

## SCHOOL OF HUMAN AND ENVIRONMENTAL SCIENCES

This School comprises departments of Anthropology and Geography, and the Centre for Environmental Studies which was earlier known as Centre for Eco-Development. Albeit one of the smallest schools, its per capita output is not less than that of any other schools. Apart from MA/MSc, Certificate, and MPhil degree awardees five doctoral students were awarded this year. The department/centre under this School organised one refresher course, four workshops, and two seminars besides its faculty members participating in various regional, national and international seminars. Publication list of this School is also fairly impressive: six books and 29 research articles by a total faculty strength of 19. The faculty members under the School have also participated in various programmes of the University. One of the most important of these was organising two orientation courses for college lecturers on 'Man and Environment'. It may also be mentioned that the faculty members have served various regional and national agencies as experts besides providing administrative and academic support to the Regional Centre for National Afforestation and Eco-Development established by the Ministry of Environment and Forest, Government of India.

### DEPARTMENT OF ANTHROPOLOGY

The Department was established as the Department of Cultural Anthropology with just one teacher. It was subsequently in 1983 that it was renamed as the Department of Anthropology. In the last 15 years or so the Department has grown into a full-fledged department with facilities for specialisation in Social/Cultural as well as Physical streams and a broad orientation in other sub disciplines like Prehistoric Archaeology and Linguistic Anthropology. The number of faculty positions has also increased from one in 1981 to ten in 1997.

**Head :** Professor T. B. Subba  
(Dr. H.Lamin, w.e.f. 16th March 1999)

**Faculty :**

Professor	:	T.B. Subba, M.A., PhD. (N.Bengal)
Reader	:	H. Lamin, M.A., Ph.D. (NEHU)
Lecturers	:	L. Zehol, M.A., Ph.D. (NEHU)
		V. Pakyntein, M.A.(NEHU), M.Phil. (Delhi)
		R. Khongsdier, M.Sc., Ph.D. (NEHU)

**Student Intake : MA**

a) Enrolment capacity - 25

b) Actual admission	-	SC/ST	Gen.	Male	Female	Total
		—/20	05	11	14	25

**Degrees Awarded :***Ph.D.*

J.W.Dkhar, "Age changes in somatotypes of 11 to 18 year old Pnar boys of Meghalaya".  
Supervisor : Dr. R.K. Pathak.

M.Bhowmik, "A bio-social study on Beta-Thalassaemia". Supervisor : Professor A.K. Ghosh.

**Course Conducted :**

Physical Anthropology, Social and Cultural Anthropology, Anthropology in India, Practicals in Physical Anthropology, Paleoanthropology and Prehistoric Archaeology, Methods in Anthropological Studies - I, Anthropological Theory, Practicals in Paleoanthropology & Prehist. Archaeology, Demography & Biostatistics, Methods in Anthropological Studies - II, Advance Anthropological Theory, Economic Anthropology, Demography & Biostatistics, Human Growth, Development & Physique, Human Genetics, Practicals in Advance Physical Anthropology (I), Fieldwork, Environment and Anthropology, Anthropology of Development, Tribes in India, Fieldwork, Environment and Anthropology, Human Ecology and Adaptation, Practicals in Advance Physical Anthropology.

**Seminars/Conferences :***Organised:*

The Department organised the following two seminars in collaboration with Indira Gandhi Rastriya Manav Sangrahalaya, Bhopal and Anthropological Survey of India, Calcutta respectively :

1. Physical and Cultural Ecology of North East India, September 8-9, 1998.
2. Anthropology & Allied Disciplines in the North East : The Last Fifty Years, March 26-27, 1999.

Attended:

Khongsdier, R. presented a paper titled "Measuring genetic drift in natural populations" at the seminar on Anthropology & Allied Disciplines in the North East : The last fifty years sponsored jointly by Anthropological Survey of India and NEHU, and organised by the Department of Anthropology, NEHU, Shillong on March 26-27, 1999.

Zehol, L. presented a paper titled "Tribal women in North East India : some observations" at the seminar on Anthropology & Allied Disciplines in the North East : the last fifty years organised by the Department of Anthropology, NEHU, Shillong on March 26-27, 1999. She presented one other paper titled "Situational analysis of women in North Eastern India" at the regional level training in Micro-Enterprise and small business development for women organised by the National Institute of Public Cooperation and Child Development, New Delhi held at Centre for Science Education, NEHU, on 22-26 March 1999.

#### **Publications :**

Khongsdier, R. and D. Basu. 1998. "A study of food and nutrient intakes among the Dimasas of North Cachar hills". *Journ. of Human Ecology*, 9:603-607.

Khongsdier, R. 1999. "A study on growth of children of two economic groups of War Khasi". *South Asian Anthropologist*, 20:15-18.

Lamin, H. "Christianisation and Change : The Pnars of Meghalaya". In. T.B. Subba ed. *Wonder That Is Culture*. New Delhi : Inter-India, 1999 : 97-108.

Pakynstein, V. "Gender preference in Khasi Society". In. T.B. Subba ed. *Wonder That Is Culture*. New Delhi : Mittal, 1999: 171-182.

Subba, T.B. "Regionalism in North East India : An Appraisal". In N. Malla ed. *Nationalism, Regionalism and Philosophy of National Integration*. New Delhi : Regency Publications, 1998 : 78-85.

Subba, T.B. "Gorkhaland Movement in West Bengal". In Bhupinder Singh, ed. *Tribal Self Management in North-East India*. New Delhi: Inter-India, 1998: 290-304.

Subba, T.B.: "The Nepalis in North-East India : Political Aspirations and Ethnicity". In. A.K. Danda et al eds. *North-East India: Ethno-cultural Perspectives and Process*. Calcutta : The Indian Anthropological Society, 1998: 39-48.

Subba, T.B. "Understanding tribal development in Arunachal Pradesh: Elwin-Furer Haimendorf-Rustomji". In. A.K. Danda et al eds. *North East India: Ethno-Cultural Perspectives and Process*. Calcutta: The Indian Anthropological Society, 1998: 121-128.

Subba, T.B. ed. *Wonder That Is Culture : Festschrift to Professor P.K. Misra*. New Delhi:

Mittal.

Zehol, L.T. "Reliving my first Research Experience". In. T.B.Subba ed. *Wonder That Is Culture*. New Delhi: Mittal, 1999 : 251-258.

Zehol, L.T. 1998. "Women's movement in Manipur: some observation". In . M.N.Karna ed., *Social Movements in North-East India*. New Delhi : Indus Publishing House.

#### **Study Tour/Field Trip :**

Professor T B Subba took the IVth Semester students for their fieldwork training to Katteri, Mandya District, Karnataka during January 11 - February 8, 1999.

#### **Thrust Area of Research :**

Socio-cultural and biological studies of the peoples of north-east India.

### **CENTRE FOR ENVIRONMENTAL STUDIES**

Availability of information about quality and quantity of various natural resources, and a cadre of trained manpower in the area of resource conservation and management are two fundamental requisites for scientific management of natural resources. Since its inception, the Centre has been working for fulfilling these two needs in the north-eastern hill region of India. Through a large number of research projects, it has generated a significant amount of knowledge about the natural resources of the region and gathered information required for planning and implementation of various developmental projects. A number of workshops, training programmes and awareness camps organised by the Centre have not only raised environmental awareness among the people of the region but have also produced a good number of trained people capable of managing the resources at the local level. Besides, a regular one semester certificate course in Eco-development is being run by the Centre to impart training to the local youths in the field of eco-development and environmental management.

In order to promote scientific management of natural resources and conservation of fragile ecosystems of the region, the Centre has identified environmental management, environmental impact assessment, biomass energy, conservation ecology, natural resource management, wastelands development, eco-development and biodiversity conservation as priority areas for research.

**Head :** Dr. B K Tiwari

**Faculty :**

Reader : Dr. B K Tiwari, M.Sc. (Gorakh.), Ph.D. (NEHU).  
 Lecturer : Dr. S K Barik, M.Sc. (Berham.), Ph.D. (NEHU).

**Courses Conducted :**

Certificate Course : Certificate Course in Eco-development

**Student Intake :**

I) Certificate course in Eco-development : SC ST Gen. Male Female Total  
 0 6 2 3 5 8

II) Ph.D.(Jointly with Department of Botany) : SC ST Gen Male Female Total  
 1 0 2 3 0 3

**Funds received from agencies other than NEHU/UGC :**

i) Department for International Development,  
 British High Commission, New Delhi : Rs. 1.33 lakh

ii) M/s Lum Mawshun Minerals Private Limited  
 Shillong : Rs. 0.80 lakh

iii) Ford Foundation, New Delhi : Rs. 0.80 lakh

**Extension Lectures :**

Name of teacher	Date	Topic
Dr. B K Tiwari	23.11.98	Environment and Economics
	3. 3.99	Environmental consequences of human intervention
Dr. S K Barik	1. 3.99	Ecoenergetics
	15. 3.99	Environmental Pollution
	4. 3.99	Vulnerability of biosphere
	5. 3.99	Environmental problems of north-east India
	17. 3.99	Energy resources and flow of energy in eco system
	18. 3.99	Biodiversity and species extinction

## Seminars/Conferences :

### Organised :

The Centre organised the following training programmes/workshops in collaboration with the Regional Centre, National Afforestation and Ecodevelopment Board, NEHU, Shillong.

1. Workshop for development of curriculum for Joint Forest Management (JFM) training in north-east India at Shillong on 4-5 May, 1998.
2. Workshop on Joint Forest Management in Nagaland organised at Kohima on 22-23 October, 1998.
3. Workshop cum training programme on JFM in Manipur organised at Imphal on 6.11.98.
4. Trainers' training programme cum workshop on Microplanning for Joint Forest Management in Assam organised at Guwahati during 29-31 December, 1998.

### Attended :

Dr. B K Tiwari (i) participated as a resource person in the Department of Science and Technology: Science and Society Meeting cum workshop for the States of Meghalaya, Assam and Arunachal Pradesh held on 24-25 June, 1998 at Guwahati and delivered a talk on "Opportunities and constraints in development of rural north-east by providing scientific and technological inputs". (ii) delivered a talk on "Management of environment and natural resources among indigenous societies of north-east India" in the Orientation Course for field Officers of the Anthropological Survey of India at Shillong on 10th June, 1998. (iii) delivered a talk on "Recent trends in Forest Management in north-east India held at Shillong on 8-9 September, 1998. (iv) presented a paper on "Forest research priorities for Meghalaya" in the workshop on Prioritisation of research areas for the Institute of Rain and Moist Deciduous Forest Research held at Jorhat on 24-27 February, 1999. (v) Presented a regional paper entitled, "Non-timber forest products of north-east India" in the workshop on Sustainable management of non-timber forest product held at Indian Institute of Forest Management, Bhopal during 25-28 November, 1998. (vi) delivered a talk on "Working and principles of Joint Forest Management" in the workshop-cum training programme on JFM in Manipur organised at Imphal on 6.11.98. (vii) delivered a talk on "Success stories of JFM in India" in the trainers' training programme cum workshop on Microplanning for JFM in Assam organised at Guwahati during 29-31 December, 1998. (viii) presented a paper on "Role of sacred groves in conservation biodiversity of Meghalaya" in the workshop on People's participation in biodiversity conservation at Shillong held during 4-6 March, 1999.

Dr. S K Barik (i) participated as a resource person in the national workshop on "Perspectives for planning and development in north-east India" organised by the G.B. Pant Institute of Himalayan Environment and development, Almorah at Itanagar during April, 27-29, 1998 and delivered a lead talk on "Environmental Impact Assessment of limestone mining project". (ii) participated as a resource person in the workshop on "Forestry Research priority setting" organised by the Indian Council of Forestry Research and Education, held at State Forest Research Institute, Itanagar during 25 -26 May, 1998 and presented a paper

“Research requirements for community development and people's participation in forestry”. (iii) delivered a talk on “JFM and its implementation in Nagaland” in the workshop on Joint Forest Management in Nagaland organised at Kohima on 22-23 October, 1998. (iv) delivered a talk on “Microplanning exercise for JFM” in the trainers' training programme cum workshop on Microplanning for JFM in Assam organised at Guwahati during 29-31 December, 1998. (v) A paper entitle “Fuelwood plantation in north-east India: Reorienting its management as a renewable energy resource” authored by Dr. S K Barik and Dr. V T Darlong was presented in a seminar on “Renewable Energy Resources management in North-East India” organised by the North-East India Council for Social Science Research at Shillong on 5th June 1998. (vi) participated as a resource person in the Planning workshop organised by the Indian Institute of Science, Bangalore at Sirsi during 16-21 November, 1998 and presented a paper on “Community forest management systems in Meghalaya : An ecological and economic analysis”.

#### **Publications :**

Barik,S.K., Tiwari, B.K. and Tripathi, R.S. Plantation Technique, and Management and Growth features of *Thysanoloanea maxima*, a minor forest produce species of north-east India. In: M P Shiva and R B Mathur, eds. *Management of Minor Forest Produce for Sustainability*. Oxford IBH Publishing Co. Pvt. Ltd. New Delhi, 1996, pp.208-215.

Barik,S.K., Tiwari, B.K. and Tripathi, R.S. (1998) Sacred groves of Meghalaya. In: P.S. Ramakrishnan, K.G. Saxena and U.M.Chandrashekara, eds. *Conserving the sacred for biodiversity management*. UNESCO, Oxford and IBH Publishing Co.Pvt.Ltd. New Delhi. Pp. 253-262.

Barik,S.K.(1998) Sloping Watershed Environmental Engineering and Technology (SWEET)- A potential agricultural land technology for midhill regions of Arunachal Pradesh. In: M.C.Behera, ed. *Agricultural modernisation in Eastern Himalayas*. Commonwealth Publishers, New Delhi. pp. 113-125.

Tiwari, B.K., Barik, S.K. and Tripathi, R.S.(1998) Biodiversity value, status and strategies for conservation of sacred groves of Meghalaya, India. *Ecosytem Health* 4: 20-32.

#### **Research Programmes :**

The following research projects were undertaken during the year under report :

(i) Community forest management systems in Meghalaya sponsored by DFID, British High Commission, New Delhi. (ii) Application of SWEET in restoration of degraded jhum lands of Arunachal Pradesh funded by G.B.Pant Institute of Himalayan Environment and Development, Almora. (iii) Regeneration and ecology of Rattans in Arunachal Pradesh funded by Indian Council of Forestry Research and Education, Dehradun.

### Other activities :

- (i) Dr. B K Tiwari and Dr. S K Barik participated as expert members in the JFM Curriculum Development workshop held at Shillong during 4-5 May, 1998.
- (ii) Dr. B K Tiwari participated as a resource person in the Exposure Training for north eastern states' forest officers held in West Bengal during 24-26 August, 1998.
- (iii) Dr. B K Tiwari chaired a session in the seminar on Remote Sensing and GIS organised by NERDA at Shillong during 16-17 September, 1998.
- (iv) Dr. B K Tiwari and Dr. S K Barik participated as expert members in the writing workshop for JFM Training Manual held at Shillong during 22-24 March, 1999.

## DEPARTMENT OF GEOGRAPHY

The Department of Geography was established in 1976 in the School of Environmental Sciences (now, the School of Human and Environmental Sciences). Twenty one batches of MA/MSc students (approx. 400) have since been passed out. The Department has also been offering research degrees leading to M.Phil and Ph.D. right from the inception. Nearly 75 M.Phil and 30 Ph.D. candidates have been awarded. During the relevant year, 17 new M.Phil and 5 Ph.D. candidates were registered along with nearly 40 on going Ph.D. registered candidates. The Department has also carried out a large number of major and minor research projects, numbering about 30, it also runs a collaborative programme with the Polish Academy of Sciences (through INSA) for a three year period.

**Head :** Professor R.Gopalakrishnan (till 18.12.98)  
Professor A.C.Mohapatra (w.e.f. 19.12.98)

### Faculty:

- Professors :** R.K.Rai, M.Sc.Ph.D.(Sagar)  
A.C.Mohapatra, M.A. and M.Phil.(J.Nehru),Ph.D. (NEHU)  
R.Gopalakrishnan, MA(Madras), M.Phil & Ph.D (J.Nehru)
- Readers :** Ali Ahmad, MA (Alig.), Ph.D.(J.Nehru)  
S.Singh, MA, Ph.D. (Meerut)  
B.S.Butola, M.A.,M.Phil., Ph.D.(J.Nehru) - on lien w.e.f. 16.11.98.  
B.S.Mipun, M.A (J.Nehru), Ph.D.(NEHU)  
D.K.Nayak, M.A.,M.Phil., Ph.D. (J.Nehru)  
Z.H.Qureshi, MA, Ph.D.(Sukh.)
- Lecturers :** P.G.Momin, MA(J.Nehru), M.Phil (NEHU)  
H.J. Syiemlieh, M.A., M.Phil, Ph.D (NEHU)  
L.Cajee, M.Sc., M.Phil (NEHU)

### Students Intake:

MA/M.Sc.	:	32
M.Phil	:	20
Ph.D.	:	15

### Admissions during 1998-99

	SC	ST	Gen.	Male	Female	Total
MA/M.Sc.	0	32	2	25	9	34
M.Phil	0	8	6	7	7	14
Ph.D.	0	4	1	5	0	5

### Degrees awarded:

MA/M.Sc.	0	23	3	19	7	26
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### Ph.D.

1. L.Sunil Singh, "Role of Growth Centres in Agricultural Development in Imphal Valley", Supervisor: Dr.S.Singh.
2. H.J.Syiemlieh, "Geomorphology and Land Use Planning of Umran Basin, Meghalaya", Supervisor: Professor R.K.Rai.
3. K.Baruah, "Politics of Regional Development : A Case Study of Assam", Supervisor: Professor R.Gopalakrishnan.

### Courses Conducted :

Apart from the regular courses, three new specialisation papers were offered at the MA/Msc level. These are Soil Geography, Hydrology and Bio-geography.

### Seminar/ Conferences :

#### Attended :

A.C.Mohapatra. Presented a paper titled "Political Economy of Alternative Energy" at the Seminar on Alternative Energy Management in North-East India" organised by NEICSSR held on June 5, 1998, Shillong, India. Presented a paper titled "Valuing the River", at the national seminar on River Systems of North East India, organised by the Department of Geography, St.Mary's College, Shillong, Sept.22-23, 1998. Chaired a session.

D.K.Nayak National seminar on Physical and Cultural Ecology of NE India, September 8-9, 1998, NEHU, Shillong. Paper : "Prevalence of major disease with special reference to ARI diseases in Meghalaya". Seminar on Problem of Geography Education in NE India, Dec. 2, 1998, Gauhati University, Guwahati. Paper : "Problems of Geography Education in Meghalaya".

B.S.Mipun. "Land use over Mapping of the Garo Hills using Remote Sensing Data" in IGRMS-NEHU Seminar on "Physical and Cultural Ecology in North East India", held in Shillong on September 8-9, 1998.

H.J.Syiemlieh. "Concept of Environmental Protection among the Khasis", in IGRMS-NEHU, Bhopal & NEHU Seminar on Physical and Cultural Ecology of North East India, held in Shillong on September 8-9, 1998.

P.G. Momin, "The river system in North East India and its Impact on the Region's Environmental Development", presented at the national seminar on River Systems of North-East India, St.Mary's College, Shillong, 22nd to 23rd Sept. 1998.

L.Cajee, "Farm Production System and Market Forces", in the IGRMS-NEHU Seminar on Concept of Environmental Protection among the Khasis, held in Shillong on September 8-9, 1998. "Conservation of Bio-diversity vis-a-vis sustainability of development in Meghalaya", Workshop on People's Participation in Bio-diversity Conservation, March, 4-6, 1999 organised by NERBC, NEHU and SSSS, Shillong.

#### *Organised :*

Convenor, Two-Day Workshop on, "Application of Remote Sensing and GIS on Natural Resource Mapping, Analysis and Management", September 16-17, 1998, organised by NERDA, Shillong and SCST&E (MEGH), Government of Meghalaya, Shillong.

#### **Publications:**

R.K.Rai. "Phyto-geomorphology of upper part of the Umiyam Basin Meghalaya", *Hill Geographer*, 15 (1&2), 1998 : 96-102.

A.C.Mohapatra. "Northeast India : Half a Century of Teaching and Research in Geography (1947-97)", Paper presented in Seminar on *Trends in Social Sciences in North East India, 1947-97*, JP Singh et al (ed., Proc.) NERC-ICSSR, Shillong, 1998, pp 10-36.

A.C.Mohapatra. "Sectoral Linkages and Strategies of Development in North East India", *Indian Journal of Regional Science* 30 (2), 1998 : 28-38.

A.C.Mohapatra. "Economic liberalisation and Affirmative Action", *Hill Geographer*, 8, 1997 : 73-78.

A.C.Mohapatra. "Quality of Life of Urban Poor in Shillong", *Urban India*, 18 (1), 1998 : 63-84.

A.C.Mohapatra, Deforestation and Soil Erosion in Umiyam Basin : *Peoples' Response to Ecological Issues*, IASSI Quarterly, 17 (1), 1998 : 100-113.

A.C.Mohapatra. *Regional Development and Planning* (ed.), Rawat Publications, Jaipur, 1998.

R.Gopalakrishnan. *Meghalaya: Land and People* (Revised and Enlarged edition), Omsons, New Delhi, 1998.

R.Gopalakrishnan. *Trends in Social Sciences and Humanities in North East India (1947-97)* (ed., joint), Regency, New Delhi, 1998.

D.K.Nayak. "Geographical Background to Tribal Situation in the North East", M.K.Raha and A.K.Ghosh (ed.), *North East India: The Human Interface*, Gyan, New Delhi, 1998: 163-178.

D.K.Nayak. "Pattern of Disease Prevalence and Related Environment in Meghalaya" in Jayashree Dey (ed.), *Changing Pattern of Health in Developing Countries, Proc. of International Geographical Conference*, Vadodara, India 19-26.

D.K.Nayak. "Role of Transport in the Process of Development in North East India" in B.C.Vaidya(ed.), *Readings in Transport Geography: A Regional Perspective*, Devika, New Delhi, 1998, 351-370.

Z.H.Qureshi. "Hill Town Planning", *Urban development in NE India - Potentiality and Problems*, (ed) B.Datta Ray et al , Reliance, New Delhi, 69-82.

Z.H.Qureshi. "The Nature of Border and Trade in NE India", in *Seminar Proc., NEICSSR*, Shillong (forthcoming)

S.Singh "Towns within the Town System: A case Study of NE Region", in B.Dutta Ray (ed.), *Urban development in NE India - Potentiality and Problems*, Reliance, New Delhi, 1998, 30-49.

S.Singh "Assessment of the Role of Transport in the Process of Development in NE India", in B.C.Vaidya(ed.), *Readings in Transport Geography: A Regional Perspective*, Devika, New Delhi, 1998, 351 - 370 .

S.Singh "Estimation of Soil Loss in Arunachal Himalaya", in R.C.Sundryal et al (ed.) *Proc., Himavikash Occa.Paper No.11*, G.B.Pant Inst., Almora, 1998, 73-78.

S.Singh "Preliminary observations on the Fluvial Processes in the Foot Hills of Arunachal Himalaya", *Hill Geographer*, 14, 1998 : 64-80.

S.Singh "*Resource Atlas of Arunachal Pradesh*" Published by Government of Arunachal Pradesh, March 1999.

## Other Activities:

1. Study Tours: (a) MA/M.Sc. II Semester students went on a study tour to Bombay, Anand (Gujarat) and Delhi during Dec-Jan, 98-99 led by Shri L.Cajee and Dr.B.S.Mipun. (b) MA/MSc III Semester students carried out fieldworks for the projects in two villages in East Khasi Hills and the Ri-Bhoi dists. during Feb 21-March 6, 1999 led by Dr.H.J.Syiemlieh.
2. Professor A.C. Mohapatra organised two five-day orientation courses for college teachers of NEHU on "Man and Environment" on March 1-5 and 15-19, 1999.
3. Shri L.Cajee, Lecturer attended a 4 week UGC Refresher Course at International Institute of Population Sciences, Deonar, Mumbai, November 2-28, 1998.
4. Professor Starkel of Polish Academy of Sciences visited the Department in November 1998 under the INSA-PAS programme and delivered a lecture.
5. Professor R.K.Rai has been sanctioned two major research projects, (a) Geomorphic studies and effects of rockmass strength etc., DST, GOI, (b) Hydrological Assessment of Optimal Watershed Management etc., UGC.
6. PG Momin attended the national workshop on Environmental Protection and Environmental Law, NCED, Lodi Road, New Delhi, May, 1998.