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Biodiversity

NORTH EAST INDIA PERSPECTIVES

Proceedings of the Workshop on Peoples' Participation in
Biodiversity Conservation

4 – 6 March 1999

Organized by

North Eastern Biodiversity Research Cell,
North Eastern Hill University, Shillong 793 003

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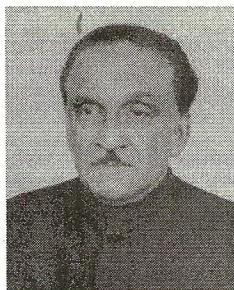
Synjuk Seng Samla Shnong, Shillong

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Raj Bhavan
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March 07, 1999

MESSAGE

It gives me great pleasure to learn that the North-Eastern Biodiversity Research Cell (NEHU) is publishing the proceedings of the recent workshop on "Peoples' Participation in Biodiversity Conservation" held in Shillong.

The north-eastern region is very rich in natural resources. It is globally recognized as a megabiodiversity area as it is one of the richest reservoirs of genetic diversity of plants, animals and microbes. The biodiversity of the region is under serious threat due to wanton felling of forest trees for shifting cultivation and to meet the demand for timber and fuel wood, urbanization, construction of roads, bridges and dams and other forms of exploitation of biological and mineral resources. This raises serious issues of sustainability of use, environmental degradation and stress on biological resources.

I think peoples' active participation can go a long way in conserving our rich biodiversity - for a better tomorrow. People must realise that life on earth will perish if they do not take pragmatic steps in order to save biodiversity.

I hope the efforts of the North-Eastern Biodiversity Research Cell (NEHU) and the Synjuk Seng Samla Shnong (SSSS) will be replicated by others to ensure peoples' involvement in the conservation movement.

(M.M. Jacob)
Governor of Meghalaya.



ARUNACHAL UNIVERSITY

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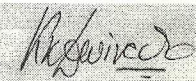
Arunachal Pradesh

Dr. K. K. DWIVEDI
VICE-CHANCELLOR

MESSAGE

I have noted with great satisfaction that the North-Eastern Biodiversity Research Cell at NEHU Shillong has very successfully organized a three day workshop on "Peoples participation in Biodiversity Conservation" in March this year. A large number of distinguished participants have gathered and exchanged their views on various aspects of biodiversity conservation and sustainable development in NE region. I have been informed that the deliberations in the workshop were extremely useful and the major contributions and findings are now being published in the form of a proceeding. I am very sure that such effort will bring out valuable reference material for scientists, environmentalists and planners.

I congratulate the scientists and organizers of NEBRC for bringing out the workshop's proceedings and hope that with their untiring efforts the objectives of the cell will be successfully achieved.


(K.K. DWIVEDI)

CONTENTS

Acknowledgements	i
Preface	iii
Medicinal plants and herbal medicine: a case study in Meghalaya- D. Syiem, B. Kharbuli, B. Das, D. G. Nongkhlaw, I. Thamar, D. Marngar, G. Syngai, H.Kayang, B. Myrboh, Y. S. H. Yobin and D. R. M. Buam.	1
Indigenous knowledge of ethnobotanical importance in relation to biodiversity conservation in India with special reference to Mizoram- H.Lalramnghinglova.	9
A study on the migratory birds of Sibsagar district with special reference to habitat- H. K. Phukan and R. Stafford.	19
Present status of river dolphin (<i>Platanista gangetica</i>) - S.P.Biswas and Sanchita Boruah.	24
Biodiversity conservation vis-a-vis sustainability and development in Meghalaya - L. Cajee.	28
Apiculture - an activity which is nature dependent - S. Khongsit.	31
Prospects of development of ornamental fisheries in North Eastern India - S.P.Biswas, J. Phukon and Sanchita Boruah.	34
Conservation of threatened plants in North Eastern India - A. A. Mao and T.M.Hynniewta.	37
Comprehensive biodiversity profiles of North Eastern States: A WWF- India initiative - A. K. Goswami.	40
Indigenous conservation initiatives in Barak valley Assam - K. Guha, Abhik Gupta and B.K.Dutta.	42
Biodiversity Conservation perspectives, management and development plan for Meghalaya - R. R. B. R. Thabah.	47
Phytochemistry as a sustainable tool for conservation of biodiversity: A case study of Manipur - K.Brajeshwari Devi and L. Warjeet Singh.	59
Society, development and environment: A diagnosis and prognosis on North Eastern India - A. K. Nongkynrih.	62
Establishment of in-vitro raised seedlings of <i>Dendrobium aphyllum</i> in the community pots - Jauti Sharma.	68
✓ Sacred groves of Meghalaya- D. Syngai.	70
Biodiversity of insects with special reference to thrips (Thysanoptera) of Manipur - R. Varatharajan.	77
Biodiversity conservation in North East India - P.Gogoi and M. Ahmed.	81

Export of medicinal plants from India : Need for resource management - V.K.Dikshit.	85
Medicinal plants: Utilization and Conservation in Meghalaya - J. Kharduit.	89
Peoples' participation in Biodiversity conservation in the context of mediaeval Assam history - S. K. Phukan.	93
Peoples' participation in biodiversity conservation : Perspectives for NGOs in rural North East India - V. T. Darlong.	100
Importance of taxonomic and geographic data - base for conservation of biodiversity - P.J. Bora and J.Sarma.	108
Conservation of Biodiversity: Possible if the masses are made aware - Aparna Hariprasad.	111
Anti-tumor activity of crude extract of <i>Potentilla fulgens</i> – I. Thamar and Christine Syngai	114
Ethno-Biological studies of Arunachal Pradesh: The Yobins of Changlang District - Y.S.H Yobin.	116
Biodiversity conservation: What it means to the people, a case study of the Mawphlang dam - B.Das, D.Syiern, D.G. Nongkhlaw, B.Kharbuli, B.Myrbob, H.Kayang and D. R. M Buam.	121
Ethnobotanical studies among Naga tribes in Nagaland - N. S. Jamir.	128
Biodiversity: A preliminary study of West Khasi Hills, Meghalaya- D.Marngar	141
Peoples' participation perception in planned development programmes - P.R.Mawthoh and R. R. B. R. Thabah.	150
Prioritisation of Biodiversity-rich Sites in the state of Meghalaya – Debjani Roy and Sangeeta Choudhury.	159
Resolutions	164
List of local Participants to the Biodiversity Workshop	167
List of Outstation Participants	170
List of Participants through the Synjuk Seng Samla Shnong, Shillong	172
List of Contributing Authors	173
Authors' Index	176

Acknowledgements

I consider it my privilege to thank all those who were instrumental in making this workshop a fruitful one and furthermore, on behalf of the NEBRC, I take this opportunity to briefly outline the genesis of this project and give due acknowledgement to those who were instrumental in the establishment of the Cell.

This project funded by the North East Council, Planning Commission, New Delhi was a direct outcome of the Govt. of India recognition of the much-needed thrust on Biodiversity, in line with the global environment conservation scenario. The establishment of the North Eastern Biodiversity Research Cell is a consequence of their intent to promote sustainable development by way of encouraging more Research and Development centres, keeping in view biodiversity conservation concerns. Given the constraints and lack of infrastructure in research and development, the North East needs to be viewed through perspective. Developmental priorities per se should be categorised/identified in consonance with the available resources. Needless to say that with its rich Biodiversity resources, serious attention must be given towards in-depth study of these resources so that they may be used in a sustainable manner to explore, expand, tap and regulate these bio-resources in a sustainable manner.

In this context, the then Secretary of the North Eastern Council, Mr. H. A. D. Sawian, IAS, the present Secretary, Mr. T. Ringu, IAS, Mr. J. M. Syiem, IAS, Planning Adviser, Mr. G. Sen, Financial Adviser and their executives, deserve special mention for facilitating and making this project functional. The NEBRC would also like to particularly acknowledge Mr. Promode Kant, IFS, Chief Conservator of Forests, MoEF and Adviser (E & F) to the NEC, Mr. W. Suting, IFS, Conservator of Forests, MoEF and Dr. V. T. Darlong, Joint Director, MoEF who continually enrich us with their vast experience which will go a long way towards achieving our goals.

We extend our appreciation and gratefulness to the North Eastern Hill University, in particular, the Vice-chancellor, Prof. B. Pakem, for providing us the much-needed support, advice and the various facilities. The Head, Department of Chemistry, Prof. M. K. Mohanty and his colleagues, deserve special thanks for all the support and encouragement. It would be incomplete not to mention Prof. M. S. Swaminathan, Chairman, MSS Research Foundation, Chennai and Prof. T. N. Ananthkrishnan, Director, ERI, Chennai for their support and valuable suggestions in the formative stage of this Project.

To be able to achieve sustainable growth, it is imperative that people at the grassroots level be involved. It is with this view that the NEBRC in its maiden venture organized this workshop jointly with a premiere youth organization of the State. This joint undertaking was done with the view that an approach of this kind will provide a better interface between public and the intellectuals. In this context, I am indeed very grateful to the executive members of the Synjuk Seng Samla Shnong (SSSS), Shillong for their willingness to participate not only in this workshop but also in all our public activities related to Biodiversity awareness. In retrospect, it is due to their involvement that we have been able to reach out, and accepted by a larger grassroots audience within such a short time-span.

I take this opportunity to thank and express my gratitude to all our resource persons from the entire North Eastern States including the different Non-Government Organizations (NGOs), who, through their participation has provided us with a much more broader perspective as well as a more meaningful outlook towards biodiversity. Their contribution to this workshop by way of paper presentations, interactions and discussions will go a long way to provide a Regional focus on Biodiversity concerns.

I am indeed grateful to all the members of various committees, in particular Dr B. S. Khongwir, D.G. Nongkhlaw, C. Syngai, Gordon Tham, Linus Marwein, Larry Warjri, Khraw Kharlukhi, Paul Shanpru, Bull. N, Dr. M. B. syiem, Adamson Khonglam and Jemino Mawthoh, Chairman SSSS for their untiring support and effort throughout the entire workshop proceedings.

I thank the press and the media, in particular, Mr. Sanat Chakraborty and Ms. Linda Chhakchhuak for their enthusiastic participation besides the wide coverage throughout the duration of the Workshop. My appreciation for our own JRFs, Y. S. H. Yobin, I. Thamar, D. Marngar, B. Das, R. Lalfakzuala, Lalmangaihzuala, G. Syngai, R. Nongrum and R. Nongkhlaw and for our own personnel, Mr. Edwin Nongrum, M. Warr and M. Lyngdoh for their cooperation and especially to Ms. M. Kharmudai, Ms. D. Suiam and Mr. D. R. M Buam for all the tedious typing and compilation of the manuscripts.

I take this opportunity on behalf of the Cell, to duly acknowledge and express our special appreciation to Mr. P.R. Mawthoh retired Director, Soil, and ex-Advisor NEC, Chairman, Synjuk Rambah Shnong and ex-Coordinator Total Literacy Campaign for his ever willing service, effort, advice, support and enthusiasm right from the very initial stages of writing of this project. His advice will go a long way beyond this project to continually inspire us.

I am grateful to all the agencies/departments who have willingly supported this workshop by way of advertisements. I also would like to acknowledge M/S WATERS INDIA LTD. and M/S MILLIPORE INDIA LTD. for their sponsorships of dinners during the workshop.

The resolution adopted in conclusion stems directly from the interaction between all the participants in a special session meant primarily for the purpose. It expresses and reflects the views and concerns *vis-à-vis* Biodiversity Conservation issues in the North East. We sincerely hope that the resolution adopted will provide a better insight and serve as a reference document for other Agencies/Departments to act, and if necessary, legislate upon.

July 1999

D. Syiem
Organizing Secretary

As an effort to contribute towards Biodiversity Study, Use and Conservation, the North Eastern Biodiversity Research Cell (NEBRC) in collaboration with the Synjuk Seng Samla Shnong, Shillong (SSSS), a federation of youth organizations, had organized a workshop on *Peoples' Participation in Biodiversity Conservation* from 4th to 6th March 1999. The workshop aimed to bring people to a single platform to discuss issues pertaining to utilization of natural resources/wealth of the North Eastern region. Participants from all walks of life, which included eminent Foresters, Scientists, Researchers, Herbal Medicine Practitioners, NGOs, Community Workers etc. had deliberated on various issues related to the theme. This compilation of the proceedings is an outcome of the selected papers contributed by these persons. Minor editorial alterations have been made where necessary to maintain conformity and style without changing the subject matter. The papers compiled here cover a variety of subjects, from Peoples' Experience, Indigenous Knowledge Systems, Species Diversity, Use of Medicinal Plants and Threats to Biodiversity. The resolutions emerging from the NGOs' discussion held before conclusion of the workshop have also been included in this compilation. The recommendations arising from the Workshop will be disseminated to policy makers and lawmakers of all the North Eastern States.

It is sincerely hoped that this compilation would provide a vast array of information and development alternatives to various communities and also enlighten them about the need to Conserve, Study and Use Biodiversity resources effectively.

July 1999

B. Kharbuli
Convener

ETHNO-BIOLOGICAL STUDIES OF ARUNACHAL PRADESH: THE YOBINS OF CHANGLANG DISTRICT

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Introduction

The district of Changlang is located approximately at 27° 36' and 27° 03' N latitudes and 95° 47' and 97° 04' E Longitudes and bounded by Lohit district on the North, Myanmar on the East and South and Tirap district on the West. The population is approximately 90,000 and the district covers an area of approximately 4662 km². The density of population is approximately 13km⁻². Therefore the area is sparsely populated. The district is inhabited by the Tangsas on the Southern and Western fringes, the Singphoos on the North and by the Yobins on the South-Eastern fringe.

History and Background of the Yobins

The Yobins came to this valley in search of Musk deer. Discovering that the land was good and fertile, families moved in to this place from time to time clearing the thick virgin forest each year for shifting cultivation. The place developed into a small village and later grew to a large settlement. Till date, there is neither electricity nor motor vehicles in this region. It makes one feel very uncomfortable especially for those who are accustomed to urban life. With altitudes of the region ranging from 6000 feet to 12000 feet, the Yobins enjoy warm climate during summer and extremely cold climate in winter during which frost covers the entire land until about 10 a.m. in the morning. People are fair in complexion, well built in stature, healthy and energetic. Compared to other tribes of the state they are below the poverty line. To acquire certain essential commodities like salt, edible oil, kerosene, clothes, blankets, utensils and other essential items, they have to walk for 6 days, covering approximately 187 km along monkey trails and elephant tracks and climbing along the *Shidineyi* (*Dehing*) river to reach the nearest town, *Miao*. With the Indo-Burmese border demarcation, tribal people who moved freely across the border now have been made immobile with restrictions from the Burmese Army and the terrain on the Indian side. The movement of the people is restricted to winter months or by aid of IAF helicopter service.

Ninety miles from *Miao*, in Arunachal Pradesh lies the Nao-Dehing valley, which is the home of the 'Yobins'. It is surrounded by the *Majiwa-ku* (Hukan pass), the *Chakabo-ku* (Chaukan pass), and snow-capped mountain ranges. It takes about 45 minutes to reach *Daudi* (Vijoyanagar) by helicopter from Mohanbari in upper Assam. Relatively unknown, the Yobins are descendants of *Mago* - most probably the Mongoloid race - who are said to have found their way into the Nao-Dehing valley from the Yunan province of China where they had settled since time immemorial. A contrasting culture, dress, language and religion cut out the Yobins distinctively from the other tribal populace of the state. The name *Yobins* refers to the Lisus who had settled in the valley, popularly known as *Daudi* (= the Fern-land) prior to the Indo-Burma survey conducted by the Government of India in 1967. Before this, there was no international boundary.

Current status of the Yobins

There are one hundred and eleven different categories of schedule tribes in Arunachal Pradesh in 1981 census whereas the number of schedule tribes in 1971 was 110. In 1961 census the number was eighty only. Total number of tribes may vary from census to census because of the fact that the list of the tribe of the presidential order of 1956 is an open one. From these hundred and eleven tribes the Yobins were listed in the serial number 107.

Though citizenship and civic rights have been granted under the Indian Constitution, the Yobins are not yet recognized as Scheduled Tribes. Identity is very crucial and critical to the Yobins. The younger generation at present feels suffocated, as there are no facilities for further study. Dropout rate is very high and most of them stop studying after Class IX. Poverty also adds up to this problem. Education means nothing and has no value in their context in the absence of opportunities. In the entire District of Changlang there are only 4 Higher Secondary schools, 8 Secondary School, 22 Middle Schools, 119 Primary Schools and 26 Community Schools. Till 1992, there were also 142 Adult Education and 23 Jana Shiksha Nilayam Centres under the Adult Education Programme. From all the above numbers of educational institutes, there are only 2 Middle schools in the *Daudi* (Vijoyagar) area.

Panchayati Raj had been introduced in *Daudi* (Vijoyagar circle) under NEFA Panchayati Raj Regulations 1967. This system is a three-tier system, though the *Miao* circle has two tier systems. The *Daudi* area has the Anchal Samities and the Zila Parishad. At present there are seventeen different types of Co-operative societies and two branches of the Arunachal Pradesh State Co-operative Apex bank functioning in the District. Since Vijoyagar is an air fed area, ration items including canteen items and building materials have been arranged through ration sorties from Mohanbari Air Station. During constant rain, there are few air droppings. This adds tremendous drawbacks especially to the Yobins of Arunachal Pradesh.

To bring unity and integrity as well as for the upliftment of the local traditional customs and culture the administration should provide assistance by way of Grants-in-Aid every year. Prior to Independence, the Tribes of this District were left to themselves. The British did not take any initiative to develop the area except sending some forces where ever and whenever the situation demanded.

Potentials of Changlang District, Arunachal Pradesh

The North Eastern Biodiversity Research Cell (NEBRC), after a preliminary survey of the area, sensed that such gorgeous mountain ranges rich in flora and fauna will not be able to withstand for another few generations. It is high time for the Government of Arunachal Pradesh and the local authorities to take heed with prompt action of the situation at first hand, lest it be too late. Beside this, Ecological Awareness should be initiated.

The area is endowed with varieties of timbers, bamboos, canes, flowers, bees, birds, wild animals, herbal and wild edible plants as well as fishes endemic to this area. Colourful birds are still seen hovering in the sky and flying tree to tree. In most of the bigger trees hang different types of orchids. Rich in its bio-resources, employment opportunities can be easily created. Bee keeping will bring job opportunities to many young people. At present there are twenty-seven natural habitats located at different and diverse topographical features. Wild

honey collection is done in the months of June-July and January-February. Streams and Rivulets are best suited for small-scale hill stream fisheries. Bamboo and cane plantations will bring new avenues for handicrafts and cottage industries. Even horticulture can be initiated at the village level. Natural waterfalls exist which can be easily converted into small hydel projects to provide energy at the village level. This would curtail a large destruction of timbers used for fire wood and housing materials. Besides these there are high mountain ranges covered with snow, high steep rugged cliffs, majestic landscape which could attract tourists for trekking and other adventure sports. This would invite not only Indian but also foreign tourists. The District is endowed with nature's grandeur and picturesque beauty. The area has tremendous tourist potential. When fully explored it will blossom into an ideal place for tourist. Namdapha situated in Indo Myanmar border in *Miao* sub-division is famous as a wild sanctuary, which has been declared as a National park. It has spectacular scenery. Project tiger was launched here in 1983.

It is therefore, high time for the government of Arunachal Pradesh and the local authorities to take heed to improve the situation, otherwise it may be too late. The need of the hour is to let the Yobins come to the mainstream i.e to recognise them as one of the scheduled tribe of Arunachal Pradesh and mobilise them in all round development specially giving them proper education. Mass Ecological awareness should be initiated with incentives by granting them micro eco-friendly projects and schemes to the village level.

There are tremendous avenues for upliftment of the Yobins with various projects and schemes. They are one of the neglected indigenous people of the state. Not many students have come to the University level. As per record there are only two Master degree holders and nineteen Yobins are in government service. *Daudi*, the land of the Yobins, being situated at the remotest eastern tip of the country does not have road links from any nearby towns. The Yobins as a distinct group presents an interesting tribe to study, vis-à-vis socially and culturally as well as ethnobiologically. Cut off from the main stream, their isolation provides an ideal case to study with respect to ethno-medicines. Lacking in modern health care, the Yobins rely on traditional herbal practices.

It is in this context, that the NEBRC has conducted a preliminary survey on the medicinal plants, with the view to study, document and in retaining medicinal plants with the hope that it will play a vital role to create an awareness among the Yobins and other tribes of Arunachal Pradesh to maintain ecological balance and to make use of natural resources in its sustainable way. Therefore, peoples' participation is necessary at the grassroots level to bring constructive upbringings among the Yobins.

At present the Yobins do not conceive of conserving any part of the rich forests. Their living depends totally upon natural resources. However, the Yobins do little fruit cultivation, namely growing of perscimon on the hilltops bringing some kind of conservation in biodiversity. If road transport communication were made available it would be of tremendous help for the village folks at large. Perscimon is a seedless fruit. The young branch of perscimon is being grafted planted and eventually grows into a large tree. A tree yields more than a couple of sacks of fruit; therefore, this will be a source of income for the uprising generation. At present each fruit costs a rupee in the village. The perscimon fruit can most probably be used in jam factories. It is, in fact, good to encourage growing of this

fruit tree. Another area to work on is the plantation of apples in the region. This would fetch them a large amount of income in the long run.

Yobins and Traditional Healing

Situated at the border area, people suffer from innumerable drawbacks. One major drawback is the lack of hospitals; there is no pharmacy till date. There lies a small dispensary at Vijoynagar with insufficient medicines. Particularly the women folk complain about the lack of delivery rooms and treatment of women-related diseases. Thus, herbal medicines rank high above all other needs. The general masses resort to herbal medicines. Table 1 below gives some names of plants used by the Yobins.

Table 1: Herbal Plants used by the Yobins

Sl no	Local Names	Mode of use
1.	Athamuchu	Boiled leaves for fomenting back aches and as a local drink.
2.	Budiche	paste of leaves with stems for scabies, ringworms and stings
3.	Chuchey	Leaves and roots boiled, mixed with newchachey for anemia
4.	Chuphamo	roots for infertility in women.
5.	Chwekhunechi	Leaves when boiled used as a drink to cure malaria
6.	Lidu	raw bark chewed or boiled in warm water and drink before bedtime
7.	Lomilu	fruits boiled and drink like tea for body aches and joint aches
8.	Loyeama sichey	Leaves boil in water as cure for early stage of T.B.
9.	Newchachey	Leaves and roots boil after cutting into pieces for anemia, mix with chuchey
10.	Nimanyikae	Leaves and buds soak in water for 3 hours and taken for irregular heart beat
11.	Odunechichih	Leaves wrapped over the head for quick relief from headaches.
12.	Sichele	Leaves boiled and drink for stomach disorders
13.	Sichelishe	leave paste for cuts and wounds
14.	Sidee	Boiled leaves as a drink to cure gastritis, dysentery and fever
15.	Sikheleh	Leaves for removal of corns and warts
16.	Silewo	Leaves for fomenting breast complain, roots for gastric, stomach disorder.
17.	Sipudu	stem and leaves boil together and drink to relief chronic or severe headaches.
18.	Subili	fruits eaten raw or cooked with meat, as tonic
19.	Thichineche	two leaves eaten raw for loose motions
20.	Tulu	leave paste for cuts and wounds

The Yobins are expert in treating Kidney disorders, Joint-aches, Jaundice, Chronic headaches, Backaches, appendicitis, menstrual disorder, bone-fractures, boils, sprains, major cuts or injuries, early stage of skin leprosy, gastric, various insect stings and scabies.

Conclusion

It is obvious that, the people residing in this beautiful area face a difficult time with all the constraints. There is therefore, an urgent need to educate, create awareness and simultaneously, developmental schemes and projects should be initiated so that at least they can be drawn towards mainstream activity. Further, due to complete absence of any basic amenities like roads, health care centres and others, the pressure on the biodiversity of the area is without doubt under threat. Due to the lack of any alternative subsistence they depend their living on *jhuming* and hunting. Therefore, the state government and the central government should hasten the developmental process and minimise the sufferings of the community.