

PD-ABJ-894

Best available copy -- page 24 missing

PD-ABJ-894
1501.91724

The LEGACY AND IMPACT
OF
USAID/CAMEROON'S
AGRICULTURAL AND NATURAL RESOURCES
PROGRAMS

1987 to 1994

Prepared for

The United States Agency for International Development
Yaoundé, Cameroon

Peter A. Hartmann, Team Leader
and
Peter W. Wyeth

PREFACE

This assessment was undertaken at the request of the U.S. Agency for International Development, Yaoundé, Cameroon. It was conducted in March 1994 in Cameroon.

The views presented here are those of the authors and do not necessarily represent the views, where applicable, of their institutions, the Government of Cameroon, nor those of the U.S. Agency for International Development.

The authors are grateful to many people and organizations for their assistance in conducting this assessment. Several officials of the Government of Cameroon, the Cameroon Cooperative Credit Union League, the University of Dschang, Heifer Project International, the Fulani of Sabga, the Tadu Dairy Cooperative, and personnel of NCRE and ROTREP. In particular the authors greatly appreciate the stimulating discussions and input provided by Mr. J. McMahon, Mr. T. Bratrud, Mrs. Nina Minka, Dr. D. Singer, and Mrs. E. Washington, all of USAID, and Dr. Jacob Ayuk Takem, Minister for Scientific and Technical Research.

This assessment identifies a string of strong impacts of which USAID can be rightfully proud. It also concludes with lessons learned which we hope will contribute to the ongoing efforts and discussions to restructure and improve on the Agency's performance. Having been singled out in the Vice President's National Performance Review as a reinvention laboratory, AID has a fairly free rein to reinvent the way it does business. As 'stock holders' of United States international development efforts around the World, the writers hope that, in whatever small way, this report will add constructively to these discussions.

Peter A. Hartmann, Team Leader
2045 N.W., 18 Lane
Gainesville, Florida, USA 32606
Telephone: (904) 392-1965
Fax: (904) 392-7127

Peter W. Wyeth
International Programs for Development Cooperation
221 Hulbert Hall
Washington State University
Pullman, Washington 99164-6226
Telephone: (509) 335-2980
Fax: (509) 335-2982

TABLE OF CONTENTS

LIST OF ACRONYMS	ii
LIST OF TABLES	iii
EXECUTIVE SUMMARY	iv
1. INTRODUCTION AND BACKGROUND	1
1.1 Purpose and Methodology of the Assessment	1
1.1.1 Purpose	1
1.1.2 Methodology	1
1.2 The Development Context	2
1.3 USAID's Strategic Objectives in Agriculture and Natural Resources	4
2.1 The Initial Structure of Agricultural and Natural Resource Projects	8
2.2 Structural Change and the Implications for Project Impact	9
3. LEGACY AND IMPACT ACCORDING TO DFA OBJECTIVES	14
3.1 Improve Management of African Economies by Redefining and Reducing the Role of the Public Sector and Increasing its Efficiency	14
3.1.1 Privatizing the multiplication of improved seeds	14
3.1.2 Increasing efficiency in data collection and publication for agriculture	16
3.1.3 Increasing efficiency in policy analysis AND reducing the public sector's role in agriculture	19
3.1.4 Efficiency through higher-education reforms	21
3.2 Strengthen Competitive Markets so as to Provide a Healthy Environment for Private Sector-led Growth	25
3.2.1 Strengthening the credit union movement	25
3.3 Develop the Potential for Long Term Increases in Productivity	29
3.3.1 Sustainable Development	29
3.3.2 Productivity gains through human resource development and networks	31
3.4 Improve Food Security	32
3.4.1 Improving food security through multiplication of improved seeds	32
3.4.2 Improving food security through improving dairy production	33
3.4.3 Improving food security through knowledge and technology generation	35
4. LESSONS LEARNED	39
SELECTED LIST OF REFERENCES	42

LIST OF ACRONYMS

AEP	Agricultural Education Project
AID	Agency for International Development
AMP	Agricultural Management and Planning
CamCCUL	Cameroon Cooperative Credit Union League
CAPP	Cameroon Agricultural Policy and Planning
CARE	Cooperative for American Relief Everywhere
CCUD	Cameroon Credit Union Development
CDSS	Country Development Strategy Statements
CFA	Communauté Financiere Africaine
CRSP	Collaborative Research Support Project
CU's	credit unions
DEAPA	Department of Agro-Economic Surveys and Agricultural Planning
DEPF	Department of Studies, Projects and Training
DFA	Development Fund for Africa
FAO	Food and Agriculture Organization
GDP	Gross Domestic Product
GRC	Government of the Republic of Cameroon
HPI	Heifer Project International
IMF	International Monetary Fund
IRA	Institute for Agronomic Research
MIDENO	Mission de Développement de la Province du Nord-ouest
MIDEVIV	Mission des Développement des Semences et des Cultures Vivrières
MINAGRI	Ministry of Agriculture
MINEPIA	Ministry of Livestock, Fisheries and Animal Industries
MINPAT	Ministry of Planning and Regional Development
NCRE	National Cereals Research and Extension Project
NCSM	North Cameroon Seed Multiplication Project
NGO	Non-governmental Organization
NRMS	Natural Resource Management Support
PACSA	Pioneer Agrogenetique Cameroon, S.A.
PC	Production Credit
PVO	Private Voluntary Organization
ROTREP	Tropical Roots and Tubers Research Project
SAP	Structural Adjustment Program
SODECOTON	Societe de Développement du Coton
TDCS	Tadu Dairy Cooperative Society
team	assessment team
UDs	University of Dschang
UNDP	United Nations Development Programmes
USAID	United States Agency for International Development
USG	United States Government
•	Positive Impact
▽	Problems/Unresolved Issues

LIST OF TABLES

TABLE 1.1 - DEVELOPMENT FUND FOR AFRICA STRATEGIC OBJECTIVES.....	6
TABLE 1.2 - COUNTRY DEVELOPMENT STRATEGY STATEMENT OBJECTIVES.....	7
TABLE 2.1 - USAID AGRICULTURAL SECTOR PROJECTS IN CAMEROON.....	12
TABLE 2.2 - INDICATORS OF LEGACY AND IMPACT.....	13

EXECUTIVE SUMMARY

This report of a subset of United States Agency for International Development (USAID) agricultural and natural resources portfolio in Cameroon, was undertaken to assess the legacy and impact of its programs since 1987. The need for this assessment came about following the Agency's decision in November 1993 to close the USAID Mission in Cameroon.

The study takes the term legacy to mean any accomplishment that remains after a program has ended. Impact is taken to mean the measurement of change, normally sometime (years) after a program has ended. However, for the special purpose of this assessment, attempts are made to detect such change even while most of the programs are still ongoing. For a few of the programs it is too early for even such an attempt at impact assessment.

During the period of observation, 1980's, the bulk of USAID's agriculture and natural resource portfolio, reflecting food security and productivity concerns, was in research and institutional building. This focus was consistent with USAID's Strategic Objectives (1982) and also of the Development Fund for Africa (DFA). The DFA objectives are particularly appropriate for judging impact for this group of projects.

In their totality, the research, education, and cooperative programs, leave behind a strong *legacy* of increased capacity for research, management, and networking. Impressive facilities for education and research are also part of the USAID legacy. The difficult economic position of the country raises serious questions about the sustainability of this legacy. cursory observations would indicate that sustainability appears to be excellent for the Cooperatives, good for the university, and fair to poor for the research capacity. However, even for the latter, in recognition of its impressive capacity, forces are at work by the United Nations, the World Bank, and other donors to address its sustainability. If this effort is successful, the sustainability of the research capacity would improve dramatically.

Looking at the *impact* of these USAID activities, there can be no doubt as to very substantive and far reaching contributions to Cameroon. The success of USAID's research, education and cooperative work is indisputable. Yet the good news is still to come. The benefit stream of United States investment in Cameroon is only at its infancy. The research results, already changing the food scene in Cameroon, are continuing to impact at an increasing rate. One USAID assisted farmer, for example, was extending her knowledge to fifty other farmers. A handful of national and international organizations are using USAID generated research to extend it to local farmers and to Tchad, Mali, Burkina Faso, Niger, Senegal and the Central African Republic.

On the educational front, USAID's contribution leaves behind a greatly improved national philosophy of education, and a more manageable system. The reforms, replace a decrepit system based on rote learning that compromised the potential of young minds since the beginning of formal educational systems in Cameroon. A statist perspective of education cut off interaction, and was oblivious to issues of relevance. The United States leaves behind an appropriate capacity for self education and technical innovation in the food system, agriculture and natural resources.

The cooperative assisted by USAID is an important economic player in Cameroon. It is an important intermediary in the financial market and has provided an important cushion to its members during Cameroon's economic decline. Over 75000 people belong to this cooperative. It is a self-sustaining operation.

As with any undertaking of this complexity there will be successes and failures. An effort to assist the Government of Cameroon in seed multiplication and later to privatize it failed. Leaving behind a vacuum in seed production. An attempt to enhance the Government of the Republic of Cameroon's (GRC) data collection and policy analysis ended with mixed results.

Development happens in increments. For incremental gains to occur there must be learning. The decade of activities, both successful and not so successful, provide yet more building blocks for the challenges ahead.

The lessons from this group of projects tells us that privatization is not always a risk-free approach and can be extremely costly. That policy studies can have an impact if the policy makers themselves have identified a problem and are seeking solutions to it. Policy reforms are also possible without non-projects assistance funds, if well orchestrated with strong local participation and some perseverance on the part of the donor. USAID leadership is critical and more leadership and time can be traded off for less funding. This experience teaches us that impact and sustainability can be enhanced when a Mission capitalizes on its own internal experiences and resources. That more holistic program designs, while more complex and difficult to implement, may deliver bigger impacts. Donor coordination is vital and USAID's prestige and status among donors can be used to a great effect, even through regional assistance efforts that do not require an in-country mission presence.

USAID personnel in Cameroon from the early eighties to the present, can justifiably have a feeling of great pride in their accomplishments. The investment left behind will continue to pay important dividends in the years ahead.

**THE LEGACY AND IMPACT OF USAID'S AGRICULTURAL AND
NATURAL RESOURCE PROJECTS IN CAMEROON**
with an emphasis on 1987-1993

1. INTRODUCTION AND BACKGROUND

1.1 Purpose and Methodology of the Assessment

1.1.1 Purpose

On November 19, 1993, the USAID Administrator announced the decision to close the USAID Mission in Cameroon. This study is undertaken as a consequence of that decision with a twofold purpose: first, to assess the impact and legacy of certain projects concerning agriculture and natural resources, and second, to identify lessons learned which could benefit similar projects in the future.

The study's main focus is on projects initiated or continued since 1987 but, where related or antecedent projects were begun earlier, a period going back to the end of the 1970's is taken into account. Other, pre-1987 USAID projects in agriculture, (to do with water, fisheries, poultry and livestock) are not examined here. The impact of three other USAID activities in agriculture to reform, fertilizer, coffee marketing, and export subsectors is analyzed in the Policy Reform and Privatization Report. This report examines nine projects of vastly differing purpose and complexity, in seven different areas: agricultural research, education, seed multiplication, statistics/policy, credit unions (CU's), cooperatives, and natural resource management. The size of the projects varies from \$500,000 to \$50 million and in duration from 3 to 14 years. (See Table 2.1)

1.1.2 Methodology

The meaning of the word impact is taken to be different from accomplishments or legacy. "Accomplishments" denote activities completed: for example, numbers of reports produced, buildings finished or participants trained. Those accomplishments that remain after the project is over constitute its "legacy". "Impact" is the measurement of change made by a project, as gauged in terms of development related to its purpose. Impact can be positive or negative, of short or long duration, immediate or long delayed. Some kinds of impact are more readily identified than others. When assessing the impact of agricultural research for example, certain benefits such as higher yields and increased farm sales are easily visible. Others, such as better land use, and better allocation of household-resources and time, are difficult to perceive, while still others, less frequent famine or the abatement of disease -- the reduction of negatives -- may not be perceptible at all.

Often, impact will be easier to perceive after some time has elapsed. For example, it may be ten or fifteen years before graduates of an educational project attain leadership roles. Before then, while they still hold junior positions, the project's impact may appear very modest. Likewise, it may be a year or two before a study's recommendations are implemented, and until

that happens its impact will seem doubtful at best. This study is being carried out either very soon after or even before projects have ended, and some impact is likely to be missed. This is especially true for those projects which have been recently involved in institution building in Cameroon's public sector. Government departments have not been able to function effectively. This is due to the near elimination of funds for operating expenses and serious reductions in civil servant remuneration. Nevertheless, the legacy of buildings, equipment and -- most of all -- training, remains. If conditions improve, and these institutions later acquire the funds and motivation to perform properly, project impact is likely to be much greater than it has been so far.

While these considerations pose difficulties, they do not preclude a useful evaluation of impact in terms of improving progress made towards development objectives. In addition to the project purpose other criteria for assessing impact and legacy mentioned in documents describing the scope of work for this report, are the GRC's development strategies (identical since 1987 with those of the Structural Adjustment Program (SAP), the strategic objectives of the DFA and USAID's Country Development Strategy Statements (CDSS). All are reviewed at the end of this chapter. (See Table 2.1)

The number of possible criteria does not pose a logical problem. Since the SAP was outlined, USAID has been in agreement with it and there is a logical progression from the DFA objectives through the CDSS's to project purposes. Nevertheless, the adoption of the SAP did represent a shift in GRC strategy. There was a concurrent alteration in CDSS objectives due to changes occurring in the development context, reviewed in the next section of this chapter. It is the team's conclusion that the four DFA objectives best encompass the ends USAID was pursuing over the period of this assessment and are therefore the most suitable criteria for judging legacy and impact. Chapter 2 considers how projects have been structured and how they have been adjusted in response to the adverse state of government finances. Chapter 3 evaluates legacy and impact in the light of the DFA objectives, and Chapter derives the lessons learned.

To gather the material for this report, available documents on each project were read, and GRC staff who worked with them interviewed, as were project technical assistants still in Cameroon. One field trip was made to the Northwest and West Provinces, the bread-basket of Cameroon, to visit projects in that part of the country.

1.2 The Development Context

Prior to the onset of the economic downturn around 1987, Cameroon's level of development and rate of growth was enviable among Sub-Saharan African countries. Until oil production came on line in the early 1980's, agriculture was the mainspring of growth in the economy. It provided more employment than any other sector and most of the country's export earnings (from coffee, cocoa and cotton). After oil began to add significantly to the Gross Domestic Product (GDP), agriculture continued to prosper. This was due both to prices on the international commodity markets and the high value of the U.S. dollar relative to the French and Communauté Financiere Africaine (CFA) francs. However, on the grounds of price stabilization, producer prices of export crops were not allowed to rise as much as f.o.b. prices. The difference went to the government and, together with oil revenue, financed the rapid growth of the civil service and of parastatal enterprises.

When the prices of all of Cameroon's major exports, both oil and agricultural, began to fall around 1987, the high cost and inefficiency of the state dominated system became apparent and could no longer be sustained. A severe liquidity crisis developed because government could not pay its bills and parastatal organizations and private contractors could not repay their loans. The repercussions affected all commercial banks. Collapse was staved off by assistance from the International Monetary Fund (IMF), World Bank, French Government and by cuts in non-salary government expenditure. SAP was adopted to (1) reduce the role of the state in the production and marketing of goods and services; (2) liberalize the domestic and international trade regime through the reduction and reform of regulations; (3) reform the civil service and strengthen economic management; (4) restore macroeconomic equilibrium, including a balanced budget, a positive current account balance, a tolerable level of indebtedness, and a positive rate of growth in the GDP.

Pressure on the government budget continued to be severe. Decreases in civil service remuneration began with the lowering or removal of fringe benefits, followed by reductions in salaries themselves which were made twice in 1993. So far the number of civil servants has not been cut back, though thousands of other public employees have lost their jobs through the liquidation, restructuring or privatization of parastatal enterprises. The government found itself unable to meet all the conditions of the agreements it had with the IMF and the World Bank, with the result that the flow of funds from these institutions ceased. In 1993 it was only last minute payments by France, on Cameroon's behalf, that prevented the country from going into non-accrual with the World Bank. Meanwhile, economic contraction caused income per head to fall considerably (around 30% by some estimates).

Cameroon now has another opportunity to restructure. The CFA franc was devalued by 50% in January 1994, lowering GDP per head to a low enough level in dollar terms to make Cameroon eligible for concessionary loans from the International Development Association. These funds will allow the restructuring and rescheduling of the country's loans and ease the pressure of debt. At the same time, devaluation removes one serious constraint on the profitability of producing import substitutes and exports in Cameroon, while the SAP has reduced another by diminishing the government's role in the economy. A remaining constraint is the uncertain political outlook which reduces the willingness of business to invest, and the liberalization of domestic markets remains to be completed before the country can compete with maximum effectiveness in international markets.

It was the force of economic and financial circumstances which initiated the shift from government control to free markets in agriculture. On the other hand, these same forces have encouraged the rapid depletion of the country's rain forests by directing more attention to the large profits that can be earned by exporting timber. A new and comprehensive policy for forest management was developed with Canadian technical assistance, but it was considerably modified in the National Assembly. Political and economic pressures to avoid pursuing serious conservation measures are strong, except in very particular cases such as Korup in the Southwest.

Changes in the economic environment have been accompanied by political change, though this has evidently not gone far enough to persuade the U.S. government to maintain its USAID Mission in Cameroon. In the summer of 1991 an opposition press was allowed to start up, in

March 1992 there were multiparty elections for the National Assembly, and in October the first presidential election was held. The dominant opposition party boycotted the March elections but decided to participate in those for the presidency. When the incumbent president was declared the winner, there were accusations of fraud and abuse. A report by the U.S. based National Democratic Institute, which had monitored the process, was highly critical.

1.3 USAID's Strategic Objectives in Agriculture and Natural Resources

A review of CDSS and DFA documents since 1980, summarized in Tables 1.1 and 1.2, shows that there have been both constant themes and shifts in USAID's program of assistance to agriculture in Cameroon. The shifts were generally the combined result of lessons learned and changes in U.S. priorities, local conditions, and the development theme in vogue at the time. Programs conceived in the context of a severe African drought in the 1970's were ended or consolidated. Activities in fisheries and livestock were dropped in favor of a program focused on capacity building. This led to fewer but larger projects addressing the issues of agricultural productivity and food security. This orientation was executed through a combination of projects for research, policy, natural resources and higher education for agriculture.

Constant themes - The wording varies from statement to statement, but in all except the last (1990-94) objectives can be found to improve:

- Productivity among smallholders with a view to improving food security and cash income.
- Access to key farm inputs, e.g. fertilizer, improved seeds, other plant material, pesticides, and information on better farm practices.
- Agricultural research to furnish improved seeds, plant material, and recommendations for more effective farm management.
- Information and analytical capacity available to government in policy making.
- Education to produce personnel with the technical ability to carry out research and devise and implement appropriate development programs.
- Avoidance of environmental degradation.

Changes - The tenor of the 1982 CDSS was thoroughly consistent with the above, and two out of the three major objectives concerning the rural economy and natural resources referred to strengthening the government's capacity in one way or another. There was no emphasis on the private sector at that time. By contrast, the objectives in the 1990-94 CDSS were to:

1. Develop a market oriented private sector that can flourish.
2. Increase the efficiency of the public sector.
3. Reduce the overextended role of the GRC.

The first and third of these typified the new emphasis. Private sector promotion was to replace institution building in the government, and although the goal stated in the CDSS made it clear that USAID's main contribution would be in the agricultural sector, the focus was on market forces rather than agricultural productivity, food security or farm income as such.

The strategic objectives of the DFA, as contained in a 1989-91 Action Plan, effectively bridge the stated aims of the earlier and later periods:

1. Improve the management of African economies by redefining and reducing the role of the public sector and increasing its efficiency.
2. Strengthen competitive markets so as to provide a healthy environment for private sector led growth.
3. Develop the potential for long term increases in productivity.
4. Improve food security.

These objectives are particularly appropriate for judging project impact because all of USAID's agricultural projects began before the 1990-94 CDSS was completed. Their purposes, which reflect the earlier concerns with food security and productivity (see Table 2.1), were not changed in 1990 and project purpose is central to an assessment of project impact. These projects included natural resource management which, while not explicit in these DFA strategic objectives, is the first stated Target under the third objective, concerning long term increases in productivity.

TABLE 1.1 - DEVELOPMENT FUND FOR AFRICA STRATEGIC OBJECTIVES AND TARGETS

1. Improve management of African economies by redefining and reducing the role of the public sector and increasing its efficiency.

Targets:

- 1-1 Improved stability in African economies: better management of debts and better fiscal and monetary policies.
- 1-2 Reduced government involvement in production and marketing of goods and services.
- 1-3 Improved equity and efficiency in providing key public services particularly in family planning services, health, education, and transportation infrastructure.

2. Strengthen competitive markets so as to provide a healthy environment for private sector-led growth.

Targets:

- 2-1 Liberalized commodity markets
- 2-2 Liberalized factor markets

3. Develop the potential for long term increases in productivity.

Targets:

- 3-1 Improved natural resource management
- 3-2 Accelerated agricultural technology development and transfer
- 3-3 Expanded skills and productivity on the job

4. Improve food security

Targets:

- 4-1 Reduction in year-to-year instability
- 4-2 Increase famine preparedness
- 4-3 Provide food and income to those most at risk
- 4-4 Increased agricultural production utilization

TABLE 1.2 - COUNTRY DEVELOPMENT STRATEGY STATEMENT OBJECTIVES

1982 (published January 1980, page 38)

- To diversify and strengthen the agricultural sector of the economy so that small farmer income is enhanced through self-sustained real growth in per cultivator agricultural production, especially in the area of food crops which have potential export as well as domestic markets.
- To strengthen the Government's ability to increase the access of the rural population, particularly women and children, to health (including child-spacing and sub-fertility treatment) and education services which are (a) relevant to the rural poor's basic needs and (b) within the capacity of the Cameroonian economy to sustain on a cost-effective basis.
- To train Cameroonian personnel essential to the sustained growth of the rural economy as well as to the Government's ability to plan and implement development programs for the poor.
- To develop the Government's awareness of the need and its capacity to insure that the development process proceeds with minimum negative impact on Cameroon's resource base and environment -- especially in the North where the population pressure on the land is high.

1984 (published October 1982, pages 34-36)

Concentrate on helping to increase food production. Build a human, institutional, technological resource base.

- To increase food production in Cameroon to maintain and surpass mere self-sufficiency, it will be necessary to.
- Develop improved agricultural varieties and techniques for different ecological zones.
- Provide agricultural extension services, supply market information and strengthen other farmer service agencies to reach the majority of Cameroonian farmers.
- Make available inputs such as improved seeds, fertilizer, insecticides and credit.
- Increase the education level of rural producers so they can make better use of available resources through improved farming systems.
- Raise health levels to increase the amount of human energy devoted to production, and
- Improve infrastructure such as roads, storage facilities and markets.

A prerequisite to the successful implementation of village-level food production projects is . . . the presence of an effective institutional base . . . able to:

- Develop policies, establish priorities and allocate resources.
- Develop the agricultural production packages needed by the small farmer to increase his productivity.
- Disseminate these packages to farmers and ensure the provision of the needed inputs.
- Provide sufficient numbers of trained manpower to staff the extension services, agriculture schools and research institutions, and
- Exploit more fully the human potential at the grass-roots level by removing the constraints of poor health and low basic-education levels.

1989 (published December 1986)

- Strategy concentrates on assistance to the agricultural, health, and education sectors.
- It has four pillars: institution building, technology transfer, policy dialogue and private enterprise.
- Institutions are of four types: scientific (NCRE, NCSM, AMP), financial (CCUD), educational (AEP, Support for Primary Education) and medical. Technology transfer through the same institutions.
- Policy dialogue takes place through training and information building (AMP, health).

1990-94 (published April 1989)

- Goal:** Assist GRC to return to a position of sustained, broad-based economic growth. The main USAID contribution to be in the agricultural sector.
- Objectives:**
1. Develop a market oriented private sector that can flourish
 2. Increase the efficiency of the public sector
 3. Reduce the over extended role of the GRC

2. THE STRUCTURE OF USAID AGRICULTURAL AND NATURAL RESOURCE PROJECTS AND CHANGES RELEVANT TO IMPACT

2.1 The Initial Structure of Agricultural and Natural Resource Projects

Table 2.1 lists eight major projects, their purpose, duration, and total funds allocated. The Agricultural Management and Planning (AMP) and Cameroon Agricultural Policy and Planning (CAPP) projects are viewed as one for this evaluation because their purposes were so similar. As a group they originated at the end of the 1970's or beginning of the 1980's and are typical of traditional USAID projects. The exceptions are the three smallest, the two Natural Resource Management Support (NRMS) activities and Tadu Dairy Cooperative Society (TDCS), which are also, not incidentally, the most recent.

The *purposes of the large agricultural projects* have, or had, to do with the following:

- Increasing productivity and food security or the ability to develop policies to promote them, with the exception of the Cameroon Credit Union Development (CCUD) project which was aimed at the development primarily of CU's and secondarily, through production credit (PC) of agriculture.
- Public sector institutions, with the important exceptions of CCUD and, at the end, the North Cameroon Seed Multiplication Project (NCSM).
- Institution building, in the sense of improving the capacity of the body involved to carry out its mission: comprehensive improvement over the full range of their capabilities.

Their *approach to implementation* was based on:

- Technical assistance from specialists brought to Cameroon for two years or more to collaborate with counterpart specialists in the host institution.
- Training through (a) sending personnel to the United States or a third country to earn graduate (usually masters) degrees (b) short term training courses in Cameroon and other countries (c) working with the long term technical assistants.
- Procurement of such commodities as vehicles, computers, office and laboratory equipment by every project. Construction of facilities by several projects NCSM, National Cereal Research and Extension (NCRE), Tropical Roots and Tubers Research Project (ROTREP), and Agricultural Education Project (AEP).
- Provision by the host institution of office space, salaries and operating expenses (including travel), for their personnel.

Sustainability concerns applied in all cases. Hence the significance of the host institution providing most or all operating expenses. In the case of the projects concerned with surveys this also meant repairing vehicles and replacing them when they wore out, a significant expectation given that there were some 50 vehicles remaining from the AMP when CAPP took over.

The three recent and smaller projects were quite different in intent and scope. Most importantly, they all involved collaboration between U.S. based and Cameroonian non-governmental organizations (NGO's). Also, their aims were precise and limited, directed at assisting only particular aspects of the programs or institutions concerned. The activity to

support the TDCS, for example, was a response by USAID to a proposal from a U.S. based NGO to help finance training. The Dairy was already in the hands of a dynamic leadership and the training conceived and organized by an NGO which is a cooperative apex organization. All that was needed from USAID was a modest amount of funding to make the scheme a reality.

2.2 Structural Change and the Implications for Project Impact

Important changes have sometimes been made in the way projects are structured or operate. They have been due to a variety of considerations, though their aim was always either to increase ultimate impact or adjust expectations concerning what impact could be attained. Invariably the projects affected have been connected with government or government institutions, partly because it is government that has been most profoundly affected by the financial problems which have caused some of the changes, and partly because the manner in which the government institutions function has not always been well understood when the project was first designed. The experiences that led to or followed these changes, including their effect on impact and sustainability, yield some of the lessons mentioned in the last section of this report.

Financing operational expenses - A change that affected all projects being carried out with public sector bodies was the direct result of the economic crisis that hit the country in 1987. In mid-1988 the President announced that counterpart funds for donor financed projects would no longer be forthcoming, other than in the form of salaries, regardless of the donor. This affected travel in particular, through the elimination of payments by the GRC for per diem, maintenance and repair of vehicles, and fuel. There were modest exceptions, (e.g. an annual CFA 50 million franc contribution for the agricultural survey, down from an original CFA 300 million franc, and in the AEP where GRC continued to pay all international travel associated with training) but in general, government personnel did not move from their home offices unless projects paid for everything connected with the trip. In addition, with the exception of Dschang, maintenance and repair of computers and laboratory equipment acquired by the government or by projects already terminated would have to be paid for by a current project if they were to support the latter's activities. Funding this kind of operating cost, which in earlier years the GRC would have paid for without question, would generally be seen as undermining a crucial test of sustainability. However, projects were permitted to make the compromise (some took it farther than others) so as to avoid drastic reduction or complete close down of their activities, to the detriment of the country's agricultural development and USAID's investment in the region. Of the large projects, only the CCUD and the AEP were able to continue without picking up operational costs -- the CCUD because it was a self-sustaining NGO and the AEP because most of its programs at Dschang were advisory in nature and GRC continued to finance all training related travel.

Whether these grounds were valid or not is open to debate. With hindsight, it is clear that an opportunity was lost here to consider alternative strategies, other than those mentioned below, to dealing with the problem. More fundamentally different approaches to pursuing project purposes could have been sought to replace those that were now no longer sustainable (for example, a radically less elaborate methodology for collecting agricultural statistics). To bring about some of the needed reforms, USAID could have used some of its considerable local currency funds to establish endowments for a wider range of activities than it did. Such endowments, which made money available to the GRC after desired reforms were implemented

in fertilizer distribution and coffee marketing, could also have been used, for example, to encourage the restructuring of the Institute for Agronomic Research (IRA). As this was not done, several counterpart agencies in the GRC had no incentive to economize.

Privatization - In the case of one project, NCSM, the government's extreme financial straits resulted in the most fundamental change. The capacity for multiplying and producing improved seeds was intended throughout most of the life of the project to be established in a public sector organization, Mission des Développement des Semences et des Cultures Vivrières (MIDEVIV). When it became apparent that MIDEVIV was unlikely to survive at all, and certainly not be able to sustain an effective seed multiplication operation, the activity was turned over to Pioneer, a private U.S. company. Given the temper of the times, recourse to privatization would no doubt have been followed more often if projects and their host institutions had not been involved in the production of public goods, such as research, higher education, and economic statistics. In the case of seed multiplication, the contractor's final report notes that certain features of the project made it a viable candidate for privatization: a tangible, marketable product, cost accounting procedures, and quality physical facilities with people trained to run them. Even here, however, there were limiting factors. The whole project would not have been feasible had it not been for the possibility for Pioneer to focus on hybrid maize. This involved a switch from open pollinated varieties and a new marketing approach to farmers. The contractor wondered about the profitability of producing nonproprietary groundnut and cowpea seeds, and about the possibility that only larger maize growers would adopt hybrids. The contractor's final report also mentioned the prospect that if Pioneer pulled out nothing would be left. However, it concluded that there was no option other than privatization for the only alternative was subsidized production by a parastatal, for which there were no funds.

Evolving objectives - A further reason for restructuring projects was to bring their objectives more in line with what they could attain. Sometimes this meant scaling back what was meant to be accomplished. In the case of the NCSM the number of seed farms was cut back from three to one and the number of hectares of seed to be planted reduced. Sorghum targets were trimmed to reflect limited demand for improved seed for a low value crop. In addition, objectives were reformulated in terms of tons of seed output instead of numbers of farmers using improved seed and the number of hectares farmers planted with it. Although this change was welcomed by the contractor, it signaled a retreat where this study is concerned, because it meant reducing project focus from impact on smallholders as the ultimate clientele to accomplishment in terms of physical output.

Where CAPP was concerned, there were two important changes both of which were brought about by the mid-term external evaluation. The first was to put less emphasis on the original aim of building up the ability of the three ministries with which the project worked, Ministry of Agriculture (MINAGRI), Ministry of Livestock, Fisheries and Animal Industries (MINEPIA), and Ministry of Planning and Regional Development (MINPAT), to do policy studies themselves. Instead, the project was to help the government obtain sound policy analysis by supporting this activity wherever it could be competently done, providing the expertise employed was Cameroonian unless none could be found. The second change in CAPP objectives made explicit the project's contribution to improving efficiency in data collection and publication. Up to then, the implication had been that the project would maintain rather than improve what was done in statistics.

In the case of the NCRE, an evaluation led to an important addition of a soils/agroforestry component to address issues of soil productivity. Unfortunately, an even more critical operational and structural issue of NCRE's parent organization, the IRA, was not addressed. The leadership role taken by USAID to successfully address the structural issues at Dschang, were not apparent in the case of the NCRE.

More effective management - The NCSM adopted cost accounting methods to permit more accurate calculation of the cost of seed production. These figures were useful to Pioneer in its assessment of the investment opportunity it was being offered. The designers of the CAPP project gave it two interministerial committees, one comprising the ministers themselves, to set priorities, approve work plans and monitor progress and one at the department director level to feed options to the ministers and implement the work plans. The first only met once and then the ministers would only endorse what their directors had recommended to them. Evidently, and perhaps not surprisingly, they regarded interministerial policy issues as being better discussed in a forum other than a three ministry committee overseeing CAPP. Regarding the second, departmental level committee, the project's external evaluators found the substance of discussions much reduced by the desire to avoid conflict over the allocation of resources. The difficulties affecting both committees were dealt with readily by dropping them, leaving the project to deal individually with the three ministries at the operational, i.e., the department director, level. It is significant that none of the ministers or directors complained about this change. They had nothing to gain from interministerial collaboration and it was easier for them, to negotiate over activities and resources as individuals, rather than in a group whose role in coordination was only nominal.

Facilitating project output - An additional change in CAPP's management procedures increased the level of accomplishment and therefore the potential level of impact. As frequently occurs with surveys, while field work encouraged by the payment of per diem for the travel involved went ahead more or less on schedule, data processing lagged severely. By 1991 there was a six year backlog for there had been no publication of figures since the 1984 agricultural survey (referred to officially as a census). Likewise, a tremendous amount of travel had been carried out for an "analytical review" of the agricultural sector but no report was forthcoming. These delays were greatly reduced when the activities were placed on a contractual footing. Field work for a survey was not financed unless data processing and publication of previous surveys were on schedule. Likewise, final payments for studies or travel connected with them were not made until the reports were complete and delivered.

TABLE 2.1 - USAID AGRICULTURAL SECTOR PROJECTS IN CAMEROON (1976-1994)

<i>Project</i>	<i>Purpose</i>	<i>Year/Funding</i>
National Cereals Research and Extension (NCRE)	Increase food production through developing the institutional capacity for quality research into corn, rice, sorghum and millet and facilitate utilization of research results by farmers.	Phase I - 1979-1985 \$7.7 million Phase II - 1985-1994 \$36 million
Tropical Roots and Tubers Research (ROTREP)	Improve farmers' welfare by increasing productivity of cassava, yams, cocoyams and sweet potatoes through development of locally acceptable disease resistant varieties and rapid seed multiplication techniques.	1986-1994 \$9.2 million
Agricultural Education (AEP)	Assist the GRC in creating an agricultural university at Dschang, able to train personnel needed to adapt modern agricultural technology to local conditions.	Phase I and II 1982-1993 \$51.3 million
North Cameroon Seed Multiplication (NCSM)	Increase productivity of small farmers in food crops and strengthen cereal production through establishing a system for producing and distributing seed for peanuts, sorghum, millet and corn.	Phase I - 1976-1983 \$1.5 million Phase II - 1982-1988 \$15.8 million
Cameroon Credit Union Development (CCUD)	Assist Cooperative Credit Union League improve its internal management, supervision of affiliated CU's and services to them, and to expand its network.	Phase I and II 1980-1992 \$4.8 million
Agricultural Management and Planning (AMP)	Institutionalize sector planning and statistics capability in the MINAGRI	1979-1987 \$9.1 million
Cameroon Agricultural Policy and Planning (CAPP)	<i>(Original)</i> Strengthen and institutionalize the GRC capacity to develop economic and agricultural policy and to improve the planning process in the agricultural and livestock sectors. <i>(Revised)</i> Assist the GRC in carrying out sound economic policy and investment planning, and also data gathering and analysis for the agriculture and livestock sectors.	1988-1993 \$9.7 million
Tadu Dairy Cooperative Society (TDCS)	Develop the services and operations of the Society and support its efforts to improve milk quality and quantity in the Tadu area, increase farmers' income and meet increasing consumer needs.	1991-1994 \$161,874
Korup Biodiversity Research	Develop national capacity to conserve rain forest biodiversity; determine numbers, distribution and ecological role of forest elephants and apply findings to forest management.	Phase I, II and III 1988-1993 \$672,000
PVO/NGO, Natural Resources Management Support (NRMS)* * also centrally funded	Support Grant to CARE/Cameroon to support activities of NGO's in natural resources management.	1993-1994 \$587,000

TABLE 2.2 INDICATORS OF LEGACY AND IMPACT

Project	Reduce role of public sector and increase efficiency	Strengthen competitive markets	Develop potential for long term productivity increases	Improve food security
NCSM	Government seed multiplication privatized.		Increased use of improved seed by all farmers.	
CCUD		Successful competition with private banks and informal savings groups.	Loan funds used for farm improvements.	
AMP CAPP	Quality and availability of agricultural statistics and policy making improved. Policy studies further dialogue to reduce government role.	Statistics used by private sector. Policy studies further dialogue to strengthen competitive markets.	Higher productivity/food security attained due to better policy analysis and informed decision making.	
TDCS			Higher consumption of income from dairy production.	
NCRE ROTREP	Priority setting, implementation of research programs, and research/extension links improved.		Improved plant material, recommendations for farm practices developed, and communicated to farmers.	Improved material and recommendations used by high risk farmers. Year-to-year yields more consistent.
AEP	Curricula, research programs, and management improved. Private fee paying students attracted. Public institutions merged.	Private sector employs graduates and uses research results.	UDs faculty produce recommendations for farmers and government agencies. Recommendations are adopted and improve volume and consistency of crop yields.	
NRMS Korup PVO/NGO	Korup forest more efficiently managed.	Natural resources more effectively managed by local communities.		

3. LEGACY AND IMPACT ACCORDING TO DFA OBJECTIVES

(* = Positive Impact ∇ = Problems/Unresolved Issues)

Table 2.2 brings together the indicators of impact and legacy of the projects being considered. As stated in Section 1, looking at one DFA objective at a time and summarizing the legacy and impact of those projects that can be said to fall mainly under that objective. The gain is a better view of how well the DFA program as a whole is addressed by these activities.

3.1 Improve Management of African Economies by Redefining and Reducing the Role of the Public Sector and Increasing its Efficiency

This strategic objective is actually two: one is to redefine and reduce the role of the public sector and the other is to increase its efficiency.

3.1.1 *Privatizing the multiplication of improved seeds*

NCSM - The central purpose of this project was to establish a system for multiplication of improved seeds for groundnuts, maize, and other crops important in the north of Cameroon. It first worked toward this through building up the capacity of the parastatal organization with responsibility for seed supply, MIDEVIV, and its subsidiary, the Project Semencier. Distribution could be taken care of through another parastatal, Societe de Développement du Coton (SODECOTON) which, although primarily interested in promoting cotton production among smallholders, was also prepared to help them increase food production. When government funds to keep this organization going dried up with the onset of the national economic crisis, project strategy changed to privatization. A number of American and European seed companies were contacted and Pioneer, after considerable time spent studying the project, decided to take the operation over and did so in March, 1991, through its subsidiary, Pioneer Agrogenetique Cameroon, S.A. (PACSA). The keystone of its strategy was the production and sale of hybrid maize seed, though it was willing to continue producing and distributing groundnut, cowpea and onion seed and would market imported vegetable seed. Unlike NCSM, Pioneer would not limit its target market to the Northern part of Cameroon but would also sell in those parts of the South where demand was substantial. In the North of Cameroon it could follow the NCSM in relying on SODECOTON to distribute seed to farmers, but in the South it would have to establish its own network. The accord between Pioneer and the GRC was greeted with fanfare, but the outcome was a shock, for two years later the company announced its withdrawal, for reasons that have never been made fully clear.

Legacy:

See Food Security

Impact:

It is difficult at this time to say what the ultimate impact of this project will be. The legacy left behind is not insubstantial. Only a year ago it could have been said that the production and distribution of improved seed in Cameroon had been successfully privatized as

a result of the NCSM. The project's impact would be increased food security, a potential reduction of maize imports, and increased income. Pioneer's departure has put an end to all that, for the time being, an impact statement must be limited to the following.

- *During its lifetime, the NCSM's own production of seed, and that of the contract farmers it supervised, permitted increases in output of food crops and increases in income of small scale farmers.*
 - *The fact that a MINAGRI proposal for organizing seed multiplication contemplates at least the use of contract growers, and the running of the seed processing plants on a fee for service basis, can be attributed to the NCSM, because the person who drew up the proposal worked with the NCSM for years as head of the Project Semencier.*
- ▽ *Currently there is a void in the production of improved seed in Cameroon.*

Reasons offered for the Pioneer's departure have not been documented, but the following have been suggested. Grounds for skepticism that these reasons are very good ones are offered in parentheses.

1. Demand for hybrid maize seed was lower than Pioneer had anticipated for one or more of the following reasons:
 - The annual volume of maize imports, and therefore the potential for growth in production, had allegedly been exaggerated. (Even if true -- the claim has not been substantiated -- Pioneer had months to find the actual figures, which were available).
 - The price at which Pioneer had to sell maize seed was too high, being ten times the price of maize grain. (On the other hand, yield increases easily covered this cost, and proper marketing by Pioneer could eventually overcome price resistance. Pioneer's pricing policy has served it well enough in other parts of Africa).
 - The varieties imported by Pioneer prior to establishing local production were ill-suited to Cameroonian conditions. (This is possibly true for some areas, but there are repeat purchasers buying up remaining stocks and Pioneer has other possibilities from which to select).
2. Pioneer encountered non-economic difficulties, of the obstructive regulation, "rent-seeking" variety, that cooled its interest. (Possibly so, but there is no clear evidence of it. Furthermore, Pioneer is no stranger to this kind of behavior and should not have been either unduly surprised or intimidated).
3. The management Pioneer installed did not perform as expected. It is clear that the first manager left quickly, and that the second had little or no experience with Pioneer or any other private company and spoke no French, both of them significant handicaps. (However, these observations only beg the question why better qualified managers were

not found for this post in the first place).

All of this is very inconclusive, but while no single reason sounds convincing, perhaps together they were enough to discourage Pioneer. Even so, it would seem that the company was not strongly committed to making its operation in Cameroon a success. It did not have to be, because it had invested little, having acquired the use of the farm and the seed plant virtually free of charge, and preoccupations in other countries may have led it to cut its losses here. It might be concluded that, had Pioneer been made to pay more for the facility, it would have had the incentive to stay on so as to earn its money back. This is a possibility, but it is also a possibility that prospects were slim enough that it would not have come at all under any other terms.

How the void in seed multiplication will be filled is not yet clear. While the fact that the privatization of seed multiplication was a gamble may often have been overlooked in the euphoria engendered by Pioneer's arrival, the NCSM contractor's final report did note (p.17): "If Pioneer pulls out after a few years, will all previous efforts have been in vain? This remains a possibility, but since neither the GRC nor USAID wish to continue to subsidize seed production in the project area, there are few, if any, alternatives."

3.1.2 Increasing efficiency in data collection and publication for agriculture

AMP and CAPP Projects - The AMP project was established in 1979 to help the GRC develop a system for collecting and publishing statistics on agriculture and a capacity for policy analysis. The CAPP project essentially took over these same objectives in 1989. While the AMP project did produce results in the area of policy analysis (see below) its main contribution was an annual survey of traditional crop farmers, who account for most of the sectors production, sales, and exports. The CAPP project was originally meant to help maintain that system, but concentrate more on institutionalizing the capacity for policy analysis in three ministries, Agriculture, Livestock and Plan. After a mid-term evaluation, the focus on institution building in those three was dropped because it was yielding scant returns. It was replaced with an emphasis on producing policy studies on priority topics, working with whatever Cameroonian entity or analyst would be most appropriate. The project came to an end in 1993.

Legacy:

Legacy here falls into two categories. The first is the documents that are left, in particular the agricultural data themselves. The second category is more truly the efficiency aspect of the legacy, namely the ability to carry out these surveys, which are very large scale undertakings. Statistical publications left behind include the following:

- The Agricultural Census of 1984. This was actually a survey with a large sample of between 10% and 20% of the total number of farm operations in the traditional sector. There are 12 volumes, one for the country as a whole with figures by province, one for each of the ten provinces with figures by division (*departement*), and one for the modern sector. Figures on livestock are included, but MINEPIA claims, probably with good reason, that these considerably under-represent the true figures.

- Annual Agricultural Surveys for each year, 1985/86 to 1990/91, in 6 volumes, one for each year plus an Annex, which includes figures on sales that were inadvertently left out of the others.
- A revised sample frame for the agricultural survey, based on the same frame as the 1987 census of population, making for better management by virtue of being more up-to-date and having proper storage of maps.
- Production and other significant data on modern sector agricultural enterprises, both public and private, which could only be obtained by visiting the firms concerned.
- A clear plan for a periodic survey of livestock to be undertaken by the Department of Studies, Projects and Training (DEPF).

Concerning the ability to continue to produce statistics of this kind, there are several positive points and one which is less positive as listed below:

- The personnel who now manage the crops survey, including the acting director of the Department of Agro-Economic Surveys and Agricultural Planning (DEAPA) and the heads of the statistical and data processing services, received masters' degrees in statistics or data processing under the AMP and have the skills to collect and process survey data.
 - At every round of the survey, the AMP and CAPP projects provided short-term training to approximately 300 enumerators and their supervisors at divisional and provincial level. They now have the knowledge and experience to implement large scale surveys of farmers.
 - The system for obtaining data on modern sector enterprises is still functioning as it should and has been incorporated formally, for the first time, in a new reorganization of MINAGRI.
 - Personnel in DEPF could carry out livestock surveys, if financing were ever available.
- ▽ There is another side to this legacy which the writers regard as a significant drawback, though others, including professional statisticians, do not. DEAPA personnel have been trained in one approach to gathering agricultural data, which requires a traditional sample survey approach that is very expensive: of the order of \$500,000 a year, exclusive of salaries. Evidently this is a burden that the GRC is unable to shoulder under current circumstances. The danger is that surveying will either stop or be carried out so poorly that the results will not be trustworthy. Statisticians argue that there is no way of obtaining reliable production and sales figures in agriculture other than through a formal survey, but that the work can be done with fewer persons, allowing the survey to be financed from savings derived by dismissing the surplus personnel. However, this is not a politically realistic solution and there are other informal approaches to making estimates that could be tried. Figures derived from them would be inferior to those from well-executed surveys, but better than the poorly informed guesses that were made prior to 1984 and during the period when data processing lagged years behind.

Impact:

- *The data from MINAGRI surveys have been used in compilations of important statistics and studies.*
- *DEAPA has a survey capability which has been employed on a contract basis by USAID in monitoring its Fertilizer Sub-Sector Reform Project through special purpose surveys.*
- ▽ *However, as the system is too expensive to sustain, its impact will be short-lived.*
- ▽ *Usage of the current figures would be greater if it were not for doubts about their accuracy.*

Data is produced only as an input to analysis of one kind or another and should therefore be judged on the basis of whether or not they are used in any significant way. If there is no data based on sound methodology then guesses will be made which may be accurate or far from it. Jaeger's assessment is clear (1987, page 77-78). He emphasizes the importance of accurate data when making decisions and finds that the informal estimates used prior to the 1984 census differed considerably from the figures that exercise produced. On the other hand, an evaluation of the survey system sponsored by CAPP (Satana, 1993) noted considerable non-sampling error and at least one World Bank document has described the agricultural statistics even now as "weak". These doubts reduce reliance on them to some degree, especially where the identification of trends over time is important. Analysts developing macroeconomic models in MINPAT prefer their own estimates of food production, for example. Still, these survey data have been used at least for the following:

- Calculations of GDP made by the Department of Statistics and National Accounts in MINPAT. These, in turn, have been used in discussions with the IMF and World Bank (though the latter also generate GDP figures from their own models).
- Estimates of the benefits in benefit-cost analyses for proposed new roads (e.g. Kribi/Ebolowa, Fouban/Tibati).
- A National Early Warning System for food security set up with Food and Agriculture Organization (FAO) assistance.
- Monitoring development progress and identifying development needs by MINAGRI.

There is concern within the GRC about the difficulties of sustaining the system, and the possibility has been raised of merging the various government agencies with data collecting and processing responsibilities. This is a proposal worthy of consideration but there is likely to be considerable resistance to it from those departments which stand to lose their autonomy. A change in the system to one less dependent on formal survey methodology, should also be considered but opposition will be strong as many statisticians view informal methods unfavorably.

3.1.3 Increasing efficiency in policy analysis AND reducing the public sector's role in

agriculture

Note that the title of this subsection does not correspond perfectly to that of the former. The gathering of agricultural statistics is a legitimate public sector function, so is policy analysis itself. However, some of the policy analysis studies done under the CAPP project address the issue of reducing the economic part played by government in agriculture. On the other hand, there is a similarity with statistics in that there are two aspects to the legacy: the studies themselves and the continuing ability to carry them out.

Legacy:

AMP supported several policy papers early on in its life. Jaeger mentions (page 79):

- National Food Plan
- Analysis of the Food Problems in the Littoral Sud and the 1987 external evaluation of the AMP cites the following as having been completed:
 - Livestock Sub-Sector Study
 - Coffee/Cocoa Regeneration Study
 - Rural Sector Finance
 - Studies for the National Seminar on Cooperatives

CAPP's final report mentions studies in the following areas: (their impact will be considered below)

- The impact of taxation on meat imports
- Production incentives and the impact of government policy on poultry production
- Livestock marketing
- Factors inhibiting maize production in Cameroon
- The development of a policy for natural resource management in Cameroon
- Improving producer prices for coffee and cocoa
- The response of farmers to the collapse of cocoa prices
- The institutional framework for macroeconomic management during a period of structural adjustment
- Production, processing, and marketing food crops in Cameroon
- Costs of producing crops and livestock in Cameroon
- The promotion of fruit and vegetable production
- Production incentives and the impact of government policy in arabica coffee
- An analytical review of the agricultural sector
- Development assistance priorities for the agricultural sector in the 1990's

In terms of continued capacity for this kind of work:

- Both projects trained Cameroonian analysts, chiefly through sending them to the United States for masters' degrees in agricultural economics. Most, perhaps 16 or 17 of the 19 who completed masters under CAPP fall into this category.
- ▽ However, though the individuals received their training, the project could not build up

functioning policy analysis units in the ministries. The reasons for this were the same as those cited below explaining why impact was less than hoped.

On the basis of past experience with respect to returned participants in long term training programs, it is likely that most will end up making good use of their skills in one way or another, several in senior posts. At that time the training will pay off. Up till then,

Impact:

The evidence is that the impact from policy studies have varied from considerable to none. Those which have been most influential have been on:

- *The effect of the taxation of meat imports on consumption, which caused policy makers to consider the impact of this policy on demand as well as supply.*
- *The impact of government policy on the incentive to produce arabica coffee production, which supported the move to liberalize that subsector.*
- *Supply and demand in the maize subsector, showing how imports of maize come to be high though conditions for growing this crop in Cameroon are excellent.*
- *Costs of production in the poultry subsector, a major consumer of maize.*

The latter two have attracted the interest of private firms in the subsectors concerned and their influence will be greater as a result of devaluation.

- *An appropriate framework for governmental institutions managing natural resources in Cameroon.*

To have impact, a policy study should contribute to policy deliberations at a significant level. The Ministers of Livestock and Agriculture respectively actively discussed the significant aspects of the meat import taxation and maize subsector studies. The Director of Agricultural Projects, who plays a central role in agricultural policy matters in the GRC, considered the poultry subsector study an important supplement to the maize study. He also said that the analysis concerning government policy and arabica production incentives formed the basis of his department's approach to USAID's Program for the Reform of the Agricultural Marketing Sector. The paper on governmental institutions for natural management in Cameroon was a central piece in a report by a multi-donor mission coordinated by the United Nations Development Programmes (UNDP) which worked with the GRC to establish a national environmental policy.

The significance of the other studies is more doubtful. Jaeger states that the studies with which the AMP was associated, "have been used in the decisions that make up the planning responsibilities of the Department of Studies and Projects", but does not say specifically how. The paper on institutions for macroeconomic management during a period of structural adjustment caused a considerable stir at the conference where this issue was debated, but has not been heard of since. Varying reasons can be cited for the lack of impact, depending on the

study. Two or three, for example, the cost of production studies done by faculty of Dschang University were produced right at the end of the project and were never properly distributed by CAPP. If the authors themselves succeed in disseminating the results of their analyses, the studies may yet have an impact.

However, CAPP's external evaluators identified two fundamental and more general reasons why impact was less than intended. The first is that, although the topics of these studies were chosen in discussion with senior Cameroonian ministerial officials to ensure that the issues examined were important to their ministers, it seems that only those studies mentioned above were really considered important by policy-makers. Other topics, such as the restructuring of the arabica, robusta, cocoa sub-sectors, the impact of fertilizer reform, and the promotion of fruit and vegetable exports, were also the subject of important analyses. What each of these had in common, however, was that money was expected from one donor or another for a project to press forward with the changes recommended, and the donor concerned also carried out the study. Thus, the Caisse Française de Développement (one of the aid agencies of the French government) financed very large studies into the robusta and cocoa sub-sectors where it wanted to see reforms carried out. Moreover, USAID itself had programs of research attached to the Fertilizer Sub-Sector Reform Program, the Program to Reform the Agricultural Marketing Sector (in particular, arabica), and Program for the Reform of the Export Processing Sector which they financed separately. CAPP was left to make do with whatever was left over.

The second reason noted by the external examiners was that CAPP was placed in a department in MINAGRI which, on paper, was responsible not only for statistics but also policy analysis (DEAPA). In practice, however, the latter function was more significant in another ministerial department, the Division of Agricultural Projects in MINAGRI, simply because of the force of character of the latter's director. It is probably significant that CAPP was made responsible for the maize study after the adoption of the external examiner's recommendation that the project should be allowed to work with any strategically placed entity, government or otherwise.

3.1.4 Efficiency through higher-education reforms

AEP began in 1982 as a fifteen year United States-Cameroon institution-building project. The rationale of the AEP was to give people skills to change their lives and their community particularly in the agricultural and rural sectors of Cameroon. The project's objective was to assist the GRC to build the physical, human and social capital necessary for Cameroon's agricultural institution to deliver on the long term needs of the agricultural and rural sectors. The AEP differed from other USAID activities at that time, because in addition to building institutional capacity, it also addressed the structural issues that faced Cameroon's system of higher-education. This holistic approach, after an initial period of four difficult and sometime touchy years, finally paid off with the revamping of the higher-education system in Cameroon. The close relationship developed during this time, between USAID and GRC, seems to be an important reason why the AEP, until 1992, enjoyed excellent host country support with GRC contributions matching United States Government (USG) by \$1.25 to every dollar. These were cash matches and did not include substantial GRC funds for investment and in-kind contributions. Between 1991 and 1993, mirroring the deteriorating economic state of Cameroon, the University went through a difficult period where salaries were not forthcoming on a regular

basis and operating funds fell below the essential minimum needed to maintain existing programs. In 1992, the situation reached its peak with mounting salary arrears and the University's inability to open on schedule. Late that year USAID suspended most of its assistance to the University. Later other donors - France, Belgium, Holland - also began to scale back or suspend their assistance. Following major educational reforms in January 1993, the appointment of a new University Administration, and the release of GRC funding, UD was finally able to reopen. Negotiations with donors began and were successfully concluded with Canada, France and Holland to re-initiate their support September 1994. Discussions with Belgium while positive are still ongoing. Similar discussions with USAID also reached very advanced stages of negotiations with GRC accepting all the conditionalities asked by the Mission but apparently this was not sufficient, as USAID believed that GRC was no longer able to meet its financial commitments at Dschang as was the case with NCRE, ROTREP, and CAPP. The AEP was terminated in July, 1993. The early termination of the AEP has implications for institutional development approaches and these are discussed further in the section on Lessons Learned.

Legacy:

- A highly qualified bilingual faculty body of 115 faculty members. USAID training was provided for 36 masters degrees and 14 doctoral degrees. Of these USAID trainees, two are now department heads, one head of the University's Academic Division. Non-degree training was also provided to 39 other personnel in computer use, extension, research, curriculum planning, construction, electricity, plumbing, carpentry, and general facilities maintenance. From this group one heads the University's Computing Services, another UD's Professional Development Center, and another Maintenance.
- Excellent facilities including a library, two dormitories, amphitheater, classrooms, and a surfaced all-weather road that connects the two parts of the campus. First class laboratories have also been built. These now await the provision of equipment and supplies.
- *A different way of teaching and learning. UD brings to Cameroon and Central Africa the first comprehensive concept in higher education that embraces the transfer of knowledge (formal, informal and non-formal), with knowledge generation.*
- *A university fully staffed and administered by Cameroonians.*

Impact:

The core impact of the AEP will come when its Cameroonian and other Central African students enter the job market and begin to make a difference in agriculture, agribusiness, natural resources, and the rural sector in general. The assessment of this impact however, will have to await a future time, since the first graduates of the new curriculum will graduate in June 1994. However, in reforming agricultural higher-education at Dschang, the following benefits accrued:

- *The USG left behind an appropriate capacity for self education and technical innovation.*

The UDs today is a bustling campus with over 2000 private, fee-paying students. While the value of the fee 50,000 F CFA is inadequate to cover the cost of the education, the students also pay for their won boarding and lodging. This is a dramatic shift from the situation before the 1993 Reform Act. A very important barrier has been broken. In future years the fee can be raised closer to the cost of education and financial assistance packages developed for the poorer segments of the population.

Another benefit of the 1993 Reform is that the young faculty of agriculture, which until 1993 had been on its own, has been strengthened with new faculties of basic and social sciences. Agricultural and natural resource subjects are based on the sciences, hence the addition of these faculties which bring in chemistry, biochemistry, physics, biology, microbiology, sociology, law, mathematics, etcetera will greatly strengthen training at UDs. Yet in spite of this expansion, UDs will not be able to meet all the agricultural and rural need of Cameroon. So it was equally refreshing to see that the reform has allowed for the creation of another Faculty of Agriculture in the Southwest at the University of Buea. The Southwest is an integral part of Cameroon's bread basket. Interviews with some of the United States trained UDs professors found them to be dedicated to their mission.

To appreciate this change, it helps to note that at the beginning of USAID's assistance the agricultural institutes, that later became the UDs, were simply in-service-training units for the Ministries of Agriculture and Livestock. About half of its academic units were headed by expatriates. The combined enrollment was about 600 students all civil servants and all on GRC scholarships. The 'scholarships' were in fact income to the students and were not used to defer the costs of their education. Housing and meals were provided for a token fee. It was a system difficult to sustain in any economy. The magic of fee-paying students can now play its part in enhancing the efficiency, quality, and relevance of the University.

- *Over the years USG's efforts at Dschang have succeeded in contributing to public sector efficiency by merging three agricultural institutions (Technical Institute of Agriculture, National School of Agriculture, University Center of Dschang), some 240 kilometers apart into two and later into one comprehensive system, UDs, at one location.*
- *Through USAID assistance to the UDs, the USG was also able to have a major impact on the structure of higher education in Cameroon. Based on the reforms proposed for Dschang, the GRC modified the whole higher-education system in Cameroon. In its Higher-Education Reform Act of 1988, the GRC charged all (five) public universities in Cameroon to adopt the spirit of the land-grant philosophy to serve the greater public. Heretofore, Cameroonian institutions had been primarily teaching and research centers.*
- In addition to the changes in structure and educational philosophy, some efficiency gains were also brought about through the combined result of USAID's efforts, GRC intentions, and the prevailing economic conditions. The reforms of January 1993, contributed to decentralized decision-making, some degree of autonomy, an educational system that can now be more responsive to the country's changing needs, implemented systems of cost recovery and allowed for income generation.

the University appears to be at a loss on how to diversify its financial portfolio.

If the inability to finance operating costs continues, some faculty members will leave, and others who are successful in obtaining external research grants will be forced to seek more of the same. This is positive if well orchestrated, if not it can be negative. In the latter case, the faculty body will be little more than independent consultants working under the name of the University. The French, Canadian, and Dutch, research and outreach projects, that will begin September 1994, are sufficient to support a body of work for some units for about four years. In the meantime, *the financial situation will have to improve and other means of financing sought if the University is not to revert to a simple teaching institution, thus nullifying USAID's primary objective.* The latter presents a scenario, whereby only one third of the actual capacity of the UD's will be utilized.

- ▽ Personnel management systems are still weak and may work against more productive individuals. This problem can be greatly reduced by efforts at Dschang, but a more lasting solution would require complementary changes at the national level. There is no indication that this issue will be tackled any time soon.

3.2 Strengthen Competitive Markets so as to Provide a Healthy Environment for Private Sector-led Growth

3.2.1 Strengthening the credit union movement

CCUD - USAID support to the Cameroon Cooperative Credit Union League (CamCCUL) through the World Council of Credit Unions began in 1975, with the specific and limited aim of helping CU's establish a system for loans directed at production. In 1980 a project with the more general aim of strengthening CamCCUL and its affiliated unions, and in 1986 a second phase continued this work until it came to an end in 1992.

Legacy:

- *Training:* Under the project, 2,186 out of a target of 2,850 CU's leaders and 632 out of 1,018 bookkeepers were trained at various levels. The shortfalls were due to the late arrival of the CCUD training specialist and to Operation Ghost Town. Nine persons received specialized training overseas out of a projected seven.

Deficiencies noted: Lack of a French-speaking training officer for francophone areas and bookkeepers visited by this assessment team exhibited highly variable levels of training.

- *Expansion of membership:* New promotional materials were developed and radio programs broadcast. 62,917 new members in anglophone areas joined CU's, out of a target of 59,000; 12,740 joined in francophone areas out of a target of 36,000. Expansion in the latter was hampered by lack of French speaking staff, the Ghost Town campaign, and the fact that democratic control of cooperatives is less well developed and understood there than in anglophone areas. In addition to under-representation in francophone provinces, there is concern that CU's are not attracting sufficient young

members.

- *Use of League's Central Liquidity Facility:* At the end of the project, only 9.53% of League fixed deposits was lent to CU's out of a target of 30%. Reasons are: a) Lack of demand from CU's, whose liquidity is already ample. b) Very conservative lending policies on the part of CU's. c) Poor understanding among members of what constitutes sound borrowing behavior. d) An excessively large reserve requirement of 25% where 10% or 15% would suffice if fees were charged for services currently provided "free".
- *Promoting productive credit:* Thirty-nine out of a targeted 50 CU's were in the PC program at the end of the project. Interest in productive credit was diminished by the more burdensome approval procedures and closer supervision for this kind of loan, without commensurate gains in loan availability.
- *Credit union supervision:* Audits are carried out on time, annually. Annual reports for 1993 were available in all unions visited by this team. Monthly financial statement forms have been simplified and were available for February when this team visited in March. League accounts were computerized, CU's grading system was introduced based on the minimum operating standards already in place, field inspectors received additional training in fraud detection, and a new system for tracking loan delinquency was tested in PC unions.
- *Management planning:* Field inspectors develop annual work plans for Cu's. Most unions develop annual budgets but mainly by extrapolating from the previous year and even they are dependent on help from their field worker. Therefore, training in this area is still needed to improve the ability not only of field staff but also of union staff and boards. The writing of CamCCUL's third Five Year Plan was postponed due to the unstable political environment, but it was completed in February 1993, after the project's departure.
- *Risk management:* This program insures CU's for loans unpaid on a borrower's death or incapacitation. It also insures members' savings up to CFA 500,000 franc. Most unions participate and premiums have so far covered losses, but the League has been recommended to reinsure.
- *Decentralization:* There are six regional offices, in Kumbo, Bafussam, Mamfe, Kumba, Mutengene and Douala. A seventh is planned for Yaounde. They handle no funds but serve as a center for field workers and their supervisors.
- *Shared services:* The aim here is that CU's should cut costs by sharing services such as bookkeeping. However, there has been little pressure from unions in this direction, as each values its independence highly. This may change as the accounting benefits and economies of scale of computerization become better understood.
- *Financial viability of CU's:* Though this was not a stated objective for the project, it is an important aspect of its legacy. The rate of interest on loans was increased from 1% to 1.5% per month, allowing CU's to stay solvent during hard economic times when

demand for loans is low. Clear loan policies were adopted by most CU's in PC program. Rules for bad debt provision at CU's level were adopted, where before policies were left to the CU's themselves.

Impact:

The accomplishments of the project described above show that it has been able to strengthen the League substantially. This report will follow others in describing impact in terms of how CamCCUL has been able to develop and the impact it has had. It would be wrong to attribute all of this impact to the CCUD, but determining how much of this impact is due to the project is not a practical proposition.

- *CamCCUL CU's have been important in cushioning the impact of economic decline for increasing numbers of people, providing a safe, and accessible haven for their funds.*

Since 1987 GDP has fallen by a significant amount -- estimates vary but 30% is a typical figure -- and there is no reason to suppose that people in CamCCUL's main area of operations have not shared in this. Prices for coffee and cocoa were first not paid at all for periods of up to more than two years, and they were reduced by varying amounts, in all cases by more than half. Parastatal enterprises everywhere, including the huge Cameroon Development Cooperation, reduced their number of employees, cut salaries, and civil servants' salaries were reduced nationwide.

During this period of economic downturn, total savings in CamCCUL CU's have remained remarkably stable. Their growth continued unbroken until 1989 when they reached a total of CFA 10.5 billion franc. Had they then followed the general downward tendency of the economy they would have fallen, but instead they have remained between their 1989 level and an upper level of CFA 11.2 billion franc reached in 1992. The balance of loans outstanding has not fared quite so well but has done better than the economy as a whole. It also grew until 1989, when it attained CFA 7.1 billion franc. Since then it has declined to CFA 6.0 billion franc at the end of 1993, which is about half the rate of fall of GDP.

CU's individual members, on the other hand, have grown in number. At the beginning of 1989 there were 237 unions/discussion groups (discussion groups being functioning entities which have not yet completed registration) and 68,544 members. At the end of 1993 there were 263 unions/discussion groups and 78,686 members. The increase in memberships is in spite of the withdrawal of some members. From this, together with the steadiness of the savings and loan figures, it is reasoned that while economic conditions have forced people to deal in smaller amounts of money, the number of persons who have benefitted from CU's have still been able to grow.

- *Though businesses have benefitted from CU's, two thirds or more of the impact of all loans has continued to be in helping people meet three domestic needs: education, building, and health. Trading accounts for around one eighth while farming receives, by far, the smallest proportion of loan money at 1% to 2% of the total.*

USAID first became involved with CamCCUL in an effort to establish a PC program.

It has both advantages and disadvantages from the point of view of borrowers. On the one hand, the amounts of money which can be loaned can be greater than for other purposes. On the other, there is closer scrutiny of PC loan applications and supervision of the money lent. CU's bookkeepers and CamCCUL officials were all agreed that funds were therefore commonly requested for education or health and then diverted to other purposes. This is unfortunate only from the point of view of persons asked to evaluate impact, because ability to repay is not seriously altered by this practice. The following is the breakdown of loan uses.

Farming	-	1
Building	-	27
Trading	-	13
Education	-	28
Health	-	14
Other	-	<u>17</u>
Total	-	100%

- *CamCCUL is a self-sustaining operation financially and managerially, meaning that it can pay its own way, effectively assist the CU's to pay theirs, and grow in number and size. It is also clear that improvements remain to be made.*

Since 1985 League income has kept above expenses in every year except one, and recent surpluses have been larger than earlier ones, as the following figures in millions of CFA franc show:

1985 - 5.7	1988 - 58.8	1991 - 76.9
1986 - 21.2	1989 - 0.5	1992 -125.9
1987 - 20.0	1990 -(35.4)	1993 - 95.0

Salaries, the largest cost after payment of interest to CU's, have been diminishing as a proportion of total expenses (23.5% in 1984, 18.6 in 1992). The accounts of the Bamenda Police CU's have been computerized and the cost borne by the CU's itself. As the indicators mentioned in Item 6 under Legacy suggest, League supervision of CU's has many strengths. What is needed, indeed, is a reduction of the union' dependency on the League through more training of both union staff and directors. The increase in the rate of interest on loans is an important step towards ensuring their financial independence.

There are also important deficiencies. Average loan delinquency, in terms of repayments past 12 months due, has increased from 21% in 1988 to 35% in 1991. Audit reports in 1988 and 1989 found that no CU's met all eight of the minimum operating standards and only six unions met five of them. Using the new CU's grading system, only 24 unions out of 169 audited in 1990 attained a score of 50% or more and 30 received negative scores. The loan to share ratio fell from 69% at the beginning of 1988 to 56% at the end of 1993. CU's books are still audited by the same field workers who assist the bookkeepers, in spite of recommendations that this practice be changed.

- *CamCCUL is an important intermediary in the financial market of Northwest Province, benefiting both the commercial banks with whom it deposits funds and the commercial entities to which it lends.*

The total amount of money deposited by CamCCUL with commercial banks is indicated by the total of "Short term securities" and "Banks" on the asset side of the League's balance sheet. In the 1992 Annual Report, this total comes to CFA 5.5 billion franc, or \$9.5 million (at CFA 580 franc to the dollar) a substantial addition to the region's investible funds.

3.3 Develop the Potential for Long Term Increases in Productivity

3.3.1 Sustainable Development

The NGO/Private Voluntary Organization (PVO) - NRMs and Korup Projects - Cameroon's natural resources are critical to national and regional food security and also the World's environment. Its forests are part of the second largest tropical forest in the World. It is one of the most important reservoirs of carbon and biological sources of animal and plant life on the continent. Unfortunately, the forest is being destroyed at an estimated 150,000 hectares per year. Many factors contribute to this destruction including -population growth, poverty, agricultural systems, fuel needs, logging, national and international policies. Another vital resource that is disappearing is Cameroon's top soil. The productivity of the land to carry a people has broad and far reaching ramifications on health, wealth, migration, and instability.

USAID supported three initiatives - Korup, NCRE and the NGO/PVO-NRMs - to begin addressing key problems in this sector. The latter was designed to assist domestic NGO's working on natural resources issues. The support is through training, technical assistance, information exchange, and the implementation of pilot field projects. Part of the richness of this effort is derived from working at the field level and USAID's ability to capitalize from inter-project synergy (Peace Corps, UNDP, Cooperative for American Relief Everywhere (CARE), Heifer Project International (HPI), and NCRE). The Korup Project is designed to collect baseline data on the flora and fauna of the Korup National Park and to assist in the management of the park. This park is one of the oldest and most biologically diverse rain-forests in the world. As part of a larger non-USAID funded project, the Korup activity attempts to investigate options in the search for the conservation of the Park. This Korup support is important in its contribution to the science in this subject.

Legacy:

USAID's leadership in the environmental sector was critical, particularly in the early years, to the growth and maturity of Cameroonian NGO's.

- *USAID's efforts in natural resources leave behind a higher degree of awareness and sensitivity to natural resource issues.* This effort has succeeded in establishing a country working group that brings together donors, NGO's, and private and public sectors.
- USAID's involvement of national and international NGO's helped to strengthen them and has raised their self-confidence and ability to continue their work.
- USAID is leaving behind the beginnings of an important knowledge-base about the flora and fauna of the Korup National Park. Linkages with GRC, UD's, and Yaoundé which are evolving stand to benefit the Korup effort.

- HPI financed by the PVO-NGO/NRMS Project - has also collected 50 medicinal plants and transplanted them in an open arboretum. The arboretum is used to educate the surrounding population about the importance of these plants.
- In a lateral effort HPI working with Fulani cattlemen have identified 300 medicinal plants. A botanist has classified 100 of them. A few of these plants are used to produce medicine for the treatment of several livestock diseases. In addition to its direct contribution in the treatment of livestock, the effort is contributing to the preservation of vanishing traditional Fulani knowledge about such trees and their uses.
- In addition to these specialized efforts, USAID leaves behind the enhanced capacity, facilities, and technologies for the long haul with IRA, the UDs, and several NGO's. The later are beginning to contribute to the transfer of agricultural research technology.

Impact:

In assessing USAID's impact on natural resources in Cameroon, the following indicators were used as guidelines.

- Local incentives for less destructive systems of production.
- Local organizations or institutions concerned with and working on sustainable uses of their natural resources.
- Capacity of local research organizations or institutions to address improved systems of production and natural resources management.

These indicators address the educational, technological, and economic constraints that effect natural resource use. The theme that cuts across these indicators of impact is the degree to which indigenous capacity has been enhanced to begin dealing with their natural resource issues. In looking at 'capacity' it is useful also to examine linkages, both horizontal and vertical. Linkages are important pillars in the development of capacity.

- **Soil Protection:** Soils are key in the struggle for food security. Degraded soils also have a very direct negative impact on national income. *Today, villages that have benefitted from USAID support are using horizontal ridges thus forming narrow terraces, with very positive soil conservation gains.* In Bafang, 400 Km from the capital of Cameroon, a USAID supported NGO called the Centre de Development des Communautés Villageoises succeeded in changing detrimental farming practices of five villages - Babone, Bandoumka, Banfelouk, Bangondak, and Bakotcheu. Traditionally, in this very hilly and high rainfall area (over 2000 mm per year) of Cameroon, many villagers grow their crops on ridges that run up and down hill slopes. This system, combined with the heavy rains, is a serious contributor to soil erosion and consequently soil productivity. As soil productivity drops farmers adjust by clearing new land or reverting (too early) to old lands under fallow. This extensive system of cultivation is detrimental to Cameroon's natural resources.

- **Soil Productivity:** *USAID has succeeded in linking several USAID supported activities - e.g., IRA, Peace Corp, local and international organizations - to make a contribution to the acute problem of declining soil fertility in the bread-basket of Cameroon.* Using USAID generated production methods, farmers are making very modest, but important, improvements in their production systems. Only three years old, USAID supported, soils/agroforestry activity has made a difference. Farmers visited were using the improved system of land preparation by cutting and plowing in legumes (Calliandra, Crotalaria and Mucuna) instead of regular grass. For many of the farmers this is the only form of fertilization. Over 500-550 farmers in the Northwest and Southwest are involved in this effort. Farmers in both the Northwest and West already recognized the need for erosion control and soil fertility management techniques. They practice methods of agroforestry, maintain leguminous trees in their farms, grow boundary plantings and live fencing. This knowledge and the willingness to improve their system presented an excellent basis to build on. The secret behind this success was the wisdom to take existing systems of land preparation and making slight, but important, improvements. To increase the impact, USAID-supported activities like the IRA NCRE, also contributed to the training of Peace Corps Volunteers and NGO's in soil and agroforestry systems. These groups then move on to work with more farmers.
- **Pasture improvements:** *Through USAID support, some long standing psychological and cultural barriers are being changed.* In the highlands of the Northwest an NGO is using pasture improvements to increase its carrying capacity or productivity. This will lead to higher milk and meat yields thus reducing the size of herds and the degree of migratory activities needed by the Fulani people. Breaking with tradition the Lamidu (chief) of the Fulani at Sabga, the oldest Fulani settlement in Cameroon (1908), has allowed HPI, with USAID support, to improve local pastures and involve women in small animal production. The improved pasture needs a quarter hectare to carry one cow-calf unit as opposed to 12 hectares of existing native pastures. The traditional pastoral system of the Fulani in Sabga was to move to the lowlands for 5-6 months of the year. Besides the problems arising from the separation of families, it invariably led to conflicts with agriculturalists along the way. (See Section 3.1.2 - Food Security).
- **Biodiversity:** In Oku, Mount Kilum, the PVO/NGO-NRMs effort has increased the level of awareness about natural resources. This increased awareness has, for example, led to the creation of advocacy groups that now work to protect important (medicinal and other) plants around the hillsides of Mount Kilum. There is important attitudinal change. These activities resulted in the GRC revoking permits from careless wood cutters that over exploit certain endangered tree species.

3.3.2 *Productivity gains through human resource development and networks*

Legacy:

AEP's legacy to productivity gains (For a summary of the AEP, see Section 3.1.4).

- UDs' higher degree of academic freedom and the ability to take on important long term policy issues in agriculture and natural resources is an important ingredient to potential

gains in productivity. USAID's experience on policy activities in sub-Sahara Africa has demonstrated repeatedly the need for a public policy capacity *outside* the direct tutelage of the ministries. In Cameroon a growing, albeit very small, nucleus of this external capacity is now at Dschang. A consortium of twelve European universities will be working with Dschang on economic policy and development issues.

- Another productivity legacy left at IRA and UDs is the strength that comes from networking. UDs' well qualified faculty is extremely experienced with external organizations. They are well linked with the Consultive Group on International Agricultural Research center in Nigeria, Ethiopia, Kenya, and the Netherlands. This networking which allows for the exchange of research and technology makes local research and outreach activities much more efficient. Organizations such as UDs and IRA (for some examples see Section 3.4.3 - Legacy) with their strong networks and linkages bring to the advantages of 'intelligent borrowing' to Cameroon. This is the process of screening, selecting, and adapting *existing* technologies as opposed to generating it a new or simply borrowing technology wholesale. This approach, used successfully by some developing and several developed nations, is an efficient research strategy which saves time and money. It would allow Cameroon to greatly leverage its research capacity by utilizing, in essence, the relevant research capacity of other organizations within and without Cameroon.

3.4 Improve Food Security

3.4.1 Improving food security through multiplication of improved seeds

Legacy:

From the North Cameroon Seed Multiplication Project. (For a summary of the project, see Section 3.2 above.)

- A seed multiplication farm: The farm, at Sanguere near Garoua, was fully equipped by project end and included a functioning seed processing plant and cold storage. In addition, soil conservation methods were made part of the production process.
- A functioning system of contract growers to produce certified seed. The following figures show the crops catered for and provide an indication of production capacity (planned figures for 1990 are used because actual figures have not been found).

Total Producing Area

<u>Year</u>	<u>Sanguere Farm</u>	<u>Contract Growers</u>	<u>Total</u>
1986/87	346	20	366
1987/88	263	36	299
1988/89	294	104	398
1989/90	285	190	375
1990/91	190	201	391

1990/91 Plans

<u>Crop</u>	<u>Hactares</u>	<u>Metric Tons</u>
Groundnuts	225	200
Maize	128	200
Sorghum	12	20
Cowpeas	10	10
Onions	16	2.5

- A three year plan for the start-up of PACSA. The NCSM chief of party worked closely on this with the Pioneer representative who went to Garoua to analyze the company's prospects. The key elements were that production of hybrid maize and sorghum seed would begin in year three and that production of open pollinated varieties would actually increase at least until then. In addition, output of ground, cowpea and onion seed was supposed to grow.
 - Linkages to research: The maize varieties propagated through the NCSM came from IRA, and maize has increased in production more than any other crop.
 - Trained personnel: 10 persons received long term training in the United States. Nine were trained to the masters degree level, most of them in seed technology while the tenth received an associate degree in agricultural mechanics. One of these, the head of Project Semencier, has developed a plan for seed multiplication in the aftermath of Pioneer's departure.
- ▽ A negative aspect of the effort to privatize has to be set against the above, whether or not it is attributed to the NCSM. Pioneer's unforeseen departure has probably increased skepticism in the way both decision-makers in the GRC view privatization, and potential U.S. companies see investment here. There are significant counter-examples, no doubt, most notably in export bananas, where another U.S. multinational firm, Del Monte, has been very successful in creating one of the few bright spots in an export picture that has recently (until devaluation, anyway) been bleak. Nevertheless, the next time the potential role of an American company in agriculture is contemplated, wariness is likely to be greater on both sides.

Impact:

See Section 3.1

3.4.2 *Improving food security through improving dairy production*

TDCS - This society is located in the Northwest Province, not far from Kumbo. Land O'Lakes, the apex organization of a Minnesota based farmer's cooperative, is providing training and technical assistance to the TDCS in artificial insemination and quality milk management. The major part of USAID's contribution is to fund this training.

Legacy:

- Five men were trained in artificial insemination in the United States. These five men have since trained 20 others in Cameroon.
- Four women were trained in the U.S. in proper milk procurement techniques and they have trained 125 others in Cameroon.
- Fifty men are being trained in animal husbandry, pasture improvement and agro-forestry as it relates to livestock management (e.g. shade and forage).

Impact:

There are 250 men in this cooperative (191 registered, 59 unregistered), and about an equal number of women as each husband is encouraged to bring one wife. Most members are Fulani, and as is evident from the gender breakdown in the training, there is a division of labor according to which men care for the animals and women have responsibility for milk production.

- *Sixty-eight cross-bred calves have so far been born from 99 cows bred in 1991 and 1992. There are 58 who survived, of these 19 are female. More than 150 additional head were inseminated in 1993, from which 70 to 100 calves are expected. There are 5,000 milking head belonging to the members, of which a total of 1,000 are candidates for artificial insemination.*
- *Milk yields are expected to increase from the one liter per day from a traditional cow to ten liters per day from a first-cross. In the first instance this will increase milk consumption in the family but there will also be surpluses which can be sold.*

Customers will initially be hospitals and boarding schools in the area, which have already been asking to buy milk or other dairy products. A credit line has been obtained through the FAO from the African Development Bank for equipment and salaries to construct, equip, and begin operating a dairy processing plant that will produce butter and yogurt.

- *All co-op members are benefiting from the program through improved nutrition and health. Women will benefit additionally because tradition requires that any income derived from milk remain with them. Men benefit economically in that the quality of their herds is improving, and in the event that they sell an animal, they will obtain a higher price. Cross-bred males will be used to up-grade the herd further.*
- *There are environmental benefits in that pastures are now being better managed as the aim is to rely chiefly on improved grazing for the increased feed requirements of the cross-bred cattle. There is less reliance on burning to remove undesirable grasses because the farmers do not want to harm their new shade trees.*
- *Relations between the grazers and crop growing farmers, which have frequently been strained, are likely to benefit because:*

- *the grazers will be buying some maize and beans as concentrates*
- *some crop growing farmers are applying to join the TDCS. They will remain non-grazers feeding their animals from the crops they grow.*

3.4.3 *Improving food security through knowledge and technology generation*

Research generates technology which is crucial to increases in productivity. Taken in combination with other activities, technology adds to improvements of living standards. It also contributes to overall development by releasing labor and capital from agriculture to the rest of the economy. Improvements in agriculture also provide food for the non-agricultural population and can be an important factor in the conservation of natural resources. Measuring impact from agricultural research is challenging, but almost all the different methods used indicate an aggregated positive cost/benefit ratio or rates of returns for agricultural research in Africa. In Cameroon it is higher for some commodities (maize, cowpea) than others (sorghum). As indicated earlier in Section 1.1.2 - Methodology, there is no one method that is perfect. The difficulty comes in being able to identify and quantify certain benefits. There are benefits that are easily visible (area, yield, trade) others obscure (returns to labor, resource allocation, consumption, incomes, natural resource use, environment) and still others are invisible (avoidance of negatives, effects on drought, pests, fertility). In essence, it can only be ascertained and quantified the tip of the benefits that accrue to agricultural research. In spite of this difficulty, the visible benefits alone weighed against the opportunity costs have been positive. "There is substantial evidence from virtually all the case studies, as well as other countries, in the region (sub-Saharan Africa) that innovations produced by research have resulted in significant improvements in maize production and factor productivity" (USAID, 1992).

USAID Cameroon supported several bilateral and centrally funded research activities, namely:

ROTREP - The objective is to increase the productivity of cassava, yams, cocoyams, and sweet potatoes through the development of locally acceptable disease-resistant varieties and the development of rapid seedstock multiplication techniques.

Bean/Cowpea Collaborative Research Support Project (CRSP) - The Cameroon part of this project focused on insect-caused losses of cowpea seeds in storage, a constraint to the availability of cowpeas as food in many developing nations.

NCRE - The objective was to increase food production by developing an institutional capacity to perform research on cereals - maize, rice, sorghum, millet.

Legacy:

The legacy left behind comes primarily from the two bilateral projects ROTREP and NCRE. The two projects were charged to generate technologies in cereals (NCRE) and ROTREP. They were also to help build an institutional capacity for research in Cameroon. Prior to these two projects, IRA research capacity was extremely limited particularly in food crops. The few senior scientist were tied up in administration. The second tier of technical people had few specialists and most had masters degrees. Laboratory facilities were not adequate to support any additional research.

- Excellent infrastructure of laboratories, including a tissue culture laboratory, houses,

warehouses and offices.

- Fifty professionals with graduate degrees - 4 BS, 34 MS, 12 PhD's, and over 300 persons given specialized non-degree training.
- A tradition of networking and external linkages that is extremely critical to research efficiency. IRA, for example, developed working relations and the exchange of research information and materials, even joint testing was carried out with IITA, CIMMYT, WARDA, IRRI, ICRISAT, SAFGRAD, CRSP, OSTROM, CIRAD, UNDP, FAO, IDRC, and the Gatsby Charitable Foundation.
- *Benefiting from synergy. USAID's research effort in Cameroon is a wonderful story of synergistic gains from cooperation.* NCRE, for example, working with SAFGRAD was able to test a new cowpea variety only a year after the introduction of the cowpea research program, saving three to four years of breeding work. A high yielding cowpea variety was identified by SAFGRAD, due to IITA's regional work. In its turn SAFGRAD used an NCRE adapted variety in its regional program. All three (IITA, SAFGRAD, NCRE) are USAID supported. The benefits to this synergy are admirable. USAID supported research worked with several external organizations to borrow and adapt technology, then worked with several more to test and disseminate it.

Impact:

In assessing impact, this report restricts itself primarily to the NCRE project. Both the ROTREP and Bean/Cowpea CRSP have not yet achieved the stage where their technologies are reaching the impact stage. While preliminary findings and field trials for ROTREP and Cowpea CRSP are promising, it is premature to assess their impact.

NCRE since its inception, has worked on maize, rice, sorghum, and millet. It leaves behind an extremely successful agricultural research impact. While the success of its research varies from one ecological system to another and from one commodity to another, its overall impact is clear.

- Cameroon is steadily increasing its maize production. Estimates (1991) indicate that Cameroon has doubled its maize production from six years ago. While this increase cannot all be attributed to NCRE, internal and independent observers have confirmed that *such an increase could not have been possible without the NCRE technologies.*
- *In the highlands of Cameroon USAID produced or adapted varieties of maize provide about 40 to 60 percent of the national tonnage.* National organizations such as the Germany supported Mission de Développement de la Province du Nord-ouest (MIDENO) take USAID produced seeds, multiplies, packages, and sells to its farmers.
- In the low land USAID produced early-maturing varieties (CMS 8510 and 8504) and 120 days-maturity varieties (CMS 8507) are used. They are also grown in the forest and savanna zones of Cameroon. A 1992 survey indicates that two thirds of Central and South province *farmers prefer IRA maize, especially CMS 8504, which was produced*

with USAID support.

- Cameroon has also, in the last ten years, doubled its rice production. Several factors are involved here, but NCRE rice varieties played a major role. During this period, Cameroon has succeeded in reversing its domestic production/import ratio from 1:4 to 4:1, Cameroon now provides 80 % of its rice needs. *"This reversal is a result of several elements, but clearly could not have happened without the assistance of the United States"* (Dr. Jacob Ayuk Takem, Minister for Scientific and Technical Research, March 1994). Also, two of the most popular varieties of rice in Cameroon are both USAID outputs. One of these varieties, IR 3273, provides close to one third of the rice consumed.
- In sorghum production two groups of varieties, totalling five, were developed or adapted. One for areas with 400-800 mm rainfall and the other for areas with 800-1200 mm. Sorghum production in Cameroon has also increased from 275,000 in 1984 to 555,000 in 1991. USAID produced varieties are credited for contributing about 1/3 of this increase.
- USAID contributions went beyond Cameroon, through a USAID regional project (SAFGRAD) and a French project (PROJECT GAROUA), the varieties are being sent to Tchad, Mali, Burkina Faso, Niger, Senegal and the Central African Republic. 'Project Garoua', is based in large part on NCRE produced results. It takes NCRE generated varieties and uses them in its own testing and outreach work in Tchad and the Central African Republic. There is concern in 'Project Garoua' about their own effectiveness should NCRE research results stop flowing to the region. USAID research activities in Cameroon also benefitted the centrally funded Bean/Cowpea CRSP who used IRA NCRE to test and improve their technology packages.
- IRA/NCRE has been very successful in leveraging their work. In addition to seeking research results from outside Cameroon (see legacy above), IRA/NCRE also linked up in the delivery side. It worked through established development organizations such as SEMRY, UCCAO, SODECOTON, SODERIM, UNVDA and MIDENO, and used their extension and testing capabilities to reach a greater audience. This contributed to a higher rate of adoption.
- ▽ NCRE as a research project has succeeded in fulfilling its objectives. It leaves behind important research impact and a capacity to carry on research. The down side to this success is that this NCRE-created capacity is 'housed' in an *inappropriate* institutional model which is cumbersome and costly. Regrettably USAID's leadership, successfully employed to deal with structural issues in the education and coffee sectors, does not appear to have flowed over into research.

Fortunately the United Nations and World Bank are taking up this issue in collaboration with other donors and are at very advanced stages of negotiating with the GRC (FAO 1993). If they succeed, the IRA and IRZV will be merged and reduced. The new body will function as an autonomous structure with its own Board of Governors. It will have as one of its goals, partial self-financing. A second option goes a step further, 'a la' South America (Brazil,

Venezuela, Uruguay) and establishes an independent research foundation.

If this restructuring by the FAO and World Bank succeeds, the capacity that USAID has built up will be put to good use for Cameroon and West and Central Africa. If it does not come to pass, the capacity will be greatly reduced and some of it totally lost. The younger (essentially the USAID trained personnel) and better trained researchers will leave or seek out regional and international research activities and continue their professional growth. However, these research activities may or may not be priority areas for Cameroon. The national research capacity of the country will dissipate. The issues addressed here apply equally to ROTREP.

4. LESSONS LEARNED

Development efforts in general

- Mission portfolios are not independent of each other and development issues are complex. As AID embraces sustainable development the issues will only get more complex. More holistic designs of programs present higher probabilities for greater pay offs. Creating a capacity in a non-productive 'environment' (e.g., policy) produces sub-optimal impact, so is working to improve an environment where there is little capacity to benefit from it. If a Mission program is working toward capacity building and improvements to the environment it could be beneficial, if at all possible, that the two efforts be targeted in one sector. If, for example, USAID is working to build an agricultural research capacity in a country, and a non-project assistance effort is underway, it would increase the synergy if some of the non project assistance work was also directed at improving the policy reforms pertaining to agricultural research. Doing policy reform without capacity building or vice versa is a legitimate approach, but where the opportunity presents itself, doing both within the same sector can be much more powerful.
- USAID leadership is vital to the success of its portfolio. In the AEP, where USAID leadership was applied in its early stages, the *long run* perspective is more positive than for the NCRE where USAID leadership was absent. A well designed program, with some degree of flexibility, and host country participation that also enjoys the support of USAID's leadership, can be expected to have a greater impact than one where this leadership is absent.

Privatization

- The private sector, while offering certain advantages in the way of sustainability, efficiency, and profitability, is not a risk-free approach to development. A company will pursue its own self-interest. Where profit motive dictates withdrawal, contraction or some other change contrary to the development objectives, as happened in the case of seed multiplication, there is little that can be done.

To some degree a company's behavior can be influenced by changing the conditions under which it will make profits. The stake a company has in making a success of a situation depends on the investment it has made, and for this reason entry into a potential market should not necessarily be made as cost-free as possible, as was done for Pioneer. However, in some situations the risks may be such that the initial stake any company is willing to put up may be quite low.

Increasing efficiency

- In agricultural research, the large benefits of networking and linkages have been well demonstrated in USAID's agricultural research program. Through intelligent borrowing, plant breeding periods were reduced, with corresponding reductions in cost. The

procedure includes screening, selecting, and adapting to local conditions. It also involves the development of linkages with other institutions in and outside the country. The NCRE project has created benefits in this way, and its research results, generated in Cameroon, have begun to be extended by others both in Cameroon and surrounding countries.

- Large scale formal surveys of the kind supported by the AMP and CAPP projects are not now a sustainable means of collecting agricultural data, though this could not have been foreseen at the time when the system was conceived and the GRC was contributing \$1 million a year to non-salary operating costs. Other approaches, less demanding financially and managerially, would now be appropriate both in many countries. Experimentation is needed to test the alternatives, just as occurs in agronomic research.
- The CAPP project found that surveys and policy studies carried out by government departments were completed much more expeditiously when they were placed on a contractual basis. The personnel, tasks, timeline, and schedules for payment of expenses were specified, as would be done if the activity were contracted out to the private sector.

Policy reforms

- The AEP established that fundamental policy reforms could be realized through good design and strong local participation without the use of direct funding to the host government. However, time was needed before the benefits of the innovations made became evident to the host country, here perseverance on the part of the donor was needed. USAID persevered for several years and a considerable payoff resulted. However, impact and legacy could have been greater had a little more time been allotted even by spreading the funding over a longer period of time.
- The experience of the CAPP project indicates that policy studies can be expected to have an impact only if one of the following two conditions holds:
 - Where policy-makers have specific problems they want to deal with and need to know what alternatives are open to them.
 - Donors provide funds to carry out a reform and insist that the policy analysis must be carried out first.In the absence of either of these two conditions, policy analysis is not worth supporting.

Sustainable development

- The record of project success appears good when a well established American NGO with wide development experience assists a local NGO with the same aims. This was seen in the projects concerning both the TDCS, where the aid came from Land O'Lakes, and the Cameroon Credit Union League, assisted by the World Council of Credit Unions.
- The Korup and NRMS/PVO/NGO projects showed that there could be success in achieving objectives in natural resource management if they are limited. It is also apparent that these limited attainments will be short-lived if the wider issues of rain forest preservation are not successfully addressed. Observation of the institutional and economic environment in which these projects operated, and the foray into policy

analysis in this area made by the CAPP project, makes it clear that this will involve taking into account the interests, both domestic and foreign, that derive private benefits from natural resource use. The foreign interests can only be controlled if appropriate measures are taken internationally. Domestic interests can only be controlled by government, and only if the benefits to the government from sound management do not exceed the benefits from avoiding the imposition of controls. This is difficult to ensure but is an instance where non-project assistance may pay off.

The experience that the CCUD project had with productive credit showed that making it available to business will not, of itself, make business grow. Provision should be made for production credit so that businessmen who have a good use for credit will have access to it. Beyond that, delinquency is kept at acceptable rates by adhering to sound economic criteria for assessing loan edibility.

Impact and sustainability could have been enhanced if departments in the USAID Mission had collaborated instead of competed. For example, the AMP and CAPP projects could have contributed to the analysis required for the reform of the fertilizer subsector and arabica marketing. The non-project assistance, reserved exclusively for these reform programs, could also have been used to encourage the restructuring of the IRA. The holistic approach adopted in the creation of country strategy statements and concepts papers was not carried through to implementation. As programs become more complex, interoffice collaboration will be increasingly important.

Coordination among donors is a perennial recommendation difficult to bring about because goals among donors differ. However, it is important enough to deserve continued attention. Where some effort has been expended the results are positive. One of CAPP's most effective studies, for example, was a collaborative effort with the French. The development of a strategy for putting in place a national policy for managing natural resources involved many donors. The USAID facility development program at UDs was a collaborative effort with GRC and Belgium. This record of achievement is marked by missed opportunities (e.g., for NCRE and AEP) especially during the peak of the financial crises when opportunities abound.

SELECTED LIST OF REFERENCES

- Aeschliman, Chet and Raymond Duchesneau, *The Need for Economic Empowerment: An Assessment of the Cameroon Credit Union League*, World Council of Credit Unions, November/December 1991.
- AID, 1992, *Maize Research Impact in Africa: The obscured Revolution*, Summary Report, Africa Bureau, Washington D.C.
- AID, 1993, *AFRICA: Growth Renewed, Hope Rekindled*, A Report on the Performance of the Development Fund for Africa, Washington D.C.
- Agency for International Development, *Country Development Strategy Statement, Cameroon: FY 1982*. January 1980, *FY 1984*. January 1982, *FY 1989*. December 1986, *FY 1990-1994*. April 1989.
- AID, 1984, *AFGRAD-African Graduate Fellowship Program, Phase III*, Project Paper No. 698-0455, Washington D.C. 1984
- Agency for International Development, *Development Fund for Africa: Action Plan for FY 89 - 91*, May 1989
- Block, S. and Timmer P., 1992, *The Agricultural Transformation in sub-Saharan Africa: A Progress Report*, Abt Associates Inc., Cambridge, MA.
- Cameroon Cooperative Credit Union League, *Annual Report for 1992. Annual Report for 1991*.
- Cameroon Cooperative Credit Union League, *Third Five-Year (1993-97) Implementation Development Plan*, 5 February, 1993.
- Consortium for International Development. *Final Report, Cameroon Agricultural Policy and Planning Project*. Undated
- DeSantis, Dennis, Tamara Duggleby, Nicolas Kulibaba, *Impact Evaluation of the Cameroon Credit Union Development Project*. Development Alternatives Inc., Development Fund for Africa, AID, February 1989.
- Development Assistance Corporation, *Feasibility Study on the Privatization of the North Cameroon Seed Multiplication Project: Pioneer Agrogenetique Cameroon, S.A.* Undated.
- Direction de l'Agriculture, MINAGRI, *Le Programme Semencier National: Programme d'Urgence pour la Relance de La Filière "Semences"*, 10 March 1994.
- Donald Humpal, et al, July 1989, *Midterm Evaluation of the National Cereals Research and Extension Project*, Development Alternatives, Inc., Bethesda, MD.
- Fliginger, John, Lyle Calvin, Joseph Snyder, *Formative Evaluation Report: Agricultural Management and Planning Project*. USAID, January/February 1984.
- Hans, Robert S., *End of Tour Report*, North Cameroon Seed Multiplication Project, Phase II, June 1991.
- Hobgood, Harlan H., Ismael Ouédraogo, William Wigton, *Mid-Term Evaluation of the Cameroon Agricultural Policy and Planning Project: An Institutional Approach*. Agricultural Policy Analysis Project, Phase II Technical Report No. 125. Abt Associates Inc. December 1991.
- IRA, 1994, *Soil/Agroforestry Unit Report*, Institute for Agronomic Research, Cameroon
- Jaeger, William K., *United States Aid to Cameroon,: Its Impact on Agricultural and Rural Development*. Managing Agricultural Development in Africa Study, World Bank, February 1987

- Kerkhoff, Ken, *End of Tour and Project Final Report*, CCUD, September 1986
- Kleis, R. W. et al; 1990, *Final Project Evaluation: The Agricultural Education Project*, Experience Inc., Washington D.C.
- Mateen, Rabihah A., *Final Report, North Cameroon Seed Multiplication Project, Phase II*. Development Assistance Corporation. Undated.
- Moussie, M., Max Boling, Paul Mezynski, Paul Ngolong, *Mid-Term Evaluation of the North Cameroon Seed Multiplication Project*. South-East Consortium for International Development. July 28, 1986.
- Oehmke J. and Crawford E., October 1992, *The Impact of Agricultural Technology in sub-Saharan Africa: A synthesis of Symposium Findings*, Michigan State University, East Lansing, MI
- Rosenthal, Irving, Jamie M. McDade, Frans van Eysinga, *Cameroon Credit Union Project - Phase II, AID Final Evaluation*. Development Alternatives, Inc., May 18, 1992.
- Sterns J. and Bersten R., December 1992 (draft), *Assessing the Impact of Cowpea and Sorghum Research and Extension: Lessons Learned in Northern Cameroon*, Michigan State University, East Lansing, MI
- Talleyrand H., et al, October 1992, *Impact of Maize Research on Small Farmers in North Cameroon (1982-1985): The case of the South East Benoue Region*, Institute for Agronomic Research, Garoua, Cameroon.
- Teheda, F., et al; November 1993; *Impact Evaluation of USAID Sponsored Participant Training in Cameroon: 1961-1993*, Amex International, Inc, Washington D.C.
- Thurlow, Roland, Kevin Mindock, William Mitchell, *Cameroon Credit Union Phase II, Final Report*. WOCCU, October 21 1992.
- United Nations-Food and Agricultural Organization, December 1993, *Restructuring Agricultural Research*, Yaoundé, Cameroon.
- USAID, April 1988, *An Assessment of AID activities to promote agricultural and rural development in sub-Saharan Africa*. AID Evaluation Special Study No. 54, AID Washington D.C.
- World Resource Institute, December 1993; *NGO's, Environmental Awareness and Policy Advocacy in Cameroon*, Center for International Development and Environment, Washington D.C.