



Deutsche Gesellschaft für
Technische Zusammenarbeit (GTZ) GmbH

Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH
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Ihre Zeichen, Ihre Nachricht vom

Unsere Zeichen
423.3 KO/kl

Datum
11.03.97

International Agricultural Research

Project No.: 96.7860.8-001.00
Contract No.: 81008812
Your letter dd: January 1996
BMZ fax dd: BMZ K-8064-CIMMYT 1/95

CONTRACT Restricted Core Program

Dear Sirs,

We refer to the above mentioned letter of the Bundesministerium für Wirtschaftliche Zusammenarbeit und Entwicklung (BMZ). The BMZ has agreed to partially finance the research program entitled

Acceleration Adoption of Productivity-Enhancing, Resource-Conserving Practices in Maize-based Cropping Systems in Central America

This assistance shall amount to up to
(in words: eight-eight-five-four-three-one Deutsche Mark)

DM 885.431,-

from January 1997 to December 1999.
(Dates may be altered according to research activities
after prior written approval by GTZ.)

Payment is scheduled to be effected after signing of the contract as follows:

in after signing of the contact
in December 1997/January 1998
in December 1998/January 1999

DM 300.000,-
DM 300.000,-
DM 285.431,-

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Eschborn/Taunus
Registergericht:
Amtsgericht Frankfurt am Main
Eintragungs-Nr. HRB 12394

Vorsitzender des Aufsichtsrates:
Staatssekretär Wighard Härdtl
Geschäftsführer:
Dipl.-Kfm. Gerold Dieke
Dr. Bernd Eisenblätter
Dr. Hans-Dietrich Pallmann

Bankverbindung:
Commerzbank AG, Frankfurt am Main
(BLZ 500 400 00)
Konto-Nr. 58 89 555-00

nov/cimmyt/6854/97

The assistance is provided under the following conditions:

1. CIMMYT shall spend the funds available exclusively for the above mentioned project. The Terms of Reference (Working Programme) are attached in Annex 1 and form an integral part of the contract together with the Financial Plan and Distribution of Expenditures (Annex 2). Cooperation partners: see page 1 of Terms of Reference (Annex 1). Details of contracts with cooperation partners if any are to be send to GTZ. They have to mention the duration of contract with scientists, fees and salaries.
2. CIMMYT shall submit short interim reports annually by December 31 of each year.
3. The final report of the programme covered by the funds provided through this contract will be submitted in 2 copies *not later than 31.12.1999*. Reporting requirements: As stipulated in the BMZ Standard Guidelines dated October 1996.
4. CIMMYT shall give proof of expenses by internal statement of accounts. The internal statements shall be forwarded to GTZ annually by March 31 of each year for the previous calendar year and shall provide GTZ with a breakdown of the actual costs incurred.

After completion of the whole programme CIMMYT shall give proof of expenses by a final statement of account for the whole project period to be confirmed by external chartered accountants and to be sent to GTZ by 31.03.2000.

New instalments will reflect the balance of the previous internal statement of accounts.

Excess expenditure shall not be acceptable. Funds not utilised shall be returned to the GTZ.

GTZ reserves the right to inspect and audit CIMMYT's booking-keeping with respect to the above mentioned funds by GTZ internal auditors or any other person duly authorized by the GTZ on its behalf.

CIMMYT is requested to open an Deutsche Mark account.

5. GTZ may suspend the payments, if
 - 1) the internal statements are not submitted in time (Art. 4),
 - 2) the breakdown on the costs is not in accordance with the condition stipulated in Annex 2,
 - 3) the reports are not submitted in accordance with item 2 and 3.
6. GTZ may recall payments, if and as far as the amounts transferred are not used as stipulated in this agreement. Payment shall be made only on receipt of invoices in quadruplicate bearing the 9-digit contract number.
7. CIMMYT shall ensure that all results of the programme's activities will be made available to all institutes within the framework of the Consultative Group on International Agricultural Research (CGIAR).

8. Any publication of the results of this research programme will be made only after approval by both parties concerned and with appropriate recognition of each one's contributions, provided that in case of failure to agree upon the manner of publication or interpretation of results either party may publish the data, giving due credit to the participation of the other party but assuming full responsibility for any statement on which there is a difference of opinion. All publications must carry the name of the donor BMZ and GTZ.
9. All disputes arising in connection with the present contract shall be finally settled under the Rules of Conciliation and Arbitration of the International Chamber of Commerce by one or more arbitrators appointed in accordance with the said rules. The resulting award shall be final and binding on the parties to this contract and shall be in lieu of any other remedy.
10. This agreement shall be drawn up in two originals in English language whereby each of the contracting parties shall receive one original.
11. All amendments and supplements as well as all declarations and notices resulting from and in connection with this agreement shall be in writing.
12. Any declaration or notice to be made in connection with the implementation of this agreement shall be deemed to be duly given or made when it has been delivered by hand, mail, cable or Telefax to the party to which it is required to be given or made, at such party's address specified below or at such other address as the party shall have specified in writing to the party giving such notice or making such request.

For CIMMYT: Centro Internacional de Mejoramiento de Maiz y Trigo

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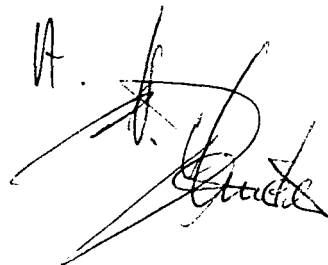
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13. The invalidity of one or more provisions of this contract shall not affect the validity of the other provisions. In the event of the invalidity of particular provisions, the respective invalid provisions shall be deemed replaced by such a provision that comes closest to the economic purpose which the contracting parties are striving for.
14. Any action required or permitted to be taken and any document required or permitted to be executed under this contract may be taken or executed by the Authorized Representatives of GTZ or of CIMMYT.

Please confirm that you agree to the a.m. provisions by signing the attached two copies of this letter in a legal binding form and returning one copy to us.

Date: 04/04/97

Deutsche Gesellschaft für Technische
Zusammenarbeit (GTZ) GmbH
Eschborn, Germany

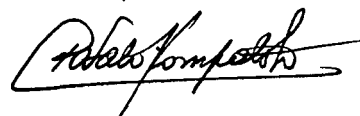


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Annexes

Date: 04/29/97

Centro Internacional de Mejoamiento
de Maiz y Trigo
Mexico D.F., Mexico



1. Summary

1.1 Objectives of Research

- Introduction, development and improvement of highland maize which will be evaluated *per se* and in combination with the Ecuador and Kitale composites.
- Facilitate the collection, evaluation and documentation of regionally important highland maize germplasm.
- Promote and technically supervise the CIMMYT/University of Hohenheim/NARS maize research and breeding activities in the East African region.
- Enhance and facilitate collaboration between the NARS and the CIMMYT Mid-altitude Maize Research Station in Zimbabwe to promote the testing and further development of stress resistant germplasm in East Africa.

1.2 Abstract

Maize is the major crop in eastern Africa, providing over half the staple calories of inhabitants in the region. Although there are large areas of maize production, the public research programs in the region are weakened by budget reductions and cannot provide adequate, improved technology for maize farmers without substantial assistance. Alternate suppliers of maize production technology and improved varieties are available for the mid-altitude zones of these countries. However, the highland ecologies of East Africa receive little attention at present. Maize is grown on over 300,000 ha in the highlands of Ethiopia and in Kenya, and on over 100,000 ha in the highlands of Tanzania. Little infusion into highland breeding materials has taken place during the last 35 years. The last major introduction of germplasm to national highland maize breeding programs was through the development of Ecuador 573 to Kenya in 1959. Although this material has been very successful in hybrid combination with the Kitale synthetic, the progress in this material has slowed and problems with foliar diseases are becoming more evident. The narrow genetic base of highland maize in East Africa has been identified as a priority constraint by the countries in the region.

The addition of a CIMMYT maize breeder to focus on maize development and improvement for East Africa, in particular for the highland ecologies, would greatly enhance the ability of the CIMMYT-Zimbabwe program to assist the national programs of the region. This will also ensure that CIMMYT can continue and expand and technically support its collaborative activities with the national agricultural research systems (NARS) and the University of Hohenheim for the development of improved maize technologies for the region. The proposed budget includes direct funding to national program collaborators (31% of the total requested) for training, conferences and for small grants to assist the national programs in undertaking their contributions to the collaborative research. The small grants program will also be made available, on a competitive basis, for collaboration with highland maize projects in East African countries other than Ethiopia, Kenya and Tanzania.

3. Objectives

- 3.1 Introduction, development and improvement of highland maize which will be evaluated *per se* and in combination with the Ecuador and Kitale composites.

Outputs: A breeding program will be initiated in Ethiopia to introduce and improve maize with adaptation to highland ecologies. Germplasm collections and evaluations will be carried out in key locations in the region and small grants will be made available through this initiative for strengthening collaborative research on highland maize. Evaluation of germplasm will include appropriate material from the highland program at CIMMYT-Mexico and from the germplasm bank

- 3.2 Facilitate the collection, evaluation and documentation of regionally important highland maize germplasm.

Outputs: Regional germplasm collections of highland maize will be evaluated *per se* in key locations and, if justified, in combination with the existing regional highland breeding populations. Landrace collections will also be sent to CIMMYT-Mexico for inclusion in the maize germplasm bank (seed will be freely available to all maize researchers as per the Centers policy).

- 3.3 Promote and technically supervise the CIMMYT/UH/NARS maize research and breeding activities in the East African region.

Outputs: The senior CIMMYT scientist will locally coordinate and technically advise the other CIMMYT/UH/NARS projects in East Africa. This responsibility will include the facilitation of regional trials as appropriate.

- 3.4 Enhance and facilitate collaboration between the NARS and the CIMMYT Mid-altitude Maize Research Station in Zimbabwe to promote the testing and further development of stress resistant germplasm in East Africa.

Outputs: As the only CIMMYT maize breeder representative located in East Africa, this scientist will facilitate contacts with networks and other maize research programs in both eastern and southern Africa. Small grants will be made available to NARS for scientific visits to research stations and to regional training courses and important maize conferences.

4. Work Plan

4.1 The First Phase (3 Years)

The senior CIMMYT scientist will work with the NARS to identify and collect representative samples of highland maize grown in East Africa. Improved highland maize germplasm will be introduced from CIMMYT-Mexico and participating national programs. These materials will be planted at key locations in Ethiopia, Kenya and Tanzania for evaluation of disease resistance and other agronomic traits. This data will be published in the region [Year 1-3]

Conduct field evaluations of potentially useful introductions of highland maize in Ethiopia and Kenya and Tanzania. Crosses between promising introductions and the Ecuador and Kitale synthetics will be made and evaluated to further determine their potential and their heterotic pattern. A breeding strategy will be developed and initiated. [Year 1-3]

The existing highland germplasm will be categorized and the highland environment better defined. The results will be regionally distributed to maize researchers. [Year 2-3]

Technical and local administrative support will be provided to the joint maize projects between the NARS of the region, CIMMYT, and the University of Hohenheim. Successful technologies and germplasm will be promoted in the region. [Year 1-3]

An annual meeting will be held with the collaborating maize scientists from the NARS to discuss the collaborative research, view field trials and to plan the following years activities. [Year 1-3]

A small grants program will be established and utilized to provide additional funds to help reduce constraints to collaborative research on highland maize and to support the participation on NARS scientists at appropriate regional training courses and maize conferences. The disbursement of these funds will be at the discretion of the senior scientist following a review of the proposals by the national maize program coordinators from Kenya, Ethiopia and Tanzania. [Year 1-3]

Table 3. Proposed project budget for three years period
Salaries and allowances

Year	Item	Budget contribution in \$			
		BMZ	CIMMYT	NARS	Total
First	Senior scientist 1/	55,125	55,125	0	110,250
First	Assoc. German scientist 1/	60,000	0	0	60,000
First	NARS staff	0	0	60,000	60,000
First	Support staff	0	15,000	0	15,000
Second	Senior scientist 1/	56,875	56,875	0	113,750
Second	Assoc. German scientist 1/	62,000	0	0	62,000
Second	NARS staff	0	0	60,000	60,000
Second	Support staff	0	16,000	0	16,000
Third	Senior scientist 1/	58,625	58,625	0	117,250
Third	Assoc. German scientist 1/	64,000	0	0	64,000
Third	NARS staff	0	0	60,000	60,000
Third	Support staff	0	17,000	0	17,000
Subtotal		356,625	218,625	180,000	755,250
(Percent)		(47)	(29)	(24)	(100)

1) 12 MM/year

Annex 21

Program expenses

Year	Item	Budget contribution in \$						Total
		BMZ	CIMMYT	NARS	PRM	IICA	CIAT	
First	Adoption workshops	21,000	0	1,000	3,000	0	5,000	30,000
First	Targeted policy workshops	25,000	0	0	0	10,000	0	35,000
First	Chronosequence studies	0	20,000	1,000	10,500	0	5,000	36,500
First	Adoption studies	0	1,500	0	4,500	0	0	6,000
	Methods development	15,000	0	0	4,500	0	0	19,500
	Training	16,000	0	0	0	0	0	16,000
	Logistical support	0	25,000	2,000	0	0	0	27,000
Second	Adoption workshops	0	0	0	0	0	0	0
Second	Targeted policy workshops	25,000	0	0	0	10,000	0	35,000
Second	Chronosequence studies	0	20,000	1,000	10,500	0	5,000	36,500
Second	Adoption studies	0	1,500	0	4,500	0	0	6,000
	Methods development	0	15,000	0	4,500	0	0	19,500
	Training	16,000	0	0	0	0	0	16,000
	Logistical support	0	26,000	2,000	0	0	0	28,000
Third	Adoption workshops	21,000	0	0	3,000	0	5,000	29,000
Third	Targeted policy workshops	25,000	0	0	0	10,000	0	35,000
Third	Chronosequence studies	0	20,000	1,000	10,500	0	5,000	36,500
Third	Adoption studies	0	1,500	0	4,500	0	0	6,000
	Methods development	0	15,000	0	4,500	0	0	19,500
	Training	16,000	0	0	0	0	0	16,000
	Logistical support	0	27,000	2,000	0	0	0	29,000
Subtotal		180,000	172,500	10,000	64,500	30,000	25,000	482,000
(Percent)		(37)	(36)	(2)	(13)	(6)	(5)	(100)

Annex 2 (2)

Totals

Item	Budget contribution in \$						Total
	BMZ	CIMMYT	NARS	PRM	IICA	CIAT	
Salary and allowances	356,625	218,625	180,000	0	0	0	755,250
Program expenses	180,000	172,500	10,000	64,500	30,000	25,000	482,000
Totals	536,625	391,125	190,000	64,500	30,000	25,000	1,237,250
(Percent)	(43%)	(32%)	(15%)	(5%)	(2%)	(2%)	(100%)

Exchange rate: US \$ 1.- / Dtg 1,65

Goals and objectives

The overall goal of the proposed project can be stated as follows:

To achieve accelerated farmer adoption of productivity-enhancing, resource-conserving (PERC) technologies for maize-based systems in specific areas of Central America.

To meet this global objective, the following project objective is proposed:

To ensure that farmers' decision making criteria for adopting PERC technologies, and the effects of policy on farmers' decision making, are known to relevant policymakers as well as by national researchers.

It is expected that by providing useful information to national researchers and policymakers, the project will help accelerate the adoption of PERC technologies, particularly in specific target areas/countries within Central America. Useful feedback on important factors that positively or negatively affect the adoption of new technology at the farm level will make it possible to modify ongoing research to maximize the probability that the products of research will be adopted. Similarly, policymakers can use this information to create external economic conditions that encourage farmers to adopt PERC technologies.

Title: Accelerating Adoption of Productivity-Enhancing, Resource-Conserving Practices in Maize-based Cropping Systems in Central America.

Short Title: Accelerating Adoption of Sustainable Maize System Technology.

Research objectives: To accelerate farmers' adoption of productivity-enhancing, resource-conserving (PERC) technologies for maize-based systems in specific areas of Central America, by ensuring that farmers' decision making criteria for adopting PERC technologies, and the effects of policy on farmers' decision making, are known by relevant policymakers as well as national researchers.

Abstract: Widespread farm-level adoption of PERC technologies in maize-based cropping systems of Central America would make a large contribution to the solution of productivity and sustainability problems found in much of the region's hillside agriculture. This three-year project seeks to accelerate adoption of PERC technologies in maize-based, hillside cropping systems by identifying the main factors governing farmers' adoption/disadoption of various PERC technologies in specific areas, and by assessing the economic impacts of policy changes aimed at accelerating farmers' use of suitable technologies. (To date, much of this information is either scarce or nonexistent.) In a series of national and regional workshops, researchers, policymakers, farmers' groups, and NGOs will debate the research results, examine their implications for policy changes to foster adoption of PERC technologies, and identify investments they can make with their own resources to achieve shared goals. A mechanism will be developed for following up on policy measures implemented in specific areas to encourage farmers to adopt PERC technologies. The *workshops* will complement work by regional and international institutions on natural resource policy issues in Central America; the *research* will complement and strengthen current work by national researchers through the regional maize program and regional network of socioeconomists. *Training courses* will be offered on new methodologies, which in turn will be documented in various publications and training materials.

Cooperating Partners: CIMMYT, PRM, RCSE, IICA, national agricultural research systems, and CIAT.

Project workplan

Activities related to result R1:

A.1.1 Synthesize results of the adoption studies on factors that govern farmer adoption of PERC technologies, and identify implications for research, extension and policy.

A.1.2. Hold a series of regional workshops to debate the findings of the adoption studies and disseminate their conclusions to the appropriate clientele. It is also expected that needs for future research will be identified in these workshops.

A.1.3. Hold a series of area specific adoption studies in selected areas of Central America.

The workshops will provide an opportunity for widespread debate on the conclusions of the adoption studies concerning the principal factors influencing farmers' adoption decisions and on how those factors vary with the types of technology involved, farming systems, and locations. The workshops will also serve as a basis for building up policy case studies to be used in the policy workshops described in R3.

The adoption studies will be conducted in collaboration with the PRM and the CCAHP. This activity will produce additional information on factors governing farmers adoption of PERC technologies, and it will contribute to close the research gap identified in the workshops.

Activities related to result R2

A.2.1 Identify areas where resource degradation problems potentially can be solved through a change in technology. Identify stakeholders (institutions or individuals) that stand to gain or lose from the policy or institutional changes that may be needed to *accelerate farmer adoption*.

A.2.2 Prepare one or more position papers or case studies to be discussed in a targeted policy workshop.

A.2.3 Carry out a set of targeted policy workshops with relevant stakeholders to discuss sustainability - productivity problems, assess alternative solutions, identify policy or institutional changes that might be necessary to accelerate farmer adoption, and challenge stakeholders to identify investments they can make with their own resources to contribute to the achievement of shared goals.

A.2.4 Identify and establish a mechanism for following up on the policy measures agreed upon in the targeted policy workshops for promoting the adoption of PERC technologies in specific areas. Activities will be carried out in partnership with the regional and international institutions that constitute a research consortium on sustainability issues (the IICA-GTZ project, IFPRI, and INCAE).

A.2.5. Identify at least one specific study area where policy measures have been taken as a result of the policy workshops.