

PD- AAP- 113
num: 34140

631-0013/53

REPUBLIC OF CAMEROON

GENERAL DELEGATION FOR SCIENTIFIC AND
TECHNICAL RESEARCH
D G R S T

INSTITUTE OF AGRONOMIC RESEARCH

I I R A

National Cereals Research and Extension Project

N C R E

QUARTERLY PROGRESS REPORT

OCTOBER - DECEMBER 1983

UNITED STATES
AGENCY FOR INTERNATIONAL
DEVELOPMENT

USAID

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T A B L E O F C O N T E N T S

	P a g e
I - SUMMARY DESCRIPTION OF NCRE ACTIVITIES	1 - 2
II - MAIZE RESEARCH UNIT	
A - Main Achievements	3
B - Major Problems Encountered	4
C - Follow - Up Activities	5
III - RICE RESEARCH UNIT	
A - Main Achievements	6
B - Major Problems Encountered	7
C - Follow - Up Activities	7 - 8
IV - SORGHUM AND MILLET UNIT	
A - Main Achievements	9
B - Major Problems Encountered	10
C - Follow - Up Activities	10 - 11
V - THE TESTING AND LIAISON UNIT (TLU)	
A - Main Achievements	12 - 13
B - Major Problems Encountered	14
C - Follow - Up Activities	14
VI - ADMINISTRATION	15
List of NCRE International Staff and Counterparts ..	16

I - SUMMARY DESCRIPTION OF N.C.R.E. ACTIVITIES

The Project's mid-term evaluation was completed at the beginning of this last quarter of 1983. On October 11, the NCRE Researchers attended the final presentation of the evaluation report by Drs Elvin Frolick and George Alcorn at the USAID Mission Conference room in Yaounde. The attendance was impressive. IITA was represented by Dr. Yoel Efron, Director of Cereals Improvement Program and Mr. Emmanuel Deganus, Administrator for International Programs and Training.

USAID, IRA and IITA are taking steps to implement some of the recommendations made by the evaluation team. Most notable among these is an expansion of the project's farming systems component, the testing and liaison unit (three additional TLUs are proposed).

On October 8 and 10, a two-day meeting of IITA/NCRE staff was held at IRA-Nkolbisson. A wide range of administrative issues affecting project efficiency were discussed. Chief among these was the need for replacement as well as additional vehicles. The experience of the year just completed enabled each researcher to estimate accurately the additional support required to maintain the previous level of research activity in 1984. It is expected that before the end of the next quarter a vehicle order will be made.

Also on the agenda at the aforementioned meeting was the need for additional technicians at most of the major research sites. The posting of several new technicians (as well as researchers and research assistants) to the project by IRA in mid-November will significantly improve the situation.

In November, some of the IRA/NCRE sorghum and maize varieties were used in palatability tests conducted by SODECOTON, Agri-Lagdo and "Projet" NE/NW Benoué in the North.

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From December 6 to 9, at the invitation of USAID, the Chief of Party Dr. E.A. Atayi accompanied a USAID team to Harare, Zimbabwe to attend the USAID Africa Bureau Agricultural and Rural Development Workshop.

On December 16, His Excellency the US Ambassador to Cameroon Mr. Frechette, the Director of the USAID Mission to Cameroon Mr. Ron Levin, Mr. David Schaer, Chief of AFR/TR/ARD USAID Washington, Mr. Ray Morton Agricultural Research Officer AFR/TR/ARD, USAID Washington, and NCRE Project Manager Dr. Abdel Moustafa visited the NCRE rice research activities at Mbo Plain near Dschang.

Finally a significant amount of time and effort were devoted by the entire NCRE team to the preparation for the third upcoming National Cereals Program Planning meeting to be held in Yaounde, February 14 to 16, 1984.

Activities of each of the components of the NCRE project during the fourth quarter of 1983 are presented separately in the following pages.

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II - MAIZE RESEARCH UNIT

In the last quarter of the year the maize research unit concentrated its efforts on harvesting the trials in the savannah zone and on running the second season crops in the East and Yaounde areas. A significant amount of time has been spent on the off-season recombination trial of gene pool under irrigation at Karewa.

Maize agronomists actively participated in farmers' field day organized by IRA Maroua in early October. Many visitors saw our maize trials in the North including the Governor of the North Province and four IITA scientists.

Data analyses of all the first season and some of the second season trials have been completed.

A. MAIN ACHIEVEMENTS

- Completed harvesting National Variety Trials, Experimental Variety Trials and International Progeny Testing Trials in the savannah zone and in the northern mid-altitude zone.
- Data were collected from two Experimental Variety Trials and two Elite Variety Trials in the East.
- Seed multiplication trials of promising maize varieties, Gusau TZB, TZESR and Suwan 1 were carried out in Yaounde.
- For a speedy genetic recombination of lowland gene pool, trials were planted in isolation in Yaounde and also in Karewa under irrigation.
- About 6 hectares of forest land near Yaounde were secured for maize improvement trials. They are presently being cleared.

.../

- Statistical analyses of the trial data have been completed. Interpretations of the analyses for the IITA In-house Review and for the NCRE Cereals Program Planning Meeting in February were made.
- Harvest and post-harvest operations of most of the maize agronomy trials conducted in the North and Adamaoua provinces completed.
- Assistance in harvesting the maize breeding trials given in both provinces.
- Planned and planted four off-season maize trials (agronomy x variety) at Karewa in November. These experiments -conducted under irrigation- are a joint effort of NCRE and the Agri-Lagdo Project. A major objective is to develop production packages for maize grown off-season under irrigation.
- Planted at Karewa with the NCRE sorghum breeder an agronomy experiment with sorghum under irrigation. A major objective is to develop production packages for sorghum grown off-season under irrigation.
- Started a series of palatability tests with some of the improved varieties of maize and sorghum. These tests are being conducted in five towns (rural area) and Garoua (urban area). About 400 persons are expected to be reached. This is a cooperative activity of the NCRE Cereals Agronomy Unit, SODECOTON, the Ministry of Agriculture and Projet Nord-Est Benoué.
- Started the processing of field data of some agronomy trials.

B. MAJOR PROBLEMS ENCOUNTERED

- Poor stand is obtained in gene pool trial at Yaounde due to heavy seedling damage by birds.
- A lot of difficulties have been encountered in shipping vehicles up to the North for harvesting maize trials. Another official vehicle is needed in Garoua.

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C. FOLLOW-UP ACTIVITIES

- Maintenance, data taking and harvesting of gene pool at Karewa.
- Participation in NCRE Cereals Program Planning Meeting in February.
- Preparation of research protocols, seeds, planting materials and land for 1984 campaign.
- Finish harvesting maize agronomy trials in the North Province.
- Continue the management of the off-season trials at Karewa (maize x sorghum).
- Statistical analyses of the maize agronomy trials.
- Planning of next season's agronomy trials (south and north Cameroon) - maize and sorghum.
- Assistance to IRA in organizing the new station at Garoua.

.../

III - R I C E R E S E A R C H U N I T

During the fourth quarter a few second season trials not yet planted in the third quarter were begun. Most of the time was spent on management and maintenance of all second season trials. The major activities included fertilization, weeds and water management.

During this quarter, collection of field data has been carried out for most trials and some trials were harvested.

A. MAIN ACHIEVEMENTS

Major activities during this period were as follows :

- Land preparation, fertilization and seeding of a few irrigated trials that were not installed during the third quarter.
- Fertilizer, weed and insect-pest management of upland and irrigated trials at all sites.
- Observation and collection of field data for upland and irrigated trials at all sites.
- Harvesting, processing, compilation and analysis of field and harvest data of a few 1983 second season trials.
- Continued on-the-job training of the IRA technicians and field assistants attached to the NCRE rice team.
- U.S. Ambassador to Cameroon and USAID Director, Cameroon, visited rice research activities at Mbo Plain on December 16, 1983.
- Dr. D. Janakiram visited the Rice Program in the Central African Republic in October, 1983 at the invitation of USAID Yaounde.

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TRIALS OF 1983 SECOND SEASON

- the list of trials were presented in the third quarter report.
- observations, field and harvest data were taken on all trials planted at Mbo and Ndop Plains during this quarter.

B. MAJOR PROBLEMS ENCOUNTERED

- Breakdown of vehicles
- Inadequate support staff at Ndop Plain
- Support staff situation at Mbo Plain has improved; however, additional staff is still needed.
- Threshing and drying facilities at Mbo Plain need to be improved.

C. FOLLOW-UP ACTIVITIES

During the next three months the following activities will be performed :

- Observation and collection of field data for a few varietal improvement and agronomic trials at Mbo Plain.
- Observation and collection of field and harvest data on non-rice crops planted at Ndop Plain.
- Post harvest operations, processing, compilation and analysis of field and harvest data on all trials harvested.
- Preparation for 1984 IRA Cereals Program Planning Meeting.
- Preparation of 1983 Annual Report.
- Preparation of work plans for 1984 seasons.

- Continue on-the-job training of field assistants and technicians.
- Dr. Janakiram will participate in the IITA/EEC/SAFGRAD Workshop on Rice Research to be held at IITA in March 1984.
- Dr. A.C. Roy will participate at the Workshop on "Wetland Soil Management and Utilization" to be held at IRRI Philippines, March 26 to April 6, 1984.
- Installation of the soil-plant analytical laboratory purchased by the NCRE at IRA Dschang.
- Installation/upgrading of weather stations at Dschang, Ndop Plain and Mbo Plain.

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IV - SORGHUM AND MILLET UNIT

A. MAIN ACHIEVEMENTS

During the fourth quarter the Sorghum and Millet Research Unit was involved in the following major activities :

- Completed harvesting all the sorghum and millet experiments of rainy season at various locations and recording of all observations and data at harvests.
- Completed threshing of all sorghum and millet experiments of rainy season and recording of all desired observations and data.
- Crossing program with late maturing varieties was not completed because of extended period of no rainfall after mid-September.
- The processing and compilation of data of various sorghum and millet experiments conducted during rainy season are in progress.
- The statistical analysis desired for various sorghum and millet experiments are in progress.
- The planting of irrigated agronomical experiments at Agri-Lagdo were completed and the thinning, weeding and fertilizer application operations are in progress.
- Planting of some promising lines and local sorghum varieties was completed at Guiring Research station under irrigated conditions to complete the remaining crossing program proposed in the NCRC Project's work plan, 1983.
- Sorghum and millet team actively participated in the Farmers' field day on October 5, 1983 organized by IRA Maroua.
- Planting of some FI's of sorghum developed by hand emasculation were completed at Guiring Research station under irrigated conditions to advance the F2 generation for further study during the rainy season.

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- The sorghum and millet breeder visited the A.B.U./I.A.R., Zaria to discuss the trial conducted commonly by ICRISAT scientist and the NCRE sorghum and millet breeding team. Also visited IITA, Ibadan, Nigeria to complete the statistical analysis of sorghum and millet experiments by using the computer facilities at IITA.
- Continued on-the-job training of technicians and field assistants in plant breeding aspects of sorghum and millet crops.

B. MAJOR PROBLEMS ENCOUNTERED

- The transplanting of dry season sorghum (Muskwari) at IRA, Salak Research station for various experiments could not be done because of drought stress during the month of October. The sorghum nurseries were dry and it was not possible to transplant them to a desired location for further growth of the plant. Moreover, the soil became so compact that it was difficult to transplant the Muskwari type sorghum.

C. FOLLOW-UP ACTIVITIES

The Sorghum and Millet Research Unit intends to be involved in the following activities in the next three months :

- Processing, compilation and statistical analysis of data will be completed for all sorghum and millet experiments conducted during rainy season.
- The sorghum and millet research portion of Annual Report 1983 and Work Plan for 1984 of NCRE Project will be completed during this quarter.
- The results of sorghum and millet experiments conducted during the year 1983 will be presented at the National Cereals Program Planning Meeting to be held from February 14-16, 1984 in Yaounde. Also the proposed work plan 1984 will be discussed and approved by a working group of all sorghum and millet researchers in Cameroon.

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- The agronomical experiments planted at Karewa under irrigated conditions will be harvested. The desired observations and data will be recorded during this quarter.

- The crossing program by hand emasculation will be continued during this quarter among the promising lines and the local varieties planted at Guiring Research Station under irrigated conditions.

- On-the-job training of technicians and field assistants in the plant breeding aspects of sorghum and millet crops will continue.

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V - THE TESTING AND LIAISON UNIT (TLU)

A. MAIN ACHIEVEMENTS

Activities of the TLU during the fourth quarter include the following :

- Rice Harvest :

The on-farm rice trials were terminated with the harvest and weighing of rice yields in November and December.

- Analysis of Data from On-Farm Maize and Rice Trials :

Both statistical and economic analyses were carried out on the on-farm trial data. The objective of these analyses is to identify recommended packages to be extended to farmers. The criteria are proven statistical and economic superiority of the recommended technology as well as acceptability to farmers. The results are very positive in favor of current IRA recommendations for maize. No recommendations are yet available for rice.

- Cowpea Survey in the Extreme North Province :

The TLU collaborated with Cowpea Project of the Collaborative Research Support Program (CRSP) in the implementation of an agro-socio-economic survey of cowpea farmers in the Extreme North Province. The TLU agricultural economist spent two weeks in Maroua editing the questionnaire, training the enumerators, planning the implementation logistics, taking the enumerators to the field to launch the survey and coding the questionnaire.

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- Planning for 1984 :

The TLU during weekly meetings drew up a program proposal for 1984 that will be discussed and finalized at the Cereals Program Planning Meeting in Yaounde in February. Tentative arrangements were made with farmers, parastatal organizations and agricultural projects for the carrying out of the proposed on-farm research program pending its ratification at the above-mentioned meeting.

- Exploratory Survey :

The research staff of the TLU carried out an exploratory survey of a limited number of farmers in each of the seven distinct agro-climatic zones in the North West and West Provinces. The researchers interviewed five farmers from each zone in depth concerning the farming system and maize cultural practices as well as social and economic factors that have a bearing on farming practices, production constraints and the possible adoption of new technologies. Another purpose of the survey is to familiarize the TLU staff first-hand with farming systems in the two provinces and to assist in the selection of farmers who will participate in the on-farms research program next year.

- Preparations for the Cereals Program Planning Meeting :

A great deal of time and effort was devoted to preparing the following documents for the Cereals Program Planning Meeting to be held in Yaounde in February 1984 :

- Annual Report of the TLU
- Proposed Program for TLU for 1984
- Proposed Budget for TLU for first six months of 1984
- TLU presentation to be given at the Program Planning Meeting.

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B. MAJOR PROBLEMS ENCOUNTERED

- Vehicle Maintenance :

The project vehicles (Cherokees and Chevrolet) continue to complicate logistics due to their frequent breakdowns and needs for maintenance.

- Loss of Data due to Farmer Error and Mishap :

Due probably to farmer - TLU misunderstandings, the results of a few on-farm trials were lost. In some cases the farmer harvested early without TLU personnel present, and mixed the yields from different plots. In other cases the crop was either stolen in the field or damaged severely by wild or domestic animals.

C. FOLLOW-UP ACTIVITIES

The first three months will be particularly busy with the TLU participation in the Cereals Program Planning Meeting, finalization of the program for 1984, presentation of the Annual Report and preparation for the initiation of the 1984 on-farms maize research program.

The latter comprises :

- finalizing arrangements with farmers, parastatal organizations and agricultural projects
 - procuring seed, fertilizer, stakes, signs, labels, etc..
 - preparing trial protocols
 - putting up maize trial minikits and distributing them
 - planting of maize trials beginning in March.
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VI - A D M I N I S T R A T I O N

The NCRE administrative staff turned its attention in this quarter to preparations for the 1984 Cereals Program Planning Meeting to take place in February 1984 as well as to organizing support services for next year's cropping seasons.

In November, the administration hosted several visitors including IITA Farm Manager Mr. Couper and Farming Systems scientists Dr. Juo and Dr. Mutsaers. The NCRE administrator participated in several discussions with the latter men on the organizational requirements for the proposed inclusion of an additional three Testing and Liaison Units in the coming years.

Significant progress was made this quarter on the design and execution of the first of a group of "laboratory/warehouse" facilities to be built for the IRA Cereals Program by USAID. The plans were reviewed by IITA scientists in November, re-submitted to the USAID Engineer and then re-drawn by the Construction Service of the Ministry of Equipment. Plans should be finalized and the bid sent out by the end of the next quarter.

In December delivery was taken on several orders of equipment placed by IITA early in the year. These included laboratory equipment and chemicals for Dschang, audio-visual equipment for Bambui and pollinating bags. The project has begun taking advantage of the presence in Douala of the DGRST transit agent. His expertise is proving to be of great value.

The issue of the project becoming more closely integrated with the IRA structure, which has been raised repeatedly by all concerned, has been discussed and more clearly defined. The principal need is for more integrated financial management. In the past the IRA and USAID/NCRE budgeting processes were carried out with a minimum of coordination between the two. As a result of recent improved communication between the parties progress has been made, but on an informal basis. The challenge for next year is to formally agree upon a procedure by which the specific financial commitments for a given budgetary year of USAID/IITA and the Government of Cameroon will be jointly determined.

THE NCRE INTERNATIONAL STAFF AND COUNTERPARTS AS OF SEPTEMBER 30, 1983

I. International Staff :

<u>N A M E</u>	<u>P O S I T I O N</u>	<u>LOCATION, IRA</u>	<u>NATIONALITY</u>
Dr. Emmanuel A. Atayi	Chief of Party	Nkolbisson	Togolese
Mr. Toby Chamberlain	Administrator	Nkolbisson	American
Dr. Jay Chung	Maize Breeder	Nkolbisson	American
Dr. Animesh C. Roy	Rice Agronomist	Dschang	Bangladesh
Dr. D. Janakiram	Rice Breeder	Dschang	Sri Lankan
Dr. Henri Talleyrand	Cereals Agronomist	Caroua	American
Dr. Om P. Dangi	Sorghum Breeder	Maroua	Indian
Dr. J. Kikafunda-Twine	Extension Agronomist	Bambui	Ugandan
Mr. Dermot McHugh	Agricultural Economist	Bambui	American
Dr. Leslie A. Everett	Maize Breeder	Bambui	American

II. National Counterparts

a) In Country :

<u>N A M E</u>	<u>P O S I T I O N</u>	<u>LOCATION</u>
Dr. Jacob A. Ayuk-Takem	Maize Breeder and Coordinator NCRE	Bambui
Dr. Charles Thé	Maize Breeder	Nkolbisson
Dr. Jean Tonyé	Maize Agronomist	Nkolbisson
Mr. Julius Takou	Rice Agronomist	Dschang
Ms. Pauline Zekeng	Extension Agronomist	Bambui
Mrs. Regine Aroga	Entomologist	Nkolbisson
Mr. Jean-Bosco Zangué	Maize Breeder	Nkolbisson
Mr. Claude Nankam	Plant Pathologist	Bambui
Mr. Marc Samatana	Socio-Economist	Bambui
Mr. Ngoko	Plant Pathologist	Bambui
Mr. Titus Nga Ngoumou	Cereals Agronomist	Caroua
Mr. Jupiter Ndjeunga	Socio-Economist	Nkolbisson
Mr. Ezechiel Passam	Administrative Assistant	Nkolbisson

b) In Training

<u>N A M E</u>	<u>SPECIALIZATION</u>	<u>U S UNIVERSITY</u>
Mr. Cletus Asanga	B.S. Cereals Prod.	Oklahoma State
Mr. Fabien Jeutong	M.S. Rice Breeding	Louisiana State
Mr. Edward Ngong-Nassah	M.S. Cereals Prod.	South Dakota State
Mrs. Christie Ngundam	B.S. Cereals Prod.	University of Missouri
Mr. Bernard Soneh	B.S. Cereals Prod.	California State Fresno