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93901

PGR QUARTERLY REPORT (1993 - No.6)

June 30, 1993

**Submitted to the
U.S. Agency for International Development
Mission to India**

**A Report of Contract 386-0513-C-00-2007-00
Plant Genetic Resources (PGR) Project**

by

Winrock International

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INTRODUCTION:

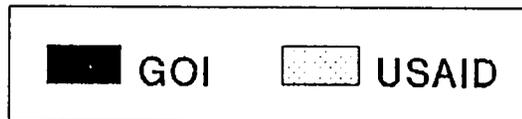
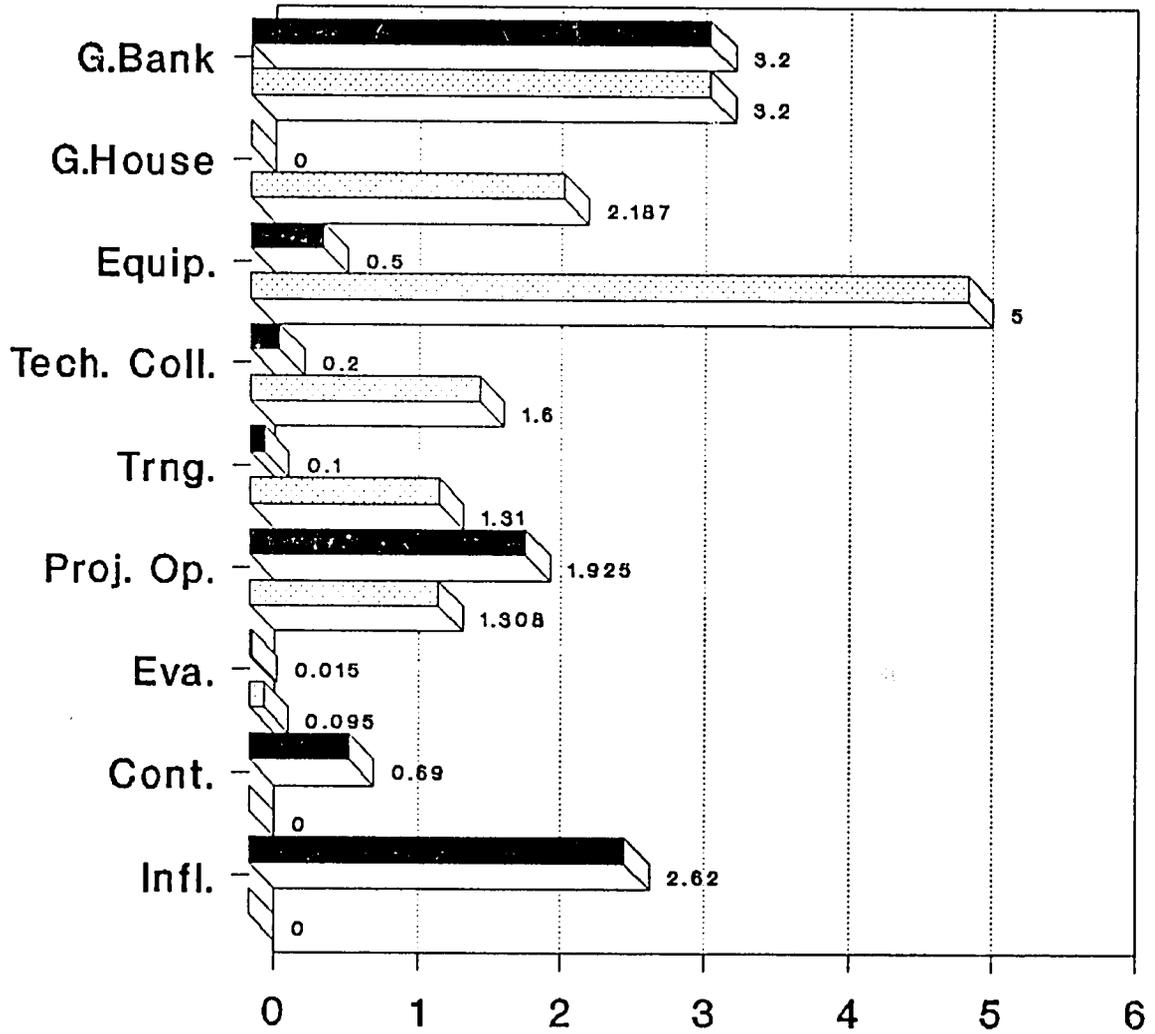
The Plant Genetic Resources (PGR) project is being implemented by the National Bureau of Plant Genetic Resources of the Indian Council of Agricultural Research (ICAR). The project with a total outlay of \$23.95 million is jointly funded by USAID and the GOI. The revised allocation of funds for various project activities as of June 30, 1993 is shown in Fig. 1.

The project is to assist the GOI in establishing a fully functional infrastructure of physical facilities, trained administrative and technical staff and equipment. The ultimate goal is to have in India a National Plant Germplasm Resources system which manages all aspects of plant germplasm exploration, collection, evaluation and conservation to preserve India's rich plant genetic diversity and to enhance India's role as a major global and regional partner in the international efforts of plant genetic resource conservation and utilization.

The U.S. Department of Agriculture, Office of International Cooperation and Development (USDA, OICD) and the Winrock International (WI) assist NBPGR in the implementation of various project activities. The time lines for major activities alongwith action agency are shown in Fig.2. This is the sixth quarterly report and covers the progress during April - June, 1993 and the plans for July-September, 1993 quarter.

Fig.1

FUNDING for the PGR PROJECT (in millions of dollars)



GOI Funding \$M 9.25
 USAID Funding \$M 14.70
 Total Funding \$M 23.95

FIG. 2- TIME LINE FOR ACTIVITIES DURING THE PERIOD : 1992 – 1994

ACTIVITY	PROJECT MANAGE- MENT	1992				1993				1994			
		(quarters)				(quarters)				(quarters)			
		1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
AGREEMENTS :													
PASA	USDA	XXX	XXX	X									
PASA Extension	USDA			XX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	X	
MSS	WI	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
GENE BANK :													
Design development	CPWD	X											
Construction & bid documents	CPWD	XXX	X										
Approval of documents	NBPGR/AID		XX										
Invitation for bids	CPWD		XX	X									
Review and approve bids	NBPGR/AID			XX									
Award contact	CPWD			X									
Construction	CPWD				XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Testing and commissioning	CPWD												XXX
GREENHOUSES :													
Prequalification	WI			XX									
RFP	WI			X	X								
Proforma invoice	CNTRCT/WI				X								
NMIC clearance	CNTRCT/WI				XX								
Fabrication/site preparation	CNTRCT/WI					XXX	XXX						
Shipping/clear customs	CNTRCT/WI							XXX					
Erection and commissioning	CNTRCT/WI								XXX	XXX	XXX		
Training											X	XX	
EQUIPMENT :													
Tranche I	WI	XX	XXX	XXX	XXX	XXX	XXX	X					
Tranche II	WI			XXX	XXX	XXX	XXX	XXX	XXX				
Tranche III	WI				XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
TRAINING/TECH.ASSIST :	USDA	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	X	
JOINT EXPLORATION :	USDA	XXX		X	XX		XX		XX				
COLLABORATIVE RES. :	USDA				XX	XX	XXX	XXX	XXX	XXX	XXX	X	

USDA – U.S. Department of Agriculture
 WI – Winrock International
 CPWD – Central Public Works Department
 CNTRCT/WI – Contractor/Winrock International

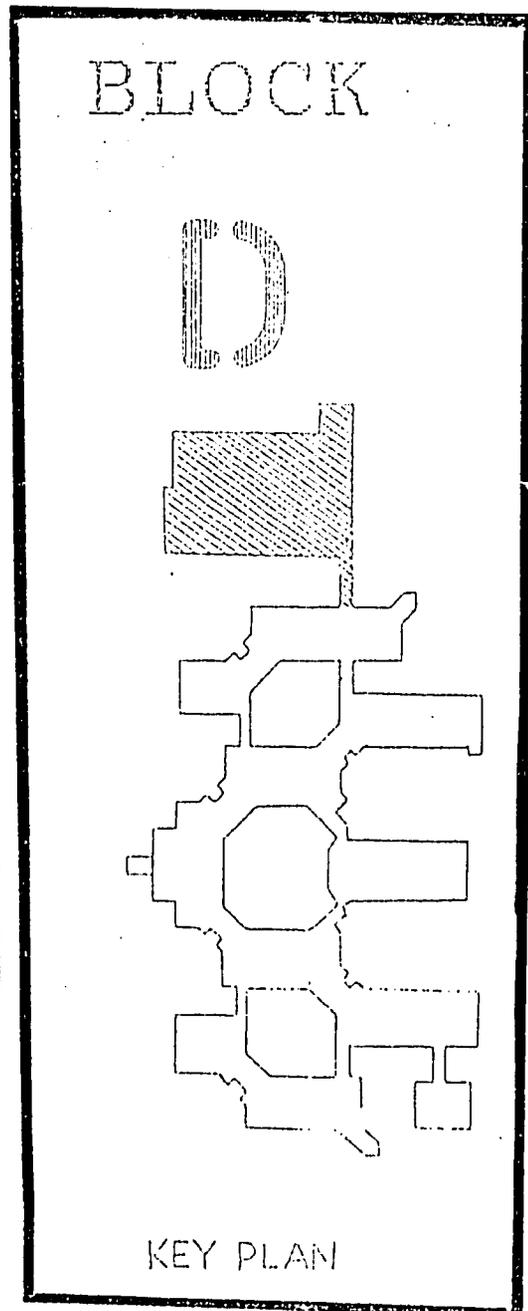
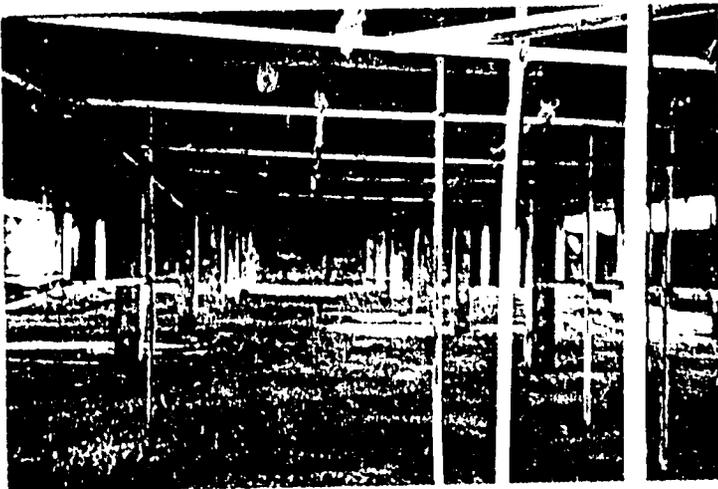
PROJECT COMPONENTS:

GENE BANK:

Activities During the Period: The original schedule of activities for the construction of gene bank and headquarter building is shown in Fig. 3. The entire building complex consists of 4 distinct blocks. The schedule of completion of each of the four blocks which are designated as D, A, B, C in the masterplan is shown in Annexure 2. A schematic layout of gene bank comprising of the basement, the ground floor and the first floor by block is show in Annexure 3.

Block D:

This will house underground gene bank. Work already completed includes raft foundations, walls, columns, water proofing from external side, stair cases, laying of lean concrete over raft for flooring base and sumps. The RCC roof slab has been casted. Perapete wall has also been completed.



Block A:

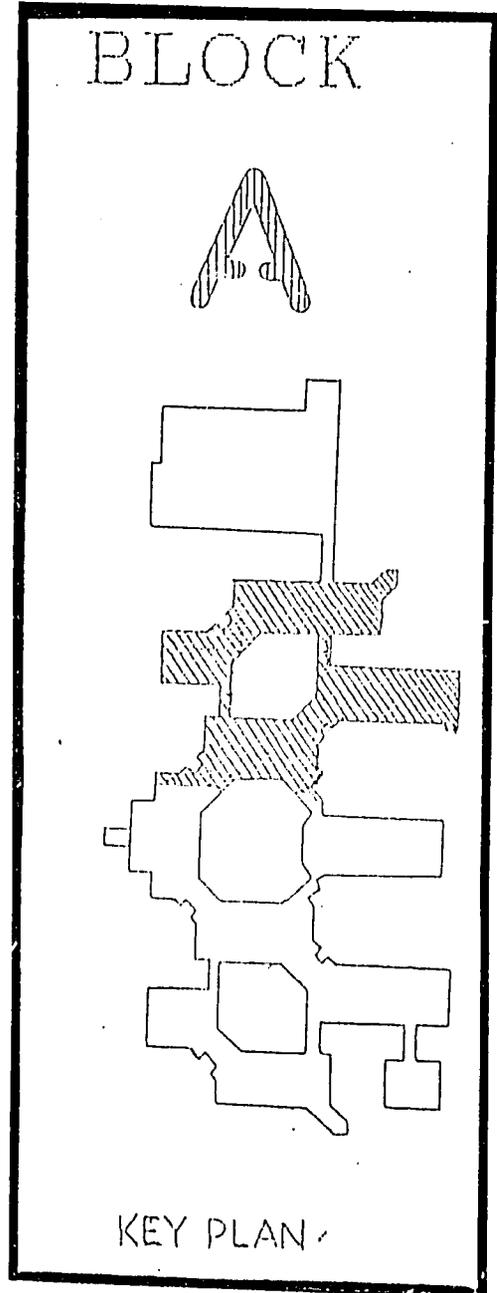
The basement is under construction. This consists of two parts:

Part I (area to house liquid nitrogen plant):

Raft foundation, walls and columns as well as external water proofing have been completed. Basement roof slab has been casted.

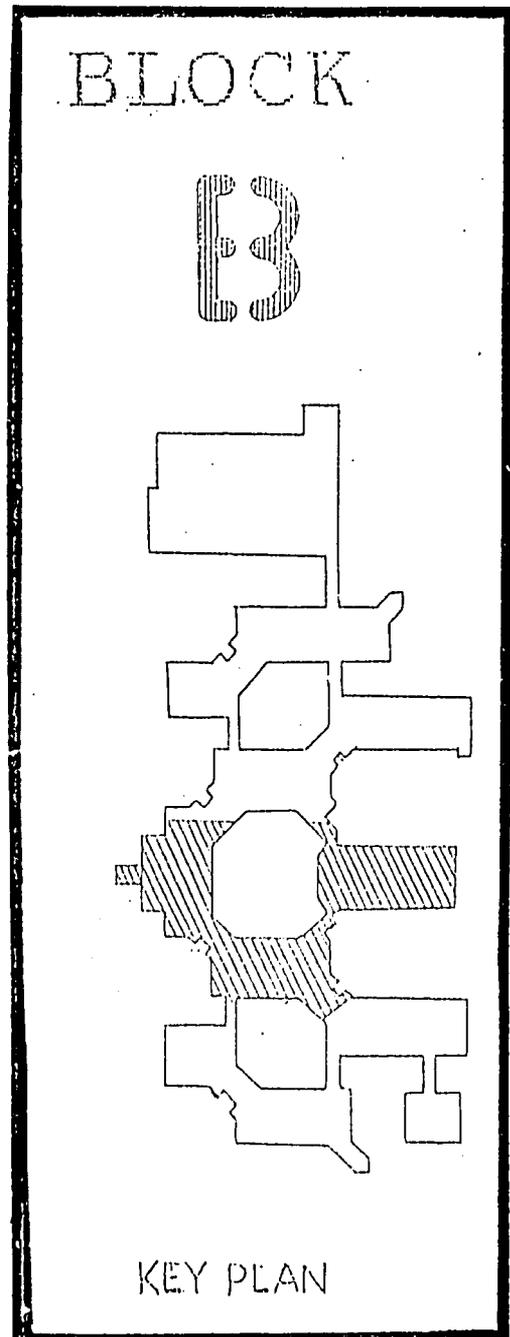
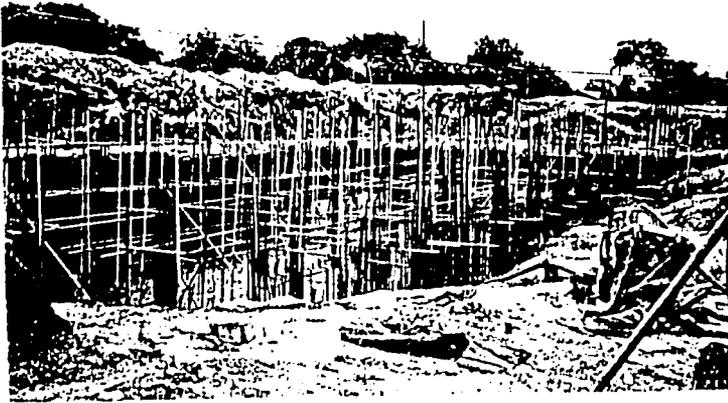
Part II (area to house tissue culture and computer facilities):

The work on raft foundation, walls and columns is complete. The roofing and external water proofing is in progress.



Block B:

The RCC raft of part I (Basement) has been completed. The work on walls, columns, casting, is in progress. Excavation of part III is in progress.



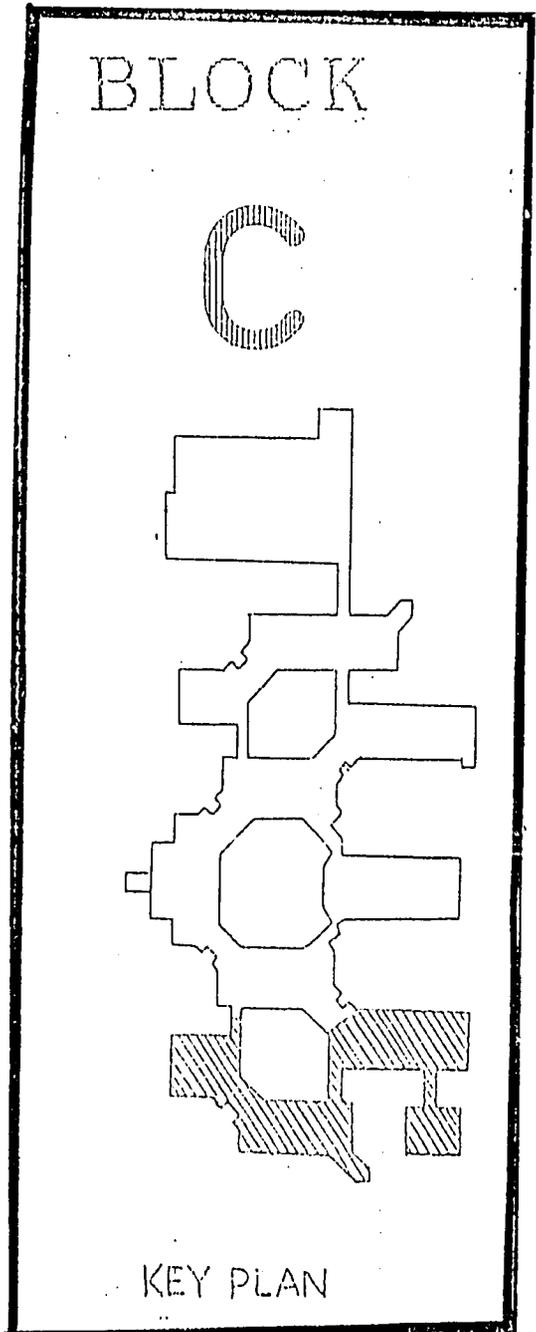
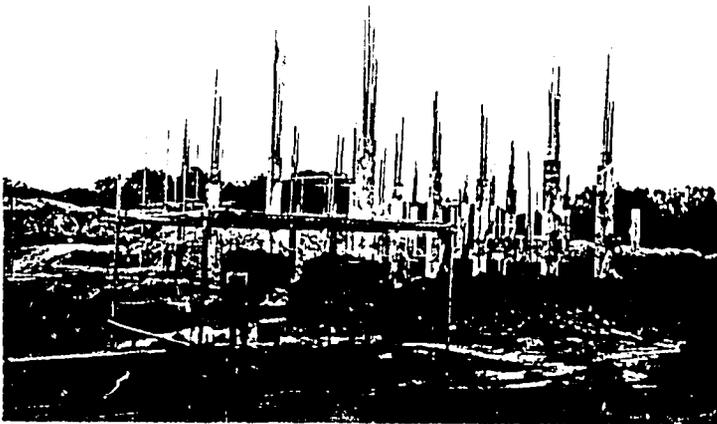
Block C:

There is a small basement housing underground corridore and Air Handling Unit (A.H.U.). The ground floor consists of 3 parts and will house administrative offices:

Part I : Part of basement, raft and walls completed. The excavation for other part is completed.

Part II : Foundation work completed. Columns upto ground floor roof level completed.

Part III: Foundation work upto plinth beam completed. Columns upto ground floor roof level completed.



The construction activities are on schedule. The officials from NBPGR, CPWD, USAID and WI met once every month to review the progress. Barring unforeseen delays, the building construction should be completed by December, 1994.

QUARANTINE GREENHOUSE FACILITIES:

Activities During the Period: The original schedule of activities relating to fabrication, erection, testing, and commissioning of the four quarantine greenhouses is shown in Fig. 4. The award of the subcontract for greenhouses has been delayed by nearly six months. This was primarily because of the single bid which required an in-depth technical and financial analysis before the approval of the subcontract both by Winrock and the USAID. A revised schedule for the completion of greenhouses will be drawn up soon after the receipt of construction plans from the subcontractor.

Winrock awarded the subcontract to M/s Sharp and Sons Inc. of U.S.A. for supply and erection of three greenhouse complexes on turn-key basis one each at Delhi, Hyderabad and Bhowali. The total subcontract price is \$2,186,211. The cost and the number of day for completion of the greenhouse facilities at each project site is as under:

ITEM #	DESCRIPTION	QTY.	PRICE	DAYS FOR COMPLETION
1.	NEW DELHI Greenhouse complex	1	\$ 915,607	380
2.	HYDERABAD Greenhouse complex	1	\$ 656,817	410
3.	BHOWALI Greenhouse complex	1	\$ 613,787	450
Total Contract Price			\$2,186,211	

The PGR project had a budgetary provision of \$1,150,000 for four greenhouse facilities. USAID, however, increased the budget for greenhouses to \$2,187,000 by shifting \$1,037,000 from other budget components through PIL No. 29 dated June 7, 1993. This facilitated signing of the subcontract with Sharp and Sons Inc.

One off-shore quarantine greenhouse facility is proposed to be built at Port Blair. The NBPGR/ICAR is expected to decide soon about the additional facility in light of the recommendations made by PGR mid-term evaluation team. An estimated \$800,000 may be required to build the fourth facility.

Plans for Next Quarter:

- * Prepare final drawings for greenhouses.
- * Prepare revised schedule for the construction of quarantine greenhouse complexes at Delhi, Hyderabad and Bhowali.
- * Obtain proforma invoices for imported greenhouse components.
- * Assist NBPGR in the preparation of application for NMICs and CDECs.
- * Fabricate and assemble greenhouse components.

FIG.4 TIME LINE FOR ACTIVITIES RELATING TO THE QUARANTINE GREENHOUSE FACILITIES

ACTIVITY	1992						1993						1994																			
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
prep pre/rfp prequalification rfp analyse proforma inv. nmic sign contract site prep (x 4) fabricate/acces. enroute India clear/deliver	xxx	xxxx																														
erect install equip. elect./water hdhs/lab commission training	SITE ONE :																															
erect install/equip elect./water hdhs/lab commission training	SITE TWO :																															
erect install/equip elect./water hdhs/lab commission training	SITE THREE :																															
erect install/equip elect./water hdhs/lab commission training	SITE FOUR :																															

RFP = Request for Proposal

NMIC = Not Made in India Certificate

EQUIPMENT PROCUREMENT:

Time lines for the procurement of the three tranches of equipment appear in Fig 5. Twenty three major steps are involved in the procurement process.

A total of 84 items have been requested by NBPGR/DARE under Tranche I, II and III. A tracking system highlighting the procurement status of items in each tranche is indicated in the Master Schedule which appears as Annexure 4, 5 and 6.

Activities During the Period:

Tranche 1 Equipment:

Of the eight items under tranche I (Table 1), only seven will be procured. The reasons for dropping the Microspectrophotometer have been mentioned in Quarterly Report No.4.

The physical status of the equipment under this tranche is of the seven items, 4 items comprising 27 units have been delivered to NBPGR, New Delhi and its affiliated centers. Two items comprising 13 units are currently in the Warehouse, U.S.A and are being prepared for shipment to India. Their arrival into India is scheduled for August 93. For the remaining item, namely the Elisa Reader, the Not Manufactured in India Certificate (NMIC) has been applied for.

The financial status of items in this tranche is translated as:

Items delivered	:	\$ 111,972
Items in Warehouse	:	\$ 408,208
Item NMIC pending	:	\$ 74,400

Estimated total cost of tranche I equipment : \$ 589,620

Installation of equipment is underway. Those that have been delivered have been/in the process of being installed. For equipment which is scheduled to arrive in August 93, pre-installation requisites have been provided to NBPGR to prepare the location to receive the equipment.

Tranche II Equipment:

Considerable progress has been achieved in the procurement of items under this tranche (Table 2). A total of 36 items comprising 110 units are in various stages of procurement.

The physical status of equipment under this tranche is as follows:

Of the thirty six items, Specs are being prepared for 3 items comprising 14 units. Items which are in the bidding process number 9 comprising 61 units. NMIC/pass book entry is awaited for 5 items comprising 6 units. Purchase orders have been issued for 2 items comprising 4 units. Five items comprising 7 units are currently in the Warehouse, U.S.A and are expected to arrive in India during the month of August 93. And finally 12 items comprising 18 units have been delivered to NBPGR, New Delhi.

The 9 items which are currently going thru the bidding stage are estimated to be delivered into India sometime during the September-December 93 quarter.

The financial status of each category is as follows:

Specs being developed	:	\$ 233,120
Items being bid	:	\$ 747,928
NMIC/passbook entry	:	\$ 243,040
P.Order issued	:	\$ 55,554
Warehouse, U.S.A	:	\$ 108,896
Delivered	:	\$ 99,146
Estimated total cost of tranche II equipment	:	\$ 1,487,684

Tranche III Equipment:

Under tranche III (Table 3), a total of 39 items comprising 135 units have been cleared thru DARE/USAID. There is a possibility that some items which are currently being procured under tranche II may be duplicated under tranche III. NBPGR are assessing their needs and the list of items in tranche III may be pruned down a bit.

Under this tranche most of the items are in the specification development phase except for the X-Ray system and the Vacuum fumigation plants which have been put up for bids.

The prototype computer system and software which is currently being sourced from the local market will be finalised within the next 14 days. This system will be utilized by NBPGR to develop the software for the data base.

Only a very rough estimate of the cost of equipment under tranche III is possible at this stage. The equipment not including the computer systems and additional medium-term storage modules is expected to cost \$1,676,500. The computer systems and the additional storage modules (16 units) are expected to cost approximately \$1,800,000.

Selection of Consultant for Computer Site Preparation:

On May 21, 1993 Winrock entered into a contract with M/s International Computers Indian Manufacture Limited (ICIM), New Delhi, to provide consultancy with regard to site preparation and specifications for the various services and components necessary to facilitate the appropriate support to the computers systems which will eventually be installed in the Gene Bank Building.

ICIM is meeting with various officials of NBPGR, CPWD and Winrock and is providing the necessary inputs.

Plans for Next Quarter: The following activities are proposed to be completed during the next quarter:

Tranche I:

- * Ship the remaining items to India
- * Install equipment in NBPGR

Tranche II:

- * Complete specifications of remaining items
- * Receive equipment in U.S Warehouse
- * Ship items in warehouse to India
- * Install equipment in NBPGR

Tranche III:

- * Prepare specifications for some of the items
- * Prepare site in NBPGR to receive prototype computer

TABLE 1 – TRANCHE I EQUIPMENT

SER NO.	EQUIPMENT	NOS.	DELIVERY POINT (NBPGR)	IN-STALL	STATUS
1	ULTRACENTRIFUGE	1	NEW DELHI	YES	WAREHOUSE
		1	HYDERABAD	YES	
2	MICROSPECTROPHOTOMETER	1	DROPPED	-	DROPPED
3	AUTOMATIC GLASSWARE WASHER	4	NEW DELHI	NO	DELIVERED
4	AUTOMATIC MOISTURE TESTER	19	NEW DELHI	NO	DELIVERED
5	ELISA INSTRUMENTATION KIT	2	NEW DELHI	YES	NMIC DUE
		1	HYDERABAD	YES	"
6	PIPETTING MACHINE	2	NEW DELHI	NO	DELIVERED
7	MECHANICAL HOMOGENIZER	2	NEW DELHI	NO	DELIVERED
8	CONTINUOUS SEED BLOWER	11	NEW DELHI	NO	WAREHOUSE
	TOTAL	44			

Specs : Specifications being developed
Bid : The items is in the Bidding process (USA)
NMIC : 'Not Manufactured in India Certificate' pending
P.O. Issued : Purchase Order Issued
P.Book Entry : The Pass Book Entry is awaited
Warehouse : In Warehouse, USA – ready for shipment
Delivered : Delivered to NBPGR

TABLE 2 – TRANCHE II EQUIPMENT

SER NO.	EQUIPMENT	NOS.	DELIVERY POINT (NBPGR)	IN-STALL	STATUS
9	SEED DRYING CABINETS	16	NEW DELHI	NO	BID
10	BAR CODE PRINTER & SCANNER	1	"	"	SPECS
11	MICROSCOPE, TRINOCULAR	1	"	YES	BID
12	FREEZE DRYER	1	"	"	NMIC DUE
13	TEMPERATURE GRADIENT PLATE	1	"	"	WAREHOUSE
14	VACUUM HEAD SEED PLANTER	1	"	NO	DELIVERED
15	SPECTROPHOTOMETER, DIODE ARRAY	1	"	YES	WAREHOUSE
16	MICRO BALANCE	1	"	YES	BID
17	PHOTODOCUMENTATION SYSTEM	1	"	"	DELIVERED
18	MICROSCOPE, STEREO WITH CAMERA ATTACHMENTS	1	"	"	INFO PGR
19	MICROSCOPE, COMPOUND, TRINOCULAR	1	"	"	BID
20	FIELD DATA RECORDER	23	"	"	"
21	CAMERA	14	"	NO	"
22	DEEP FREEZER	3	"	YES	P.O. ISSUED
23	SPECTROPHOTOMETER	2	"	"	NMIC DUE
24	DENSITY GRADIENT FRACTIONATOR	2	"	"	BID
25	BALANCE, ANALYTICAL	2	BHOWALI	NO	DELIVERED
26	ELISA INSTRUMENTATION KIT	1	NEW DELHI	YES	NMIC DUE
27	NITROCELLULOSE MEMBRANE	2	"	NO	DELIVERED
28	LABORATORY JACKS	2	"	"	"
29	MAGNETIC STIRRING BARS	2	"	"	"
30	DIALYSIS TUBES	2	"	"	"
31	PARAFILM WITH DISPENSER	2	"	"	"
32	MULTI MAGNESTIR	2	"	"	WAREHOUSE
33	STIRRER, MICRO-PROCESSOR CONTROLLED	2	"	"	"
34	DIGITAL APPENDORF PIPETTORS	1	"	"	DELIVERED
35	ELECTROPHORESIS SYSTEM	2	"	YES	BID
36	MB – DISPENSER	12	"	NO	SPECS-WI
37	MULTIGAS DETECTOR	1	"	"	DELIVERED
38	AMBIENT AIR ANALYSER	1	"	YES	"
39	DIGITAL POLARIMETER	1	"	"	P.BOOK ENTRY
40	GAS CHROMATOGRAPH	1	"	"	WAREHOUSE
41	ROTARY EVAPORATOR	1	"	"	P.O. ISSUED
42	SCANNING CALORIMETER	1	"	"	NMIC DUE
43	FREEZER, PROGRAMMABLE	1	"	"	BID
44	INCUBATOR SHAKER, GYRATORY	1	"	"	DELIVERED
	TOTAL	110			

TABLE 3 – TRANCHE III EQUIPMENT

LIST 1

SER. NO.	EQUIPMENT	NOS.	DELIVERY POINT (NBPGR)	STATUS
45	AUTO ANALYSER	1	NEW DELHI	SPECS
46	BENCH TOP AGAR STERILIZER	1	"	"
47	COLOR GRAPHIC PLOTTER	1	"	"
48	COLD STORAGE MODULE (for LONG-TERM)	2	"	"
49	COLD STORAGE MODULE (for MED-TERM)	10	"	"
50	COPENHAGEN TANKS	2	"	"
51	CRYOSTATE	1	"	"
52	CARYOVAT (CARYO CONTAINERS)	2	"	INFO PGR
53	CRYOSTARFREEZER	1	"	SPECS
54	CRYOMICROTOME	1	"	"
55	DOT MATRIX PRINTER	1	"	"
56	GAS CHROMATOGRAPH (HP-5890)	1	"	"
57	HIGHSPEED REFRIG. CENTRIFUGE	2	"	INFO PGR
58	HPLC WATER ASSOCIATES	1	"	SPECS
59	HPTLC INSTRUMENT	1	"	"
60	ICE FLASKS MACHINE	3	"	INFO PGR
61	LYPHOLIZER	1	"	SPECS
62	MILLIPORE WATER PURIFYING SYSTEM	1	"	INFO PGR
63	MICRO COMPUTER AND PRINTER	1	"	SPECS
64	AUTOMATIC POLARIMETER	1	"	"
65	ROTARY EVAPORATOR	1	"	"
66	SEED DRYER	3	"	"
67	SEED DRYING CABINET	21	"	"
68	SOFT X-RAY PLANT	2	"	BID
69	STEREO BINOCULAR MICROSCOPE	20	"	SPECS
70	STORAGE MODULE (for MED.TERM)	2	"	"
71	WALK-IN ROOM GERMINATOR	3	"	"
72	TRANSMISSION ELECTRON MICROSCOPE	2	"	"
73	ULTRA MICROTOME WITH ACCESSORIES	1	"	INFO PGR
74	ULTRASOUND & COMPUTER VISION	1	"	SPECS
75	VACUUM FUMIGATION PLANT – 1000 capacity	3	"	BID
76	VACUUM FUMIGATION PLANT – 500 capacity	1	"	SPECS
77	VAPOUR HEAT TREATMENT PLANT	1	"	"
	TOTAL	96		

LIST 2

78	CENTRAL COMPUTER SYSTEM	1	NEW DELHI	
79	PROTOTYPE COMPUTER SYSTEM	1	"	BID
80	MICROCOMPUTERS WITH ACCESSORIES	13	"	
81	SOFTWARES FOR NBPGR HEADQUARTERS		"	
82	LIQUID NITROGEN STORAGE VATS (CRYOTANKS)	10	"	BID
83	CRYOPRESERVATION STORAGE SYSTEMS	6	"	
	TOTAL	31		

TRAINING AND TECHNICAL ASSISTANCE:

Most training and technical assistance activities of the PGR project are handled by the Office of International Cooperation and Development (OICD) under the Participating Agency Service Agreement (PASA) with the U.S. Department of Agriculture (USDA). By the end of June, 1993 as many as 66 Indian scientists visited U.S. for training/study tours and 14 U.S. scientists came to India as short-term consultants on various aspects of plant genetic resources.

Activities During the Period: The training of 16 scientists was planned during April-June quarter. All but one (Dr. T.R. Loknathan) proceeded for training. Thirteen have completed their training and returned to India. The remaining two will be completing their training program by August 26, 1993.

No training is scheduled during July-September quarter.

JOINT EXPLORATION:

Activities During the Quarter: No joint exploration was planned for April-June, 1993 quarter. Three joint explorations have been conducted under the PGR project earlier. One more joint exploration for collection of Citrus spp. is to be undertaken in India later in 1993 or early 1994.

COLLABORATIVE RESEARCH:

Activities During the Period: Three NBPGR scientists are currently in the U.S. doing collaborative research. The three areas in which collaborative research is underway are:

1. Studies of egg plant taxonomy and evolution.
2. Use of random amplified polymorphic DNA (RAPDs) for characterization of Musa germplasm diversity and stability.
3. Physiological and chemical attributes of deterioration in Soybean seeds with and without the enzyme Lipoxygenase.

The above research projects are scheduled for completion by March, 1994.

The fourth collaborative project "Efficient Detection of Viruses and Therapeutic Treatment Relevant to Citrus and Prunus Budwoods" is likely to be initiated during July-September, 1993 quarter.

Plans for Next Quarter:

- * Continue ongoing collaborative research in three areas.
- * Begin collaborative research in the fourth area.

DATA MANAGEMENT SYSTEM:

Activities during the Period: Mr. R.L. Sapra, Senior Scientist in charge of data management submitted his deputation report on his four-month Database Management study/visit to the United States.

A contract was signed with ICIM Limited, New Delhi to provide consulting services for the development and installation of a computer system which will include a central machine running UNIX with 64 MB memory, 8 to 19 GB storage, an Ethernet network supporting up to 150 user connections with 50 simultaneous active user terminals, and a raised floor computer center. This hardware with supporting software will be specified and procured at a later date with the advisory input from USDA.

The primary tasks for which ICIM will provide services to the PGR project are:

- 1) Information Gathering
- 2) Specification Development
- 3) Monitoring, Coordination, and Technical Supervision of Construction Activities, and
- 4) Acceptance Testing and Certification.

The information gathering task was completed during the quarter.

Activities during the next Quarter:

- * specification development
- * monitoring, coordination, and technical supervision of construction activities.

FINANCIAL PROGRESS:

Activities During the Period: The status of project expenditure is shown in Tables 4 & 5.

Table 4 – India Plant Genetic Resources (PGR) Project
Contract No..386–0513–C–00–2007–00
MSS Expenditure as of June 30, 1993

Line Item	Budget Amount	Apr–Jun 1/ Qtr	Inception To Date	Variance Budgeted Vs Inception
I. Salaries	502,773	45,338	231,570	271,203
II. Fringe benefits	165,353	12,137	61,037	104,316
III.Allowances	113,633	2,543	58,322	55,311
IV.Training	144,301	0	13,000	131,301
V.Travel	69,477	2,211	27,211	42,266
VI.Per Diem	55,142	1,563	11,563	43,579
VII.Transportation	24,207	745	20,389	3,818
VIII.Non–Exp. Equip.	4,000,000	431,895	551,895	3,448,105
IX.Other Direct Costs	246,111	17,659	96,981	149,130
X.Subcontracts	700,000	0	0	700,000
XI.Indirect Costs	798,186	53,439	229,764	568,422
Total Costs (\$) 2/	6,819,183	567,530	1,301,732	5,517,451

Note: 1. Figures include actual expenditure plus estimated accruals for the month of March 1993.

2. Of \$6,819,183 budgeted amount only \$3,070,000 committed as of June 30, 1993

Table 5 – India Plnt Genetic Resources (PGR) Project
Total Project Expenditure as Of June 30, 1993 (USAID Share)

Element	Earmark	Committed	Cum. Exp. 3/31/93	Apr–Jun Qtr.	Total 1/ 6/30/93
10 TA	1,220,975	1,220,975	804,030	20,000	824,030
20 Trng.	896,732	896,732	566,068	269,236	835,304
MSS 2/	144,301	100,000	13,000	0	13,000
					0
30 IN–Count. Trng	110,000	110,000	10,627	3,810	14,437
					0
40 Commod.					0
MSS	4,000,000	1,800,000	120,000	431,895	551,895
LC	400,000	400,000	173,284	15,000	188,284
					0
50 Const.					0
MSS	2,187,000	600,000	0	0	0
LC	1,950,000	1,950,000	900,000	300,000	1,200,000
					0
60 Other Direct Costs					0
MSS	1,974,882	570,000	601,142	135,635	736,777
LC	130,000	100,000	15,000	32,430	47,430
Evaluation	79,000	0	0	0	0
70 Contingencies	0	0	0	0	0
Total Costs (\$)	13,092,890	7,747,707	3,203,151	1,208,006	4,411,157

Note: 1. Figures include actual expenditure plus estimated accruals.
2. Components under the Winrock MSS Contract.

MANAGEMENT OPERATIONS:

Activities During the Period: The India Coordinator continued to be actively associated with the NBPGR, ICAR USAID and USDA/FERRO for the PGR related matters. He proceeded on home leave from June 14 to July 16, 1993 which included his official visits to the USDA National Seed Storage Laboratory, Ft. Collins, as well as to Winrock International headquarters office in Arkansas and Arlington.

MID-TERM EVALUATION:

Mid-term evaluation of PGR project was done by a team consisting of Dr. Peter Van Shaik (Team Leader), Dr. K.O. Rachie, Dr. J.S. Kanwar and Dr. N.G.P. Rao from May 24 to June 17, 1993. The team visited NBPGR laboratories and facilities at the headquarters and also regional station at Bhowali, Shimla, Hyderabad and Trichur. They also visited some ICAR Institutes/Centres viz. VPKAS, Almora, CPRI, Shimla, NRC (Sorghum), Hyderabad, Directorate of Oilseeds Research, Hyderabad; Directorate of Rice Research, Hyderabad and Directorate of Wheat Research at Karnal and also ICRISAT, Hyderabad. In-depth discussions were held with Director, NBPGR & Head PIU, PGR project and the scientists of the Bureau at headquarters, regional stations and Cooperating Institutes and also USAID/Winrock/FERRO/CPWD officials. All relevant documents and scientific reports and publications were made available to the team members enabling them to assess the project progress.

The team debriefed the USAID, ICAR/DARE, and the NBPGR on its major findings/recommendations. Final report of the mid-term evaluation is likely to be submitted to USAID by July 15, 1993.

**ANNEX I NUMBER OF GERMPLASM ACCESSIONS
STORED IN LONG –TERM/MEDIUM –TERM STORAGE
BASE COLLECTIONS IN NATIONAL GENE BANK AT NBPGR (as of June 30, 1993)**

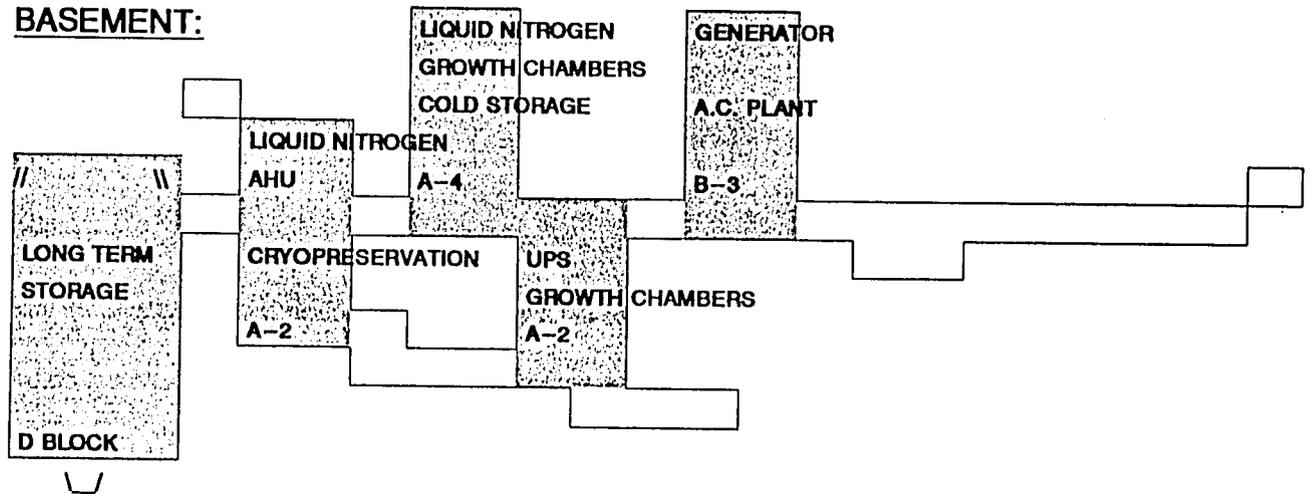
Crop Groups	No. of Accessions
LONG TERM STORAGE (-20 DEG C)	
Cereals	51,116
Pulses	24,106
Millets & Minor millets	14,599
Oilseeds	15,647
Vegetables	6,368
Fibre Crops	3,212
Narcotics	790
M. & A.P.	179
Pseudocereals	736
Improved varieties	904
MEDIUM –TERM STORAGE (4 DEG C)	
Voucher specimens of Exotics	20,760
Ref. samples of indigenous collection	36,137
Total	174,554

**STATUS OF IN –VITRO CONSERVATION PROGRAM AT
NATIONAL FACILITY FOR PLANT TISSUE CULTURE REPOSITORY**

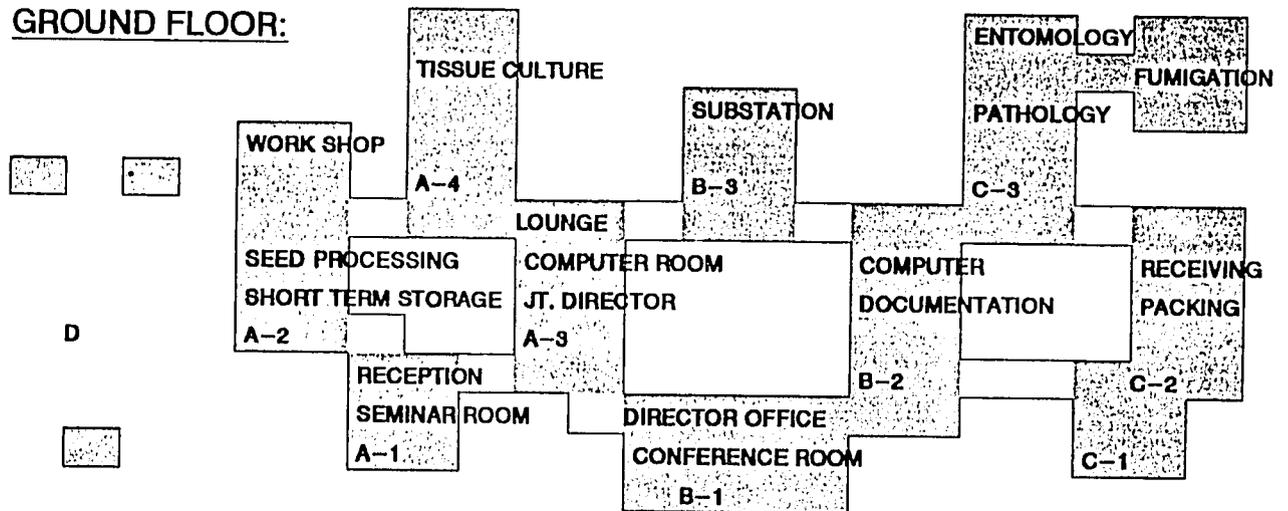
Crop	No. of Accessions in culture	Storage Temperature Degrees C.	Optimum Sub – Culture Interval (Months)
<i>Allium sativum</i>	50	10, 4	16 – 18
<i>Allium species</i>	9	10	12
<i>Ipomoea batatas</i>	205	25	12 – 16
<i>Dioscorea species</i>	28	25	12
<i>Zingiber officinale</i>	97	25	12
<i>Curcuma species</i>	3	25	8
<i>Musa spp.</i>	150	25, 15	12 – 22
<i>Citrus aurantifolia</i>	2	25	10
<i>Piper species</i>	6	25	10 – 12
<i>Rauvolfia serpentina</i>	4	15	15
<i>R. canescen</i>	1	25	15
<i>Saussurea lappa</i>	1	4	13
<i>Typhophora indica</i>	1	10	12
<i>Picrorrhiza kurroa</i>	1	10	16
<i>Gentiana kurroa</i>	1	4	11
<i>Pogostemon patshouni</i>	2	25	9 – 10
<i>Coleus forskohlii</i>	7	25	18

SCHEMATIC DRAWING OF THE GENE BANK, NBPGR

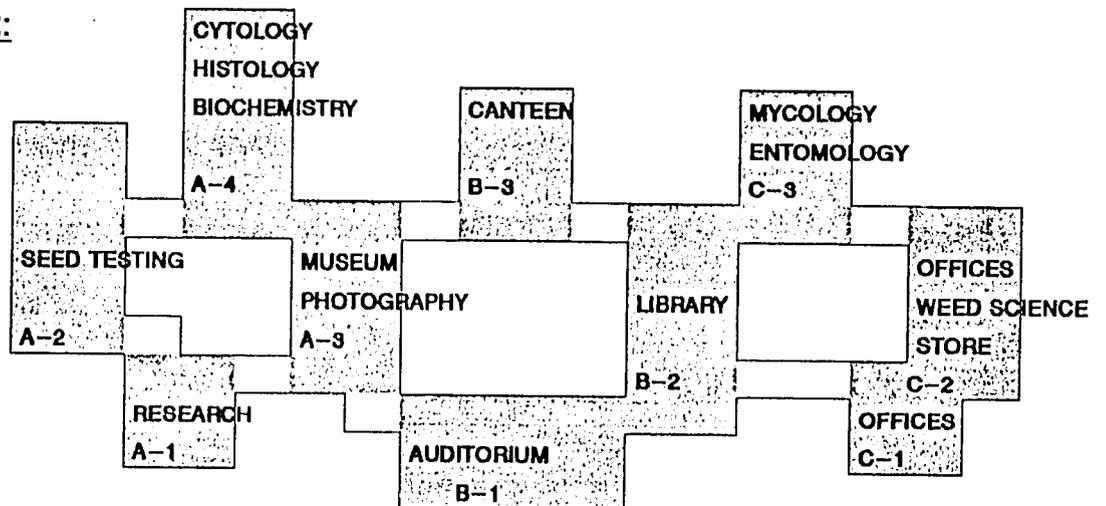
BASEMENT:



GROUND FLOOR:



FIRST FLOOR:



D BLOCK

A BLOCK

B BLOCK

C BLOCK

Handwritten mark

