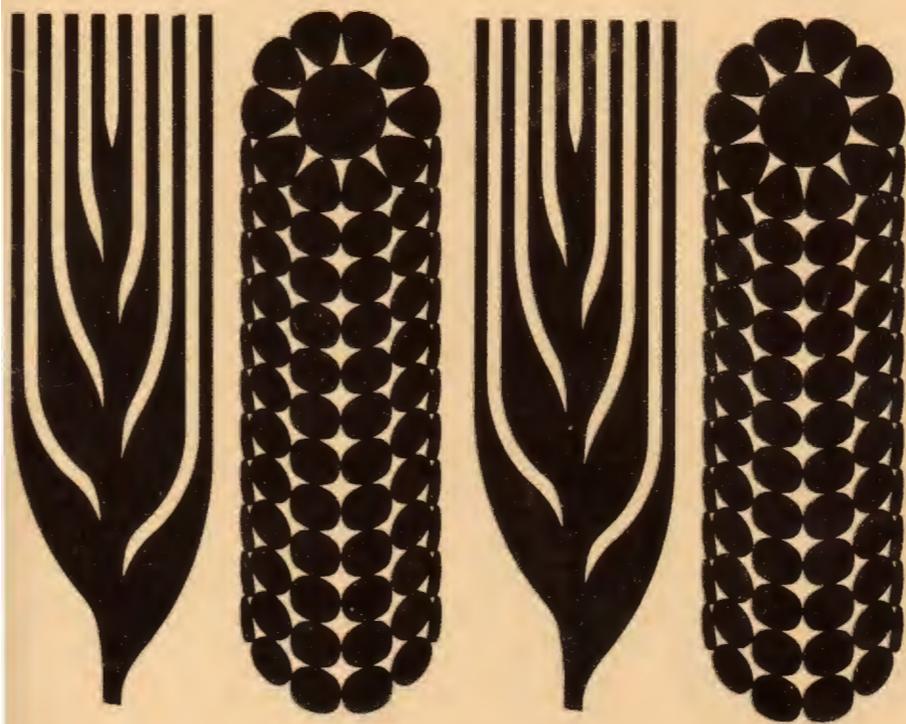
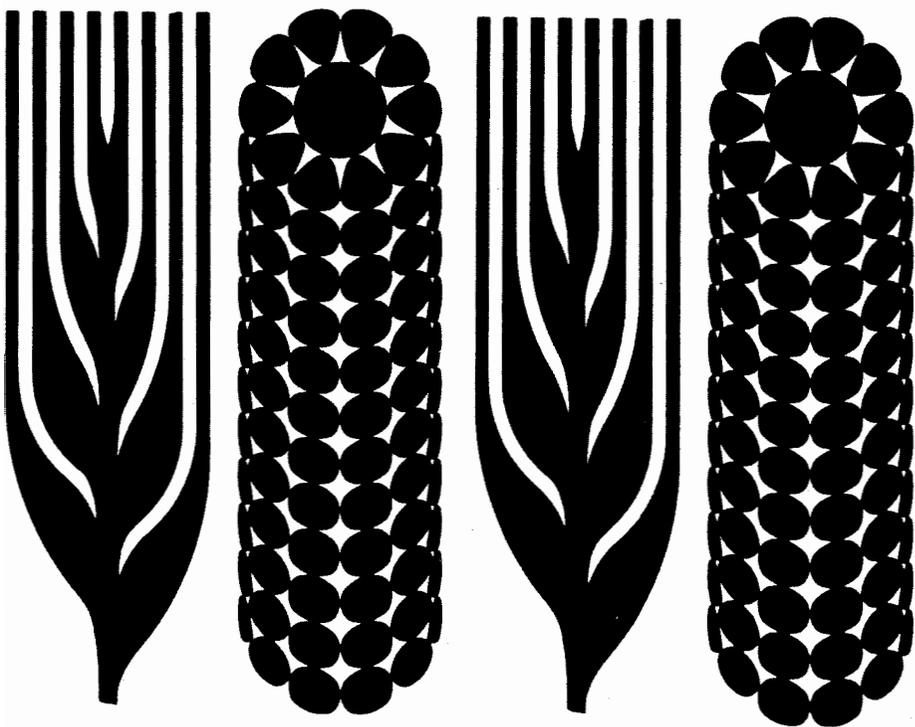


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**CIMMYT  
Mid-Term  
Budget  
Request  
1984**



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Mid-Term  
Budget  
Request  
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## Preface

The following 1984 budget document is one of three publications that have been prepared to report on CIMMYT's program of work, accomplishments, financial management and future funding requirements. One of the companion reports, the **1982 Annual Report**, includes the complete independently audited report on CIMMYT's 1982 revenues and expenses, highlights of the year's program of work, discussion of five-year funding and manpower trends and other management issues, and individual 1982 financial and narrative reports on extra core grants. With the creation of this new type of annual report, the former **CIMMYT Review** has been revamped and will now be called **CIMMYT Research Highlights**. The 1983 version of this research highlights report will include more data on the Center's scientific progress.

Although the three reports draw on the same verbiage in a number of instances, albeit with differing levels of detail, each is designed to provide our various client groups with sufficient information to assess CIMMYT's scope of work, mode of operations, and program achievements.

As in past years, for 1984 we once again are presenting a formidable array of budgets and alternatives. This is made all the more complicated by the recent financial developments in Mexico which affected CIMMYT's results in 1982 and planning for 1983. Briefly, these budgets, plans and results can be summarized as follows:

- In 1982 the devaluation of the Mexican peso resulted in a large underexpenditure compared to budget. Hence the big gap between **1982 Budget** and **1982 Actual**.
- For 1983 CIMMYT's current cost structure reflects a lower value of the peso such that the **1983 Budget** is approximately the same as the **1982 Actual** in spite of having additional planned man-years. Still, the 1983 Budget is much lower than any of the planning figures suggested in previous programs of work and budget. This again is due to the devaluation of the peso.
- In accordance with instructions received from the CGIAR Secretariat, beginning in 1983 some extra core grants are folded into the core program. This creates an "approved increase for transferred projects" in the budget. The **1983 Current Estimate** reflects this increase and is the only difference from the **1983 Budget**.
- For 1984 a budget bracket is presented. The **Top of the Bracket** represents an increase over the **1983 Current Estimate** while the **Bottom of the Bracket** results in a decrease.
- Finally, the years 1985-1988 are presented as **Projections**, using the **1984 Top of the Bracket** as a base.

In one other respect 1982 was an important year for CIMMYT. This saw the completion of the institute's second quinquennial review. One of the outcomes of the review and subsequent discussions with the TAC was, we believe, the acceptance of a minimum staffing plan designed to permit the optimal effectiveness of the institute, even under the assumption of continued medium-term financial constraints in the CGIAR. This plan—called the minimum/optimum model or mini/opt for short—calls for 85.0 my (not including transferred projects) and is consistent with the goals embodied in CIMMYT's long range plan. The additional staff required to attain this level are described in the special consideration section of the budget.

  
Virgilio Barco

Chairman, Board of Trustees

  
R.D. Havener  
Director General

## Executive Summary

1982-1983

US \$000's current dollars	1982 Budget		1982 Actual		1983 Budget	
	Cost	MY	Cost	MY	Cost	MY
Core Programs	21,411	73.0	17,761	68.0	18,551	75.0
Capital	547	—	1,064	—	200	—
<b>Total</b>	<b>21,958</b>	<b>73.0</b>	<b>18,825</b>	<b>68.0</b>	<b>18,751</b>	<b>75.0</b>

□ Devaluation of the Mexican peso in 1982 of almost 500 percent against the dollar reduced significantly the dollar value of peso denominated expenses, and therefore resulted in an underexpenditure compared to budget.

□ Translation, or foreign currency loss, of US\$650,000 due to a write down on peso-denominated items inflated 1982 capital expenses.

□ Shortfall in man-years in 1982 was primarily in the Maize Improvement program.

□ As a result of the devaluation of the Mexican peso, CIMMYT's funding needs were reduced and the institute was able to return funds to the CGIAR system.

1983-1984

US \$000's Current dollars	1983 Current Estimate		1984 Top of Bracket		1984 Bottom of Bracket	
	Cost	MY	Cost	MY	Cost	MY
Core Programs	18,551	75.0	22,296	79.0	20,228	71.0
Approved Increase for Transferred Projects <sup>1/</sup>	631	3.0	747	3.75	747	3.75
Capital	260	—	570	—	400	—
<b>Total</b>	<b>19,442</b>	<b>78.0</b>	<b>23,613</b>	<b>82.75</b>	<b>21,375</b>	<b>74.75</b>

<sup>1/</sup> Approved total less administrative fees

□ Projects transferred from the extra core to the core program include UNDP/Tropical Wheat, NORAD/Training, Ford Foundation/ On-Farm Research Training, GTZ/Postdoctoral Fellows (Wheat), IDRC/Data Processing, Netherlands DPO/Data Processing.

□ Top of the funding bracket for 1984 includes, at headquarters, the addition of 1.0 my Wheat Pathology, 1.0 my Maize Breeding, 1.0 my Maize Plant Protection, 1.0 my Maize Physiology/Agronomy and Training Fellowships.

□ Bottom of the bracket requires the subtraction from 1983 staffing of 1.0 my Information Services, 1.0 my Economics Regional Program, 1.0 my Maize Wide Crosses, 1.0 my Wheat Agronomy and Training Fellowships.

□ Increase from 1983 to 1984 due to inflation and exchange rates is estimated at 14 percent.

## Introduction

### Mandate

Three crops within CIMMYT's mandate— wheat, maize and barley— 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, barley 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.**

### 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 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. Over 35 million hectares of wheat in the developing countries 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 \$1.4 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 five 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 one million tons annually, worth \$110 million at current maize prices.

In addition to the 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. Today, approximately 2,500 developing country scientists from 86 countries may be counted as CIMMYT training program alumni.

## 1982 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, triticale and barley 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—with 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, we emphasize the development of open-pollinated varieties.

CIMMYT has made a major research effort to increase the grain yield efficiency of tropical maize. Although various methods have been explored, CIMMYT has adopted a recurrent selection scheme to reduce plant height. By selecting for shorter plant types, CIMMYT has achieved major reductions in the average height of many its populations (and favorable changes in the grain to stover ratio) without the use of major dwarfing genes. Not only has the incidence of lodging been reduced in CIMMYT's maize materials, but the plants are more responsive to improved management and have higher yield potential through a more grain-efficient harvest index.

In addition to research to increase the absolute yield potential of full-season tropical maize materials, CIMMYT is also involved in work to develop high-yielding, disease-resistant, short-season varieties for use in more intensive cropping systems. An increasing number of experimental varieties are entering the international testing system that mature 30-50 days earlier than many traditional varieties and offer new crop production alternatives to farmers in well-watered as well as drought-prone areas.

CIMMYT has given considerable emphasis to the development of reliable field resistance in its germplasm to the major disease problems found in the developing world. Selection is exercised continuously in both pools and populations for resistance to ear and stalk rots and for leaf blights and rusts. International collaboration is also under way on three major diseases of maize: downy mildew, a major problem in Asia; streak virus, a serious disease problem in Africa; and corn stunt virus, mainly a problem in Latin America. CIMMYT's locus of activities for the downy mildew and streak virus projects was shifted in 1980 to the Asian and West African regional maize programs, respectively. The work on corn stunt resistance is handled in Mexico with close collaboration from several Central American national research programs.

CIMMYT has also made a major effort to improve the nutritional quality in maize without sacrificing yield through the use of the opaque-2 gene in combination with other genetic modifiers. As a result of this research effort, many of the problems originally associated with the opaque-2 maize, such as reduced yield, vulnerability to ear rots and stored-grain pests, and the dull chalky grain appearance have been largely overcome. Various normal-looking white and yellow grain high quality protein experimental varieties have been developed that are equal or superior in yield potential to many normal maize varieties under cultivation in the developing world.

Since CIMMYT began its current scheme of population improvement and international testing less than a decade ago, more than 600 experimental varieties have been developed and twenty-five national programs, drawing on germplasm from the international testing program, have released a total of 75 varieties in the last five years. National collaborators play a key partnership role in the development of these materials. Their on-site selections provide the basis for developing the experimental varieties distributed each year through the international maize testing program.

In 1982, CIMMYT shipped 632 individual maize trials to collaborators in 73 countries. Two of the 1982 international testing program trial categories included CIMMYT's best quality protein maize materials.

### **Wheat Research**

CIMMYT's wheat program has expanded its scope over the last 17 years to include research on bread wheat, durum wheat, barley and triticale. The program staff attempts to serve all small grains producing areas of the world with major emphasis on developing countries. Since CIMMYT's inception, over 300 high-yielding wheat triticale and barley varieties which carry CIMMYT developed and/or distributed germplasm in their parentage have been released by national programs.

The wheat program's central breeding objective is to develop widely adapted, management-responsive germplasm for worldwide distribution. Breeding work has broadened over the years from an original emphasis on the development of high-yielding, disease resistant semidwarf wheat varieties, largely for irrigated production conditions, towards a more focused consideration of the biological problems inherent in more precarious rainfed production environments.

Although CIMMYT continues to be concerned with further productivity increases in the more-favored small grains production areas of the developing world, increasing emphasis is being placed on the development of germplasm with higher and more dependable yield potential in many of the more difficult production areas, often characterized by more severe moisture, soil and other environmental stresses. These environments include areas with acidic and saline soils and areas where moisture and temperature patterns are erratic.

Central to CIMMYT's success in its small grains germplasm development work have been the vast wheat, triticale and barley international nursery networks. Each year, about a million packets of experimental seed are assembled into early and advanced generation screening and yield nurseries for testing at hundreds of locations worldwide. These international nurseries have played a key role in efforts to develop broadly adapted cultivars and to speed their distribution to national program collaborators. The international testing network has also led to significant introductions of new genetic variability into national breeding programs and has served as a unifying thread to bring together the work of thousands of scientists worldwide.

In 1982, collaborating scientists from 96 countries requested 2,568 trials of wheat, triticale and barley germplasm from one or more of 39 different nursery classifications. Several trends continued in 1982 in this international nursery program. First, several new early generation (F<sub>2</sub>) nursery categories were created to speed the distribution of promising new germplasm to national collaborators. New nursery categories include early-maturing germplasm, materials with drought and cold tolerance, and germplasm with resistance to a number of important diseases that are receiving increased research attention. There was also a greater reliance in 1982 on regional staff to help screen CIMMYT germplasm for resistance and/or tolerance to specific diseases and environmental stresses.

### **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 aimed at developing improved technologies. The research procedures developed by the economics program staff in conjunction with CIMMYT and national program biological scientists are now being used in many production-oriented research programs in the developing world.

The economics staff is now developing new sets of cost-effective research procedures to aggregate, analyze, and present information generated through on-farm surveys and trials for use at national policy-making levels. Several audiences are considered in the development of these procedures. One is the policy maker, who may lack a clear view of the opportunities for increased productivity through biological research. Another audience is made up of researchers, who may not be aware of the connections between public policy and research.

### **Research Support**

CIMMYT has three principal research support units: experiment stations, laboratory services and data processing. CIMMYT's major experiment station development work has been largely completed and the Center now has access to 450 hectares for experimentation in Mexico. In 1982, only continuing improvements in irrigation and drainage systems and in soil conservation occurred. The major activity of the laboratory staff has been in total protein and protein quality evaluations (mainly in maize) and in milling and baking quality evaluations (mainly in small grains). In-service training courses were also conducted by the experiment stations and laboratory services staff.

Major expansions were carried out during 1982 in CIMMYT's data processing services. A new computer was installed in March and extensive physical changes were made to the data processing building. Several associate scientists from Canada joined the data processing group on 1-2 year appointments and a number of consultants were retained during the year. The new computer and staffing plans have greatly increased CIMMYT's capacity to develop more efficient computer programs to meet the Center's growing research, training and management needs.

### **Training Programs**

Training is a major dimension of CIMMYT's total institutional effort. Training activities in Mexico, within the regions, and in national program settings stress the strengthening of field and laboratory research skills needed to plan and conduct effective crop research programs. An increasingly diversified number of technical training courses are offered, including:

- plant breeding
- plant pathology
- crop production
- cereal technology
- experiment station management
- rainfed and irrigated production agronomy
- protein quality laboratory research

**Maize Training**—In 1982, forty-six maize scientists from 24 developing countries attended one of four technical in-service training courses held at CIMMYT. Another 19 visiting scientists from collaborating countries were invited to CIMMYT during the year, spending 1-3 months in Mexico. During 1982 CIMMYT also cooperated in the training and thesis research of 11 master's degree students and 1 Ph.D candidate. In addition, 6 postdoctoral fellows and 3 associate scientists were in residence in Mexico during the year. Training outside Mexico was carried out in Bolivia, Honduras, Pakistan and Tanzania.

**Wheat Training**—During 1982, fifty-one wheat scientists from 26 countries participated in one of five technical in-service training courses held at CIMMYT. Travel fellowships for 17 visiting scientists from collaborating developing countries were also provided during the year, with most staying 2-4 weeks in Mexico. During 1982, CIMMYT also cooperated in the training of 12 master's degree students. In addition, 2 associate scientists and 8 postdoctoral fellows were in residence during the year. A training course in crop production research was also held in Ecuador during the year.

**Economics Training**—The economics staff continued their participation in 1982 in the maize and wheat in-service crop production courses held in Mexico. In addition, a number of in-country training courses were conducted in Venezuela, Honduras and Kenya. One predoctoral fellow was assigned for part of the year to the East Africa regional economics program and worked in Kenya to train economists engaged in on-farm research. A postdoctoral fellow was assigned to Haiti where he assisted CIMMYT's regional maize and economics staff in a cooperative national maize improvement and production program.

### **Regional Programs**

During 1982, twenty-six senior staff members were working in regional maize, wheat and economics programs. In total, CIMMYT has seven regions in which regional staff from at least one program area are assigned. These regional staff members carry on important research and training activities, in addition to their liaison responsibilities between CIMMYT research programs in Mexico and those of collaborating national programs. In maize, a number of disease-related research projects, originally organized between CIMMYT headquarters and national collaborators located in strategic countries, have been reorganized so that the locus of activities has been shifted to the Center's regional program staff located in the major areas affected by these important diseases.

In the wheat program, a number of regional disease screening and surveillance nurseries and regional yield trials were prepared and distributed by regional program staff members. In the economics program, regional economists were mainly engaged during 1982 in collaborative research projects to demonstrate the utility of farm surveys to identify critical factors on farmers' circumstances for use in planning effective on-farm research programs.

### **Information**

In 1982, CIMMYT published 39 new titles in English, Spanish or French and distributed these according to interest areas within a mailing list of 4,500 names. More than a dozen other papers were also prepared by the staff for presentation at international and national meetings and conferences. A new computerized mailing list system was put into operation in 1982 to allow CIMMYT to better target its communications with key client groups. In addition, plans were formalized to expand significantly CIMMYT activities in the preparation of training-related teaching materials on the key research concepts and procedures utilized by the scientific staff.

### **Consultation**

During 1982, CIMMYT's international senior staff travelled to more than 60 developing countries for consultation with collaborating national programs. This heavy travel agenda is a key dimension in keeping the Center's research and training programs targeted to the needs of national programs in the developing world.

## 1982 Budget Performance and 1983 Prospects

### 1982 Budget Performance

One general financial topic overshadowed all others for CIMMYT in 1982. This was the series of devaluations throughout the year of the Mexican peso against the major world currencies. On January 1, 1982 the value of the peso stood at 26.44 pesos per dollar, on February 17 it was devalued overnight to 37.10 per dollar; it then continued to slide such that by the end of March it stood at 44.98 per dollar. All throughout the second quarter of 1982 the peso remained weak and in August speculative pressure drove the value as low as 130 per dollar on some days. Then on September 1, as part of a series of financial decrees announced by the President, the peso exchange rate was fixed at 70 per dollar and its convertibility was restricted. The exchange rate remained at that level until December 23, when it was devalued again to 148.50 per dollar. It remained at that level through the end of the year.

The effect of the devaluation on CIMMYT's activities was felt in a number of ways:

- Most importantly, the dollar value of peso denominated expenses declined.
- As a result of this and given the relatively fixed manpower plan and other general budgetary guidelines imposed by the CGIAR, the need for dollar revenues also fell. Once the magnitude of the devaluation became apparent in September CIMMYT notified donors of its reduced operating expenses and they were able to channel funds elsewhere in the CGIAR system.
- The makeup of CIMMYT's expenses also changed, moving from an approximate 70 percent/30 percent peso/dollar split to one that was more nearly 50 percent/50 percent.

The accompanying table summarizes the institution's performance against budget and illustrates many of these developments.

### Source and Uses of Core Program Funds: 1982

	1982 Budget	1982 Actual
	(US \$000's)	
<b>Sources</b>		
Grants	21,061	17,901
Administrative Fees	140	269
Sale of Crops	60	27
Interest Income	150	349
Total Sources	21,411	18,546
<b>Uses</b>		
Wheat	5,349	4,896
Maize	3,960	3,417
Economics	1,050	706
Laboratories	675	426
Experiment Stations	2,056	1,629
Training and Conferences	2,315	1,846
Information Services	782	534
General Administration	2,204	1,762
Data Processing	360	142
Plant Operations	2,300	2,253
Contingency	210	—
Quinquennial Review	150	150
Total Program Uses	21,411	17,761
Translation effect (loss)	—	650
Total Uses	21,411	18,411
Excess of Funds	—	135

The drop in sources of funds was the result of a decline in grants. This was in part due to a shortfall in funds available to the CGIAR system, but also to reduced requirements. However, some items increased: most notably administrative fees and interest income. In the former case, new extra core grants that came onstream in 1982 contributed to this increase. Interest revenues benefitted from the effects of the devaluation through the investment of surplus cash (dollar) balances.

Expenses showed a similar decline compared to budget, also the result of the devaluation. The reductions compared to budget ranged from 2 percent to 61 percent, depending on the peso/dollar proportions in each program, types of projects and activities undertaken, and the extent to which activities could be transferred to extra core grants.

One of the more negative aspects of the devaluation was the foreign currency, or translation loss, that it generated for CIMMYT. All assets suffered large write-downs from the devaluation which were not offset by gains from liabilities. For historical and structural reasons, CIMMYT has normally maintained net assets in peso-denominated items and this gave rise to the 1982 translation loss. The magnitude of it in 1982, (\$650,000), is testimony to the large decrease in value of the currency. Under generally accepted accounting procedures (Statement No. 52 of the Financial Accounting Standards Board of the United States) when the institution is operating in a hyper inflationary environment (cumulative inflation greater than 100 percent in total over the last three years) this translation loss must be charged directly to the current year's operations. Accordingly, the amount corresponding to 1982 was charged as a general expense, leaving \$135,000 to be carried forward to 1983.

CIMMYT's manpower in 1982 showed a decrease of 5.0 my compared to the approved budgetary level. This manpower reduction was due to two different types of uncertainty: 1) the availability of funds from the CGIAR in 1982; and 2) the longer-term stability of the peso/dollar exchange rate and the inflation rate in Mexico. In fact, the variance from budget was not as large as it first appeared: of the 5.0 my shortfall, 3.0 my could be ascribed to annualizations of certain staff positions. The remaining 2.0 my reductions were in the maize headquarters breeding program.

A comparison of actual and budgeted man-years is shown below:

### International Staff Man-Years

	1982 Budget	1982 Actual
<b>Wheat</b>		
Headquarters	15.5	15.5
Regional Programs	9.0	8.5
Sub-Total	24.5	24.0
<b>Maize</b>		
Headquarters	10.0	8.0
Regional Programs	11.0	11.0
Sub-Total	21.0	19.0
<b>Economics</b>		
Headquarters	2.0	2.0
Regional Programs	4.0	3.25
Sub-Total	6.0	5.25
<b>Research Support</b>		
Laboratories	2.5	2.0
Experiment Stations	2.0	1.5
Data Processing	1.0	1.0
Sub-Total	5.5	4.5
<b>Training and Conferences</b>	7.0	7.0
<b>Information Services</b>	3.0	3.0
<b>General Administration</b>	6.0	5.25
<b>Plant Operations</b>	--	--
<b>Total</b>	73.0	68.0

## 1983 Prospects <sup>1/</sup>

The financial uncertainty that pervaded 1982 is not expected to diminish in 1983. Exchange rates and inflation will continue to play an important role in shaping CIMMYT's budget, and some of the gains from 1982 will hopefully be carried forward to 1983. The original notional budget (top of the bracket) called for \$26,548,000 in 1983—\$25,955,000 spent in programs and \$593,000 in capital—and 77.0 my of senior staff. Those figures have now been revised in light of 1982's financial developments and 1983's expectations to \$18,751,000, including \$18,551,000 in programs and \$200,000 in capital. Manpower plans call for 75.0 my of senior staff.

The 1983 budget has been based on: 1) a reasonable expectation of revenues, 2) an attainable conservative manpower plan that reflects overall constraints imposed by the CGIAR, 3) revised cost structures, and 4) a series of inflation and exchange estimates that attempt to deal with the financial uncertainty prevalent in Mexico.

The additional man-years are the result of annualizations in general administration (0.75 my), economics (0.75 my), and experiment stations (0.5 my) and additions to staff in maize headquarters and regional programs, wheat training and information services. These and other program changes are described below.

<sup>1/</sup> Does not include projects transferred to core program.

## 1983 Sources and Uses of Core Program Funds

	1982 Actual	1983 Budget <sup>1/</sup>
	(US \$000's, Current)	
<b>Sources</b>		
Grants	17,901	17,916
Administrative fees	269	250
Sale of Crops	27	50
Interest Income	349	200
Carryover from 1982	—	135
<b>Total</b>	<b>18,546</b>	<b>18,551</b>
<b>Uses</b>		
Wheat	4,896	4,816
Maize	3,417	3,853
Economics	706	866
Laboratories	426	472
Experiment Stations	1,629	1,274
Training and Conferences	1,846	2,920
Information Services	534	713
General Administration	1,762	1,765
Data Processing	142	283
Plant Operations	2,253	1,404
Contingency	—	185
Quinquennial Review	150	—
<b>Total Program Uses</b>	<b>17,761</b>	<b>18,551</b>
Translation effect (loss)	650	—
<b>Total Uses</b>	<b>18,411</b>	<b>18,551</b>
<b>Net Excess</b>	<b>135</b>	<b>—</b>

<sup>1/</sup> Transfers from extra core not included.

## Wheat

US \$000's current dollars	1982 Actual		1983 Budget	
	Cost	MY	Cost	MY
Headquarters	3,362	15.5	3,319	15.0
Regional Programs	1,534	8.5	1,497	9.0
Total	4,896	24.0	4,816	24.0

The wheat program shows very little change both in manpower and cost between 1982 and 1983. In fact, however, many internal shifts are taking place: the principal triticale breeder has retired, a headquarters agronomist has been posted to the Andean region, the principal durum breeder will soon shift to an outreach program, a headquarters pathologist will shift to the East African regional program, and a portion of the disease surveillance work has been shifted from a Turkey base to headquarters. These changes promise to inject new vigor and help to sustain the impressive achievements of the wheat program.

## Maize

US \$000's current dollars	1982 Actual		1983 Budget	
	Cost	MY	Cost	MY
Headquarters	1,819	8.0	2,143	11.0
Regional Programs	1,598	11.0	1,710	11.0
Total	3,417	19.0	3,853	22.0

The maize program expects to make important additions to its headquarters staff in 1983. Two breeders and a wide crosses specialist will be added to the staff. These positions had been approved previously but left vacant due to anticipated funding restrictions.

## Economics

US \$000's current dollars	1982 Actual		1983 Budget	
	Cost	MY	Cost	MY
Headquarters	291	2.0	331	2.0
Regional Programs	415	3.25	535	3.5
Total	706	5.25	866	5.5

Only a small increase in man-years is planned for 1983, but this will be accompanied by a significant shift in regional program operations. Two regional economists will be stationed in Asia, one in Pakistan and one in Thailand, to give more attention to these important maize and wheat growing areas, and the regional program in the Andean region will be discontinued. Also since the costs of this program are heavily dollar based it increases in financial terms at a rate higher than most other programs.

## Research Support

US \$000's current dollars	1982 Actual		1983 Budget	
	Cost	MY	Cost	MY
Laboratories	426	2.0	472	3.0
Experiment Stations	1,629	1.5	1,274	1.5
Data Processing	142	1.0	283	1.0
Total	2,197	4.5	2,029	5.5

The figures for these support programs are somewhat misleading. In laboratories, the additional man-year is due to a staff member who in 1982 was a postdoctoral fellow. The slight increase in total cost is offset by the reduced dollar value of peso expenses. In experiment stations, 1982 expenses reflect the use of a contingency of \$210,000. The actual decline in 1983 is due to the very large portion of this budget spent in pesos. Data processing in 1983 reflects the maintenance cost of the new computer, the use of outside consultants and the conversion and development of software.

### Training and Conferences

US \$000's current dollars	1982 Actual		1983 Budget	
	Cost	MY	Cost	MY
Offices				
Fellowships	750	7.0	944	8.0
Conferences	1,020	—	1,760	—
Total	76	—	216	—
	1,846	7.0	2,920	8.0

1983 shows an increase in all items. The addition of a training staff member in wheat (to bring it to the approved total of 3.0 my) adds to the offices line. Additional fellowships for postdoctoral fellows, in-service trainees and visiting scientists, and funds for conferences comprise the other line items.

### Information Services

US \$000's current dollars	1982 Actual		1983 Budget	
	Cost	MY	Cost	MY
Headquarters	534	3.0	713	4.0

Two items account for the increase in this support unit: 1) an additional writer editor specializing in training materials and 2) the increased cost of publications.

### General Administration

US \$000's current dollars	1982 Actual		1983 Budget	
	Cost	MY	Cost	MY
Headquarters	1,762	5.25	1,765	6.0

This administrative unit is expected to benefit from the reduced value of the peso, so that the added 0.75 my adds little extra cost above the 1982 level.

### Plant Operations

US \$000's current dollars	1982 Actual		1983 Budget	
	Cost	MY	Cost	MY
Headquarters	2,253	—0—	1,404	—0—

Much like experiment stations, this administrative unit is largely peso-denominated and, therefore, is expected to be able to reduce its dollar costs in 1983.

### Summary—1983 Prospects

The 1983 budget meets, at least partially, each of the four objectives mentioned in CIMMYT's 1983-1984 Biennial Budget:

- Critical headquarters positions are re-staffed, e.g., maize breeding and wide crosses.
- Training offices are restored to their full complement and fellowship levels are increased.
- General administration and plant operations each remain less than 10 percent of the total institutional budget.
- Regional programs are re-staffed as much as possible, in this case in the economics and wheat programs.

This is a hopeful sign that the manpower cuts of previous years are slowly being restored. With a sense of cautious optimism, for the CGIAR, for Mexico and for itself, CIMMYT looks forward to 1984.

## The 1984 Budget Request

The program assumptions stated in the 1983-1984 Biennial Budget remain a useful guideline for planning 1984's program of work. These are:

- CIMMYT's long range plan continues to portray the ultimately desirable goal for the institution. The budget strategy should reflect this perspective by continuing to strive to meet these manpower goals and adequately address these research priorities.
- Staffing of regional programs, at least to minimal effectiveness levels should remain a high priority medium term goal, i.e., within the next five years.
- The reductions made in local hire staff in 1982 should remain in effect throughout 1984.

Two planning assumptions, however, must be revised in light of the significant financial changes in 1982. These can be re-stated as follows:

- The magnitude of the devaluation of the peso in 1982 was such that the "gains", in terms of a revised cost structure, are likely to be felt both in 1983 and 1984.
- Planning for 1984 must reflect this financial restructuring on the cost side while at the same time working from a reasonable expectation of funds available to the CGIAR system.

The 1984 planning format proposed by the CGIAR and TAC Secretariats calls for the presentation of a "budget bracket" for the coming year. Activities are described at the top or bottom of the bracket. Taking the 1983 estimated or operating budget (which itself was revised substantially following the 1982 devaluation) as a starting point, the top of the bracket describes an increased level of activities in 1984, while the bottom of the bracket results in a reduction of activities.

The CGIAR has also recommended the transfer of six extra core (or special project) grants to CIMMYT's core program, and these are included in the budget presentation. Each such project is also described and costed later in the report.

### Financial Planning

For 1984 the four key financial factors will continue to be:

- **Mexican rate of inflation.** This is expected to remain high through 1984, primarily due to government budget deficits and the need to maintain a somewhat expansionary monetary policy.
- **Developed countries' (OECD) rates of inflation.** By 1984, the much awaited economic recovery should have arrived, and with it, rather higher inflation rates.
- **Mexican peso/US dollar exchange rate.** This rate will depend a great deal on points one and two above. Also Mexico's level of international reserves and its policy concerning freely floating exchange rates will be important.
- **US/Canada/European/Japan exchange rates.** The strength of the world economic recovery, the price of oil, general interest rates and the attractiveness of gold as an international reserve will all be important in setting these rates against the dollar.

The nominal increase budgeted for 1984 is 14 percent. It assumes 8.5 percent inflation in the developed countries, no significant weakening of the dollar against the major currencies of the world, and a 20 percent combined inflation/exchange rate in Mexico (i.e., the Mexican inflation rate expressed in dollars). It is also predicated on a 50 percent/50 percent peso/dollar split in CIMMYT's expenditures.

## A Look at the Budget Request

The various budgets for 1984 compared to the current estimate for 1983 are summarized in the table below:

US \$000's current dollars	1983	1984	1984
	Current Estimate	Top of Bracket	Bottom of Bracket
Core Programs	18,551	22,296	20,228
Approved Increase for Transferred Projects	631	747	747
Capital	260	570	400
Total	19,442	23,613	21,375
International Staff	75.0	79.0	71.0
Plus Approved Increase for Transferred Projects	3.0	3.75	3.75
Total	78.0	82.75	74.75

### PROJECTS TRANSFERRED TO CORE PROGRAMS

Transfers from extra core grants to the core program (noted under the approved increased line) include the following:

**UNDP/Tropical Wheat**—This program seeks to develop high-yielding disease resistant semidwarf wheat that will perform at economically profitable levels in the cooler seasons in warmer tropical and sub-tropical environments of the world.

**NORAD/Training**—This grant supports in-service trainees and visiting scientists from selected countries from around the world. The figure for 1984 is an estimate only.

**Netherlands (DPO)/Data Processing**—The grant provides support for a computer programmer to work with the wheat program in disease surveillance, breeding, and germplasm storage.

**Ford Foundation/Training**—Training in on-farm research in eastern and southern Africa is supported under this grant. It is not expected to continue on into 1984.

**GTZ/Training**—The project provides funds for two postdoctoral fellows to work in the wheat program.

**IDRC/Data Processing**—The primary objective of this project is to facilitate the transfer of software and systems technology, and statistical and biometrical procedures developed or refined in Canada to CIMMYT and other agricultural research organizations in the developing countries.

### Extra Core Projects Transferred to Core Program

US \$000's current dollars Donor/Program	1983		1984	
	COST	MY	COST	MY
UNDP/Tropical Wheat	324	1.0	483	2.0
NORAD/Training	70	—	80	—
Ford Foundation/Training	63	—	—	—
GTZ/Training	66	—	124	—
IDRC/Data Processing	73	1.0	52	0.75
Netherlands (DPO)/Data Processing	138	1.0	130	1.0
Sub Total	734	3.0	869	3.75
Less Administrative Fees Covering Indirect Costs	103	—	122	—
NEW ADDITIONAL FUNDS FOR CIMMYT	631	3.0	747	3.75

### **1984: TOP OF BRACKET**

The 1984 top of the bracket budget calls for additional staff over the 1983 level. These include:

- 1.0 my in wheat pathology (headquarters)
- 1.0 my in maize plant protection (headquarters)
- 1.0 my in maize physiology/agronomy (headquarters)
- 1.0 my in maize breeding (headquarters)

The top of the bracket also includes additional funds for training fellowships.

These increases, which bring total manpower to 82.75 my (including 3.0 from transferred projects), restore key positions, complement staffing decisions made in 1983 and help to fulfill the goals and objectives stated in the 1983-84 Biennial Budget.

### **1984: BOTTOM OF BRACKET**

Reductions from 1983 are called for in the bottom of the bracket budget for 1984. These include:

- 1.0 my in information services (headquarters)
- 1.0 my in economics regional program
- 1.0 my in maize wide crosses (headquarters)
- 1.0 my in wheat agronomy (headquarters)

Training fellowships, and general administration and data processing expenses are also reduced at the bottom of the bracket.

As much as current staffing and expenditure patterns permit, this is in accordance with previous plans presented by CIMMYT.

### **SPECIAL CONSIDERATION**

Much of the planning that forms the basis for the additions to staff in 1983 and 1984 is the result of the quinquennial review of CIMMYT in 1982. Strengthening key headquarters positions in maize and wheat is an example of this. One of the other topics of discussion during the review was the optimum size of CIMMYT given relative funding constraints. This led to the development of a staffing plan called the minimum/optimum model, or mini/opt for short. This calls for 85.0 my, (not including transferred projects) which under current budget projections would be attained in 1986.

If funds were available in 1984, CIMMYT would add the following positions.

- 1.0 my wheat south and southeast Asia
- 1.0 my maize east Africa
- 1.0 my maize breeding (headquarters)
- 1.0 my wheat breeding (headquarters)
- 1.0 my training coordinator (headquarters)
- 1.0 my laboratory services (headquarters)

All of the changes mentioned here, the budget bracket, the transfer of projects, and the mini/opt model, hopefully demonstrate the dynamism of CIMMYT's work. CIMMYT's performance in addressing the production problems of two of the world's most important food crops represents one of the highest returns to investment in agricultural research achieved to date in the world. The activities planned for 1984 seek to build on and complement CIMMYT's past accomplishments. We believe that the marginal funds required to do this, and to attain the mini/opt model will continue to pay a very high rate of return to developing countries and the CGIAR system.

## Core Programs in Detail

### WHEAT PROGRAM

Wheat research at CIMMYT (covering bread wheat, durum wheat, barley 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 in problem soils

Research and training 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 CIMMYT utilizes a modified matrix system that stresses crop improvement supported by a team of disciplinary researchers.

During the recent quinquennial review of CIMMYT, the issue of overlapping mandates with ICARDA was discussed. The matter continues under discussion in the current quinquennial review of ICARDA. Most likely, this will result in a rationalization of activities and resources for the CGIAR system but will neither damage or nor benefit the individual centers. But since no decision has been taken to date CIMMYT has not made any change in its budget presentation and therefore we continue to show our collaboration with ICARDA activities as a separate regional program, and with no changes in either the barley or durum wheat budgets.

### Improvement

US \$000's 1983 dollars 1983 onward	1982 Actual		1983 Current Estimate		1984 Top of Bracket		1984 Bottom of Bracket	
	Cost	MY	Cost	MY	Cost	MY	Cost	MY
	Bread Wheat	268	1.0	277	1.0	277	1.0	277
Durum Wheat	183	1.25	189	1.0	189	1.0	189	1.0
Barley	126	0.75	137	1.0	137	1.0	137	1.0
Triticale	246	1.5	217	1.0	217	1.0	217	1.0
Tropical Wheat	—	—	284	1.0	365	2.0	365	2.0
Total	823	4.5	1,104	5.0	1,185	6.0	1,185	6.0
Of Which Related to Transferred Projects	—	—	(284)	(1.0)	(365)	(2.0)	(365)	(2.0)

These sub-programs constitute the major crops in the CIMMYT wheat improvement program (tropical wheat can be considered a sub-set of bread wheat). In each program the principal breeding objectives are to develop widely adapted management responsive varieties with stable disease resistance. Aluminium toxicity tolerance, drought tolerance, and earlier maturity are important in bread wheat. In barley and durum wheat, disease resistance are priority items. In triticale, where ten years ago the yield of the best lines was half that of bread wheat, continued development of the yield potential and improved grain quality are the major objectives.

Program expenditures are expected to remain approximately constant. A good portion of these expenses are peso-denominated, related to the winter operations in northern Mexico, and therefore show little change between 1982 and 1984.

#### Research and Management Support

1982 Actual US \$000's		1983 Current Estimate		1984 Top of Bracket		1984 Bottom of Bracket	
Cost	MY	Cost	MY	Cost	MY	Cost	MY
2,539	11.0	2,499	11.0	2,650	12.0	2,348	10.0

These programs, which cover the office of the director, germplasm development, germplasm bank, international nurseries, agronomy, pathology, and wide crosses show some variability in expenses between 1982 and 1984. In 1983 the effect of the devaluation on Mexico-based programs is evident. At the top of the bracket the increase is in wheat pathology (1.0 my). At the bottom of the bracket level, one staff position is dropped in agronomy, leaving one staff member in the program.

#### Regional Programs

1982 Actual US \$000's		1983 Current Estimate		1984 Top of Bracket		1984 Bottom of Bracket	
Cost	MY	Cost	MY	Cost	MY	Cost	MY
1,534	8.5	1,497	9.0	1,495	9.0	1,495	9.0

These regional programs currently cover six wheat producing areas of the world: Southern Cone, Andean, East Africa, North and West Africa, South and South East Asia and the Middle East (based at ICARDA). The staff assigned to these programs play an important liaison function between CIMMYT headquarters and national collaborators. In addition, certain types of disease related and crop production research is carried out in the region.

In 1983 expenses will decline somewhat in spite of a staff increase. This is due mainly to a shift of some disease surveillance work to headquarters. No changes are planned for 1984.

## 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:

- Development and improvement of broadly-based gene pools for different specified areas of the world.
- Improvement and refinement of populations with upgraded materials from corresponding pools.
- 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.
- International testing of superior experimental varieties leading to their use by farmers.

As in wheat, the issue of overlapping mandates in the CGIAR system arises in the maize program. CIMMYT and IITA both have a mandate for maize improvement in the humid tropics of Africa. For the purposes of CIMMYT's 1984 budget no changes have been assumed in the present system; two staff continue to be budgeted in the West Africa regional maize program.

## Improvement

1982 Actual US \$000's		1983 Current Estimate		1984 Top of Bracket		1984 Bottom of Bracket	
Cost	MY	Cost	MY	Cost	MY	Cost	MY
977	5.0	1,158	7.0	1,425	9.0	1,008	6.0

This unit includes breeding, plant protection, physiology and agronomy and collaborative research activities. 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.

The headquarters-based improvement program has been understaffed since 1979 when budget reductions first began to occur. Among the highest priorities for 1983 and 1984 are the strengthening of this unit. The 1983 estimate calls for 7.0 my. At the end of 1983 one breeding position would shift to the Southeast Asia regional program leaving 6.0 my at year-end. At the top of the bracket in 1984, 3.0 my would be added in plant protection, physiology/agronomy and breeding.

### Research and Management Support (headquarters)

1982 Actual US \$000's		1983 Current Estimate		1984 Top of Bracket		1984 Bottom of Bracket	
Cost	MY	Cost	MY	Cost	MY	Cost	MY
842	3.0	985	4.0	985	4.0	860	3.0

This unit includes the office of the director, supervisor of the international testing program, wide cross research and services to national programs. In 1983, plans are to restore the wide crosses position that has been vacant for some time now. The position would remain vacant, though, if the bottom of the bracket were to prevail in 1984.

### Regional Programs

1982 Actual US \$000's		1983 Current Estimate		1984 Top of Bracket		1984 Bottom of Bracket	
Cost	MY	Cost	MY	Cost	MY	Cost	MY
1,598	11.0	1,710	11.0	1,860	12.0	1,860	12.0

Maize staff are now assigned to the Andean, Central American (including Mexico) and Caribbean, East Africa, West Africa, Asian and Middle East regions. Like their wheat counterparts, maize regional staff provide liaison services as well as perform research functions on some diseases (e.g., downy mildew, streak virus) that are not normally prevalent in Mexico. Plans for 1984 include the addition of 1.0 my staff to the Asian regional program, the result of a transfer of a staff member from seconded status to core fundings.

## 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 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.

## Research

US \$000's	1982		1983		1984		1984	
	Actual		Current Estimate		Top of Bracket		Bottom of Bracket	
	Cost	MY	Cost	MY	Cost	MY	Cost	MY
Headquarters	291	2.0	331	2.0	331	2.0	330	2.0
Reg'l Prog.	415	3.25	535	3.5	570	4.0	421	3.0
Total	706	5.25	866	5.5	901	6.0	751	5.0

One staff position is retained and annualized at the top of the bracket in 1984. If the bottom of the bracket should become necessary, though, this position would be dropped. The majority of regional programs continue to be funded on a core restricted basis and, therefore, offer little flexibility for revision.

## RESEARCH SUPPORT

US \$000's	1982		1983		1984		1984	
	Actual		Current Estimate		Top of Bracket		Bottom of Bracket	
	Cost	MY	Cost	MY	Cost	MY	Cost	MY
Labs.	426	2.0	472	3.0	402	2.0	402	2.0
Exp. Stations	1,629	1.5	1,274	1.5	1,309	2.0	1,309	2.0
Data Processing	142	1.0	453	3.0	414	2.75	381	2.75
Total	2,197	4.5	2,199	7.5	2,125	6.75	2,092	6.75
Of Which Related to Transferred Projects	—	—	(170)	(2.0)	(131)	(1.75)	(131)	(1.75)

Two projects are transferred to the core program in 1983 and continue into 1984. These are both related to Data Processing, and involve the services of two computer

programmers. One project is expected to terminate in September of 1984. Other changes in 1984 include the annualization of one position in Experiment Stations, and a decline in staff in Laboratory Services.

## TRAINING AND CONFERENCES

US \$000's	1982 Actual		1983 Current Estimate		1984 Top of Bracket		1984 Bottom of Bracket	
	Cost	MY	Cost	MY	Cost	MY	Cost	MY
		1,846	7.0	3,097	8.0	3,523	8.0	2,885
Of Which Related to Transferred Projects	—	—	(177)	—	(173)	—	(173)	—

Training funds have been among the items cut in the recent budget revisions. As we have learned, though, extra core grants have not been able to completely fill the resulting perceived gap in the number of trainees. At the same time these training grants carry a disproportionately large administrative overhead. At the top of the bracket

CIMMYT hopes to ensure that adequate core training funds are available for fellowships. Training also benefits from the transfer of projects sponsored by the Ford Foundation (training in on-farm research), NORAD (In-service training and visiting scientists) and GTZ (postdoctoral fellowships).

## INFORMATION SERVICES

1982 Actual US \$000's		1983 Current Estimate		1984 Top of Bracket		1984 Bottom of Bracket	
Cost	MY	Cost	MY	Cost	MY	Cost	MY
534	3.0	713	4.0	713	4.0	600	3.0

One of the first manpower reductions to be made at the bottom of the bracket would be the fourth person in Information Services. This would leave two writer/editors and one coordinator serving the research programs and administration as well as working with national collaborators.

## GENERAL ADMINISTRATION

1982 Actual US \$000's		1983 Current Estimate		1984 Top of Bracket		1984 Bottom of Bracket	
Cost	MY	Cost	MY	Cost	MY	Cost	MY
1,762	5.25	1,765	6.0	1,765	6.0	1,750	6.0

General administration is allotted a slight funding decrease at the bottom of the bracket. This is an attempt to provide balance to the budget, on the assumption that at least some administrative services vary in proportion to the number of international staff on hand.

## PLANT OPERATIONS

1982 Actual US \$000's		1983 Current Estimate		1984 Top of Bracket		1984 Bottom of Bracket	
Cost	MY	Cost	MY	Cost	MY	Cost	MY
2,253	—	1,404	—	1,404	—	1,400	—

Since 1982, dollars needed for plant operations have decreased markedly. This is the direct result of the devaluation of the peso; it does not imply a decrease in plant operation activities.

## SUMMING UP

For 1984 the budget bracket again describes important additions and reductions to CIMMYT's program of work.

### Top of the Bracket

At the top of the bracket an additional \$996,000 (1983 dollars) is included for program use. This is broken down further as follows:

**Wheat: \$149,000**, which adds one headquarters staff person in pathology.

**Maize: \$417,000**, which restores vacant headquarters positions in breeding, plant protection, and physiology/agronomy. These positions are considered extremely important to sustain the advances to date in maize improvement and production.

**Training and Conferences: \$430,000**, fellowships, which for a long time have been reduced by budget cuts, can be restored.

### Bottom of the Bracket

At the bottom of the bracket \$801,000 (1983 dollars) in program funds are subtracted from the 1983 current estimate. These include:

**Wheat: (\$153,000)**, which includes the reduction of one agronomist. This change would leave only 1.0 my of international staff in the headquarters agronomy research program.

**Maize: (\$125,000)**, with one staff person being reduced in wide crosses. This would leave zero staff assigned to wide cross research in 1984.

**Economics: (\$150,000)**, which would be accomplished through the phasing out of one regional program.

**Research Support: (\$33,000)**, which represents a reduction in planned activities in Data Processing.

**Training and Conferences: (\$208,000)** As in past years some fellowships would have to be cut in order to reach the fallback position.

**Information Services: (\$113,000)**, which would leave 3.0 my of staff in the communications group, also the minimum level given current modes of operation.

**Others: (\$19,000)**, which represents cuts in general administration and plant operations.

Finally, the transfer of some projects to the core program, though not directly affecting the Center's overall program of work, represents an important addition to the CGIAR system, especially, with respect to matching funds. In total, these add \$669,000 in direct program funds, 55% of which go to Wheat, 20% to Data Processing, and 25% to Training.

## Special Consideration

CIMMYT has recently completed its second quinquennial review. For that process, the Center's management team and Board of Trustees were asked to develop a model describing the minimum size and deployment of staff which would provide for a sustained high rate of impact from CIMMYT's core activities. This model became the "minimum/optimum" model (or mini/opt for short) and was substantially endorsed by the QQR panel, and we believe by the TAC.

These staff positions are consistent, in terms of overall institutional development, with the manpower deployment previously envisioned in CIMMYT's Long Range Plan for the 1980s (although the mini/opt model is a scaled-back version with 13 fewer staff members: 3 less at headquarters and 10 less in the regions).

The following table describes the additional positions (taking the 1984 top of the bracket as the starting point) required to complete the mini/opt model. The total funds required would still leave CIMMYT far below the original pre-devaluation 1984 budget guideline.

## Additional Positions Required for Mini/Opt Model

Position	MY	Direct Cost 1983 US \$000's	Year planned to enter core budget
Wheat South and Southeast Asia	1.0	148	1985
Maize East Africa	1.0	155	1985
Maize Breeding	1.0	150	1986
Wheat Breeding	1.0	150	1986
Training Coordinator	1.0	150	1986
Laboratory Services	1.0	100	1986
SUB-TOTAL	6.0	853	
Plus 10% contingency		8	
Inflation/Exchange Rates 140%		120	
Operating Funds		81	
TOTAL ADDITIONAL FUNDS REQUIRED		1,062	

## Capital

As a well-established institute CIMMYT's 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 maintenance and renovation of buildings and replacement of equipment. These, however, are met with program funds in accordance with CGIAR rules, mainly in the budgets of experiment stations, general administration, and plant operations.

Capital needs are summarized below:

### Capital Requirements

US \$000's	1982 Actual	1983 Estimate	1984 Top of Bracket	1984 Bottom of Bracket
Capital				
Acquisitions	364	150	200	200
Operating Funds	—	60	320	150
Seniority Premiums	50	50	50	50
Translation effect <sup>1/</sup>	650	—	—	—
Total	1,064	260	570	400

<sup>1/</sup> Charged to 1982 expenses in accordance with Statement No. 52 of the Financial Accounting Standards Board of the United States

## Extra-Core Programs<sup>1/</sup>

Extra-core programs are generally of four types:

- Bilateral national programs: posting of staff and/or provision of research equipment,
- Specialized or advanced degree training grants,
- Collaborative research arrangements of a more basic or longer term nature, and
- Substantial exploratory research activities.

In 1982, total extra-core grants amounted to \$2,510,000 or 13 percent of core expenditures. Current estimates for 1983 and 1984 are \$2,400,000 and \$2,500,000 respectively.

The table below summarizes the major extra core grants during the period 1982-1984. Since many grants (especially those related to training) are given on a year-to-year basis, and some grants are due for possible renewal or are in negotiation, costs and man-years for 1983 and 1984 should be considered estimates only and subject to considerable year to year variation.

### Extra-Core Grants (US \$000's)

Donor	Project	Type	1983		1984	
			Cost	My	Cost	My
USAID	Pakistan Maize and Wheat	Bilateral Program	610	2.0	—	—
USAID	Tanzania Maize	Bilateral Program	203	2.0	—	—
CIDA	Bangladesh Wheat	Bilateral Program	897	2.0	750	2.0
CIDA	Ghana Maize	Bilateral Program	118	1.0	—	—
CIDA	Haiti Economics	Bilateral Program	94	1.0	107	1.0
Ford Foundation	Algeria	Training	75	—	75	—
CIDA	Data Processing	Collaborative Research	40	1.0	40	1.0
USAID	On-Farm Research	Training and Collaborative Research	606	2.0	319	2.0
UNDP	Policy Seminars	Exploratory Research	150	—	150	—
SUB TOTAL			2,793	11.0	1,441	6.0
Less: Administrative Fees			350		240	
TOTAL			2,443	11.0	1,201	6.0

<sup>1/</sup> Does not include projects previously classified as Extra-Core and recently reclassified by TAC as Restricted Core beginning in 1983.

## Budget Tables

### NOTES TO 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 1980-1984.

This table shows international staff manyears 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 1984 request is shown in constant 1983 dollars with the total given in Line 6. Inflation and exchange rates are included, as appropriate and compounded from 1983 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 1980-1984.

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 unexpected funds of this statement. This table is shown in current dollars.

Table 3: Net Requirement from CGIAR 1980-1984.

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 1980-1984.

Beginning with the base year, i.e., 1983, 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 table 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 1980-1984.

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 the translation effect was charged here. This table is shown in current dollars.

Table 6: a,b,c,d:

Table 6(a) repeats Table 1 but shows projections for the years 1985-1988. 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 International Staff Man-Years and Operating Costs by Activity 1980—1984 (US Dollars, Thousands) <sup>1/</sup>**

	1980 Actual		1981 Actual		1982 Actual		1983 Current Estimate		1984 Top of Bracket		1984 Bottom of Bracket	
	COST	MY	COST	MY	COST	MY	COST	MY	COST	MY	COST	MY
<b>1. RESEARCH</b>												
a) Wheat Program												
Bread Wheat	301	1.6	283	1.0	268	1.0	277	1.0	277	1.0	277	1.0
Durum Wheat	248	1.5	203	1.0	183	1.25	189	1.0	189	1.0	189	1.0
Barley	164	1.0	216	1.0	126	0.75	137	1.0	137	1.0	137	1.0
Triticale	292	2.0	341	2.0	246	1.5	217	1.0	217	1.0	217	1.0
Tropical Wheat	—	—	—	—	—	—	284	1.0	365	2.0	365	2.0
Regional Programs	959	7.0	1,108	8.0	1,534	8.5	1,497	9.0	1,495	9.0	1,495	9.0
Research & Mgmt. Support	1,970	10.5	2,359	9.75	2,539	11.0	2,499	11.0	2,650	12.0	2,348	10.0
SUB-TOTAL WHEAT	3,934	23.6	4,510	22.75	4,896	24.0	5,100	25.0	5,330	27.0	5,028	25.0
Of Which Related to Transferred Projects	—	—	—	—	—	—	(284)	(1.0)	(365)	(2.0)	(365)	(2.0)
b) Maize Program												
Improvement	1,562	11.5	1,778	11.0	977	5.0	1,158	7.0	1,425	9.0	1,008	6.0
Regional Programs	879	7.5	908	7.0	1,598	11.0	1,710	11.0	1,860	12.0	1,860	12.0
Research & Mgmt. Support	802	4.0	714	3.0	842	3.0	985	4.0	985	4.0	860	3.0
SUB-TOTAL MAIZE	3,243	23.0	3,400	21.0	3,417	19.0	3,853	22.0	4,270	25.0	3,728	21.0
c) Economics Program												
Headquarters	320	2.0	318	2.0	291	2.0	331	2.0	331	2.0	330	2.0
Regional Programs	483	4.0	540	4.0	415	3.25	535	3.5	570	4.0	421	3.0
SUB-TOTAL ECONOMICS	803	6.0	858	6.0	706	5.25	866	5.5	901	6.0	751	5.0
d) Research Support												
Laboratory Services	511	2.0	512	2.0	426	2.0	472	3.0	402	2.0	402	2.0
Experiment Stations	1,744	2.0	2,147	2.0	1,629	1.5	1,274	1.5	1,309	2.0	1,309	2.0
Data Processing	265	1.5	369	1.0	142	1.0	453	3.0	414	2.75	381	2.75
SUB-TOTAL RESEARCH SUPPORT	2,520	5.5	3,028	5.0	2,197	4.5	2,199	7.5	2,125	6.75	2,092	6.75
Of Which Related to Transferred Projects	—	—	—	—	—	—	(170)	(2.0)	(131)	(1.75)	(131)	(1.75)
2. TRAINING AND CONFERENCES	1,929	7.3	1,943	6.0	1,846	7.0	3,097	8.0	3,523	8.0	2,885	8.0
Of Which Related to Transferred Projects	—	—	—	—	—	—	(177)	—	(173)	—	(173)	—
3. INFORMATION SERVICES	615	3.75	691	3.75	534	3.0	713	4.0	713	4.0	600	3.0
4. GENERAL ADMINISTRATION	1,377	6.0	1,821	4.75	1,762	5.25	1,765	6.0	1,765	6.0	1,750	6.0
5. PLANT OPERATIONS	1,758	—	2,032	—	2,253	—	1,404	—	1,404	—	1,400	—
6. SUB-TOTAL PROGRAMS <sup>1/</sup>	16,179	75.15	18,283	69.25	17,611	68.0	18,997	78.0	20,031	82.75	18,234	74.75
Of Which Related to Transferred Projects	—	—	—	—	—	—	(631)	(3.0)	(669)	(3.75)	(669)	(3.75)
7. OTHER												
Contingency <sup>2/</sup>	—	—	—	—	—	—	185	—	194	—	175	—
Quinquennial Review	—	—	—	—	150	—	—	—	—	—	—	—
Nominal Increment <sup>3/</sup>	—	—	—	—	—	—	—	—	2,818	—	2,566	—
Of Which Related to Transferred Projects	—	—	—	—	—	—	—	—	(78)	—	(78)	—
8. TOTAL CORE	16,179	75.15	18,283	69.25	17,761	68.0	19,182	78.0	23,043	82.75	20,975	74.75
Of Which Related to Transferred Projects	—	—	—	—	—	—	(631)	(3.0)	(747)	(3.75)	(747)	(3.75)
9. TOTAL EXTRA CORE <sup>4/</sup>	1,554	7.5	1,592	6.25	2,241	7.0	2,438	11.0	1,201	6.0	1,201	6.0
10. BY OBJECT OF EXPENDITURE												
Salaries and Allowances	10,003	—	10,737	—	9,542	—	9,765	—	10,141	—	9,375	—
Supplies and Services	3,873	—	5,115	—	5,204	—	5,522	—	6,011	—	5,326	—
Fellowships	1,148	—	1,085	—	1,243	—	1,937	—	1,938	—	1,778	—
Travel	1,155	—	1,346	—	1,622	—	1,958	—	2,135	—	1,930	—
Quinquennial Review	—	—	—	—	150	—	—	—	—	—	—	—
TOTAL <sup>5/</sup>	16,179	75.15	18,283	69.25	17,761	68.0	19,182	78.0	20,225	82.75	18,409	74.75
Of Which Related to Transferred Projects	—	—	—	—	—	—	(631)	(3.0)	(669)	(3.75)	(669)	(3.75)

<sup>1/</sup> 1980-82 in nominal dollars throughout. 1983-84 in 1983 dollars Lines 1-6. Line 7 in nominal dollars

<sup>2/</sup> Equals 1% of program total.

<sup>3/</sup> The combined effect of inflation and exchange rates compounded from 1983 onward; 14% in 1984

<sup>4/</sup> Estimates only for 1983 onward

<sup>5/</sup> In 1983 dollars from 1983 onward. Total equals core programs plus contingency.

**Table 2. Summary of Sources and Uses of Funds 1980—1984  
(US Current Dollars, Thousands)**

	1980 Actual	1981 Actual	1982 Actual	1983 Current Estimate	1984 Top of Bracket	1984 Bottom of Bracket
<b>SOURCES OF FUNDS</b>						
1) CORE OPERATIONS						
a) Unrestricted Grants	12,926	15,507	14,082	13,964	18,165	15,927
b) Restricted Grants	3,138	2,811	4,233	4,912	5,069	5,069
c) Earned Income Applied in Year	220	420	645	397	379	379
d) Unexpended Balances—Core	557	280	34	169	—	—
SUB-TOTAL	16,841	19,018	18,994	19,442	23,613	21,375
Of Which Related to Transferred Projects	—	—	—	(631)	(747)	(747)
2) CAPITAL AND RESERVES						
a) Grants	—	—	—	—	—	—
b) Unexpended Balances	—	—	—	—	—	—
c) Balance in Operating Funds	1,215	1,215	1,540	1,540	1,600	1,600
SUB-TOTAL	1,215	1,215	1,540	1,540	1,600	1,600
3) EXTRA CORE OPERATIONS						
a) Extra Core & Cooperative Projects	1,554	1,769	2,241	2,438	1,201	1,201
b) Unexpended Balances—Extra Core	(48)	(48)	(48)	(48)	(48)	(48)
SUB-TOTAL	1,506	1,721	2,193	2,390	1,153	1,153
4) TOTAL SOURCES OF FUNDS	19,562	21,954	22,727	23,372	26,366	24,128
<b>USES OF FUNDS</b>						
1) CORE OPERATIONS	16,179	18,283	17,761	19,182	23,043	20,975
a) Of Which Related to Transferred Projects				(631)	(747)	(747)
2) CAPITAL AND RESERVES	382	376	1,064	200	250	250
3) EXTRA CORE AND COOPERATIVE PROJECTS	1,554	1,769	2,241	2,438	1,201	1,201
4) UNEXPENDED FUNDS						
a) Core	280	34	169	—	—	—
b) Extra Core	(48)	(48)	(48)	(48)	(48)	(48)
c) Operating Funds	1,215	1,540	1,540	1,600	1,920	1,750
SUB-TOTAL	1,447	1,526	1,661	1,552	1,872	1,702
5) TOTAL USES OF FUNDS	19,562	21,954	22,727	23,372	26,366	24,128

**Table 3. Net Requirement from CGIAR 1980—1984  
(US Current Dollars, Thousands)**

	1980 Actual	1981 Actual	1982 Actual	1983 Current Estimate	1984 Top of Bracket	1984 Bottom of Bracket
1. TOTAL CORE OPERATING FUNDS REQUIRED	16,179	18,283	17,761	19,182	23,043	20,975
Less: Unexpended Funds Balance	557	30	34	169	—	—
Less: Earned Income (excepting administrative fees on Core Restricted Grants)	220	420	645	397	379	379
NET CORE OPERATING FUNDS REQUIRED FROM CGIAR	15,402	17,833	17,082	18,616	22,664	20,596
Of Which Related to Transferred Projects	—	—	—	(631)	(747)	(747)
2. TOTAL CAPITAL FUNDS REQUIRED	1,597	1,916	2,604	1,800	2,170	2,000
Less: Balance of Operating Funds, previous year	1,215	1,215	1,540	1,540	1,600	1,600
NET CAPITAL FUNDS REQUIRED FROM CGIAR	382	701	1,064	260	570	400
3. NET FUNDS REQUIRED FROM CGIAR	15,784	18,534	18,146	18,876	23,234	20,996
Of Which Related to Transferred Projects	—	—	—	(631)	(747)	(747)
4. NET FUNDS RECEIVED FROM CGIAR	16,064	18,568	18,315	N/A	N/A	N/A
5. BALANCE CARRIED FORWARD	280	34	169	—	—	—

**Table 4. Summary Balance Sheet 1980—1984**  
**(US-Current Dollars, Thousands)**

	1980 Actual	1981 Actual	1982 Actual	1983 Current Estimate	1984 Top of Bracket	1984 Bottom of Bracket
<b>1. CURRENT ASSETS</b>						
Cash	880	1,582	645	750	719	715
Short Term Investments	253	2,050	2,608	3,000	3,355	3,254
Receivables (Donors)	152	690	1,307	1,063	1,000	1,000
Receivables (Others)	1,020	528	453	500	500	500
Inventories	235	231	78	125	150	100
Prepaid Expenses	3	—	—	—	—	—
Other Current Assets	1	—	—	—	—	—
<b>TOTAL CURRENT ASSETS</b>	<b>2,544</b>	<b>5,081</b>	<b>5,091</b>	<b>5,438</b>	<b>5,724</b>	<b>5,569</b>
<b>2. FIXED ASSETS</b>						
Vehicles	1,770	2,251	2,701	2,725	2,840	2,725
Furnishings and Equipment	1,878	2,635	2,956	3,000	3,204	3,039
Buildings	5,525	5,797	5,989	6,000	6,060	6,000
Land	464	464	464	464	464	464
Other Fixed	372	372	372	372	372	372
<b>TOTAL FIXED ASSETS</b>	<b>10,009</b>	<b>11,519</b>	<b>12,482</b>	<b>12,561</b>	<b>12,940</b>	<b>12,600</b>
<b>3. OTHER ASSETS</b>	<b>—</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>TOTAL ASSETS</b>	<b>12,553</b>	<b>16,601</b>	<b>17,574</b>	<b>18,000</b>	<b>18,665</b>	<b>18,170</b>
<b>4. LIABILITIES</b>						
Accounts Payable	1,486	2,663	3,292	3,382	3,249	3,314
Payables to Donors	42	42	42	50	54	54
Other Liabilities	—	266	87	275	290	300
Payments in Advance—Donors	—	830	214	300	300	300
<b>TOTAL LIABILITIES</b>	<b>1,528</b>	<b>3,801</b>	<b>3,635</b>	<b>4,007</b>	<b>3,893</b>	<b>3,968</b>
<b>5. CAPITAL GRANTS, UNEXPENDED FUNDS AND RESERVES</b>						
a) Capital						
Fully Expended in Fixed Assets	10,009	11,519	12,482	12,561	13,000	12,600
Operating Funds	1,215	1,540	1,540	1,540	1,880	1,710
b) Unexpended Funds (Incl. translation effect)	(291)	(351)	(175)	(200)	(200)	(200)
c) Sub-total	10,933	12,708	13,847	13,901	14,680	14,110
<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>11,025</b>	<b>12,800</b>	<b>13,939</b>	<b>13,993</b>	<b>14,772</b>	<b>14,202</b>
<b>TOTAL LIABILITIES AND CAPITAL</b>	<b>12,553</b>	<b>16,601</b>	<b>17,574</b>	<b>18,000</b>	<b>18,665</b>	<b>18,170</b>

**Table 5. Capital Expenditures: 1980—1984**  
**(US Current Dollars, Thousands)**

	1980 Actual	1981 Actual	1982 Actual	1983 Current Estimate	1984 Top of Bracket	1984 Bottom of Bracket
<b>CAPITAL</b>						
a) Acquisitions and Improvements	357	326	364	150	200	200
b) Operating Funds	—	325	—	60	320	150
c) Seniority Premiums	25	50	50	50	50	50
d) Translation Effect <sup>1/</sup>	—	—	650	—	—	—
<b>TOTAL CAPITAL</b>	<b>382</b>	<b>701</b>	<b>1,064</b>	<b>260</b>	<b>570</b>	<b>400</b>

<sup>1/</sup> Translation effect charged to on-going expenses in accordance with Statement 52 of the Financial Accounting Standards Board of the United States

**Table 6(A). Summary of International Staff Man-Years and Operating Costs by Activity: Projections 1985—1988 (US Current Dollars, Thousands)**

	1985		1986		1987		1988	
	COST	MY	COST	MY	COST	MY	COST	MY
1) RESEARCH								
a) Wheat Program								
Bread Wheat	277	1.0	427	2.0	427	2.0	427	2.0
Durum Wheat	189	1.0	189	1.0	189	1.0	189	1.0
Barley	137	1.0	137	1.0	137	1.0	137	1.0
Triticale	217	1.0	217	1.0	217	1.0	217	1.0
Tropical Wheat	321	2.0	377	2.0	167	1.0		
Regional Programs	1,643	10.0	1,643	10.0	1,798	11.0	1,948	12.0
Research and Mgmt. Support	2,705	12.0	2,765	12.0	2,865	13.0	2,865	13.0
SUB-TOTAL WHEAT	5,489	28.0	5,755	29.0	5,800	30.0	5,783	30.0
Of Which Related to Transferred Projects	(321)	(2.0)	(377)	(2.0)	(167)	(1.0)		
b) Maize Program								
Improvement	1,425	9.0	1,575	10.0	1,575	10.0	1,575	10.0
Regional Programs	2,015	13.0	2,015	13.0	2,125	14.0	2,125	14.0
Research and Mgmt. Support	985	4.0	985	4.0	1,085	5.0	1,085	5.0
SUB-TOTAL MAIZE	4,425	26.0	4,575	27.0	4,785	29.0	4,785	29.0
c) Economics Program								
Headquarters	335	2.0	335	2.0	335	2.0	335	2.0
Regional Programs	570	4.0	570	4.0	570	4.0	570	4.0
SUB-TOTAL ECONOMICS	905	6.0	905	6.0	905	6.0	905	6.0
d) Research Support								
Laboratory Services	402	2.0	502	3.0	502	3.0	502	3.0
Experiment Stations	1,400	2.0	1,400	2.0	1,400	2.0	1,400	2.0
Data Processing	385	2.0	285	1.0	285	1.0	285	1.0
SUB-TOTAL RESEARCH SUPPORT	2,187	6.0	2,187	6.0	2,187	6.0	2,187	6.0
Of Which Related to Transferred Projects	(100)	(1.0)	-	-	-	-	-	-
2) TRAINING AND CONFERENCES	3,404	8.0	3,400	9.0	3,450	9.0	3,500	9.0
Of Which Related to Transferred Projects	(54)	-	-	-	-	-	-	-
3) INFORMATION SERVICES	725	4.0	725	4.0	725	4.0	850	5.0
4) GENERAL ADMINISTRATION	1,825	6.0	1,825	6.0	1,825	6.0	1,850	6.0
5) PLANT OPERATIONS	1,600	-	1,600	-	1,600	-	1,600	-
6) SUB-TOTAL PROGRAMS <sup>1/</sup>	20,560	84.0	20,972	87.0	21,277	90.0	21,460	91.0
Of Which Related to Transferred Projects	(475)	(3.0)	(377)	(2.0)	(167)	(1.0)	-	-
7) OTHER								
Contingency <sup>2/</sup>	200	-	205	-	210	-	215	-
Nominal Increment <sup>3/</sup>	6,221		10,180		14,836		20,158	
Of Which Related to Transferred Projects	(136)		(196)		(126)		-	
8) TOTAL CORE	26,981	84.0	31,357	87.0	36,323	90.0	41,833	91.0
Of Which Related to Transferred Projects	(611)	(3.0)	(573)	(2.0)	(293)	(1.0)	-	-
9) TOTAL EXTRA CORE <sup>4/</sup>	2,500	6.0	2,500	6.0	2,500	6.0	2,500	6.0
10) BY OBJECT OF EXPENDITURE								
Salaries and Allowances	10,400		10,700		10,900		11,000	
Supplies and Services	6,200		6,317		6,425		6,425	
Fellowships	2,075		2,075		2,062		2,150	
Travel	2,085		2,085		2,100		2,100	
TOTAL <sup>5/</sup>	20,760	84.0	21,177	87.0	21,487	90.0	21,675	91.0
Of Which Related to Transferred Projects	(475)	(3.0)	(377)	(2.0)	(167)	(1.0)	-	-

1/ In 1983 dollars, Lines 1-7 Line 8 in nominal dollars

2/ Equals 1% of program sub-total

3/ The combined affect of inflation and exchange rates; compounded from 1983 onward, 14% pa 1985-1988

4/ Estimates only

5/ 1983 dollars. Total equals core program plus contingency

**Table 6(B). Sources and Uses of Funds: Projections 1985—1988**  
**(US Current Dollars, Thousands)**

	1985	1986	1987	1988
<b>SOURCES OF FUNDS</b>				
1) CORE OPERATIONS	27,206 <sup>1/</sup>	31,657 <sup>1/</sup>	36,713 <sup>1/</sup>	42,283 <sup>1/</sup>
a) Unrestricted Grants	—	—	—	—
b) Restricted Grants	—	—	—	—
c) Earned Income Applied in Year	400	400	400	400
d) Unexpended Balances – Core	—	—	—	—
SUB-TOTAL	27,606	32,057	37,113	42,683
Of Which Related to Transferred Projects	(611)	(573)	(293)	—
2) CAPITAL AND RESERVES				
a) Grants	—	—	—	—
b) Unexpended Balances	—	—	—	—
c) Balance in Operating Funds	1,920 <sup>2/</sup>	2,220	2,570	2,985
SUB-TOTAL	1,920	2,220	2,570	2,985
3) EXTRA CORE OPERATIONS				
a) Extra Core and Cooperative Projects	2,500 <sup>3/</sup>	2,500 <sup>3/</sup>	2,500 <sup>3/</sup>	2,500 <sup>3/</sup>
b) Unexpended Balances – Extra Core	(48)	(48)	(48)	(48)
SUB-TOTAL	2,452	2,452	2,452	2,452
4) TOTAL SOURCES OF FUNDS	31,978	36,729	42,135	48,120
<b>USES OF FUNDS</b>				
1) CORE OPERATIONS	26,981	31,357	36,323	41,833
a) Of Which Related to Transferred Projects	(611)	(573)	(293)	—
2) CAPITAL AND RESERVES	325	350	375	400
3) EXTRA CORE AND COOPERATIVE PROJECTS	2,500	2,500	2,500	2,500
4) UNEXPENDED FUNDS				
a) Core	—	—	—	—
b) Extra Core	(48)	(48)	(48)	(48)
c) Operating Funds	2,220	2,570	2,985	3,435
SUB-TOTAL	2,172	2,522	2,937	3,387
5) TOTAL USES OF FUNDS	31,978	36,729	42,135	48,120

<sup>1/</sup> Total core funds required inclusive of unrestricted and restricted grants

<sup>2/</sup> Calculated against 1984 top of bracket

<sup>3/</sup> Estimated

**Table 6(C). Net Requirement from CGIAR:  
Projections 1985—1988  
(US Current Dollars, Thousands)**

	1985	1986	1987	1988
1. TOTAL CORE OPERATING FUNDS REQUIRED	26,981	31,357	36,323	41,833
Less: Unexpended Funds Balance	—	—	—	—
Less: Earned Income (excepting administrative fees on Core Restricted Grants)	400	400	400	400
NET CORE OPERATING FUNDS REQUIRED FROM CGIAR	26,581	30,957	35,923	41,433
Of Which Related to Transferred Projects	(611)	(573)	(293)	—
2. TOTAL CAPITAL FUNDS REQUIRED	2,545	2,920	3,360	3,835
Less: Balance of Operating funds, previous year	1,920	2,220	2,570	2,985
NET CAPITAL FUNDS REQUIRED FROM CGIAR	625	700	790	850
3. TOTAL FUNDS REQUIRED FROM CGIAR Of Which Related to Transferred Projects	27,206 (611)	31,657 (573)	36,713 (293)	42,283 —
4. TOTAL FUNDS RECEIVED FROM CGIAR	N/A	N/A	N/A	N/A
5. BALANCE CARRIED FORWARD	—	—	—	—

**Table 6(D). Capital Expenditures Projections: 1985—1988  
(US Current Dollars, Thousands)**

	1985	1986	1987	1988
1. CAPITAL				
a) Capital Acquisitions	275	300	325	350
b) Operating Funds	300 <sup>1/</sup>	350	415	450
2. RESERVES				
a) Seniority Premiums	50	50	50	50
3. TOTAL CAPITAL	625	700	790	850

<sup>1/</sup> Calculated against 1984 top of bracket

# Appendices

## Appendix I. International Staff Man-Years 1980—1988

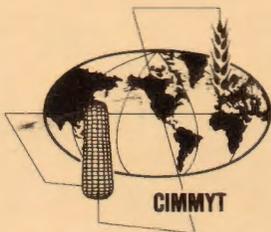
	1980 Actual	1981 Actual	1982 Actual	1983 Estimate	1984 Top of Bracket	1984 Bottom of Bracket	1985 Projection	1986 Projection	1987 Projection	1988 Projection
<b>WHEAT PROGRAM</b>										
Headquarters										
Bread Wheat	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0
Durum Wheat	1.5	1.0	1.25	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Barley	1.0	1.0	0.75	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Triticale	2.0	2.0	1.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Tropical Wheat	-	-	-	1.0	2.0	2.0	2.0	2.0	2.0	2.0
Research and Mgmt. Support										
Office of Director	2.0	1.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Collaborative Research	-	-	-	-	-	-	-	-	1.0	1.0
Germplasm Development	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Germplasm Bank	-	0.25	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	1.0	1.0
Agronomy	2.5	2.0	2.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0
Pathology	3.0	3.0	3.0	3.0	4.0	3.0	4.0	4.0	4.0	4.0
Wide Crosses	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Sub Total Headquarters	16.0	14.75	15.5	16.0	18.0	16.0	18.0	19.0	19.0	18.0
Of Which Related to Transferred Projects	-	-	-	(1.0)	(2.0)	(2.0)	(2.0)	(2.0)	(1.0)	-
Regional Programs										
Andean	1.0	1.0	1.5	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	2.0	2.0
E. Africa	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0
N & W Africa	0.5	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
S & SE Asia	-	-	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0
ICARDA	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0
Disease Surveillance	2.0	2.0	1.0	-	-	-	-	-	-	-
Sub Total Regional Programs	7.0	8.0	8.5	9.0	9.0	9.0	10.0	10.0	11.0	12.0
Training	3.0	1.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
<b>TOTAL WHEAT</b>	<b>26.0</b>	<b>23.75</b>	<b>26.0</b>	<b>28.0</b>	<b>30.0</b>	<b>28.0</b>	<b>31.0</b>	<b>32.0</b>	<b>33.0</b>	<b>33.0</b>
Of Which Related to Transferred Projects	-	-	-	(1.0)	(2.0)	(2.0)	(2.0)	(2.0)	(1.0)	-
<b>MAIZE PROGRAM</b>										
Headquarters										
Improvement										
Breeding	7.5	7.0	3.0	5.0	5.0	4.0	5.0	6.0	6.0	6.0
Plant Protection	2.0	2.0	1.0	1.0	2.0	1.0	2.0	2.0	2.0	2.0
Physiology/Agronomy	1.0	1.0	-	-	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	1.0	1.0
Research and Mgmt Support										
Office of Director	2.0	2.0	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	1.0	1.0
Wide Crosses	1.0	-	-	1.0	1.0	-	1.0	1.0	2.0	2.0
Sub Total Headquarters	15.5	14.0	8.0	11.0	13.0	9.0	13.0	14.0	15.0	15.0
Regional Programs										
Andean	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
So. Cone	-	-	-	-	-	-	-	-	1.0	1.0
CA/Mexico/Caribbean	2.0	2.0	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	0.5	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Asian	1.0	-	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0
Middle East	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Sub Total Regional Programs	7.5	7.0	11.0	11.0	12.0	12.0	13.0	13.0	14.0	14.0
Training	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
<b>Total Maize</b>	<b>26.0</b>	<b>24.0</b>	<b>22.0</b>	<b>25.0</b>	<b>28.0</b>	<b>23.0</b>	<b>29.0</b>	<b>30.0</b>	<b>32.0</b>	<b>32.0</b>
<b>ECONOMICS PROGRAM</b>										
Headquarters	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Regional Programs										
Andean	1.0	1.0	0.25	-	-	-	-	-	-	-
CA/Caribbean	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E. Africa	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Asia	1.0	1.0	1.0	1.5	2.0	1.0	2.0	2.0	2.0	2.0
Sub Total Regional Programs	4.0	4.0	3.25	3.5	4.0	3.0	4.0	4.0	4.0	4.0
Training	0.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
<b>Total Economics</b>	<b>6.3</b>	<b>7.0</b>	<b>6.25</b>	<b>6.5</b>	<b>7.0</b>	<b>6.0</b>	<b>7.0</b>	<b>7.0</b>	<b>7.0</b>	<b>7.0</b>

## Appendix I. (Cont.)

	1980 Actual	1981 Actual	1982 Actual	1983 Estimate	1984 Top of Bracket	1984 Bottom of Bracket	1985 Projection	1986 Projection	1987 Projection	1988 Projection
<b>RESEARCH SUPPORT</b>										
Headquarters										
Laboratory Services	2.0	2.0	2.0	3.0	2.0	2.0	2.0	3.0	3.0	3.0
Experiment Stations	2.0	2.0	1.5	1.5	2.0	2.0	2.0	2.0	2.0	2.0
Data Processing	1.5	1.0	1.0	3.0	2.75	2.75	2.0	1.0	1.0	1.0
Sub Total Headquarters	5.5	5.0	4.5	7.5	6.75	6.75	6.0	6.0	6.0	6.0
Of Which Related to Transferred Projects	-	-	-	(2.0)	(1.75)	(1.75)	(1.0)	-	-	-
Training										
Experiment Stations	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Coordinator	-	-	-	-	-	-	-	1.0	1.0	1.0
Total Research Support	6.5	6.0	5.5	8.5	7.75	7.75	7.0	8.0	8.0	8.0
Of Which Related to Transferred Projects	-	-	-	(2.0)	(1.75)	(1.75)	1.0	-	-	-
<b>INFORMATION SERVICES</b>										
Headquarters	3.75	3.75	3.0	4.0	4.0	3.0	4.0	4.0	4.0	5.0
<b>GENERAL ADMINISTRATION</b>										
Headquarters										
Office D.G.	4.0	3.75	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	1.0	1.0
Administrative Services	1.0	-	0.25	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Total General Administration	6.0	4.75	5.25	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Sub Total Headquarters	49.35	44.25	38.25	46.5	49.75	42.75	49.0	49.0	52.0	52.0
Sub Total Regional Programs	18.5	19.0	22.75	23.5	25.0	24.0	27.0	27.0	29.0	30.0
Sub Total Training	7.3	6.0	7.0	8.0	8.0	8.0	8.0	9.0	9.0	9.0
<b>GRAND TOTAL</b>										
Of Which Related to Transferred Projects	-	-	-	(3.0)	(3.75)	(3.75)	(3.0)	(2.0)	(1.0)	-

1/ Disease surveillance work transferred to headquarters Pathology in 1983

## 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