techniques	4/00	33 300	-	9 857	4/04	31 060	-	9 857	1991
1985	ALG/2/002	Nuclear analytical laboratory	7/09	51 610	163 200	21 500	7/09	65 840	162 820	21 403	1990
1984	ALG/3/002	Raw materials analysis	1/00	6 600	24 000	-	1/01	7 850	23 793	-	1987
1985	ALG/3/003	Uranium prospection	-	-	55 145	-	-	-	55 145	-	1988
1989	ALG/4/002	Installation of a cyclotron	2/01	16 780	-	2 433	2/01	18 121	-	2 433	1991
1989	ALG/4/003	Maintenance of nuclear instruments	0/18	3 808	40 453	-	0/18	3 958	35 834	-	1991



PROJECTS COMPLETED IN ALGERIA SINCE 1982  
(As of 31 October 1992)

STARTED	PROJECT NO.	TITLE	ALLOTMENTS				DISBURSEMENTS				COMPLETED
			EXPERTS		EQUIPMENT	TRAINING	EXPERTS		EQUIPMENT	TRAINING	
			M/M	\$	\$	\$	M/M	\$	\$	\$	
1979	ALG/5/005	Food irradiation	5/22	25 362	219 200	-	5/22	34 182	222 216	-	1988
1985	ALG/5/006	Medfly control	1/00	6 900	-	-	0/09	5 614	-	-	1986
1986	ALG/5/007	Pesticide residue studies	0/08	1 840	-	-	0/08	1 589	-	-	1987
1986	ALG/5/008	Plant breeding	0/14	3 220	-	-	0/14	2 143	-	-	1986
1987	ALG/5/010	Establishment of a microbiology laboratory	1/28	13 630	28 920	-	1/28	17 038	29 114	-	1992
1988	ALG/5/011	Pesticide residues	4/14	34 200	128 032	14 446	4/10	41 441	127 896	14 446	1992
1984	ALG/6/003	Radiopharmaceutical quality control	2/12	16 260	141 365	21 892	2/12	18 698	141 808	21 424	1989
1986	ALG/6/004	Nuclear medicine	0/05	1 150	-	-	0/05	1 157	-	-	1987
1981	ALG/8/002	Radioisotopes in hydrology	0/15	2 400	-	-	0/15	2 972	-	-	1982
1983	ALG/8/003	Groundwater studies in arid and semi-arid areas	1/00	6 200	-	-	0/27	6 661	-	-	1986

PROJECTS COMPLETED IN ALGERIA SINCE 1982  
(As of 31 October 1992)

STARTED	PROJECT NO.	TITLE	ALLOTMENTS				DISBURSEMENTS				COMPLETED
			EXPERTS		EQUIPMENT	TRAINING	EXPERTS		EQUIPMENT	TRAINING	
			M/M	\$	\$	\$	M/M	\$	\$	\$	
1983	ALG/8/004	Nuclear techniques in sediment transport studies	1/05	7 233	29 800	-	1/05	7 606	30 271	-	1988
1984	ALG/8/005	Industrial radiography	6/00	39 600	98 200	-	6/00	31 269	98 345	-	1988
1981	ALG/9/003	Radiation protection and nuclear safety	5/00	24 000	-	-	4/08	25 956	-	-	1985
1984	ALG/9/004	Internal contamination monitoring	3/00	20 400	45 000	14 400	0/08	1 300	-	-	1986
1985	ALG/9/005	Solid radioactive waste processing	0/22	5 060	31 707	-	0/19	5 610	28 063	-	1989
1986	ALG/9/006	Radiation protection <sup>1</sup>	3/01	21 125	85 502	5 815	3/01	28 948	85 502	5 815	1990
	TOTAL	26 projects	66/25	439 433	1 487 228	90 343	62/04	476 880	1 436 391	75 378	

<sup>1</sup> Figures for fellowships include \$2899 for one Type II award.

**OPERATIONAL PROJECTS IN ALGERIA**  
(As of 31 October 1992)

STARTED	PROJECT NO.	TITLE	ALLOTMENTS				DISBURSEMENTS			
			EXPERTS		EQUIPMENT	TRAINING	EXPERTS		EQUIPMENT	TRAINING
			M/M	\$	\$	\$	M/M	\$	\$	\$
1981	ALG/1/005	Secondary standards dosimetry laboratory	2/17	16 020	273 694	-	2/17	17 100	273 070	-
1991	ALG/1/010	Utilization of research reactor neutron beam	6/14	60 830	45 000	-	2/08	20 289	35 531	-
1991	ALG/1/011	Nuclear data bank	5/00	47 850	61 000	21 000	-	-	-	5 008
1991	ALG/1/012	Laser-induced plasma diagnostics	1/28	17 560	53 021	7 600	-	-	49 269	7 322
1991	ALG/2/003	Radioimmunoassay kit development	3/00	27 450	76 000	-	1/02	11 463	36 887	-
1991	ALG/2/004	Neutron activation analysis	3/15	32 775	110 000	12 000	0/15	5 061	57 866	7 533
1991	ALG/3/004	Uranium extraction from phosphoric acid	2/15	23 700	80 366	8 372	-	-	2 767	8 372
1989	ALG/5/013	Mutation breeding using in-vitro techniques	2/19	22 240	114 503	11 907	2/04	18 048	108 112	11 907
1989	ALG/5/014	Animal science	5/00	45 825	145 821	33 224	2/15	25 714	138 977	33 116
1991	ALG/5/015	Radioisotopes in agriculture	3/00	27 900	119 900	9 900	1/00	9 889	78 301	8 401

OPERATIONAL PROJECTS IN ALGERIA  
(As of 31 October 1992)

STARTED	PROJECT NO.	TITLE	ALLOTMENTS				DISBURSEMENTS			
			EXPERTS		EQUIPMENT	TRAINING	EXPERTS		EQUIPMENT	TRAINING
			M/M	\$	\$	\$	M/M	\$	\$	\$
1989	ALG/6/005	Production of technetium-99m radiopharmaceutical kits	1/15	12 300	347 315	11 084	1/24	17 690	336 448	11 084
1989	ALG/6/006	Nuclear medicine	3/00	25 200	142 300	5 022	-	-	127 100	5 022
1991	ALG/9/007	Environmental monitoring	3/00	28 350	89 300	-	-	-	40 428	-
	TOTAL	13 projects	43/03	388 000	1 658 220	120 109	13/25	125 254	1 284 756	97 765

Footnote-a/ projects not yet upgraded:

ALG/1/013      Radiation detection laboratory  
ALG/4/004      Upgrading of a Van de Graaff accelerator

**COUNTERPART INSTITUTIONS IN ALGERIA (I)**  
(By Project)

<u>Project No.</u>	<u>Institute</u>	<u>Counterpart(s)</u>
<u>GENERAL ATOMIC ENERGY DEVELOPMENT</u>		
ALG/0/006	Ministry for Research, Technology and Environment, Research Centre for Nuclear and Solar Studies, Algiers	BOUSSAHA
ALG/0/008	Ministry for Research, Technology and Environment, Algiers	EL HACENE
<u>NUCLEAR PHYSICS AND CHEMISTRY</u>		
ALG/1/005	High Commissariat for Research, Centre for Development of Radiation Protection and Safety Techniques, Algiers	MEGHZIFENE
ALG/1/006	High Commissariat for Research, Centre for Development of Radiation Protection and Safety Techniques, Algiers	DJEFFAL CHEROUATI
ALG/1/007	High Commissariat for Research, Centre for Development of Energy Conversion, Algiers	REZIG
ALG/1/009	Ministry for Research, Technology and Environment, Research Centre for Nuclear and Solar Studies, Algiers	TOBBECHE
ALG/1/010	High Commissariat for Research, Centre for Development of Energy Systems, Algiers	BOUZID
ALG/1/011	High Commissariat for Research, Centre for Development of Energy Systems, Algiers	AREZKI
ALG/1/012	High Commissariat for Research, Centre for Development of Advanced Technologies, Algiers	KERDJA
ALG/2/002	Ministry for Research, Technology and Environment, Centre for Development of Nuclear Techniques, Algiers	BOUSSAHA TOBBECHE

**COUNTERPART INSTITUTIONS IN ALGIERS (I)**  
(By Project)

<u>Project No.</u>	<u>Institute</u>	<u>Counterpart(s)</u>
<u>NUCLEAR PHYSICS AND CHEMISTRY (cont'd)</u>		
ALG/2/003	Ministry for Research, Technology and Environment, Centre for Development of Nuclear Techniques, Algiers	BENZAID
ALG/2/004	High Commissariat for Research, Centre for Development of Energy Systems, Algiers	KADDARI
<u>NUCLEAR RAW MATERIALS</u>		
ALG/3/002	High Commissariat for Research, Materials Development Centre, Algiers	AHMED
ALG/3/003	High Commissariat for Research, Materials Development Centre, Algiers	AHMED
ALG/3/004	High Commissariat for Research, Materials Development Centre, Algiers	ZERARKA
<u>NUCLEAR ENGINEERING AND TECHNOLOGY</u>		
ALG/4/002	Ministry for Research, Technology and Environment, Centre for Development of Nuclear Techniques, Algiers	BENZAID TOBBECHE
ALG/4/003	Ministry for Research, Technology and Environment, Centre for Development of Nuclear Techniques, Algiers	BOUSSAHA
<u>AGRICULTURE</u>		
ALG/5/005	Ministry for Research, Technology and Environment, Algiers	BOUSSAHA
ALG/5/006	High Commissariat for Research, Centre for Development of Basic Techniques, Algiers	BOUSSAHA

**COUNTERPART INSTITUTIONS IN ALGERIA (I)**  
(By Project)

<u>Project No.</u>	<u>Institute</u>	<u>Counterpart(s)</u>
<u>AGRICULTURE (cont'd)</u>		
ALG/5/007	Ministry for Research, Technology and Environment, Research Centre for Nuclear and Solar Studies, Algiers	NOUANI
ALG/5/008	High Commissariat for Research, Nuclear and Research Centre, Algiers	OUGOUAG
ALG/5/010	Ministry for Research, Technology and Environment, Centre for Development of Nuclear Techniques, Algiers	MAHLOUS OULARBI
ALG/5/011	1. Ministry for Research, Technology and Environment, Centre for Development of Nuclear Techniques, Algiers 2. Ministry of Agriculture, National Institute of Crop Production, Algiers	BENNACEUR  KHORSI
ALG/5/013	1. Ministry for Research, Technology and Environment, Centre for Development of Nuclear Techniques, Algiers 2. Major Crop Development Institute, Algiers	BENSLIMANI AIT SI MAMAR  NEMMAR
ALG/5/014	1. Ministry for Research, Technology and Environment, Centre for Development of Nuclear Techniques, Algiers 2. Technical Institute for Cattle and Sheep Production, Algiers	BENYOUCEF  BOUSSAHA
ALG/5/015	Ministry for Research, Technology and Environment, Centre for Development of Nuclear Techniques, Algiers	BENNACEUR

**COUNTERPART INSTITUTIONS IN ALGERIA (I)**  
(By Project)

<u>Project No.</u>	<u>Institute</u>	<u>Counterpart(s)</u>
<u>NUCLEAR MEDICINE</u>		
ALG/6/003	High Commissariat for Research, Centre for Development of Radiation Protection and Safety Techniques, Algiers	DJERMOUNI BENZAID
ALG/6/004	Pierre et Marie Curie Centre, Endocrinology Department, Algiers	BENMILOUD
ALG/6/005	Ministry for Research, Technology and Environment, Research Centre for Nuclear and Solar Studies, Algiers	SAADA
ALG/6/006	Pierre et Marie Curie Centre, Endocrinology Department, Algiers	AMOKRANE
<u>NUCLEAR TECHNIQUES IN INDUSTRY AND HYDROLOGY</u>		
ALG/8/002	Ministry of Water Resources, Algiers	ACHI
ALG/8/003	Ministry for Research, Technology and Environment, Algiers	DJERMOUNI
ALG/8/004	Ministry for Research, Technology and Environment, Algiers	DENMAK
ALG/8/005	High Commissariat for Research, Centre for Development of Energy Conversion, Algiers	BEN AMEUR
<u>NUCLEAR SAFETY</u>		
ALG/9/003	Ministry for Research, Technology and Environment, Algiers	MESSEN
ALG/9/004	High Commissariat for Research, Centre for Development of Radiation Protection and Safety Techniques, Algiers	DJERMOUNI



**COUNTERPART INSTITUTIONS IN ALGIERS (I)**  
(By Project)

<u>Project No.</u>	<u>Institute</u>	<u>Counterpart(s)</u>
<u>NUCLEAR SAFETY (cont'd)</u>		
ALG/9/005	High Commissariat for Research, Centre for Development of Radiation Protection and Safety Techniques, Algiers	ZITOUNI SAIBI
ALG/9/006	High Commissariat for Research, Centre for Development of Radiation Protection and Safety Techniques, Algiers	DJERMOUNI MEGHZIFENE
ALG/9/007	High Commissariat for Research, Centre for Development of Radiation Protection and Safety Techniques, Algiers	CHEROUATI

**COUNTERPART INSTITUTIONS IN ALGERIA (II)**  
(By Institute)

**ALGIERS**

**Ministry for Research, Technology and Environment**  
**Algiers**

ALG/0/008	Nuclear Power Studies
ALG/5/005	Food irradiation
ALG/8/003	Groundwater Studies in Arid and Semi-arid Areas
ALG/8/004	Nuclear Techniques in Sediment Transport Studies
ALG/9/003	Radiation Protection and Nuclear Safety

**Ministry for Research, Technology and Environment**  
**Research Centre for Nuclear and Solar Studies**  
**Algiers**

ALG/0/006	Activation Analysis
ALG/1/009	Ion Implantation Techniques
ALG/5/007	Pesticide Residue Studies
ALG/6/005	Production of Technetium-99M Radiopharmaceutical Kits

**Ministry for Research, Technology and Environment**  
**Centre for Development of Nuclear Techniques**  
**Algiers**

ALG/2/002	Nuclear Analytical Laboratory
ALG/2/003	Radioimmunoassay Kit Development
ALG/4/002	Installation of a Cyclotron
ALG/4/003	Maintenance of Nuclear Instruments
ALG/5/010	Establishment of a Microbiology Laboratory
ALG/5/011	Pesticide Residues
ALG/5/013	Mutation Breeding Using In-vitro Techniques
ALG/5/014	Animal Science
ALG/5/015	Radioisotopes in Agriculture

**Ministry of Agriculture**  
**National Institute of Crop Production**  
**Algiers**

ALG/5/011	Pesticide Residues
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**Ministry of Water Resources**  
**Algiers**

ALG/8/002	Radioisotopes in Hydrology
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**COUNTERPART INSTITUTIONS IN ALGERIA (II)**  
(By Institute)

**ALGIERS (cont'd)**

**High Commissariat for Research**  
**Centre for Development of Radiation Protection and Safety Techniques,**  
**Algiers**

ALG/1/005	Secondary Standards Dosimetry Laboratory
ALG/1/006	Nuclear Track Detector Laboratory
ALG/6/003	Radiopharmaceutical Quality Control
ALG/9/004	Internal Contamination Monitoring
ALG/9/005	Solid Radioactive Waste Processing
ALG/9/006	Radiation Protection
ALG/9/007	Environmental Monitoring

**High Commissariat for Research**  
**Centre for Development of Energy Conversion**  
**Algiers**

ALG/1/007	Metrology and Maintenance of Nuclear Instrumentation
ALG/8/005	Industrial Radiography

**High Commissariat for Research**  
**Centre for Development of Energy Systems**  
**Algiers**

ALG/1/010	Utilization of Research Reactor Neutron Beam
ALG/1/011	Nuclear Data Bank
ALG/2/004	Neutron Activation Analysis

**High Commissariat for Research**  
**Centre for Development of Advanced Technologies**  
**Algiers**

ALG/1/012	Laser-induced Plasma Diagnostics
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**High Commissariat for Research**  
**Centre for Development of Basic Techniques**  
**Algiers**

ALG/5/006	Medfly Control
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**COUNTERPART INSTITUTIONS IN ALGERIA (II)**  
(By Institute)

**ALGIERS (cont'd)**

**High Commissariat for Research  
Nuclear and Research Centre  
Algiers**

ALG/5/011 Pesticide Residues

**High Commissariat for Research  
Materials Development Centre  
Algiers**

ALG/3/002 Raw Materials Analysis  
ALG/3/003 Uranium Prospection  
ALG/3/004 Uranium Extraction from Phosphoric Acid

**Major Crop Development Institute  
Algiers**

ALG/5/013 Mutation Breeding Using In-vitro Techniques

**Technical Institute for Cattle and Sheep Production  
Algiers**

ALG/5/014 Animal Science

**Pierre et Marie Curie Centre  
Endocrinology Department  
Algiers**

ALG/6/004 Nuclear Medicine  
ALG/6/006 Nuclear Medicine

**THE AGENCY'S TECHNICAL CO-OPERATION PROGRAMME WITH  
ALGERIA  
SINCE 1982**

**LONG-TERM EXPERT ASSIGNMENTS**

NONE

**RESEARCH CONTRACTS/AGREEMENTS IN ALGERIA SINCE 1982 <sup>1</sup>**  
**(As of 31 October 1992)**

Field of activity	No. of contracts/ agreements	Amount allocated \$
Nuclear physics	3	23 494
Nuclear engineering and technology	2	7 500
Nuclear techniques in agriculture	3	42 000
Nuclear techniques in biology	1	12 000
Nuclear techniques in industry & hydrology	2	16 000
Safety in nuclear energy	1	-
TOTAL	12	100 994

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<sup>1</sup>/ New awards since 1982

**SCIENTISTS FROM ALGERIA SERVING AS AGENCY  
TECHNICAL CO-OPERATION EXPERTS OR  
TRAINING COURSE LECTURERS  
1982 - 1992  
(As of 31 October 1992)**

Name	No. of assignments	Project(s)
ABDOUN	1	INT/0/052
BERRAH	1	INT/4/073
BOUDJEMAI	1	RAF/5/021
BOUGHALEM	1	RAF/5/010
CHAWKI	1	RAF/5/013
DEMAK	1	RAF/8/007
DRIDI	1	RAF/5/013
EL-MECHERI	2	INT/0/038, RLA/8/006
GUENDEZ	2	RAF/5/013
HETRAF	1	INT/9/066
KADRI	1	INT/0/037
MEHDID	1	RAF/8/007
MOHAMED	1	RAF/5/013
RACHEF	4	RAF/5/013
SAHOUI	1	INT/0/037
SEFIA	1	INT/0/037
TOTAL	21	

**AGENCY FELLOWSHIPS AND SCIENTIFIC VISITS  
HOSTED BY ALGERIA  
1982 - 1992  
(As of 31 October 1992)**

Recipient country	No. of fellowships	No. of scientific visits	TOTAL <sup>1</sup>
ALBANIA	-	3	3
TUNISIA	1	-	1
TOTAL	1	3	4

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<sup>1</sup>/ Includes trainees who have completed or at least started their studies.



**REGIONAL AND INTERREGIONAL TRAINING EVENTS  
HOSTED BY ALGERIA  
1982 - 1992  
(As of 31 October 1992)**

Course No.	Course Title	Participants	Year
RAF/4/005 (001)	RTC on preventive maintenance and quality control of nuclear and related equipment in medicine	8	1989
RAF/8/014 (001)	RTC on non-destructive testing, radiography (level II)	6	1991
	TOTAL	14	