

Detailed Report of the Over Sight Committee Sub Group (DARE/ICAR) on Agricultural Education for OBC reservations in centrally supported Universities/Institutions

F.No. 6(13)/2006-A&P

Dated: August 31, 2006

Agriculture transformation witnessed in the country in the last over 4 decades has been mainly possible on account of human resource development by national agricultural research and education system. The establishment of the Post Graduate School at IARI in 1958 marked the beginning for growth of agriculture education in the country. With the establishment of first Agricultural University in Pantnagar, today there are State Agricultural Universities in all the major States in the Country. Since agriculture education is a State subject, State Agricultural Universities are basically funded by the State Governments and ICAR provides only development grants for curriculum delivery including modernization of class rooms, laboratories, field facilities etc.

The four national institutes of ICAR namely Indian Agricultural Research Institute (IARI), Indian Veterinary Research Institute (IVRI), National Dairy Research Institute (NDRI) and Central Institute of Fish Education (CIFE) have been recognized as centers of excellence for education. All these institutions have been conferred the status of deemed university (DU) and they have played a very major and key role for developing skilled human resource that have manned the national and some even international agriculture research and education system. The four institutes have been respectively contributing to development of human resource in agriculture sciences, veterinary sciences, dairy sciences and fishery sciences.

In order to develop human resource in the North-Eastern Region, the ICAR has established Central Agricultural University (CAU) in Manipur in 1992 to meet the aspiration of the region and also help in contributing to development of human resource.

CAU and the ICAR-DUs are the five centrally fully funded institutes for agricultural education in the country.

Admission in the ICAR DUs for both the under graduate programmes and masters' programmes is done through an All India Entrance Examination conducted by the ICAR. Whereas for Ph.D Programme individual institute conducts All India Competitive Entrance Examination. Being national institutions these institutions have attracted best students who have made a mark nationally and internationally. In CAU 15% seats in UG programs and 25% seats in PG programme are filled through the ICAR, while rest of the seats are filled by the nominations of NE states.

The quality of education in ICAR institutes is recognized internationally and students from overseas have also sought admission to these institutions. The excellent state of art infrastructure facilities have also been developed in these institutions over the years through support under plan and non-plan schemes. Presently these institutions are following national reservation policy with of 15% SC and 7.5% for ST and recently reservation of 3 per cent has also been introduced for physically handicapped persons.

The ICAR also fills 15% UG and 25% PG seats in State Agricultural Universities and in agriculture faculty of the four Central Universities viz. AMU, BHU, Nagaland University and the Vishva Bharti. As per the deliberations of the Oversight Committee, the Sub Group on agriculture has not considered these institutions for preparing its report.

With the Government of India policy to have 27% reservation for OBC keeping the number of seats for general candidate at present level, exercise has been done for requirement in the terms of faculty and infrastructure so as to maintain existing quality of teaching.

1.0 Student Intake

1.1 Educational Institutes

Sr.	Institute/College	Discipline	Programme
I	Deemed Universities		
1	Central Institute of Fisheries Education, Mumbai (CIFE)	Fisheries Sciences	PG & Ph.D.
2	National Dairy Research Institute, Karnal (NDRI)	Dairy & Animal Sciences	UG, PG & Ph.D.
3	Indian Agricultural Research Institute, New Delhi (IARI)	Agricultural Sciences	PG & Ph.D.
4	Indian Veterinary Research Institute, Izatnagar (IVRI)	Veterinary Science & Animal Husbandry	PG & Ph.D.
II	University		
5	Central Agricultural University, Imphal (CAU)		UG & PG
5.1	College of Veterinary Sciences & Animal Husbandry, Aizwal, Mizoram	Veterinary Science & Animal Husbandry	UG, PG
5.2	College of Fisheries, Agartala	Fisheries Sciences	UG
5.3	College of Horticulture & Forestry, Pasighat, Arunachal Pradesh	Horticulture	UG
5.4	College of Home Science, Tura	Home Science	UG
5.5	College of Agricultural Engineering & Post Harvest Technology, Sikkim	Agr. Engg. & Post Harvest Technology	UG
5.6	College of Agriculture, Imphal	Agricultural Sciences	UG & PG

1.2 Present Intake & Proposed Increase in seats (Annual)

Sr.	Institute/University /College	Seats							
		UG		PG		Ph.D.		Total	
		PI	IP	PI	IP	PI	IP	PI	IP
I	ICAR-Deemed Universities								
1	IARI, New Delhi	-	-	80	44	93	51	173	95
2	IVRI, Izatnagar	-	-	87	47	61	33	148	80
3	NDRI, Karnal	30	17	78	42	68	37	176	96
4	CIFE, Mumbai	-	-	45	27	24	14	69	41
	Total (I)	30	17	290	160	246	135	566	312
II	University								
5	Central Agricultural University, Imphal								
5.1	Vet. Sci. & Animal Husbandry, Aizwal	43	23	18	10	-	-	61	33
5.2	Fisheries, Agartala	22	12	-	-	-	-	22	12
5.3	Horticulture & Forestry, Pasighat	32	18	-	-	-	-	32	18
5.4	Home Science	22	12	-	-	-	-	22	12
5.5	Agri. Engineering & PHT, Sikkim	32	18	-	-	-	-	32	18
5.6	Agriculture, Imphal	58	31	32	18	-	-	90	49
	Total (II)	209	114	50	28	-	-	259	142
	G. Total (I+II)	239	131	340	188	246	135	825	454

PI: Present Intake; IP: Increase Proposed

2.0 Schedule & Pattern of Faculty Enhancement

Sr.	Institute/University /College	Faculty Information											
		Professor			Assoc. Prof.			Asstt. Prof.			Total		
		SS	IP	PI	SS	IP	PI	SS	IP	PI	SS	IP	PI
I	ICAR-Deemed Universities												
1	IARI, New Delhi	69	197	14	183	165	15	355	78	21	607	440	50
2	IVRI, Izatnagar	42	31	8	92	28	12	214	183	22	348	242	42
3	NDRI, Karnal	23	85	5	44	71	10	133	22	30	200	178	45
4	CIFE, Mumbai	19	6	2	35	11	4	50	34	14	104	51	18
	Total (I)	153	319	29	354	275	41	752	317	87	1259	911	155
II	University												
5	Central Agricultural University, Imphal												
5.1	Vet. Sci. & Animal Husbandry, Aizwal	9	1	2	16	1	-	39	25	10	64	27	12
5.2	Fisheries, Agartala	6	2	-	8		-	20	15	-	34	17	-
5.3	Horticulture & Forestry, Pasighat	10	-	-	18	1	-	36	15	2	64	16	2
5.4	Home Science	5	-	-	9	1	-	21	7	-	35	8	-
5.5	Agri. Engineering & PHT, Sikkim	7	-	-	13	-	-	28	1	-	48	1	-
5.6	Agriculture, Imphal	8	3	2	12	6	-	29	26	16	49	35	18
	Total (II)	45	6	4	76	9	-	173	89	28	294	104	32
	G. Total (I+II)	198	325	33	430	284	41	925	406	115	1553	1015	187

SS: Sanctioned Strength; IP: In Position; PI: Proposed Increase

Note: Higher figure of faculty in position vis-à-vis sanctioned strength in some cases, is due to Merit Promotion/ Career Advancement of the faculty members.

3.0 Student/Teacher Proportion

ICAR-DUs/CAU have triple function of research, education and extension activities. Thus scientists/faculty members recruited are involved in these activities. The recruitment is primarily based on needs of research and extension projects. These scientists also undertake teaching activities. It is likely that in a particular discipline the number of scientist is higher due to research and extension project needs, then the education needs or number of students joining that discipline. In view of this, it is difficult to arrive at a meaningful teachers-student ratio. Also both the PG and Ph.D. programmes ICAR/CAU are based on both course work and research based thesis. Thus a

meaningful indicative teacher student ratio is the number of PG/Ph.D students per faculty members and this number is 3-4. A comparative picture of student faculty can still be seen by basing it on total number of faculty scientists in the institute/university.

Sr.	Institute/University/College	Student/Teacher Proportion*	
		Present Situation	After seat and faculty enhancement
I	ICAR-DUs		
1	IARI, New Delhi	0.8	1.2
2	IVRI, Izatnagar	1.0	1.4
3	NDRI, Karnal	2.4	3.0
4	CIFE, Mumbai	1.6	2.1
II	University		
5	Central Agricultural University, Imphal		
5.1	Vet. Sci. & Animal Husbandry, Aizwal	3.3	4.2
5.2	Fisheries, Agartala	2.6	4.0
5.3	Horticulture & Forestry, Pasighat	2.0	3.0
5.4	Home Science	2.5	3.9
5.5	Agri. Engineering & PHT, Sikkim	2.7	4.2
5.6	Agriculture, Imphal	6.0	6.8

*Based on Sanctioned faculty Strength

4.0 Infrastructure and Costs

4.1 Cost Details

4.1.1 Indian Agricultural Research Institute, New Delhi

Rs. Million

Sr.	Institute/component	07-08	08-09	09-10	10-11	11-12	Total
1	Academic Costs						
1.1	Salary/Honorarium to Faculty	20.0	21.3	24.3	24.3	25.8	115.7
1.2	Fellowship & student contingency	10.1	20.2	27.0	30.8	30.8	118.9
1.3	Capital Costs						
	a) Laboratories/Equipment	24.6	-	-	-	-	24.6
	b) IT Infrastructure	3.2	1.0	-	-	-	4.2
	c) Library facilities	6.0	1.0	0.5	0.5	0.5	8.5
1.4	Academic Excellence	5.5	0.5	0.5	0.5	0.5	7.5
	Total	69.4	44.0	52.3	56.1	57.6	279.4
2	Non-Academic Costs						
2.1	Salary: Non-academic staff	9.3	9.6	9.9	10.1	10.9	49.8
2.2	Civil Works						
	a) Academic buildings	5.5*	-	-	-	-	5.5
	b) Hostels	67.5*	36.0**	-	-	-	103.5
	c) Residences	10.0	6.0	-	-	-	16.0
	d) Common facilities (health, sports, vehicle stand etc.)	5.0	-	-	-	-	5.0
2.3	Contingency	1.0	1.8	4.0	4.0	4.0	14.8
2.4	Vehicle	1.5	-	-	-	-	1.5
	Total	99.8	53.4	13.9	14.1	14.9	196.1
	Grand Total (1+2)	169.2	97.4	66.2	70.2	72.5	475.5

Note: Support need to be made available during *2006-07 and ** 2007-08 for implementation of the proposed OBC reservation schedule.

4.1.2 Indian Veterinary Research Institute, Izatnagar

Rs. Million

Sr.	Institute/component	07-08	08-09	09-10	10-11	11-12	Total
1	Academic Costs						
1.1	Salary/Honorarium to Faculty	16.0	18.0	24.9	27.3	30.1	116.3
1.2	Fellowship & student contingency	3.6	14.0	16.8	16.8	16.8	68.0
1.3	Capital Costs						
	a) Laboratories	6.0	-	-	-	-	6.0
	b) IT Infrastructure	5.0	2.0		-	-	7.0
	c) Library facilities	0.5	0.5	0.7	0.7	0.7	3.1
	d) Equipments	49.5	-	-	-	-	49.5
1.4	Academic Excellence	5.5	0.5	0.5	0.5	0.5	7.5
	Total	86.1	35.0	42.9	45.3	48.1	257.4
2	Non-Academic Costs						
2.1	Salary: Non-academic staff/contractual	3.5	5.5	6.0	6.5	6.5	28.0
2.2	Civil Works						
	a) Academic buildings	-	-	-	-	-	
	b) Hostels	65.0*	-	-	-	-	65.0
	c) Residences	28.0*	-	-	-	-	28.0
2.3	Contingency	3.0	5.5	7.5	7.5	7.5	31.0
2.4	Vehicle	1.5	-	-	-	-	1.5
	Total	101.0	11	13.5	14	14	153.5
	Grand Total (1+2)	181.6	46.0	56.4	59.3	62.1	403.4

Note: Support need to be made available during *2006-07.

4.1.3 National Dairy Research Institute, Karnal

Rs. Million

Sr.	Institute/component	07-08	08-09	09-10	10-11	11-12	Total
1	Academic Costs						
1.1	Salary/Honorarium to Faculty	10.0	10.5	11.2	13.4	13.4	58.5
1.2	Fellowship & student contingency	7.2	14.4	18.1	19.9	19.9	79.5
1.3	Capital Costs						
	a) Laboratories	-	-	-	-	-	
	b) IT Infrastructure	5.2	4.3	-	-	-	9.5
	c) Library facilities	0.5	0.3	0.3	0.3	0.3	1.7
	d) Equipments	9.0	-	-	-	-	9.0
	e) Faculty contingency	5.2	5.2	6.2	7.2	7.2	31.0
1.4	Academic Excellence	5.5	0.5	0.5	0.5	0.5	7.5
	Total	42.6	35.2	36.3	41.3	41.3	196.7
2	Non-Academic Costs						
2.1	Salary: Non-academic staff/ contractual contingency	2.5	3.0	4.1	4.9	4.9	19.4
2.2	Civil Works						
	a) Academic buildings	12.1	-	-	-	-	12.1
	b) Hostels	60.4*	-	-	-	-	60.4
	c) Residences	61.2*	-	-	-	-	61.2
2.3	Contingency	1.0	2.0	3.0	3.0	3.0	12.0
2.4	Vehicle	1.5	-	-	-	-	1.5
	Total	138.7	5	7.1	7.9	7.9	166.6
	Grand Total (1+2)	181.3	40.2	43.4	49.2	49.2	363.3

Note: Support need to be made available during *2006-07.

4.1.4 Central Institute of Fisheries Education, Mumbai

Rs. Million

Sr.	Institute/component	07-08	08-09	09-10	10-11	11-12	Total
1	Academic Costs						
1.1	Salary/Honorarium to Faculty	6.5	7.0	7.5	8.0	8.5	37.5
1.2	Fellowship & student contingency	1.0	2.0	2.9	2.9	2.9	11.7
1.3	Capital Costs						
	a) Laboratories/Farm	14.9	-	-	-	-	14.9
	b) IT Infrastructure	1.5	0.5	-	-	-	2.0
	c) Library facilities	1.0	0.5	0.5	0.5	0.5	3.0
	d) Equipments	17.0	-	-	-	-	17.0
1.4	Academic Excellence	5.5	0.5	0.5	0.5	0.5	7.5
	Total	47.4	10.5	11.4	11.9	12.4	93.6
2	Non-Academic Costs						
2.1	Salary: Non-academic staff	0.6	1.2	1.3	1.4	1.5	6.0
2.2	Civil Works						
	a) Academic buildings	18.0			-	-	18.0
	b) Hostels	50.0*	-	-	-	-	50.0
	c) Residences	23.0*	-	-	-	-	23.0
2.3	Contingency	3.0	5.0	7.0	7.0	7.0	29.0
2.4	Vehicle	1.0	-	-	-	-	1.0
	Total	95.6	6.2	8.3	8.4	8.5	127
	Grand Total (1+2)	143.0	16.7	19.7	20.3	20.9	220.6

Note: Support need to be made available during *2006-07.

4.1.5 Central Agricultural University, Imphal

Rs. Million

Sr.	Institute/component	07-08	08-09	09-10	10-11	11-12	Total
1	Academic Costs						
1.1	Salary/Honorarium to Faculty	6.7	7.0	8.9	9.8	10.6	43.0
1.2	Fellowship & student contingency/stipend	0.6	1.2	1.2	1.2	1.4	5.6
1.3	Capital Costs						
	a) Laboratories/Equipment	42.0	-	-	-	-	42.0
	b) IT Infrastructure/Library	8.2	4.0	3.8	-	-	16.0
1.4	Academic Excellence	16.8	1.8	1.8	1.8	1.8	24
	Total	74.3	14.0	15.7	13.0	13.8	130.8
2	Non-Academic Costs						
2.1	Salary: Non-academic staff	2.2	3.7	4.4	4.9	5.3	20.5
2.2	Civil Works						
	a) Academic buildings	206.2*	-	-	-	-	206.2
	b) Hostels	119.6*	-	-	-	-	119.6
2.3	Contingency	0.4	0.8	0.9	1.0	1.1	4.2
2.4	Vehicle	3.0	-	-	-	-	3.0
	Total	331.4	4.5	5.3	5.9	6.4	353.5
	Grand Total (1+2)	405.7	18.5	21.0	18.9	20.2	484.3

Note: Support need to be made available during *2006-07.

4.2 Summary Costs

Rs. Million

Inst.	07-08		08-09		09-10		10-11		11-12		Total		
	AC	NAC	AC	NAC	AC	NAC	AC	NAC	AC	NAC	AC	NAC	AC+NAC
IARI	69.4	99.8	44.0	53.4	52.3	13.9	56.1	14.1	57.6	14.9	279.4	196.1	475.5
IVRI	86.1	101.0	35.0	11.0	42.9	13.5	45.3	14.0	48.1	14.0	257.4	153.5	410.9
NDRI	42.6	138.7	35.2	5.0	36.3	7.1	41.3	4.9	41.3	7.9	196.7	166.6	363.3
CIFE	47.4	95.6	10.5	6.2	11.4	8.3	11.9	8.4	12.4	8.5	93.6	127.0	220.6
CAU	74.3	331.4	14.0	4.5	15.7	5.3	13.0	5.9	13.8	6.4	130.8	353.5	484.3
Total	319.8	766.5	138.7	80.1	158.6	48.1	167.6	50.3	173.2	51.7	957.9	996.7	1954.6

AC: Academic Cost; NAC: Non Academic Cost

5.0 Academic Excellence

From experience of teaching students of other weaker sections of the society, no additional preparatory/ remedial courses are anticipated to bring OBC students competitively at par with fellow students. Faculty would provide additional coaching/tutorial etc., for basic and subjected related knowledge. However, for

confidence building in communication and soft skills, optional non-credit course training would be imparted.

6.0 Financial Implications

The financial implications of 27 % OBC reservations presented below, calculated on the basis of 2006-07 costs is Rs. 195.5 crores. These are likely to change with time due to inflation and with change in price index.

Rs. Million

Inst.	07-08		08-09		09-10		10-11		11-12		Total		
	RC	NRC	RC	NRC	RC	NRC	RC	NRC	RC	NRC	RC	NRC	RC+NRC
IARI	40.9	164.3	53.4	8.0	65.7	0.5	69.7	0.5	72.0	0.5	301.7	173.8	475.5
IVRI	32.1	153.0	44.0	2.5	56.2	0.7	59.1	0.7	61.9	0.7	253.3	157.6	410.9
NDRI	26.4	154.9	35.6	4.6	43.1	0.3	48.9	0.3	48.9	0.3	201.9	160.4	363.3
CIFE	11.6	131.4	15.7	1.0	19.2	0.5	19.8	0.5	20.4	0.5	86.7	133.9	220.6
CAU	11.7	394.0	14.5	4.0	17.2	3.8	18.9	-	20.2	-	82.5	401.8	484.3
Total	122.7	997.6	163.2	20.1	201.4	5.8	216.4	2.0	223.4	2.0	926.1	1027.5	1954.6

RC: Recurring Cost; NRC: Non-Recurring Cost

7.0 Implementation Schedule & requirements

Implementation of 27 per cent OBC reservation in one go is possible only if the additional requirements of student hostels, class rooms, laboratories, equipments and faculty is in place, before the start of the academic session. In ICAR-DUs and CAU, full 27 per cent OBC reservation in some programmes can be effected from the next academic year, while for others the implementation would be feasible if it is done in phases.

7.1 Schedule

Sr.	Institute/University/College	OBC Reservation	
		First Year	Second Year
I	ICAR-Deemed Universities		
1	IARI, New Delhi: PG & Ph.D.	9 %	18 %
2	IVRI, Izatnagar: PG & Ph.D.	9 %	18 %
3	NDRI, Karnal	9 %	18 %
	UG	27 %	-
	PG & Ph.D.	9 %	18 %

4	CIFE, Mumbai: PG & Ph.D.	9 %	18 %
II	University		
5	Central Agricultural University		
5.1	College of Veterinary Sciences & Animal Husbandry, Aizwal, Mizoram: UG & PG	9 %	18 %
5.2	College of Fisheries, Agartala: UG	27 %	-
5.3	College of Horticulture & Forestry, Pasighat: UG	9 %	18 %
5.4	College of Home Science, Tura: UG	27 %	-
5.5	College of Agricultural Engineering & Post Harvest Technology, Sikkim: UG	27 %	
5.6	College of Agriculture, Imphal: UG & PG	9 %	18 %

7.2 Financial Aspects:

For implementing the action plan as discussed it is essential to provide necessary budget by September 2006 for civil work (Hostels, Lecture Halls, Laboratory, etc.) and for full faculty recruitment at the beginning, because faculty at the entry level would have to undergo a Foundation Course including training in education technology.

7.3 Faculty Recruitment

There should be special recruitment of faculty for this purpose. ASRB be empowered to issue advertisement and recruit faculty in six months time. Another condition should be to recruit candidate with Ph.D. as essential qualification for appointment as Assistant Professor so that after one-year of training they are available to guide PG/Ph.D. students.

It is also likely that at senior level, competent faculty may not be available. Therefore, till such time that competent faculty is available for recruitment, outstanding teachers who have retired in last three years and those who are retiring now may be reemployed on contractual basis depending upon need and their suitability, initial for 3 years and then renewed up to the age of 70 years. Contractual amount could be worked out as last total emoluments drawn minus pension. In order to attract/retain very competent scientists/teachers, it would also be essential to provide them residential facilities.

7.4 Needed Empowerment

Most critical steps in operationalizing reservation for OBC are construction of Hostels, Lecture Halls, and practical laboratories. For this purpose institutes need to be given power to have construction of hostels started and dispensing with the requirement of getting approval from Municipal Corporation and Urban Arts Commission as the case may be and power to assign the work without tendering, to one of the semi-governmental agencies with excellent track record. This would ensure timely completion of hostels, otherwise reservation cannot be implemented until hostel accommodation is provided because all institutions have residential requirement.

Another delegation required in respect of procurement of the state of art equipment without going through lengthy process of tendering. . If the institute has purchased equipment earlier of from a company and is satisfied with that then it be allowed to procure additional equipment from the same company.

7.5 Admission Threshold

Admission to U.G. level and P.G. level in the four ICAR institutes is done by ICAR based on the merit at the Common Entrance Examination. For being eligible for entrance examination presently a candidate must have secured 50% marks for general category and 40% marks for SC/ST category. There is a also cut off in entrance examination, which is 5% lower for SC/ST, than general category students. For Ph.D. admission individual institutes organize national level entrance examination and admission is based on academic marks weightage (10+2 to M.Sc.) plus written examination marks and interview marks. In entrance examination there is cut off which is lower for SC/ST, than general category students.

It is proposed that the eligibility marks as well as cut off at the entrance examination for OBC be kept in between general category and the SC/ST category. For CAU, system is different, 15% seats at UG and 25 % at PG level are filled centrally by

and remaining seats are distributed to different states of NE states for which they conduct the examination and send the list to the University for admission.

8.0 Over Sight Mechanism

All ICAR–Deemed Universities and the Central Agricultural University have Board of Management/Governing Bodies/Academic Councils for formulation, implementation and review of all academic activities including admissions, hence these would review the implementation and progress of OBC education initiative with respect to admission, physical asset including infrastructure equipments, etc. and Quality assurance. At the central DARE/ICAR level, a Committee under the Chairmanship of Deputy Director General (Education), ICAR would review the scheme for mid-course corrections annually, until the first two batches of the students admitted after OBC reservation, roll out. The Committee, besides others, would comprise of Directors of all ICAR-DUs, and the Vice-Chancellor of CAU as members.

9.0 Detailed Project Reports (DPR) of the 4 ICAR-DUs and CAU are given in the following Annexures:

Annexure A -	IARI
Annexure B -	IVRI
Annexure C -	NDRI
Annexure D -	CIFE
Annexure E -	CAU

Annexure A**INDIAN AGRICULTURAL RESEARCH INSTITUTE, NEW DELHI**

1. Preamble: The Indian Agricultural Research Institute (IARI), originally the Agricultural Research Institute (ARI), was set up in 1905 at Pusa, a village in Darbhanga (now in Samastipur) district of north Bihar with the generous help of an American Philanthropist, Mr. Henry Phipps. It was renamed as the Imperial Institute of Agricultural Research in 1911 and as the Imperial Agricultural Research Institute in 1919. In January 1934, Pusa suffered a devastating earthquake causing severe damage to the Phipps Laboratory, the building housing the Institute. The Institute was then rebuilt at New Delhi and formally inaugurated by his Highness Marquis of Linlithgo, the then Viceroy of India on 7th November 1936. It was renamed as the Indian Agricultural Research Institute (IARI) in 1947. Government of India took a bold decision to establish Post Graduate School at IARI in 1958 and recognition of the Institute as Deemed to be University. Since its inception, the Institute has awarded 2842 M.Sc. degrees and 3758 Ph.D. degrees. These trained personnel have manned important positions nationally and internationally. The Institute has been developed as Centre of Excellence at international level. The Institute has been harbinger of Green Revolution in the country which has contributed to the self-sufficiency in food grain production. Development of high yielding varieties of cereals, pulses, oilseeds, vegetables coupled with high production technology and dissemination to the farming community propelled agricultural transformation since mid 1960s. The annual budget of the Institute (Plan + Non-Plan) is Rs. 98.37 crores. For increasing 54% seats in the Institute, the average annual increment is approximately Rs. 9.4 crores, which works out to be less than 10% of the Institute budget. For operationalizing the proposal, it would be essential to have all clearances for construction of the students' hostels (Urban Arts Commission and MCD) at the time of acceptance of the scheme, otherwise, reservations cannot be implemented in 2007.

Details of increase in intake capacity of students and requirements for faculty, infrastructure, and funds for 27% OBC reservation without affecting the number of unreserved seats in admission to various M.Sc. and Ph.D. programmes of IARI are detailed in the following tables.

1. Number of Seats

Year-wise break-up of additional number of students					
	I	II	III	IV	Total
M.Sc.	44	44	9	-	97
Ph.D.	51	51	51	40	193
Total number of students in each year					
M.Sc.	124	124	25		273
Ph.D.	144	144	144	116	548
Total no. of additional Students					
M.Sc.	44	88	97	97	97
Ph.D.	51	102	153	204	204
Additional	95	190	250	301	301

The number of M.Sc. students will stabilize in the III year and Ph.D. from IV year onward

2. Disciplinewise Details of M.Sc Admissions

Discipline Code	Discipline	Tentative Allocation of Seats						Additional Seats	Total
		General	SC	ST	PH	Under Privileged States	Total		
01	Agri. Chemicals	2	-	-	-	1	3	2	5
02	Agri. Economics	2	-	-	1	-	3	2	5
03	Agri. Engineering	2	1	1	-	-	4	2	6
04	Agri. Extension	3	1	-	-	-	4	2	6
05	Agri. Physics	2	-	1	-	-	3	1	4
06	Agri. Statistics	4	1	1	-	-	6	3	9
07	Agronomy	2	-	1	-	-	3	2	5
08	Biochemistry	1	1	-	-	-	2	1	3
09	Computer Application	3	2	-	-	1	6	4	10
10	Entomology	2	-	-	1	-	3	2	5
11	Environmental Sciences	2	1	-	-	-	3	1	4
12	Genetics	4	1	-	-	-	5	3	8
13	Horticulture	5	1	1	-	-	7	3	10
14	Microbiology	2	-	1	-	-	3	1	4
15	Molecular Biology & Biotechnology	2	1	-	-	-	3	3	6
16	Nematology	2	-	-	-	-	2	1	3
17	Plant Genetic Resources	2	1	-	-	-	3	1	4
18	Plant Pathology	2	-	-	1	-	3	2	5
19	Plant Physiology	3	-	-	-	-	3	1	4
20	Seed Science & Technology	3	-	-	-	-	3	2	5
21	Soil Science & Agricultural Chemistry	3	-	-	-	-	3	1	4
22	Water Science and Technology	2	1	-	-	-	3	1	4
23	Post Harvest Technology	2	-	-	-	-	2	3	5
Total		55	12	6	3	2	80	44	124

3. Disciplinewise details of Ph.D. Admissions

Discipline Code	Discipline	Number of Seats				Additional Seats	Grand Total
		General	SC	ST	Total		
01	Agr. Chemicals	4	1	-	5	3	8
02	Agri. Economics	3	-	-	3	2	5
03	Agri. Engineering	3	1	-	4	2	6
04	Agricultural Extension	5	1	-	6	3	9
05	Agricultural Physics	3	-	-	3	1	4
06	Agricultural Statistics	3	1	1	5	3	8
07	Agronomy	4	1	1	6	3	9
08	Biochemistry	2	-	-	2	1	3
09	Entomology	3	1	-	4	2	6
10	Environmental Sciences	2	-	1	3	1	4
11	Genetics	6	1	1	8	4	12
12	Horticulture	5	1	-	6	4	10
13	Microbiology	3	1	-	4	2	6
14	Molecular Biology & Biotechnology	3	1	1	5	6	11
15	Nematology	2	-	-	2	1	3
16	Plant Genetic Resources	2	-	1	3	-	3
17	Plant Pathology	3	1	-	4	3	7
18	Plant Physiology	4	1	-	5	2	7
19	Post Harvest Technology	1	-	1	2	2	4
20	Seed Science & Technology	2	1	-	3	3	6
21	Soil Science & Agricultural Chemistry	4	1	-	5	2	7
22	Water Science and Technology	2	-	-	2	1	3
Total		69	14	7	90+3*	51	144**

* seats for PH; ** Including seats for PH which are across discipline

4. Schedule and Pattern for Faculty enhancement

	Year I	Year II	Year III	Year IV	Year V
Professor	5	5	5	-	-
Assoc. Prof.	10	5	-	-	-
Asstt. Prof.	10	10	-	-	-
Total	25	20	5	-	-

Since the number of students is going to increase substantially, there is an additional requirement of faculty (Principal Scientists/Senior Scientists/Scientists equivalent to Professors/Associate Professors/Assistant Professors) to the tune of 50 in various disciplines particularly in Molecular Biology and Biotechnology, Genetics, Horticulture, Agronomy, Biochemistry, Plant Physiology, Soil Science etc. It is extremely difficult to get very qualified senior faculty in short-time, therefore, it is recommended that best faculty retiring in next two years (attaining age of 62 years) may be allowed to be retained on contractual basis upto 65 years by paying them net salary minus pension.

Hiring of Faculty on Contractual Basis (10+5+5) : 20

Discipline wise additional faculty requirement

Discipline	Professors	Assoc. Prof.	Asstt. Prof.	Total
Agricultural Chemicals	1	-	1	2
Agricultural Economics	-	1	1	2
Agri. Engineering	2	-	-	2
Agricultural Extension	1	-	1	2
Agricultural Physics	-	1	-	1
Agricultural Statistics	-	1	-	1
Agronomy	1	-	1	2
Biochemistry	-	1	1	2
Computer Application	-	1	1	2
Entomology	-	1	2	3
Environmental Sciences	-	-	1	1
Genetics	2	2	-	4
Horticulture	2	1	1	4
Microbiology	-	1	1	2
Mol. Biol. & Biotech.	2	1	1	4
Nematology	-	-	2	2
Plant Genetics Resources	-	1	-	1
Plant Pathology	1	-	1	2
Plant Physiology	-	1	-	1
Post Harvest Technology	1	-	3	4
Seed Science & Techn.	1	1	-	2
Soil Science & Agricultural Chemistry	1	-	1	2
Water Science & Technology	-	1	1	2
Total	15	15	20	50

5. Additional requirements of Technical and Non-Teaching Staff: 40

- (1) Technical Assistant (T-II-3) for laboratory help: 25
 - (2) Lab. Attendants : 5
 - (3) Administrative/Supporting staff : 10
- P.G. School:
- Assistant: 1
- LDC : 2 (Academic and Financial)
- Technical Assistant: 1 (for computer handling)

Hostels:

Caretaker: 3

LDC/UDC: 3

(4) Contractual Services

Security, Attendants, Cleaning of Hostels etc.

6. Additional Fund requirements over a period of Five Years from 2007-08

Sr.	Components	07-08	08-09	09-10	10-11	11-12	Total
1	ACADEMIC COSTS	(All figures are in Rupees Lakhs)					
1.1	Salary/Honorarium to faculty incl. Contractual	132.00	213.00	243.00	234.00	257.4	1079.4
1.2	Fellowship	77.19	154.38	208.31	232.28	232.28	904.44
	Student Contingency	23.75	47.50	62.50	75.25	75.25	284.25
1.3	Capital Costs						
A	Laboratories	245.5	-	-	-	-	245.5
B	IT Infrastructure	22	-	-	-	-	22
C	Library facilities						
	1 Computers- Non recurring	50	-	-	-	-	50
	2. Recurring	10	10	-	-	-	20
	Total						70
	TOTAL	560.44	424.88	513.81	541.43	564.93	2605.59
2	Non Academic Costs						
2.1	Salary- Non Academic Staff	93	96	99	101	109	498
2.2	Civil Works	55	-	-	-	-	55
A	Academic Buildings	-	-	-	-	-	-
B	1. Hostels	675	360	-	-	-	1035
	2. Additional Health Care facilities	20	-	-	-	-	20
	3. Additional Gym/Sports facilities	10	-	-	-	-	10
	4 Students Amenities (Cycle/ Scooter Stand/ Canteen)	20	-	-	-	-	20
	Total	725	360	-	-	-	1085
c	Residences	100	60	-	-	-	160
2.3	Contingency @ Rs 80000/- p.a. per scientist	20	36	40	40	40	176
2.4	Vehicle	15	-	-	--	-	15
	TOTAL	1098.00	552.00	139.00	141.00	149.00	2225.00
	GRAND TOTAL (1+2)	1568.44	976.88	652.81	682.53	713.93	4594.59

6.1 Additional Requirements of different Divisions

Non-Recurring (Rs. Lakhs)

Division	Requirement	Cost
Biochemistry	Extra Space with Lab. Furniture	20.0
	Extra equipment for practicals and thesis research	5.0
Molecular Biology & Biotechnology	Extra equipment for practicals and thesis research	15.0
Plant Physiology	Extra Space with Lab. Furniture	15.0
	Extra equipment for practicals and thesis research	5.0
Agricultural Physics	Extra equipment for practicals and thesis research	5.0
Genetics	Extra equipment for practicals and thesis research	10.0
Horticulture	Extra Space with Lab. Furniture	20.0
	Extra equipment for practicals and thesis research	5.0
Seed Science & Techn.	Extra equipment for practical and thesis research	7.5
Plant Pathology	High speed table-top refrigerated centrifuge	10.0
	Denaturing gradient gel electrophoresis	5.0
	Microplate reader	10.0
	Real time PCR with accessories	15.0
	Gene-gun /gene delivery system for plant transformation	7.0
	Complete water purification system	7.0
	Extra equipment for practicals and thesis research	5.0
Entomology	Extra equipment for practicals and thesis research	7.0
Nematology	Extra equipment for practicals and thesis research	6.0
Agricultural Chemicals	Extra equipment for practicals and thesis research	10.0
Soil Sci. & Agri. Chem.	Extra equipment for practicals and thesis research	5.0
Agronomy	Computers	2.5
	Extra equipment for practicals and thesis research	5.0
Microbiology	Extra equipment for practicals and thesis research	10.0
Agri. Engineering	Small equipments for workshops	4.0
Water Science & Techn.	Extra equipment for practicals and thesis research	5.0
Post-Harvest Technology	Extra equipment for practicals and thesis research	5.0
Agri. Economics	Computer lab with PCs + software	15.0
Agri. Extension	Extra AV-lab and small equipment	7.0
Environmental Sciences	Extra equipment for practical and thesis research	7.5
Agri. Statistics	Extra computer lab. with 10 computers + software	15.0
Computer Application		
Plant Genetic Resources	Extra equipment for practicals and thesis research	5.0
Library	Computers	50.0
Computer for Faculty		25.0
Total		350.5

6.2 Infrastructure and Cost (All figures are in Rs lakhs)

Academic	Year				
	I	II	III	IV	V
	07-08	08-09	09-10	10-11	11-12
Salary/Hon. For Teaching staff.	114.00	204.00	234.00	234.00	257.40
Contractual Faculty (Rs 15000/- p.m.) (10 + 5 + 5)	18.00	9.00	9.00	---	---
Capital cost involved in setting up academic (As detailed in Annexure – II) support like laboratories, IT Infrastructure(wireless Internet connectivity) facilities, hospitals, beds and equipments	22.00	--	--	--	--
Central Library (recurring)	10.00	10.00	---	--	--
*(Computers for Library- Non recurring)	50.00	--	---	--	--
*Additional Health Care Facilities	20.00	--	---	--	--
*Additional Sports/Gym. Facilities	10.00	--	---	--	--
*Vehicle (one)	15.00	--	---	--	--
*Students Amenities (Cycle, Scooter Stand/Canteen etc.)	20.00	--	---	--	--
*One time; to be done initially					

6.3 Non Academic costs

Cost involved in construction of buil

Hostels* (with-out lif

Name of items	I	II	III	IV	V
	07-08	08-09	09-10	10-11	11-12
1. C/o Girls Hostel 75 Rooms (Area 25x75=1875 sqm. @ Rs.12000/- per sqm.)	225.00	--	--	--	--
2. C/o of Boys Hostel 150 Rooms (Area 5x150=3750 sqm. @Rs.12000/-per sqm.)	450.00	---	---	---	---
3.C/ o Married Students Hostel , 75 sets (40x75=3000 sqm. @ Rs.12000/- per sqm.)	----	360.00	---	---	---
TOTAL	675	360	--	--	--

(Total (Year I + II) Rs.1035 lakhs)

* Getting permission to construct Hostels in IARI from the Delhi Urban Commission, M.C.D. is a time consuming and lengthy process. Special intervention would be required to complete these in time.

Non-Recurring Expenses**(16.33 crores)**

(All figures are in Rs. Lakhs)

I. Hostels*

(Without lift)

Name of items	Year	I	II	III	IV	V
1. C / o Girls Hostel 75 Rooms (Area 25x75=1875 sqm. @ Rs.12000/- per sqm.)		25.00	--	----	----	---
2. C / o of Boys Hostel 150 Room (Area 25x150=3750 sqm. @ Rs.12000/- per sqm.)		450.00	----	---	---	---
3. C/ o Married Students Hostel , 75 sets 40x75=3000 sqm. @ Rs.12000/- per sqm.)		----	360.00	---	---	---
		675.00	360.00	---	---	---
		(Total Rs.1035 lakhs)				

II. Accommodation for Faculty* (Type IV – 10 and Type V - 5) Total: 15

Year	I	II	III	IV	V
	100.00 (Type IV)	60.00 (Type V)	--	--	--

III. Wireless Internet Connectivity (75+150+75)=300 Rooms**Rs.22.00 lakhs****IV. Additional Health Care Facilities****Rs.20.00 lakhs****V. Additional Sports/Gym. Facilities****Rs.10.00 lakhs****VI. Bus (one)****Rs. 15.00 lakhs****VII. Students Amenities (Cycle, Scooter Stand/Canteen etc.)****Rs. 20.00 lakhs**I year
(2007-08)

* Getting permission to construct Hostels in IARI from the Delhi Urban Commission, M.C.D. is a time consuming and lengthy process. Special intervention would be required to

Year	I	II	III	IV	V
	2007-08	2008-09	2009-10	2010-11	2011-12
Housing for new faculty Type-IV-10; Type-V-05 Total – 15	100.00	60.00	--	--	--

complete these in time.

**Logistic support staff (Non-academic staff)
enhancement and related cost**

40 Nos.

Year	I	II	III	IV	V
	2007-08	2008-09	2009-10	2010-11	2011-12
i) Technical & Non Tech.	72.00	75.00	78.00	80.00	88.00
ii) Contractual Services	21.00	21.00	21.00	21.00	21.00

1. Academic excellence

Remedial courses	Non-Agricultural Graduates have to undergo one-year of remedial courses before starting their regular Course work and research.
Curriculum design of remedial courses	
Cost involved	NIL

Summary of the budget requirements under Recurring and Non-recurring heads

(in lakhs Rs.)

	(2007-08)	(2008-09)	(2009-10)	(2010-11)	(2011-12)
RECURRING					
Fellowship					
M.Sc.	29.25	58.50	64.49	64.49	64.49
Ph.D.	47.94	95.88	143.82	167.79	167.79
Central Library	10.00	10.00	--	--	
Student Contingencies	23.75	47.50	62.50	75.25	75.25
Staff					
Faculty	114.00	204.00	234.00	234.00	257.4
Technical and Non-Technical Staff	72.00	75.00	78.00	80.00	88.00
Contractual					
Faculty	18.00	09.00	09.00	--	--
Services	21.00	21.00	21.00	21.00	21.00
Faculty Contingency	20.00	36.00	40.00	40.00	40.00
Total (A)	355.94	556.88	652.81	682.53	713.93
NON-RECURRING					
Hostels	675.00	360.00	--	--	---
Accommodation for Faculty	100.00	60.00	--	--	---
Wireless Internet connectivity	22.00	--	--	--	---
Additional Health Care Facilities	20.00	--	--	--	---
Sports/Gym. Facilities	10.00	--	--	--	---
Vehicle	15.00	--	--	--	---
Students Amenities	20.00	--	--	--	---
Additional equipment ¹ /Civil Const ² for classrooms/ lab	295.5 ¹ /55 ² (Total: 350.5)	---	---	---	---
Total (B)	1212.50	420.00	---	---	---
G. Total (A+B)	1568.44	976.88	652.81	682.53	713.93
Total Budget for 5 years is Rs. 45.95 crores					

8. Review mechanism: Academic Council supported by the Four Standing Committees viz,

1. Standing Committee on Course Curricula And Academic Affairs
2. Standing Committee on Faculty & Discipline
3. Standing Committee on Financial Assistance & Academic Progress
4. Standing Committee on Students Problems, Discipline, Welfare Board &

Residence.

Annexure B**INDIAN VETERINARY RESEARCH INSTITUT, IZATNAGAR (U.P.)**

1. Institute Profile: The Indian Veterinary Research Institute (IVRI), a deemed to be university, located at Izatnagar, Bareilly, U.P. offers an academic programme in different fields of veterinary sciences and animal husbandry under qualified and competent faculty members, and provides excellent campus life for students from all over India and also other parts of the world. Established on 9th December, 1889 as an Imperial Bacteriological Laboratory at Pune, the institute was conferred Deemed University status with effect from 16th November, 1983 under Section 3 of the University Grants Commission Act (1956). The Deemed University has a beautiful green landscape spread over an area of 307 hectares, a well established National Library of Veterinary Sciences (NLVS), Animal and Fodder Farms, Boys and Girls' Hostels, Bank and Post Office facilities at its Izatnagar campus. The Deemed University has been acclaimed nationally as well as internationally for its high standards of post graduate teaching and research in the areas of animal health, production and technology with multidisciplinary approach through its 21 Divisions and 6 Sections specialized in various disciplines/areas. The institute today functions with its headquarters at Izatnagar (U.P.) as well as 3 campuses at Mukteswar, Kumaon (Uttanchal), Bangalore (Karnataka), Bhopal (M.P.) and, 3 Regional Stations at Palampur (H.P.), Srinagar (J&K) and Kolkata (W.B.). The research contributions of the institute have facilitated development of new biologicals used for diagnosis, prevention, cure and control of many devastating diseases of livestock including poultry, increased production of milk, meat, eggs and other animal products. Upgradation of livestock and poultry with increased production potential, overcoming the shortage of animal feeds by better utilization of existing feed resources and substitution of conventional feeds by cheaper agro-industrial by-products are other significant contributions. The Institute has also been recognized as the Centre for Advanced Studies in Animal Nutrition and Animal Physiology and Centre for Excellence in Animal Biotechnology by Indian Council of Agricultural Research, New Delhi. The Centre for Animal Disease Research and Diagnosis (CADRAD) an ISO 9001 laboratory at the institute has been recognized as the National Referral Disease Diagnostic Laboratory by Ministry of Animal Husbandry and Dairying, New Delhi.

2. Academic Activities: Existing Post-graduate teaching and training programmes at the Institute started way back in 1900 when training was imparted to field veterinarians, civil and army personnel on various aspects of animal health-care. Later on, Associateship of IVRI and National Diploma courses were added as a part of post-graduate teaching programme. The Post-Graduate College of Animal Sciences was established in 1958. The Institute has been providing quality education at master and doctoral levels in 23 and 20 disciplines, respectively. The various sub stations of the IVRI also takes part in teaching and PG research activities of the deemed university. The first academic session of the Deemed University started on 15.1.1985. The administrative control of the Institute is vested with the Indian Council of Agricultural Research (ICAR). The Deemed University has been attracting a large number of foreign students, especially from developing countries. Scholars have been deputed to this Institute from different countries for various short and long-term training programmes, diplomas and degree courses. Besides the above courses, the institute has also been arranging various short-term National and International Training Programmes, Staff Courses and Summer Institutes from time-to-time to make the professional workers familiar with latest developments in veterinary and animal sciences.

3. Admission in PG programmes (seats): Deemed University IVRI at present offers Masters Degree (MVSc) in 23 disciplines and Doctoral Degree (PhD) in 20 disciplines programmes by admitting 87 and 61 students (2006-07), respectively. However, with the proposed implementation of OBC reservation the total number of students to be admitted to these courses will increase by 80 additional seats (47 MVSc and 33 PhD). The detail information is given below:-

Sr.	Name of the Discipline	M.V.Sc. Seats			Ph.D.Seats		
		Existin g	Additional	Tota l	Existin g	Additional	Tota l
1	Animal Biochemistry	4	3	7	3	2	5
2	Animal Biotechnology	5	5	10	4	3	7
3	Animal Genetics & Breeding	5	3	8	4	2	6
4	Animal Nutrition	5	3	8	4	2	6
5	Avian Diseases	3	2	5	3	2	5
6	Bio-Statistics*	3	0	3	0	0	0
7	Epidemiology*	2	1	3	0	0	0
8	Livestock Economics*	2	0	2	0	0	0
9	Livestock Production & Mgmt.	3	0	3	2	0	2
10	Livestock Products Techn.	3	3	6	2	2	4
11	Poultry Science	5	3	8	5	2	7
12	Veterinary Bacteriology	4	3	7	3	2	5
13	Veterinary Extension	4	2	6	3	1	4
14	Vet. Gynae. & Obstetrics	4	2	6	3	1	4
15	Veterinary Immunology	3	2	5	2	2	4
16	Veterinary Medicine	4	2	6	3	2	5
17	Veterinary Parasitology	4	1	5	3	1	4
18	Veterinary Pathology	5	3	8	3	2	5
19	Veterinary Pharmacology	4	2	6	3	2	5
20	Veterinary Physiology	4	1	5	3	1	4
21	Veterinary Public Health	3	1	4	2	1	3
22	Veterinary Surgery	4	2	6	3	1	4
23	Veterinary Virology	4	3	7	3	2	5
	Total	87	47	134	61	33	94

*PhD programme is not being offered at present

4. Additional Budget need for implementation of OBC reservation :

Sr.	Component	07-08	08-09	09-10	10-11	11-12	Total
	1	2	3	4	5	6	7
1.	Academic Costs						
1.1	Salary/Honorarium	16.0	18.0	24.9	27.3	30.1	116.3
1.2	Fellowship/ contingency	3.6	14.0	16.8	16.8	16.8	68.0
1.3	Capital Costs						
	a) Laboratories	6.0	-	-	-	-	6.0
	b) IT Infrastructure	5.0	2.0	-	-	-	7.0
	c) Library facilities	0.5	0.5	0.7	0.7	0.7	3.1
	1	2	3	4	5	6	7

	d) Equipments	49.5	-	-	-	-	49.5
	Total	80.6	34.5	42.4	44.8	47.6	249.9
2.	Non-Academic Costs						
2.1	Salary/contractual cost	3.5	5.5	6.0	6.5	6.5	28.0
2.2	Civil Works						
	a) Academic buildings	-	-	-	-	-	-
	b) Hostels	65.0	-	-	-	-	65.0
	c) Residences	28.0	-	-	-	-	28.0
2.3	Contingency	3.0	5.5	7.5	7.5	7.5	31.0
2.4	Vehicle	1.5	-	-	-	-	1.5
	Total	101.0	11.0	13.5	14.0	14.0	153.5
	Grand Total (1+2)	181.6	45.5	55.9	58.8	61.6	403.4

5. Academic Costs:

5.1 Proposed increase of faculty: Additional faculty would be required for teaching the additional students intake, while maintaining the high standards of teaching and research. The cadre-wise break up of the requirement of additional 42 Faculty members is given below.

Sr.	Name of the Discipline	Professor	Assoc. Prof.	Asstt. Prof.
1	Animal Biochemistry	1	-	1
2	Animal Biotechnology	1	2	1
3	Animal Genetics & Breeding	1	-	1
4	Animal Nutrition	1	-	1
5	Avian Diseases	-	1	1
6	Bio-Statistics	-	-	-
7	Epidemiology	-	-	1
8	Livestock Economics	-	-	1
9	Livestock Production & Management	-	-	1
10	Livestock Products Technology	-	-	1
11	Poultry Science	-	-	1
12	Veterinary Bacteriology	1	2	1
13	Veterinary Extension	-	-	1
14	Vet. Gynaecology & Obstetrics	-	1	1
15	Veterinary Immunology	-	1	1
16	Veterinary Medicine	1	1	1
17	Veterinary Parasitology	-	1	1
18	Veterinary Pathology	1	1	1
19	Veterinary Pharmacology	-	1	1
20	Veterinary Physiology	-	-	1
21	Veterinary Public Health	-	-	1
22	Veterinary Surgery	-	-	1
23	Veterinary Virology	1	1	1
	Total	8	12	22

5.2 Salary/Honorarium to faculty: In order to meet the expenses towards the salary and honorarium to the newly inducted faculty for imparting quality P.G. Education to increased number of the students

under the OBC reservation policy, a sum of Rs. 116.3 million has been proposed (Table at serial No.-4) in view of the price hike, increments and new pay structures likely to be in place. Initially to retain good teachers/ scientists, re - employment will be undertaken as per ICAR norms. Total emolument at the time of retirement minus pension will be paid.

5.3 Fellowship & Contingency for Additional Students: Meritorious students admitted to the university are rewarded with Fellowships for their academic excellence along with contingencies to support their studies and research. To support the PG Education and research of the additional number of the students to be admitted under OBC reservation policy, a sum of Rs. 68.0 million has been proposed under this head (Table at serial No.-4).

6. Capital Costs :

6.1 Laboratories & experimental animal shed: More laboratory facilities need to be created in terms of chemicals, glassware, seating and work place to accommodate more number of students for giving them practical/on site training in a meaningful way. Further, more experimental animal sheds need to be constructed/renovated to meet the teaching and research requirements of additional number of students. Although, a sum of Rs. 6 million has been allotted by the Council for this purpose (Table at serial No.-4), more funds could be required under this head.

6.2 IT infrastructure: In the present era of modern education through information technology, the necessary infrastructure and facilities need to be created and strengthened in term of computers alongwith accessories, their networking as well as necessary software. Art of teaching has also undergone a sea change and use of Hi-tech computerized teaching aids is the need of hour. A sum of Rs. 7.0 million has been earmarked for this purpose (Table at serial No.-4). However, more support under this head would go a long way to update and modernize the teaching facilities and infrastructure at the Institute.

6.3 Library facilities: National Library of Veterinary Sciences (NLVS) at the institute is considered as one of the best five libraries of the world as its fully automated and connected to all the libraries of the world. At present NLVS houses more than 150000 highly specialized reading materials in the form of books, monographs, reference works, journals, statistical and data publications, bulletins, reviews, advances, reports, pamphlets, theses, reprints and micro-documents. The resources get enriched by more than 2500 additions each year. The library subscribes about 174 foreign and 115 Indian journals and more than 06 CD-ROM databases. It provides inter library services, lending and circulation services and reference and guidance services. PG students at NLVS avail the multi-terminal computer facilities hooked up to internet for keeping them abreast of latest knowledge and retrieving the recent publications and other information. Besides the libraries at Mukteswar and Izatnagar, library services are also available at Bangalore and Palampur research stations. The technical services of the library at Bangalore campus are computerized. The reading sections are also air-conditioned.

i) Library facilities/Services available:

- Microfilming facilities
- CD-Net system
- Computer systems
- CD-ROM search facilities
- Current contents on diskette with abstracts

- LIBSYS
- In house Bibliography databases
- Reprography Services
- Fax services
- Internet facilities
- Photocopying and computerized library information services

ii) Additional Library Facilities Required: The NLVS as well as Campus and Divisional Libraries need to be strengthened in terms of more number of text books, reference books, computers along with software for databases of periodicals, networking of more computers, furniture for sitting and reading, reading cabins with air-conditioning facilities for providing quality education to additional students to be admitted under revised OBC reservation policy. A sum of 3.1 million required for this purpose. Library facilities in this direction also will have to be developed in other substations of IVRI for P.G. education.

6.4 Equipments: To transform the readings in to practical realities and skills, well equipped laboratories are necessary in all the divisions. To cope up with lab requirements of additional students, following equipments would be required in the different labs of divisions besides strengthening the Central Instrumentation Facility (C.I.F.) at the divisional and Institute level in terms of specialized and sophisticated equipments.

i) Necessary equipments required for PG teaching/research in different Divisions: Need based equipments such as Microscopes (binocular, phase contrast, etc), Refrigerators, Electronic balances, Deep freezers, pH Meters, BODs, Co₂ incubators, incubators and Hot air ovens, Shakers, and others etc. costing less than Rs. 50,000.00 will be provided to different laboratories.

ii) Equipments for strengthening Central Instrumentation Facility (C.I.F.): Microarray system, GC, HPLC, Scintillation B Counter, Gel documentation system, Electron microscope, MALDI, Spectrophotometer, Spectrofluorimeter, ELISA Reader, Thermocyclers for PCR, Fluorescent microscope, Transilluminator, Electrophoresis apparatus and power supply, Water Purifying System (MilliQ), an automatic complete packaging unit, Nitrogen Analyzer, Histotech, Auto staining equipment, Extruder for meat products, Air conditioners, Electrical stimulator apparatus, Sonicator, High speed refrigerated centrifuge, etc.

7. Non-Academic Costs:

7.1 The supporting/contractual staff in the form of Teaching associates, Technical Officers, computer operators and contractual staff is necessary for providing necessary assistance in teaching, smooth conduct of practicals and preparation of teaching manuals, monographs, bulletin, etc. A sum of Rs. 28.0 million has been earmarked for this purpose.

7.2 Civil Works: The university has a full fledged Academic-cum-Administrative Block to run and monitor all the university related activities. However, to conduct the common multidisciplinary classes with larger group of student at least four modern classrooms needs to be developed with provision of fund.

(a) Hostels: The university has got 4 PG hostels for boys and one for girls besides one International Training Hostel for foreign students. These hostels are having an uninterrupted

water and electric supply, reading room, common rooms and some indoor and outdoor game facilities. However, with the increasing strengths of the students in various disciplines and influx of trainees the available accommodation becomes insufficient at times. In order to provide good boarding and lodging facilities to the additional number of the PG students (200 at one point of time) to be admitted under OBC reservation policy, following new structures need to be constructed and made operational with full facilities including cafeteria and indoor games facilities. A sum of Rs. 56.5 million has been earmarked for this purpose. Additional 2 hostels for boys and 1 girls hostel would be needed.

(b) Residences: The nominated competent faculty at the Institute supervise, coordinate, help and guide the students regarding their accommodation, academic, cultural and sports activities. In order to have close liaison with the students, the concerned faculty (warden) and staff (caretakers) need to be housed adjacent to the hostel premises. A sum of Rs. 28.0 million has been earmarked for this purpose.

7.3 Contingency: The standards of teaching and research have become very high and globally competitive. It requires substantial money for purchase of animals, feed, fodder, glassware, media, chemicals and biologicals, especially the Molecular Biology based biologicals and kits. Therefore, the teaching and research work of the students needs to be strengthened by providing them necessary support under this head. A sum of Rs. 31.0 million has been earmarked for this purpose

7.4 Vehicle: Field visits of the students to other institutions, industries, abattoirs, meat plants, dairies, sheds, etc. is necessary to give them the practical exposure. Therefore, vehicles for carrying large number of students are required for this purpose. A sum of Rs. 1.5 million has been earmarked for this purpose.

NATIONAL DAIRY RESEARCH INSTITUTE, KARNAL

1. Model for student intake: At present NDRI admits 176 students per session in three major programs, seats are proposed to be increased as given in Table 1.1. It is proposed to hike the total intake to 272 seats by increasing the number of seats for various programmes and disciplines. The reservation will be implemented in two phases i.e. 2007-08 and 2008-09 by making provision for 27% reservation in B.Tech. in 2007-08 itself and 9% for PG & Ph.D. in 2007-08 and 18% in 2008-09. The demand for courses, strengths in infrastructure & faculty and availability of eligible students has been given consideration while proposing the additional seats in different disciplines at PG and PhD level (Table 1.2).

Table 1.1: Present intake and Proposed Increase in seats (Annual)

Programme	Present Intake	Increase Proposed	
		2007-08	2008-09
B. Tech (Dairy Technology)	30	17	-
M.Sc Dairying	78	14	28
Ph.D Dairying	68	15	22
Total	176	46	50

Table 1.2 Present intake & Proposed Increase in seats in different disciplines (Annual)

Discipline	B. Tech		PG		PhD	
	Ext	Prop	Ext	Prop	Ext	Prop
Dairy Microbiology			6	11	6	11
Dairy Chemistry			10	15	7	11
Dairy Technology	30	47	10	15	8	12
Dairy Engineering			6	6	3	5
Animal Biochemistry			6	11	5	10
Animal Biotechnology			6	11	5	9
Animal Gen. & Breeding			6	10	7	10
Livestock Production & Management			6	9	6	6
Animal Nutrition			6	11	5	9
Animal Physiology			5	5	4	6
Dairy Economics			5	6	6	6
Dairy Extension Education			6	10	6	10
Total	30	47	78	120	68	105

Ext: Existing Seats; Prop: Proposed Seats

1.0 Schedule and Patterns for Faculty enhancement: Additional faculty will be required to maintain the standards of quality and student/teacher ratio Table 2.1

Table. 2.1 Additional Faculty required

Discipline	Additional Faculty Required		
	Professor	Associate Professor	Assistant Professor
Dairy Microbiology	1	1	3
Dairy Chemistry	1	1	3
Dairy Technology	1	2	5
Dairy Engineering	1	2	5
Animal Biochemistry	-	-	2
Animal Biotechnology	1	1	2
Animal Gen. & Breeding	-	-	1
Livestock Production & Management	-	-	1
Animal Nutrition	-	1	2
Animal Physiology	-	1	2
Dairy Economics	-	1	2
Dairy Extension Education	-	-	2
Total	5	10	30

SS: Sanctioned strength; IP In Position; PI: proposed increase

The proposed positions have to be filled up well before the start of the next session. The details of the positions will be sent to the ASRB for recruitment of faculty within six months or before the start of the session 2007-08. Contractual services may be utilized to compensate for any positions remaining unfilled. Director, NDRI may be empowered to finalize all such contractual arrangements under broad guidelines from the ICAR. Further action will be taken to fill up the positions on regular basis at the earliest.

3.0 Infrastructure and Cost

i) Academic costs: It includes the salary of faculty, research contingency grant for faculty, library facilities, IT infrastructure, fellowships and contingency to students (Table 3.1).

List of equipments, IT infrastructure and equipments, list of library books and Journals will be prepared by concerned departments and action will be taken to procure the same before start of next session i.e. 2007-08

Table. 3.1 Academic Costs

Component	(Rs. in Million)					Total
	2007-08	2008-09	2009-10	2010-11	2011-12	
Salary of faculty	10.0	10.5	11.2	13.4	13.4	98.70
Fellowship & Student Contingency	7.2	14.4	18.1	19.9	19.9	79.5
Faculty Contingency	5.2	5.2	6.2	7.2	7.2	31.0
Library Facilities	0.5	0.3	0.3	0.3	0.3	1.7

(Books/Journals etc.)						
IT Infrastructure	5.2	4.3	-	-	-	9.5
Equipments	9.0	-	-	-	-	9.0
Total	37.1	34.7	35.8	40.8	40.8	189.2

ii) Non-Academic: The details of non-academic cost are given in table 3.2. Additional academic buildings comprising of lecture halls and laboratories will be required for conduct of theory and practical classes, seminars and special lectures, examinations, etc. Two hostels for boys and one for girls will be required to provide them accommodation on the campus. Residences will be required for the additional faculty, technical, supporting and auxiliary staff. Additional facilities will be required to develop soft skills, use of communication tools and offer other non-credit courses etc. for which budgetary demand has been given under the sub-head academic excellence/teaching technology. The vehicle will be used for study tours, visits to dairy farms, milk plants other institutions, book fairs and trade fairs etc.

Table 3.2 Non-Academic Costs

Component	Rs. Million					
	2007-08	2008-09	2009-10	2010-11	2011-12	Total
Salary: Non-Academic Staff/Contractual contingency	2.5	3.0	4.1	4.9	4.9	19.4
Civil Works						
Academic Buildings*	12.1	-	-	-	-	12.1
Hostels*	60.4	-	-	-	-	60.4
Residences	61.2	-	-	-	-	61.2
Contingency	1.0	2.0	3.0	3.0	3.0	12.0
Vehicle	1.5	-	-	-	-	1.5
Academic Excellence/Teaching Technology	5.5	5.5	5.5	5.5	5.5	7.5
Total	144.2	10.5	12.6	13.4	13.4	174.1
* Includes cost of furnishing						

The concerned Sections in the Institute will prepare the Map for civil works, which include Academic Building, Hostels and Residences including water Tank, Power Generator etc. The details of which are given as under:

Additional technical staff and laboratory attendants will be required for conducting theory and practical classes. Ministerial staff will be utilized in the offices for handling the seats related to admissions, payment of fellowships/scholarships and contingency, conduct of examinations and other related activities of the students. Additional staff will also be required in hostels like cooks (Table 3.2). The services of plumbers, masons, gardeners, security, sweepers, electricians etc. will be used for maintenance of hostels/labs/sports facilities, residences etc. on contractual basis.

Table 3.3 Schedule of recruitment of Non-Academic staff.

Category	Total Numbers	New positions (Year wise)				
		2007-08	2008-09	2009-10	2010-11	2011-12
Lab. Technician (T-II-3)	34	9	9	8	8	--
Lab. Attendants	11	6	5	--	--	--
Cooks for Hostels	6	2	2	2	----	---
Ministerial Staff (Jr. Clerk)	6	2	2	2	--	----

Note:- Contractual Services of plumbers, masons, gardeners, security, sweepers, electricians etc. will be used for maintenance of hostels/Labs/Sports facilities, residence etc.

For recruitment of the above staff, the action will be taken by the concerned sections as per rules and positions will be filled up as per the break up given above.

Works (Civil and Electrical):

Academic Building

- a) Lecture Halls: -3 (covered area 250 sq. meters)
 b) Laboratories: -11 (Covered area 1100 sq. meters)

Hostels: -3 Hostels (covered area-8550 Sq. meters)

Residences:- 30 quarters for all categories (Type B-12, Type C-8, Type B-6 and Type E-4).

Additional infrastructure like Water Tank Capacity-60 Thousand gallons, Power Generator (20 KVA, Power Cable, Electric Panel and Transformers (100 KVA-2 Nos.) and roads, street lights, Parks and Vehicle Parking sheds etc. will be developed. The detail plan for the same will be prepared by the concerned sections at the Institute and action will be taken for completion the same within first two years. For speedy construction and development of infrastructure, the work may be entrusted to reputed semi governmental organizations to achieve the targets in time. Services of reputed Architects and consultants may be utilized for making the blue print and monitoring the progress of work and final finishing including furnishing and interior fittings and fixtures etc.

4.0 Summary of financial implications: Table 4.1 Year-wise break-up of Recurring and Non-recurring expenditure (Rs. Millions).

	07-08	08-09	09-10	10-11	11-12	Total
Recurring	26.4	35.6	43.1	48.9	48.9	202.9
Non-Recurring	154.9	4.6	0.3	0.3	0.3	160.4
Total	181.3	40.2	43.4	49.2	49.2	363.3

CENTRAL INSTITUTE OF FISHERIES EDUCATION, MUMBAI

1.1 Introduction: The Central Institute of Fisheries Education (CIFE), Mumbai is one of the four Deemed Universities under the Indian Council of Agricultural Research (ICAR), New Delhi. It imparts postgraduate education in fisheries leading to Masters and Doctoral degrees, besides conducting need based short-term training programmes. The CIFE has carved out a niche for itself on the fisheries map of the world, because of its pivotal role in imparting post-graduate fisheries education and training in India and also in the neighboring Afro-Asian countries for about four decades. The present intake capacity of Masters and Doctoral programmes is 45 and 25 respectively. The admission to Masters and Doctoral programmes are through all India Entrance tests conducted by ICAR and CIFE respectively.

1.2 Historical Background: The CIFE was established on 06 June 1961 as Government of India Institute with the assistance from FAO/UNDP. The main purpose of its establishment was to impart post-graduate education and training mainly to the in-service fisheries personnel of the country to provide trained manpower for the fisheries developmental activities. The CIFE, initially, started functioning at the Institute of Sciences building in Mumbai, then Bombay. Academic activities, then, were organized in three divisions viz., Fishery Biology, Fishery Technology and Fishery Economics for conducting a two-year post-graduate Diploma in Fisheries Science (D.F.Sc.). The first batch of this course was started in 1961 itself. The Institute was shifted to a rented building at Masjid Bunder, Bombay in 1964. The Food and Agricultural Organization of the United Nations, at this stage, actively collaborated with the Government of India and helped in strengthening infrastructural facilities at CIFE by providing sophisticated equipments together with expertise of a high standard. The fishing vessel MFV Harpodon received under FAO/UNDP assistance in 1968 provided basic facilities for on-board training in the areas of marine fishing, fishery biology and oceanography. CIFE moved to its present campus at Versova, Mumbai, in March 1967. The Inland Fisheries Training Centre, which started in 1947 and functioning under the Central Inland Fisheries Research Institute (CIFRI), Barrackpore in West Bengal, was brought under the control of CIFE in October 1967. The Institute also took control of the erstwhile Fisheries Extension Centres of the Government of India and re-organised them as centres for Inland Fisheries Operative Training Centre and Fisheries Extension Training Centre at Agra and Hyderabad, respectively. These centres were subsequently shifted to Chinhat near Lucknow (UP) and Kakinada (AP) respectively. The infrastructural facilities in terms of aquafarms were greatly fulfilled by the transfer of the Barckishwater Aquafarm at Kakinada in September 1968 and the Freshwater Aquafarm at Balabhadrapuram in 1973 from the Government of Andhra Pradesh. In 1971, the University of Bombay accorded recognition to CIFE as a study centre for M.Sc. and Ph.D. programmes by research in the fields of Applied Zoology and Biochemistry. Several other universities such as Calcutta and Bhopal also recognised CIFE as a study centre for Ph.D. programme. The CIFE came under the administrative control of the Indian Council of Agricultural Research (ICAR) on 01 April, 1979. With this, the charter of CIFE was enlarged to cover research and extension activities also besides the academic programmes. From a set-up of three divisions initially, the Institute added four more divisions during the VI Five Year Plan period. The Institute acquired a 36.87m training-cum-research vessel, MFV Saraswati with the Norwegian Agency for International Development (NORAD) aid in December 1982 to strengthen its on-board programmes in marine fisheries and oceanography. During this period, the

training facility in freshwater aquaculture also received a big boost with the acquisition of a about 100 acre aquafarm at Powerkheda from the Government of Madhya Pradesh in 1983. During 1984, the M.Sc. course in Fisheries management was started under affiliation to the University of Bombay. The Inland Fisheries Operative Training Centre at Agra as mentioned earlier was shifted to Chinhat, near Lucknow, in 1990 to provide better practical training facilities to the trainees. Three more divisions were added at the Headquarters to the then existing seven, during the VII Five Year Plan period to include the emerging frontier areas of fisheries science. In recognition of its pioneering role in fisheries education, the ICAR the Ministry of Agriculture and University Grants Commission/Ministry of Human Resource Development accorded the Deemed to be University status to CIFE on 29 March 1989. As a result, the M.Sc. and Ph.D. programmes hitherto being conducted under affiliation to the University of Bombay were brought under the academic purview of CIFE. The M.Sc. programmes were recast as M.F.Sc. (Master of Fisheries Science) during the year 1995 and were offered in three specialisations viz., Fisheries Resource Management (FRM), Inland Aquaculture (IA) and Mariculture. Ph.D. programmes were also offered in these specialisations. During the same year, the M.F.Sc. and Ph.D. courses in Mariculture, offered till then under affiliation to the Cochin University of Science and Technology, Kochi were brought under the Deemed University of CIFE. Later, the specializations in Post Harvest Technology (PHT), and Freshwater Aquaculture (FWA), were included at Masters level. In the year 2000, three more specialisations viz. Fish Genetics and Biotechnology (FGB), Fish Pathology and Microbiology (FPM), Fish Nutrition and Biochemistry (FNB) and one specialisation in Fish Business Management (FBM) in 2001 were also added, thus raising the total number of specialisations at Masters level to nine. Presently Ph.D. programmes are offered in nine disciplines of Fisheries Resource Management, Inland Aquaculture, Mariculture, Post Harvest Technology, Fish Genetics, Fish Biotechnology, Fish Nutrition and Biochemistry, Fish Pathology and Microbiology and Fish Business Management. Kolkata centre of the Institute conducts one year Diploma in Inland Fisheries at Salt Lake campus Kolkata.

1.3 Existing Human Resources and Infrastructure Facilities

i) **Human Resources:** Sanctioned and vacant posts as on 31st May, 2006 are indicated below :

he post	ned		t*
Scientific	106		53
Technical	123		01
Non-Ministerial	01		-
Administrative	62	61	02
Supporting	87	85	02
Grand total	379	322	57

* In the process of recruitment

ii) **Academic campus:**

Sr.	Centres	Infrastructure
1	CIFE Mumbai Main campus, Mumbai.	At Seven Bungalow Campus: Main building (G+II) encompasses lecture theaters, tutorial class rooms, fish processing labs, library, aquatic environment labs, computer labs, administrative unit, workshop, hatcheries, wet lab, etc.

		Workshop building (G+I), Hostel; Type-I: 6 quarters; Type-II: 6 quarters; Type-IV: 6 quarters; Director's Residence:1; Guest house:1
2	CFE Yari Road Campus, Mumbai	Main academic building (Yari Road Campus) Basement (G+II) encompasses lecture halls, tutorial classes, laboratories, faculty members chambers and labs, wet lab, etc. Library (G+I), Girls' hostel (G+I) and Type-IV quarters are under construction
3	CIFE, Kolkata	Academic building (G+I), Hostel (50 rooms), Residential quarters
4	CIFE Chinhat centre	Academic building, Library block, Laboratory block, Hostel, Residential quarters
5	CIFE Kakinada	Academic building, Teaching block, Residential quarters
6	CIFE Powerkheda	Academic building, Hatchery shed, Residential quarters
7	CIFE Rohtak	Academic building, Hatchery shed, Residential quarters

iii) **Farms:** The Institute has five aquafarms in different locations, the details of which are given below

1	CIFE Powerkheda Centre, M.P.	44 ha of freshwater farm
2	CIFE Balabhadrapuram Centre, A.P.	8 ha of freshwater farm
3	CIFE's Kakinada Centre, A.P.	3.2 ha of brackishwater farm
4	CIFE's Chinhat Centre, U.P.	92.3 ha of freshwater farm
5	CIFE's Rohtak Centre, Haryana	4 ha of freshwater and 10 ha of ground saline water farms

iv) **Training-cum-research Vessel:** The Institute has two training-cum-research M.F.V. Saraswati (36.5m OAL) and M.F.V. Narmada (10.8m OAL) for imparting marine and oceanographic training to students of the Institute.

v) **Hostel:** The Institute has hostel at its headquarters in Mumbai and all its centres located at Powerkheda (MP), Balbhadrapuram (AP), Kolkata, (WB) and Rohtak (Haryana).

vi) **Important Lab facilities:** The Institute has state of Art laboratory facilities for imparting education and training and for research activities. The important equipments available in the institute are, HPLC, ultra-centrifuges, ultrafridges, automicrobial identification systems, PCRs, spectrophotometer, atomic absorption spectrophotometers, microscope with photographic attachment and image analyser systems, cryostat, plate Freezer and twin screw extruder, feed mill, deboning machine, audio-visual lab, video-conferencing studio, etc.

vii) **Library:** The Institute's library is designated as National Fisheries Library. It has collection of 30,000 books, 100 – VCD, and 3000 Macro Fiche. It has online access to foreign journals also.

viii) **Computer facilities:** The Institute has centralized computer facility with advanced Pentium PCs equipped with multimedia kits, deskjet and laser printers, scanners and LCD projector. The Institute has LAN connecting different laboratories/divisions of the Institute. Internet connectivity and e-mail access is available. In addition statistical and GIS and other statistical software packages are available for data analysis. Video Conferencing and Electronic Presentation Systems facilities are also available.

ix) **Vehicles:** The vehicles available in headquarters and regional centres are as follows –

CIFE Mumbai: 4 - Qualis, 1 – Ambassador, 1 – Esteem, 1 – Lancer, 2 – Bus
 CIFE Kolkata center: 1 – Bus and 1 – Jeep
 CIFE Kakinada centre: 1 – Bus and 1 – Jeep
 CIFE Powerkheda centre: 1 – Jeep
 CIFE Rohtak centre: 1 – TATA Sumo
 CIFE Chinhat centre: 1 – TATA Sumo

2. Additional funds required

Rupees in lakhs

Sr.	Details	I – year	II - year	III - year	IV - year	V - year	Total
1	Construction of Boys Hostel	198.00	-	-	-	-	198.00
2	Vertical expansion of Girls' hostel in the new campus	75.00	-	-	-	-	75.00
3	Farm facilities	100.00	10.00	10.00	10.00	10.00	140.00
4	Scientific equipments and machineries	25.00	25.00	25.00	15.00	10.00	100.00
5	Vessel (recurring charges)	40.00	40.00	42.00	42.00	44.00	208.00
6	Recurring contingency (stationery, examiners, TA and remuneration for examiners, postage, etc.	5.00	5.00	6.00	6.00	8.00	30.00
7	Fellowship of students (Recurring)	29.00	29.00	29.00	29.00	29.00	145.00
8	Student research works (Recurring)	4.00	4.00	4.00	4.00	4.00	20.00
9	Expansion of research laboratories, class rooms and other infrastructural facilities	180.00	-	-	-	-	180.00
10	Chemicals, reagents, Biologicals, etc. (recurring)	15.00	15.00	20.00	20.00	25.00	95.00
11	Plastic and glasswares (recurring)	10.00	10.00	15.00	15.00	20.00	70.00
12	Water supply (recurring)	1.00	1.00	1.50	1.50	2.00	7.00
13	Vehicles	10.00	6.00	-	-	-	16.00
14	Energy (recurring)	6.00	6.00	7.00	7.00	8.00	34.00
15	Construction of residential quarters Type-V : 15 Nos. Type-VI : 10 Nos.	523.00 -	- 627.00	- -	- -	- -	523.00 627.00
16	Furniture, furnishing and other development works	10.00	10.00	10.00	10.00	-	40.00
17	Internet in hostel rooms	10.00	-	-	-	-	10.00
18	Library books, journals, e-education, etc. (recurring)	7.00	7.00	7.00	7.00	7.00	35.00
19	Lift for physically challenged students/staff	25.00	-	-	-	-	25.00
20	Establishment charges (i.e. salary of faculty, and other staff) (recurring charges)	136.00	140.00	145.00	153.00	161.00	735.00
21	Contingencies	10.00	10.00	10.00	10.00	10.00	50.00
	Total						Rs. 3363.00

Detailed calculations and justification

1. Construction of Boys hostel: In order to accommodate 40 students, it is proposed to construct one hostel building for boy's in a total built up area of about 1200 sq.mtr, as per the following calculation.

-Area per each student (as per UGC specifications)	:	25.00 m ²
-Add, 20% area for common facilities	:	5.00 m ²

-Total area per each student	:	30.00 m ²
-Cost of construction @ Rs.16,500/- per sqm for 40 x 30 x 16,500 =		Rs.198.00 lakhs

(* This is the present local rate in Mumbai for construction of similar structures. Presently M/s.IRCON International Ltd. is constructing the Girls' hostel, Library and Type-IV quarters on this rate only))

2. Vertical expansion of Girls' hostel in the new campus: In order to accommodate at least 20 Girl students, it is proposed to make vertical expansion of the girls' hostel by constructing one more floor in about 400 sqm area. Since foundation is already laid for the G+5 storyes, the cost of construction of one floor including furnishing of the rooms would be **Rs.75.00 lakhs (approx.)**

3. Farm facilities (i.e. Aquafarm, hatchery, etc.)	:	Rs.100.00 lakhs
Maintenance of ponds for four years	:	Rs. 40.00 lakhs

Total	-----	Rs.140.00 lakhs
--------------	-------	------------------------

4. Scientific equipments and machineries: In order to conduct practicals and research, it is proposed to purchase scientific equipments like Atomic Absorption spectrophotometer, Microscopes, Laminar flow, etc. The approximate cost for these equipments would be **Rs.100.00 lakhs**

5. Vessels: Institute has two training-cum-research vessel. Recurring expenses on fuel, drinking water, maintenance, berthing charges, messing allowance need to be met with. The recurring expenditure required over the next five years would be **Rs.208.00 lakhs** as per the details given annexure-1

6. Recurring contingency for stationeries and others: Towards stationeries, examiners TA/DA, remuneration for examiners, postage, etc. the approximate expenditure involved in the next 5 years would be **Rs.30.00 lakhs** as per the details shown in the annexure-1.

7. Fellowship of students

a)	M.F.Sc.: Number of additional students	:	25
	Fellowship per month @ Rs.5,760/-		
	Annual amount for 25 students (25x12x5760)	:	Rs.17.28 lakhs
b)	Ph.D.: Number of additional students	:	14

Fellowship per month @ Rs.7,000/-		
Annual amount for 14 students (14x12x7000)	:	Rs.11.76 lakhs

Total amount		Rs.29.04 lakhs
Say		Rs.29.00 lakhs

8. PG and Ph.D. students research work: An amount of Rs.10,000/- is spent every year as research contingency to every student. Total number of additional students is 38. Hence, additional expenditure involved is – $39 \times 10,000 =$: **Rs.3.9 lakhs or Say Rs.4.0 lakhs.**

9. Expansion of research laboratories, classrooms and other infrastructure facilities: In order to provide facilities for additional strength of students following facilities are required

Sr. No.	Location	Total Area
1	Class rooms: 2 nos., each 60.00 m ²	120.00 m ²
2	Laboratories: 4 Nos., each 80.00 m ²	320.00 m ²
3	Common room	150.00 m ²
4	Indoor sports facilities	150.00 m ²
5	Reading room	160.00 m ²
6	Common area like lobby, corridor, etc.	100.00 m ²
Total Area		1000.00 m²

(* This is the present local rate in Mumbai for construction of similar structures. Presently M/s.IRCON International Ltd. is constructing the Girls' hostel, Library and Type-IV quarters on this rate only))

Cost of construction : 1000 x 18,000 = **180.00 lakhs**

10. Chemicals, reagents, etc.: For conducting student/staff research recurring expenditure required over the next 5 years would be **Rs.95.00 lakhs** as per the details given in annexure-1.

11. Plastic glass wares, etc.: For conducting student/staff research, recurring expenditure required over the next 5 years would be **Rs.70.00 lakhs.**

12. Water supply: In order to meet the additional demand of drinking water, water for laboratories and other purposes an additional amount of **Rs.7.00 lakhs** would be required in the next 5 years as per the details given in annexure-1.

13. Vehicle: In order to meet additional demand one bus and one jeep would be required –

Bus	:	Rs.10.00 lakhs
Jeep	:	<u>Rs.06.00 lakhs</u>
Total		Rs.16.00 lakhs

14. Energy For new structures like hostel and other buildings, additional amount of electricity amounting to **Rs.34.00 lakhs** over the next 5 years would be required as per the details shown in annexure-1.

15. Construction of residential quarters: In order to accommodate additional strength of faculty, it is proposed to construct following types of residential quarters.

Type	No.	Total built up area	Amoun (Rupees in lakhs)
Type – V	15	2500.00	523.00
Type – VI	10	3000.00	627.00

Cost of construction:

- 1) Type-V quarters : 2500 x Rs.19,000/- per m²= 475.00 lakhs
 Add, 10% D.C. = 47.50
 Rs. 522.50 lakh or say Rs.523.00 lakh

(* This is the present local rate in Mumbai for construction of similar structures. Presently M/s.IRCON International Ltd. is constructing the Girls’ hostel, Library and Type-IV quarters on this rate only))

- 2) Type-VI quarters : 3000 x Rs.19,000/- per m² = 570.00 lakhs
 Add, 10% D.C. = 57.00

 627.00
3 Total Rs.1150.00 lakhs

16. Furniture, furnishing, etc.: An additional amount of **Rs.40.00 lakhs** would be required for furnishing the new structures as per the details shown in annexure-1.

17. Internet facility in hostel rooms: It is proposed to provide internet point in every room of hostel and for this purpose an amount of **Rs.10.00 lakhs** is required.

18. Library facility: A recurring expenditure amounting to **Rs.35.00 lakhs** in the next 5 years towards text books, journals, e-education facility, etc. is required.

19. Lift for physically handicapped people: As per the norms of UGC it is proposed to provide mechanical lift in the main academic building and in hostel for which the estimated cost is **Rs.25.00 lakhs**.

20. Establishment charges (Salary of faculty/Technical Officers, etc.)

Sr.	Staff	No.	Salary per month	No. of months	Amount
1	Professors	4	38,984.00	12	18,71,232.00
2	Associate Professors	8	28,820.00	12	27,66,720.00
3	Assistant Professor	16	19,580.00	12	37,59,360.00
4	Technical Officers	40	15,715.00	12	75,43,200.00
5	Supporting Staff	30	5,498.00	12	19,79,280.00
6	Administrative staff	20	13,005.00	12	31,21,200.00
Total Rs.					1,35,73,224.00
Say Rs.					1,36,00,000.00

21. Contingencies: A recurring contingency towards any other and unforeseen items @ Rs.10.00 lakhs per year amounting to **Rs.50.00 lakhs** in the next 5 years is required.

Annexure E

CENTRAL AGRICULTURAL UNIVERSITY, IMPHAL

1. Background: North-Eastern (NE) Region consisting of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura has been gifted by the nature with tremendous biodiversity and widely varying agro-climatic conditions. Though, the region has vast potential for development of agriculture and allied vocations, its hilly terrain offers a great challenge for its full utilization. The Indian Council of Agricultural Research, an apex body which plans, undertakes, aids, promotes, and coordinates agricultural education, research and extension education in India, constituted a Research Review Committee in 1982 under the National Agricultural Research Project to suggest the ways and means to strengthen the research capability of NE Region. The Committee was also given an additional mandate to look into the manpower needs of agriculture and allied sectors, and suggest the remedial measures.

The Committee in its report submitted to the Indian Council of Agricultural Research in 1984, observed that the agriculture and allied sectors in the region have lagged behind due to non-existence of enough support of Agricultural University system which gave impetus for development of these sectors in other parts of the country, and recommended to establish a Central Agricultural University as it may not be practicable to establish a separate Agricultural University in each state due to smaller size of the states in this region. Accordingly, the Central Agricultural University was established on 26th January, 1993 with its headquarters at Imphal, the capital city of Manipur under the Central Agricultural University Act 1992 of the Parliament (Act No. 40 of 1992). The University has its jurisdiction over the states of Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Sikkim and Tripura.

A. Constituent Colleges: The University has seven constituent colleges under its jurisdiction, the details of which are as following.

i). College of Agriculture, Imphal, Manipur: The College established by the Govt. of Manipur in the year 1979 as Manipur Agricultural College was formally taken over by the University in 1993. The College campus is spread over an area of 20 ha, having well established laboratories, instruction cum research farm, library, and hostels for UG and PG boys and girls. To impart quality education and to take up research work, the College laboratories are well equipped with modern equipment, like HPLC, Atomic Absorption Spectrophotometer, Flame Photometer, Nitrogen Auto Analyzer, GLC, UV-Spectrophotometer, High Precision Research Microscopes, etc. The library of the College has more than 12000 text/reference books and gets 70 Indian journals and 18 international journals in agriculture and allied sciences. It has photocopy, internet and CD-ROM facilities. The library automation is in progress. The LAN facility has been extended to all offices and departments of the College, library, and hostels. The College offers UG and PG programmes in Agriculture with intake capacity of 58 students for UG and 3 per department for PG. The PG program leading to Master's degrees are offered in all department except 3, namely Agricultural Engineering, Animal Science, and Statistics and Mathematics. Up till now, the College has produced 299 B.Sc.(Agri) and 101 M.Sc.(Agri) degree holders. During 2005-06 academic year, 32 students qualified for admission to P.G. courses in other Agricultural universities through All India Entrance Test conducted by the ICAR.

ii). College of Veterinary Science and Animal Husbandry, Aizawl, Mizoram: The College established in 1997 by the University is located at Selesih, Aizawl, Mizoram. The campus located in the hilly terrain is spread over an area of 66 ha. It has well established laboratories, library, and hostel facilities for both boys and girls. The College has well furnished and equipped lecture halls, post mortem cum polyclinic block, and residence for different categories of employees, including

transitional accommodation. Other facilities available include lab. animal house, animal farm, farmers hostel, guest house and sport complex. The College has adopted norms and standards prescribed by the VCI and has 18 teaching departments. The important equipment available at the College include UV – VIS spectrophotometer, Dark field microscope with CCD camera and CCTV monitor, Phase contrast microscope with CCTV monitor, Highspeed centrifuge, Atomic absorption spectrophotometer, X-ray unit, etc. The College offers UG programme in Veterinary Science and Animal Husbandry with intake capacity of 43 students and up till now, it has produced 33 graduates. During 2005-06 academic year, 14 students qualified for admission to M.V.Sc. programmes in other Agricultural/Veterinary universities through All India Entrance Test conducted by the ICAR. University has decided to start M.V.Sc. & A.H. programme in three departments with intake capacity of two students per departments from the academic year 2006-07.

iii). College of Fisheries, Agartala, Tripura: The College established by the University in 1998, is located at Lembucherra, Agartala, Tripura. The campus has been developed on an area of about 18 ha, having hilly terrain. It has well developed laboratories including central instrumentation and computer labs., library, and hostel facilities for both boys and girls. The library has about 3000 books and subscribes 46 Indian and 11 foreign journals. Some of the important equipment available at the College are UV Spectrophotometer, Airblast freezer, Protein analyser, Tunnel dryer, Electrophoretic unit, HPLC, PCR, Water purifier, Gel documentation unit, Trinocular CCT Microscope, A.A. Spectrophotometer, etc. The College has established eight teaching departments in fisheries and allied sciences including a department of Basic Sciences and Humanities. It offers UG programme in Fisheries, with intake capacity of 22 students, and has produced so far 40 graduates.

iv). College of Horticulture and Forestry, Pasighat, Arunachal Pradesh: The College was established by the University in 2001 and located at Pasighat, Arunachal Pradesh. The campus spread over an area of 56 ha has got well established laboratories, library, and hostel facilities for both boys and girls. The library has about 5000 books and subscribes 31 Indian Journals. Electronic search with CD ROM facility has been provided in the library. The College has central computer lab. and automatic agro-meteorological weather station. Some of the important equipment available are HPCL, Atomic Absorption Spectrophotometer, Canopy Analyser, GLC, UV Spectrophotometer etc. The College has eight teaching departments. It offers UG programmes in Horticulture with intake capacity of 32 students and has produced till now 24 graduates. During 2005-06 academic year, 9 students qualified for admission to PG programmes in other Agricultural/Horticultural Universities through All India Entrance Test conducted by the ICAR.

v). College of Home Science, Tura, Meghalaya: The College established by the University in 2004, is located at Tura, Meghalaya. The campus is being developed on an area of about 10 ha, with laboratories, library, administrative block, hostel and residential accommodation. The departments, besides the teaching, are busy in development of laboratories, teaching aids, and other facilities at the College. The College has developed laboratory facilities in Food and Nutrition, Clothing Construction, Textiles, Audio-visuals, and Housing and Space Management. The College offers UG programme in Home Sciences for girls, with intake capacity of 22 students. The College has plan to offer specialized training in the area of Food Science and Nutrition, and Clothing and Textiles. In future, other electives will also be offered.

vi). College of Agril. Engg. and Post Harvest Technology, Gangtok, Sikkim: The College has been recently established at Ranipool, Gangtok, Sikkim. The Government of Sikkim has transferred an existing farm having about 5 ha of land, along with 2 buildings, a small workshop, and some farm structures etc., which were with the Department of Food Security and Agricultural Development. The

process is on for transfer of additional land and development of infrastructures for the College. It is proposed to admit the first batch of 30 students from the academic year 2006-07, making use of existing facilities and also additional facilities and equipment which are being added.

vii). College of Post Graduate Studies, Shillong, Meghalaya: The Post Graduate College is being established at Barapani, Shillong in Meghalaya. The Government of Meghalaya has transferred 6 ha of land for establishment of the College. The plan and estimates for Administrative and Academic Blocks, Hostels, Residences and other infrastructures have been finalized and construction work is likely to start soon.

2. Brief account of the activities being carried out by the University (Teaching): As per the mandate, the University has established constituent colleges, one each in the Faculties of Agriculture, Fisheries, Home Science, Horticulture and Forestry, and Veterinary and Animal Sciences. A college in the Faculty of Agril. Engineering has been established recently and first batch of undergraduate class will start from September,2006 while an inter disciplinary Post-graduate college is in the process of being established at Barapani, Meghalaya. The colleges are spread in various states of the NE Region coming under the jurisdiction of the University. At present, the University is offering UG programmes in agriculture, fisheries, home science, horticulture, and veterinary sciences and animal husbandry. The programmes in agricultural engineering and forestry is to start from September, 2006. As of now, the PG programmes are offered only in the Faculty of Agriculture at the College of Agriculture, Imphal. The University has decided to start PG programme in Veterinary Science & Animal Husbandry from the Academic year 2006-07. The medium of instruction is English.

2.1 Present Intake Capacity: Admission to UG programmes is done through nomination by respective states of NE Region and 15% seats are filled by ICAR/VCI, based on entrance test conducted by them. Admission to PG programmes is on the basis of merit in qualifying degree and nomination by ICAR. The eligibility marks as well as cut off at the entrance examination for OBC may be kept in between general category and the SC/ST category. Additional increase in seats faculty wise /college wise and consequent additional facilities in terms of Faculty, Hostel Buildings, additional laboratories and departmental space required, worked out and finalized after discussions are given below. Coursewise admission capacity in different colleges of CAU as on June ,2006 is given in the Table I

Table I. Present intake capacity for different courses

Sl.	College	Name of the Course	Intake Capacity
1	College of Veterinary Sciences & Animal Husbandry, Aizwal, Mizoram	B.V.Sc.&AH. M.V.Sc	43 18
2	College of Fisheries, Lembuchera , Agartala	B.F.Sc.	22
3	College of Horticulture & Forestry, Pasighat	B.Sc.(Hort)	32
4	College of Home Science, Tura, Meghalaya	B.Sc (H.Sc.)	22
5	College of Agricultural Engineering & Post Harvest Technology, Sikkim	B.Tech(Agril. Engg.)	32
6	College of Agriculture, Imphal, Manipur	B.Sc (Ag) M.Sc(Ag)	58 32

In order to have 27% reservation for OBC without reducing the number of seats available to general category students the number of seats to be increased in different courses are given in Table II

Table II. Increase in intake due to reservation for OBC

Sl	Name of the College	Course	Increase in student intake per year					Total
			1 st yr.	2 nd yr.	3 rd yr.	4 th yr.	5 th yr.	
1	College of Veterinary Sc.& A.H.	B.V.Sc	23	46	69	92	115	135
		M.V.Sc	10	20	20	20	20	20
2	College of Fisheries	B.F.Sc.	12	24	36	48	48	48
3	College of Horticulture	B.Sc.(Hort)	18	36	54	72	72	72
4	College of Home Sc.	B.Sc (H.Sc.)	12	24	36	48	48	48
5	College of Agril. Engg.	B.Tech (Agril.E.)	18	36	54	72	72	72
6	College of Agriculture	B.Sc (Ag)	31	62	93	124	124	160
		M.Sc(Ag)	18	36	36	36	36	36
Total:							591	

Table III. Present intake & proposed increase in seats .

Sr.	College	UG		PG		Total	
		PI	IP	PI	IP	PI	IP
1	College of Vet. Sci. & Animal Husbandry, Aizwal	43	23	18	10	61	33
2	College of Fisheries, Agartala	22	12	-	-	22	12
3	College of Horticulture & Forestry, Pasighat	32	18	-	-	32	18
4	College of Home Science	22	12	-	-	22	12
5	College of Agri. Engineering & PHT, Sikkim	32	18	-	-	32	18
6	College of Agriculture, Imphal	58	31	32	18	90	49
Total		209	114	50	28	259	142

PI: Present Intake; IP: Increase Proposed

With the proposed increase in number of students additional teachers will be needed to share the burden of teaching, research guidance and management of the teaching programme. The number of additional teachers required to cope up the work load of teaching and research advisory work of Post Graduate students is given in Table IV to VI

Table IV. Proposed increase of faculty

Sr.	Name of the post	1 st	2 nd	3 rd	4 th	5 th	Total
College of Vety. Sciences & Animal Husbandry							
1.	Asstt. Prof.	2	2	5	1	-	10
2.	Professor	2	-	-	-	-	2
3.	Technical	-	-	-	-	-	-
4.	Lab. Assistants	2	1	4	1	-	8

5.	Others	-	-	-	-	-	-
College of Fisheries:		NIL					
College of Horticulture Arunachal Pradesh							
1.	Asstt. Prof.	2	-	-	-	-	2
College of Home Science, Tura (Meghalaya):		NIL					
College of Agri. Imphal (Manipur)							
1.	Asstt. Prof.	9	7	-	-	-	16
2.	Professor	2	-	-	-	-	2
3.	Technical	9	7	-	-	-	16
4.	Lab. Assistants	9	7	-	-	-	16
5.	Others	11	4	-	-	-	15
b.	Time frame for recruitment of additional faculty and other staff						
	As lot of codal formalities have to be completed for arranging additional manpower, so approximately three years time frame would be required for filling up of all the proposed additional posts.						

Table V. Discipline-wise break up of the proposed additional posts

Sr.	Post	1 st yr.	2 nd yr.	3 rd yr.	4 th yr.	Total
1. College of Vety. Sciences & Animal Husbandry						
1.	Professor	-Vety Physiology -Animal Gen.	-	-	-	2
2.	Asstt. Professor	-	ety. Physiology -Animal Genet	-Vety. PH -Vety. Pharm & Toxic -LPT -Vety. Parasitology -Vety. Micro.	-Animal Reproduction	8
2. College of Horticulture & Forestry						
1.	Asstt. Professor	-Computer Science -Mathematics/stat.	-	-	-	2
3. College of Agri. Imphal						
1.	Professor	-Ext. Education -Agri. Economics	-	-	-	2
2.	Asstt. Prof.	-Entomology -Plant Pathology -Agril. Ext. -Economics -Statistics -Agronomy -Horticulture -Pl Br Genet -Soil Sci Ag Chem	-Agronomy -Horticulture -Pl Br Genet -Entomology -Plant Pathology -Ext. Education -Agri. Economics	-	-	16
3.	Lab. Attendants	9 (-do-)	-7 (-do-)	-	-	16

4.	Lab. Assistants	9 (-do-)	-7 (-do-)	-	-	16
5.	Others	do- 11	-do- 4	-	-	15

Table VI . Schedule & pattern of faculty enhancement

Sl	/College												
		Professor			Assoc. Prof.			Asstt. Prof.			Total		
		SS	IP	PI	SS	IP	PI	SS	IP	PI	SS	IP	PI
1	College of Vet. Sci. & Animal Husbandry, Aizwal	9	1	2	16	1	-	39	25	10	64	27	12
2	College of Fisheries,	6	2	-	8		-	20	15	-	34	17	-
3	College of Horticulture & Forestry, Pasighat	10	-	-	18	1	-	36	15	2	64	16	2
4	College of Home Science	5	-	-	9	1	-	21	7	-	35	8	-
5	College of Agri. Engineering & PHT	7	-	-	13	-	-	28	1	-	48	1	-
6	College of Agri.	8	3	2	12	6	-	29	26	16	49	35	18
	Total	45	6	4	76	9	-	173	89	28	294	104	32

4 SS: Sanctioned Strength; IP: In Position; PI: Proposed Increase

3. Student/Teacher Proportion: CAU has triple function of research, education and extension activities. Thus faculty members recruited are involved in these activities. At present the recruitment is primarily based on needs of teaching and to some extent available research and extension projects. These teachers also undertake extension activities. A comparative picture of student faculty can be seen by basing it on total number of faculty members in the university as given in Table VII.

Table VII. Present and likely student /teacher ratio in different colleges .

Sr.	College	Student/Teacher Proportion*	
		Present Situation	After seat and faculty enhancement
1	5 Vet. Sci. & Animal Husbandry, Aizwal	3.3	4.2
2	6 Fisheries, Agartala	2.6	4.0
3	7 Horticulture & Forestry, Pasighat	2.0	3.0
4	8 Home Science	2.5	3.9
5	9 Agri. Engineering & PHT, Sikkim	2.7	4.2
6	10 Agriculture, Imphal	6.0	6.8

*Based on Sanctioned faculty Strength

4. Infrastructure and Costs: The details of requirement of funds needed due to increase in seats and faculty are given in Table VIII to XII .

Table VIII. Yearwise cost of additional staff (Rs. In lacs)

Sr. No.	Name of the post	Year					Total
		1 st	2 nd	3 rd	4 th	5 th	
College of Vety. Sci. & Animal Husbandry							
1.	Professor	10.80	11.52	12.27	13.05	13.85	61.49
2.	Asstt. Prof.	5.28	11.10	25.45	29.40	31.20	102.43
	Total	6.08	22.62	37.72	42.45	45.05	163.92
College of Horticulture							
1.	Asstt. Prof.	4.08	4.28	4.50	4.74	5.00	22.60
	Total	4.08	4.28	4.50	4.74	5.00	22.60
College of Agriculture Imphal							
1.	Professor	8.04	8.52	9.02	9.55	10.10	45.23
2.	Asstt. Prof.	18.35	34.34	37.77	41.55	45.71	177.72
	Total	6.39	42.86	46.79	51.10	55.81	222.95
	Grand Total	6.55	69.76	89.01	98.29	105.86	409.47

Table IX . Details of capital cost (Rs. in lacs)

Year/ College	Labs, equipments and other material	Library	Buses/other vehicles for RAWWE supervision	Total
College of Vet. Sc. & Animal Husbandry				
Ist	100	25	-	125
2 nd	50	25	-	75
3 rd	25	25	-	50
4 th	25	25	-	50
5 th	-	-	-	-
Total	200	100	-	300
College of Horticulture & Forestry				
Ist	-	10	10	20
2 nd	-	5	5	10
3 rd	-	2	-	2
4 th	-	2	-	2
5 th	-	1	-	1
Total	-	20	15	35
Ist	75	15	15	105
2 nd	75	10	-	85
3 rd	50	10	-	60
4 th	-	5	-	5
5 th	-	-	-	-
Total	200	40	15	255
Total Capital Cost	400	160	30	590

Table X. Increase in non-academic expenditure(Rs. in lacs)

Year	College/building/land	Hostel Construction	Non academic staff	Total
College of Vety. Sc. & Animal Husbandry				
	Amount	Amount	Amount	
1 st	800	300	1.56	1101.56
2 nd	600	200	2.46	802.46
3 rd	332	163	5.36	500.36
4 th	-	-	6.50	6.50
5 th	-	-	7.00	7.00
Total	1732	663	22.88	2417.88
College of Horticulture				
1 st	110	200	-	310
2 nd	75	100	-	175
3 rd	15	100	-	115
4 th	10	100	-	110
5 th	5	100	-	105
Total	215	600	-	815
College of Agriculture				
1 st	200	300	20.06	520.06
2 nd	130	200	34.71	364.71
3 rd	-	33	38.20	71.20
4 th	-	-	42.07	42.07
5 th	-	-	46.23	46.23
Total	330	533	181.27	1044.27
G. Total	2277	1796	204.15	4277.15

Table XI. Over all Financial Implication**(a) Recurring Expenditure (Rs. in Lacs)**

Year	Salary Academic	Salary Non-academic	Stipend	Fellow-ship	Contingency	Total
College of Vety. Sci. & Animal Husbandry						
Ist	16.08	1.56	-	0.91	1.00	19.55
2 nd	22.62	2.46	-	1.82	2.00	28.90
3 rd	37.72	5.36	-	1.82	3.00	47.90
4 th	42.45	6.50	-	1.82	4.00	54.77
5 th	45.05	7.00	1.86	1.82	5.00	60.73
Total	163.92	22.88	1.86	8.19	15.00	211.85
College of Hort. & Forestry						
Ist	4.08	-	-	-	-	4.08
2 nd	4.28	-	-	-	-	4.28
3 rd	4.50	-	-	-	-	4.50
4 th	4.74	-	-	-	-	4.74
5 th	5.00	-	-	-	-	5.00

Total	22.60	-	-	-	-	22.60
College of Agriculture						
Ist	26.39	20.06	-	4.84	3.00	54.29
2 nd	42.86	34.71	-	9.68	6.00	93.25
3 rd	46.79	38.20	-	9.68	6.00	100.67
4 th	51.10	42.07	1.86	9.68	6.00	110.71
5 th	55.81	46.23	-	9.68	6.00	117.72
Total	222.95	181.27	1.86	43.56	27.00	476.64
Grand Total	409.47	204.15	3.72	51.75	42.00	711.09 or say 711.00

Table XII. Non recurring expenditure in lacs

Head of Account

Year	Civil Works			Library	Vehicles for RAWE supervision	Total
	College Blds.	Hostels	Labs			
College of Vety. Sci. & Animal Husbandry						
Ist	800	300	100	25	-	1225
2 nd	600	200	50	25	-	875
3 rd	332	163	25	25	-	545
4 th	-	-	25	25	-	50
5 th	-	-	-	-	-	-
Total	1732	663	200	100	-	2695
College of Hort. & Forestry						
Ist	-	-	10	-	10	20
2 nd	-	-	5	-	5	10
3 rd	-	-	2	-	-	2
4 th	-	-	2	-	-	2
5 th	-	-	1	-	-	1
Total	-	-	20	-	15	35
College of Agriculture						
Ist	200	300	75	15	15	605
2 nd	130	200	75	10	-	415
3 rd	-	33	50	10	-	93
4 th	-	-	-	5	-	5
5 th	-	-	-	-	-	-
Total	330	533	200	40	15	1118
G. Total	2062	1196	420	140	30	3848

Overall Cost: 1. Recurring Rs. 711 lacs
2. Non-Recurring Rs. 3848 lacs

Total Rs. 4559 lacs

5. Academic Excellence: From experience of teaching students of different tribal areas of N.E. States and other weaker sections of the society, no additional preparatory/ remedial courses are anticipated to bring OBC students competitively at par with fellow students. Faculty would provide additional coaching/tutorial etc., for basic and subject related knowledge. However, for confidence building in communication and soft skills, optional non-credit course training would be imparted, and for this the following is the budget need for establishing a communication, language and soft skill lab:

(Rs. In lacs)

Sr.	Colleges	07-08	08-09	09-10	10-11	11-12	Total
1	College of Vet. Sc.	28	03	03	03	03	40
2	College of Fisheries	28	03	03	03	03	40
3	College of Hort.& Forestry	28	03	03	03	03	40
4	College of Home Sc.	28	03	03	03	03	40
5	College of Agr.Engg.	28	03	03	03	03	40
6	College of Agriculture	28	03	03	03	03	40
	Total	168	18	18	18	18	240

6. Financial Implications: The total financial implication with the impending reservation policy of 27% OBC seats would be Rs. 4,799 lacs including Rs. 240 lacs for academic excellence. This amount has been calculated on the basis of 2006-07 costs. This is likely to change with time due to inflation and with change in price index.

7. Implementation Schedule & Requirements: All out implementation of 27 per cent OBC reservation in one go is possible only if the additional requirements of student hostels, class rooms, laboratories, equipments and faculty are in place, before the start of the academic session. In CAU, full 27 per cent OBC reservation in some programmes can be effected by respective states of North East who nominate their candidates for UG and PG programmes from the next academic year, while for others the implementation would be feasible if it is done in phases as per following proposed:

Sr.	Institute/University/College		
		First Year	Second Year
1	College of Veterinary Sciences & Animal Husbandry, Aizwal, Mizoram: UG & PG	9 %	18 %
2	College of Fisheries, Agartala: UG	27 %	-
3	College of Horticulture & Forestry, Pasighat: UG	9 %	18 %
4	College of Home Science, Tura: UG	27 %	-
5	College of Agricultural Engineering & Post Harvest Technology, Sikkim: UG	27 %	
6	College of Agriculture, Imphal: UG & PG	9 %	18 %

8. Financial Aspects: The implementation of action plan of OBC reservation requires necessary budget by September 2006 for civil work (Hostels, Lecture Halls, Laboratory, etc.) and for full faculty recruitment at the beginning, because faculty at the entry level would have to undergo awareness including training in modern education skill.

9. Faculty Recruitment: Many senior positions in the University in the cadre of Professor and Associate Professor are lying vacant even after repeated advertisement. Very poor response is

received for these posts. Some incentives like special allowance as given to the officers from All India Services serving in the NEH Region, CAU should be permitted to pay such incentive allowances to its employees in order to attract qualified teachers to maintain quality of education. Other benefits to the All India Service personnel in NEH be made applicable to the employees of Central Agricultural University also. It is also likely that at senior level, competent faculty may not be available. Therefore, till such time that competent faculty is available for recruitment, outstanding teachers who have retired in last three years and those who are retiring now may be reemployed on contractual basis depending upon need and their suitability, initially for 3 years and then renewed up to the age of 70 years. Contractual amount could be worked out as last total emoluments drawn minus pension. In order to attract/retain very competent scientists/teachers, it would also be essential to provide them residential facilities.

10. Needed Empowerment: The University has Board of Management , Finance Committee and Works Advisory Committee besides Central Purchase Committee. In order to build the infrastructure the main difficulty experienced by the University pertains to the obstructions created by some organizations making unnecessary demands from the contractors. Due to this the good contractors don't come forward to undertake the construction work. Indefinite and frequent bandhs called by the organizations from time to time is another bottleneck in speedy implementation of any project. Timely intervention by the law enforcing agencies on request will be utmost necessary. The requirement of calling quotations/open tenders on many occasions invite interference from the anti social elements who demand the extortion money. In order to avoid this the University should be permitted to purchase the items from National Consumers Cooperative Federation (NCCF) or Kendriya Bhandar directly. Further if the advisory Committee of Scientists and Central Purchase Committee recommend equipment of a certain make the University be permitted to procure it directly from the manufacturer without entering into the tendering procedure.

11. Over Sight Mechanism: Central Agricultural University has Board of Management/Academic Council for formulation, implementation and review of all academic activities including admissions, hence these would review the implementation and progress of OBC education initiative with respect to admission, physical asset including infrastructure equipments, etc. and Quality assurance.