

**AFRICAN DEVELOPMENT FUND**



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**REPUBLIC OF CAMEROON**

**PROJECT TO SUPPORT THE NATIONAL AGRICULTURAL RESEARCH  
AND EXTENSION PROGRAMME**

**PROJECT COMPLETION REPORT**

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This report was prepared by two consultants (1 Agricultural Research Expert and 1 Agricultural Economist) following their mission to Cameroon from 06 to 23 May 2008. Questions on this document should be referred to Messrs M. AYACHI, OSAN.3 (Ext. 3380), A. DIAW, OSAN.3 (Ext. 2580), Mrs. J. N. Mwangi, Division, Manager OSAN.3 (Ext. 2375) or Mr. Aly ABOU-SABAA, Director OSAN. (Ext. 2037)

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**FISCAL YEAR**

1 January - 31 December

**CURRENCIES AND MEASURES**

Currency unit: CFA Franc (CFAF)

	At appraisal (June 1998)	At completion (June 2007)
UA 1	CFAF 807.944	CFAF 737.656

**Trend of annual average exchange rates**

Years	2000	2001	2002	2003	2004	2005	2006	2007
CFAF/UA	895.2	918.4	934.6	850.4	771.8	747.9	749.2	706.6
Base index 100 in 2000	100	103	104	95	86	84	84	79

**ACRONYMS AND ABBREVIATIONS**

ADB	:	African Development Bank
ADF	:	African Development Fund
AFU	:	Administrative and Financial Unit
ASAP	:	Agricultural Sector Adjustment Programme
BD	:	Bidding Document
CFAF	:	Franc of the African Financial Community
GDP	:	Gross Domestic Product
HIPC	:	Heavily Indebted Poor Countries
IFAD	:	International Fund for Agricultural Development
IRA	:	Institute of Agronomic Research
IRAD	:	Institute of Agricultural Research for Development
IRZV	:	Institute of Animal and Veterinary Research
LC	:	Local Currencies
MCFAF	:	Million CFAF
MDG	:	Millennium Development Goals
MINFI	:	Ministry of Finance
NAREP	:	National Agricultural Research and Extension Programme
NGO	:	Non Governmental Organisation
OHADA	:	Organisation for the Harmonization of Business Law in Africa
PIU	:	Project Implementation Unit
REPARAC	:	Strengthening Partnerships for Agronomic Research in Cameroon
TOR	:	Terms of Reference
UA	:	Unit of Account
WB	:	World Bank

## **EXECUTIVE SUMMARY**

**1. Introduction:** The project to support the National Agricultural Research and Extension Programme (NAREP) is in line with the Cameroonian government's sector policy that aims to reduce institutional constraints in order to promote competitive, sustainable and equitable agricultural and rural development in all the agro-ecological regions of the country. Hence the Bank's favourable answer to the request of the Cameroonian government for the financing of the research component 'to support the second phase of a vast extension-based programme on WB financing.

**2. Objectives and Formulation:** The general objective of the project is to increase agricultural productivity by improving the performance of the national agricultural research facility. This general objective is broken down into three specific objectives, namely: (i) build the institutional capacities of the key IRAD services; (ii) reactivate the experimental research activities, consistent with the farmers' needs, and. (iii) improve the skills of the scientific, technical and administrative staff of IRAD. The project appraisal report was approved by the Bank Board of Directors in July 1998 and the loan agreement was signed on 8 December. Overall, the appraisal report is satisfactory, despite the shortcomings noted in the logical framework and the components on Training and Research in experimental stations.

**3. Project implementation:** The loan became effective on 1 October 1999, i.e. slippage of 10 months on the estimated schedule and the signature date of the Loan Agreement on 8 December 1998. These were owing to the difficulties the Borrower had fulfilling certain loan agreement conditions. With regard to the implementation schedule, the operational activities of the project were implemented over a 7-year period (July 2000 to June 2007, excluding one and a half years dedicated to loan effectiveness) instead of the five years initially projected (January 1999 to December 2003). The difficulties stemmed from inefficiency, departure of the Project Implementation Unit (PIU) and lack of familiarization with the procedures during the first three years. The major modifications related to the upward revision of the costs of the civil works, equipment and consultation categories, to the detriment of the unallocated category.

#### **4. Project Performance.**

Operational Performance: In component A, the implementation rate is estimated at 97%. In component B, 90% of the programmed research activities were implemented. For component C, the physical implementation rate is estimated at 100% in relation to the revised objective.

Institutional Performance: Project management was ensured by a steering committee and a project implementation unit (PIU), reorganized into four units in April 2002. The project staff comprised IRAD employees assigned to the project and contract workers. All the external audits were performed, albeit with delay in the early years. A monitoring-evaluation unit specific to the project was created in April 2002. It helped work out and implement reliable procedures and indicators for monitoring the activities, inputs, resources and project performance, thereby improving the viability of the project field activities.

Performance of the Service Providers: In total, 60 foreign and national service providers took part in the implementation of the project activities: 33 contractors, 13 suppliers and 14 consultants. The various services are satisfactory overall, with the exception of Thalex with regard to technical assistance in administration and finance.

Economic Performance: The assessment of the economic performance, under the global programme with which the present project is in synergy, shows that the adoption rate of the developed technologies was 48%, the productivity of plant and animal production increased by 30% on average and agricultural incomes by 20 %.

**5. Project Viability and Sustainability:** The project has made IRAD more credible. This credibility has enabled the institution to adopt a new, more functional organization chart and a strategic plan for 2008-2012, and to mobilize the development partners' financial resources for the financing of certain projects.

**6. Performance of the Bank and the Borrower:** The Bank's intervention is satisfactory in view of the globally positive results obtained. The Government honoured its undertaking to pay the national counterpart funds to the project, but was very late in fulfilling the conditions precedent to loan effectiveness. Furthermore, PIU has not yet submitted to the Bank documentary evidence of FDR expenditures of UA 1,847,746.56

**8. Overall Performance:** The overall project performance is considered satisfactory with an average rating of 2.5 out of 4, representing an overall satisfaction rate of 62.5%, broken down as follows: (i) implementation performance, 2.3 out of 4; (ii) performance of the Bank, 2.75 out of 4; (iii) outcome performance, 2.5 out of 4.

**9. Conclusions, Lessons Learnt and Recommendations:** The project implementation was satisfactory overall, in spite of the difficulties encountered, arising from lack of familiarization with the procedures during the first three years. The project outputs, though unsatisfactory in relation to the needs, contributed to the revival of agricultural research in Cameroon and greater incentives to the researchers.

The principal lessons learnt are: (i) efficient agricultural research is indispensable for the sustainable economic and social development of a country; (ii) the improvement of the implementation period of projects depends on the steps taken to build the capacities of the staff to master ADB procedures as from project start-up; (iii) the need to define the objectives and scope of Bank projects, on the basis of the type of project and the results expected; and (v) the current technological level gives IRAD the capacity to find, in the short term, appropriate responses to the food crisis.

The key recommendations are:

To the Government: (i) put in place a lasting agricultural research financing mechanism and accelerate the settlement of the budgeted commitments to IRAD; (ii) communicate to the Bank the justifications of all FDR expenditures; (iii) draw up a plan to safeguard and maintain the installations and equipment; and (iv) take advantage of the achievements and all the institutional, scientific and technical facilities established at IRAD.

To the Bank: (i) favourably explore the possibilities of financing the agricultural research strategic plan, including the innovative scientific programme prepared by IRAD; (ii) consider the possibility of making IRAD a Regional Agricultural Research Centre of Excellence in central Africa; (iii) support a new sub-regional agricultural research programme, where IRAD could play leading role; (iv) in the future, limit the conditions precedent to first disbursement to avoid delays in project start-up; and always envisage a project launching workshop, training seminars for the PIU staff on the procurement rules of procedure and beef up supervision missions.

## PROJECT BASIC DATA

### PRELIMINARY DATA

1. Country : Republic of Cameroon
2. Project Name : Project to Support the National Agricultural Research and Extension Programme (NAREP)
3. Loan Number (ADB) : F/CAM/AP-PNR/AGR/98/14
4. Borrower : Government of Cameroon
5. Beneficiary : Institut de Recherche Agricole pour le Développement (IRAD), Institute of Agricultural Research for Development
6. Executing Agency : Institut de Recherche Agricole pour le Développement (IRAD), Institute of Agricultural Research for Development

### A. LOAN DATA

Description	Estimate at Appraisal	Actual Estimate
1. Amount (UA)	7 000 000	7 000 000
2. Loan interest	1% between the 11th and 20th year and 3% from the 21 <sup>st</sup> year	1% between the 11th and 20th year and 3% from the 21st year
3. Repayment period	40 years	40 years
4. Grace period	10 years	10 years
5. Service charge per annum (%) on the amount disbursed and outstanding	0.75	0.75
6. Commitment charge (%) on the undisbursed amount	0.5	0.5
7. Appraisal date	June 1998	June 1998
8. Approval date	July 1998	18 July 1998
9. Signature Date	September 1998	08 December 1998
10. Effectiveness Date	December 1998	01 October 1999

### B. PROJECT DATA

	<u>Estimate at Appraisal</u>	<u>Actual Figures</u>
1. Total cost (UA million):	7.00	7.00
2. <u>Financing plan</u> (UA million)		

Sources of Finance	Estimate at Appraisal			Actual completion figures			Difference
	F.E.	L.C.	Total	F.E.	L.C.	Total	
ADF	4.38	2.62	7.00	4.38	2.62	7.00	0
Government	0	1.97	1.97	0	3.41	3.41	- 1.44
<b>Total</b>	<b>4.38</b>	<b>4.59</b>	<b>8.97</b>	<b>4.38</b>	<b>6.03</b>	<b>10.41</b>	<b>- 1.44</b>

3. Effective first disbursement date : 3 May 2000
4. Effective last disbursement date : 29 January 2008
5. Start-up of project implementation activities : 1 July 2000
6. Completion date of project implementation activities : 30 June 2007

## PERFORMANCE INDICATORS

1.	Financial balance	:	0 %		
2.	Time Overrun/Underrun				
	- Slippage on effectiveness	:	10 months		
	- Slippage on start-up of activities	:	18 months		
	- Slippage on completion date	:	42 months		
	- Slippage on last disbursement	:	25 months		
	- Number of extensions of the last disbursement deadline	:	2		
3.	Project implementation status	:	Completed		
4.	List of verifiable indicators and completion levels (expressed in %)				
	- Rehabilitated infrastructure (offices, accommodation, laboratories)	:	100%		
	- Equipment, logistics, computerization, documentation acquired	:	100%		
	- Technical assistance provided	:	75%		
	- Participatory scientific programming implemented	:	100%		
	- 62 research projects implemented	:	100%		
	- Research activities implemented	:	90%		
	- 19 training modules implemented (370 workers trained, including 20% women and 77% researchers)	:	100%		
				<u>Unsatisfactory</u>	<u>Fair</u>
5.	Institutional performance				x
6.	Performance of the contractors				x
7.	Performance of the suppliers				x
8.	Performance of the consultants				
	Trainers				x
	Technical assistance			x	
	Auditors				x
	<i>(Refer to annex for details of the performance evaluation by contractor, supplier and consultant (trainer and technical assistant))</i>				
				<u>Appraisal</u>	<u>PCR</u>
9.	Economic rate of return (%)		19%		11.5%

## D. MISSIONS

Type of mission	Number of missions	Date of missions	Number of persons	Composition of missions	Number of person/days effectively devoted to the project on the field
<b>Preparation</b>	1	6 to 28 April 1997	2	Principal Agronomist	22
				Agricultural Economist	22
<b>Appraisal</b>	1	18 Jan. to 9 February 1998	2	Principal Agronomist	22
				Agricultural Economist	22
<b>Mid-term review</b>	1	3 to 15 July 2001	2	Chief Agronomist	12
				Irrigation Expert	12
<b>Supervision</b>	11	19 to 30 August 2000	1	Fishery Expert	6
		9 to 30 Nov. 2002	1	Chief Agronomist	14
		22 March to 5 April 2003	1	Fishery Expert	3
		20 Sept to 3 Oct. 2003	1	Chief Agronomist	10
		15 to 29 May 2004	1	Chief Agronomist	10
		3 to 17 Dec. 2004	3	Chief Agric-Economist	3
				Chief Agronomist	5
				Chief Fishery Expert	2
		12 to 21 May 2005	2	Chief Agronomist	6
				Financial Analyst	6
		10 to 23 Dec. 2005	1	Agricultural Economist	7
		11 to 23 February 2006	2	Chief Agronomist	5
				2	
		23 June to 7 July 2006	2	Agricultural Economist	7
Agric. Engineer	5				
Forestry Expert	2				
12 to 26 May 2007	1	Agric. Economist	6		
		Agricultural Expert	2		
<b>Sub-total</b>		<b>16</b>		<b>101</b>	
<b>Monitoring</b>	2	25 June to 15 July 2004	1	Disbursement officer	4
		4 to 17 Nov. 2006	1	Financial Analyst	4
	<b>Sub-total</b>		<b>2</b>		<b>8</b>
<b>Preparation of PCR</b>	1	5-23 May 2008	2	Agronomical research Expert	14
				Agronomist	18
<b>Total</b>					<b>253</b>

**E. ADB DISBURSEMENTS**

1. Slippage on loan effectiveness:
2. Progression of the loan amount in million UA

Amount at appraisal	Amount cancelled	Actual amount	Amount disbursed	Disbursement rate (%)	Unutilized balance
7.00	0.00	7.00	7.00	100%	0.00

**F. MAJOR CONTRACTS**

Description	Service providers	Reference and signing date of contract	Amounts in million CFAF	Financial implementation rate. (%)	Physical implementation status. (%)
Purchase of 16 vehicles and 20 motorbikes	UNDP/IAPSO	17/04/2000	314 905 830	100%	100%
Purchase of portable micro-computers	Challenge Graphics	Ref.133 of 02/10/2001	39 145 000	100%	100%
Purchase of 17 vehicles and motorbikes	UNDP/IAPSO	12/12/2001	273 600 700	100%	100%
Purchase of desktop computers	Computer network solution	Ref.132 of 01/06/2001	57 349 000	100%	100%
Purchase of office and laboratory equipment	UNDP/IAPSO	18/10/2001	402 019 318	100%	100%
Purchase of photocopying machines	Société BELTEX	Ref.018 of 28/01/2003	29 120 000	100%	100%
Purchase of office furniture	Société FOKOU Confort	Ref.016 of 28/01/2003	37 662 953	100%	100%
Technical assistance	THALES	31/01/2002	189 270 189	75%	75%
Study of IRAD information system	CREOLINK Cameroon B.P.12725 Ydé	Ref.17 of 30/12/2004	125 810 000	100%	100%
Engineering and architectural rehabilitation studies	MAUA B.P. 4712 Ydé	Ref. 21 of 19/02/2003	37 493 680	100%	100%
Rehabilitation works supervision and control	MAUA B.P. 4712 Ydé	Ref. 9 of 04/01/2005	37 910 700	100%	100%
Training (statistical analyses)	ANT Consulting B.P. 12039 Ydé	Ref.140 of 20/09/2004	13 275 600	100%	100%
Training (project preparation)	WINNER B.P.20030 Ydé	Ref.141 of 20/09/2004	26 504 400	100%	100%
Training (scientific writing)			26 200 000	100%	100%
Administrative and financial management training.	OPTIMA Conseil B.P.535 Ydé	Ref. 142 of 20/09/2004	26 200 000	100%	100%
Vehicle insurance	SAAR	Ref.155 of 17/11/2004	19 518 017	100%	100%
Audit of 1999-2002 accounts	SOFIDEX (PKF) B.P. 15516 Ydé	30/07/2004	29 700 000	100%	100%
Duty of the chief accountant within the PIU /PNRVA	Mr. PEKEKUE Zacharie B.P.7297 Ydé	Ref.141 of 17/02/2005	9 000 000/mois	100%	100%
Rehabilitation of DG/IRAD GENERAL DIRECTORATE	Ets Pouton & Cie	Ref.Z02 of 17/10/2005	24 714 633	100%	100%
Rehabilitation of DS/PIU GENERAL DIRECTORATE	DS SERVICE	Ref.Z.0.3.6 of 17/10/2005	19 210 392	100%	100%
Rehabilitation of the sheepfold, feed mil and tick dips 1&2 BAMBUI IRAD CENTRE	TUMS SARL	Ref.Z.3.1.2 of 17/10/2005	12 108 723	100%	100%
Rehabilitation of the buildings & feed Mill equipment of Cruches CENTRE IRAD DE BAMBUI	MBE AND SONS	Ref.Z.3.1.3 of 17/10/2005	12 025 577	100%	100%
Rehabilitation of rabbit breeding facilities 1 & 2 STATION IRAD DE MANKON	Ets ADU BROTHERS	Ref.Z.3.2.1.3 of 17/10/2005	16 801 132	100%	100%
Rehabilitation rest house & accommodation IRAD Station	AFRIC BETON	Ref.Z.3.2.4 of 17/10/2005	13 557 064	100%	100%

Manager, MANKON					
Rehabilitation of pigsty 1 & 2 and chick house STATION IRAD MANKON	GENERAL TRADE INTER	Ref.Z.3.2.5 of 17/10/2005	12 414 791	100%	100%
Rehabilitation of IRAD CENTRE laboratory, D'EKONA	Ets BOFAS	Ref.Z.4.1.1.2 of 17/10/2005	17 066 068	100%	100%
Rehabilitation & completion of administrative building 3& annex STATION IRAD NJOMBE	Ets Kond's GROUP	Ref.Z.4.4.1.2 of 17/10/2005	15 696 778	100%	100%
Rehabilitation of the National Herbarium, HERBIER NATIONAL	SOMIB CONSTRUCTION	Ref.Z.5.0.1 of 17/10/2005	13 730 633	100%	100%
Renewal of insurance policy	GMC B.P. 7145 Ydé	Ref. 1905 of 12/12/2005	13 946 329	100%	100%
Renewal of insurance policy	SAAR	Ref. 1907 of 07/12/2005	19 449 103	100%	100%
2003, 2004 and ,2005 audits	OKALLA AHANDA	Ref. 25 of 03/01/2006	27 017 950	100%	100%
Safety device equipment	ENTRACOM Sarl	Ref. 12 of 13/01/2006	37 183 473	100%	100%
Supply of scientific books	ATCAM Entreprise	Ref. 352 of 24/08/2006	16 405 042	100%	100%
Field equipment (lot 1)	PSDK	Ref. 006 of 05/01/2007	24 522 417	100%	100%
Field equipment (lot 3)			34 421 114	100%	100%
Information system equipment (lot1)	CFAO TECHNOLOGIES	Ref. 525 of 07/05/2007	150 136 903	100%	100%
Office equipment (lot2)	CFAO TECHNOLOGIES	Ref. 054 of 20/02/2007	48 905 728	100%	100%

*(Cf. annex for the comprehensive list of the 81 contracts signed and executed under the project)*

## **I INTRODUCTION**

1.1 In 1993, the Cameroonian government requested ADB to finance the restructuring of agricultural research under the Agricultural Sector Adjustment Programme (ASAP). Following consultations between the ADB Group, World Bank (WB) and the Government, the Bank was approached to finance the research component of the National Agricultural Research and Extension Programme (NAREP), co-financed by the WB and IFAD. The Bank therefore took part in developing the overall programme that led to the preparation of the appraisal report of the research component, subject of the present project.

1.2 This completion report was prepared following a mission to Cameroon by two consultants. The mission made it possible to have discussions with all the stakeholders and to utilize all available documentation for the project formulation and implementation. In keeping with the format proposed by the Bank, the structure of the report is follows: (i) Project Objectives and Formulation; (ii) Project Implementation ; (iii) Project Performance ; (iv) Social and Environmental Impacts; Project Viability and Sustainability; (v) Performance of the Bank and the Borrower; (vi) Overall Performance and Rating; and (vii) Conclusions, Lessons Learnt and Recommendations.

## **II. PROJECT OBJECTIVES AND FORMULATION**

### **2.1 Objectives**

2.1.1 The overall objective of the project was to increase agricultural productivity by improving the performance of the national agricultural research facility. Its implementation should contribute to the achievement of the sector goals of the Cameroonian government relating to poverty reduction, through the improvement of agricultural incomes.

2.1.2 The overall objective is subdivided into three specific objectives, namely: (i) build the institutional capacities of the key IRAD services; (ii) revive experimental research activities consistent with the farmers' needs; and (iii) improve the skills of the scientific, technical and administrative staff of IRAD.

2.1.3 To achieve these objectives, the project was implemented in three components, namely: (i) Strengthening of IRAD services; (ii) research in experimental stations; and (iii) Training of IRAD staff.

### **2.2 Formulation**

2.2.1 The project appraisal report was prepared in June 1998, following preparation of the project document by an FAO consultant in July 1997 and a joint WB/ADF programme appraisal mission to Cameroon in July/February 1998. The appraisal report was approved by the ADB Board of Directors on 18 July 1998 and the loan agreement was signed on 8 December 1998. To guarantee a satisfactory implementation of the project and its ownership by the direct beneficiaries, the project was prepared and appraised with the active participation of all the stakeholders, particularly the officials of the Ministries in charge of agriculture and agricultural research, IRAD and the development partners, in particular the WB and IFAD. The appraisal report recommended a participatory project implementation approach, especially in the identification of the research themes, which should be done in synergy with the researchers, extension officers and the farmers to ensure the said themes provide an appropriate response to the key problems faced by producers.

2.2.2 The incorporation of the project into the overall programme somewhat influenced the content of the appraisal report. The objectives and expected outcomes, as defined, concern the entire programme, whereas the activities and inputs are specific to the project. Furthermore, in the Training component, a multitude of individual training courses were identified which did not match the human capacity building requirements, essential to better project management. This constitutes a weakness in the project formulation. The appraisal report focused on building IRAD capacities through components A and C. On the other hand, component B, which relates to the actual research activities, is very little developed. Indeed, in component B, the quantified objectives, in terms of the research themes and the expected results, were not defined. This resulted in an under-estimation of certain developed technologies (genetic material and/or cropping practices developed). Notwithstanding these observations, the quality of the appraisal report is on the whole satisfactory.

### III. PROJECT IMPLEMENTATION

#### 3.1 Loan Effectiveness and Project Start-Up

3.1.1 Loan Effectiveness. The loan became effective on 1 October 1999, i.e. slippage of 10 months on the estimated schedule, and the loan agreement was signed on 08 December 1998. This slippage is mainly because the Borrower was slow at fulfilling certain loan agreement conditions. Indeed, in addition to the general conditions, eight (8) conditions had to be met by the Borrower: compliance with four (4) of them as conditions precedent to loan effectiveness, and fulfilment of the other (4) within the time frame.

3.1.2 The four conditions precedent to loan effectiveness, pursuant to section 5.02 of the loan agreement and the slippage on the signature date are: (i) provide the Fund with evidence of the establishment of a steering committee and the appointment of its members: *condition fulfilled by decision N° 003/cab/Minrest/A00 dated 27 January 1999 (2 months after the signing date);* (ii) provide the Fund with evidence of the setting up of the project implementation unit based within the IRAD General Directorate: *decision n°041/CAB/MINREST/A00 of 22 June 1999 (slippage of 07 months);* (iii) provide the Fund with evidence of the opening of a special account managed by the Sinking Fund, and six ordinary accounts with first rate commercial banks: *special account N° 37130212601-01-H, was opened with Commercial Bank of Cameroon in July 1999 (8 months late), but the ordinary accounts were opened only in 2001;* (iv) provide the Fund with evidence that loan agreements have been signed with the other donors, or that the latter have undertaken in writing to participate in the financing of the programme (*the other donors made their first disbursement in the first semester of 1999, this evidence was provided to the Bank just after the establishment of the project implementation unit.*

3.1.3 The other four conditions not precedent to loan effectiveness, but with fixed deadlines, encountered significant delays (at least 3 years), owing to the complexity of the said conditions and inadequate monitoring of their implementation by the PIU and Bank supervision missions. They are: (i) provide the Fund, no later than 31/12/1999, with evidence that the debt arrears of the former research structures (IRA and IRZV) have been cleared: *the total debts were cleared only in May 2004 (i.e. 4 and a half years);* (ii) Introduce, no later than 31 December 2000, the agricultural research financing mechanism to ensure the sustainability of research activities after the project: *conditions fulfilled through the Bill providing for the establishment of a research foundation initiated by the Government in May*

2004 and the preparation of the 2000-2005 performance contract; (iii) provide the Fund, for information, no later than 31 December 1999, with the implementation status of the recommendations for IRD restructuring: *conditions fulfilled on 6 September 2002 by performing the administrative and financial audit and updating IRAD by-laws (2 years and 9 months late)*; (iv) submit to the Fund, for approval, no later than 31/12/1999, a programming document of the priorities of the research actions: *the agricultural research programme document was submitted in October 2002 (2 years and 10 months late)*

3.1.4 *Project Start-up.* The operational activities of the project started only on 01 July 2000, i.e. slippage of 9 months on the effectiveness date: 19 months on the loan agreement signing date and 24 months on the loan approval date. The start-up difficulties resulted from: (i) the inability of the Project Implementation Unit (PIU) to function – as it was in fact limited to the coordinator (which prompted its restructuring into 4 operational units by decision n° 025/CAB/MINREST/AOO of April 26 2002, following the recommendations of the July 2001 mid-term mission); (ii) lack of familiarization with the rules and procedures for the procurement of goods and services and the management of bank accounts. This was in part owing to the fact that no launching and training workshop on the mastery of procedures was organized by the Bank at project start-up.

## 3.2 Modifications

3.2.1 The changes, focusing mainly on the revision of the 3 categories of goods and services, were made on 22 October 2004, namely: civil works, equipment and goods ad consultations, which saw their financial packages increase by CFAF 207.22 million, CFAF 299.69 M and CFAF 100.0 M respectively, to take account of the increase in the costs of building materials and equipment. This revision was to the detriment of the unallocated category whose total initial package was CFAF 904.89 million.

3.2.2 The other changes made following the mid-term review that helped improve project performance concerned: (i) the introduction of an IRAD computerization and management system facilitating access of researchers to scientific information and networking; (ii) the financing of the graduate certified training of 12 young researchers out of the 105 recruited during the project implementation; and (iii) the creation of a monitoring-evaluation unit, more operational and specific to the project.

## 3.3 Implementation Schedule

The operational activities of the project were planned to be implemented over 5 years, from January 1999 to December 2003. The loan took one and a half years to become effective and the operations effectively started only in July 2000 and continued until June 2007, i.e. 8 and a half years after approval and 7 years from the effective start-up date. The last disbursement deadline was extended twice. The reasons for these changes are many and include: (i) administrative red tape resulting from the institutional anchoring of the project to IRAD and the management of the special account by the Sinking Fund; (ii) PIU's lack of familiarization with the management and preparation procedures of the bidding documents, especially during the first three years; (iii) suspension of the disbursement of the revolving fund for nearly one year in 2002/2003, owing to bad project governance; and (iv) the long time ADB took to review the documents (non objections, settlement of bills, release of the revolving fund, etc). The average disbursement time of the 6 revolving funds was 140 days. The average time of a BD approval circuit was 140 days mainly owing to rejections of the

documents by the Bank and their re-preparation by PIU. On average, direct payment took 60 days. The table below shows the differences noted, by activity, between estimates at appraisal and outputs at project closure.

**Table 3.1: Project Implementation Schedule**

Activities/Actions	Appraisal Dates	Actual Dates	E/O differences in months
Establishment of PIU	Sept. 1998 to Dec 98	June 99	10 months
Preparation/launching of BD/TA	Sept. 98 (3months)	Sep 01 (6 months)	36 months
Start of operational activities	January 1999	July 2000	
Provision of TA	January 99 (18 months)	March 02 (18 months)	38 months
Monitoring-evaluation	March 99 (5 years)	June 2003 (4 years)	51 months
Audit of accounts	Dec 99 (1month)	Dec 2003 (1month)	4 years
Bidding and contracts	Jan 99 Dec. 2003 (5 years)	Dec. 1999 to May 2007 (7.5 years)	11 months
Rehabilitation works	June 99 to May 02 (3 years)	Jan. 06 to June 07	65 months
Research programming document	Jan. 99 to Dec. 99 (1 year)	April 02 to Sept 02 (6 months)	32 months
Training of managers	July 99 to July 2001 (2 years)	June 2002 to August 2005 (3 years)	36 months
Training of researchers/technicians	July 99 to June 2003 (4 years)	July 2002 to April 2007 (4 years 8 months)	42 months
Conduct of research work	Jan. 99 to Dec.2003 (4 years)	June 2000 to June 2007 (7 years)	18 months
Mid-term review	July 2001 to Sept 2001	July 2001to Sept 2001	0
Closure of operational activities	31 December 2003	30 June 2007	42 months
Final appraisal	Dec. 2003 to Feb. 2004	May June 08	51 months

### 3.4 Reporting

In keeping with the appraisal report, PIU should furnish the Bank with quarterly status reports and certified copies of the project financial statements in the 6 months following the closing of the fiscal year. In total 26 status reports were prepared and submitted to the Bank on schedule. The project also submitted all the audit reports to the Bank from 2000 to 2006: the first semester 2007 audit report and the closing audit report certifying the financial statements (even if the deadlines were respected only from the 2005 fiscal year). On the other hand, the technical assistant in charge of scientific programming furnished all the contract reports, which was not the case of the technical assistant in charge of financial and administrative management. Furthermore, many Bank missions visited the site, and accounted for the 16 reports (1 preparation, 1 appraisal, 1 monitoring-evaluation, 11 supervision and 2 monitoring). All the reports remain properly archived by the Project Implementation Unit.

### 3.5 Procurement

3.5.1 In keeping with the loan agreement, goods and services were to be procured in the following manner: (i) local competitive bidding for civil, rehabilitation and maintenance works of an amount less than UA 12 000<sup>1</sup>; (ii) negotiated contract through IAPSO, for the

<sup>1</sup> In conformity with the new Bank guidelines in force since 2000, the base applied was UA 16,000 instead of the UA 12,000 stipulated in the Loan Agreement

procurement of vehicles and motorcycles, ; (iii) International competitive bidding for the purchase of laboratory, agricultural, fishery and sundry equipment, as well as supplies; (iv) local competitive bidding for the purchase of computer software, equipment, furniture and office supplies, as well as fuel, spare parts and agricultural inputs; (v) direct procurement for the purchase of research supplies (reagents), vaccines and veterinary products; and (vi) short list for technical assistance, consultancy, audit and training services.

3.5.2 In total, 81 contracts were executed and two cancelled for procedural flaws. The procedures for the procurement of goods and services were generally respected. Nonetheless, the preparation, launching, processing and award of contracts encountered many difficulties arising mainly from non-compliance with the procedures by PIU; which led to the rejection of certain documents by the Bank and necessitated the re-preparation of these documents prior to their approval.

### 3.6 Project Cost, Sources of Finance and Disbursements

3.6.1 The project cost estimated at appraisal was UA 8.97 million: ADF loan of UA 7.00 million (representing 78% of the project cost) and Government counterpart fund of UA 1.97 million (i.e. the remaining 22%). At completion, the actual costs amounted to UA 10.41 million: UA 7.00 million from ADF loan (i.e. 100 % of the projections) and national contribution of UA 3.41 million (i.e. about 173 % of the estimates). The significant gap observed in the Government contribution in relation to estimates is mainly explained by (i) the salary the Government continues to pay the workers involved in the project during the extension of the last project disbursement and (ii) the taking into account of the duty and tax exemptions on goods imported under the project, although this provision does not appear in the appraisal report. The table hereunder summarizes the estimated and actual project costs by source of finance at project appraisal and completion.

**Table 3.2: Costs at Appraisal and Actual Project Expenditures by Source of Finance and Type of Currencies (in UA million)**

Sources of Finance	Estimate at Appraisal			Actual figures at completion			Difference
	F.E.	L.C.	Total	F.E.	L.C.	Total	
ADF	4.38	2.62	7.00	4.38	2.62	7.00	0
Government	0	1.97	1.97	0	3.41	3.41	- 1.44
Total	4.38	4.59	8.97	4.38	6.03	10.41	- 1.44

3.6.2 The comparative situation of the budget approved at appraisal and the actual expenditures by component, is recorded in the table below:

**Table 3.3: Estimated and actual expenditures by component (in million CFAF)**

Components	Budget at appraisal	Actual expenditures	Difference (+ or -)	% spent
A : Strengthening of IRAD services	3 628. 26	4 254. 96	-626. 70	117.2
B : Research in experimental station	1 486. 02	1 116. 94	369. 08	75.2
C : Staff training	541. 32	283. 70	257. 62	52.4
Total	5 655. 61	5 655. 61	0	100

The differences result mostly from the revision of the list of goods in 2004.

3.6.3 The trend of the actual disbursement status per year is recorded below.

**Table 3.4: Trend of Actual ADF Disbursements in UA Thousand**

Years	2000	2001	2002	2003	2004	2005	2006	2007	2008 (Jan.)
Actual disbursements	483.8	0.00	1121.4	712.7	783.8	2122.8	926.04	701.5	148.0
Cumulative disbursements	483.8	483.8	1605.2	2317.9	3101.7	5224.5	6150.5	6852	7 000.0
Disbursement rate (%)	6.9	6.9	22.9	33.1	44.4	74.6	87.9	97.9	100

The low disbursement rate of 6.9% up to 2001 (in relation to the estimated disbursement of 66% at appraisal at the end of the first two years), stems from the difficulties encountered by the project at the start of its activities, owing in particular to lack of familiarization with the management, disbursement request, bidding documents preparation and launching procedures.

#### IV PROJECT PERFORMANCE

##### 4.1 Operational Performance

The physical implementation status of each component is briefly presented below:

##### **Component A: Strengthening of IRAD services**

4.1.1 The targeted objective of this component is to build the institutional capacities of IRAD restructured in 1996 in order to improve its intervention capacities. This component comprised: (i) rehabilitation of IRAD and the research structures (renovation of the laboratories, stores, stables, library, researchers' offices and accommodation ; rehabilitation of the rabbit breeding facilities, poultry houses, sheep pens and pigsties); (ii) repair of the existing transport equipment and procurement of new equipment (28 4wd vehicles and 36 motorcycles) ; (iii) procurement of laboratory equipment, motorized dugout canoes boats and other fishery research equipment, communications equipment, audio-visual equipment, seed trays, greenhouse equipment and cold rooms; (iv) revitalization of documentation (new books, subscription to specialized journals and priority scientific reviews) ; (v) repair and procurement of computer equipment (15 complete desktops, 15 portable micro-computers, 10 computer units and biometric equipment), (vi) purchase of office furniture (15 electric typewriters, 70 filing cabinets, 7 photocopying machines, 9 fax/hand telephones, several items of office furniture and chairs); (vii) operating costs and salary expenditures charged to activities directly related to the project; and (viii) external support (technical assistance and short-term consultancy services).

4.1.2 At project completion, *the implementation rate of the planned activities is estimated at 97 %.* With a few exceptions, all the components were implemented. The positive differences noted in terms of the physical implementation of certain components relate to the savings made and the deletion of certain goods considered inappropriate. The negative differences observed concern technical assistance services (1 programming and scientific research expert for 18 months and 1 administrative and financial management expert for 18 months as well) provided by Thalex Engineering and Consulting, firm, which were not

consistent with the terms of reference. Indeed, the first expert performed his contract services satisfactorily within the time frame (from March 2002 to October 2003); the administrative and financial management expert could not honour his contractual commitments for reasons of competence and had to abandon his post 3 months before the end of his contract (July 2003). Consequently, up to project closure, no administrative and financial procedures document applicable to the project was adopted. The physical Implementation rate of Thalex services is estimated at 75%.

4.1.3 Generally speaking, the implementation of this component encountered a lot of difficulties and delay during the first three years of project implementation. In fact, at the mid-term review in July 2001, the physical implementation rate could be estimated at less than 10%. Since the review, procurements have increased, but are still modest owing to the shortcomings noted below in the project implementation unit. They stemmed in particular from bad project governance, lack of familiarity/non-compliance with the administrative and accounting procedures, a poor grasp of, and delay in the preparation, launching and award of contracts, as well as weak technical support provided by ADB at this period. Indeed, only one supervision mission was organized before the mid-term review<sup>2</sup>, as the next one took place only in November 2002. This mission made relevant recommendations the implementation of which helped reactivate the project activities.

4.1.4 All the rehabilitations are in good condition and have been the subject of final acceptance, to the satisfaction of all the beneficiary structures. Regarding procurement, it was noted that the earliest equipment delivered (some vehicles and motorbikes acquired in 2000 and certain computers procured in 2002) have already depreciated and are no longer functional owing to their old age and the intensity of their utilization. The other items of equipment are in good condition and highly appreciated by the users. Moreover, certain laboratories are considered benchmark laboratories in the sub-region thanks to the equipment support provided by ADB. It is also worth noting that the IRAD computerization and management system, which was not included in the project appraisal report, but programmed by the mid-term review, is operational and affords researchers better access to scientific information and networking (available database, existence of WEB site [www.irad.cameroun.02](http://www.irad.cameroun.02), and VSAT internet link). Nevertheless, the sustainability of all the materials and equipment is subject to the introduction of a security and maintenance plan, both in the General Directorate and in the IRAD research centres and experimental stations.

## **Component B: Research in Experimental Stations**

4.1.5 The objective pursued through ADB support to this component, is to revive research in the various areas selected under the restructuring of the national agricultural research. Four (4) intervention areas were envisaged for this component in the appraisal report, namely: (i) plant production research (genetic improvement, development of cropping techniques adapted to a sustainable use of natural resources, improvement of processing and storage); (ii) animal production research (food, genetic improvement and animal health); (iii) forestry, wild-life and environmental research; and (iv) research in the production, economic and sociological systems.

4.1.6 The quantified objectives, in terms of the research topics and results, were not stipulated. The appraisal report prepared in 1998, recommended the adoption of a

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<sup>2</sup> The effective entry into force of the loan was on 1 October 1999

participatory approach in the selection of the research topics, so that they would be consistent with the priority needs of the farmers. The present project was initiated in synergy with another programme primarily based on extension and supported by the World Bank, which was in its second phase. It was possible to take advantage of the progress made previously, in terms of the identification mechanism of the farmers' needs, to define the research topics through a participatory diagnosis involving close collaboration between the researchers, the farmers, the extension workers and the other agricultural development partners.

4.1.7 The participatory diagnosis adopted in the 5 agro-ecological regions concerned, helped identify and start the research activities with *386 research operations divided into 20 programmes*, namely: annual crops: 107 ; perennial crops : 80 ; animal and fish production: 62 ; forestry and environment : 71 ; production systems and rural economy. However, only about 35 % of the operations were implemented by October 2002. This low implementation level was due to inadequate material and financial resources, mismanagement of the first two revolving funds and too many research topics. These difficulties led the IRAD Scientific Department, in agreement with ADB, to refocus the programming of scientific research on the project approach. Thus from 2003, 62 projects were selected and financed on ADF resources, instead of a multitude of research operations.

4.1.8 Only the identified problems for which the technologies were not yet available or fully developed were grouped in the 62 projects financed by ADB; they are broken down as follows by sub-sector: annual crops: 24; perennial crops: 6; forest and environment: 12; animal and fish production: 9; and production systems, rural economy and sociology: 11. The orientations of the principal research topics treated by sub-sector and crops in the 62 projects may be summarized as follows (refer to research topics in annex):

- (i) Food crops: (cereals, pulses, root crops and vegetables): intensification and improvement of production, pests and crop disease control, food conservation and processing of foodstuffs, diversification and improvement of shifting cultivation techniques;
- (ii) Perennial crops: (fruit-tree production, coffee and cocoa): enhancement, intensification of productivity, post-harvest techniques;
- (iii) Animal production (cattle, rabbits, small ruminants, sea and inland fish production, poultry): sustainable management of traditional livestock farming systems, improvement of livestock productivity, improvement of the economic viability of the production systems;
- (iv) Forest and environment: protection of the biological biodiversity, genetic resources management, plant-life and wild-life protection, soil pedology and farming aptitude, sustainable management of the bottomlands, improvement and conservation of soil productivity
- (v) Production systems, economy and rural sociology: agro-pastoral, palm grove and poultry unit management.

4.1.9 At project completion, the physical implementation rate of this component, in terms of the number of projects implemented, is *100% and, 90%, if we refer to the activities programmed under the projects*. Indeed, it was noted that all the 62 projects have been implemented; however, not all the activities programmed for the 2003-2005 period and taken up again following the two extensions up to June 2007, were implemented. The reasons are summed up as follows: (i) suspension of disbursement on the revolving fund from November 2002 to December 2003, owing to non-application of the management procedures and

mismanagement of the 2000 and 2001 revolving funds by PIU, (iii) delay in the release of the revolving fund by ADB (on average 140 days between request and actual disbursement); and (iii) low degree of accountability of the researchers in monitoring the budget, giving rise to certain dysfunctions in the implementation of the research activities.

4.1.10 The above-mentioned difficulties notwithstanding, the concrete results obtained were: scientific publications, development of technologies and innovative products (different crop varieties, food formulas, prophylactic plants, procedures and equipment for processing plant and animal production. These results are consistent with the farmers' needs, thanks to the programming system based on a participatory approach.

### **Component C: IRAD Staff Training**

4.1.11 The appraisal report provided for seminars and short-term training courses for the scientific, technical, administrative and financial staff. Up to December 2002, this component encountered many difficulties in its implementation for the following reasons: (i) large number of topics and training sessions of essentially individual types; (ii) difficulty in identifying the training needs, drawing up the TOR of the consultants and preparing the contracts; (iii) non-existence of a global training plan validated by a representative approval body and based on the identification of the real training needs of the workers at the regional level and on transparent and objective criteria for the selection of the candidates. It is, however, worth noting that in 2001, a training plan for the 2001/2002 fiscal year was drawn up and submitted to ADB for approval. Difficulties in implementing this component reveal that the global implementation level was barely 15% end 2002. Only one part of the training in documentary methods, office automation, database management and biometrics was provided for 60 IRAD professional staff.

4.1.12 In view of the implementation difficulties of this component, the November 2002 supervision mission recommended group training sessions for a large number of beneficiaries starting from 2003, in place of individual training abroad and in the country privileged in the appraisal report. This new policy also laid emphasis on the mastery of procedures, preparation and research. It was with a view to strengthening human resources for research that the Bank had accepted to finance the graduate certified training of 12 young professionals<sup>3</sup> enrolled in the University of Dschang's MSc course, among the 105 researchers recruited in July 2002, with a view to replacing researchers that have reached the retirement age of 55 years. On the closing date, the implementation rate of the revised training objectives, following the November 2002 mission, was 100%.

4.1.13 In total, the training courses were intended for 370 officials: 85 in administrative and financial services, and 285 in research (researchers and technicians); 80% of them are men and 20%, women. In total 19 training modules were taught; the key topics were: database management, installation of computer networks, desk-top publishing, office automation training, statistical software training, training in documentary methods; use of material and software resources in the network; electronic mail with MS Outlook; installation and administration of ORACLES database; maintenance of a network PC; monitoring of the connection to VSAT internet; network security management, statistical analysis of multi-varied data; preparation of draft research protocols; administrative and financial management; and experiment in actual environment.

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<sup>3</sup> Their research topics related to projects supported by ADB.

4.1.14 The courses were generally highly appreciated by all the beneficiaries, as they will have enabled them to improve their service delivery.

## **4.2 Project Institutional Performance**

4.2.1 Administrative management. The Implementation Unit of the Project to support the National Agricultural Research and Extension Programme was created by Decision n° 0041/CAB/MINREST/AOO of 22 June 1999 and restructured by Decision n° 025/CAB/MINREST/AOO of 26 April 2002. Pursuant to this decision, it was placed within IRAD under the supervision of the Ministry of Scientific Research and Innovation and under the supervision of the General Manager of IRAD. In the General Directorate of IRAD, the unit is managed by a project coordinator, (the Scientific Manager of IRAD) who coordinates the actions of the 4 heads of unit, namely: (i) a Head of the Programming and Supervision unit, who supervises the actions of 5 scientific coordinators ; (ii) a Head of the research results valorization unit, assisted by 3 research officers; (iii) a Head of the Monitoring-Evaluation unit, assisted by 2 research officers; and (iv) a Head of the Administration and Finance unit, assisted by 3 section heads (procurement of goods and services ; budgetary commitments; accounting). In spite of the above-mentioned difficulties during the first three years, the new management team has efficiently implemented project actions, especially since 2004. There is also consistency between training profiles and qualifications for the posts of PIU members.

4.2.2 In keeping with the provisions of the loan agreement, a steering committee, comprising 7 members representing the ministries connected with the project actions, and presided over by the Minister of Scientific Research and Innovation or his representative, was set up. In accordance with its terms of reference, the committee monitored the implementation of the actions, budget allocations and arbitrage between the various stakeholders. However, it met only once instead of twice per annum, as stipulated in the loan agreement.

4.2.3 Financial Management: The project book-keeping is consistent with the OHADA system. It has a SAARI accounting software whose potential is underutilized. This software is operational, but its configuration on the internet may constitute a source of difficulties. In keeping with the loan agreement, the special account is managed by the Sinking Fund provisioned through the payments of the Revolving Fund. In view of the remoteness of certain stations and sub-branches, the Bank authorized the PIU to create auxiliary sub-accounts in 2003. In total, up to project closure, the accounting was effected through 17 bank accounts (15 auxiliary accounts, 1 special account No. 37130212601-01-H, opened with the Commercial Bank of Cameroon, and 1 counterpart fund account N° 97384160001-33 opened with the Banque Internationale du Cameroun pour l'Épargne et le Crédit). It should be pointed out that an amount of UA 1,847,746.56, in respect of the revolving fund (FDR), has not yet been justified by the project.

4.2.4 The project internal expenditures are audited by the specialized Comptroller of the Ministry of Finance to IRAD. For the external audits, the submission of the relevant reports within the required time, i.e. 6 months after the close of each accounting year, was effected only from year ended 2005. Three firms performed the audits, namely: PANNELL KERR FOSTER (first 2), OKALLA AHANDA and Co. (3<sup>rd</sup> and 5<sup>th</sup>) and CABECOMB Ltd for the last two. The key recommendations of the auditors, which were taken into account by the project, relate to the introduction of a stock monitoring file, the keeping of logbooks for vehicles, the

codification of fixed assets procured under the project and the centralized filing of procurement documents.

4.2.5 Monitoring-Evaluation. The project appraisal report recommended two types of monitoring-evaluation (internal and external). It provided that the internal monitoring of the project would be ensured by the coordinator of the rural production, economy and sociology systems of the PIU. This provision was complied with up to April 2002. However, in view of the inability of this structure to implement reliable monitoring procedures and indicators, a decision was taken, under the restructuring of PIU on 25 April 2002, to create a specific monitoring-evaluation unit. Since the establishment of this unit, activities monitoring has improved markedly and is more efficient for the viability of project actions. The data collection method was based on the filling out of monitoring forms designed in the monitoring-evaluation unit and on periodic field trips. The monitoring system, managed by a manager, assisted by two research officers, has functioned well overall and helped produce all the reports requested within the time frame. However, the project impacts monitoring procedure and indicators were not put in place owing to the closure of the NAREP extension component financed by IFAD in 2004. Furthermore, the external monitoring, which was to be ensured by the Studies and Projects Department of the oversight Ministry was not done.

### **4.3 Performance of Service Providers**

4.3.1 Performance of the Contractors: 33 enterprises implemented the rehabilitation works planned under the project (cf. paragraph F above 'Principal contracts'). The performance is satisfactory overall in terms of the quality of the structures, work relations with the project implementation unit and the technical capacity. However, excepting SOMIB Construction, the other contractors encountered slippages on the contractual deadlines for site delivery (notwithstanding the delays encountered by PIU in awarding the related contracts).

4.3.2 Performance of the suppliers: The PIU signed contracts with 13 suppliers. Their services were also generally satisfactory on the basis of the above-mentioned criteria. However, apart from SAAR and GMC, most of the suppliers did not honour their contractual deadlines.

4.3.3 Performance of the Consultants: In total, 14 consultants were recruited by the project (refer to paragraph F mentioned above). Their services are on the whole considered satisfactory, apart from delays in implementing the planned training courses. However, regarding Thalex, the administrative and financial management expert did not honour his commitments in terms of deadline and work quality. Although the consultant in charge of monitoring-evaluation lent support to the monitoring-evaluation unit, he did not furnish a technical report at the end of his services.

### **4.4 Economic Performance**

4.4.1 The project does not intervene directly in the support to production. The economic performance was analyzed in relation to the whole national agricultural research and extension programme (NAREP), which comprised the agricultural extension component, supervised by the Ministry in charge of Agriculture and financed by the WB, the research component – subject of the present project - and the research and extension interface component financed by IFAD. At the close of the 1<sup>st</sup> and 3<sup>rd</sup> components, in June 2004, a

programme impact assessment was commissioned. Its findings in terms of improving productivity and incomes are summarized as follows:

- (i) The major crops registered significant annual average increase in yields between 2000 and 2004: 36.5% for cassava (3 to 8.5 t/ha); 25% for maize (1.3 to 2.9 t/ha); 25% for tomatoes (5.7 to 13 t/ha), and 54% for potatoes (1.7 to 6.3 t/ha). For animal productions, among the stockbreeders, the herd size increased by 52.7% for cattle (11 to 17 head); 32.9% for pigs (from 7 to 10 pigs), 35.7% for goats (from 8 to 11 goats); 45.1% for poultry (from 10 to 14 birds), 32.5 % for sheep (from 9 to 12 sheep);
- (ii) The average incomes of farmers grew by about 20% during the period 1999-2004, up from CFAF 238,610 to CFAF 285,595. This represents a 4% annual average rate of increase compared to 5% initially projected and an income improvement of CFAF 47 000 per farmer in 5 years. 63 % of the surveys indicate that this increase was due in large part to NAREP supports; the result is a net improvement of CFAF 29,610 thanks to the programme. Furthermore, 58.4% of the farmers have annual incomes higher than CFAF 200,000. This segment represented 45.8% in 1999, i.e. a growth rate of 27.5% in five years. Farmers with annual incomes of more than CFAF 500,000 represent 29.6% compared to 18.4% in 1999.

4.4.2 The programme economic rate of return recalculated under the completion mission is 11.5% compared to 19 % at appraisal. The assumptions for calculation are given as annex.

## **V. SOCIAL AND ENVIRONMENTAL IMPACTS**

### **5.1 Social Impacts**

5.1.1 All the project outputs helped effectively build IRAD technical research capacities, in terms of strengthening professional skills, material capacities and improving the close match between the research objectives and the farmers' problems and needs through the reactivation of research activities. The project has enabled the majority of IRAD researchers to regain confidence and feel secure. Indeed, the lethargy of the institution in the wake of the restructuring in 1996 was discouraging. The project therefore facilitated an improvement of the working conditions of the researchers through: rehabilitation of the laboratories, accommodation and offices, providing them with more efficient equipment and materials, logistical facilities that favoured their mobility, the research budget, etc. All these outputs stimulated greater motivation and emulation among the researchers. They also helped upgrade the researchers through publications and the opportunity of access to higher training levels. An increase in the number of scientific articles produced and published in the reviews, access of the 16 young engineers recruited to a graduate certified training, enrolment of the researchers to obtain higher degrees on the basis of the research themes supported by the project, were thus noted. In a nutshell, the project has allowed the researchers to be initiated in multi-disciplinary research, develop team spirit and build their capacities to match their research activities with the real needs of the beneficiaries.

5.1.2 The efforts deployed in coordinating the project improved the participation of women in the implementation of the project activities. However, the gender concerns in the sense of empowering women in the decision-making bodies of the project were not visible.

Thus, the percentage of female researchers in IRAD rose from 6% at appraisal to 16% at project closure. Furthermore, the recruitments to beef up the project staff with human resources, put emphasis on women. Thus, out of the 27 lab technicians recruited, 78% are women, 30% of the 10 accountants are women and the 5 secretaries recruited are all women. It can also be pointed out that out of the 105 young researchers recruited in 2005, 13% were women. Nonetheless, the percentage of women involved in the project is only 9%. This proportion remains low in the decision-making positions. For example, out of the 62 research projects implemented, only one was coordinated by a woman. Likewise, the principal project managers at both the central and regional research levels were all men. It is worth noting that the major constraint on the advancement of women to positions of responsibility is the limited number of qualified women interested in research.

5.1.3 With regard to the available research results, some of them should improve the working conditions of women. They are in particular: the improved fish smoke house, in the use of which 200 women have been trained. Its energy efficiency will free the work time of women, reduce the pollution generated by the release of smoke and carbon dioxide and improve the users' incomes. The results related to technological improvements in the processing of agricultural products, milk, as well as the increase in the productivity of the small ruminants in which women are mostly engaged, should also improve the economic power of women and their working conditions.

### **5.3 Environmental Impacts**

An institutional support project, essentially supplemented by an agricultural research revival component, is classified in category III, and the actions implemented did not have negative impacts on the environment. On the contrary, a certain number of agricultural research activities conducted under the project have achieved results that may have a positive impact on environmental preservation, as well as on the protection and regeneration of the natural resources. They are activities related to the protection of biological diversity, genetic resources management, plant- and wild-life protection, improved tree-farming techniques, efficient logging measures combined with efforts to regenerate natural resources and domesticate some of them. Research activities related to the following topics may also be noted: sustainable management of bottomlands, conservation of soil productivity control of cereal and pulse pests, integrated pest control, agro-pastoral activities, development of a better match between livestock and the fodder potential, improvement and sustainable management of cattle rearing systems, sustainable management of sea resources, and improvement of the post-harvest techniques of certain crops. The same goes for the reduction of pollution thanks to the use of improved fish smoke houses, which produce less carbon dioxide, while helping reduce the pressure on forest and mangrove exploitation in Cameroon.

## **VI. PROJECT VIABILITY AND SUSTAINABILITY**

### **6.1 Overall Assessment**

The measures implemented under the project and their results have made IRAD more credible. At the international level, the new organization chart drawn up and adopted by IRAD's Board of Directors, the mastery of the agricultural research participatory approach, the capacity to forecast an agricultural research vision, as set out in the IRAD strategic plan for 2008-2012, constitute viability factors. This credibility has enabled IRAD to mobilize financial resources, which though inadequate, have helped, among other things, maintain and

enhance certain project achievements including the case of the two ongoing projects since 2005: the HIPC (Heavily Indebted Poor Countries) project resulting from the debt cancellation of the Bretton Woods Institutions, of which IRAD benefited from a financing in the amount of CFAF 3.5 billion for the production of basic seeds and the Agronomical Research Partnership Strengthening project (REPARAC) financed by the French Cooperation Agency. Maintaining in their posts the staff specially recruited under the project (27 laboratory technicians, 5 secretaries, 10 accountants and 10 drivers) is a major asset to safeguard the project achievements.

## **6.2 Risk Analysis**

The sustainability of all the project achievements is subject to the development of a security and maintenance plan, both in the IRAD General Directorate and in its central research centres and stations. The financial sustainability will depend on the capacity of IRAD to mobilize stable financing and research resources (internal and external), as well on the maintenance and capitalization of the project achievements. In effect, since the project closing date, research activities have considerably declined and the preventive maintenance and equipment servicing capacity has markedly diminished. Sustainable financing of the research activities necessitates the consolidation of financial autonomy through the development and extension of the pilot valorization units it has already initiated and which have since 2004 helped meet over 10% of its financing needs

## **VII. PERFORMANCE OF THE BANK AND THE BORROWER**

### **7.1 Performance of the Bank**

ADB financial participation in the project implementation was opportune, as it sought to support the Cameroonian government in its poverty reduction policy in rural areas by building the institutional agricultural research capacities. It was also effective in view of the overall positive results obtained and the satisfactory assessment of the project outputs by all the beneficiary stakeholders. In spite of the inadequate Bank support to the project during the early years (only one supervision mission organized before the mid-term review, the implementation difficulties encountered by the project, non-organization of a launching workshop and a procurement training session), the measures taken in 2002 by the supervision missions improved the operational performance of the project. The composition of the supervision teams should have included a financial management expert as well. The checklists show that 12 supervision missions were organized starting from the mid-term review in July 2001, i.e. an average of 2 missions per annum from this period to project closure (which is in line with the internal Bank provisions). The total number of staff/days of supervision/monitoring/mid-term review missions effectively devoted to the project by Bank experts since the loan agreement approval is estimated at 133, i.e. an average of 9 to 10 staff/days per field mission. The implementation of the recommendations of the said missions and the regular contacts between the project implementation team and Bank experts considerably improved the project efficiency, especially from 2004, when it was at full development.

### **7.2 Performance of the Borrower**

The Government was committed to paying the counterpart and complying with the timely fulfilment of conditions precedent to loan effectiveness and other conditions. In the payment of the counterpart, the Government honoured its commitments. Indeed, regarding CFAF 1591.6 million earmarked in the appraisal report as the equivalent salary to be paid

under the counterpart, the Government paid on schedule, up to the closure date on 30 June 2007, CFAF 2 533. 4 million as the equivalent of the salary paid by the Ministry of Finance (MINFI) to the staff involved in the project, i.e. an excess of CFAF 942 million, because of the continued payment of salaries during the extension period. Moreover, the Project Implementation Unit posted CFAF 474.6 million of direct taxes (customs clearance and inspection tax) in respect of imported equipment, and CFAF 289.1 million of indirect taxes (taxes borne by the Government). This brings the Government contribution to the project to a total amount of CFAF 3299.1 million compared to the projection of CFAF 1591.6 million. Furthermore, to sustain the project achievements, and following the various project coordination letters, the Government: (i) granted in 2006, a special subsidy of CFAF 100 million to the project; (ii) made a budgetary allocation of CFAF 412 million for the 2007 fiscal year, and (iii) budgeted CFAF 325 million for the 2008 fiscal year.

## **VIII. OVERALL PERFORMANCE AND RATING**

The overall performance evaluation tables in annex 8 show that the overall project performance is satisfactory, with an average rating of 2.3 out of 4, i.e. an overall satisfaction level of 58%, broken down as follows : (i) the implementation performance is satisfactory, with a rating of 2 out of 4; (ii) the performance of the Bank is also satisfactory, with a rating of 2.25 out of 4, representing a satisfaction rate of 56%; and finally (iii) the outcome performance is satisfactory as well, with a rating of 2.3 out of 4, representing an outcome satisfaction rate of 58%.

## **IX. CONCLUSIONS, LESSONS LEARNT AND RECOMMENDATIONS**

### **9.1 Conclusions**

The project implementation was satisfactory overall, in spite of the difficulties encountered, due to a lack of familiarity with the procedures during the first three years, and leading to a suspension of the disbursement of the revolving fund for a period of almost one year in 2003, delays in the award of contracts, and to the revolving funds release periods out of phase with the agricultural schedule for experiments in the stations. The physical implementation rate of the project and the financial implementation rate of the loan are 98% and 100% respectively. The ADB financial and technical support to this project is opportune and highly appreciated by all the stakeholders. It came at a time when all the research structures and equipment had deteriorated, and the researchers had no resources to carry out their research activities. The project outputs, though inadequate in relation to needs, enabled IRAD to step up its technical intervention activities and to be more credible; this led, to a certain extent, the other stakeholders to be interested in this institution. The outputs have contributed to a revival of agricultural research in Cameroon, greater motivation of researchers, certified training for young researchers, etc. It was also noted that the project, through the synergy it had developed with agricultural extension, helped: (i) improve the productivity of the supported plant and animal production, in a range of 20 to 30%; (ii) increase farmers' incomes by 20%; and (iii) generate an economic internal rate of return of 11.5%. The sustainability of these achievements will, however, depend on the capacity of IRAD to mobilize internal and external resources and maintain the investments made under the project.

## 9.2 Lessons Learnt

The principal lessons learnt from the implementation of the NAREP support project are:

- (i) Efficient agricultural research is indispensable for the sustainable economic and social development of a country, and needs to be supported by the Government through a sustainable financing mechanism;
- (ii) The improvement of the implementation period of projects depends on the steps taken to build the capacities of the staff to master ADB procedures as from the start-up of project operational activities through, among others, the organization of a launching and training workshop, as well as on Bank support to the borrower with a view to speeding up compliance with the loan effectiveness procedures ;
- (iii) The long delay in releasing the revolving funds, the duration of the goods and services procurement procedures, and the borrower's excessive delays in complying with the loan conditions, constitute for both the Bank and the borrower dysfunctions it is imperative to find solutions to;
- (iv) The need to define the objectives and scope of Bank projects, on the basis of the type of project and the results expected, in order to maximize the project's potential;
- (v) Its current technological level gives IRAD the capacity to find, in the short term, appropriate responses to the present food crisis

## 9.3 Recommendations

### To the Government:

- (i) Put in place a lasting agricultural research financing mechanism and accelerate the payment of the budgeted commitments to IRAD;
- (ii) Communicate to the Bank, without delay, the justifications for FDR expenditures of UA 1,847,746.56 that remain unjustified;
- (iii) Ensure the control of PIU performance and compliance with the donor's rules of procedure for the procurement of goods and services;
- (iv) Accelerate the adoption of the Staff Rules and increase the retirement age of the researchers;
- (v) Strengthen IRAD's Valorization Department by introducing and implementing a research output promotion plan;
- (vi) Introduce in the IRAD facility a permanent consultative and interaction framework with the potential users of the research outcomes, with a well-defined operating mode, to ensure the relevance of agricultural research;
- (vii) Take advantage of the achievements and all the institutional, scientific and technical facilities established at IRAD in the wake of the project, to find short-term solutions to the present food crisis, by providing the farmers with available technologies and improved seed varieties;
- (viii) Encourage female degree-holders to show interest in the agricultural research profession

To the Bank:

- (i) Favourably consider supporting the implementation of a new, sub-regional agricultural research programme in which IRAD could play a prominent role
- (ii) Consider the possibility of making IRAD a Regional, Agricultural Research Centre of Excellence;
- (iii) In the future, limit the conditions precedent to first disbursement to avoid delays in project start-up;
- (iv) Always envisage a project launching workshop and training seminars for the PIU staff on the procurement rules of procedure and beef up supervision missions;
- (v) Organize an annual financial supervision with the support of the Disbursement Department in order to facilitate project implementation and resolve any financial problems.

## **ANNEXES**

REPUBLIC OF CAMEROON  
 PROJECT TO SUPPORT THE NATIONAL AGRICULTURAL RESEARCH AND  
 EXTENSION PROGRAMME (NAREP)

GEOGRAPHICAL MAP OF THE IRAD AND PROJECT INTERVENTION AREAS



## PROJECT LOGICAL FRAMEWORK

Hierarchy of Objectives	Objectively Verifiable Indicators		Means of Verification	Conditions of Success
	At appraisal	At completion		
<p><b>NAREP OBJECTIVE:</b> Improve the productivity of rural farms and the incomes of the rural population through agricultural research and efficient extension,</p>	<p>Annual food crop production increased by a rate of 10%</p> <p>populations' incomes increased by an annual rate of 5%</p>	<p>Annual crop production (cassava, maize, potatoes, etc.) increased by an average of 35%;</p> <p>regard to fishing, post-catch losses fell by an average of 43%;</p> <p>areas and yields of fish-farming ponds increased by an annual average of 55 and 21 %.</p> <p>Average producers' incomes rose by an annual average of 4%</p>	<p>Project activity reports; Project Supervision reports; Project Completion</p>	<p>identification of production constraints of the farms ;</p> <p>extension capacities both quantitatively and qualitatively</p> <p>close supervision of farms;</p> <p>strengthened research/extension interface</p>
<p><b>OVERALL OBJECTIVE OF ADF PROJECT :</b> Contribute to rural productivity through improved agricultural research and extension</p>		<p>agricultural research system is operational and more relevant research is carried out country wide</p>	<p>Project Reports Documents; Supervision Reports ; Extension Reports ; Workshop reports on research and extension Reports of programming and management of IRAD Scientific Review Reports; Scientific Review Reports;</p>	<p>NAREP Steering Committee (SC) established on 03/CAB/MINREST/AOO of 27 January 2004 and the Project implementation unit established on 025/CAB/MINREST/AOO of 22 June 2004 are fully functional and operational ;</p> <p>Technical assistance (comprising an expert in programming and management and an expert in financial management) is set up and operational.</p>
<p><b>SPECIFIC OBJECTIVE 1 :</b></p> <p>IRAD facilities and services</p>	<p>Office infrastructure administrative buildings, computer room, library, accommodation, the laboratories, and staffs' accommodation are rehabilitated operational and functional.</p> <p>laboratory equipment, and testing materials as well as communications equipment and teaching aids are available</p>	<p>Accommodation, offices, computer room, laboratory buildings, laboratories and other research and drinking water supply electric power and telephone systems have been rehabilitated and made functional.</p> <p>new scientific works (500) have been purchased and distributed to newspapers and reviews.</p> <p>Scientific equipment obtained and installed in specialized laboratories in the different centres. All laboratories have been equipped and are operational.</p>	<p>Project activity reports; Project documents ; Supervision reports; Extension reports ; Scientific review reports; Reports of Ad hoc Committee for monitoring; Inventory.</p>	<p>Contract award and procurement procedures are transparent and with and transparent;</p> <p>IRAD Decision 124/IRAD/DG/PNRVA/UAF/2004 of 14 May 2004 concerning the assignment of equipment acquired under NAREP is enforced and monitored</p>

	<p>re renewed</p> <p>Equipment and furniture (computers, printers, copiers, photocopiers, telephones, fax, armoires, filing cabinets etc.) are purchased and used</p> <p>Existing transport equipment (tractors and accessories are repaired; new transport equipment (28 4wd vehicles, 36 motorbikes inclusive of purchased</p>	<p>Computerization of the General directorate for the Centres of Nkolbisson and Ekona completed and connection established.</p> <p>Additional micro-computers, 10 refrigerators 6 calculators, 6 additional micro-computers, 7 photocopiers and 33 vehicles and 36 motorbikes purchased.</p>		
<p><b>SPECIFIC OBJECTIVE 2 :</b></p> <p>Contribute to the revival of activities in experimental stations</p>	<p>System for participatory diagnosis and the selection of priority research programmes is put in place since 1999</p> <p>Monitoring-Evaluation structure operational in 2001, mid-term review carried out in 2001 and final evaluation is conducted in 2004</p>	<p>Scientific programming based on real agricultural constraints identified during a participatory process by researchers, extension workers and producers is implemented</p> <p>Priority projects identified covering perennial crops, animal and fishery production, forest-plantation and rural production economy and extension systems were implemented through various activities at the research stations</p> <p>A monitoring-evaluation unit has been set up and operational since 2002</p> <p>The mid-term review is effectively carried out in 2001</p> <p>A final evaluation is carried out in 2004 since there were no major changes to the project closure date</p>	<p>Documents on the programming of agricultural research in the region;</p> <p>Activity reports ;</p> <p>Workshop reports;</p> <p>Minutes of the meetings of the National Committee and the National Commission for IRAD programmes;</p> <p>Technical briefs.</p> <p>Decision 0035/CAB/T/AAO of 30 May 2001 on the recruitment for the PIU staff</p> <p>Decision AB/MINREST/AAO of 26 May 2002 concerning the implementation of the NAREP support unit;</p> <p>Annual report for the monitoring and evaluation unit.</p> <p>Technical supervision reports;</p> <p>Review recommendations and conclusions;</p> <p>Aide Memoires of ADB supervision missions Project Completion Report ;</p> <p>Final project closure reports</p>	<p>Contract award and procurement procedures are carried out with and transparent;</p> <p>IRAD Decision (Decision N° 0035/CAB/T/AAO of 30 May 2001) regarding the assignment for laboratory equipment and procurement. IRAD REP is enforced and monitored</p>
<p><b>SPECIFIC OBJECTIVE 3</b></p>	<p>Training sessions for management staff of stations.</p> <p>Training sessions on management control for scientific staff and technicians;</p>	<p>Training sessions were organized with the Bank's assistance, following adjustments made during the second mission from 22 Mars to 5 April 2002.</p>	<p>Reports;</p>	<p>Contract award and procurement procedures</p>

<p>ate to human capacity building by training/retraining of technical and administrative staff of IRAD</p>	<p>ing sessions for researchers and technicians; aining modules; s for technicians on documentation; ing sessions for maintenance technicians in 2002</p>	<p>le trained 20% of whom were women and 77% rs</p>	<p>Specific report on each ession ;</p>	<p>wit and transparent;  IRAD decision (Decision N° D/DG/PNRVA/UAF/2004 of 14 May 2004 g the assignment for the laboratory equipment under NAREP is enforced and monitored</p>
<p><b>OBJECT COMPONENTS</b>1. STRENGTHENING OF IRAD SERVICE 2. REVIVAL OF RESEARCH ACTIVITIES ON MENTAL STATIONS TRAINING OF IRAD PERSONNEL</p>	<p><b>RCES AT APPRAISAL</b> hillion Government : UA 1.9 million  <b>Total : UA 8.97 million</b></p>	<p><b>RCES AT COMPLETION</b>  JA 7.00 million  ent : UA 3.41 million</p>	<p><b>MEANS OF VERIFICATION</b> <b>Project accounts</b> • Reports on ADF disbursements</p>	<p><b>ASSUMPTIONS</b> • ADF rules and procedures comply with  • Timely preparation of disbursement requests</p>

### ANNEX 3

#### COSTS AND SCHEDULE OF ESTIMATED EXPENDITURES BY COMPONENT, CATEGORY AND SOURCE OF FINANCE AT APPRAISAL

##### Annex 3.1: Costs by category and source of finance (UA Million)

Categories	ADF			Government	Total	%Total
	F.E.	L.C.	Total	L.C.		
Civil works/Building	0.21	0.14	0.35	-	0.35	3.90
Equipment/Goods	1.29	0.02	1.31	-	1.31	14.60
Technical assistance	0.29	-	0.29	-	0.29	3.23
Consultancy services	0.16	0.02	0.18	-	0.18	2.01
Training	0.57	0.10	0.67	-	0.67	7.47
Staff	-	-	-	1.70	1.70	18.95
Operating cost	1.27	1.81	3.08	-	3.08	34.34
Base cost	3.79	2.09	5.88	1.70	7.58	84.50
unallocated	0.59	0.53	1.12	0.27	1.39	15.50
<b>TOTAL</b>	<b>4.38</b>	<b>2.62</b>	<b>7.00</b>	<b>1.97</b>	<b>8.97</b>	<b>100.00</b>

##### Annex 3.2: Schedule of Estimated project costs by component and by year (UA million)

Components	1999	2000	2001	2002	2003	Total	%
A : Strengthening of IRAD services	1.92	1.40	0.76	0.62	0.67	5.37	60
B : Research in experimental station	0.68	0.80	0.56	0.50	0.27	2.81	31
C : IRAD staff training	0.2	0.37	0.19	0.03	0.00	0.79	9
<b>TOTAL</b>	<b>2.80</b>	<b>2.57</b>	<b>1.51</b>	<b>1.15</b>	<b>0.94</b>	<b>8.97</b>	<b>100</b>

Source: Project appraisal report

##### Annex 3.3: Expenditure schedule by source of finance (UA million)

Sources	1999	2000	2001	2002	2003	Total	% total
ADF	2.44	2.2	1.12	0.73	0.51	7.00	78.05
Government	0.36	0.37	0.39	0.42	0.43	1.97	21.95
<b>TOTAL</b>	<b>2.80</b>	<b>2.57</b>	<b>1.51</b>	<b>1.15</b>	<b>0.94</b>	<b>8.97</b>	<b>100.0</b>

Source: Project appraisal report

## ANNEX 4

## ACTUAL DISBURSEMENT STATUS BY CATEGORY AND BY YEAR

Categories	2000		2001		2002		2003		2004	
	UA	CFAF	UA	CFAF	UA	CFAF	UA	CFAF	UA	CFAF
1 – Civil works										
2 – Equipment and Goods	325 198.36	314 905 830			341 267.90	332 515 374	583 240.30	482 245 571	7 878.00	6 181 250
3 – Technical assistance					124 050.12	108 707 818	101 382.73	81 094 900	1 359.00	1 066 200
4 – Consultancy services							28 120.96	22 746 420	29 639.75	53 132 260
5 – Training					103 175.00	80 952 000			69 985.00	54 126 070
7 – Operating costs	158 574.42	146 653 667			552 951.94	431 927 265			674 944.75	1 196 905 048
Unallocated										
<b>GRAND TOTAL</b>	<b>483 772.78</b>	<b>461 559 497</b>	<b>0.00</b>	<b>0</b>	<b>1 121 444.96</b>	<b>954 102 457</b>	<b>712 743.99</b>	<b>586 086 891</b>	<b>783 806.50</b>	<b>1 311 410 828</b>

Categories	2005		2006		2007		2008		TOTAL	
	UA	CFAF	UA	CFAF	UA	CFAF	UA	CFAF	UA	CFAF
1 – Civil works			206 143	424 376 826	400 335.55	81 048 235		0.00	606 478.80	505 425 061
2 – Equipment and Goods					274894	145 032 732	148000	119 601 897	1 680 479	1 400 482 654
3 – Technical assistance								0.00	226 792	190 868 918
4 – Consultancy services	132 419	103 437 300		55 077 080		55 749 450		0.00	190 180	290 142 510
5 - Training	118 746	93 212 852	77 190	55 412 852				0.00	369 097	283 703 774
7 – Operating costs	1 871 646	710 269 596	642 715	479 780 404	26 142	19 449 103		0.00	3 926 974	2 984 985 083
Unallocated								0.00	0.00	0
<b>GRAND TOTAL</b>	<b>2 122 812</b>	<b>906 919 748</b>	<b>926 049</b>	<b>1 014 647 162</b>	<b>701371</b>	<b>301 279 520</b>	<b>148 000</b>	<b>119 601 897</b>	<b>7 000 000</b>	<b>5 655 608 000</b>

## ECONOMIC RATE OF RETURN

### Additional incomes generated by NAREP

Years	Average income by farmer in 1000 CFAF (1)	Additional annual net income in 1000 CFAF	Net income per farmer resulting from NAREP impact in 1000.CFAF (2)	Number of farmers affected by NAREP (3)	Number of farmers that adopted the developed technologies (4)	Total additional net incomes generated by NAREP in million CFAF
1999	238.6			0	0	0
2000	247.2	8.6	5.41	124116	88991	481.57
2001	256.1	17.5	11.02	310290	222478	2 451.19
2002	265.3	26.7	16.83	496463	355964	5 989.38
2003	274.9	36.3	22.84	657814	471652	10 773.94
2004	285.6	47.0	29.61	840 264	602469	17 839.11
2005	295.9	57.3	36.09	840 264	602469	21 741.55
2006	295.9	57.3	36.09	840 264	602469	21 741.55
2007	295.9	57.3	36.09	840 264	602469	21 741.55
2008	295.9	57.3	36.09	840 264	602469	21 741.55
2009	295.9	57.3	36.09	840 264	602469	21 741.55
2010	295.9	57.3	36.09	840 264	602469	21 741.55
2011	295.9	57.3	36.09	840 264	602469	21 741.55
2012	295.9	57.3	36.09	840 264	602469	21 741.55
2013	295.9	57.3	36.09	840 264	602469	21 741.55
2014	295.9	57.3	36.09	840 264	602469	21 741.55
2015	295.9	57.3	36.09	840 264	602469	21 741.55
2016	295.9	57.3	36.09	840 264	602469	21 741.55
2017	295.9	57.3	36.09	840 264	602469	21 741.55
2018	295.9	57.3	36.09	840 264	602469	21 741.55

(1) For 1999, it is the income estimated in the baseline case study conducted in 1999 at project start-up.

For 2004, the income was estimated in the NAREP performance and impact assessment report financed by the WB; the incomes of the other years were estimated by extrapolation.

(2) Weighting of the additional net income by a coefficient of 63%, as according to the survey, 63% of the farmers indicated that this increase was due in large part to NAREP supports, i.e. a net improvement of 29 610 in 2004, related to NAREP.

(3) According to the results of the survey, 67.7 % of the farmers were affected by the programme in 2004, out of a total of 241 1.7 farmers.

(4) Based on 48.8 rate of adoption of the principal technologies, in relation to all the farmers, i.e. 71.7 compared to the farmers affected.

ECONOMIC CASH FLOW (in CFAF million)								
Years	Research component		Extension component		Total cost	Net income	Cash Flow	
	NAREP-ADB (1)	IRAD capital and operating budget (2)	NAREP WB/IFAD (3)	Capital and operating budget, Ext. Dept. (4)				
1999		3200	981.4	7000	11181.4		-	11 181.40
2000	405.9	2900	2764.6	7000	13070.5	481.57	-	12 588.93
2001	55.6	3000	4969.9	7000	15025.5	2 451.19	-	12 574.31
2002	817.7	4000	3006.4	7000	14824.1	5 989.38	-	8 834.72
2003	712.7	4000	4114.6	7000	15827.3	10 773.94	-	5 053.36
2004	852.9	4000	2792.6	7000	14645.5	17 839.11		3 193.61
2005	1078.1	4800		7000	12878.1	21 741.55		8 863.45
2006	1030.2	4500		7000	12530.2	21 741.55		9 211.35
2007	575	4000		7000	11575	21 741.55		10 166.55
2008	119.6	4000		7000	11119.6	21 741.55		10 621.95
2009		4000		7000	11000	21 741.55		10 741.55
2010		4000		7000	11000	21 741.55		10 741.55
2011		4000		7000	11000	21 741.55		10 741.55
2012		4000		7000	11000	21 741.55		10 741.55
2013		4000		7000	11000	21 741.55		10 741.55
2014		4000		7000	11000	21 741.55		10 741.55
2015		4000		7000	11000	21 741.55		10 741.55
2016		4000		7000	11000	21 741.55		10 741.55
2017		4000		7000	11000	21 741.55		10 741.55
2018		4000		7000	11000	21 741.55		10 741.55
						<b>IERR</b>		<b>11.5%</b>

(1) Cost of NAREP project

(2) IRAD investment and operating budget, including the costs of certain small projects

(3) Cost of WB/IFAD project

(4) In the absence of quantified figures of the extension structures involved in the programme, an assumption of 20% was used in relation to the average operating and capital budget of the parent Ministry, which is the Ministry of Rural Development.

## OVERALL PERFORMANCE AND RATING

### Implementation Performance

Component Indicators	Rating (1 to 4)	Observations
1. Adherence to the overall schedule	1	42 months slippage on the initial date scheduled in the appraisal report and 18 months on the effective project start-up date
2. Adherence to the cost schedule	2.5	The overall financial implementation rate of the project is 100%; however, the project list of goods and services was significantly revised.
3. Compliance with the conditions/covenants	1	There is a slippage of 10 months between the signing of the loan agreement and its entry into force, owing to delays in the fulfilment of the 4 conditions precedent to loan effectiveness, the other 4 conditions with fixed deadlines, i.e. 1 to 2 years after the loan effectiveness date, were only met with a delay of 3 years on average.
4. Adequacy of monitoring-evaluation and reporting	2.5	Despite the delay in establishing the monitoring unit, the monitoring-evaluation system functioned well on the whole: reports were produced on schedule. However, an implementation report of each of the three components was not produced. Furthermore, an impact monitoring mechanism was not put in place owing to the completion of the extension component financed by the WB.
5. Satisfactory operations	3	The overall project implementation rate is satisfactory and may be estimated at 98%. Notwithstanding the significant delay encountered, training sessions were organized, procurements made and research activities revived.
Total	10.5.	
Overall assessment of implementation performance	2	The implementation performance is considered satisfactory, with a rating of 2 out of 4; however, there was a time overrun on the overall schedule owing to the long loan effectiveness delays and difficulties in the start of project activities due to poor mastery of the procedures by the project team between 2000 and 2003. In addition, there was also considerable slippage on the fulfilment of the conditions precedent to loan effectiveness.

### Performance of the Bank

Component indicators	Marks (1 to 4)	Observations
1. At identification	2.5	The project was identified at the request of the Cameroonian authorities. The project goals constitute an appropriate response to the weak institutional capacity of IRAD after its restructuring in 1996. These goals are consistent with the country's strategic policies on poverty reduction, food security and the Bank's intervention priorities.
2. At project preparation	2.5	The project was prepared with the support of an FAO consultant, the involvement of the principal institutional research actors concerned and the consultation of the development partners, notably the WB and IFAD. It was a continuation of the project identification.
3. At appraisal	2	The appraisal followed the same approach as the preparation and its report is satisfactory overall. However, concerning a specific project though, the objectives and expected results defined in the logical framework are those of the vast programme, whereas the activities, inputs and resources relate to the specific project; this is not likely to accurately measure the contribution of the assistance to the achievement of the results specific to the project. Furthermore, the list of training sessions as defined in the appraisal report, is not consistent with the needs to upgrade skills, which is necessary to implement the project and capitalize on the achievements.
4. At supervision	2	In spite of the difficulties encountered regarding effectiveness and implementation of the operational activities of the project, the loan agreement of which was signed on 8 December 1998, only one supervision mission comprised of 1 expert was organized before the mid-term review in July 2001 and, the second, more than one year later, i.e. in November 2002. From 2002 however, supervision missions became more regular and the recommendations helped improve the implementation of the project activities...
<b>Total</b>	<b>9</b>	
Overall performance assessment of the Bank	2.25	The performance of the Bank is satisfactory, with a rating of 2.25 out of 4

## Project Outcomes

N°	Component indicators	Ratings (1 to 4)	Observations
1.	<b>1. Relevance and Achievement of Objectives</b>		
i)	Macro-economic policy	3	The actions initiated by the project are consistent with the country's macro-economic objectives related to the promotion of sustained growth, poverty reduction and the millennium development goals (MDG)
ii)	Sector policy	3	The project is in line with the sector policy of sustainable growth, agricultural productivity, improvement of agricultural revenues and food and nutritional security.
iii)	Physical outputs (including production)	2.5	The global physical implementation rate of the project goals is estimated at 98%. The three components identified are relevant and constitute the most appropriate responses to the problems of advanced degradation of IRAD infrastructure and equipment noted at project identification, weak technical and human resource capacities and low valorization of the potential of available researchers. However, most of the project outputs were put in place much late; it is the case in particular of the rehabilitations and trainings.
iv)	Financial Component	NA	It concerns an institutional support project, support to the revival of research activities, which does not directly yield a financial return
v)	Poverty reduction	2	The current and potential results of the various research themes developed under the project should reduce poverty. However, in the absence of a formalized synergy between research and extension, since the close of the extension project supported by the WB in June 2004, research results were more focused on the farmers, as was the case between 2000 and 2004, under the interface component supported by IFAD.
vi)	Environment	2	Classified in category III, the project did not have negative impacts on environmental protection and the conservation of natural resources. The results of certain research themes may have a conditional impact on the environment. But the environmental impact will be visible only within the framework of a formalized sensitisation and extension process...
vii)	Private Sector Development	2.5	The project sub-contracted most of its activities to private service providers. The biggest procurement contracts were executed by foreign service providers. Private nationals intervened essentially in rehabilitations and trainings, but in low-cost split contracts.

<b>2. Institutional Development (ID)</b>			
i)	Institutional framework	2	Even if the objectives of the project did not aim to improve the institutional framework, its implementation enabled IRAD to equip itself with a more operational organization chart, and in particular with the Development Department, whose activities should enable IRAAD to provide a minimum of self-financing. Furthermore, the institutional framework of the project implementation unit restructured since 2003, has been operational in spite of its start-up difficulties.
ii)	Financial information and management systems, including audit system	2	The audit reports started late and were regular from only 2005. The management is more reliable since 2004 and the accounting introduced is in line with the OHADA system.
iii)	Transfer of technology	2	The transfer of technology, effected within the frameworks of the participatory consultation bringing together the extension workers, farmers and researchers, has only been effective since 2004, at the end of the programme components supported by the WB and IFAD.
	Staffing by Qualified Persons	3	The profile of the staff assigned to the project is consistent with the posts occupied and the activities implemented.
<b>3. Sustainability</b>			
i)	Continued Borrower Commitment	2.5	The obvious Government support to accompany the drawing up of the 2008-2012 strategic plan, the budgeting of the IRAD support funds following the close of the project, a part of which was already committed in 2008, as well as the clear determination of the political authorities to make IRAD a sub-regional research hub, are proofs of the Borrower's continued commitment
ii)	Environmental Policy	2	The project outputs were consistent with the environmental policy of Cameroon.
iii)	Institutional Framework	3	The institutional anchoring of the project to IRAD and the maintenance at IRAD of the staff recruited under the project after the closure of the project, constitute factors of sustainability of the institutional framework.
iv)	Technical Viability and Staff Development	2.5	Building the physical capacities and upgrading staff technical skills, the qualification of the researchers and the mastery of the scientific programming system, constitute factors of technical viability.
v)	Financial Viability, including cost recovery system	2	The financial sustainability is quite weak, as most of the research activities were suspended at the project close. Nevertheless, the present efforts to mobilize resources are indicators that will help significantly improve the viability of the project achievements.
Vi)	Economic Viability	2,5	The participatory approach adopted in the programming of research and which helped define the research themes based on the farmers' problems, is a guarantee of economic viability, as there will be real demand for the results. This viability is however subject to the research/extension interface, which is no longer functional since 2004.

Vii)	Environmental Viability	1.5	Lack of resources needed to pursue most of the research activities, including those that should have a positive impact on environmental protection, constitutes a risk factor of environmental sustainability.
Viii)	Operation and Maintenance (availability of recurrent funding foreign exchange, spare parts, workshop facilities, etc)	2	Sustainability of the achievements will depend on the capacities of IRAD to mobilize internal and external resources and to maintain the investments made under the project. In effect, since the project closing date in June 2007, research activities have considerably regressed and the preventive maintenance and servicing capacities of the equipment have relatively diminished.
4.	Internal Rate of Return	2	The economic internal rate of return, recalculated at completion, is 11.5% compared to 19% at appraisal. This rate could be higher had the extension/research synergy not been stopped in 2004
<b>Total</b>		<b>44</b>	
<b>Overall performance Assessment</b>		<b>2.3</b>	<b>The outcome performance is satisfactory, with a rating of 2.3 out of 4.</b>

### **SOURCES OF INFORMATION**

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- Loan agreement between the Republic of Cameroon and the African Development Fund, Project to Support the National Agricultural Research and Extension Programme (NAREP); December 1998;
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- Republic of Cameroon, Project to Support the National Agricultural Research and Extension Programme (NAREP), Mid-term Review mission report ;
- Ministry of Economy and Finance, Technical Rehabilitation Committee (DTR), Stage N° 2 implementation report 2000-2006, performance contract between the Cameroonian Government and IRAD
- IRAD, 2006 annual report.

**OBSERVATIONS OF THE BORROWER AND THE EXECUTING AGENCY**

After its finalization, the PCR was communicated, for notification, to the Government and the Project Executing Agency on 15/09/2008. Following a reminder dated 22/12/2008, we received the following observations on 17 January 2009:

- (i) The report does not call for any particular observations. It is consistent with and further supplements, the PRC prepared by the Government; and

The global project performance index of 2.5 points over 4 is not consistent with the mark of 3 over 4 initially indicated in the above-mentioned PCR.