

**TERI SCHOOL OF ADVANCED STUDIES**  
**DARBARI SETH BLOCK, INDIA HABITAT CENTRE, NEW DELHI**

**MINUTES OF THE THIRD MEETING OF THE BOARD OF MANAGEMENT**  
**HELD ON 14<sup>th</sup> JUNE 2001 AT 1400 HOURS IN THE BOARD ROOM**

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The third meeting of the Board of Management was held on Thursday, 14<sup>th</sup> June 2001 at 1400 hours in the Board Room.

**PRESENT:**

The following were present:

Dr R K Pachauri - President (Chairman)  
Justice Giridhar Malaviya  
Prof R C Malhotra  
Mr Champak Chatterjee  
Mr C Dasgupta  
Dr T P Singh - Director  
Lt Col R P Singh - Secretary

Before taking up the Agenda, the Chairman welcomed the Members of the Board and expressed his gratitude to the eminent members for having agreed to guide the destiny of the school with their rich and varied experience. The Chairman also gave a brief background of the evolution of the School.

**Item No. 1 To confirm the minutes of the second meeting of  
the Board of Management held on 29<sup>th</sup> August,  
2000**

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The minutes of the second meeting of the Board of Management held on 29<sup>th</sup> August 2000 were confirmed, as circulated.

**Item No. 2 To report the matters arising from the minutes of the second meeting of the Board of Management held on 29<sup>th</sup> August, 2000**

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The matters arising out of the previous meeting that were reported were noted.

**Item No. 3 To report the decisions taken by the President on behalf of the Board of Management**

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The Board approved the decisions taken by the President on behalf of the Board and resolved as under:

**(a) Formation of academic units in the TERI School of Advanced Studies**

RESOLUTION NO.BM/01/2001: RESOLVED THAT the TERI School of Advanced Studies will have Faculties of Applied Sciences and Policy & Planning.

RESOLUTION NO.BM/02/2001 : FURTHER RESOLVED that the School will take necessary steps to establish the following Departments and Centres of Research in these faculties.

**Faculty of Applied Sciences**

- Department of Biotechnology
- Department of Natural Resources
- Department of Energy and Environment
- Centre of Research in Bioresources and Biotechnology
- Centre of Research in Energy and Environment

**Faculty of Policy and Planning**

- Department of Regulatory Studies
- Department of Public Policy

- Centre of Research in the Regulatory Studies and Governance
- Centre of Research in Policy Analysis

**(b) Fee Structure of the M.Phil./M.Tech. and Ph.D. programmes to be conducted at the TERI School of Advanced Studies**

RESOLUTION NO.BM/03/2001 : RESOLVED THAT the fee structure of the M.Phil./M.Tech. and Ph.D. programmes for the Academic Year 2001-2002 to be conducted in the School, as at Annexure 3.1, be approved.

The Board of Management suggested that

- (i) Foreign students may be admitted to both the doctoral and master's programmes.
- (ii) Fee structure for foreign students may be worked out separately and communicated to the UGC for their approval.
- (iii) Fee structure for non-degree programme / courses be worked out at the prevailing commercial rates taking into account the professional time that would be spent on the conduct of these programmes / courses.

**(c) Nomination to the Finance Committee**

RESOLUTION NO.BM/04/2001 : RESOLVED THAT Prof Parthasarathi Shome, RBI Professor, ICRIER, and Air Cmde M M Joshi, Chief Administrative Services, TERI will represent the Board of Management and the Finance Committee of the School.

**Item No. 4 To approve the Concept Paper of TERI School of Advanced Studies**

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A brief presentation on the Concept Paper, circulated at the meeting, was made and the Concept Paper was approved. The approved Concept Paper is enclosed at Annexure 4.1. The Chairman also

mentioned that efforts are being undertaken to establish linkages with reputed foreign universities. In this connection, a delegation from the Yale School of Forestry and Environment Studies, Yale University recently spent one week in the School to explore the possibilities of the type and nature of linkages that could be established to the benefit of both the Institutions.

Action  
Director

RESOLUTION NO.BM/05/2001: RESOLVED THAT the Concept Paper of the TERI School of Advanced Studies, as per details given in Annexure 4.1, be approved.

✓ Item No. 5 To approve signing of Memorandum of Understanding (MoU) between TERI and TERI-School of Advanced Studies

The Board of Management perused and approved the contents of the Memorandum of Understanding to be signed between TERI and TERI School of Advanced Studies and authorised the Director, TERI School of Advanced Studies to sign it on behalf of the School. It directed that in view of the change in designation of the Director, TERI to Director-General, TERI, the necessary amendment may please be carried out in the Memorandum of Understanding.

Action  
Director  
Registrar

RESOLUTION NO.BM/06/2001: RESOLVED THAT the Memorandum of Understanding to be signed between TERI and TERI School of Advanced Studies as given in Annexure 5.1 be approved.

✓ Item No. 6 To recognise TERI's Divisions as Centres of Research

The recommendations of the Expert Committee were approved.

Action  
Director

RESOLUTION NO.BM/07/2001: RESOLVED THAT the report of the Expert Committee set up to consider recognition of the Bioresources and Biotechnology Division of TERI as Centre of Research of TERI School of Advanced Studies, attached at Annexure 6.1, be approved.

Action

RESOLUTION NO.BM/08/2001: FURTHER RESOLVED THAT the Chairman be authorised to approve

President  
Director

recommendations of other Expert Committees constituted for the recognition of other Divisions of TERI as Centres of Research, on behalf of the Board of Management.

**Item No. 7 To approve the procedure of appointment of Professionals in TERI as Adjunct Faculty in the TERI School of Advanced Studies**

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The Board deliberated on the procedure of appointment of Professionals in TERI as Adjunct Faculty in the TERI School of Advanced Studies and authorised the Director, TERI School of Advanced Studies to appoint all the Research Professionals in recognised Centres of Research, who are involved in guiding Ph.D. students or in other academic activity of the Centre, as Adjunct Faculty provided they satisfy the criteria for Ph.D. supervision. The duration of the appointment of the Adjunct Faculty will be co-terminus with their involvement in the academic activity. All these Research Professionals will continue to receive their salary from TERI and they will be eligible to participate in the School activities as would regular faculty of the School.

Senior Fellows or Fellows in the recognised Centres of Research may be designated as Adjunct Professors, provided they possess the requisite experience and qualification for appointment as a regular Professor in the School.

**RESOLUTION NO. BM/09/2001:** RESOLVED THAT the Director, TERI School of Advanced Studies be authorised to appoint all the Research Professionals in recognised Centres of Research, who are involved in guiding Ph.D. students or in other academic activity of the Centre, as Adjunct Faculty provided they satisfy the criteria for Ph.D. supervision.

**Action**  
Director

**Item No. 8** **To Consider the Revised Guidelines issued by UGC for declaring an Institution as Deemed-to-be-University under Section 3 of the UGC Act, 1956**

Action  
Director  
Registrar

The Revised Guidelines issued by the UGC to be adopted by the Institutions for grant of Deemed-to-be-University status under Section 3 of the UGC Act 1956 in April 2000 vide their letter no.F.3-8/90 (CPP-I) dated 12<sup>th</sup> April, 2000 were perused by the members of the Board.

The Board of Management directed that the Guidelines 11, 12, 13, and 15 be noted for compliance.

A copy of the revised guidelines is attached at Annexure 8.1.

**Item No. 9** **To consider the UGC recommendations regarding infrastructure and corpus funds of TERI-School of Advanced Studies**

The Board considered the recommendations of the Planning and Monitoring Board which had taken account of the stipulations laid down by the UGC regarding the Infrastructure Facilities and Corpus Fund of the TERI School of Advanced Studies and the following was discussed :

**Buildings**

(a) **Academic and Administrative Buildings** The Board felt that the requirement of 4000 sq.mts. of Academic and Administrative Buildings, as stipulated by the UGC, is far in excess of what would be required for the TERI School of Advanced Studies. However, in view of the aforesaid stipulations, it directed that a committee be constituted to determine the actual requirement of academic and administrative buildings required for the School and thereafter a four year plan be drawn up for the construction of academic and administrative buildings. The composition of the Committee would be as follows :

- (i) Director, TERI School of Advanced Studies
- (ii) Chief, Administrative Services, TERI
- (iii) Registrar, TERI School of Advanced Studies

**RESOLUTION NO.BM/10/2001: RESOLVED THAT a**

Action  
Director

Committee be constituted to determine the actual requirement of academic and administrative

buildings required for the School and thereafter draw up a four year plan for the construction of academic and administrative buildings. The Composition of the Committee would be as follows :

- (i) Director, TERI School of Advanced Studies
- (ii) Chief, Administrative Services, TERI
- (iii) Registrar, TERI School of Advanced Studies

(b) **Teacher's residences and a faculty guest house** The Board approved the recommendations of the Planning and Monitoring Board that till such time the School's own residential accommodation is constructed, TERI HRA rules be extended to employees of the School.

RESOLUTION NO.BM/11/2001: RESOLVED THAT the TERI HRA rules be extended to employees of the School.

Action  
Registrar  
Finance  
Officer

### Corpus

The President informed the Board that a minimum Corpus of Rs.three crores, required by the TERI School of Advanced Studies in accordance with the revised guidelines issued by the UGC, would not be difficult to build up. In this connection, he stated that action has already been initiated to raise funds by requesting leading Corporates for endowing Chairs. First such letter has been addressed to Sir Mark Moody-Stuart KCMG, Chairman, Royal Dutch / Shell Group of Companies for setting up an endowed Chair on sustainable energy policy. The endowment requested was for a sum of Pounds Sterling 300,000.

The President also assured that TERI will provide all necessary financial aid to meet the running expenditure of the School and help to build the corpus.

**Item No. 10 To Consider revised Model Memorandum of Association (MoA) / Rules issued by UGC for declaring an Institution as Deemed-to-be-University under Section 3 of the UGC Act, 1956**

Action  
Director  
Registrar

The Board considered the revised Model MoA / Rules to be adopted by the Institutions for grant of Deemed-to-be-University status under Section 3 of the UGC Act 1956 in April 2000 vide their letter no.F.3-8/90 (CPP-I) dated 12<sup>th</sup> April, 2000 and approved the changes to be incorporated in the Trust Deed and Rules and Regulations of the TERI School of Advanced Studies.

A copy of the Rules incorporating the changes in the Trust Deed and Rules and Regulations is attached as Annexure 10.1.

**Item No. 11 To approve the annual accounts of the TERI School of Advanced Studies for the financial year 2000-2001**

The statement of unaudited accounts for the financial year ending 31<sup>st</sup> March, 2001 was placed before the Board of Management for consideration.

The Board of Management ratified the accounts for the year ending 31<sup>st</sup> March, 2001 and passed the following resolution :

RESOLUTION NO.BM/12/2001: RESOLVED THAT the Income and Expenditure Account for the period ending 31<sup>st</sup> March, 2001 (Unaudited) and the Balance Sheet for the period ending 31<sup>st</sup> March, 2001 are hereby approved.

Action  
Finance  
Officer

**Item No. 12 To approve the expenditure budget of the TERI-School of Advanced Studies**

Action  
Finance  
Officer

The Board of Management discussed the proposal as approved by the Finance Committee and while ratifying the proposal, directed that the budget be redrafted to indicate surplus / deficit and the same be circulated to the Members of the Board.



**Item No. 13** **To review the procedure to be adopted for appointment of Director, TERI School of Advanced Studies**

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Action  
Registrar

The Board of Management reviewed the procedure that was adopted for appointment of the Director, TERI School of Advanced Studies as given in Clauses 15 (b) (i) and (ii) of the Rules and Regulations of TERI School of Advanced Studies.

It also discussed the proposed procedure to be adopted in future for the appointment of the Director, TERI School of Advanced Studies. The approved procedure is attached at Annexure 13.1.

RESOLUTION NO.BM/13/2001: RESOLVED THAT the procedure as outlined in Annexure 13.1 be adopted in future for appointment of Director, TERI School of Advanced Studies.

**Item No. 14** **To delegate Powers to the Director, TERI School of Advanced Studies**

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In order to enable the Director to perform his duties, operate accounts and admit students, etc., the Board, empowered vide Clause 5(a) (xxxii) of the Rules and Regulation, delegated certain administrative and financial powers to the Director, TERI School of Advanced Studies

RESOLUTION NO.BM/14/2001: RESOLVED THAT the Director, TERI School of Advanced Studies be delegated the following powers :

Action  
Director

(a) The power of the Head of the Department for purpose of rules in the account code, the fundamental and supplementary rules of the Government so far as they are applicable to the business of the School.

(b) To incur expenditure subject to the budget provisions made for the specific purpose.

(c) To approve admission of students to the School in accordance with the procedures laid down by the Academic Council.


**Item No. 15 To grant the Status of Professor to the Director, TERI School of Advanced Studies**

The Board approved the granting of the status of Professor to Dr T P Singh, Director, TERI School of Advanced Studies. The Board, However, directed that in future when the post of Director of the School is advertised, the fact that the Director would be granted the status of Professor of the School should also be highlighted.

Action  
Director  
Registrar

RESOLUTION NO.BM/15/2001: RESOLVED THAT the Director, TERI School of Advanced Studies be granted the status of Professor in the TERI School of Advanced Studies.

The meeting ended with a vote of thanks to the Chair.


  
(R P Singh)  
Registrar  
Secretary-Board of Management

**TERI SCHOOL OF ADVANCED STUDIES  
Darbari Seth Block, India Habitat Center, New Delhi**

No.:TSAS/CONF/BM/MINS/3/2001

Dated : 28:06:2001

Copy forward to all members of the Board of Management for favour of their comments. They are requested to kindly forward their comments, if any, by 16:07:2001. If no comments are received by that date, it will be presumed that they have no comments to offer and approve of the minutes as recorded.

  
(R P Singh)  
Registrar  
Secretary-Board of Management

**Fee Structure****A. One time payment (in Rupees)**

Item	M.Phil/M.Tec h.	Ph.D. Programme
Admission Fee	150	150
Grade Card	150	150
Provisional Certificate	100	100
Student Welfare Fund	200	200
Alumni fee	500	500
Identity Card	100	100
Modernisation Fees	500	500
Dissertation/Thesis Fee	700	1200
<b>Total - A</b>	<b>2400</b>	<b>2900</b>

**B. Semesterwise Fees**

Tuition Fees	6000	6000
Registration/Enrolment	300	300
Examination fees	300	300
Internet & Computer	1000	1000
<b>Total - B</b>	<b>7600</b>	<b>7600</b>

**C-Deposits (Refundable)**

Institute Deposit	1000	1000
Library Deposit	2500	2500
<b>Total-C</b>	<b>3500</b>	<b>3500</b>

Total fees payable at the  
time of Admission

**13500****14000****Note:**

1. Each student will be required to take accident insurance for 2 lakhs rupees to cover him/her against accident while working in the School.
2. Hostel Fees will be notified when the facilities are ready.

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## CONCEPT PAPER –TERI-SAS

The Central Government vide its notification no.F.9-19/95-U-3 dated 5<sup>th</sup> October, 1999 has declared TERI-School of Advanced Studies (TERI-SAS) as a Deemed-to-be-University under the provisions of Section 3 of the University Grants Commission (UGC) Act of 1956 on the recommendations of the UGC. For this purpose, the UGC has approved the prescribed Rules and Regulations of the TERI-SAS which were communicated to the School vide letter no.F.9-19/95-U.3 dated 7<sup>th</sup> February 2000. The Deemed-to-be-University status of the TERI-SAS grants the school the rights to confer degrees under the provisions of Section 22 of the UGC Act of 1956. This concept paper analyses the objectives of TERI-SAS, as approved by the Government, and attempts to develop an organisational structure of the School.

### 1.0 Objectives

1. To provide for institution and training in energy studies, biosciences, environmental sciences, public policy and other such branches of learning as it may deem fit.
2. To provide for research and for the advancement of and dissemination of knowledge.
3. To do all such other acts and things as may be necessary or desirable to further the objects of the School. These may include, inter alia,
  - (i) Establishment of and participation in collaborative activities with other educational institutions in and outside the country.
  - (ii) To sponsor and organize teaching and training programmes, conferences and seminars on subjects of theoretical or practical relevance to the course of study; and
  - (iii) To establish, acquire and maintain facilities such as offices, residential accommodation for staff, hostel for students, etc.

### 1.1 Objective 1

Objective 1 does not specify whether the institution be set up for imparting instruction to a formal degree/diploma or not. It is, therefore, implied that the school may run degree/diploma as well as non-degree/diploma programmes e.g short term courses, summer schools etc. The school being a school of advanced studies, all programmes in the school must necessarily be at the post-graduate level.

A provision has been made in this objective to add other branches of learning and suitable powers have been given vide clause 5(a) xxxiii of the rules to the Board of Management to establish, on the advice of academic

council, divisions, departments for academic work and functions of the school. The academic council vide clause 8(b) xiii is also authorised to make periodical review of the activities of the departments/centres and to take appropriate action. These provisions point to the need of setting up of a periodic review mechanism.

In light of the above analysis, objective 1 resolves into the following components:

- 1.1.1 To offer instructions in energy studies, biosciences, environmental sciences and public policy and other branches of learning at the post graduate level;
- 1.1.2 To offer degree/diploma as well as non-degree diploma programmes at post graduate level;
- 1.1.3 To make periodic evaluation of its Courses and programmes
- 1.1.4 To review, develop and update its curriculum so that the instruction remains at the cutting edge of knowledge/ Technology.

## **1.2 Objective 2**

Objective 2 asks for the provision of facilities to carry out research and for the advancement and dissemination of knowledge. These facilities could be degree oriented e.g M.Tech., M.Phil., Ph.D or delinked from a degree/ diploma.

Advancement and dissemination of knowledge have been clubbed in this objective with a view to highlight the necessity of dissemination of the advancements.

In light of the above comments, we can split the objective 2 into the following :

- 1.2.1 To provide facilities for postgraduate study and research leading to postgraduate degrees like Ph.D. M.Tech., M.Phil., Post Graduate Diplomas, etc.
- 1.2.2 To provide facilities to disseminate the advancements.

## **1.3 Objective 3**

This objective lists some of the actions which are necessary or desirable to achieve the above mentioned objectives. It has three components :

### **1.3.1 Objective 3 (i)**

This component chooses collaboration with other educational institutions as a mechanism to further the objects of the school.

TERI-SAS has been conceived by the researchers and professionals of TERI. The areas specified in the objectives for the

TERI-SAS are the same in which TERI's expertise is recognised internationally. TERI has built world class infrastructure for carrying out research, development, design and demonstration work in these areas. The rules and regulations of the school vide clause 28 also place the responsibility of meeting the costs, charges, expenses, shortfall/ deficit on TERI. Therefore it is desirable that special links be created between TERI and TERI-SAS in order to take advantage of the knowledge of TERI's professionals, infrastructure and experience in evolving, running and updating the courses in the School. It is also desirable that we include DST recognised research and development establishments in addition to other educational institutions for establishing collaborative links.

Objective one lists the areas of work of the school as energy studies, biosciences, environmental sciences and public policy. These areas have been researched and developed in TERI to actively promote technologies, policies, and institutions for efficient and sustainable use of natural resources. The academic work in some of these areas will require field studies involving collection, analysis and interpretation of data which is usually available either with government departments or with NGOs. Therefore, collaborative links with Government departments and NGOs will be necessary to achieve the objectives of the school. In view of the above analysis, Objective 3(i) can be split into the following components

1.3.1.1 To foster special links with TERI to meet the objectives of the TERI-SAS.

1.3.1.2. To develop collaborative links with other educational institutions and R&D establishments, Government departments and NGOs in the country.

1.3.1.3 To develop collaborative links with other educational institutions and R&D establishments and NGOs outside the country.

### **1.3.2 Objective 3 (ii)**

This component defines the mechanism of dissemination of knowledge which can be further split into following sub components

1.3.2.1 to offer degree/diploma as well as non-degree diploma programmes at post graduate level;( same as 1.1.2)

1.3.2.2to organize short term programmes relevant to the area of studies in the school.

1.3.2.3to sponsor and organize conferences and seminars of theoretical and practical interest.

### **1.3.3 Objective ( iii)**

This objective highlights the need to provide office as well as residential accommodation for staff and, hostel for the students as a necessary prerequisite to achieve the objectives of the school. The provision of residential accommodation both for the students and the faculty is incomplete without the necessary facilities for extracurricular activities which need to be provided for well rounded education of the students. This objective can therefore, be split into following executable actions:

- 1.3.3.1 to provide offices for the faculty and classrooms for teaching.
- 1.3.3.2 to provide computer room with internet facilities.
- 1.3.3.3 to provide residential accommodation for the students.
- 1.3.3.4 to provide residential accommodation for the faculty.
- 1.3.3.5 to provide facilities for extracurricular activities.

## **2.0 Evolving Appropriate Organisational Structures**

### **2.1 Summary of the executable actions**

In the last section the objectives of the school have been analysed in terms of executable actions. These are:

- 1.1.1 to offer instructions in energy studies, biosciences, environmental sciences and public policy and other branches of learning at the post graduate level;
- 1.1.2 to offer degree/diploma as well as non-degree/ non-diploma programmes at post graduate level;
- 1.1.3 to make periodic evaluation of its Courses and programmes;
- 1.1.4 to review, develop and update its curriculum so that the instruction remains at the cutting edge of knowledge/ Technology.
  
- 1.2.1 to provide facilities for postgraduate study and research leading to postgraduate degrees like Ph.D ,M.Tech., M.Phil., Diploma.S.A.S. etc.
- 1.2.2 to provide facilities to disseminate the advancements.
  
- 1.3.1.1 to foster special links with TERI to meet the objectives of the TERI-SAS.
- 1.3.1.2 to develop collaborative links with other educational institutions and R&D establishments , Government departments and N.G.Os within the country
- 1.3.1.3 to develop collaborative links with other educational institutions and R&D establishments and N.G.Os outside the country.
  
- 1.3.2.1 to offer degree/diploma as well as non-degree diploma programmes at post graduate level;( same as 1.1.2)



1.3.2.2 to organize short term programmes relevant to the area of studies in the school.

1.3.2.3 to sponsor and organize conferences and seminars of theoretical and practical interest.

1.3.3.1 to provide offices for the faculty and classrooms for teaching.

1.3.3.2 to provide computer room with internet facilities.

1.3.3.3 to provide residential accommodation for the students.

1.3.3.4 to provide residential accommodation for the faculty.

1.3.3.5 to provide facilities for extracurricular activities.

The above actions relate to:

- (a) Teaching and Academic Research
- (b) Collaborative links with TERI
- (c) Collaborative links with other organisations
- (d) Space for offices, classrooms, residential accommodation for faculty and students and extracurricular activities

## **2.2 Evolution of Organisational structure**

The concept paper will focus on the first and second points mentioned above, to evolve an organisational structure that will facilitate the achievement of the objectives of the TERI-SAS.

### **2.2.1 Teaching and Research**

All actions relating to offering instruction at postgraduate level, revision of curriculum and setting up infrastructure for research, establishing linkages with other organizations is a traditional role of a university and is handled by departments. The following activities can be ascribed to this stream of action:

- (a) Teaching both degree and non-degree courses at postgraduate level in Energy, Environment, Bio-sciences and Public Policy and other branches of learning.(1.1.1, 1.1.2, 1.3.2.1, 1.3.2.2)
- (b) Review and updating of programmes / courses their curricula and laboratory facilities so that the instruction remains at the cutting edge of technology.(1.1.3,1.1.4)
- (c) Establish collaborative links with other institutions in and outside the country for placement of graduates, faculty development and for promoting R&D activities in general.(1.3.1.1 to 1.3.1.3)

In this stream of action the work is related to teaching in its entirety, from short term courses to Ph.D. research and to

curriculum development. Clearly, continued contact with students is the central theme of all such activity, which implies that the teaching faculty involved must be available to the students on the campus or through the School's website on the internet.

### **2.2.2 Special link with TERI**

The development of special link with TERI which is involved in technology development and industrial R&D is also one of the executable actions. TERI has contact with corporate world, industry, national and international funding agencies and takes up projects for the development of needed technological know-how and backup. This clearly requires frequent visits to industry/organizations, quick response time and well planned activity that is compatible with industrial requirements.

Professionals in TERI are also Co-supervising Ph.D, M.Phil and M.Sc. projects of students registered in other universities. The results of their own work and that of their students are published in refereed journals. The school should take advantage of the expertise and scholarship of the TERI professionals by recognizing the divisions in TERI as centers of research for carrying out project work. The Professionals in the center can be offered joint appointments at the professorial level provided they have significant achievements in academic research and teaching and in technology / policy development (Selection procedure for making such appointments as per rules and regulations of TERI-SAS) and adjunct faculty positions at other levels. The professionals who hold joint appointments can spend up to 40% of their time in guiding projects of Ph.D./Master's students, teaching specialised courses and other activities in the school. TERI professionals would charge the time spent on TERI-SAS work against a TERI project code created for that purpose.

The Professors in the centres can hold administrative positions in the school and shall enjoy all the privileges under the rules and regulations of TERI-SAS. A similar provision be made in the TERI-SAS rules so that staff appointed in the school can be given joint appointment to work on sponsored Research and other projects of TERI.

### **2.2.3 Conclusion**

It can be concluded that TERI-SAS needs to support an appropriate number of departments. These departments will have

full time faculty, adjunct faculty and professors holding joint appointments between TERI and TERI-SAS. The divisions in TERI may also be recognised as centres of research for carrying out postgraduate student projects. The research work of these students will need to be monitored by research committees within the School. A suitable structure for managing common laboratories and facilities will need to be evolved so that students work gets top priority.

The Departments and Centres for Research may be categorised to constitute two Faculties in the School, namely the Faculty of Applied Sciences and the Faculty of Policy and Planning. The Departments/ Centres for Research in each Faculty shall be as determined by the Board of Management from time to time.

### **3.0 Organisational Structure**

The ideas of organisational structure, which have been developed in the previous section, can now be firmed up taking into account the special relationship the school enjoys with TERI. The major components in the school shall be departments and recognised centres of research in TERI. The staff working in the centres of research will be eligible for joint appointment in the school at the professor's level and as adjunct faculty at other levels.

#### **3.1 Departments**

##### **3.1.1 Creation**

1. When teaching and research are required to be initiated in energy, environment, bio-sciences, public policy and other areas of learning at the post graduate level.
2. Sustained funding is assured.

##### **3.1.2 Main functions**

1. Teaching at postgraduate level
2. Academic research including guiding of Ph.D. and M.Tech./ M.Phil. students.
3. Curriculum and laboratory development.
4. Sponsored R&D and consultancy.

##### **3.1.3 Winding up**

When the need for teaching in the discipline ceases.

##### **3.1.4 Composition**

1. Faculty positions, Full time and part time, including adjunct faculty engaged in supervising Doctoral Projects.
2. Administrative staff, technical staff

### **3.1.5 Infrastructure**

Space for class rooms and laboratories: faculty rooms: secretarial facilities and stores. A separate budget under the control of the Head.

### **3.1.6 Activities**

1. **Primary activities:** Teaching and academic research: Major faculty time spent on teaching, academic research, curriculum development. Research mainly open ended emphasis on high quality research publications, generation of instructional resource material and development of courses incorporating latest technological developments. Need to be in Delhi during the academic session.

2. **Secondary Activities:** Sponsored Research and consultancy. Maximum time 40%.

### **3.1.7 Administration**

Head (From amongst Joint appointees from the centres and the Faculty in the department), Master's Programme Coordinator

### **3.1.8 Committee Structure**

- Board of Studies (as per clause 13 of TERI-SAS rules)
  - Student Research Committee
- An advisory committee, with participation from industry and appropriate faculty from other school departments and centres of research for monitoring activities and for long term planning and providing inputs to the School's Planning and Monitoring Board

### **3.1.9 Miscellaneous**

1. Adjunct faculty from outside.
2. Curriculum Monitoring and Development cell with user/industry participation.
3. Faculty evaluation according to the stated functions of the department.
4. Each Ph.D. student to have an advisory committee nominated by his supervisor(s) and drawn from the parent department and other relevant centres. The committee will regularly monitor the progress of the student and appropriately advise the Board of Studies.

## **3.2 Recognised Centres of Research**

### **3.2.1 1. Eligibility for Recognition**

Existing Divisions in TERI (manned by at least 2/3 professionals having Doctorate degrees) carrying out R&D projects sponsored by industry and S&T funding agencies.

### **2. Authority for recognition**

Board of Management on the recommendation of expert committee appointed by the Academic council.

### **3.2.2 Academic Functions of the Centre of Research**

1. Participation in M.Tech. and research programmes : running specialised pre Ph.D. courses: and guiding Ph.D. scholars / Master's students registered in the School on developmental topics.
2. Continuing education programmes to disseminate modern technical know-how.

### **3.2.3 Composition**

1. Faculty with Joint appointments between TERI and TERI-SAS, including adjunct faculty engaged in supervising Doctoral Research.
2. Administrative staff.

### **3.2.4 Activities**

1. Primary activities: Sponsored R&D and technology including technology transfer. Research mainly goal oriented and supported by group activity and extensive interaction, within and outside TERI.
2. Secondary activities: teaching, academic research (Participation in the teaching programmes of the school and guiding of Ph.D students. Total time spent on secondary activities not to exceed 40%)

### **3.2.5 Administration**

Head (From amongst the joint appointees and adjunct faculty from the Centres)

### **3.2.6. Committee Structure**

- Board of Studies
- Student Research Committee

### **3.2.7 Miscellaneous**

1. Each Ph.D. student to have an advisory committee (SRC) nominated by his supervisor(s) and drawn from departments / recognised centres of research.
2. Guiding of Ph.D. research is not a primary activity envisaged for the recognised centres of research. It is recognised that such activity is essential for professional development of centres faculty. The maximum number of students therefore needs to be limited.

### **3.3 M.Tech/ M.Phil Programmes**

All master's programmes which require the use of laboratories of TERI need to be run jointly by departments with the assistance of recognised Centers of Research.

#### **3.3.1 Criteria for creating a joint Master's Programme**

1. To Propagate and Promote the findings of TERI
2. To meet Industrial manpower requirements in specific fields identified on the basis of in house survey or on the basis of forecast by industry Federations.
3. Adequate funding is available to run the programme for around 3-5 years.

#### **3.3.2 Master's Programmes**

They need to be managed and shall require:

- (a) **Infrastructure:**
  - (i) Laboratories
  - (ii) Separate budget under the control of the coordinator to be allocated to the common facilities/ laboratories for running or augmenting the laboratories needed by the Master's programme.
  - (iii) Suitable space and secretarial staff for Coordinator, along with designated class room space for the programme.

- (b) **Activities**

**Teaching at Master's level and supervision of projects**

(c) **Administration**

Programme Coordinator, appointed on rotation basis from participating departments of TERI-SAS / recognised Centers of Research, having full executive powers including financial powers.

(d) **Committee structure**

1. A Programme Execution Committee (PEC) with coordinator as Chairman and participating faculty as members. This committee will be responsible for admissions, running of courses, moderation of grades and all day to day academic matters.

2. Programme Advisory Committee (PAC) consisting of coordinator and Heads of respective units in TERI and TERI-SAS. The committee will be responsible for ensuring infrastructural inputs to the programme and also for monitoring the status of the programme. A yearly review may be conducted to provide appropriate feedback to the PEC and to the academic council for implementation.

**3.4 Organisation of Common Facilities**

The users of Common laboratories and facilities could be:

- (a) TERI's professionals
- (b) Ph.D students of TERI-SAS.
- (c) Master's students of TERI-SAS

These Laboratories/facilities will need to be managed as common facilities.

Each Laboratory/ facility will be administered by an In-charge drawn from TERI or TERI-SAS and will be provided with adequate technical staff and budget for day to day operation and for up-gradation. The in-charge will be under overall control of the Dean of the Division in TERI of which this facility is part of. The common facilities will have an advisory committee with adequate representation from TERI and TERI-SAS user divisions/departments

The committee will be responsible for:

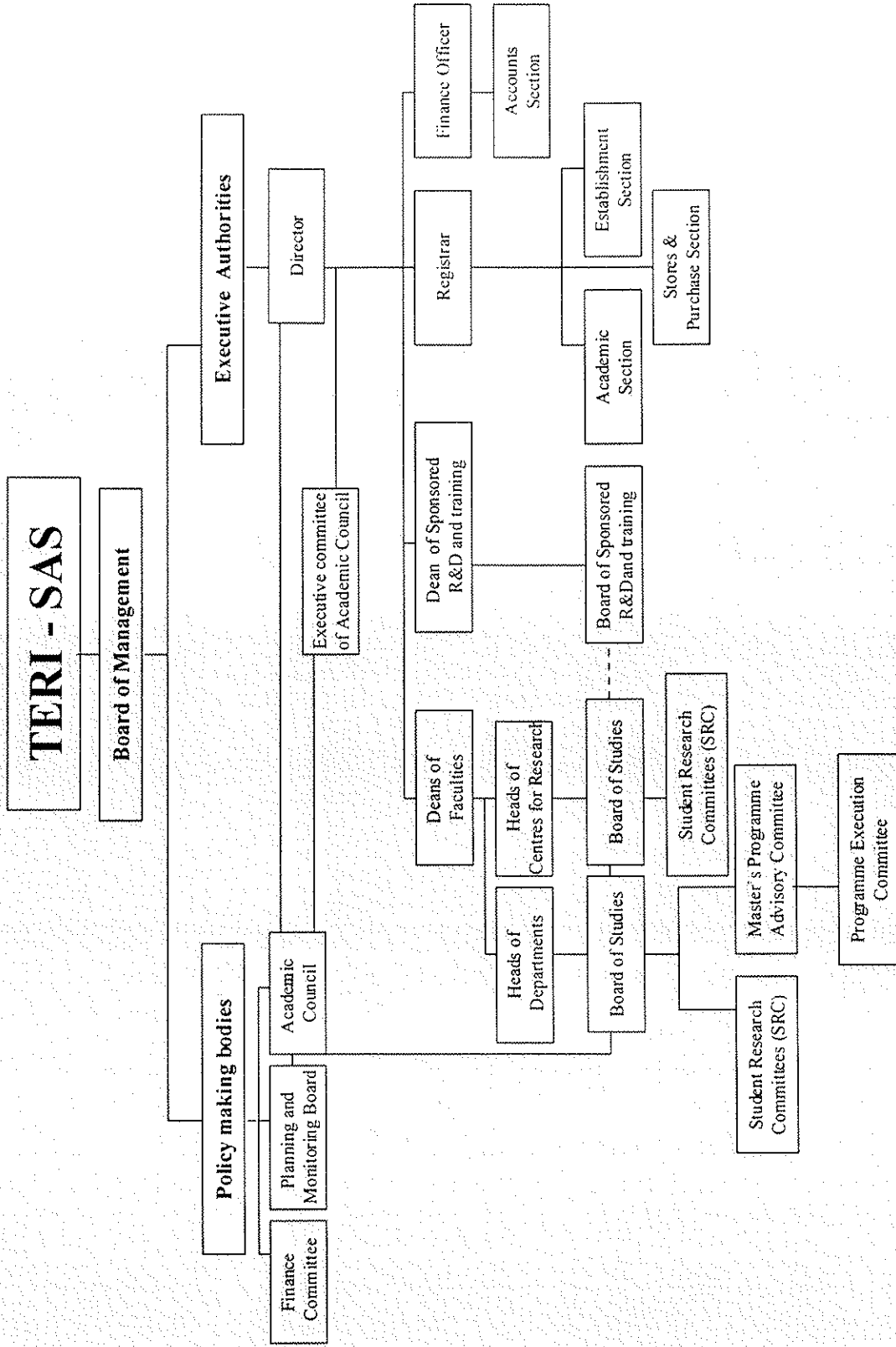
1. Defining operating norms and schedules.
2. Planning for up-gradation and modernisation of the facility / Laboratory to keep it responsive to the need of users.

3.5 The organisational structure, evolved in the above paras along with the Policy making bodies and executive authorities, as provided for in the rules and regulations of TERI-SAS is enclosed as Annexure 1.1.

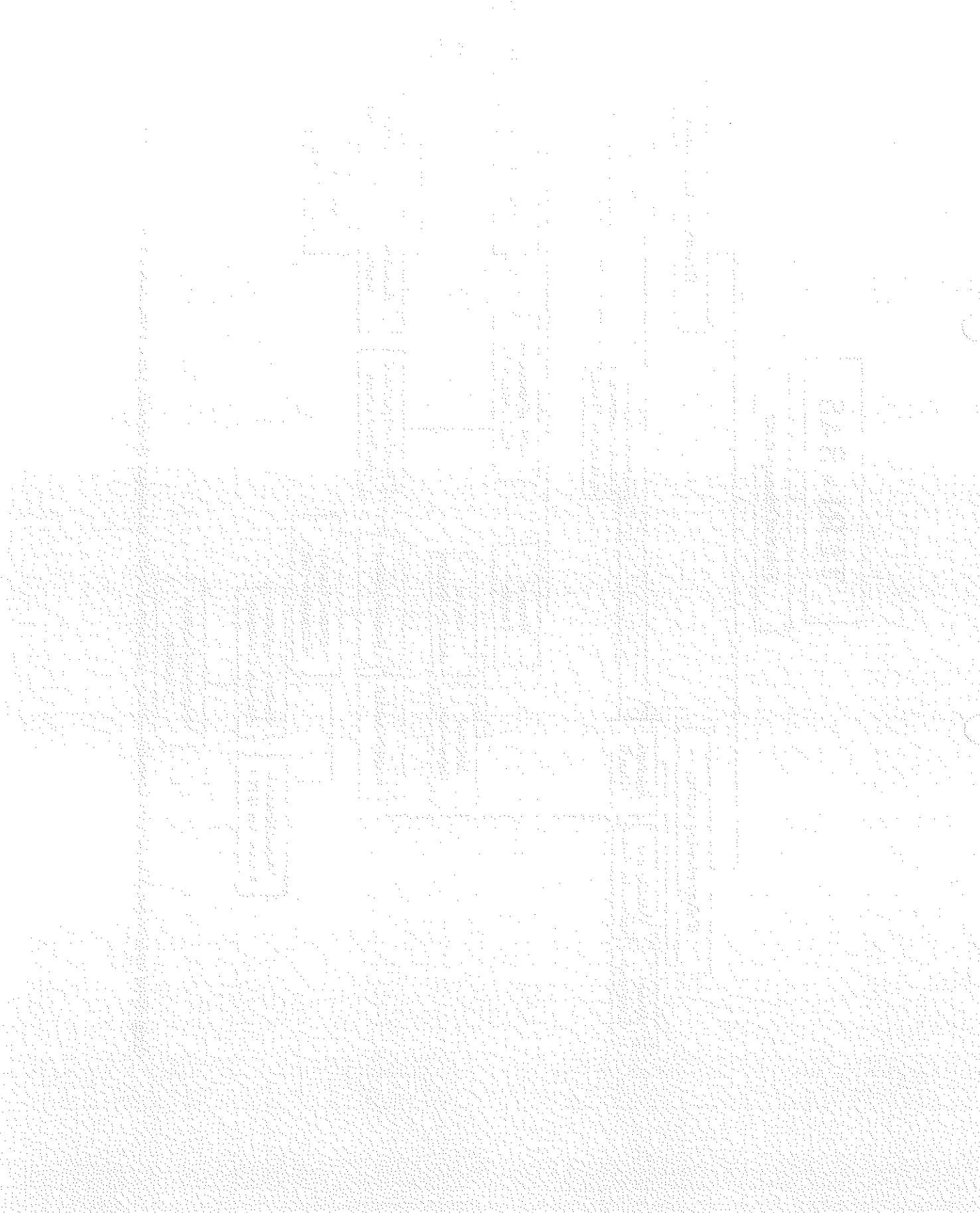
Dean Sponsored Research, Development and Training and Executive Committee of Academic Council, consisting of Heads, Deans, and Registrar as the Secretary, is also included at the appropriate place in the organisational chart.

Information on Composition and Powers / Responsibilities of various committees referred to in the Organisational Chart may be seen at Annexure 1.2.





**Note:** There is a provision of an Advisory Committee with one of the member of UGC as Chairman for an initial period of ten years to help in academic planning and growth of TERI-SAS



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## **COMPOSITION AND POWERS/ RESPONSIBILITIES OF VARIOUS COMMITTEES**

### **1. BOARD OF MANAGEMENT**

The Board of Management shall be the principal organ of management in the Institute.

#### **Composition of the Board of Management**

The Board of Management shall consist of:

- (i) President (Director of TERI, ex-office-Chairperson)
- (ii) Director
- (iii) Deans of Faculties (if any)
- (iv) Three nominees of the President
- (v) One nominee of the Chairperson, UGC
- (vi) One nominee of the Government of India.
- (vii) Three teachers (Professor, Associate Professor, Assistant Professor) (by rotation) according to seniority.

The Registrar shall be the non-member Secretary.

#### **Powers**

The Board of Management shall be the principal executive body of the School and shall, in addition to all powers vested in it have the following powers:

- (i) To manage and administer the revenues and properties of the School and to conduct all administrative affairs of the School not otherwise specifically provided for.
- (ii) To create teaching and academic posts, to determine number, qualifications and cadres thereof as approved by the University Grants Commission and the emoluments of such posts in consultation with the Finance Committee.
- (iii) To appoint such Professors, Associate Professors, Assistant Professors and other academic staff as may be necessary on the recommendation of the Selection Committee.
- (iv) To lay down the duties and conditions of service of the Professors Associate Professors, Assistant Professors and

other academic staff maintained by the School, in consultation with the Academic council.

- (v) To provide for appointment of Visiting Fellows and Visiting Professors.
- (vi) To create administrative, ministerial and other necessary posts in terms of the cadres laid down or otherwise and to make appointment thereof in consultation with the Finance Committee.
- (vii) To grant leave of absence to the Director of the School or any other officer of the School and to make necessary arrangements for carrying on the functions of the officers proceeding on leave during their absence.
- (viii) To regulate and enforce discipline among the employees of the School and to take appropriate disciplinary action, wherever necessary.
- (ix) To manage and regulate the finance, accounts, investments, property and all other administrative affairs of the School and for that purpose to appoint such agent or agents as it may deem fit.
- (x) To entertain and adjudicate upon and, if thought fit, to redress any grievances of the employees and students of the School.
- (xi) To select an emblem and to have a common seal for the School and to provide for the custody and use of such seal.
- (xii) To institute Fellowships, including Travelling, Fellowships, Scholarships, Studentships, Medals and Prizes in accordance with the bye-laws to be framed for the purpose.
- (xiii) To amend and receive payment of fees and other charges.
- (xiv) To appoint such committees for such purpose and with such powers as the Board of Management may think fit and to co-opt such powers on these committees as it thinks fit.
- (xv) To appoint Auditors for the ensuing year.
- (xvi) To open account or accounts of the School with one or more scheduled banks and to lay-down the procedure for operating the same.
- (xvii) To manage the finances, accounts, investments, moveable properties, business and all other administrative affairs of the School.
- (xviii) To issue appeals for funds for carrying out the objects of the Schools and consistent with the provisions of the objects clause of the School to receive grants, donations, contributions, gifts, prizes, scholarships, fees and other moneys, to give grants and donations, to award prizes, scholarships etc.

- (xix) To purchase, take on lease or accept as gift or otherwise any land or buildings or works which may be necessary or convenient for the purpose of the School, and, on such terms and conditions as it may deem fit and proper and to construct or alter and maintain any such buildings or works.
- (xx) To draw and accept and make and endorse discount and negotiate Government of India's and other promissory notes, bills and exchange cheques or other negotiable instruments.
- (xxi) To transfer or accept transfers of any moveable property on behalf of the School.
- (xxii) To advise the Holding Trustees on matters regarding acquisition management and disposal of any immovable property on behalf of the School.
- (xxiii) To provide building or buildings, premises, furniture, fittings, equipment, appliances and other facilities required for carrying on the work of the School.
- (xxiv) To execute in consultation with the Holding Trustees conveyance, transfer, Government Securities, reconveyance, mortgages, leases, bonds, licences and agreements in respect of property, moveable or immovable, belonging to the School or to be acquired for the purposes of the School.
- (xxv) To appoint, in order to execute an instrument or transact any business of the School, any person as attorney of the School, with such powers as it may deem fit.
- (xxvi) In consultation with the Holding Trustees, to raise and borrow money on bonds, mortgages, promissory notes or other obligations or securities founded or based on any of the properties and assets of the School or without any securities and upon such terms and conditions as it may think fit and to pay out of the funds of the School, all expenses, incidental to the raising of money and to repay and redeem any money borrowed.
- (xxvii) To invest the funds of the School or money entrusted to the School in or upon such securities and in such manner as it may deem fit and from time to time transpose any investment.
- (xxviii) To maintain a fund to which shall be credited:
  - (aa) All moneys provided by the Central or State Governments or the UGC.
  - (ab) All fees and other charges received by the School.

- (ac) All moneys received by the School as grants, gifts, donations, benefactions, bequest or transfers and,
- (ad) All moneys received by the School in any other manner or from any other source.
- (xxix) To deposit all moneys credited to the fund in scheduled banks or to invest them in consultation with the Finance Committee.
- (xxx) To maintain proper accounts and other relevant records and prepare Annual Statements of Accounts including the balance-sheet for every previous financial year, in such form as may be prescribed by the Regulations/Bye-laws.
- (xxxi) To constitute, for the benefit of the teaching, academic, technical, administrative and other staff, in such manner and subject to such conditions as may be prescribed by the Bye-laws such as pension, insurance, provident fund and gratuity as it may deem fit for the benefit of the employees of the School and to aid in the establishment and support of Association, Institutions, Funds, Trusts and Conveyances calculated to benefit the staff and the students of the School.
- (xxxii) To delegate all or any of its powers to any committee or sub-committee constituted by it or to the Director of the School or to any other person.
- (xxxiii) To establish, on the advice of the Academic Council, Divisions and Departments for the Academic work and functions of the School and to allocate areas of study, teaching and research to them.
- (xxxiv) To conduct examinations or tests for admission to the courses taught in the School, to conduct examinations for Degrees and Diplomas and to declare the results of such examinations and tests and to confer, grant or award Degrees, Diplomas, Certificates and other academic titles and distinctions.
- (xxxv) To establish, maintain and manage hostels for the students of the School.
- (xxxvi) To fix the emoluments and travelling and other allowances of examiners, moderators, tabulators and such other personnel appointed for examinations in consultation with the Academic Council and the Finance Committee.
- (xxxvii) To recognise and maintain control and supervision on hostels owned and managed by other agencies for the students of the School and to rescind such recognition.



## 2. ACADEMIC COUNCIL (AC)

The Academic Council shall be the principal academic body of the School and shall, subject to the provisions of the Memorandum of Association and the Rules and Bye-laws shall have the control over and be responsible for the maintenance of standards of education, teaching and training, inter-departmental co-ordination, research, examinations and tests within the School and shall execute such other powers and perform such other duties and functions as may be prescribed or conferred upon it by the rules and Bye-laws.

### Composition of Academic Council

The Academic Council shall consist of the following persons, namely:

- (i) Director of the School
- (ii) Deans of Faculties, if any
- (iii) Heads of the Departments of the School
- (iv) Professors other than the Heads of the Departments
- (v) One Reader from each department other than the Head of the Department by rotation in the order of seniority nominated by the Director of the School.
- (vi) One Lecturer from each department by rotation in the order of seniority nominated by the Director of the School.
- (vii) Not more than five persons amongst educationists of repute or persons from any other field related to the activities of the School who are not in the service of the School, nominated by the President.
- (viii) Not more than five persons who are not members of the teaching staff co-opted by the Academic Council for their specialised knowledge.

The term of members other than ex-officio members shall be two years, provided that the term of the members under (vi) and (vii) above shall be one year.

## **Powers of Academic Council**

The Academic council shall be the principal academic body of the School and shall, in addition to all other powers and duties vested in it, have the following powers and duties viz:

- (i) To exercise general supervision over the academic work of the School and to give direction regarding methods of instructions, evaluation or research or improvements in academic standards.
- (ii) To promote research within the School, acquire reports on such researches from time to time.
- (iii) To consider matters of academic interest either on its own initiative or at the instance of the Board of Management and to take proper action thereon.
- (iv) To make arrangements for the conduct of examinations in conformity with the bye-laws
- (v) To maintain proper standards of the examinations
- (vi) To recognise diplomas and degrees of Universities and other institutions and to determine equivalence with the diplomas and degrees of the School.
- (vii) To prescribe courses of study leading to degrees and diplomas of the School
- (viii) To appoint examiners, moderators, tabulators and such other personnel for different examinations.
- (ix) To suggest measures for departmental co-ordination
- (x) To make recommendations to the Board of Management on:
  - (aa) Measures for improvement of standards of teaching, training and research
  - (ab) Institution of Fellowships, Travelling Fellowships, Scholarships, Medals, Prizes etc.
  - (ac) Establishment or abolition of departments / centres and

- (ad) Bye-laws covering the academic functioning of the School, discipline, residence, admissions, examinations, award of fellowships and studentships, freeships, concessions, attendance etc.
- (xi) To appoint sub-committees to advise on such specific matters as may be referred to it by the Board of Management.
- (xii) To consider the recommendations of the sub-committees and to take such action (including making of recommendations to the Board of Management) as the circumstances in each case may require.
- (xiii) To take periodical review of the activities of the Departments / Centres and to take appropriate action (including making of recommendations to the Board of Management) with a view to maintaining and improving the standards of instruction.
- (xiv) To exercise such other powers and perform such other duties as may be conferred or imposed upon it by the rules and bye-laws
- (xv) To recommend institution of Teaching posts, Professors, Readers and Lecturers to the Board of Management.

### **3. FINANCE COMMITTEE (FC)**

#### **Composition of Finance Committee**

The finance committee shall consist of the following members:

- (a) Director of the School – Chairman
- (b) A person nominated by the President
- (c) Two nominees of the Board of Management one of whom shall be a member of the Board
- (d) A representative of the UGC
- (e) A representative of the Central Government

### **Powers of the Finance Committee**

- (a) The Finance Committee shall meet at least twice a year to examine the accounts and to scrutinise proposals for expenditure
- (b) The annual accounts and financial estimates of the School shall be placed before the finance committee for consideration and thereafter submitted to the Board of Management together with the comments of the Finance Committee for approval.
- (c) The Finance Committee shall fix limits of the total recurring expenditure and the total non-recurring expenditure of the year based on the income and resources of the School. No expenditure shall be incurred by the School in excess of the limits so fixed.
- (d) No expenditure other than that provided in the budget shall be incurred by the School without the approval of the Finance Committee.
- (e) To recommend to the Board of Management the creation of all types of posts.

### **4. ADVISORY COMMITTEE (Ad. Com.)**

For a period of first ten years after the conferment of deemed university status the institution will have an Advisory Committee under the Chairmanship of person nominated by the UGC from among members of the commission including Vice-Chairman. The Advisory Committee will include the Director of the School and its senior faculty alongwith one expert nominated by the UGC to help its academic planning and growth.

### **5. PLANNING & MONITORING BOARD (PMB)**

The Planning and Monitoring Board shall be the principal Planning Body of the School and shall be responsible for the monitoring of the development programmes of the School.

#### **Composition**

The Director of the School shall be the Chairman of the Planning and Monitoring Board. It will include all Deans of the School, the Registrar, and two outside experts, including one nominee of the UGC.

## **Powers of the Planning & Monitoring Board**

- (a) The constitution, powers and functions of the Planning and Monitoring Board shall be prescribed by the Bye-laws.
- (b) The Planning & Monitoring Board would have the right to advise the Board of Management and the Academic Council on any matter which it considers necessary for the fulfillment of the objectives of the School.
- (c) The recommendations of the Planning and Monitoring Board shall be placed before the Board of Management for consideration and approval. Proposals relating to academic matters may be processed through the Academic Council.

## **6. BOARD OF STUDIES (BoS)**

### **Composition**

- (a) There shall be one Board of Studies for each Faculty Department of the School
- (b) The Board of Studies of each Department shall consist of:
  - (i) Head of the Department/ Dean of Faculty – Chairperson
  - (ii) All professors of the concerned Academic unit
  - (iii) Four members of the teaching staff including adjunct faculty, by rotation according to seniority.
  - (iv) Not more than 2 persons to be co-opted for their expert knowledge including those belonging to the concerned profession or industry.

### **Powers**

The powers and functions of the Board of Studies shall be prescribed by the Bye-laws of the School.

## **7. MASTERS PROGRAMME ADVISORY COMMITTEE (MPAC)**

### **Composition**

- i. Dean of Faculty
- ii. Dean of TERI (drawn from Divisions contributing to the Programmes)
- iii. Chairman PEC

## **Responsibilities**

Responsible for ensuring infrastructural inputs to the programme and also for monitoring the status of the programme. Conduct yearly review to provide appropriate feedback to the PEC, Board of Studies, Academic Council, and the Planning and Monitoring Board of the School.

## **8. MASTERS PROGRAMME EXECUTIVE COMMITTEE (MPEC)**

### **Composition**

- i. Programme Coordinator – Chairman
- ii. All faculty members contributing to the Programme.

### **Responsibilities**

The Committee will be responsible for admissions, running of courses, moderation of grades and all day to day academic matters.

## **9. STUDENTS RESEARCH COMMITTEE (SRC)**

### **Composition**

- i. Board of Studies Chairperson or nominee
- ii. One expert from within the faculty
- iii. One expert from outside the faculty
- iv. Supervisor (Convenor)

### **Responsibilities**

The committee will be responsible for advising and monitoring the progress of the student

## **10. SPONSORED RESEARCH AND DEVELOPMENT BOARD (SRDB)**

### **Composition**

- i. Director /Dean – Chairperson
- ii. All Heads of Academic units or their nominees
- iii. Two outside experts one each from Government and Corporate R & D
- iv. Registrar (Secretary)

### **Responsibilities**

- i. Forecasting and anticipating national needs for manpower and technological know how.
- ii. To develop rules to carry out sponsored Research, Development and Training programmes in the School for the approval of the Academic Council.
- iii. Monitor and coordinate sponsored projects within the School as well as joint projects with collaborative Institutes.

## **11. EXECUTIVE COMMITTEE OF THE ACADEMIC COUNCIL (EC OF AC)**

### **Composition**

- i. Director – Chairperson
- ii. Deans/Heads of Departments/ Heads of Centres
- iii. Registrar (Secretary)

### **Responsibilities**

To consider any urgent matter within the purview of Academic Council, as decided by the Director.





## **Memorandum of Understanding between TERI School of Advanced Studies (TERI-SAS) and Tata Energy Research Institute (TERI)**

The Tata Energy Research Institute (TERI) is an autonomous, not-for-profit, research Institute established in 1974 in New Delhi, India to undertake and to conduct wide-ranging research development and application of non-depleting and non-polluting sources of energy (typified by solar energy, wind energy, tidal energy and thermal energy of the oceans) and research development and application of techniques aimed at achieving fuller and less-polluting utilisation of fossil and / or nuclear fuels.

In addition to research in these areas, TERI's objective has been to disseminate knowledge in these areas through various means.

and

The TERI School of Advanced Studies (TERI-SAS) was established as a Trust in 1998 at New Delhi and accorded the deemed university status in 1999 by the University Grant's Commission (UGC). TERI-SAS has been established to conduct training in energy studies, biosciences, environmental sciences, public policy and such other branches of learning as it may deem fit. In addition to training in these areas, TERI-SAS would also provide for research and for the advancement of and dissemination of knowledge through teaching and training programmes, conferences and seminars of theoretical and practical relevance for the courses of study.

whereas

Both TERI and TERI-SAS mutually agree to work together for mutual benefit towards achieving the aims and objectives of both the organizations. The parties have thereupon agreed on the following:

1. Research cooperation between TERI and TERI-SAS on mutually agreed terms and conditions.
2. Cooperative programmes with a long term perspective to be undertaken through
  - joint studies
  - exchange of research/teaching staff
  - programme information
  - seminars, symposia, conferences etc.
3. TERI agrees to provide initial corpus/financial support for the establishment/infrastructural establishments of TERI-SAS.

14/6/2001

4. TERI also agrees to provide its research and other staff to TERI-SAS for undertaking various teaching and other assignments on mutually agreed terms as joint appointments or as adjunct faculty.
5. TERI also agrees to make its infrastructure facilities available to TERI-SAS in the form of labs, field stations and other similar resources for the students and teaching staff of TERI-SAS to undertake research/practical work as per its programmes / curricula.
6. TERI-SAS agrees to compensate TERI suitably for services and facilities of TERI utilized by the School from time to time after meeting the expenses for the promotion of objects of the School as set forth in the Trust Deed.
7. To provide any other assistance to each other on mutually agreed terms and conditions so as to attain the common objective of research and dissemination of knowledge in the fields of energy, biosciences, environment and public policy etc.
8. In case of conflict that may arise on the interpretation of the terms and conditions and/or on any other issue between these two parties, the decision of the President TERI-SAS (Director-General of TERI, ex-officio) would be binding on both the parties.

This Memorandum of Understanding is signed on ..... at New Delhi by the two parties

for TERI School of Advanced Studies

for Tata Energy Research Institute

Witnesses

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**REPORT OF THE EXPERT COMMITTEE SET UP TO CONSIDER THE  
RECOGNITION OF BIORESOURCES AND BIOTECHNOLOGY DIVISION AS  
CENTRE OF RESEARCH OF TERI SCHOOL OF ADVANCED STUDIES**

The following Committee of Experts, as per the composition approved by the Academic Council of the TERI School of Advanced Studies was constituted to assess the Bioresources and Biotechnology Division of TERI for recognition as Centre of Research of the TERI School of Advanced Studies.

Prof Rup Lal - Professor, Molecular Biology Lab, Dept of Zoology,  
Delhi University

Prof P S Srivastava - Head, Centre for Biotechnology and  
Dean, Faculty of Science  
Jamia Hamdard University

Dr S C Adlakha - Consortium for International Representative

Prof Akhilesh K Tyagi - Head and Coordinator, Dept of Plant Molecular Biology  
South Campus

Dr Vibha Dhawan - Director, Bioresources and Biotechnology Division, TERI

Dr T P Singh - Director, TERI School of Advanced Studies

The members of the Committee were sent information on the Bioresources and Biotechnology Division of TERI, a copy of which is enclosed as Annexure 1.

The Committee met on 25<sup>th</sup> May 2001 at 1100 hours in the Board Room of TERI.

The following members attended the meeting :-

Dr T P Singh, Chairman & Convenor

Dr Rup Lal

Dr P S Srivastava

Dr Vibha Dhawan - Director, Bioresources and Biotechnology Division, TERI

Prof Subhash Chander - Special Invitee

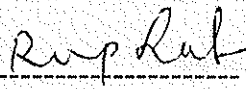
Dr S C Adlakha and Prof Akhilesh Tyagi regretted their inability to attend.


Dr Vibha Dhawan, Director, Bioresources and Biotechnology Division, TERI made a presentation on the Bioresources and Biotechnology Division, a copy of which is enclosed as Annexure 2. The presentation was followed by a visit to the laboratories of the Division.

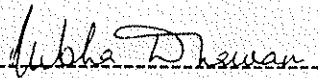
After the visit, the Committee discussed the issue of recognition of the Bioresources and Biotechnology Division of TERI as Centre of Research of the TERI School of Advanced Studies taking into account the following parameters :

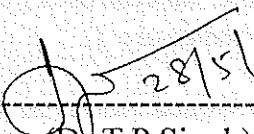
- (a) Qualifications and number of Research professional staff within the Bioresources and Biotechnology Division
- (b) Quality of research work being undertaken by the Research professional staff of Bioresources and Biotechnology Division
- (c) Infrastructure facilities available in the laboratories of the Bioresources and Biotechnology Division for undertaking doctoral research.

The Committee finds the professionals, the quality of their work and the infrastructure facilities available in the laboratories of the Bioresources and Biotechnology Division are comparable to the best research department in the University system. In view of these findings, the Committee recommends that the Bioresources and Biotechnology Division of TERI be recognised as a Centre of Research within TERI School of Advanced Studies.

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(Dr Rup Lal)

2.   
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(Prof P S Srivastava)

3.   
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(Dr Vibha Dhawan)

4.   
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(Dr T P Singh)

Annexure I

S.No.	Name of TERI's professionals with Ph.D degree and 3 years of post doctoral experience	Area of Research	Ph.D thesis work supervision in the area		Thesis in Progress	Publications in Refereed Journals		Major facilities available in the area for carrying out doctoral research:	Number and names of sponsored projects of three four years duration in which doctoral level work is possible (Details of projects are in Annexure I)	Maximum number of students for which funds and facilities can be earmarked for carrying out doctoral work during the year 2001-2002
			Thesis Completed	Thesis in Progress		International	National			
1	Dr. Vibha Dhawan	Plant Tissue Culture	1	--	--	10	7	Tissue culture room, Growth room, Laminar flow cabinet, Autoclave, Electronic balance, Cold room, Incubator Shaker, Hardening facility, Greenhouse, Polyhouse, Nursery	1	4
2	Dr. Sanjay Saxena	Plant Tissue Culture	--	--	--	3	--		2	
3	Dr. P.S.S.V.Khan	Plant Tissue Culture and Plant Physiology	--	--	--	7	4		1	
4	Dr. M.S. Lakshmi Kumaran	Plant Molecular Biology and Genetic Engineering	7	3	3	27	5	Tissue culture room, Growth room, Laminar flow cabinet, Autoclave, Centrifuges, Microfuge, Water baths, Refrigerated centrifuge, Ultra centrifuge, Ultra low freezer, Lyophiliser, Electronic balance, Cold room, Incubator Shaker, Radioactive facility, Scintillating Unit, DNA sequencing apparatus, Gel electrophoresis apparatus, Gel documentation unit, PCR machine	4	3
5	Dr. Abha Agnihotri	Plant Tissue Culture, Crop Improvement	--	--	--	14	3	Laminar flow cabinet, Seed germinator, Table Top Centrifuges, Microfuge, Refrigerated centrifuge, Ultra centrifuge, Ultra low freezer, Lyophiliser, Electronic balance, pH meter, Olympus microscope with Camera attachment, Spectrophotometer, Oven, Multiple Soxhlet apparatus, Incubator Shaker, Gas chromatograph, HPLC, NIR, Autoclave, Media preparation room and lab facility, Tissue culture room, Controlled Growth room, Cold room, Field facility, etc.	2	2
6	Dr. Nutan Kaushik	Bioprospecting, Plant Production	--	--	--	12	4	Chromatograph, HPLC, NIR, spectrophotometer, Water baths, Refrigerated centrifuge, Ultra centrifuge, Ultra low freezer, Lyophiliser, Electronic balance, pH meter, Olympus microscope with Camera attachment, Controlled Growth room, BOD, Lab facility for natural product chemistry and insect bioassays, Autoclave, Table Top Centrifuges, Microfuge, Cold room, Multiple Soxhlet apparatus, Insect culture room, Shaker, field facility.	2	2
7	Dr. Ashok Choudhury	Genetic Transformation of Plants	--	--	--	5	2	Tissue culture room, Growth room, Laminar flow cabinet, Autoclave, Centrifuges, Microfuge, Water baths, Refrigerated centrifuge, Ultra centrifuge, Ultra low freezer, Lyophiliser, Electronic balance, Cold room, Incubator Shaker, Radioactive facility,	2	2

8	Dr. Banwan Lal	Microbial Biotechnology / Microbial Diversity	---	1	7	5	1	4	Scintillating Unit, DNA sequencing apparatus, Gel electrophoresis apparatus, Gel documentation unit, PCR machine	1	4	
9	Dr. Abh Adholeya	Mycorrhiza	4	4	23	7	4	4	Centrifuge GC, Spectrophotometer, Sequencing apparatus, Ice machine, Ultra centrifuge, Liquid Scintillation Counter, Anaerobic chamber, Lyophilizer, Automated Gene Sequencer 310, Bioreactor, PCR (2), Gel Documentation System, Shakers (6), Deep freezers (-20, -85°C)	4	2	
10	Dr. N Ramesha	Microbial Biotechnology	---	---	2	3	---	3	All facility related to microbiology, molecular biology and nutrient analysis Analytical instruments such as GC, HPLC, Spectrophotometer. * Microbiology Instruments: Inoculation chambers, incubation facility, incubated shakers, autoclave, Microscopes, Fermenter, Centrifuge, Ultrasonic cell disrupters, etc. * Molecular Biology instruments: PCR machine, ABI Prism Automatic as well as Manual sequencer, Hybridization chamber, water bath with and without shakers, Ultra centrifuge, etc. * General instruments: Rotary evaporator, electronic balance, liquid scintillation counter, lyophilizer, ice machine, etc.	1	1	
11	Dr. J S Rawat	<ul style="list-style-type: none"> <li>■ Tree Physiology</li> <li>■ Cloning of Trees</li> <li>■ Joint Forestry management</li> <li>■ Climate Change</li> </ul>	---	---	20	3	---	3	Analytical laboratory, Mist Chamber, Shade house, clonal nursery, Field Station	2	2	
12	Dr. S P Banerjee	Land and soil resource management - Eco-restoration	None	NA	---	---	---	---	Required facilities are available	None		One only under the present situation, provided the candidate fulfills either item 1 or 2 of the Categories of Admission contained in the Information Brochure 2001/2002 of TERI-SAS

ANNEXURE 1.1

Details of the projects for TERI-SAS

S. No.	Name	Project entitled	Funding Agency	Duration
1.	Dr. Banwari Lal	Microbial diversity of crude oil spill degrading micro-organism	DBT	Five years (From Nov 1999 to Nov 2004)
2.	Alok Adholeya	<ul style="list-style-type: none"> <li>Indo Swiss Programme on Mycorrhiza</li> <li>2. BOF SLAG project from DBT</li> </ul>	<ul style="list-style-type: none"> <li>SDC/DBT</li> <li>DBT</li> </ul>	<ul style="list-style-type: none"> <li>4 years (Till 2004)</li> <li>3-4 years (Till 2004)</li> </ul>
3.	N Ramesha	Bioremediation of pesticides contaminated soils and its effect on soil functionality	SDC and DBT	Three years
4.	Vibha Dhawan	Micropropagation Technology Park	DBT	Four years
5.	Sanjay Saxena	Regeneration and mass propagation of high value medicinal plant species by tissue culture	ICAR	Three years
6.	P S S V Khan	'Developing micropropagation protocol for commercial potential cultivars of walnut'	APEDA	Three years ( R&D) and two years field evaluation.
7.	M S Lakshmikumaran	<ul style="list-style-type: none"> <li>Isolation of phloem specific promoters for tissue specific expression of lectin gene in plants for insect resistance</li> <li>Genetic manipulation of <i>Populus deltoides</i></li> <li>Cataloguing the diversity of forest genetic resources using molecular markers -</li> </ul>	<ul style="list-style-type: none"> <li>NATP</li> <li>DBT</li> <li>DBT</li> </ul>	<ul style="list-style-type: none"> <li>Three years</li> <li>Three years</li> <li>Three years</li> </ul>
8.	Ashok Chzudhury	<ul style="list-style-type: none"> <li>Genetic Manipulation of <i>Populus deltoides</i></li> <li>Isolation of Phloem Specific Promoter for Tissue Specific Expression of Lectin Genes in Plants for Insect Resistance</li> </ul>	<ul style="list-style-type: none"> <li>DBT</li> <li>NATP</li> </ul>	<ul style="list-style-type: none"> <li>Eight year project (till 2006)</li> <li>To be continued in Xth plan till 2007</li> </ul>
9.	Abha Agnihotri	<ul style="list-style-type: none"> <li>Indo-UK collaboration on oilseed crops</li> <li>Biparental mating and establishment of dihaploid culture for quality improvement in <i>B.jurcea</i></li> </ul>	<ul style="list-style-type: none"> <li>DFID India- ICAR</li> <li>ICAR</li> </ul>	<ul style="list-style-type: none"> <li>Three years</li> <li>Three years</li> </ul>
10.	Nutan Kaushik	<ul style="list-style-type: none"> <li>Bioprospecting of the plants of family Myrtaceae for Pesticidal properties</li> <li>Biochemical evaluation of Neem germplasm for cataloging and value addition</li> </ul>	<ul style="list-style-type: none"> <li>DBT</li> <li>NOVODB, Gurgaon.</li> </ul>	<ul style="list-style-type: none"> <li>Five years 5 (started in 1997)</li> <li>Three years (started in 1999)</li> </ul> <p>Both the projects have high probability of getting extension for another 2-3 years.</p>
11.	S P Banerjee			
12.	J S Rawat	<ul style="list-style-type: none"> <li>Clonal project for Delhi Forest Department</li> <li>Joint Forest Management Project</li> </ul>	<ul style="list-style-type: none"> <li>Delhi Forest Dept.</li> <li>Winrock International India</li> </ul>	<ul style="list-style-type: none"> <li>Two-Three years</li> <li>Two-Three years</li> </ul>

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the integrity of the financial system and for the ability to detect and prevent fraud.

2. The second part of the document outlines the specific requirements for record-keeping, including the need to maintain original documents and to keep copies of all supporting documents. It also discusses the importance of ensuring that records are accessible and retrievable.

3. The third part of the document discusses the consequences of non-compliance with the record-keeping requirements. It notes that failure to maintain accurate records can result in the suspension of the individual's license to practice and may also result in the imposition of civil and criminal penalties.

4. The fourth part of the document discusses the importance of ensuring that records are protected from loss, theft, and destruction. It notes that individuals should take appropriate measures to ensure that their records are stored in a secure and protected environment.

5. The fifth part of the document discusses the importance of ensuring that records are accurate and complete. It notes that individuals should take appropriate measures to ensure that all transactions are properly recorded and that all supporting documents are properly maintained.

6. The sixth part of the document discusses the importance of ensuring that records are accessible and retrievable. It notes that individuals should take appropriate measures to ensure that their records are stored in a manner that allows them to be easily accessed and retrieved.

7. The seventh part of the document discusses the importance of ensuring that records are maintained for the appropriate period of time. It notes that individuals should take appropriate measures to ensure that their records are maintained for the period of time required by law.

8. The eighth part of the document discusses the importance of ensuring that records are properly disposed of. It notes that individuals should take appropriate measures to ensure that their records are properly disposed of in a secure and protected manner.

9. The ninth part of the document discusses the importance of ensuring that records are properly audited. It notes that individuals should take appropriate measures to ensure that their records are properly audited by a qualified professional.

10. The tenth part of the document discusses the importance of ensuring that records are properly reviewed. It notes that individuals should take appropriate measures to ensure that their records are properly reviewed by a qualified professional.

11. The eleventh part of the document discusses the importance of ensuring that records are properly stored. It notes that individuals should take appropriate measures to ensure that their records are stored in a secure and protected environment.

12. The twelfth part of the document discusses the importance of ensuring that records are properly indexed. It notes that individuals should take appropriate measures to ensure that their records are properly indexed for easy access and retrieval.

13. The thirteenth part of the document discusses the importance of ensuring that records are properly maintained. It notes that individuals should take appropriate measures to ensure that their records are properly maintained in a secure and protected environment.

14. The fourteenth part of the document discusses the importance of ensuring that records are properly reviewed. It notes that individuals should take appropriate measures to ensure that their records are properly reviewed by a qualified professional.

15. The fifteenth part of the document discusses the importance of ensuring that records are properly stored. It notes that individuals should take appropriate measures to ensure that their records are stored in a secure and protected environment.

16. The sixteenth part of the document discusses the importance of ensuring that records are properly indexed. It notes that individuals should take appropriate measures to ensure that their records are properly indexed for easy access and retrieval.

17. The seventeenth part of the document discusses the importance of ensuring that records are properly maintained. It notes that individuals should take appropriate measures to ensure that their records are properly maintained in a secure and protected environment.

18. The eighteenth part of the document discusses the importance of ensuring that records are properly reviewed. It notes that individuals should take appropriate measures to ensure that their records are properly reviewed by a qualified professional.

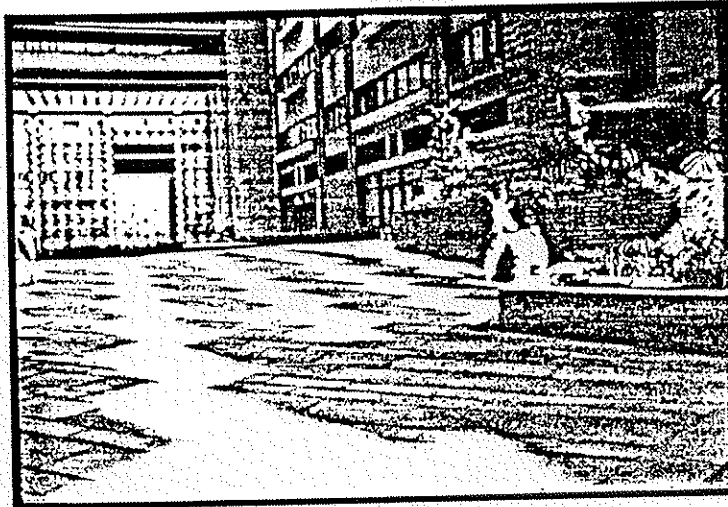
19. The nineteenth part of the document discusses the importance of ensuring that records are properly stored. It notes that individuals should take appropriate measures to ensure that their records are stored in a secure and protected environment.

20. The twentieth part of the document discusses the importance of ensuring that records are properly indexed. It notes that individuals should take appropriate measures to ensure that their records are properly indexed for easy access and retrieval.

21. The twenty-first part of the document discusses the importance of ensuring that records are properly maintained. It notes that individuals should take appropriate measures to ensure that their records are properly maintained in a secure and protected environment.



**Welcome to TERI!**



**Bioresources and Biotechnology Division**

**• DIRECTOR**

**– Area Convenors**

- Microbial Biotechnology
- Centre for Mycorrhizal Research
- Plant Biotechnology
- Plant Tissue Culture
- Forestry/Biodiversity

**Approx. 52 ongoing projects, sponsored by the followings**

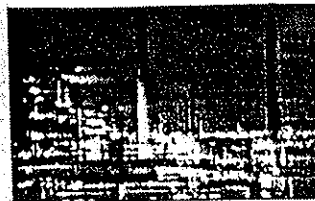
- Department of Biotechnology
- Oil Refineries
- Oil India Ltd.
- Forest Departments
- Food Processing Industry
- NATP
- ONGC
- NTPC
- Sugar Industry
- ICAR
- SDC

## **Microbial Biotechnology**

### **MAJOR AREAS OF RESEARCH**

- Bioremediation of Crude Oil spills and treatment of Oily sludge using microbes.
- Microbial enhanced oil recovery and removal of paraffins from oil wells.
- Biobleaching of paper pulp using xylanase enzyme.
- Assessment and documentation of Microbial diversity in soil contaminated with organic pollutants.
- Bioremediation of pesticides contaminated oil.

## Challenges for Oil Refineries

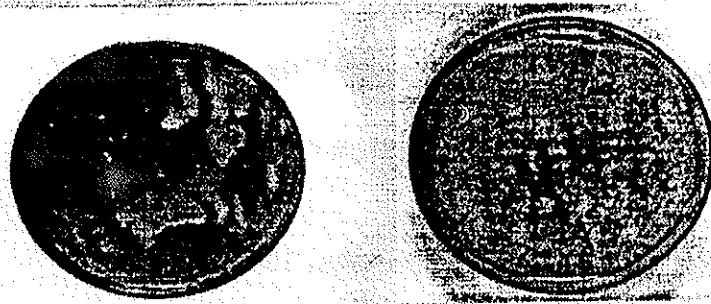


- Oil refineries unavoidably generate Oily sludge.
- More than 20,000 MT of Oily sludge is generated per annum.
- Storage cost of sludge is around Rs. 1500/- to Rs. 2000/- per tonne.

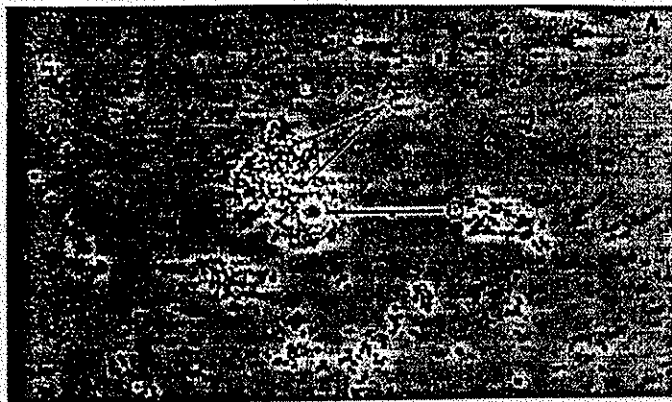
## Oilzapper: Biotechnological Approach To Manage Crude Oil Spill And Oily Sludge



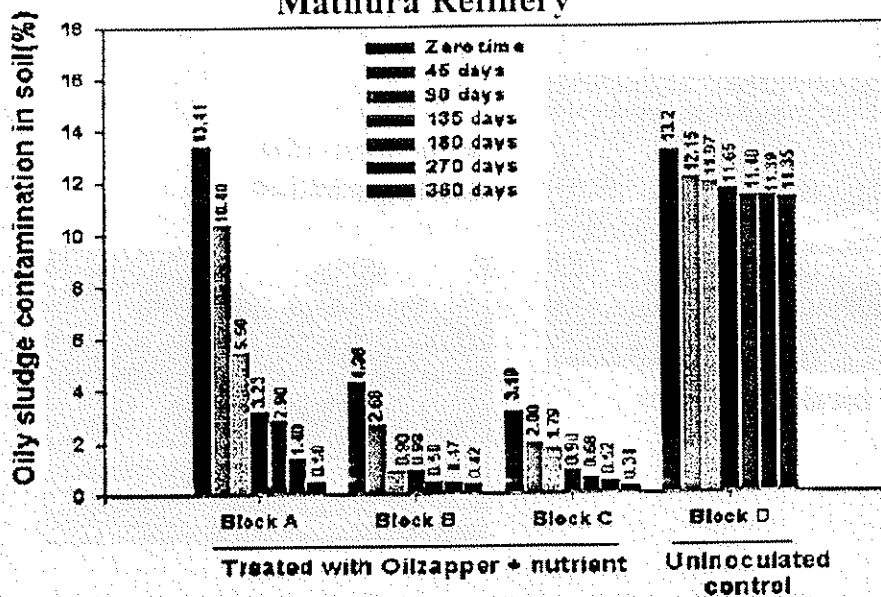
**Oily sludge degradation on Agar plates by *Acinetobacter baumannii***



**Crude Oil and Oily sludge degrading bacteria**



### In-situ degradation of oily sludge at Mathura Refinery



### Biodegradation of oily sludge

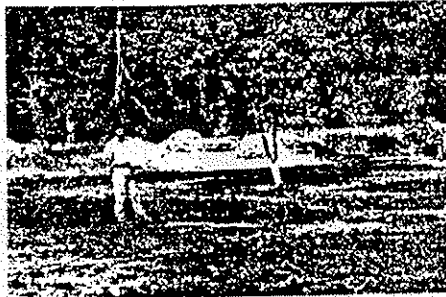


Before



After 2 months

### Biodegradation of crude oil

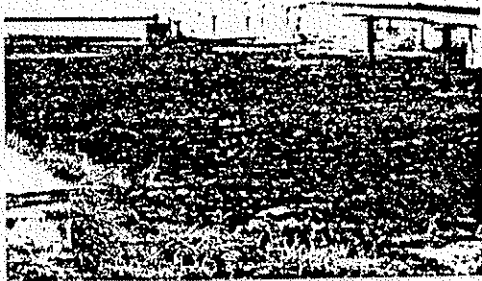


Before biodegradation

After 2 months  
biodegradation



### Bioremediation of oily sludge at BPCL Refinery, Mumbai

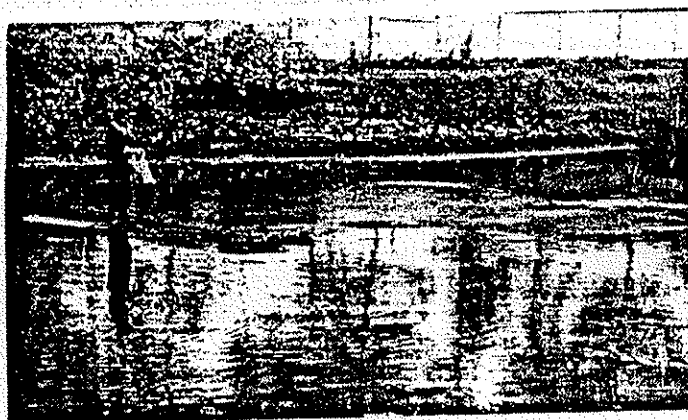


Before bioremediation of  
oily sludge

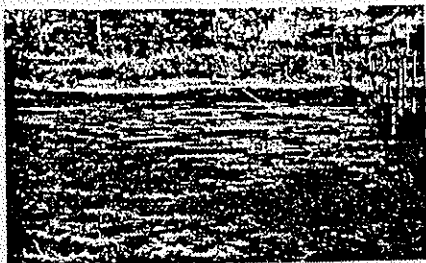
After two months of  
bioremediation of oily  
sludge



**Application of Oilzapper in pond at Duliajan, Assam**



**Clean-up of contaminated water at Duliajan, Assam**



**Before**

**After 2 months**

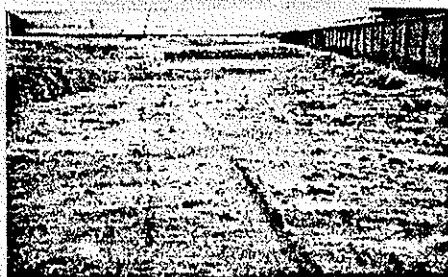


**Application of Oilzapper on sludge pit at HPCL,  
Vizag**



**Before**

**After 6 months**



**Reclamation of oil-spill site at ONGC, Jorhat**

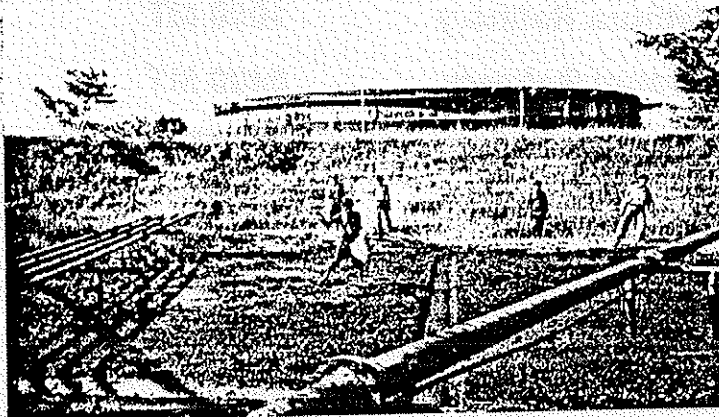




**Reclamation of oil-spill site in forest at Digboi, Assam**



**Oil-spill due to pipe-line leak  
at Digboi, Jorhat**



### Advantages of Oilzapper technology

- Oilzapper eats up the harmful compounds in oily sludge.
- Ecologically sound, natural process.
- Bioremediation can be accomplished *in situ*.
- Residues generated are usually harmless products (carbon dioxide, water and fatty acids).
- Bioremediation destroys the target chemicals.
- Treatment cost is 1/3rd of conventional methods.

### Oily sludge treated by Oilzapper at following sites

• IOCL, Mathura Refinery	1000 MT
• IOCL, Barauni Refinery	5400 MT
• IOCL, Guwahati Refinery	80 MT
• IOCL, Digboi Refinery	500 MT
• BPCL Refinery, Mumbai	300 MT
• HPCL Refinery, Visakhapatnam	350 MT
• Oil India Ltd., Duliajan	500 MT

### Treatment under progress...

- IOCL, Digboi Refinery 300 MT
- HPCL Refinery, Visakhapatnam 2000 MT
- Oil India Ltd., Duliajan 200 MT
- ONGC, Jorhat 500 MT

### Crude Oil spill sites reclaimed

- Digboi 3 acres
- ONGC, Jorhat 1 acre
- Water Pond Oil India Ltd., Duliajan

### Current users of Oilzapper technology

- IOCL
- BPCL
- HPCL
- ONGC
- Oil India Ltd.
- IPCL
- Reliance Petroleum Ltd.

**Oilzapper technology has been transferred  
for commercialization to**

- Shriram Biotechnology Ltd., Hyderabad
- Bharat Petroleum Corporation Ltd., Mumbai

**Request for Oilzapper technology  
received from countries...**

- China
- Saudi Arabia
- Kuwait
- Malaysia
- Singapore

**Centre for Mycorrhizal Research**

**MAJOR AREAS OF RESEARCH**

- Enhanced plant production and bringing more land under cultivation along with conserving soil biological health
- Reduction of dependence on chemical fertilizers through use of eco-friendly techniques
- Developing viable techniques for mass production of mycorrhiza.

### Major Projects

- **Demonstration of integrated organic farming - organo biofertilizer package using vermicomposting and VAM fungi in aromatic plants namely *Cymbopogon winterianus*, *C. martinii* and *Polianthes tuberosa***
- **Integrated Nutrient Management in poplar-eucalyptus based sustainable agroforestry system**
- **Study of factors prevailing for the selection of mycorrhizal strains in ash pond**

### Major Projects...

- **Reclaiming Ash Ponds & Immobilizing Heavy Metals by mean of mycorrhizal organo-biofertilizer**
- **Taxonomy of Mycorrhizal Fungi**
- **Introduction of arbuscular-mycorrhizal fungi (AMF) as biofertilizer and soil structure stabilizer for sustainable agriculture: Assessment of AMF functional and genetic diversity.**

## **Technology Transfer**

- **Technology has been transferred to the following industries for mass production of Mycorrhiza**
  - Cadila Pharmaceuticals Ltd. Ahmedabad
  - KCP Sugar Industries Corporation. Hyderabad

## **Flyash Research, NTPC**

### **The Problem**

Transition period of ash dump that causes air, water and soil contamination and calls for high investment for reducing fugitive dust

Reclamation efforts to green this are scanty and do not address all the problems effectively

### **Achievements**

- **The sustainable reclamation technology was developed which demonstrates reduction of fugitive dust, lower investment and reduction of heavy metal concentration in leachates.**
- **The technique is environment friendly and creates fastest greening without amendment with good earth and chemical fertilizers.**

### **Achievements**

- **The major contributors are Mycorrhizal organisms and appropriate amendments with local decomposed manure.**
- **Entrepreneurs savvy technology and potential for employment generation which address social improvement and poverty elevation**

### **International collaborations**

- University of Basel. University of Neuchatel (Switzerland): on low-input and high productivity in wheat while studying biodiversity of microorganisms
- INRA-Nancy (France), Microbial forestry group: to study heavy metal tolerance of microorganisms and development of improved isolates.

### **International collaborations**

- University of Agricultural sciences, Upsala (Sweden): for studying decomposition of waste and selection of suitable plant growth promoting microbes. Besides, CMR is helping them in capacity building in mycorrhizal research.
- Tehran: Capacity building, providing techniques for mass production
- *Besides these, there are informal collaborations with USDA-ERRC, USDA-forestry Ohio-Columbus, IRRI Philippines, INRA-Versalis (France), University of Burgogne, Dijon (France).*



## **Plant Biotechnology**

### **MAJOR AREA OF RESEARCH**

- **Nutritional Quality Improvement in Brassicas :**  
canola quality, variable fatty acids
- **Genome analysis and DNA fingerprinting:** genetic diversity, gene tagging
- **Genetic transformation :** nutritional quality, insects / pest resistance
- **Bioprospecting :** pesticidal and medicinal properties
- **Sustainable development :** demonstration of new agro-technologies

## **Major Projects**

- Improvement of quality of oilseed brassica
- Bioprospecting of the phytochemical diversity in the plants of family Myrtaceae for pesticidal activity
- Cataloguing the diversity of forest genetic resources using molecular markers
- Chemical evaluation of Neem germplasm for cataloguing and value addition
- Demonstration of new agro-technologies at farmer's field
- Isolation of phloem-specific promoter for tissue specific expression of lectin genes in plants for insect resistance

## Plant Biotechnology

Nutritional Quality Improvement in rapeseed mustard by a combination of conventional methods of plant breeding with present-day biotechnological approaches such as

*in vitro* embryo rescue, half seed technique, efficient quantitative analysis by GC (gas chromatography) and HPLC (high performance liquid chromatography)

The enhanced quality Rapeseed-Mustard strains registered at NBPGR-ICAR:

- SWARNA-TERI (OE) M21-INGR 98001; Zero erucic acid, yellow seeded, early maturing (117 days), *B.juncea*.
- PHAGUNI-TERI (OE) R03-INGR 98002; Zero erucic acid, early maturing (136 days), *B.napus*.
- SHYAMALI-TERI (OE) R09-INGR 98005; Zero erucic acid, high oleic (70.1%), *B.napus*.
- GAURAV-TERI (OO) R986-INGR 99007; Zero erucic acid, low glucosinolate (15.3  $\mu\text{m/g}$  oil free meal), early maturing (125 days), dwarf double low *B.napus*.
- GARIMA-TERI (OO) R985-INGR 99008; Zero erucic acid, low glucosinolate (12.2  $\mu\text{m/g}$  oil free meal), high oleic acid (57%), double low *B.napus*



Quality improvement of Rapeseed-Mustard

## Plant Biotechnology

- Genome analysis of *Brassica* and *Populus* sp. through molecular cloning and characterization of repetitive DNA sequences
- DNA fingerprinting by RAPD, AFLP etc. for assessment of genetic diversity and phylogenetic relationships in Brassicas, Poplars, rice and medicinal plants such as Neem, Amla and Ashwagandha
- Genome mapping in *B. juncea* and tagging of important genes for marker assisted breeding.



Genetic transformation of Poplar

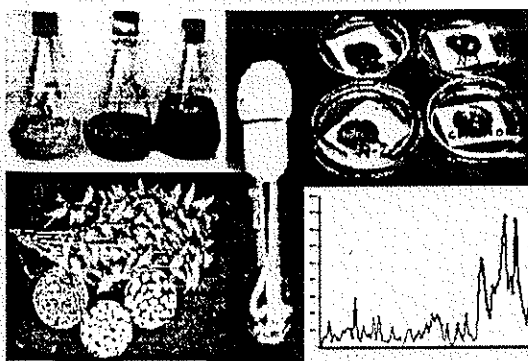


Evaluation of genetic diversity by DNA-based molecular markers

- Genetic transformation for value added traits, such as enhanced nutritional quality and resistance against insects and fungal diseases in brassicas, poplars, and potatoes.

## Plant Biotechnology

Bioprospecting of the phytochemical diversity for pesticidal/medicinal properties and phytochemical diversity of economically important plants such as neem to identify elite plants.

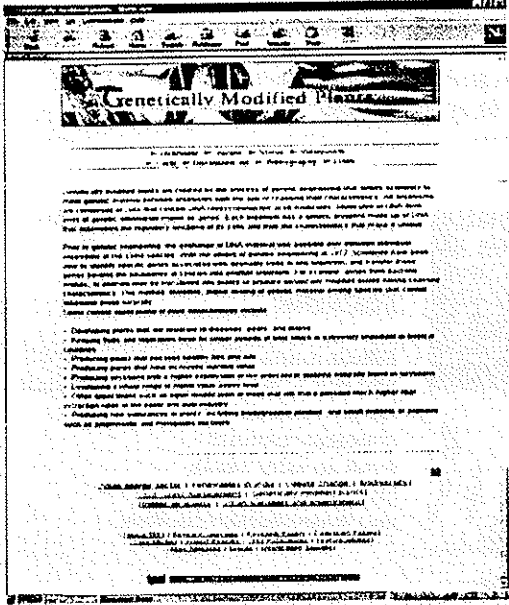


*Bioprospecting of phytochemical diversity*

- Bioassay-mediated technique for screening of plant extracts for pesticidal properties has been established
- Efficient analytical methods of GC and HPLC have been standardized for phytochemical characterizations such as fatty acids, glucosinolates, and Azadirachtin content.

## Reaching the farmer

- Identification of suitable high yielding varieties for North India
- To work out efficient package of practices for tissue culture propagated plants/new varieties
- To demonstrate judicious use of agrochemicals for pest management thus minimizing crop losses and introduction of sustainable practices to grower
- Evaluate the impact of technology package (planting material, pesticides, fertilizers) on farmer productivity and income



**Genetically Modified Plants**

Website on Policy Discussion Forum

*to subscribe: gmo@discussion.teri.res.in*

- Identifying plants that are resistant to diseases, pests, and stress
- Identifying traits and organisms from the natural world that are already present in crops or related species
- Producing plants that are more resistant to pests and diseases
- Producing plants that are more resistant to drought and salt stress
- Producing plants that are more resistant to frost and cold stress
- Producing plants that are more resistant to heat and high temperature stress
- Producing plants that are more resistant to soil salinity and alkalinity
- Producing plants that are more resistant to soil acidity and phosphorus deficiency
- Producing plants that are more resistant to soil nutrient deficiency
- Producing plants that are more resistant to soil erosion and soil loss
- Producing plants that are more resistant to soil compaction and soil degradation
- Producing plants that are more resistant to soil pollution and soil contamination
- Producing plants that are more resistant to soil erosion and soil loss
- Producing plants that are more resistant to soil compaction and soil degradation
- Producing plants that are more resistant to soil pollution and soil contamination

## Forestry and Biodiversity

### MAJOR AREA OF RESEARCH

- Participatory Natural Resource Management
- Biomass Studies
- Biodiversity Conservation
- Technical Forestry and Extension
- Training Programmes
- Climate Change
- Forest Certification

### **Forestry/Biodiversity**

- **Joint Forest Management**
- **Clonal Technology**
- **Forestry Research Centre, Gual Pahari**
- **Forest Policy Analysis**
- **Biomass Assessment Studies**
- **Training Programmes**
- **Biodiversity**

### **Major Projects...**

- **Training Programmes**
- **Farm Forestry Extension**
- **Joint Forest Management in Tamil Nadu**
- **Joint Forest Management in Haryana**
- **National Study on JFM**
- **Apex Institute for Biomass Studies**
- **Clonal Nursery**

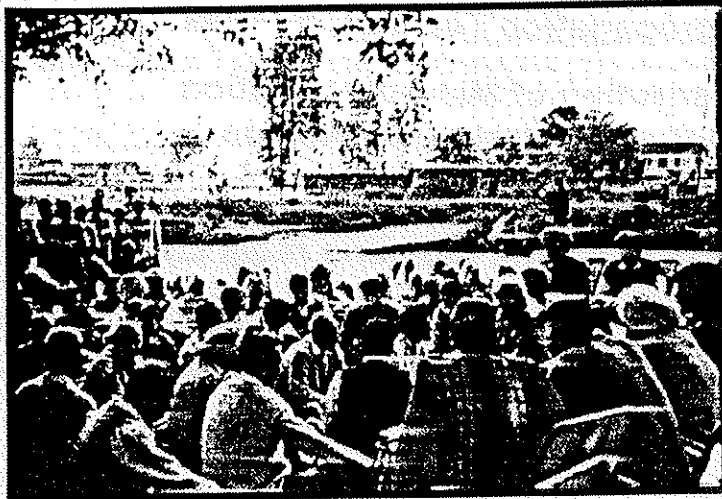
### **Major Projects...**

- **Monitoring/Evaluation of Punjab Afforestation Project assisted by OECF Japan**
- **Selected options for stabilizing GHG Emissions for sustainable development**
- **Fuelwood Study Biodiversity Planner**
- **Biodiversity Status and Strategies for conservation of rare and endangered species of Punjab**
- **Biodiversity Research Management Study**

### **Plantation evaluation studies**

- **First evaluation of projects sanctioned during IX Plan under Integrated Afforestation & Eco-Development Project Scheme**
- **First evaluation of projects sanctioned to states during the 9th plan under Area Oriented Fuelwood and Fodder Project Scheme**
- **Compilation of Impact Evaluation Studies' reports of National Watershed Development projects for Rainfed Area (NWDpra) into one Compendium**

## Joint Forestry Management



## Plant Tissue Culture

### MAJOR AREAS OF RESEARCH

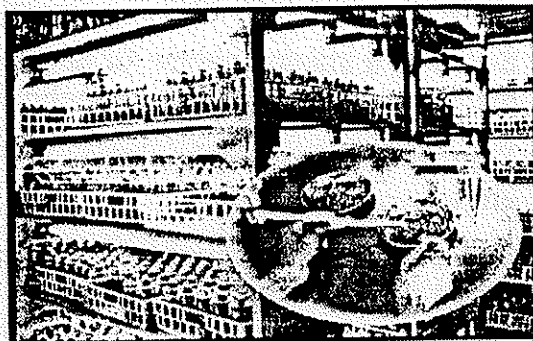
- Mass propagate various forestry and horticultural species (both fruit crops and ornamentals) through tissue culture
- Develop new micropropagation protocols for economically important plant species
- Serve as a training center for large-scale production of plants through tissue culture technology
- Transfer of proven technologies to the entrepreneurs/industry
- Serve as a technology resource center for upcoming tissue culture units

## Major Projects

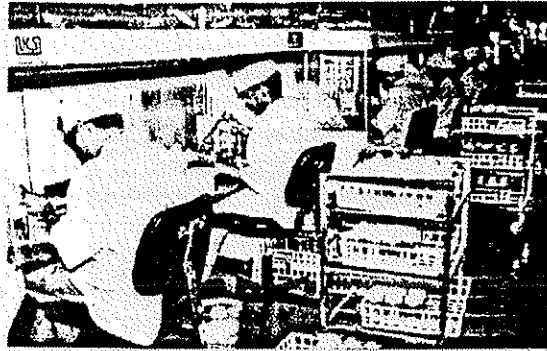
- **Micropropagation Technology Park**
- **Popularization of Micropropagation Technology in North East Region**
- ***Developing commercial micropropagation protocol of walnut (*Juglans regia* L.)***
- **Regeneration and mass propagation of high value Indian medicinal plant species by tissue culture.**



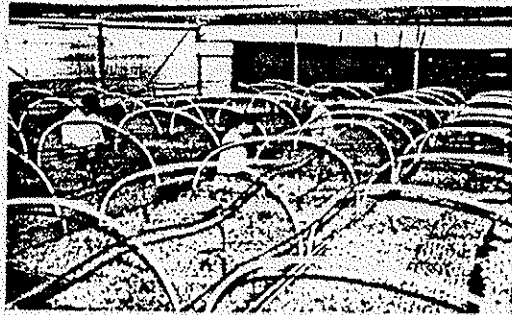
**MTP facilities at  
Gual Pahari**





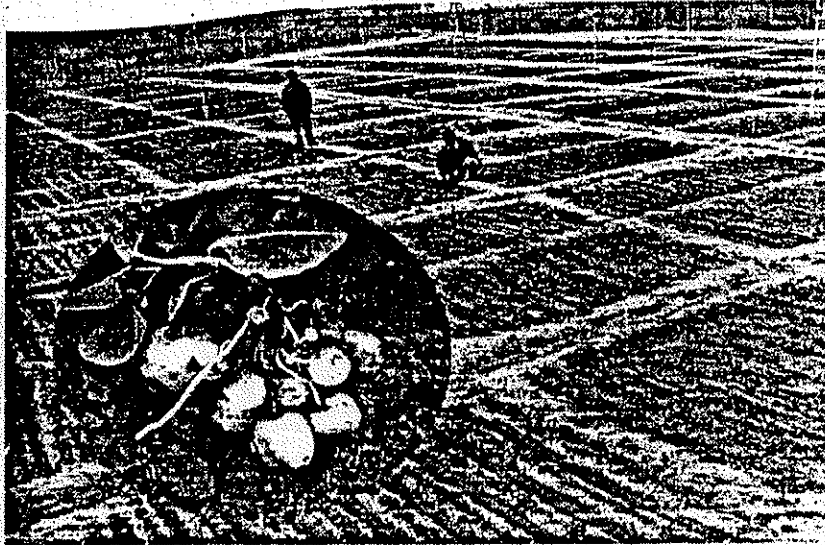


**MTP facilities at  
Gual Pahari**



**MTP facilities at  
Gual Pahari**





Potato

### Details of production from TCPP/MTP

Species	Apr. 1989 - Mar. 1997	Apr. 1997 - Apr. 2001	Total	User Agencies
<i>Anogeissus pendula</i>	431194	15154	446348	State forest departments
<i>Anogeissus latifolia</i>	107958	10574	118532	State forest departments
<i>Dendrocalamus hamiltoni</i>	0	15	15	State forest departments
<i>Dendrocalamus strictus*</i>	64549	29104	93653	State forest departments; farmers
<i>Eucalyptus spp.*</i>	894506	685291	1579797	State forest departments; farmers
<i>Populus deltoides*</i>	692301	541291	1233592	State forest departments; farmers
<i>Populus euphratica</i>	0	375	375	State forest departments

### Details of production from TCPP/MTP

Species	April 1989- Mar 1997	April 1997- April 2001	Total	User Agencies
<i>Paulownia fortunei</i>	0	61822	61822	State forest departments; farmers
Potato (Plants)	0	230216	230216	Food processing industries; farmers
Potato (Microtubers)	0	1285452	1285452	Food processing industries; farmers
Sugarcane	0	148803	148803	Farmers; Sugarmills
Strawberry	0	314096	314096	Farmers
Misc	10729	1504494	1515223	All agencies mentioned above
Misc (Ex agar)	0	521227	521227	All agencies mentioned above Exported to the Netherlands
Total	2201237	5388452	7589689	

### MTP/Satellite facilities at Guwahati

- Mass production of disease free planting material
  - Banana
  - Potato
  - Vanilla
  - Black pepper ....
  - Sugarcane
  - Strawberry
  - Orchids
- Multiplication of endangered species including medicinal plants
  - Anogeissus species
- Increasing biomass production by cloning elite trees
  - Eucalyptus
  - Populus species
  - Paulownia

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**UNIVERSITY GRANTS COMMISSION**  
**BAHADUR SHAH ZAFAR MARG**  
**NEW DELHI - 110 002**

F.3-8/90(CPP-I)

March, 2000

The Registrar  
TERI School of Advanced Studies,  
Darbari Seth Block,  
Habitat Place, Lodhi Road,  
New Delhi-110 003.

12 APR 2000

Subject : Revised Guidelines and Model MoA/Rules for declaring an Institution as  
Deemed to be University under Section 3 of the UGC Act, 1956.

Sir/Madam,

I am directed to say that the Commission has recently revised the Guidelines and the Model Memorandum of Association / Rules to be adopted by the Institutions for grant of deemed to be university status under section 3 of the UGC Act, 1956. A copy of the revised Guidelines and Model MoA / Rules is enclosed for your information and necessary action.

Your attention is invited to Clause No. 13 of the Guidelines which read as follows:-

"Admissions shall be made on an All-India basis to the identical courses in all the deemed to be universities through a common entrance test conducted either by the UGC or by an Institution / Agency identified and approved by the UGC. This shall apply also to those Institutions which have already been given the deemed to be university status."

The above matter has been further examined in the UGC Secretariat and it has been decided that the Joint Entrance Test for the professional courses, such as, Medical, Dental, Nursing, Engineering, Pharmacy, Management and Legal Education etc. for the existing deemed to be universities and such of the deemed to be universities which may come into existence at an early date, it may not be possible for the Commission to

Contd....

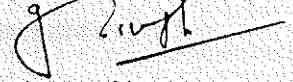
complete the necessary formalities for the academic session 2000-2001. It has accordingly been decided that the Test for the professional courses may be conducted by the UGC or any other agency designated by it from the academic year 2001-2002.

I am further to inform you that the revised Guidelines are not only operative for the new deemed to be universities but also apply to the existing deemed to be universities as well. You are accordingly requested to make necessary changes in the existing MoA / Rules keeping in view the revised Model MoA / Rules prescribed for deemed to be universities.

It will be appreciated if you will kindly inform the Commission of the changes made in the existing MoA / Rules. In case we do not hear from you within a period of two months from the date of issue of this letter, it will be presumed that you have made the necessary changes as envisaged in the revised UGC Guidelines and Model MoA / Rules.

The receipt of this letter may please be acknowledged.

Yours faithfully,



( Gurcharan Singh)  
Deputy Secretary

Encl. As above.

**Guidelines for considering proposals  
for declaring an Institution as Deemed  
to be University under Section 3 of the  
UGC Act.**

**UNIVERSITY GRANTS COMMISSION  
NEW DELHI  
2000**

1964

MEMORANDUM FOR THE RECORD

RE: [Illegible]

On [Illegible] [Illegible] [Illegible]

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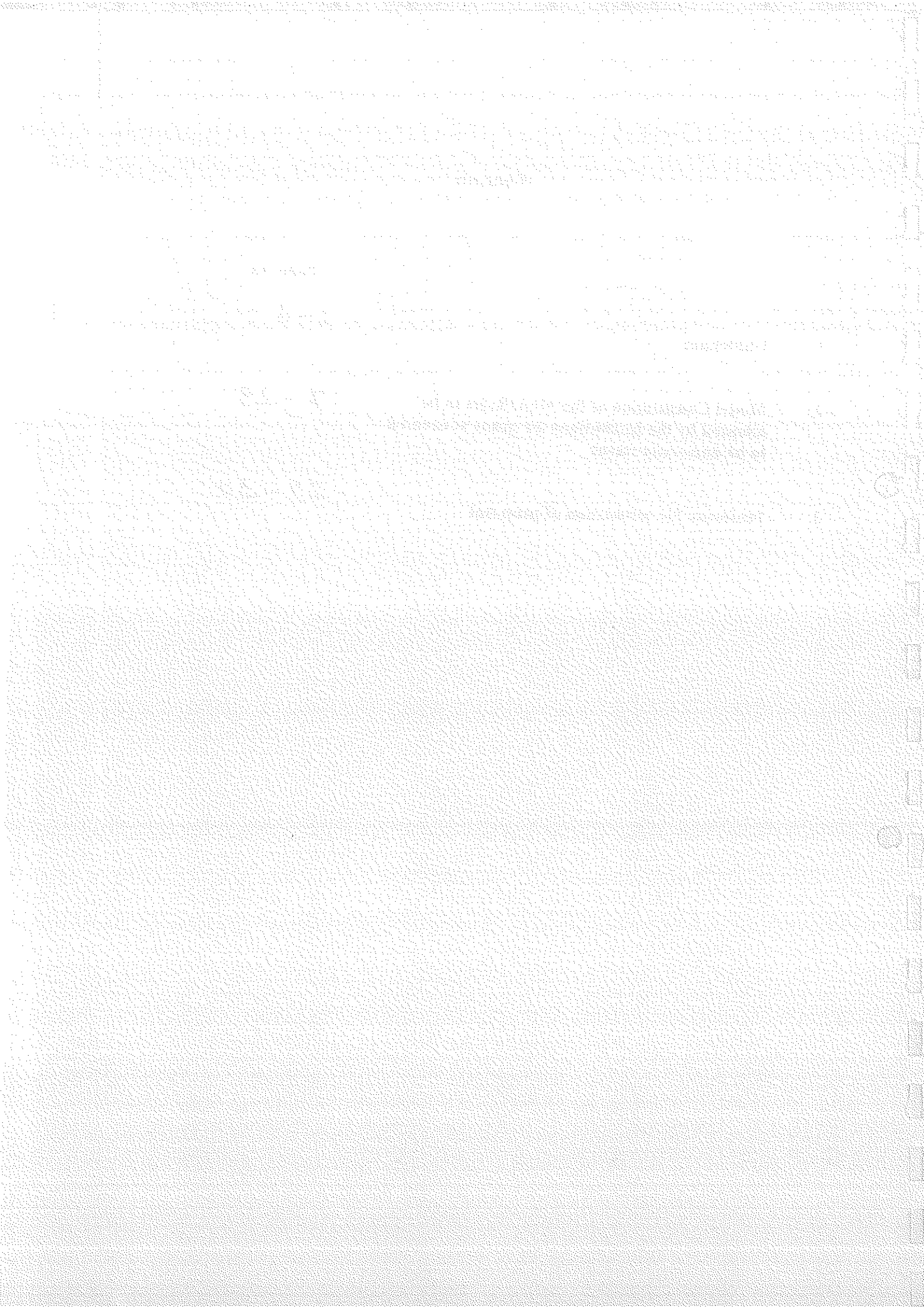
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UNIVERSITY GRANTS COMMISSION

**GUIDELINES FOR CONSIDERING PROPOSALS FOR DECLARING AN  
INSTITUTION AS DEEMED TO BE UNIVERSITY UNDER SECTION 3 OF THE  
UGC ACT**

\*\*\*\*

1. Section 3 of the UGC Act provides for declaring an institution of higher education other than a University to be deemed to be a University and when such an Institution is deemed as University, the UGC Act applied on it, as a University within the meaning of Section 2 (f) of the Act. Section 3 of the UGC Act reads as follows :

The Central Government may, on the advice of the Commission, declare, by notification in the Official Gazette, that any institution for higher education, other than a University, shall be deemed recognised to be a University for the purpose of this Act and, on such a declaration being made, all the provisions of this Act shall apply to such institution as if it were a University within the meaning of clause (f) of Section 2.

2. This provision has been made in the Act to bring under the purview of the University Grants Commission institutions which for historical reasons or for any other circumstances are not universities and yet are doing work of a high standard in specialized academic field comparable to a university and that granting of the status of a university would enable them to further contribute to the cause of higher education which would mutually enrich the institution and the university system.
3. To qualify for recognition of status as a university, the institution should have among its primary objectives, postgraduate instruction and training in such branches of learning as it may deem fit, and research for the advancement and dissemination of knowledge.
- 4(a) For the purpose of recognition as a university an institution should generally be :
  - (i) Engaged in teaching programmes and research in chosen fields of specialisation which are innovative and of very high academic standards at the Master's (or equivalent) and/or research levels. It should also have a greater interface with society through extra mural, extension and field action related programmes.
  - (ii) Making in its area of specialisation, distinct contribution to the objectives of the University education system through innovative programmes and on being recognised as a university capable of further enriching the university

system as well as strengthening teaching and research in the institution and particularly in its area of specialisation

- (iii) Competent to undertake application oriented programmes in emerging areas which are relevant and useful to various development sectors and to the society in general.
  - (iv) Institutions should have the necessary viability and a management capable of contributing to the university ideals and traditions.
- 4(b) Ordinarily, institutions affiliated to universities and which are offering only conventional degree programmes leading to B.A./B.Com./B.Sc., or M.A./M.Com./M.Sc., will not be considered for grant of deemed to be university status. However, such institution which is also offering innovative programmes, and which has adequate resources, might be considered for recognition as a university. Supplementary assistance for innovation may be considered by the UGC only in such exception cases
- 4(c) Institutions which are imparting routine type of instruction to full-time students or offering training programmes for in-service personnel, unless of high quality, would, generally, not qualify for recognition.
- 4(d) In selective cases, outstanding research institutions specialising in Social Sciences, Sciences and Technology can be considered for research degrees and highly specialised programmes at the Master's level.
- 4(e) In case the institution is offering a degree/diploma, in professional subject(s), the academic programme(s) should be recognised by the concerned statutory authority e.g. AICTE, MCI, DCI, CCH, INC. etc. before it applies for a deemed to be university status under Section 3 of the UGC Act. This shall, however, not apply to de-novo institutions in the emerging areas with the promise of excellence, not yet fulfilling the prescribed guidelines of the UGC whose case will be considered for a provisional status for a deemed to be university.

## 5. Objectives

The objectives for which the Institute is established are :

- (i) to provide for instruction and training in such branches of learning as it may deem fit.
- (ii) to provide for research and for the advancement of and dissemination of knowledge.
- (iii) to undertake extra mural studies, extension programmes and field outreach activities to contribute to the development of society.

- (iv) to do all such other acts and things as may be necessary or desirable to further the objects of the Institute
- 6 The institution should be registered under the Societies Registration Act or Public Trust Act and should formulate a Memorandum of Association and Rules based on the Model prescribed by the UGC
- 7 At the time of making the proposals, the institution should have been in existence for a period of 10 years and demonstrated a satisfactory track record, as detailed in clause 4 above
- 8 Institutions which are notified under Section 3 of the UGC Act shall continue to receive the funds for their maintenance and development expenditure, including the salary and non-salary increases in expenditure and the future expansion, from the same funding sources prior to such recognition, and supplement them by raising their own internal resources.
- 9 The institute at the time of making the proposal should have provision of adequate infrastructure facilities as following
- (a) **Buildings**
- (i) Administrative 1000 sq. mts
  - (ii) Academic including library building 3000 Sq. Mts.
  - (iii) Some teachers residences and a faculty guest house for at least 10 persons.

The infrastructure requirements would not be uniform in all cases. The minimum requirements suggested in (a)(i) and (iii) may be kept in view by the Committee, making an on the spot examination of the proposal for recognition as a university. It would be imperative that the needs of the institution are related to the size and activities of the institution, the necessary infrastructure, including for instance, laboratory, music room, auditorium, specific rooms for performing arts etc.

- (b) Ordinarily, the institution should have created at least five departments with every department having in position a minimum staff of one Professor two Readers and adequate number of lecturers along with necessary supporting staff.
- (c) The financial viability as demonstrated by the income/expenditure statement and balance sheet and audited accounts of the institution during the preceding five years.
- (d) Equipments, Books and Journals

This should be commensurate with the size and activities of the institution but in no case it shall be less than Rs.50 lakhs.

10. In the case of institutions not financed by the Government (Central/State), the following corpus fund would be required -

- |   |                |
|---|----------------|
| (a) Institutions conducting programmes in Engineering/<br>Technology and Medicine   | Rs.5.00 crores |
| (b) Institutions conducting programmes in Sciences, Social<br>Sciences & Humanities, performing Arts and Fine<br>Arts and other Professional Programmes | Rs.3.00 crores |
| (c) Institution conducting both types of programmes will<br>have as in (a) above.   |                |

11. The movable and immovable assets should legally vest in the name of the institution seeking recognition as a deemed to be university.

12. The Institution and its admissions will be open to all persons regardless of race, religion, cast or creed and the area/place of residence in India. No condition shall be imposed as regards any religious belief either in admitting or appointing the teachers/staff. However, admission of foreign students shall be governed as per the guidelines/directions of the UGC.

Provided that an institution which has a legal entity as a minority institution may reserve 50 per cent of the seats for those students who come under its minority status.

13. Admissions shall be made on an All-India basis to the identical courses in all the deemed to be universities through a common entrance test conducted either by the University Grants Commission or by an Institution/Agency identified and approved by the UGC. This shall apply also to those Institutions which have already been given the deemed to be university status.

14. Admission to the various professional courses, such as, Medical, Dental, Nursing, Engineering, pharmacy, Management and Legal Education etc. shall be made on the basis of regulations framed by the UGC in consultation with the respective statutory Councils. The fee structure will also be the same as laid down in the respective regulations.

15. It would be permissible for the deemed to be university to open centres in its own area or in places other than its headquarters. For this purpose, the following parameters will be followed -

- (i) The Centre(s) shall be set up with the prior approval of the UGC and that of the State Government where the Centre(s) is/are proposed to be opened.
  - (ii) Proposal for starting various academic courses shall have the approval of the UGC.
  - (iii) Admission procedure and fee fixation for students shall be in accordance with the norms/rules prescribed by the UGC.
  - (iv) The over-all performance of the Centre shall be monitored annually by the UGC whose directions for management, academic development and improvement shall be binding.
  - (v) If the functioning of the Centre does not fulfil UGC's directions and recommendations and it remains unsatisfactory for three years, as decided by the UGC on the basis of the recommendations of the Monitoring Review Committee, the Deemed University shall be instructed by the UGC to close down the Centre in which event the liabilities of the Centre shall be taken over by the concerned Deemed University.
  - (vi) It would be permissible for the Deemed University to open academic Centre(s) not only anywhere in India but also in any of the foreign countries. The academic centre(s) in the foreign countries shall be opened only after the due permission from the Government of India/UGC and also that of the Government of the host country.
  - (vii) In case of foreign campus/campuses, the remittance of funds shall be governed by the Reserve Bank of India rules.
16. De-novo institutions in the emerging areas with the promise of excellence, not yet fulfilling the prescribed guidelines of the UGC, may be inspected by a Committee of the UGC for recommending to the Government of India for granting them provisional status of deemed to be university, subject to its confirmation after five years on the basis of performance report of the UGC Review Committee done annually for a five year period.

The conditions prescribed under clauses 3, 4 (a) (i), 4 (e), 7 and 9(a) to (d) shall, however, not apply to De-novo Institutions in the emerging areas with the promise of excellence, not yet fulfilling the prescribed guidelines of the UGC.

17. In case, the institution, considers that it fulfills the minimum eligibility criteria in terms of objectives, programmes, faculty, infrastructural facilities, financial viability, etc., as laid down by the Commission from time to time, for considering proposals for recognition as a deemed to be university, it may send the proposal, in triplicate in the prescribed Proforma to the Secretary, Ministry of Human Resource Development, Department of Education, Shastri Bhavan, New Delhi-110 001. The Ministry will forward the proposal to the UGC for its recommendations. The UGC, where applicable, will forward the proposal to the AICTE, MCI or any other relevant statutory authority for their approval of the academic programme(s). The UGC will obtain the views of the State Government on the proposal. Thereafter, the UGC shall send an Expert Committee for inspection of the Institution. The report of the Committee shall be examined by the Commission and thereafter the Commission shall submit its recommendations to the Ministry for its consideration.



## TERI SCHOOL OF ADVANCED STUDIES

### TRUST DEED

THIS INDENTURE made this Nineteenth day of August, One Thousand Nine Hundred Ninety Eight between TATA ENERGY RESEARCH INSTITUTE, an Institute registered under the Societies Registration Act 1860 (Punjab Amendment) Act 1957 as applicable in the Delhi State and having its Registered Office at Darbari Seth Block, Habitat Place, Lodi Road, New Delhi 110 003 and the principal place of business in India being settler of this Trust represented by Dr R K Pachauri duly authorised by Governing Council (hereinafter called "The Institute") on one part AND

1. Dr R K Pachauri
2. Dr Ajay Mathur
3. Lt Col R P Singh (Retd.)

(hereinafter called "The Trustees" which expression shall, where, the context so admits or requires, include the aforesaid and the other trustees of the trust herein mentioned for the time being appointed as hereinafter provided) of the other part.

#### **WHEREAS**

- (a) The Institute is desirous of establishing an educational Trust (hereinafter called 'School') to carry out the objects stated hereafter.
- (b) The Trustees have at the request of the Institute agreed to act as Trustees of the School in accordance with the terms of these presents and the Rules.

#### **NOW THIS INDENTURE WITNESSETH as follows:-**

1. An educational Trust entitled "TERI School of Advanced Studies" is hereby established and constituted as on the Nineteenth day of August, One Thousand Nine Hundred and Ninety Eight hereby declared shall be irrevocable save with the consent of all the beneficiaries. No moneys belonging to the School in the hands of the Trustees shall be recoverable by the Institute nor shall the Institute have any lien or charge of any description on the School except for bonafide compensation for services / facilities of the Institute utilised by the School from time to time.
2. The School shall be vested in Trustees who shall not be less than three in number. The Trustees shall be appointed and vested with legal powers and duties. The Trustees named herein as parties of the other part shall be the first Trustees.

### 3. **Objects**

The Objects for which the School is established are :

- (a) To provide for institution and training in energy studies, biosciences, environmental sciences, public policy and other such branches of learning as it may deem fit.
- (b) To provide for research and for the advancement of and dissemination of knowledge.
- (c) **To undertake extra mural studies, extension programmes and field outreach activities to contribute to the development of society”**
- (d) To do all such other acts and things as may be necessary or desirable to further the objects of the School. These may include, inter alia,
  - (i) Establishment of and participation in collaborative activities with other educational institutions in and outside the country;
  - (ii) To sponsor and organize teaching and training programmes, conferences and seminars on subjects of theoretical or practical relevance to the courses of study; and
  - (iii) To establish, acquire and mention facilities such as offices, residential accommodation for staff, hostel for students etc.

### 4. **Powers and Functions of the Institute**

**To carry out the above objects and for the management and properties of the Institute, the Institute shall have the following powers :**

- (a) **To establish courses of study and research and to provide instruction in such branches of study as the Institute deems appropriate for the advancement of learning and dissemination of knowledge in such branches.**
- (b) **To confer degrees and to grant Diplomas / and or Certificates to persons who have satisfactorily completed the approved courses of study and / or research as may be prescribed and shall have passed the prescribed examinations.**
- (c) **To institute and award visitorships, fellowships, exhibits, prizes and medals.**

### 5. **Interpretation of the Objects**

The School is established for public benefit and accordingly the objects of the School as set forth above will be interpreted and restricted to mean such objects and purposes as are regarded in law to be a public charitable in nature.

**6. School open to all**

- (a) The School shall be open to all persons of whatever race, religion, creed, caste, class **or geographical area of the country**. No test or condition shall be imposed as to religious belief or **occupation** in admitting or appointing members, students, teachers, workers or in any other connection whatsoever.
- (b) No capitation fee shall be charged in any form in consideration for admission.
- (c) Fees to be prescribed shall be as recommended **as per regulations prescribed under UGC Act, Section 26(1)(i)** by a Committee of Experts to be appointed in consultation with the UGC.
- (d) No benefactories shall be accepted by the School which in its opinion involves conditions and obligations opposed to the spirit and subjects of this section.

**7. Admission**

**Admissions shall be made on an all India basis to the identical courses in all deemed to be universities through a common entrance test conducted either by the University Grants Commission or by an Institution / Agency identified and approved by the UGC.**

**8. Income and Property of the School to be applied for the Objects only.**

For income and property of the School, however, derived, shall be applied towards the promotion of the objects thereof as set forth in this Trust Deed.

**9. Income and Property of the School not to be paid or transferred by way of Profit.**

No portion of the income and property of the School shall be paid or transferred directly or indirectly by way of profit, to the persons, who at any time, or have been members of the School or to any of them, provided that nothing herein contained shall prevent the payment in good faith or remuneration to any member thereof or other person in return for any service rendered to the School or for travelling, halting and other similar charges.

**10. Management of the School**

The names and addresses and occupations of the first members of the Board of Management to whom under rules, the management of the School is entrusted till the various authorities in accordance with the rules are constituted, are given below :

<u>S.No.</u>	<u>Name</u>	<u>Address</u>
i)	Dr R K Pachauri	160 Golf Links New Delhi 110 003
ii)	Dr Ajay Mathur	83 SFS Apartments Hauz Khas New Delhi 110 017
iii)	Lt Col R P Singh(Retd)	1365 Sector 29 Arun Vihar Noida (UP)

#### **11. Review & Inspection**

The Central Government shall have the right to cause an inspection to be made of the School of Advanced Studies, its buildings, laboratories, its examinations, teaching and other work conducted or done by the School; and to cause an enquiry to be made, if considered necessary by the Central Government, in respect of any matter connected with the School.

#### **12. Appointment of new Trustees**

The statutory power of appointing new Trustees (who may be Members of the Institute or employees of the Institute or any other person) shall be vested in the Institute which shall also have power to fill up at any time any vacancy in the members of Trustees and to remove any Trustees by notice in writing to the continuing Trustees. The powers under this clause shall be exercised by the Governing Council of the Institute by passing a resolution in this regard.

#### **13. Validity**

This Deed and any variation thereto shall be governed by the laws of India and the Trust shall always be located in India.

**RULES AND REGULATIONS  
OF  
TERI SCHOOL OF ADVANCED STUDIES**

**1. Short Title**

These rules shall be called the rules of the TERI School of Advanced Studies.

**2. Address of the School**

The registered office of the School shall be situated at Darbari Seth Block, Habitat Place, Lodhi Road, New Delhi 110 003

**3. Definitions (in alphabetical order)**

In these Rules unless the context otherwise requires:

- (a) "Academic Council" means the Academic Council of the School
- (b) "Authorities" means the authorities of the School
- (c) "Board of Management" means the Board of Management of the School
- (d) "Central Government" means the Government of India
- (e) "President" means President of the School (Equivalent to Chancellor of a University)
- (f) "Director" means Director of the School (Equivalent to Vice-Chancellor of a University)

**4. Authorities of the School**

The following shall be the authorities of the School:

- (a) Board of Management
- (b) Academic Council
- (c) Planning and Monitoring Board
- (d) Finance Committee
- (e) Advisory Committee
- (f) Such other authorities as may be declared by the bye-laws to be authorities of the School

**5. Powers & composition of the Board of Management**

The Board of Management shall be the principal organ of management in the Institute. It shall be a compact and homogenous body enabling it promptly to take and implement well consultation with teachers and where necessary with

karamcharies but routine matters should be delegated to different officers with clear rules provided to them to take appropriate decisions and be responsible for the same.

**(a) Powers**

The Board of Management shall be the principal executive body of the School and shall, in addition to all powers vested in it have the following powers:

- (i) To manage and administer the revenues and properties of determine number, specifically provided for.
- (ii) To create teaching and cadres thereof as approved by the University Grants Commission and the emoluments of such posts in consultation with the Finance Committee.
- (iii) To appoint such Professors, Associate Professors, Assistant, Professors and other academic staff may be necessary on the recommendation of the Secection Committee.
- (iv) To lay down the duties and conditions of services of the Professors Associate Professors and other academic staff maintained by the School, in consultation with the Academic councils.
- (v) To provide for appointment of Visiting Fellows and Visiting Professors.
- (vi) To create administrative, ministerial and other necessary posts in terms of the cadres laid down or otherwise and to make appointment thereof in consultation with the Finance Committee.
- (vii) To grant leave of absence to the director of the School or any other officer of the School and to make necessary arrangements for carrying on the functions of the officers proceeding on leave during their absence.
- (viii) To regulate and enforce discipline among the employees of the School and to take appropriate disciplinary action, wherever necessary.
- (ix) To manage and regulate the finance, accounts, investments, property and all other administrative affairs of the School and for that purpose to appoint such agent or agents as it may deem fit.
- (x) To entertain and adjudicate upon and, if thought fit, to redress any grievances of the employees and students of the School.
- (xi) To select an emblem and to have a common seal for the School and to provide for the custody and use of such seal.
- (xii) To institute Fellowships, including Travelling, Fellowships, Scholarships, Studentships, Medals and Prizes in accordance with the bye-laws to be framed for the purpose.
- (xiii) To amend and receive payment of fees and other charges.
- (xiv) To appoint such committees for such purpose and with such powers as the Board of Management may think fit and to co-opt such powers on these committees as it thinks fit.
- (xv) To appoint Auditors for the ensuing year.
- (xvi) To open account or accounts of the School with one or more scheduled banks and to lay-down the procedure for operating the same.

- (xvii) To manage the finances, accounts, investments, moveable properties, business and all other administrative affairs of the School.
- (xviii) To issue appeals for funds for carrying out the objects of the Schools and consistent with the provisions of the objects clause of the School to receive grants, donations, contributions, gifts, prizes, scholarships, fees and other moneys, to give grants and donations, to awards prizes, scholarships etc.
- (xix) To purchase take on lease or accept as gift or otherwise any land or buildings or works which may be necessary or convenient for the purpose proper and to construct or alter and maintain any such building or works.
- (xx) To draw and accept and make and endorse discount and negotiate Government of India's and other promissory notes, bills and exchange cheques or other negotiable instruments.
- (xxi) To transfer or accept transfers of any moveable property on behalf of the School.
- (xxii) To advise the Holding Trustees on matters regarding acquisition management and disposal of any immovable property on behalf of the School.
- (xxiii) To provide building or buildings, premises, furniture, equipment, appliances and other facilities required for carrying on the work of the School.
- (xxiv) To execute in consultation with the Holding Trustees conveyance transfer, Government Securities, reconveyance, mortgages, leases, bonds, licences and agreements in respect of property, moveable or immovable, belonging to the School or to be acquired for the purposes of the School.
- (xxv) To appoint, in order to execute an instrument or transact any business of the School, any person as attorney of the School, with such powers as if may deem fit.
- (xxvi) In consultation with the Holding Trustees, to raise and borrow money on bonds, mortgages, promissory notes or other obligations or securities founded or based on any of the properties and assets of the School or without any securities and upon such terms and conditions as it may think fit and to pay out of the funds of the School, all expenses, incidental to the raising of money and to repay and redeem any money borrowed.
- (xxvii) To invest the funds of the School or money entrusted to the School in or upon such securities and in such manner as it may deem fit and from time to time transpose any investment.
- (xxviii) To maintain a fund to which shall be credited:
  - (aa) All money provided by the Central or State Governments or the UGC
  - (ab) All fees and other charges received by the School.
  - (ac) All moneys received by the School as grants, gifts, donations, benefactions, bequest or transfers and,
  - (ad) All moneys received by the School in any other manner or from any other source.
- (xxix) To deposit all moneys credited to the fund in scheduled banks or to invest them in consultation with the Finance Committee.
- (xxx) To maintain proper accounts and other relevant records and prepare Annual Statements of Accounts including the balance-sheet for

every previous financial year, in such form as may be prescribed by the Regulations/Bye-laws.

- (xxxix) To constitute, for the benefit of the teaching, academic, technical, administrative and other staff, in such manner and subject to such conditions as may be prescribed by the Bye-laws such as pension, insurance, provident fund and gratuity as it may deem fit for the benefit of the employees of the School and to aid in the establishment and support of Association Institutions, Funds, Trusts and Conveyances calculated to benefit the staff and the students of the School.
- (xxxvii) To delegate all or any of its powers to any committee or sub-committee constituted by it or to the Director of the School or to any other person.
- (xxxviii) To establish, on the advice of the Academic Council, Divisions and Departments for the Academic work and functions of the School and to allocate areas of study, teaching and research to them.
- (xxxix) To conduct examinations or tests for admission to the courses taught in the School, to conduct examinations for Degrees and Diplomas and to declare the results of such examinations and tests and to confer, grant or award Degrees, Diplomas, Certificates and other academic titles and distinctions.
- (xl) To establish, maintain and manage hostels for the students of the School.
- (xli) To fix the emoluments and travelling and other allowances of examiners, moderators, tabulators and such other personnel appointed for examinations in consultation with the Academic Council and the Finance Committee.
- (xlii) To recognise and maintain control and supervision on hostels owned and managed by other agencies for the students of the School and to rescind such recognition.
- (xliiii) **The Board of Management shall be the principal executive body of the School and shall have the powers to take all necessary decisions for the smooth and efficient functioning of the School.**

#### **(b) Composition of the Board of Management**

The Board of Management shall consist of:

- (i) President (Director--General of TERI, ex-office-Chairperson)
- (ii) **Director**
- (iii) **Deans of Faculties (if any) not exceeding three by rotation and on seniority**
- (iv) Three nominee of the President of the School
- (v) One nominee of the Chairperson, UGC
- (vi) One nominee of the Government of India.
- (vii) **One nominee of the funding agency**
- (viii) Three teachers (Professor, Associate Professor, Assistant Professor) (by rotation) according to seniority.
- (ix) **One nominee of the sponsoring Society**



The Registrar shall be the non-member Secretary.

**(c) Term of Membership**

- (i) All the members of the above body other than ex-officio and the members of the teaching staff hold office for a term of three years and shall be eligible for reappointment.
- (ii) Members of teaching staff in the above body shall hold office for a period of two years or till such time as they continue to be members of the teaching staff, whichever is less.

**(d) Meetings of the Board of Management**

- (i) The Board of Management shall meet at least four times a year. Not less than 15 days notice shall be given of a meeting of the Board of Management and a copy of the proceedings of each meeting shall be furnished to the President of the School as soon as possible after the meeting.
- (ii) Each member of the above body including its Chairman shall have one vote and decisions at the meeting of the Board shall be taken by simple majority. In case of a tie, the Chairman shall have a casting vote.
- (iii) Every meeting of the above body shall be presided over by its Chairman and in his absence by a member chosen by the members present from amongst themselves shall preside over the meeting.
- (iv) Any business which it may be necessary for the above Body to perform may be carried out by circulating appropriate resolution thereon among its members and any resolution so circulated and approved by a simple majority shall be as effective and binding as if such resolution had been passed at the meeting of the Board.
- (v) If a member other than the Director of the School or those representing the teachers accepts a fulltime appointment in the Institute or he does not attend three consecutive meetings of the Board of Management without proper leave of absence, he shall cease to be member of the above Body.

**6. Constitution of Standing Committee and Appointment of Ad-Hoc Committees by the Board of Management**

- (a) Subject to the provision of the Rules / Bye-laws of the School, the Board of Management may, by a resolution constitute such Standing Committee or Co-committee or Ad-hoc Committee or Committee for such purposes and with such powers as the Board may think fit, for exercising any power or powers or discharging any functions of the School or for inquiring into, reporting and advising upon any matter of the School.

- (b) The Board of Management may co-opt such persons on the standing Committees or ad-hoc Committees as it may consider suitable.

**7. Delegation of Powers of the Board of Management**

The Board of Management may by a resolution, delegate to the President, Director of the School or any other officer of the Standing Committee or the Ad-hoc Committee such of its powers as it may deem fit, subject to the condition that the action taken by the President or the Director of the School or the officer concerned or the Standing Committee or the Ad-hoc committee concerned in the powers so delegated shall be reported at the next meeting of the Board of Management.

**8. Academic Council**

The Academic Council shall be the principal academic body of the School and shall, subject to the provisions of the Memorandum of Association and the Rules and Bye-laws shall have the control over and be responsible for the maintenance of standards of education, teaching and training, inter-departmental co-ordination, research, examinations and tests within the School and shall execute such other powers and perform such other duties and functions as may be prescribed or conferred upon it by the rules and Bye-laws.

**(a) Membership of the Academic Council**

The Academic Council shall consist of the following persons, namely:

- (i) Director of the School
- (ii) Deans of Faculties, if any
- (iii) Heads of the Departments of the School
- (iv) Professors other than the Heads of the Departments
- (v) One Reader from each department other than the Head of the Department by rotation in the order of seniority nominated by the Director of the School.
- (vi) One Lecturer from each department by rotation in the order of seniority nominated by the Director of the School.
- (vii) Not more than five persons amongst educationists of repute or persons from any other field related to the activities of the School who are not in the service of the School, nominated by the President.
- (viii) Not more than five persons who are not members of the teaching staff co-opted by the Academic Council for their specialised knowledge.

The term of members other than ex-officio members shall be two years, provided that the term of the members under (v) and (vi) above shall be one year.

**(b) Powers and Functions of the Academic Council**

The Academic council shall be the principal academic body of the School and shall, in addition to all other powers and duties vested in it, have the following powers and duties viz:

- (i) To exercise general supervision over the academic work of the School and to give direction regarding methods of instructions, evaluation or research or improvements in academic standards.
- (ii) To promote research within the School, acquire reports on such researches from time to time.
- (iii) To consider matters of academic interest either on its own initiative or at the instance of the Board of Management and to take proper action thereon.
- (iv) To make arrangements for the conduct of examinations in conformity with the bye-laws
- (v) To maintain proper standards of the examinations
- (vi) To recognise diplomas and degrees of Universities and other institutions and to determine equivalence with the diplomas and degrees of the School.
- (vii) To prescribe courses of study leading to degrees and diplomas of the School
- (viii) To appoint examiners, moderators, tabulators and such other personnel for different examinations.
- (ix) To suggest measures for departmental co-ordination
- (x) To make recommendations to the Board of Management on:
  - (aa) Measures for improvement of standards of teaching, training and research
  - (ab) Institution of Fellowships, Travelling, Fellowships, Scholarships, Medals, Prizes etc.
  - (ac) Establishment or abolition of departments / centres and
  - (ad) Bye-laws covering the academic functioning of the School, discipline, residence, admissions, examinations, award of fellowships and studentships, freeships, concessions, attendance etc.

- (xi) To appoint sub-committees to advise on such specific matters as may be referred to it by the Board of Management.
- (xii) To consider the recommendations of the sub-committees and to take such action (including making of recommendations to the Board of Management) as the circumstances on each case may require.
- (xiii) To take periodical review of the activities of the Departments / Centres and to take appropriate action (including making of recommendations to the Board of Management) with a view to maintaining and improving the standards of instruction.
- (xiv) To exercise such other powers and perform such other duties as may be conferred or imposed upon it by the rules and bye-laws.
- (xv) To recommend institution of Teaching posts, Professors, Readers and Lecturers to the Board of Management.

**(c) Meeting of the Academic Council**

- (i) The Academic Council shall meet as often as may be necessary but not less than three times during the academic year.
- (ii) One third of the total members of the Academic Council shall constitute the quorum for the meeting of the Academic Council.
- (iii) Any business which it may be necessary for the Academic Council to perform except such as may be placed before its meeting, may be carried out by circulation of the resolution among its members and the resolution so circulated and approved by a simple majority shall be effective and binding as if such resolution had been passed in the meeting of the Academic Council, provided that at least one half of the total number of the members of the Academic Council have recorded their views on the Resolution.

**9. Finance Committee**

The finance committee shall consist of the following members:

- (a) Director of the School – Chairman
- (b) A person nominated by the President
- (c) Two nominees of the Board of Management one of whom shall be a member of the Board
- (d) A representative of the UGC
- (e) A representative of the Central Government