
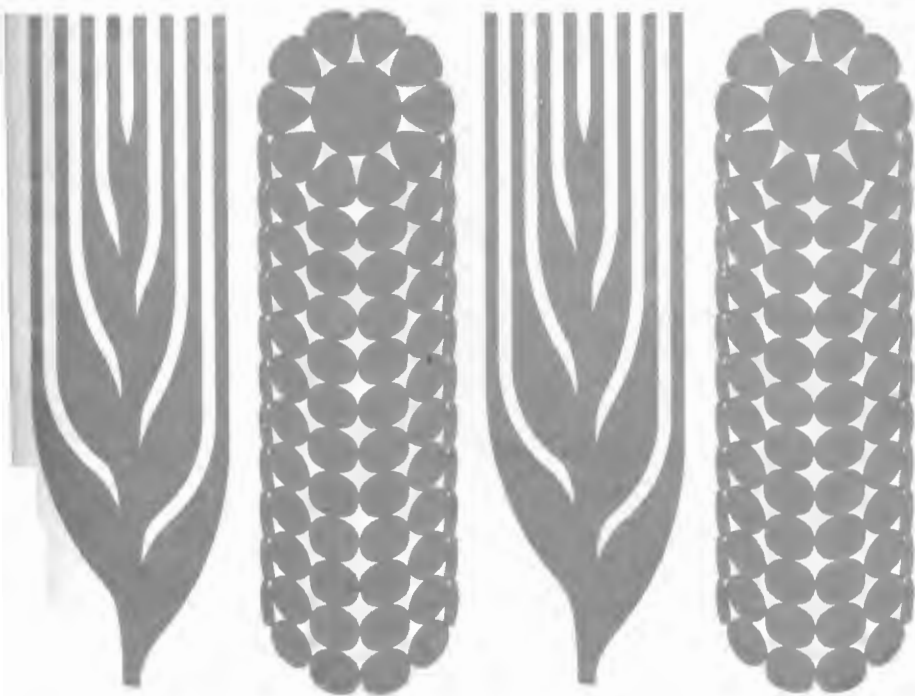


CIMMYT BUDGET (Medium-Term)



**CIMMYT  
Biennial  
Budget  
Request  
1985-1986**



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Biennial  
Budget  
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## Preface

It is a pleasure to be able to report on CIMMYT's program of work and budget for 1985 and 1986.

In this document CIMMYT's management and trustees are presenting what we feel represents a clear, comprehensive, and cogent plan of action for the coming two years. A number of points are worth mentioning:

- i) The maize program is scheduled for significant manpower increases in 1984 and continuing through 1986;
- ii) Many of the recommendations of the external review panel are taken into account in the staffing plan, namely the strengthening of selected regional programs (e.g. Maize E. Africa), additional staff in headquarters disciplinary research, and the appointment of a training coordinator;
- iii) Most of these planned changes, however, are possible only under optimistic funding scenarios in 1985 and 1986. We feel that given CIMMYT's past successes and its present dynamism it is of great importance to incorporate these changes and additions into the center's program of research and training.
- iv) The financial plan adopted to carry out these objectives is structured so as to account for the many unknowns related to inflation and exchange rates in the years ahead. The benefits of sound, flexible financial management are by now well known; in 1983 CIMMYT was able to signal the CGIAR of its reduced funding requirements following the devaluation of the Mexican peso. As a result over \$6,500,000 represented by these reduced requirements was made available to the rest of the CGIAR system.

This **1985-86 Biennial Budget Request** is published with two companion pieces. The **1983 Research Highlights** is a technical publication that highlights major findings and accomplishments in a selection of research programs. The **1983 Annual Report** is a non-technical description of CIMMYT's activities that also includes the independently audited financial statement, a management review and highlights of major extra core grants. Together these three publications describe CIMMYT's significant accomplishments to date, its current status, and its future plans.

## Executive Summary

### 1983 Results

US \$'s 000's Current Dollars	1983 Approved Budget		1983 Revised Budget		1983 Actual	
	Cost	My	Cost	My	Cost	My
Core Programs	24,834	69.0	19,182	78.0	17,887	70.0
Of Which Related to Transferred Projects	—	—	(631)	(3.0)	(457)	(2.5)
Capital	499	—	260	—	387	—
<b>Total</b>	<b>25,333</b>	<b>69.0</b>	<b>19,442</b>	<b>78.0</b>	<b>18,274</b>	<b>70.0</b>

- Approved budget for 1983 is bottom of bracket level before adjustment for 1982 devaluation and before inclusion of transferred projects.
- Revised budget accounts for effects of devaluation and includes transferred projects. Man years increased over approved level due to lower dollar operating cost.
- 1983 actual figures are lower due to donor shortfalls and delay in start up of some transferred projects.
- Shortfall in man years is due to deferred appointments and arrival of new Maize Director, which delayed other staff changes in that program.
- Over-expenditure on capital primarily due to \$108,000 in foreign exchange translation loss plus an additional greenhouse at El Batan for wheat pathology.
- A major review of training activities took place in 1983 as part of implementation of recommendations made by the external review team.

### 1984 Plan

US \$'s 000's 1984 Dollars	1984 Bottom of Bracket		1984 Current Estimate		1984 Top of Bracket	
	Cost	My	Cost	My	Cost	My
Core Programs	20,975	74.75	20,975	78.75	23,043	82.75
Of Which Related to Transferred Projects	(752)	(3.75)	(752)	(3.75)	(752)	(3.75)
Capital	400	—	400	—	570	—
<b>Total</b>	<b>21,375</b>	<b>74.75</b>	<b>21,375</b>	<b>78.75</b>	<b>23,613</b>	<b>82.75</b>

- Continued relatively low unit operating costs permit more staff than originally envisioned at bottom of bracket. This change was made with concurrence of TAC.
- Staff changes in 1984 continue implementation of the recommendations of the external program review and move CIMMYT closer to attainment of mini/opt model.
- Uncertainty continues over financial situation with respect to inflation and exchange rates in Mexico.

### 1985 Budget Request

US \$'s 000's	1984 Current Estimate		1985 Bottom of Bracket		1985 Top of Bracket	
	Cost	My	Cost	My	Cost	My
Core Programs	20,975	78.75	20,406	76.0	21,559	84.0
Of Which Related to Transferred Projects	(752)	(3.75)	(651)	(3.0)	(651)	(3.0)
Inflation/Exchange	—	—	2,245	76.0	2,371	84.0
Sub-Total	20,975	78.75	22,651	76.0	23,930	84.0
Capital	400	—	387	—	424	—
<b>Total</b>	<b>21,375</b>	<b>78.75</b>	<b>23,038</b>	<b>76.0</b>	<b>24,354</b>	<b>84.0</b>

- Bottom of bracket results in 2 percent cut in real terms in core operations compared to 1984's current estimate. Four positions would be dropped: 1.0 my S.E. Asia Wheat Agronomy, 1.0 Maize Wide Crosses, 1.0 my Maize Breeding, and 1.0 my Maize Physiology/Agronomy. Two positions would be added: 1.0 my Maize Germplasm bank and 1.0 my Maize Joint Coordinator (IITA/CIMMYT) West Africa.
- At top of bracket two new staff would be added: 1.0 my Seed Health and 1.0 my Training Coordinator. All other man year increases would be the result of annualizations of staff on hand in 1984.

**1986 Projection**

US\$s 000's	1984 Current Estimate		1985 Bottom of Bracket		1985 Top of Bracket		1986 Proposed Budget	
	Cost	My	Cost	My	Cost	My	Cost	My
Core Programs	20,975	78.75	20,406	76.0	21,559	84.0	22,920	90.0
Of Which Related to Transferred Projects	(752)	(3.0)	(651)	(3.0)	(651)	(3.0)	(613)	(2.0)
Inflation/Exchange Rates	—	—	2,245	—	2,371	—	5,270	—
Sub-Total	20,975	78.75	22,651	76.0	23,930	84.0	28,190	90.0
Capital	400	—	387	—	424	—	625	—
Total	21,375	78.75	23,038	76.0	24,354	84.0	28,815	90.0

- One program reduction is scheduled: 1.0 my computer programming services. This is a transferred project scheduled to end in 1985.
- Seven positions are added over the 1985 top of the bracket level: 1.0 my Wheat Agronomy, 1.0 my Wheat Pathology, 1.0 my Maize Breeding, 1.0 my E. Africa Maize, 1.0 my Asia Maize, 1.0 my South America Economics, and 1.0 my Information Services.

# Introduction

## Mandate

The crops within CIMMYT's mandate — wheat and maize— provide the principal source of calories and protein for approximately half of the world's population. They are the staple foods of some of the poorest people in the developing world.

CIMMYT's Charter of April 12, 1966 states the Center's mission as follows: "To promote and carry out, nationally and internationally, programs to improve in all aspects maize and wheat production." The charter also permits work on other food crops. At present, CIMMYT limits its work to maize, bread wheat, durum wheat, and triticale.

## Organization

CIMMYT's organizational structure consists of the following units:

**Three research programs:** Maize, Wheat and Economics. These programs are responsible for research and training activities in Mexico and for their respective regional and national staff assigned in Africa, Asia, and Latin America.

**Four research support units:** Laboratories, Experiment Stations, Data Processing and Information Services.

**General administration and plant operations:** Office of Director General, Financial Management, Personnel, Purchasing, Maintenance and General Office Services.

## Physical Plant

CIMMYT's physical plant in Mexico is essentially complete. It consists of a headquarters station at El Batán near Mexico City, and six other research sites in Mexico. Four are managed by CIMMYT and three by the Government of Mexico. CIMMYT now has access to 450 hectares of land in Mexico for experimentation. Regional program staff are either based at sister International Agricultural Research Centers (IARCs) or at collaborating national institutions. The logistical support for these regional staff (including in some cases access to land for experimentation and regional nursery preparation) is being provided through agreements between CIMMYT and the cooperating programs.

## Mode of Operation

CIMMYT fulfills its mission in the following ways:

- Conducting crop improvement research in Mexico and elsewhere for higher and more dependable yields and higher nutritional quality,
- Distributing superior germplasm to national programs,
- Developing procedures for crop improvement and crop management research,
- Conducting applied training for scientists from developing countries,
- Sponsoring technical workshops, seminars and symposia,
- Publishing information on new technological components,
- Consulting with governments in developing countries on the organization and execution of maize and wheat research and production programs, and
- Assigning staff members to work in regional and national programs outside Mexico.

## Impact of CIMMYT's Work

CIMMYT's best known contributions are in wheat. Approximately 40 million hectares of wheat in the developing countries and 10 million in the developed world are now planted to hundreds of commercial varieties that carry CIMMYT distributed germplasm in their pedigrees. If one estimates that production has only increased 200 kg/ha solely due to the use of these improved varieties, this increase has a value in the developing world of \$1.5 billion dollars per year, an impressive return to research investment by any standard.

While the impact of improved maize varieties is only beginning to show up in national production figures, it is estimated that more than three million hectares in the developing world are now planted to varieties and hybrids derived from CIMMYT germplasm. The yield contribution made by these improved maize materials alone is conservatively adding at least 600,000 tons annually, worth \$90 million at current maize prices.

In addition to its contributions in germplasm development, CIMMYT's work in the development of research procedures and its training activities have made significant contributions to national research programs. The years of research conducted by CIMMYT, in collaboration with agricultural scientists from national programs, have resulted in path-breaking research procedures, which are widely used in national research programs around the world. Also, today approximately 2,500 developing country scientists from 86 countries may be counted as CIMMYT training program alumni.

## 1983 Activities in Review

Through its research, training, and regional program networks, CIMMYT collaborates with hundreds of organizations and thousands of scientists worldwide. The Center's primary research thrust is to assist crop scientists from developing countries to produce improved maize, wheat and triticale varieties that are capable of high and dependable yields on farmer's fields. The problems of resource-poor farmers and more difficult production environments are important criteria in determining CIMMYT's research agenda. Greater relative priority is given to developing germplasm with improved disease and insect resistance, tolerance to drought and other environmental stresses, and in some cases, such as with triticale, in improved grain quality.

### Maize Research

The CIMMYT maize research program is directed towards the development and maintenance of broadly based gene pools and populations that offer higher yield potential and greater environmental dependability for developing country production conditions. Given the circumstances of the majority of maize farmers in the tropics and subtropics, the development of disease and insect resistant varieties is a major research objective. Because of weaknesses in the seed production and distribution systems in most collaborating countries, CIMMYT emphasizes the development of open-pollinated varieties.

More than 750 experimental varieties have been developed since CIMMYT began the current scheme of population improvement and international testing less than a decade ago. Thirty national programs, drawing on germplasm developed through the international testing program, have released more than 120 varieties during the last five years. Dozens more new varieties are now in the final stages of national varietal certification and commercial release.

In 1983, CIMMYT shipped 802 individual maize trials to collaborators in 68 countries. Three types of trials were included in the 1983 international testing program:

- 1) International Progeny Testing Trials (IPTTs)
- 2) International Experimental Variety Trials (EVTs)
- 3) International Elite Experimental Variety Trials (ELVTs).

Sixteen advanced populations were tested in IPTTs during the year, generally at six international sites each. Eight different EVTs, containing a total of 80 new experimental varieties were also distributed to up to 85 locations. The most frequently requested EVT during 1983 were EVT 14A and 14B, which were sent to 85 locations and include CIMMYT's best early-to-intermediate maturity white and yellow grain materials. Two quality protein maize trials, EVT 15A and 15B, were also distributed. In addition, three ELVTs, comprised of CIMMYT's best-performing elite experimental varieties were distributed widely throughout the developing world.

### Wheat Research

CIMMYT's wheat program has expanded its scope over the last 18 years to include research on bread wheat, durum wheat, barley and triticale. The program staff attempts to serve all small grain producing areas of the world with major emphasis on developing countries. Since CIMMYT's inception, over 300 high-yielding bread wheat varieties, 50 durum wheat varieties, 40 triticale varieties and 8 barley varieties which carry CIMMYT developed and/or distributed germplasm in their parentage have been released by national programs in 42 countries. During 1984, ICARDA will assume principal responsibility for the CGIAR-funded barley improvement program.

During 1983, more than a million packets of experimental wheat, triticale and barley seeds were assembled into 42 screening and yield nurseries and crossing blocks for distribution and testing at hundreds of locations worldwide. Collaborating scientists in 91 countries requested 2,072 trials of wheat, triticale and barley from these different germplasm nursery categories. New nursery categories were created for germplasm with early-maturing characteristics, suitability for dryland conditions, special disease and soil stress problems, and for heat and cold tolerant materials.

### Economics Research

CIMMYT's economics program has made a major contribution to the development of a conceptual framework for assessing the production circumstances of representative farmers in the Third World. Cost-effective research procedures for conducting farm-level surveys have been developed to assess (in target research areas) the most important production problems and resource circumstances faced by the majority of farmers. This information is then used to orient crop research programs aimed at forging more appropriate production recommendations. By 1983, nearly a dozen collaborating national research institutes in Africa and Latin America were well on the way towards integrating on-farm research into the process of technology generation.



To address research resource allocation issues, CIMMYT economists have recently undertaken to adapt an analytical framework of comparative advantage to determine the private and social profitability of producing crops such as wheat and maize, relative to other crops. In cooperation with colleagues from national programs two studies were completed in 1983 on the comparative advantage of wheat production in two regions of Mexico and in highland Ecuador and a third study is currently under way in Thailand.

In recent years, the economics program has increased its data collection and analysis on the maize and wheat world economies. In 1981-82, CIMMYT initiated two new serial publications: *World Wheat Facts and Trends* and *World Maize Facts and Trends*. These reports assemble, on a regular basis, pertinent data related to maize and wheat production, utilization, and trade, and present this information in a readily digestible form for agricultural administrators, researchers or policy makers. In 1983, CIMMYT published Report Two of *World Wheat Facts and Trends: 'An Analysis of Rapidly Rising Third World Wheat Consumption and Imports.'* This report reviews the dramatic changes over the last three decades in the world wheat trade, and particularly in the developing countries during the 1970s, when their share of world wheat imports rose from one-fourth of the total in 1955 to two-thirds in 1982.

## Training Programs

**Maize Training**—In 1983, 68 scientists from 38 developing countries attended in-service training at CIMMYT. Four technical training courses were offered: crop improvement, crop production, protein quality laboratory research and experiment station management. Sixty-five percent of the in-service trainees were enrolled in the crop production course. Another 19 visiting scientists were invited to CIMMYT during the year, spending 1-3 months in Mexico. During 1983, CIMMYT cooperated in the training of eight MSc and four Ph.D degree students from developing countries. In addition, eight postdoctoral fellows and two associate scientists (on 1-2 year assignments) were in residence at CIMMYT in Mexico during the year.

**Wheat Training**—During 1983, sixty-one in-service wheat scientists from 29 countries participated in CIMMYT's in-service training program. Five technical training courses were offered: breeding, pathology, crop production, cereal technology and experiment station management. Travel fellowships for 23 visiting scientists were also provided in 1983. CIMMYT also cooperated in the training of six MSc and four Ph.D students from developing countries during 1983. In addition, seven postdoctoral fellows and two associate scientists were in residence within the wheat program.

**Economics Training**—The economics staff continued their participation in 1983 in the maize and wheat crop production in-service training courses held in Mexico. In addition, a number of in-country training courses focusing on on-farm research methodologies were undertaken in collaboration with other CIMMYT crops program staff and national program staff. Two postdoctoral fellows also worked within the economics program during 1983. Both were assigned to headquarters with one working full-time with Mexican agricultural research and production institutions to expand their programs of on-farm research in basic grains.

## Regional Programs

During 1983, twenty-seven maize, wheat and economics senior staff members were assigned to regional and national program posts. These staff have important research and training responsibilities in addition to their liaison activities between CIMMYT headquarters and developing country national programs. The shifting of certain research responsibilities from headquarters to the staff posted in regional programs is an important element in CIMMYT's strategy to expand its research activities on important germplasm development and crop management problems not easily addressed in Mexico.

## Information Services

In 1983, CIMMYT published 33 new titles in English, Spanish and French and distributed these according to interest areas to a mailing list of 4,900 names. Other papers were prepared for presentation at international and national meetings which will appear in proceedings published elsewhere; a list of these is included in the **1983 Annual Report** report. During 1983, CIMMYT developed plans to considerably increase its information services program through extra core funding. Plans were made to create a new scientific information unit which will have access to major scientific information through a number of bibliographic data bases on research literature.

## Conferences and Workshops

During 1983, CIMMYT co-sponsored a number of conferences both at headquarters and on a regional or national basis. At headquarters, five major scientific conferences were held during the year. In addition, CIMMYT staff made more than 60 presentations at workshops and conferences organized by other institutions (see **1983 Annual Report**).

## 1983 Performance — Core Program

1983 began as a year of great uncertainty for CIMMYT. The massive (nearly six-fold) devaluation of the Mexican peso in 1982 had reduced the dollar value of peso expenditures but at the same time had set off fears of an inflationary spiral. Much to the credit of Mexico's economic managers, however, by year end the worst of those fears had not come to pass. Inflation, though reaching 80 percent by year end by the government's estimates and over 100 percent by estimates of other economists, (the difference is due to the make-up of the market basket) was by no means as high as originally forecast. Overall the effect of the devaluation was positive for CIMMYT as its financial requirements were reduced by a significant amount.

CIMMYT's originally approved budget for 1983 at the bottom of the bracket called for \$24,834,000 in programs and \$499,000 in capital. Following the 1982 devaluation the budget was revised in early 1983 to \$18,551,000 in programs and \$200,000 in capital. The difference of over \$6,500,000 represented by these reduced requirements was made available to the rest of the CGIAR system.

Subsequent to this revision of the 1983 budget the Technical Advisory Committee of the CGIAR recommended the transfer of six extra-core programs with a total annual budget of \$631,000 (exclusive of administrative fees) into the core budget. After accounting for this, the 1983 operating budget increased to \$19,182,000 in programs and \$260,000 in capital for a total of \$19,442,000.

At year-end, total core expenses amounted to \$17,430,000, transferred projects to \$457,000 and capital to \$387,000, giving a total of \$18,274,000.

The sources and uses of these funds are shown in the Table below.

### Sources and Uses of Core Funds: 1983

	1983 Budget <sup>1/</sup>	1983 Actual
<b>Sources</b>		
Grants (Unrestricted and Restricted)	18,776	17,475
Administrative Fees (Extra Core)	197	270
Sale of Crops and Other Income	50	43
Interest Income	250	386
Carry forward from 1982	169	169
<b>Total Sources</b>	<b>19,442</b>	<b>18,343</b>
Of Which Related to Transferred Projects	(631)	(457)
<b>Uses</b>		
Wheat	5,100	5,275
Maize	3,853	3,697
Economics	866	903
Laboratories	472	445
Experiment Stations	1,274	1,146
Training and Conferences	3,097	2,478
Information Services	713	662
General Administration	1,765	1,668
Data Processing	453	557
Plant Operations	1,404	1,056
Contingency	185	— 2/
<b>Total Program Uses</b>	<b>19,182</b>	<b>17,887</b>
Of Which Related to Transferred Projects	(631)	(457)
Capital Acquisitions	260	387
<b>Total Uses</b>	<b>19,442</b>	<b>18,274</b>
<b>Balance (Carryforward to 1984)</b>	<b>—</b>	<b>69</b>

1/ Revised bottom of bracket

2/ Distributed to Data Processing

1983's actual expenses show a considerable reduction from the budgeted amount. This is a reflection of a number of factors, both positive and negative, at work throughout the year.

On the revenue side two important factors were at work:

- i) **donor shortfalls.** Two donors were unable to contribute to the CGIAR system in 1983 as planned. Both of these had been expected to contribute to CIMMYT's core unrestricted programs.
- ii) **exchange rates.** One donor, for legal reasons related to its agreement with the Government of Mexico, was only able to pay its contribution at the controlled exchange rate, a 10-15 percent discount from the free or market rate. CIMMYT, with the concurrence of its independent auditors, registered the funds received at the market rate. The net effect was a reduction in the contribution of over \$600,000.

Offsetting slightly these revenue decreases was a better than budgeted performance on earned income, with more than \$300,000 over the budgeted amount earned. In total, however, the revenue shortfall was over \$1,000,000 dollars.

Reduced operating costs expressed in dollars helped to offset this revenue shortfall. Major peso denominated budgets such as experiment stations and plant operations all recorded dollar expenses substantially lower than budget. Transferred projects also came in under budget, the result mainly of the late start-up of some projects. A budgetary adjustment also took place in training and conferences where expenses were 20 percent under budget. This is because other (extra core) sources of sponsorship became available during the year.

The only significant over-expenditure was in capital, where actual acquisitions amounted to \$269,000 compared to a budget of \$150,000. This over-expenditure of capital involved \$108,000 for the 1983 foreign exchange translation loss and construction cost for an additional greenhouse at El Batan to strengthen headquarters pathology and seed health facilities. The translation loss was the write down on net peso assets that occurred as a result of the 11 percent devaluation of the peso during the year. In accordance with Statement No. 52 of the Financial Accounting Standards Board of the United States this was charged to the current year's expenses.

A second aspect of the year's budgetary performance was that related to international staff man years. The original bottom of the bracket budget called for 69.0 my. When the financial budget was revised following the devaluation, CIMMYT, with the concurrence of the TAC, increased the international staff figure to 75.0 my. This was mainly due to the realization that unit costs had dropped considerably in 1982 and were likely to remain low in 1983. The objective in doing this was to speed up the implementation of the recommendations made by the CIMMYT external review panel in 1982.

Later in the year when some projects were transferred from extra core, this figure was increased by 3.0 my to 78.0 my

Actual man years compared to budget are shown in the table below.

#### International Staff Man Years

	1983 Budget	1983 Actual
<b>Wheat</b>		
Headquarters	9.0	9.75
Regional Programs	16.0	14.25
<b>Sub-Total</b>	<b>25.0</b>	<b>24.0</b>
Of Which Related to Transferred Projects	(1.0)	(1.0)
<b>Maize</b>		
Headquarters	11.0	7.75
Regional Programs	11.0	11.0
<b>Sub-Total</b>	<b>22.0</b>	<b>18.75</b>
<b>Economics</b>		
Headquarters	2.0	2.0
Regional Programs	3.5	3.0
<b>Sub-Total</b>	<b>5.5</b>	<b>5.0</b>
<b>Research Support</b>		
Laboratories	3.0	2.0
Experiment Stations	1.5	1.5
Data Processing	3.0	2.5
<b>Sub-Total</b>	<b>7.5</b>	<b>6.0</b>
Of Which Related to Transferred Projects	(2.0)	(1.5)
<b>Training and Conferences</b>	<b>8.0</b>	<b>8.0</b>
<b>Information Services</b>	<b>4.0</b>	<b>2.25</b>
<b>General Administration</b>	<b>6.0</b>	<b>6.0</b>
<b>Plant Operations</b>	<b>-0-</b>	<b>-0-</b>
<b>Total</b>	<b>78.0</b>	<b>70.0</b>
Of Which Related to Transferred Projects	(3.0)	(2.5)

The shortfall of 8.0 my amounted to 11 percent of budget. A small portion of this was due to a late initiation of a transferred project (0.5 my Wheat/Computer Programming), a shifting in priorities represented by the decision not to add a third position to laboratory services in 1983 (1.0 my), and the transfer of one wheat pathologist to an exploratory extra core project in Barley Yellow Dwarf Virus (0.5 my). The largest shortfall, however, was in the maize program. This was due to a delay in the arrival (January 1984) of the new Director of the Maize Program, which led to a delay in the hiring of other new staff in the program. These posts will be filled in 1984.

## 1984 Prospects

### Goals, Objectives and Strategy

In choosing an operating strategy for 1984 CIMMYT has taken into account a number of factors, among them: 1) manpower availability; 2) the recommendations of the external review panel, and; 3) the attainment, in the short run, of the minimum/optimum (mini/opt) model.

These are influenced by the high degree of financial uncertainty surrounding the 1984 budget in a number of areas, including:

- i) **level of donations in 1984.** As in previous years, CIMMYT's 1984 budget, as recommended by TAC and approved by the members of the CGIAR, is expressed in terms of a bracket describing both funds and man years. The eventual supply of funds, however, remains uncertain and may not be confirmed until late in 1984. Current information indicates that eventual funding may be lower than the bottom of the bracket. The dilemma is which level to choose for an operating budget. For CIMMYT the range of choices is wide as the difference between the top and the bottom of the bracket is \$2,238,000 and 8.0 man years.
- ii) **inflation in Mexico.** Official estimates show inflation falling to 45 percent in 1984 or slightly less than half its (official) previous year's level. This affects CIMMYT in two ways: 1) in local purchases and 2) in local wages. Local purchases, to some extent, may be postponed or shifted elsewhere if inflation is significantly higher than budgeted. At best, though, there is limited flexibility in this area. Local wages, however, are almost locked into whatever inflation rate comes to pass. Local staff raises in CIMMYT's case are virtually mandated by the government and these are certain to follow closely the inflation rate. Since local purchases and local wages and benefits each represent about 20 percent of the budget the margin for error in budgeting is very small.
- iii) **exchange rate policy in Mexico.** Since early 1983 a small daily slippage of the peso against the US dollar has been maintained. The stated purpose of this is to maintain a degree of undervaluation in the currency approximately 15-20% and thereby encourage exports and tourism and discourage imports. The key question for 1984 is: 1) will this daily slippage continue; and 2) if yes, at what rate. This, in turn, brings in a range of other unknowns such as exchange rate policies and objectives, and mechanisms and resources for intervening in the foreign exchange markets. Any number of scenarios appear plausible ranging from a decrease in the slippage (which would increase CIMMYT's dollar costs) to an increase in the slippage (which would have the opposite effect).

The program strategy adopted by CIMMYT for 1984 reflects these financial factors. Because unit costs continue to be relatively low, some additional international staff man years are added to the bottom of the bracket budget. But because there also exists great uncertainty over inflation and exchange rates some peso denominated units such as experiment stations, general administration and plant operations are allocated slightly more resources in 1984.

A second key element in the 1984 operating strategy is that of manpower. In 1983 there was a shortfall in man years compared to budget largely because of the desire to give the new Director of the Maize Program the opportunity to build his own team. An additional 5.25 my over 1983 is now projected for 1984 in maize. Other staff increases will take place in wheat pathology and economics regional programs. These are in line with the recommendations of the external program review, and are significant steps towards the attainment of the mini/opt model. By year-end 1984, over 90 percent of the staff required for the mini/opt will be in place.

### 1984 Core Program: Current Estimate vs. Budget Brackets

The 1984 current estimate of funds and man years for the core program is summarized and compared to the original budget brackets in the following table. Comments on individual programs follow.

**Wheat** intends to add 2.0 my. over its 1983 level, 1.0 my in Pathology and 1.0 my in Tropical Wheat. The position in Tropical Wheat is part of a transferred project. Costs are expected to be down somewhat in 1984 especially in research and management support.

**Maize.** The biggest increase in man years in 1984 will take place in this program. Of the additional 5.25 my that are planned, 4.75 my are represented by staff already in place. The majority of these have been transferred from now terminated extra core projects in national programs. Costs are now projected to be slightly lower than the bottom of the bracket level.

## Summary of Core International Staff Man Years and Operating Costs by Activity 1982-1984

	1983		1984		1984		1984	
	Actual Cost	My	Bottom of Bracket Cost	My	Top of Bracket Cost	My	Current Estimate Cost	My
<b>1. Research</b>								
a) Wheat Program								
Bread Wheat	305	1.0	317	1.0	317	1.0	361	1.0
Durum Wheat	205	1.0	215	1.0	215	1.0	148	1.0
Barley	104	1.0	156	1.0	156	1.0	111	1.0
Triticale	178	1.0	247	1.0	247	1.0	228	1.0
Tropical Wheat	159	1.0	416	2.0	416	2.0	268	2.0
Regional Programs	1,516	9.25	1,703	9.0	1,703	9.0	1,675	10.0
Research and Management Support	2,808	9.75	2,675	10.0	3,018	12.0	2,572	10.0
Sub-Total Wheat	5,275	24.0	5,729	25.0	6,072	27.0	5,363	26.0
Of Which Related to Transferred Projects	(159)	(1.0)	(416)	(2.0)	(416)	(2.0)	(268)	(2.0)
b) Maize Program								
Improvement	1,160	4.75	1,149	6.0	1,624	9.0	1,310	8.5
Regional Programs	1,765	11.0	2,119	12.0	2,119	12.0	1,852	11.5
Research and Management Support	772	3.0	980	3.0	1,122	4.0	992	4.0
Sub-Total Maize	3,697	18.75	4,248	21.0	4,865	25.0	4,154	24.0
c) Economics Program								
Headquarters	507	2.0	376	2.0	377	2.0	319	1.5
Regional Programs	396	3.0	480	3.0	649	4.0	625	4.0
Sub-Total Economics	903	5.0	856	5.0	1,026	6.0	944	5.5
d) Research Support								
Laboratory Services	445	2.0	458	2.0	458	2.0	531	2.0
Experiment Stations	1,146	1.5	1,491	2.0	1,491	2.0	1,500	2.0
Data Processing	557	2.5	434	2.75	472	2.75	585	2.75
Sub-Total Research Support	2,148	6.0	2,383	6.75	2,421	6.75	2,512	6.75
Of Which Related to Transferred Projects	(94)	(1.5)	(149)	(1.75)	(149)	(1.75)	(141)	(1.75)
<b>2. Training and Conferences</b>	2,478	8.0	3,287	8.0	4,014	8.0	3,551	7.5
Of Which Related to Transferred Projects	(204)		(187)		(187)		(343)	
<b>3. Information Services</b>	662	2.25	684	3.0	812	4.0	758	3.0
<b>4. General Administration</b>	1,668	6.0	1,994	6.0	2,012	6.0	2,000	6.0
<b>5. Plant Operations</b>	1,056	—	1,595	—	1,600	—	1,483	
<b>6. Sub-Total Programs</b>	17,887	70.0	20,776	74.75	22,822	82.75	20,765	78.75
Of Which Related to Transferred Projects	(457)	(2.5)	(752)	(3.75)	(752)	(3.75)	(752)	3.75
<b>7. Other</b>								
Contingency	—	—	199	—	221	—	210	—
<b>8. Total Core</b>	17,887	70.0	20,975	74.75	23,043	82.75	20,975	78.75
Of Which Related to Transferred Projects	(457)	(2.5)	(752)	(3.75)	(752)	(3.75)	(752)	(3.75)
<b>9. Total Extra Core</b>	2,195	10.25	3,000	12.5	3,000	12.0	3,000	11.5
<b>10. By Object of Expenditure</b>								
Salaries and Allowances	8,268		10,680		11,547		10,678	
Supplies and Services	6,557		6,072		6,853		6,023	
Fellowships	1,499		2,023		2,209		2,280	
Travel	1,563		2,200		2,434		1,994	
Total	17,887	70.0	20,975	74.75	23,043	82.75	20,975	78.75
Of Which Related to Transferred Projects	(457)	(2.5)	(752)	(3.75)	(752)	(3.75)	(752)	(3.75)

**Economics.** Only minor changes are expected as one headquarters staff moves to outreach and is replaced at mid-year by a new person. This falls in between the original brackets for 1984. Costs in this program, which are mainly dollar denominated, do not show any downturn from the original predictions.

**Research Support.** Additional staff (0.75 my) is due to a transferred project. Major additional costs are represented by maintenance, insurance and replacement supplies for the computer.

**Training.** Costs are above their 1983 level, but within the range stated in the budget bracket. The additional funds will be used to support post-doctoral fellows and graduate students.

**Information Services.** Costs in this area are somewhat higher than originally projected as two longer-term consultants have been contracted to develop materials for use in CIMMYT's training programs.

**General Administration and Plant Operations.** In total these units are less than their bottom of the bracket level.

### Core-Restricted Grants

During 1984, 14 donors will contribute to the core program on a restricted basis. These are listed below for information purposes, though some grants have not yet been confirmed.

Donor	Program	Amount US \$'s
France	Wheat/Maize	150,000
EEC	Andean Wheat and Maize	639,000
Netherlands*	Wheat Data Processing	124,800
Netherlands	Training	96,000
Japan	Wheat Southern Cone, Pathology, and Disease Surveillance	944,205
Ireland	Training	50,000
Rockefeller Foundation	Training	100,000
UNDP*	Tropical Wheat	503,160
UNDP	Quality Protein Maize	1,167,000
NORAD*	Training	50,000
GTZ*	Training	129,200
Switzerland	Central America Maize and Economics	754,000
OPEC Fund	Maize West Africa	225,000
IDRC*	Data Processing	52,000
<b>Total (including administrative fees)</b>		<b>4,984,365</b>

\* Indicates transferred project.

These total expected core-restricted contributions will amount to almost 25 percent of CIMMYT's core program. This is more than in previous years and is partially due to the transfer of some extra-core projects. A recent trend, however, is the restriction of funds for training activities. Also important is the fact that over 50 percent of regional program expenses are on a restricted basis. Taken together these contribute to reduced flexibility on the part of the Center and tend to force program reductions to occur in headquarters activities.

Core-restricted grants, however, do make a significant contribution towards general administration and operating expenses in the form of administrative fees paid on such grants. In 1984 these fees are projected to reach \$718,000, or 22 percent of administrative and operating expenses. This is approximately in line with the level of their contribution to core program activities.

### Extra-Core Grants

These are budgeted in 1984 to reach \$3,578,457 based on the following confirmed projects:

Donor	Program	Amount
USAID	Pakistan Maize and Wheat	343,487
USAID	Africa On-Farm Research	319,000
IBRD/PERU	Peru Wheat	118,500
CIDA	Bangladesh Wheat	549,700
CIDA	Ghana Maize	1,586,620
CIDA	Data Processing	10,250
CIDA	Haiti Economics	105,675
KSU/NASA	Training Wheat	40,550
UNDP	Turkey Wheat	131,675
Switzerland	Central America and Caribbean Maize Seed Production	323,000
Ford Foundation	Training Algeria Wheat	50,000
<b>Total (including administrative fees)</b>		<b>\$3,578,457</b>

In total, these extra-core programs amount to 15 percent of CIMMYT's core operations. Administrative fees charged to the donors represent 14 percent of general administrative and operating expenses.

## 1984 Plans: Core and Extra-Core Programs

As noted above CIMMYT is not just a core program; extra core projects also play a significant role in helping the institution carry out its mandate. In 1984 the total operating budget calls for \$20,975,000 to be spent on core activities and \$3,142,000 (not including administrative fees) on extra core projects for a total of \$24,117,000. Just over half of these total funds (core plus extra-core) are directed to headquarters activities, 10 percent is for regional programs, 17 percent for training fellowships, conferences, and training offices, and 9 percent for staff working in national programs. In core activities the greatest proportion is again in headquarters (62%). In extra-core the majority of funds (67%) are directed to national programs. Manpower plans for 1984 call for 78.75 my on core and 11.5 my on extra core for a total of 90.25 my.

The budget is summarized in the following table. Comments on the wheat, maize and economics programs, all of which have significant extra core components, are given below.

The total **Wheat Program** is projected to increase by 6 percent in 1984 with the bulk of this increase in training. The distribution of activities will remain approximately the same as in previous years: close to 50 percent in headquarters, 25 percent in training, 20 percent in regional programs, and 10 percent in national programs. In the latter case two new extra core staff will increase this proportion; 0.75 my in a World Bank/Peru project and 1.0 my in the Turkish national wheat research program.

During 1984, several aspects of the **Maize Program** are expected to increase. This is the result of a number of events converging at one time; the arrival of the new director of the program, the staffing of some positions unfilled from 1983, the staffing of headquarters positions in line with the external program review recommendation, and the initiation of Phase II the Ghana national maize project which contains large equipment purchases (over \$1.0 million) in the first year.

**The Economics Program** shows no major changes. Headquarters expenses are down somewhat as one transferred project is discontinued (policy seminars) and a staff replacement takes place in mid-year. Extra-core programs continue with the east African farming systems program and the Haitian national program entering their second year.

**1984 Budget Breakdown -Core and Extra-Core  
US \$'s000's**

	Core		1983 Actual Extra Core		Total		Core		1984 Current Estimate Extra Core		Total	
	Cost	My	Cost	My	Cost	My	Cost	My	Cost	My	Cost	My
<b>Wheat</b>												
Headquarters	3,759	14.75	55	0.5	3,814	15.25	3,688	16.0	—	—	3,688	16.0
Training	1,077	3.0	420	—	1,497	3.0	1,630	3.0	280	—	1,910	3.0
Regional Programs	1,516	9.25	—	—	1,516	9.25	1,675	10.0	—	—	1,675	10.0
National Programs	—	—	435	3.25	435	3.25	—	—	661	4.75	661	4.75
Sub-Total Wheat	6,352	27.0	910	3.75	7,262	30.75	6,993	29.0	941	4.75	7,934	33.75
<b>Maize</b>												
Headquarters	1,932	7.75	11	—	1,943	7.75	2,302	12.5	—	—	2,302	12.5
Training	1,009	3.0	185	—	1,194	3.0	1,588	2.5	202	—	1,790	2.5
Regional Programs	1,765	11.0	30	0.5	1,795	11.5	1,852	11.5	255	1.0	2,107	12.5
National Programs	—	—	569	3.0	569	3.0	—	—	1,366	2.75	1,366	2.75
Sub-Total Maize	4,706	21.75	795	3.5	5,501	25.25	5,742	26.5	1,823	3.75	7,565	30.25
<b>Economics</b>												
Headquarters	507	2.0	—	—	507	2.0	319	1.5	—	—	319	1.5
Training	238	1.0	27	—	265	1.0	215	1.0	82	—	297	1.0
Regional Programs	396	3.0	192	2.0	588	5.0	625	4.0	212	2.0	837	6.0
National Programs	—	—	84	1.0	84	1.0	—	—	75	1.0	75	1.0
Sub-Total Economics	1,141	6.0	303	3.0	1,444	9.0	1,159	6.5	369	3.0	1,528	9.5
<b>Research Support</b>												
Headquarters	2,148	6.0	48	—	2,196	6.0	2,512	6.75	9	—	2,521	6.75
Training	154	1.0	—	—	154	1.0	118	1.0	—	—	118	1.0
Sub-Total Res. Sup.	2,302	7.0	48	—	2,350	7.0	2,630	7.75	9	—	2,639	7.75
<b>Information Services</b>												
Headquarters	662	2.25	—	—	662	2.25	758	3.0	—	—	758	3.0
<b>General Administration</b>												
Headquarters	1,668	6.0	—	—	1,668	6.0	2,000	6.0	—	—	2,000	6.0
<b>Plant Operations</b>												
Headquarters	1,056	—	—	—	1,056	—	1,483	—	—	—	1,483	—
<b>Contingency</b>												
Headquarters	—	—	—	—	—	—	210	—	—	—	663	—
<b>Total Headquarters</b>	<b>11,732</b>	<b>38.75</b>	<b>114</b>	<b>0.5</b>	<b>11,846</b>	<b>39.25</b>	<b>13,272</b>	<b>45.75</b>	<b>9</b>	<b>—</b>	<b>13,281</b>	<b>45.75</b>
<b>Total Training and Conf.</b>	<b>2,478</b>	<b>8.0</b>	<b>632</b>	<b>—</b>	<b>3,110</b>	<b>8.0</b>	<b>3,551</b>	<b>7.5</b>	<b>564</b>	<b>—</b>	<b>4,115</b>	<b>7.5</b>
<b>Total Regional Programs</b>	<b>3,677</b>	<b>23.25</b>	<b>222</b>	<b>2.5</b>	<b>3,899</b>	<b>25.75</b>	<b>4,152</b>	<b>25.5</b>	<b>467</b>	<b>3.0</b>	<b>4,619</b>	<b>28.5</b>
<b>Total National Programs</b>	<b>—</b>	<b>—</b>	<b>1,088</b>	<b>7.25</b>	<b>1,088</b>	<b>7.25</b>	<b>—</b>	<b>—</b>	<b>2,102</b>	<b>8.5</b>	<b>2,102</b>	<b>8.5</b>
<b>Grand Total</b>	<b>17,887</b>	<b>70.0</b>	<b>2,056</b>	<b>10.25</b>	<b>19,943</b>	<b>80.25</b>	<b>20,975</b>	<b>78.75</b>	<b>3,142</b>	<b>11.5</b>	<b>24,117</b>	<b>90.25</b>



## 1985 Budget Request

### A Look at the Budget Request

The 1985 budget request is the result of a number of discussions that have taken place both within and without CIMMYT in the last twelve months. First and foremost among these have been the management plans submitted for trustee approval. Compliance with the recommendations of the external program review, staffing and program changes in Maize research, and an intensive in-depth review of training have all figured prominently in these discussions. The Technical Advisory Committee (TAC) of the CGIAR has also had the opportunity to discuss CIMMYT's program of work. Institutional and system wide priorities and inter-Center cooperation (e.g. CIMMYT/IITA and CIMMYT/ICARDA) were the major topics of discussion. Finally these program priorities, plans, and activities have been related to what is believed to be a realistic assessment of funds likely to be available in 1985. This estimate has been provided mainly by the CGIAR/Secretariat.

As in past years the end result of these deliberations has been the recommendation of a budget bracket for each Center for consideration by the donor members of the CGIAR. This is described briefly below and in detail in the sections that follow.

1985 Budget Alternatives US \$'s 000's	1984 Current Estimate		1985 Bottom of Bracket		1985 Top of Bracket	
	Cost	My	Cost	My	Cost	My
Operations 1984 \$'s	20,975	78.75	20,406	76.0	21,559	84.0
Of Which Transferred						
Projects	752	(3.75)	(651)	(3.0)	(651)	(3.0)
Inflation/Exchange	—	—	2,245	—	2,371	—
Sub-Total 1985 \$'s	20,975	78.75	22,651	76.0	23,930	84.0
Capital	400	—	387	—	424	—
Grand Total	21,375	78.75	23,038	76.0	24,354	84.0

### Financial Planning

The 11 percent increase for inflation and exchange rates used in the 1985 budget request is a relatively fixed figure based on discussions between the center and the CGIAR/Secretariat. For CIMMYT the figure assumes a 50/50 split between operating expenditures in Mexican pesos and US dollars (other currencies are insignificant), a 60 percent rate of inflation in Mexico, a 40 percent depreciation of the peso against the dollar (which gives a 14 percent rate of inflation in Mexico expressed in dollars), and a 7.5 percent inflation in the OECD countries.

The stabilization fund is intended to remove much of the guesswork about inflation and exchange rate that results from making predictions one to two years in advance. Under this new set of operating procedures adjustments for inflation and exchange rates can be made just prior to, or even during the operating year. This should help a center forecast its financial needs on a timely basis with greater accuracy.

In light of this CIMMYT has adopted the strategy of showing in its budget request the minimum amount likely to be required in 1985 in nominal dollars, i.e., using the 11 percent figure as given by the CGIAR/Secretariat, and to treat any requirement above that as a drawdown on the stabilization fund. The advantage in this is twofold:

- 1) it signals to the CGIAR CIMMYT's minimum requirements and thereby assists in planning at the system level.
- 2) by moving inflation and exchange rate planning closer to the operating year in question it will likely result for CIMMYT in a more realistic operating budget, and one less subject to inflation and exchange rate swings.

### Transferred Projects

The 1985 budget base includes four projects that have been transferred from extra core. These are shown in the table on the following page. In 1985 program funds from these projects amount to \$579,040, inflation and exchange rates \$72,335, and administrative fees \$101,795 for a total of \$753,170.

Over half of the funds from these transferred projects are utilized in the tropical wheat program with two international staff assigned. The second largest project is for a computer programmer assigned to work on database development for the wheat program. The remaining two programs are for training including post-doctoral fellows, visiting scientists, and in-service trainees.

## List of Transferred Projects, 1983-1987

	1983		1984 Current Estimate		1985		1986		1987	
	Actual Cost	My	Cost	My	Budget Cost	My	Budget Cost	My	Budget Cost	My
<b>UNDP:</b>										
Tropical Wheat Program	237,217		437,530		368,915		440,460		197,975	
Inflation <sup>1/</sup>	—	—	—		55,335		132,140		95,025	
Admin. Fees	35,583		65,630		63,670		85,900		44,010	
Sub-Total	272,800	1.0	503,160	2.0	487,920	2.0	658,500	2.0	337,010	1.0
<b>Norway:</b>										
Training Program <sup>2/</sup>	66,695		40,000		40,000		40,000		40,000	
Inflation <sup>1/</sup>	—		—		—		—		—	
Admin. Fees	10,003		10,000		10,000		10,000		10,000	
Sub-Total	76,698	-0-	50,000	-0-	50,000	-0-	50,000	-0-	50,000	
<b>FF:</b>										
On Farm Research Trg. Program	33,862		21,138							
Inflation <sup>1/</sup>	—		—							
Admin. Fees	5,079		3,171							
Sub-Total	38,941	-0-	24,309	-0-						
<b>Germany:</b>										
Post Doc's (Wheat) Program	25,125		112,350		54,125					
Inflation <sup>1/</sup>	—		—		—					
Admin. Fees	3,769		16,850		8,125					
Sub-Total	28,894	-0-	129,200	-0-	62,250	-0-				
<b>IDRC:</b>										
Data Processing Program	62,255		41,000							
Inflation <sup>1/</sup>	—		—							
Admin. Fees	16,439		11,000							
Sub-Total	78,694	1.0	52,000	0.75						
<b>Netherlands:</b>										
Data Processing Program	32,033		100,000		116,000					
Inflation <sup>1/</sup>	—		—		17,000					
Admin. Fees	8,008		24,800		20,000					
Sub-Total	40,041	0.5	124,800	1.0	153,000	1.0				
<b>All Programs</b>	<b>457,187</b>		<b>752,018</b>		<b>579,040</b>		<b>480,460</b>		<b>237,975</b>	
Inflation <sup>1/</sup>	—		—		72,335		132,140		95,025	
Admin. Fees	78,881		131,451		101,795		95,900		54,010	
<b>Total</b>	<b>536,068</b>	<b>2.5</b>	<b>883,469</b>	<b>3.75</b>	<b>753,170</b>	<b>3.0</b>	<b>708,500</b>	<b>2.0</b>	<b>387,010</b>	<b>1.0</b>

<sup>1/</sup> 14<sup>0</sup>/o p.a. throughout

<sup>2/</sup> Contributions beyond 1984 are estimates only.

## Core Programs in Detail

### Wheat Program

Wheat research at CIMMYT (now principally covering bread wheat, durum wheat, and triticale) is oriented fundamentally to crop improvement for the small grains producing areas of the developing world. The program stresses the following research objectives:

- high yield potential
- yield dependability
- disease resistance
- broad adaptation
- increased production in marginal areas through the development of varieties that exhibit earliness, resistance to temperature and moisture stress, and ability to perform where certain soil constraints exist.

Research activities to fulfill these objectives involve CIMMYT scientists in Mexico and regional and national programs, trainees and visiting scientists, a vast international testing network and collaborating scientists around the world. In its organizational framework the wheat program utilizes a modified matrix system that stresses crop improvement supported by a team of disciplinary researchers.

The three major components of the program, Improvement, Regional Programs and Research and Management Support, are described below.

### Improvement <sup>1/</sup>

	1984		1985		1985	
	Current Cost	Estimate My	Bottom of Bracket Cost	Top of Bracket My	Top of Bracket Cost	My
Bread Wheat	361	1.0	361	1.0	361	1.0
Durum Wheat	148	1.0	159	1.0	159	1.0
Barley <sup>2/</sup>	111	1.0	100	-0-	100	-0-
Triticale	228	1.0	228	1.0	228	1.0
Tropical Wheat	268	2.0	250	2.0	250	2.0
<b>Total</b>	<b>1,116</b>	<b>6.0</b>	<b>1,098</b>	<b>5.0</b>	<b>1,098</b>	<b>5.0</b>

<sup>1/</sup> All the tables describing core programs are shown in 1984 dollars (000's)

<sup>2/</sup> Reciprocal agreement with ICARDA, CIMMYT now provides logistical support plus \$100,000 operating support for barley improvement.

**Program Commentary.** There are many similarities in the breeding approaches used at CIMMYT for bread wheat, durum wheat, and triticale crop improvement (Tropical wheat, though a sub-set of bread wheat is somewhat of a special case and is described later). These include:

- 1) The making of large numbers of crosses each breeding cycle using as parents a broad range of genetic sources collected from many areas of the world;
- 2) the screening of segregating populations in two widely contrasting ecological environments in Mexico, completing two cycles of selection per year;
- 3) heavy artificial inoculation of breeding materials with important disease-causing pathogens found in Mexico, in order to select for resistance;
- 4) international testing and screening of F<sub>2</sub> populations and advanced lines at more than 150 locations worldwide each year.

Screening and selection of materials is carried out in Mexico following a shuttle breeding method at two locations: CIANO, Ciudad Obregón, State of Sonora (27°N, 40m. above sea level) and Toluca, State of Mexico (19°N, 2649m. above sea level). These two locations differ in soil type, rainfall patterns, temperature,

photoperiodism and whether daylength is increasing or decreasing during the early weeks of seedling development. Only those breeding materials that withstand the rigors of both environments are advanced in the CIMMYT system.

The tropical wheat program follows a similar breeding methodology. It also has the same general research objectives, but has a more specific geographical target area: between 0° and 23° latitude, north and south, and from 0 to 1,000 meters in elevation. This includes hot dry climates and subtropical areas with greater humidity. One scientist on this project is based in Mexico while the other scientist in the tropical wheat program is based in Bangkok, Thailand. This enables him to be closer to some of the target countries and facilitates the shuttle breeding effort.

**Budget Commentary.** The distribution of the direct costs is heavily weighted (63%) to salaries and benefits for the six international staff and twenty-five research and field assistants in the program. Another important cost component is that related to the winter operations in Ciudad Obregón.

One major change is contemplated for 1985, the result of an agreement between CIMMYT and ICARDA on research responsibilities in barley and durum wheat. Beginning in 1985 an ICARDA barley scientist will be stationed at CIMMYT in Mexico with CIMMYT contributing \$100,000 to the program's operating costs. The same arrangement, i.e. on research responsibility and financial support, will exist for a CIMMYT durum wheat scientist stationed at ICARDA in Syria.

Funds for these wheat improvement programs are predominantly from core-unrestricted sources. Bread wheat and triticale receive small amounts (\$66,000 total) on an annual basis from a core restricted donor. The Tropical Wheat program, as a transferred project is also a core restricted project. It is scheduled to run through mid-1987, with the possibility of a subsequent renewal.

### Regional Programs

1984		1985		1985	
Current Estimate		Bottom of Bracket		Top of Bracket	
Cost	My	Cost	My	Cost	My
1,675	10.0	1,675	10.0	1,775	11.0

**Program Commentary.** Six regional programs are programmed for 1985: South and Southeast Asia, Middle East (based at ICARDA), North and West Africa, East Africa, the Andean region of South America, and the Southern Cone of South America. Regionally assigned staff serve principally as liaison between headquarters research activities and those of collaborating national programs. Regional disease screening programs, surveillance nurseries, and regional yield trials are other important functions performed by regional staff.

**Budget Commentary.** At the bottom of the bracket there would be no net change in international staff compared to 1984, but there would be internal shifts. At the forward level the only increase over 1984 would be represented by the durum wheat breeder. This would leave the following staff deployment in the wheat regional programs: 2.0 my Andean, 2.0 my So. Cone, 1.0 my East Africa, 2.0 my North and West Africa, 2.0 my Southeast Asia and 2.0 my ICARDA region, 11.0 my total.

Approximately 30 percent of the wheat program's resources are allocated to regional programs throughout 1984 and 1985, under all scenarios.

Core restricted grants for regional programs represent almost 60% of funding for these activities. Both the Andean and Southern Cone programs are funded in this manner. In the former, the grant is for three years (1983-1985) and in the latter funds are given on an annual basis.

**Research and Management Support**

1984		1985		1985	
Current Estimate		Bottom of Bracket		Top of Bracket	
Cost	My	Cost	My	Cost	My
2,572	10.0	2,472	10.0	2,472	10.0

**Program Commentary.** Research and management support units include the Office of the Director, Germplasm Bank, International Nurseries, Cooperative Programs, Wide Crosses, Support to National Programs, Pathology and Disease Surveillance.

International Nurseries can be described as the hub of the CIMMYT germplasm network. The most widely distributed international nurseries are the various screening and yield nurseries assembled using cultivars and advanced lines of bread wheat, durum wheat, triticale and barley. In recent years, CIMMYT has received more requests for early generation (F<sub>2</sub>) materials, and, when possible, has shared its segregating germplasm with scientists around the world.

Wide cross research is carried out between wheat and several related species of wild grasses to confer greater resistance to certain diseases, such as helminthosporium and fusarium, and tolerances to various stress situations such as soil salinity.

Pathology research at headquarters concentrates on the development of germplasm with resistance to the major small grain diseases of widespread economic consequences, namely the rusts and septoria. Additional disease problems of economic consequence in some major production areas, such as helminthosporium, fusarium, barley yellow dwarf virus, rychnosporium, leaf rust of barley and karnal bunt, are now receiving increased attention in pathology research.

Agronomy research concentrates on two major areas: 1) the development of procedures for crop management research, and 2) crop physiology directed at improving the selection criteria used to develop germplasm with greater tolerance to environmental stresses.

All the research and management support units play important roles in the wheat program in a number of ways, such as providing disciplinary research input to the crop improvement programs, backstopping support to all units, and assistance to regional and national programs.

**Budget Commentary.** No major changes are planned in 1985.

Close to 20 percent of these programs are on a core-restricted basis, with the funds granted on an annual basis.

**Maize Program**

The CIMMYT maize program is engaged in maize improvement activities to serve a wide range of production circumstances and consumer preferences. The program seeks to develop broadly adapted materials with high yield potential as well as enhanced stability of yield when grown under various combinations of agroclimatic stress conditions.

CIMMYT's primary maize improvement emphasis is on the development of broadly-based gene pools and populations leading to the development of superior varieties in both normal and quality protein materials. It is a multi-stage process with a continuous and systematic flow of genetic materials from CIMMYT's germplasm development program to the farmers fields with national programs participating as full research collaborators. There are four main stages in CIMMYT's maize improvement system:

- 1) Development and improvement of broadly-based gene pools for different specified areas of the world.
- 2) Improvement and refinement of populations with upgraded materials from corresponding pools.
- 3) Multi-locational testing for selection of superior and broadly adapted progenies for continued improvement of maize populations as well as for the selection of the most superior families for the development of experimental varieties.
- 4) International testing of superior experimental varieties leading to their use by farmers.

The Improvement, Regional and Research and Management Support programs are described below.

**Improvement**

1984		1985		1985	
Current Estimate	Bottom of Bracket	Bottom of Bracket		Top of Bracket	
Cost	My	Cost	My	Cost	My
1,310	8.5	946	6.0	1,310	9.0

**Program Commentary.** This unit includes breeding, plant protection, physiology/agronomy and collaborative research activities.

Development of gene pools and populations are important components of the maize improvement research. At present 29 tropical and subtropical normal pools, 4 temperate zone and 13 quality protein maize gene pools have been formed and are continually being improved using relatively mild selection pressure for a range of characteristics. The superior fractions of

improved pool materials contribute new germplasm sources for CIMMYT's more advanced maize populations. At present CIMMYT has 23 normal and 10 quality protein maize advanced populations undergoing improvement. The nomenclature "population" refers to more refined germplasm groups which have undergone a higher selection pressure and are more uniform.

Populations are grown and improved in Mexico for three generations; in the fourth generation (or once every two years) they are tested internationally at six locations. Most populations now have acceptable plant height, high yield potential and improved standability. Greater emphasis is now being given to disease and insect resistance, earlier maturity and tolerance to agroclimatic stress. Nutritional quality is also an important element in the improvement program.

**Budget Commentary.** For several years now the maize improvement program has been understaffed, at least partly because of financial constraints. Significant growth is projected for 1984, but the bracket recommendation for 1985 places this in jeopardy. At the bottom level the program would be reduced considerably. Three international staff positions would be cut, one each in breeding plant protection and physiology/agronomy. At the top of the bracket there would be no net change from 1984.

The program counts on two sources of core restricted funds, one in quality protein and a second in collaborative research. Together they account for just under 20 percent of funds in 1984, though this is expected to decline in 1985, as the quality protein maize grant is re-structured.

**Regional Programs**

1984		1985		1985	
Current Estimate	Bottom of Bracket	Bottom of Bracket		Top of Bracket	
Cost	My	Cost	My	Cost	My
1,852	11.5	2,009	13.0	2,009	13.0

**Program Commentary.** In 1984 maize staff are assigned to regional programs in the Andean (3.0 my, including 1.0 specializing in the improvement of highland materials), Central America, Mexico and the Caribbean (3.0 my), E. Africa (1.0 my), W. Africa at IITA (1.5 my), Asia (2.0 my) and the Middle East (1.0 my). Like their wheat counterparts maize regional staff provide liason services as well as perform research functions on some diseases (e.g. downy mildew, streak virus) that are not normally prevalent in Mexico.

For 1984, at the top and bottom of the bracket, 1.5 my would be added, the result of a staff year annualization and the addition of a maize breeder, both in the West Africa region. The additional breeder would receive a joint appointment from IITA and CIMMYT and would be designated the Joint Coordinator for the western and central region of Africa. In 1985 costs would be split between IITA and CIMMYT.

**Budget Commentary.** One major change is scheduled for 1985. This involves the appointment of a joint CIMMYT/IITA maize coordinator for western and central Africa. This change is the result of lengthy discussions and represents a major step in a coordinated maize improvement program for the region.

Well over half of the maize regional program expenses are on a core restricted basis. Only one of these programs is likely to be passed to unrestricted funds in the near future.

#### Research and Management Support

1984		1985		1985	
Current Estimate		Bottom of Bracket		Top of Bracket	
Cost	My	Cost	My	Cost	My
992	4.0	1,048	4.0	1,130	5.0

**Program Commentary.** This unit includes the office of the maize director, wide crosses and international testing. As in wheat, the international testing program provides vital support to both the maize improvement and regional (and national) programs.

CIMMYT's maize populations enter into the international testing program once the judgement has been made that they have reached a level of refinement to offer superior germplasm for some part of the developing world. There are three stages in this program.

- 1) **International Progeny Testing Trials (IPTTs)** in which CIMMYT selects 250 progenies from each of its advanced populations (only half of the populations are tested internationally each year) and sends this seed for testing by collaborators at six sites worldwide, chosen on the basis of the suitability of the environment for the particular population in question. From each trial, the collaborator chooses the 10 best performing families on the basis of yield potential, agronomic type, days to flowering, and resistance to diseases, insects and lodging.
- 2) CIMMYT breeders then create an experimental variety by intercrossing these 10 families in all possible combinations. The experimental varieties that are developed are advanced to the F<sub>2</sub> generation and then assembled into **experimental variety trials (EVTs)** which are widely tested in the following year at dozens of locations in the developing world.
- 3) The best performing experimental varieties identified across the 40-80 EVT locations are later assembled into **elite variety trials (ELVTs)** which are again distributed widely throughout the developing world on an individual request basis. Generally less than 25 percent of all EVT's are selected for inclusion in ELVTs. With the development of these elite varieties, CIMMYT's direct involvement in varietal development ends. National programs are free to use the elite varieties as they see fit, either as breeding materials or as potential cultivars for direct commercial release to farmers.

One other source of important support to the improvement program is the wide cross research. The objective here is to improve the environmental stability of maize in terms of disease and insect resistance and tolerance to moisture stresses such as drought and waterlogging through the introduction of alien genes from other species which have resistance or tolerance to these problems. This has a potentially large impact on the program.

**Budget Commentary.** At the bottom of the bracket the wide crosses program would be curtailed. This would leave no senior scientists in the program. One staff member, however, would be added in germplasm activities. This addition is in line with the recommendation of the external review panel and the Technical Advisory Committee (TAC) of the CGIAR.

### Economics Program

Four inter-related sets of activities are undertaken by CIMMYT economists. These are:

- 1) Development of economic research procedures for analyzing the production circumstances of maize and wheat farmers.
- 2) Training of national collaborators in certain aspects of on-farm research, including survey techniques to assess farmers' circumstances and economic analytical techniques to evaluate agronomic research data related to production recommendations.
- 3) Compilation and analysis of data related to country level, regional, and global trends in maize and wheat production, utilization, prices and trade as a background for CIMMYT's own resource allocation decisions.
- 4) Collaborative research activities with CIMMYT and national program scientists (mainly through regional programs) to develop and demonstrate economics related procedures needed by successful on-farm research programs.

	1984		1985		1985	
	Current Estimate Cost	My	Bottom of Bracket Cost	My	Top of Bracket Cost	My
Headquarters	319	1.5	369	2.0	369	2.0
Regional Programs	625	4.0	475	3.0	575	4.0
Total	944	5.5	844	5.0	944	6.0

**Budget Commentary.** At the bottom of the bracket one regional economist would be cut. This would leave three staff in the regions, one each in Asia, Africa and Central America and the Caribbean. At the top of the bracket the 1984 staffing pattern would remain the same. This would leave an additional economist assigned to the Asian region to give 2.0 my in the program. The other budgetary shift in the program occurs with the allocation of more resources to headquarter's activities.

In previous years all of the Economics regional programs were funded by core-restricted donors. Beginning in 1984 more of these programs will move to unrestricted arrangements. This will provide greater flexibility in planning.

### Research Support

	1984		1985		1985	
	Current Estimate Cost	My	Bottom of Bracket Cost	My	Top of Bracket Cost	My
Laboratories	531	2.0	531	2.0	531	2.0
Seed Health	—	—	—	—	150	1.0
Experiment Station	1,396	2.0	1,396	2.0	1,396	2.0
Data Processing	585	2.75	567	2.0	567	2.0
Total	2,512	6.75	2,494	6.0	2,644	7.0

**Program Commentary.** Laboratories perform a variety of services for programs including protein and protein quality evaluations (mainly maize) and milling and baking evaluations (mainly small grains). Another very important activity is the screening of maize and small grains seedlings for aluminum toxicity. The experiment stations unit manages four major CIMMYT owned stations located in different ecological areas of Mexico. Data processing is a relatively new and rapidly growing unit within CIMMYT. It provides computing and statistical services.

**Budget Commentary.** The dollar costs of these units are expected to remain stable, as all are largely peso denominated. They also employ large numbers of local staff, with over seventy permanent employees. In addition the experiment stations are major contractors of daily laborers.

Some changes are foreseen for the unit. In 1984 one of two transferred projects drops out in data processing leaving two international staff in the unit. In 1985 at the top of the bracket a seed health pathologist is planned for the staff. This person will work in both the maize and wheat programs and operate large greenhouse and laboratory operations.

By 1985, it is expected that only one project will be supported by a core restricted donor, this being a grant for the services of a computer programmer. It is scheduled for possible termination at the end of 1985.



## Training and Conferences

	1984		1985		1985	
	Current Estimate Cost	My	Bottom of Bracket Cost	My	Top of Bracket Cost	My
Offices (incl. staff)	962	7.5	998	8.0	1,148	9.0
Fellowships	2,280	—	2,072	—	2,266	—
Conferences	309	—	309	—	309	—
Total	3,551	7.5	3,379	8.0	3,723	9.0

**Program Commentary.** CIMMYT offers a wide range of fellowship opportunities for agricultural researchers. In-service training for individuals in mid-career, visiting scientist fellowships, postgraduate awards, and post-doctoral assignments are the many ways CIMMYT fulfills its training objectives. Conferences sponsored during the year are another important mode for conveying CIMMYT's research procedures and results and of exchanging ideas with the scientific community.

**Budget Commentary.** CIMMYT places a high priority on training. In previous years it has permitted core training funds to decrease somewhat but for 1985 training reductions are kept to a minimum. The top of the bracket

also includes a training coordinator, which was one of the recommendations of the external program review.

In recent years fellowships have been allocated as follows: post-doctorals 30 percent, in-service 37 percent, graduate 7 percent, and visiting scientists 24 percent. At the forward level the additional funds would be used primarily to increase the number of fellowships for visiting scientists.

Also in recent years core-restricted grants have played a more important role in training activities. In 1984 they are projected to account for just over 30 percent of expenses.

## Information Services

1984		1985		1985	
Current Estimate Cost	My	Bottom of Bracket Cost	My	Top of Bracket Cost	My
758	3.0	758	3.0	758	3.0

**Program Commentary.** The information unit encompasses visitors services, publications, audio-visuals and library. All the international staff are assigned to the publications unit, with one person functioning as coordinator and the others working as writer/editors. They, and the other units in information services, play an important role in linking CIMMYT with its various clientele groups such as national research and production programs throughout the world, donors, and other scientists. In 1983 the unit published 33 titles in English, Spanish and French.

**Budget Commentary.** No changes are foreseen in 1985. No core restricted grants are provided to the unit.

## General Administration and Plant Operations

	1984		1985		1985	
	Current Estimate Cost	My	Bottom of Bracket Cost	My	Top of Bracket Cost	My
General Admin.	2,000	6.0	2,000	6.0	2,000	6.0
Plant Operations	1,483	—	1,483	—	1,483	—
Total	3,483	6.0	3,483	6.0	3,483	6.0

**Budget Commentary.** These units are projected to account for approximately 17 percent of total core operating costs during the period (the figure is 14 percent if one considers extra core projects). This is well below CIMMYT's self-imposed upper limit of 20 percent and is partially due to the fact that many of the units are peso denominated. Over 175 local staff are employed here. Salary and salary-related costs dominate.

### 1985 Plans: Core-and Extra-Core Programs

Many of these grants are given on an annual basis. Other continuing type grants terminate in mid-year or require lengthy review and negotiation before they may be renewed. It is, therefore, difficult to predict well into the future what the level of certain core-restricted and extra-core grants might be. For 1985, CIMMYT has assumed that the following will be core restricted or extra-core donors to the institution.

The integration of core-and extra-core plans provides a useful insight in CIMMYT's total research and training efforts and the structure of all its activities. The following table shows these core-and extra-core budgets for 1985.

#### Core-Restricted

Donor	Program	Pledge
EEC	Andean Region Maize and Wheat Bread Wheat and Triticale	1983-1985
France	Maize Collaborative Research	Annual
Netherlands	Data Processing	1983-1985
Netherlands	Training	Annual
Japan	Wheat Southern Cone Pathology and Disease Surveillance	Annual
Ireland	Training	Annual
Rockefeller Foundation	Training	Annual
UNDP	Tropical Wheat	1982-1987
UNDP	Quality Protein Maize (Phase V)	Not confirmed
NORAD	Training	Annual
GTZ	Training	1983-1985
Switzerland	Central America Maize and Economics	1982-1984
OPEC Fund	Maize West Africa	Annual

#### Extra-Core

USAID	Pakistan Maize and Wheat	Not confirmed
USAID	Africa Farming Systems Research	Not confirmed
IBRD/Peru	Peru Wheat	1983-1985
CIDA	Bangladesh Wheat	1982-1987
CIDA	Ghana Maize Phase II	1984-1986
CIDA	Haiti Economics	Not confirmed
KSU/NASA	Training Wheat	Annual
UNDP	Turkey Wheat	1984-1985
Switzerland	Central America Seed Production	1983-1985

**1985 Budget Breakdown-Core and Extra-Core  
1984 US \$'000's**

	1985 Bottom of Bracket						1985 Top of Bracket					
	Core Cost	My	Extra Core Cost	My	Total Cost	My	Core Cost	My	Extra Core Cost	My	Total Cost	My
<b>Wheat</b>												
Headquarters	3,570	15.0	—	—	3,570	15.0	3,570	15.0	—	—	3,570	15.0
Training	1,501	3.0	350	—	1,851	3.0	1,598	3.0	350	—	1,948	3.0
Regional Programs	1,675	10.0	—	—	1,675	10.0	1,775	11.0	—	—	1,775	11.0
National Programs	—	—	750	5.0	750	5.0	—	—	750	5.0	750	5.0
<b>Sub-Total Wheat</b>	<b>6,746</b>	<b>28.0</b>	<b>1,100</b>	<b>5.0</b>	<b>7,846</b>	<b>33.0</b>	<b>6,943</b>	<b>29.0</b>	<b>1,100</b>	<b>5.0</b>	<b>8,043</b>	<b>34.0</b>
<b>Maize</b>												
Headquarters	1,994	10.0	—	—	1,994	10.0	2,440	14.0	—	—	2,440	14.0
Training	1,565	3.0	400	—	1,965	3.0	1,662	3.0	400	—	2,062	3.0
Regional Programs	2,009	13.0	265	1.0	2,274	14.0	2,009	13.0	265	1.0	2,274	14.0
National Programs	—	—	1,182	3.0	1,182	3.0	—	—	1,182	3.0	1,182	3.0
<b>Sub-Total Maize</b>	<b>5,568</b>	<b>26.0</b>	<b>1,847</b>	<b>4.0</b>	<b>7,415</b>	<b>30.0</b>	<b>6,111</b>	<b>30.0</b>	<b>1,847</b>	<b>4.0</b>	<b>7,958</b>	<b>34.0</b>
<b>Economics</b>												
Headquarters	369	2.0	—	—	369	2.0	369	2.0	—	—	369	2.0
Training	475	1.0	50	—	234	1.0	215	1.0	50	—	265	1.0
Regional Programs	475	3.0	250	2.0	725	5.0	575	4.0	250	2.0	825	6.0
National Programs	—	—	100	1.0	100	1.0	—	—	100	1.0	100	1.0
<b>Sub-Total Economics</b>	<b>1,028</b>	<b>6.0</b>	<b>400</b>	<b>3.0</b>	<b>1,428</b>	<b>9.0</b>	<b>1,159</b>	<b>7.0</b>	<b>400</b>	<b>3.0</b>	<b>1,559</b>	<b>10.0</b>
<b>Research Support</b>												
Headquarters	2,494	6.0	—	—	2,494	6.0	2,644	7.0	—	—	2,644	7.0
Training	129	1.0	—	—	129	1.0	248	2.0	—	—	248	2.0
<b>Sub-Total Res. Sup.</b>	<b>2,623</b>	<b>7.0</b>	<b>—</b>	<b>—</b>	<b>2,623</b>	<b>7.0</b>	<b>2,892</b>	<b>9.0</b>	<b>—</b>	<b>—</b>	<b>2,892</b>	<b>9.0</b>
<b>Information Services</b>												
Headquarters	758	3.0	—	—	758	3.0	758	3.0	—	—	758	3.0
<b>General Administration</b>												
Headquarters	2,000	6.0	—	—	2,000	6.0	2,000	6.0	—	—	2,000	6.0
<b>Plant Operations</b>												
Headquarters	1,483	—	—	—	1,483	—	1,483	—	—	—	1,483	—
<b>Total Headquarters</b>	<b>12,668</b>	<b>42.0</b>	<b>—</b>	<b>—</b>	<b>12,668</b>	<b>42.0</b>	<b>13,264</b>	<b>47.0</b>	<b>—</b>	<b>—</b>	<b>13,264</b>	<b>47.0</b>
<b>Total Training and Conf.</b>	<b>3,379</b>	<b>8.0</b>	<b>800</b>	<b>—</b>	<b>4,179</b>	<b>8.0</b>	<b>3,723</b>	<b>9.0</b>	<b>800</b>	<b>—</b>	<b>4,523</b>	<b>9.0</b>
<b>Total Regional Programs</b>	<b>4,159</b>	<b>26.0</b>	<b>515</b>	<b>3.0</b>	<b>4,674</b>	<b>29.0</b>	<b>4,359</b>	<b>28.0</b>	<b>515</b>	<b>3.0</b>	<b>4,874</b>	<b>31.0</b>
<b>Total National Programs</b>	<b>—</b>	<b>—</b>	<b>2,032</b>	<b>9.0</b>	<b>2,032</b>	<b>9.0</b>	<b>—</b>	<b>—</b>	<b>2,032</b>	<b>9.0</b>	<b>2,032</b>	<b>9.0</b>
<b>Grand Total</b>	<b>20,206</b>	<b>76.0</b>	<b>3,347</b>	<b>12.0</b>	<b>23,553</b>	<b>88.0</b>	<b>21,346</b>	<b>84.0</b>	<b>3,347</b>	<b>12.0</b>	<b>24,693</b>	<b>96.0</b>

Under both the fallback and forward scenarios the distribution of total expenses remains approximately the same: 54 percent headquarters, 19 percent training, 19 percent regional programs and 8 percent national programs. At the forward level the allocation for training is slightly higher.

Direct research costs at headquarters for the maize, wheat and economics programs accounts for just over 25 percent of total costs; including research support in this amount increases that percentage to 37 percent.

No major changes in extra core programs are shown for 1985, only the expected annualization of maize and wheat staff assigned to the Pakistan national program. During the year 12.0 my are programmed for extra core projects distributed as follows.

#### Capital Requirements

As a well established institute CIMMYT's re-occurring capital needs are modest. Its physical plant is largely complete, and its capital equipment needs are not large. As CIMMYT enters its second decade in its current site what are most urgently needed are funds for maintenance and renovation of buildings and replacement of equipment. These are largely met with program funds in accordance with CGIAR rules, mainly in the budgets of experiment stations, general administration, and plant operations.

In recent years the capital budget has been utilized to purchase data and word processing equipment, and to make building and site improvements at the experiment stations and headquarters building.

Wheat		Maize		Economics	
Pakistan	1.0	Pakistan	1.0	Haiti	1.0
Turkey	1.0	Ghana	2.0	E. Africa Farming Systems Research	2.0
Bangladesh	2.0	Central America Seed Project	1.0		
Peru	1.0				
Total	5.0	Total	4.0	Total	3.0

## 1986 Proposed Budget

This budget request would normally include 1986 as the second year of CIMMYT's budget biennium. In the budgetary guidelines issued in January, the CGIAR/Secretariat stated that for centers such as CIMMYT the preparation of a second year budget is optional. This is in expectation of new reporting procedures that are hoped to be a major outcome of the CGIAR Budgeting and Financial Reporting study.

CIMMYT has decided to present a proposed budget for 1986 but to do it outside the usual framework of a biennial budget. The reason for this is mainly that the format suggested using a budget base for 1986 provides no opportunity for the Center to show any program additions in 1986. The budget base for 1986 is the same as the base for 1985 which is the same as the 1984 bottom of the bracket. The only additions are increments for inflation and exchange rates. This

suggests that those Centers that wish to show program changes must do so outside the framework of the customary Biennial Budget. Thus CIMMYT is portraying a 1986 proposed budget of 90.0 man years and an operating level (in 1984 dollars) \$22,693,000.

This 1986 proposed budget is shown below. (and in Table I of the Budget Tables).

The 1986 budget seeks to build upon the momentum achieved in 1985 at the top of the bracket. The staffing plan calls for the attainment of the minimum optimum (mini/opt) model with the addition of seven staff: 1.0 my Wheat Agronomy, 1.0 my Wheat Pathology, 1.0 my Maize breeding, 1.0 my E. Africa Maize, 1.0 my Asia Maize, 1.0 my South America Economics, and 1.0 my Information Services. One program reduction is also scheduled to occur, that of a computer programmer assigned to the wheat program. This is a core restricted (transferred) project that is scheduled to terminate at the end of 1985.

**1986 Proposed Core Program Budget (1984 \$'s 000's)**

	1984 Current Estimate		1985 Bottom of Bracket		1985 Top of Bracket		1986 Proposed Budget	
	Cost	My	Cost	My	Cost	My	Cost	My
Wheat	5,363	26.0	5,051	25.0	5,345	26.0	5,595	28.0
Maize	4,154	24.0	4,003	23.0	4,449	27.0	4,934	30.0
Economics	944	5.5	844	5.0	944	6.0	1,044	7.0
Research Support	2,512	6.75	2,494	6.0	2,644	7.0	2,644	6.0
Training	3,551	7.5	3,573	8.0	3,723	9.0	4,135	9.0
Information Services	758	3.0	758	3.0	758	3.0	858	4.0
General Administration	2,000	6.0	2,000	6.0	2,000	6.0	2,000	6.0
Plant Operations	1,483	—	1,483	—	1,483	—	1,483	—
<b>Total</b>	<b>20,765</b>	<b>78.75</b>	<b>20,206</b>	<b>76.0</b>	<b>21,346</b>	<b>84.0</b>	<b>22,693</b>	<b>90.0</b>

## Special Considerations

### Training, Conference and Information Facility

One of the outcomes of CIMMYT's 1983 review of training was the realization that CIMMYT's physical facility at headquarters in El Batan is inadequate for the expansions in training-related activities and information services identified by the Center staff and Trustees as needed to support national program clients in the years ahead. This confirms earlier observations contained in the CIMMYT Long Range Plan, and by the recently completed external program review. When the Center's physical plant was built in 1970-71, CIMMYT cooperated with approximately 35 developing countries, offered two in-service training courses in maize and wheat and had two senior staff assigned to training. Today, CIMMYT has direct collaborative links with research institutions in 100 developing countries, offers 8-9 different courses annually, and has eight senior staff assigned exclusively to training.

At present, CIMMYT only has two classrooms dedicated to training, no seminar facility other than the Board room and the auditorium, very limited office space for visiting scientists, no language learning laboratory, no space left for expansions in the library collection, and no area available to adequately house communications staff engaged in the development of training-related instructional materials.

In addition, the Center lacks adequate space to house its new scientific information unit which began in 1983 to distribute a bibliographic journal (initially on wheat, triticale and barley) and offer a document delivery service to collaborating institutions in the developing world.

Finally, the lack of adequate facilities to host conferences and workshops at headquarters for collaborating scientists from developing countries poses a constraint for CIMMYT's planned expansions in its networking and information exchange activities.

In order to expand its training and information programs to meet the needs of national program clients in the years ahead CIMMYT is seeking special funding to construct a new training, conference, library and information facility at headquarters. The proposed building design integrates the following CIMMYT departments and activities into two major physical spaces:

### Training and Conferences

1. Six classrooms for in-service training courses (with simultaneous translation facilities, film projection),
2. Multiple-use seminar facility for up to 60 people (also with simultaneous translation, film projection capabilities),
3. Office spaces for CIMMYT training staff (10) and visiting scientists (15), and
4. Microcomputer work areas for data analysis.

### Information Services

1. Library/Scientific Information Unit including expanded area for library collections, offices for bibliographic documentalists and facility to operate scientific document delivery service,
2. Learning center for individualized language training and for reviewing audio visual, self-paced teaching modules,
3. Production facility to develop and training materials, and
4. Office and work areas for expanded number of staff engaged in information services.

The proposed new building is to be constructed immediately adjacent to the main headquarters building and will add 4,000 square meters to the Center's existing physical plant. The estimated construction cost for this new facility is US\$1,200,000 with an additional \$400,000 needed to fully equip the facility. CIMMYT would like to begin construction of this facility in 1985 so that it can be operational in mid-1986.

At the June 1984 meeting of the TAC, CIMMYT received a strong endorsement of the need for such a facility and is now pursuing sources of financing.

## Notes to the Budget Tables

The accompanying budget tables are a required part of the budget submission to the CGIAR. The information contained therein and the format are prescribed by the CGIAR/Secretariat.

Table 1. Summary of International Staff Man-Years and Operating Costs by Activity 1982-1986.

This table shows international staff man-years and the total cost of the center's operations broken down by major core programs. Line items 1-6 describe program operations in constant dollars from the base year onward. Thus the 1985 request is shown in constant 1984 dollars with the total given in Line 6. Inflation and exchange rates are included, as appropriate and compounded from 1984 onward, in Line 7. The total amount for core in current dollars is given in Line 8; it is the sum of Lines 6 and 7. Line 9 shows actual and estimated extra core grants. The purpose of this line is to demonstrate the degree of balance between core and extra core. Line 10 is a completely different breakdown, i.e., by object of expenditure, rather than by program.

Table 2. Summary of Sources and Uses of Funds 1982-1986.

As the title suggests this table describes sources and uses of funds for the institute. It shows total funds (not just cash) on hand at the start of the year, broken down by source, and describes their application to various programs (core, extra core), capital, and unexpended fund balances during the year. It is similar to an income statement (or statement of financial activity). Total sources and total uses of funds should always be equal; gains or losses that are normally shown on a "bottom line" of an income statement are treated as additions to or subtractions from unexpended funds of this statement. This table is shown in current dollars.

Table 3. Net Requirement from CGIAR 1982-1986.

This table shows total funds required each year, broken down to programs and capital. Any funds on hand (such as the balance in unexpended funds) or estimated income to be earned during the year (such as from short-term investments) are subtracted from the total required to give the net amount of cash that donors must provide CIMMYT (assuming a fully funded budget). The sum of this amount across centers gives the total net requirement, or asking, for those institutions funded by the CGIAR. This table is shown in current dollars.

Table 4. Summary Balance Sheet 1982-1986.

Beginning with the base year, i.e., 1984, and then for all subsequent years, these are notional figures of assets and liabilities. Figures for past years are from the centers' independently audited financial statement. The preparation of the tables serves mainly as a check and planning figure for balances in the Capital Grants, Unexpended Funds, and Reserves (Net Worth) section of the balance sheet. Figures for current assets and liabilities are "best-guesses" only. This table is shown in current dollars.

Table 5. Capital Expenditures and Reserves 1982-1986.

In an established center such as CIMMYT capital expenditures are usually a small portion of total budget. Major items are capital acquisitions (new rather than replacement items) and additions to operating funds. In 1982 and 1983 the translation effect was charged here. This table is shown in current dollars.

Table 6. a,b,c,d: Projections 1987-1989.

Table 6(a) repeats Table 1 but shows projections for the years 1987-1989. Tables b,c, and d, repeat Tables 2, 4 and 5 in the same fashion. This presentation enables the center to distinguish between a budget request (Tables 1-4) and a budget projection (Table 6).

**Table 1. Summary of Core International Staff Years and Operating Costs by Activity, 1982-1986**  
(US Dollars, Thousands) <sup>1/</sup>

	1982 Actual		1983 Actual		1984 Current Estimate		1985 Bottom of Bracket		1985 Top of Bracket		1986 Proposed Budget	
	Cost	My	Cost	My	Cost	My	Cost	My	Cost	My	Cost	My
<b>1. Research</b>												
a) Wheat Program												
Bread Wheat	268	1.0	305	1.0	361	1.0	361	1.0	361	1.0	361	1.0
Durum Wheat	183	1.25	205	1.0	148	1.0	159	1.0	159	1.0	159	1.0
Barley	126	0.75	104	1.0	111	1.0	100	-0-	100	1.0	100	-0-
Triticale	246	1.5	178	1.0	228	1.0	228	1.0	228	1.0	228	1.0
Tropical Wheat	—	—	159	1.0	268	2.0	250	2.0	250	2.0	250	2.0
Regional Programs	1,534	8.5	1,516	9.25	1,675	10.0	1,675	10.0	1,775	11.0	1,775	11.0
Research and Mgmt. Support	2,539	11.0	2,808	9.75	2,572	10.0	2,472	10.0	2,472	10.0	2,722	12.0
Sub-Total Wheat	4,896	24.0	5,275	24.0	5,363	26.0	5,245	25.0	5,345	26.0	5,595	28.0
Of Which Related to Transferred Projects	—	—	(159)	(1.0)	(268)	(2.0)	(250)	(2.0)	(250)	(2.0)	(250)	(2.0)
b) Maize Program												
Improvement	977	5.0	1,160	4.75	1,310	8.5	946	6.0	1,310	9.0	1,435	10.0
Regional Programs	1,598	11.0	1,765	11.0	1,852	11.5	2,009	13.0	2,009	13.0	2,369	15.0
Research and Mgmt. Support	842	3.0	772	3.0	992	4.0	1,048	4.0	1,130	5.0	1,130	5.0
Sub-Total Maize	3,417	19.0	3,697	18.75	4,154	24.0	4,003	23.0	4,449	27.0	4,934	30.0
c) Economics Program												
Headquarters	291	2.0	507	2.0	319	1.5	369	2.0	369	2.0	369	2.0
Regional Programs	415	3.25	396	3.0	625	4.0	475	3.0	575	4.0	675	5.0
Sub-Total Economics	706	5.25	903	5.0	944	5.5	844	5.0	944	6.0	1,044	7.0
d) Research Support												
Laboratory Services	426	2.0	445	2.0	531	2.0	531	2.0	531	2.0	531	2.0
Seed Health	—	—	—	—	—	—	—	—	150	1.0	150	1.0
Experiment Stations	1,629	1.5	1,146	1.5	1,396	2.0	1,396	2.0	1,396	2.0	1,396	2.0
Data Processing	142	1.0	557	2.5	585	2.75	567	2.0	567	2.0	567	1.0
Sub-Total Research Support	2,197	4.5	2,148	6.0	2,512	6.75	2,494	6.0	2,644	7.0	2,644	6.0
Of Which Related to Transferred Projects	—	—	(94)	(1.5)	(141)	(1.75)	(116)	(1.0)	(116)	(1.0)	—	—
<b>2. Training and Conferences</b>	1,846	7.0	2,478	8.0	3,551	7.5	3,379	8.0	3,723	9.0	4,135	9.0
Of Which Related to Transferred Projects	—	—	(204)	—	(343)	—	(213)	—	(213)	—	(231)	—
<b>3. Information Services</b>	534	3.0	662	2.25	758	3.0	758	3.0	758	3.0	858	4.0
<b>4. General Administration</b>	1,762	5.25	1,668	6.0	2,000	6.0	2,000	6.0	2,000	6.0	2,000	6.0
<b>5. Plant Operations</b>	2,253	—	1,056	—	1,483	—	1,483	—	1,483	—	1,483	—
<b>6. Sub-Total Programs<sup>1/</sup></b>	17,611	68.0	17,887	70.0	20,765	78.75	20,206	76.0	21,346	84.0	22,693	90.0
Of Which Related to Transferred Projects	—	—	(457)	(2.5)	(752)	(3.75)	(579)	(3.0)	(579)	(3.0)	(481)	(2.0)
<b>7. Other</b>												
Contingency <sup>2/</sup>	—	—	—	—	210	—	200	—	213	—	227	—
Quinquennial Review	150	—	—	—	—	—	—	—	—	—	—	—
Normal Increment <sup>3/</sup>	—	—	—	—	—	—	2,245	—	2,371	—	5,270	—
Of Which Related To Transferred Projects	—	—	—	—	—	—	(72)	—	(72)	—	(132)	—
<b>8. Total Core</b>	17,761	68.0	17,887	70.0	20,975	78.75	22,651	76.0	23,930	84.0	28,190	90.0
Of Which Related to Transferred Projects	—	—	(457)	(2.5)	(752)	(3.75)	(651)	(3.0)	(651)	(3.0)	(613)	(2.0)
<b>9. Total Extra Core<sup>4/</sup></b>	2,241	7.0	2,195	10.25	3,000	11.5	3,000	12.0	3,000	12.0	3,000	12.0
<b>10. By Object of Expenditure</b>												
Salaries and Allowances	9,542	—	8,268	—	10,678	—	9,811	—	10,820	—	11,600	—
Supplies and Services	5,204	—	6,557	—	6,023	—	6,379	—	6,473	—	6,570	—
Fellowships	1,243	—	1,499	—	2,280	—	2,266	—	2,266	—	2,750	—
Travel	1,622	—	1,563	—	1,994	—	1,950	—	2,000	—	2,000	—
Quinquennial Review	150	—	—	—	—	—	—	—	—	—	—	—
Total <sup>5/</sup>	17,761	68.0	17,887	70.0	20,975	78.75	20,406	76.0	21,559	84.0	22,920	90.0
Of Which Related to Transferred Projects	—	—	(457)	(2.5)	(752)	(3.75)	(579)	(3.0)	(579)	(3.0)	(481)	(2.0)

<sup>1/</sup> 1982-1983 in nominal dollars throughout; 1984-1986 in 1984 dollars Lines 1-6. Line 7 in nominal dollars.

<sup>2/</sup> Equals 1<sup>0</sup>/o of program total.

<sup>3/</sup> The combined effect of inflation and exchange rates from 1984 onward: 11<sup>0</sup>/o p.a.

<sup>4/</sup> Estimates for 1985 onward. Amounts are exclusive of administrative fees.

<sup>5/</sup> In 1984 in dollars from 1984 onward. Total equals core programs plus contingency.



**Table 2. Summary of Sources and Uses of Funds 1982-1986**  
(US Current Dollars, Thousands)

	1982 Actual	1983 Actual	1984 Current Estimate	1985 Bottom of Bracket	1985 Top of Bracket	1986 Proposed Budget
<b>Sources of Funds</b>						
<b>1) Core Operations</b>						
a) Unrestricted Grants	14,082	13,112	15,695	17,288	18,604	23,016
b) Restricted Grants	4,233	4,363	5,061	5,100	5,100	5,100
c) Earned Income Applied in Year	645	699	550	650	650	700
d) Unexpended Balances-Core	34	169	69	—	—	—
Sub-Total	18,994	18,343	21,375	23,038	24,354	28,816
Of Which Related to Transferred Projects	—	(457)	(752)	(651)	(651)	(613)
<b>2) Capital and Reserves</b>						
a) Grants	—	—	—	—	—	—
b) Unexpected Balances	—	—	—	—	—	—
c) Balance in Operating Funds	1,540	1,540	1,540	1,690	1,690	1,914
Sub-Total	1,540	1,540	1,540	1,690	1,690	1,914
<b>3) Extra Core Operations</b>						
a) Extra Core Grants	2,241	2,195	3,000	3,000	3,000	3,000
b) Unexpended Balances-Extra Core	(48)	(48)	(48)	(48)	(48)	(48)
Sub-Total	2,193	2,147	2,952	2,952	2,952	2,952
<b>4) Total Sources of Funds</b>	<b>22,727</b>	<b>22,030</b>	<b>25,867</b>	<b>27,680</b>	<b>28,996</b>	<b>33,682</b>
<b>Uses of Funds</b>						
<b>1) Core Operations</b>	17,761	17,887	20,975	22,651	23,930	28,190
a) Of Which to Transferred Projects	—	(457)	(752)	(651)	(651)	(613)
<b>2) Capital and Reserves</b>	1,064	387	250	200	200	250
<b>3) Extra Core Projects</b>	2,241	2,195	3,000	3,000	3,000	3,000
<b>4) Unexpended Funds</b>						
a) Core	169	69	—	—	—	—
b) Extra Core	(48)	(48)	(48)	(48)	(48)	(48)
c) Operating Funds	1,540	1,540	1,690	1,877	1,914	2,290
Sub-Total	1,661	1,561	1,642	1,829	1,866	2,242
<b>5) Total Uses of Funds</b>	<b>22,727</b>	<b>22,030</b>	<b>25,867</b>	<b>27,680</b>	<b>28,996</b>	<b>33,682</b>

**Table 3. Net Requirements from the CGIAR, 1982-1986**  
(US Current Dollars, Thousands)

	1982 Actual	1983 Actual	1984 Current Estimate	1985 Bottom of Bracket	1985 Top of Bracket	1986 Proposed Budget
<b>1) Total Core Operating Funds Required</b>	17,761	17,887	20,975	22,651	23,930	28,190
Less: Unexpended Funds Balance	34	169	69	—	—	—
Less: Earned Income (excepting administrative fees on Core Restricted Grants)	645	699	550	650	650	700
Net Core Operating Funds Required From CGIAR	17,082	17,019	20,356	22,001	23,280	27,490
Of Which to Transferred Projects	—	(457)	(752)	(651)	(651)	(613)
<b>2) Total Capital Funds Required</b>	2,604	1,927	1,940	2,077	2,114	2,539
Less: Balance of Operating Funds previous year	1,540	1,540	1,540	1,690	1,690	1,914
Net Capital Funds Required from CGIAR	1,064	387	400	387	424	625
<b>3) Net Funds Required from CGIAR</b>	18,146	17,406	20,756	22,388	23,704	28,115
Of Which Related to Transferred Projects		(457)	(752)	(651)	(651)	(613)
<b>4) Net Funds Received from CGIAR</b>	18,315	17,475	N/A	N/A	N/A	N/A
<b>5) Balance Carried Forward</b>	169	69	N/A	N/A	N/A	N/A

**Table 4. Summary Balance Sheet 1982-86**  
(US Current Dollars, Thousands)

	1982 Actual	1983 Actual	1984 Current Estimate	1985 Bottom of Bracket	1985 Top of Bracket	1986 Proposed Budget
<b>1. Current Assets</b>						
Cash	645	732	331	400	400	500
Short-Term Investments	2,608	3,084	3,100	3,387	3,387	3,387
Receivables (Donors)	1,307	2,118	1,000	900	900	900
Receivables (Others)	453	331	400	450	450	450
Inventories	78	106	150	200	200	338
Prepaid Expenses	—	—	—	—	—	—
Other Current Assets	—	—	—	—	—	—
<b>Total Current Assets</b>	<b>5,091</b>	<b>6,371</b>	<b>4,981</b>	<b>5,337</b>	<b>5,337</b>	<b>5,575</b>
<b>2. Fixed Assets</b>						
Vehicles	2,701	3,134	3,200	3,250	3,287	3,400
Furnishing and Equipment	2,956	3,465	3,550	3,600	3,700	3,800
Buildings	5,989	5,993	6,000	6,000	6,000	6,000
Land	464	464	464	464	464	464
Other Fixed	372	372	372	372	372	372
<b>Total Fixed Assets</b>	<b>12,482</b>	<b>13,428</b>	<b>13,586</b>	<b>13,686</b>	<b>13,823</b>	<b>14,036</b>
<b>3. Other Assets</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>Total Assets</b>	<b>17,574</b>	<b>19,800</b>	<b>18,568</b>	<b>19,024</b>	<b>19,161</b>	<b>19,612</b>
<b>4. Liabilities</b>						
Accounts Payable	3,292	3,133	2,500	2,669	2,644	2,544
Payables to Donors	42	—	—	—	—	—
Other Liabilities	87	229	250	250	250	250
Payments in Advance - Donors	214	1,421	500	500	500	500
<b>Total Liabilities</b>	<b>3,635</b>	<b>4,783</b>	<b>3,250</b>	<b>3,419</b>	<b>3,394</b>	<b>3,294</b>
<b>5. Capital Grants and Unexpended Funds</b>						
a) Capital						
Fully Expended in Fixed Assets	12,482	13,428	13,586	13,686	13,861	14,036
Operating Funds	1,540	1,540	1,690	1,877	1,914	2,290
b) Unexpended Funds (Including translation effect)	(175)	(43)	(50)	(50)	(100)	(100)
<b>Total Capital Grants and Unexpended Funds</b>	<b>13,847</b>	<b>14,925</b>	<b>15,226</b>	<b>15,513</b>	<b>15,675</b>	<b>16,226</b>
<b>6. Trustee Reserve</b>	<b>92</b>	<b>92</b>	<b>92</b>	<b>92</b>	<b>92</b>	<b>92</b>
<b>Total Capital Grants Unexpended Funds and Reserves</b>	<b>13,939</b>	<b>15,017</b>	<b>15,318</b>	<b>15,605</b>	<b>15,767</b>	<b>16,318</b>
<b>Total Liabilities and Capital</b>	<b>17,574</b>	<b>19,800</b>	<b>18,568</b>	<b>19,024</b>	<b>19,161</b>	<b>19,612</b>

**Table 5. Capital Expenditures 1982–1986**  
**(US Current Dollars, Thousands)**

	1982 Actual	1983 Actual	1984 Current Estimate	1985 Bottom of Bracket	1985 CTop of Bracket	1986 Proposed Budget
CAPITAL						
a) Acquisitions and Improvements	364	269	200	150	150	200
b) Operating Funds	—	—	150	187	224	375
c) Seniority Premiums	50	10	50	50	50	50
d) Translation Effect <sup>1/</sup>	650	108	—	—	—	—
<b>TOTAL CAPITAL</b>	<b>1,064</b>	<b>387</b>	<b>400</b>	<b>387</b>	<b>424</b>	<b>625</b>

<sup>1/</sup> Translation effect charged to current year's operations in accordance with Statement 52 of the Financial Accounting Standards Board of the United States.

**Table 6. Summary of Core International Staff Years  
and Operating Costs by Activity: Projections 1987-1989  
(US Current Dollars, Thousands)**

	1987		1988		1989	
	Cost	My	Cost	My	Cost	My
<b>1) Research</b>						
a) Wheat Program						
Bread Wheat	486	2.0	486	2.0	486	2.0
Durum Wheat	159	1.0	159	1.0	159	1.0
Barley	100	-0-	100	-0-	100	-0-
Triticale	228	1.0	228	1.0	228	1.0
Tropical Wheat	200	2.0	200	2.0	200	2.0
Regional Programs	1,900	12.0	1,900	12.0	1,900	12.0
Research and Mgmt. Support	2,747	13.0	2,747	13.0	2,747	13.0
Sub-Total Wheat	5,820	31.0	5,820	31.0	5,820	31.0
Of Which Related to Transferred Projects	(200)	(2.0)	(200)	2.0	(200)	2.0
b) Maize Program						
Improvement	1,435	10.0	1,435	10.0	1,435	10.0
Regional Programs	2,369	15.0	2,369	15.0	2,369	15.0
Research and Mgmt. Support	1,130	5.0	1,130	5.0	1,130	5.0
Sub-Total Maize	4,934	30.0	4,934	30.0	4,934	30.0
c) Economics Program						
Headquarters	369	2.0	369	2.0	369	2.0
Regional Programs	675	5.0	675	5.0	675	5.0
Sub-Total Economics	1,044	7.0	1,044	7.0	1,044	7.0
d) Research Support						
Laboratory Services	631	3.0	631	3.0	631	3.0
Experiment Stations	1,396	2.0	1,396	2.0	1,396	2.0
Data Processing	567	1.0	567	1.0	567	1.0
Seed Health	150	1.0	150	1.0	150	1.0
Sub-Total Research Support	2,744	7.0	2,744	7.0	2,744	7.0
<b>2) Training and Conferences</b>	4,260	9.0	4,260	9.0	4,260	9.0
Of Which Related to Transferred Projects	(50)	-	(50)	-	(50)	-
<b>3) Information Services</b>	958	5.0	958	5.0	958	5.0
<b>4) General Administration</b>	2,000	6.0	2,000	6.0	2,000	6.0
<b>5) Plant Operations</b>	1,483	-	1,483	-	1,483	-
<b>6) Sub-Total Programs<sup>1/</sup></b>	23,243	95.0	23,243	95.0	23,243	95.0
Of Which Related to Transferred Projects	(250)	(2.0)	(250)	(2.0)	(250)	(2.0)
<b>7) Other</b>						
Contingency <sup>2/</sup>	229	-	229	-	229	-
Nominal Increment <sup>3/</sup>	8,685	-	12,039	-	15,975	-
Of Which Related to Transferred Projects	(83)	-	(83)	-	(83)	-
<b>8) Total Core</b>	32,157	95.0	35,511	95.0	39,447	95.0
Of Which Related to Transferred Projects	(333)	(2.0)	(333)	(2.0)	(333)	(2.0)
<b>9) Total Extra Core<sup>4/</sup></b>	3,000	12.0	3,000	12.0	3,000	12.0
<b>10) By Objected of Expenditure</b>						
Salaries and Allowances	12,100	-	12,100	-	12,100	-
Supplies and Services	6,620	-	6,620	-	6,620	-
Fellowships	2,803	-	2,803	-	2,803	-
Travel	1,949	-	1,949	-	1,949	-
<b>Total<sup>5/</sup></b>	23,472	95.0	23,472	95.0	23,472	95.0
Of Which Related to Transferred Projects	(250)	(2.0)	(250)	(2.0)	(250)	(2.0)

1/ 1982-1983 in nominal dollars throughout; 1984-1986 in 1984 dollars Lines 1-6. Line 7 in nominal dollars.

2/ Equals 1<sup>0</sup>/o of program sub-total.

3/ The combined effect of inflation and exchange rates from 1984 onward: 11<sup>0</sup>/o p.a.

4/ Estimates for 1985 onward. Amounts are exclusive of administrative fees.

5/ In 1984 in dollars from 1984 onward. Total equals core programs plus contingency.

**Table 6b. Sources and Uses of Funds: Projections 1987-1989**  
(US Current, Thousands)

	1987	1988	1989
<b>SOURCES OF FUNDS</b>			
1) CORE OPERATIONS			
a) Unrestricted Grants	26,572	29,951	33,847
b) Restricted Grants	5,500	5,500	5,500
c) Earned Income Applied in Year	800	900	1,000
d) Unexpended Balances-Core	—	—	—
SUB-TOTAL	32,872	36,351	40,347
Of Which Related to Transferred Projects	(333)	(333)	(333)
2) CAPITAL AND RESERVES			
a) Grants	—	—	—
b) Unexpended Balances	—	—	—
c) Balance in Operating Funds	2,390	2,605	2,895
SUB-TOTAL	2,390	2,605	2,895
3) EXTRA CORE OPERATIONS			
a) Extra Core and Cooperative Projects	3,000	3,000	3,000
b) Unexpended Balances-Extra Core	(48)	(48)	(48)
SUB-TOTAL	2,952	2,952	2,952
4) TOTAL SOURCES OF FUNDS	38,214	41,908	46,194
<b>USES OF FUNDS</b>			
1) CORE OPERATIONS	32,157	35,511	39,447
a) Of Which Related to Transferred Projects	(333)	(333)	(333)
2) CAPITAL AND RESERVES	500	550	575
3) EXTRA CORE AND COOPERATIVE PROJECTS	3,000	3,000	3,000
4) UNEXPENDED FUNDS			
a) Core	—	—	—
b) Extra Core	(48)	(48)	(48)
c) Operating Funds	2,605	2,895	3,220
SUB-TOTAL	2,557	2,847	3,172
5) TOTAL USES OF FUNDS	38,214	41,908	46,194

**Table 6c. Net Requirement from CGIAR: Projections 1987-1989**  
(US Current Dollars, Thousands)

	1987	1988	1989
1) TOTAL CORE OPERATING FUNDS REQUIRED	32,157	35,511	39,447
Less: Unexpended Funds Balance	—	—	—
Less: Earned Income (excepting administrative fees on Core-Restricted Grants)	800	900	1,000
	31,357	34,611	38,447
 NET CORE OPERATING FUNDS REQUIRED FROM CGIAR			
Of Which Related to Transferred Projects	(333)	(333)	(333)
2) TOTAL CAPITAL FUNDS REQUIRED	3,105	3,445	3,795
Less: Balance of Operating funds, previous year	2,390	2,605	2,895
 NET CAPITAL FUNDS REQUIRED FROM CGIAR	715	840	900
3) TOTAL FUNDS REQUIRED FROM CGIAR			
Of Which Related to Transferred Projects	32,072	35,451	39,347

**Table 6d. Capital Expenditure Projections: 1987-1989**  
(US Current Dollars, Thousands)

	1987	1988	1989
1) CAPITAL			
a) Capital Acquisitions	450	500	525
b) Operating Funds	215	290	325
2) RESERVES			
a) Seniority Premiums	50	50	50
3) TOTAL CAPITAL	715	840	900

**Appendix 1**  
**International Core Staff Man Years**  
**1983-1989**

	1983 Actual	1984 Current Estimate	1985 Bottom of Bracket	1985 Top of Bracket	1986 Proposed Budget	1987 Projection	1988 Projection	1989 Projection
<b>Wheat Program</b>								
Headquarters								
Bread Wheat	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0
Durum Wheat	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Barley	1.0	1.0	-0-	-0-	-0-	-0-	-0-	-0-
Triticale	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Tropical Wheat <sup>1/</sup>	1.0	2.0	2.0	2.0	2.0	2.0 <sup>1/</sup>	2.0 <sup>1/</sup>	2.0 <sup>1/</sup>
<b>Research and Mgmt. Support</b>								
Office of Director	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Collaborative Research	-0-	-0-	-0-	-0-	-0-	1.0	1.0	1.0
Germplasm Development	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Germplasm Bank	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
International Nurseries	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Agronomy	1.25	1.0	1.0	1.0	2.0	2.0	2.0	2.0
Pathology	1.5	2.0	2.0	2.0	3.0	3.0	3.0	3.0
Disease Surveillance	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Wide Crosses	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Sub-Total Headquarters	14.75	16.0	15.0	15.0	17.0	19.0	19.0	19.0
<b>Regional Programs</b>								
Andean	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
So Cone	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
East Africa	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0
North & West Africa	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
South & Southeast Asia	1.25	2.0	1.0	2.0	2.0	2.0	2.0	2.0
ICARDA Region <sup>2/</sup>	1.0	1.0	2.0 <sup>2/</sup>	2.0 <sup>2/</sup>	2.0 <sup>2/</sup>	2.0 <sup>2/</sup>	2.0 <sup>2/</sup>	2.0 <sup>2/</sup>
Sub-Total Regional Programs	9.25	10.0	10.0	11.0	11.0	12.0	12.0	12.0
Training	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
<b>Total Wheat</b>	<b>27.0</b>	<b>29.0</b>	<b>28.0</b>	<b>29.0</b>	<b>31.0</b>	<b>34.0</b>	<b>34.0</b>	<b>34.0</b>

<sup>1/</sup> Grant expires mid-1987; continuation is assumed.

<sup>2/</sup> 1.0 my Bread Wheat, 1.0 my Durum Wheat beginning 1985.



Appendix 1 (Cont'd)

	1983 Actual	1984 Current Estimate	1985 Bottom of Bracket	1985 Top of Bracket	1986 Proposed Budget	1987 Projection	1988 Projection	1989 Projection
<b>Maize Program</b>								
<b>Headquarters</b>								
Improvement								
Breeding	2.75	4.75	4.0	5.0	6.0	6.0	6.0	6.0
Plant Protection	1.0	2.0	1.0	2.0	2.0	2.0	2.0	2.0
Physiology/Agronomy	-0-	0.75	-0-	1.0	1.0	1.0	1.0	1.0
Collaborative Research	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
<b>Research &amp; Mgmt Support</b>								
Office of Director	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
International Nurseries	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Wide Crosses	-0-	1.0	-0-	1.0	1.0	1.0	1.0	1.0
Germplasm	-0-	-0-	1.0	1.0	1.0	1.0	1.0	1.0
<b>Sub-Total Headquarters</b>	<b>7.75</b>	<b>12.5</b>	<b>10.0</b>	<b>14.0</b>	<b>15.0</b>	<b>15.0</b>	<b>15.0</b>	<b>15.0</b>
<b>Regional Programs</b>								
Andean	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
CA/Mexico/Caribbean	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
E. Africa	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0
W. Africa <sup>3/</sup>	2.0	1.5	3.0 <sup>3/</sup>	3.0 <sup>3/</sup>	3.0 <sup>3/</sup>	3.0 <sup>3/</sup>	3.0 <sup>3/</sup>	3.0 <sup>3/</sup>
Asian	1.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0
Middle East	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
<b>Sub-Total Regional Programs</b>	<b>11.0</b>	<b>11.5</b>	<b>13.0</b>	<b>13.0</b>	<b>15.0</b>	<b>15.0</b>	<b>15.0</b>	<b>15.0</b>
<b>Training</b>	<b>3.0</b>	<b>2.5</b>	<b>3.0</b>	<b>3.0</b>	<b>3.0</b>	<b>3.0</b>	<b>3.0</b>	<b>3.0</b>
<b>Total Maize</b>	<b>21.75</b>	<b>26.5</b>	<b>26.0</b>	<b>30.0</b>	<b>33.0</b>	<b>33.0</b>	<b>33.0</b>	<b>33.0</b>
<b>Economics Program</b>								
<b>Headquarters</b>	<b>2.0</b>	<b>1.5</b>	<b>2.0</b>	<b>2.0</b>	<b>2.0</b>	<b>2.0</b>	<b>2.0</b>	<b>2.0</b>
<b>Regional Programs</b>								
CA/Caribbean	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Africa	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Asia	1.0	2.0	1.0	2.0	2.0	2.0	2.0	2.0
South America	-0-	-0-	-0-	-0-	1.0	1.0	1.0	1.0
<b>Sub-Total Regional Programs</b>	<b>3.0</b>	<b>4.0</b>	<b>3.0</b>	<b>4.0</b>	<b>5.0</b>	<b>5.0</b>	<b>5.0</b>	<b>5.0</b>
<b>Training</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>
<b>Total Economics</b>	<b>6.0</b>	<b>6.5</b>	<b>6.0</b>	<b>7.0</b>	<b>8.0</b>	<b>8.0</b>	<b>8.0</b>	<b>8.0</b>

<sup>3/</sup> Includes 1.0 my CIMMYT/IITA Maize Coordinator.

Appendix 1 (Cont'd)

	1983 Actual	1984 Current Estimate	1985 Bottom of Bracket	1985 Top of Bracket	1986 Proposed Budget	1987 Projection	1988 Projection	1989 Projection
<b>Research Support</b>								
Headquarters								
Laboratory Services	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0
Experiment Stations	1.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Data Processing	2.5	2.75	2.0	2.0	1.0 4/	1.0 4/	1.0 4/	1.0 4/
Seed Health	-0-	-0-	-0-	1.0	1.0	1.0	1.0	1.0
Sub-Total Headquarters	6.0	6.75	6.0	7.0	6.0	7.0	7.0	7.0
<b>Training</b>								
Experiment Stations Coordinator	1.0 -0-	1.0 -0-	1.0 -0-	1.0 1.0	1.0 1.0	1.0 1.0	1.0 1.0	1.0 1.0
<b>Total Research Support</b>	<b>7.0</b>	<b>7.75</b>	<b>7.0</b>	<b>9.0</b>	<b>9.0</b>	<b>9.0</b>	<b>9.0</b>	<b>9.0</b>
<b>Information Services</b>								
Headquarters	2.25	3.0	3.0	3.0	4.0	5.0	5.0	5.0
<b>General Administration</b>								
Headquarters								
Office of D.G.	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Financial Management	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Administrative Services	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
<b>Total General Administration</b>	<b>6.0</b>	<b>6.0</b>	<b>6.0</b>	<b>6.0</b>	<b>6.0</b>	<b>6.0</b>	<b>6.0</b>	<b>6.0</b>
Sub-Total Headquarters	38.75	45.75	42.0	47.0	50.0	54.0	54.0	54.0
Sub-Total Regional Programs	23.25	25.5	26.0	28.0	31.0	32.0	32.0	32.0
Sub-Total Training	8.0	7.5	8.0	9.0	9.0	9.0	9.0	9.0
<b>Grand Total</b>	<b>70.0</b>	<b>78.75</b>	<b>76.0</b>	<b>84.0</b>	<b>90.0</b>	<b>95.0</b>	<b>95.0</b>	<b>95.0</b>

4/ Does not assume of continuation of Wheat programmer.

## Notes



**CENTRO INTERNACIONAL DE MEJORAMIENTO DE MAIZ Y TRIGO**  
**INTERNATIONAL MAIZE AND WHEAT IMPROVEMENT CENTER**  
Londres 40, Apdo. Postal 6-641, México 06600, D. F., México