

Turn Mirrors into Windows Rhetoric of Act East Policy and Beyond



International Conference

Waste with East - Vistas of Indian Cooperation with South East Asian
Commerce, Culture, Capacity and Connectivity

Jointly Organised by



Green School, Bali



University of Science & Technology, Meghalaya



Green Camp, Bali

Compiled and Edited by:

Amit Choudhury, Ph.D.
Senior School of Business Sciences
University of Science & Technology, Meghalaya

Patron

Mahabubul Hoque, Chancellor
University of Science & Technology, Meghalaya

Dr. P.G. Rao, Vice-Chancellor
University of Science & Technology, Meghalaya

Christopher Saye, CA
Founder & MD, Marc Whitaker, Singapore

Advisory:

Shri. H.N. Das
Former Chief Secretary, Govt. of Assam

Prof. K. Pushpanadham
The M.S. University of Baroda

Prof. Alaka Sarma
Dean, Student Welfare
University of Science & Technology, Meghalaya

Editorial Board:

Amit Choudhury
Dr. Sankar Thappa
Head, Business Administration, USTM
Dr. Abdur Rashid
Head, Economics & Commerce, USTM
Dr. Ni Putu Tirka Widanti
President, Yayasan KulKul

Cover Design by:

Kaushik Handique

Layout and Design:

Giasuddin Ahmed
Partha Pratim Borthakur

ISBN- 978-81-927640-1-6

Price : Rs. 449/-

Printed & Published Jointly by:

University of Science & Technology, Meghalaya - India
Green School, Bali - Indonesia
Green Camp, Bali - Indonesia

Printed at: Aman Udyog Pvt. Ltd.

Guwahati, Assam

Ph. 0361 240111/12

Registrar
University of Science & Technology,
Meghalaya

India's Act East Policy: Integrating Northeast India with ASEAN

Dr. Sankar Thappa
HEAD, Business Admn. USTM
Hari Mall Thakuri
Asst. Prof. Commerce & Economics, USTM

Abstract

The naturally rich resources and geographical location with great economic potentialities of the North Eastern region has been considered as a gateway for India to East and South East Asia. The North Eastern region is being considered as focal point and the development of this region would be instrumental in the implementation of Act East Policy and India-ASEAN relations or regional co-operation. The Act East policy which was previously known as Look East policy has made North Eastern Region more important from strategic point of view. The region has to gear up to take up more challenges and capitalize on the opportunities being emerged by the huge market in the South East Asian countries. To exploit all the opportunities it is required to integrate the North East Region with the South East Asian Region. This will also bring the isolation of the North Eastern Region come to an end and open up the region to the neighbouring countries. The probable result of economic co-operation will bring more prosperity to the people of North East region and South East Asian Region from the policy initiative. This paper examines the Act East Policy in relation to northeast india. The paper also highlights the possibilities coming out for the northeastern region as a result of Act East Policy and integration with ASEAN

Key words: Northeast, ASEAN, Act East Policy, integration, regional cooperation

Introduction

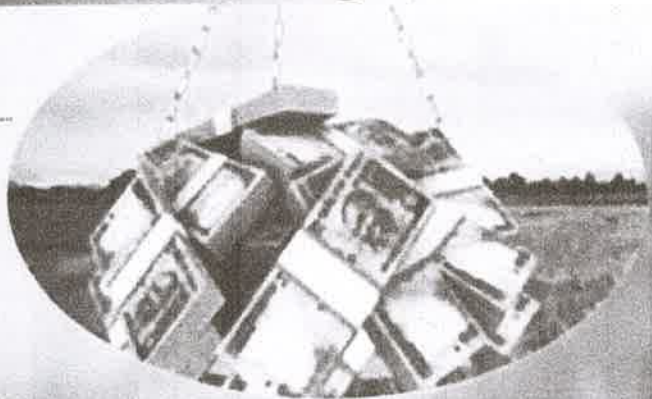
Regionalism has become an important strategy in shaping the today's competitive world. This has become necessary to overcome the challenges faced at the regional level as a result of global competition. This encourages the initiation and promotion of the co-operation amongst the regional tie-ups for development of economies at regional level. The India- ASEAN relationship has been one of such initiative for the development of co-operation and economic development amongst the countries to make a strong hold at regional level. Along with the growth of economies of India as well as ASEAN new opportunities on business and trade have been coming up and making the governments to become more outward looking. The impact of economies of US and western countries like European Union are also contributing the demand for more co-operation and outward looking policy for regional growth and development.

S.No	Title	Author	Page No.
11	Academic Tourism : Destination North East India	Indib R. Sarma, Dr. Assoc. Prof. Business Administration, Tezpur Univ.	77-83
14	Contribution of Economy Social and Domestic Violence as the cause of Divorce Increase in Bali	Dr. Nyoman Suardi Director, Post Graduate Prog. Universitas Ngurah Rai Bali	79-90
15	Assam's Cultural Connectivity with South-East Asia : A Historical Perspective	Dr. Sikkhamoni Konwar Principal, Karmashree Hiteswar Sakia College Dr. Daisy Nath Choudhury Asst. Prof. Education, Karmashree Hiteswar Sakia College, Guwahati.	91-99
16	Teamwork and Connectivity : A Study of North Eastern Region of India in the Light of Act East Policy	Prof. Paponi Baruah Professor, Business Administration, Tezpur Univ. Ms. Rashmi R. Baruah Asst. Prof. Business Administration, USTM	100-107
17	India's Act East Policy : Integrating Northeast India with ASEAN	Dr. Sankar Thappa Head, Business Administration, USTM Mr. Hari Mall Thakuri Asst. Prof. Business Administration, USTM	108-114
18	An Overview of India- ASEAN Bilateral Trade	Dr. Abdur Rashid Head, Economics and Commerce, USTM	115-122
19	Unleashing Industrial Development in Assam : The Integrity of Act East Policy Paradigm	Mr. Ashraf Wahid Ph.D. Scholar, SBUS-USTM	123-127
20	Development of Intercultural Competencies Through Education	Ms. Pratisha Padmasri Ooka Cotton College	127-132
21	The Strangers of the Southeast Asia : A Grand Cultural Voyage Through a Fascinating Land	Mr. Kaushik Handique Asst. Prof. Business Administration, Assam Women's University	133-136
22	Act East Policy : Improving Intra and Inter-Regional Connectivity	Ms. Bohanika Pathak Asst. Prof. NERIM, Ph.D. Scholar, USTM	137-141
23	Two Leaf and a Bud : A South East Asian Perspective on Organic Tea of Assam	Mr. Naba Kumar Das, Asst. Prof. Assam Women's University.	142-144
24	Bali Dwipa Jaya - Glorious Bali Island : A Tale of Interconnections	Mr. Pranab Kumar Barua Visiting Faculty, Business Administration, USTM	145-146

Registrar
University of Science & Technology,
Meghalaya

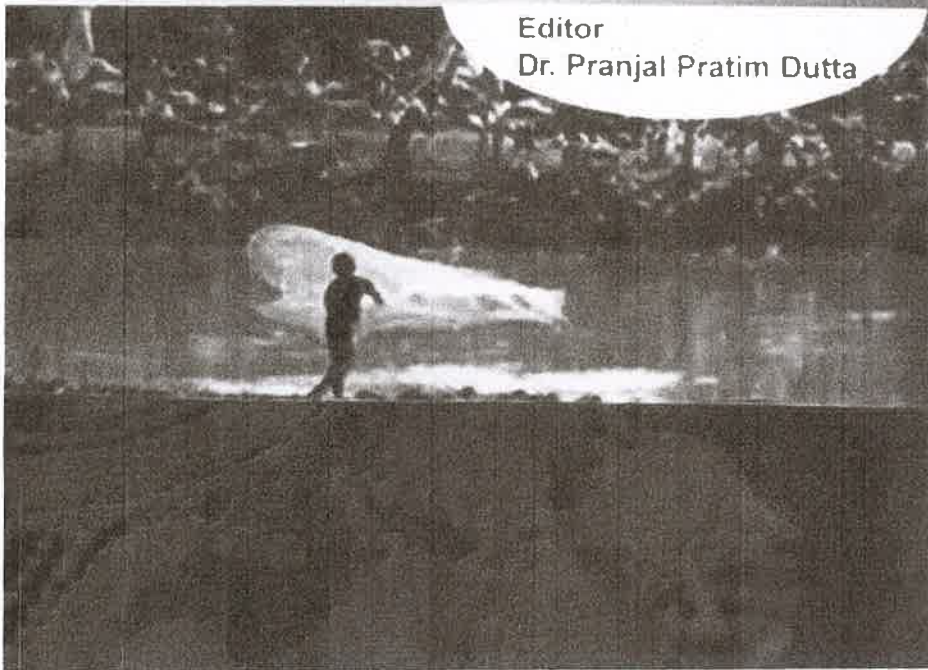
Rural Financing in North Eastern Region of India

Issues and Challenges



Department of Accountancy
Golaghat Commerce College, Golaghat, Assam (India)

Editor
Dr. Pranjal Pratim Dutta



Rural Financing in North Eastern Region of India - Collected Papers in connection with
100th Anniversary National Seminar Organized by the Department of Accountancy, Golaghat Commerce
College, Assam

ISBN 978-93-85495-65-4

Publisher :
Ananta Publications
100, C-11, Sector 3
Kirti, Delhi - 110025, India

Copyright © 2016 Ananta Publications
All rights reserved. No part of this book may be produced
in any form without prior permission of the publishers.

Former Chairman :
Dr. Jatintra Nath Sarma
Principal
Golaghat Commerce College

Former Director :
Prof. Anup M. Das

Former Convener / Organizing Secretary :
Dr. Pranjal Pratim Dutta

Editor :
Dr. Pranjal Pratim Dutta

Price : ₹ 600/-

Date of Publication :
27th September, 2016

Printed at :
Golaghat Offset Printers
P.O. D. Path, Golaghat
Assam - 781 627

The responsibility for the facts stated, opinion expressed and conclusions drawn in this book rests entirely with the Author.
The Publisher or Editor is not responsible for errors.

Registrar
University of Science & Technology,
Meghalaya

Content.....

- ❑ Rural Marketing in India - Opportunities, Strategies and Limitations / 348
Kabita Kalita
- ❑ Empowerment of Rural Women through Entrepreneurship in Small Scale Industries / 353
Ms. Laya Gogoi
- ❑ A Study on the Impact of School Sanitation Facilities on the Education System of the Girls,
with Special Reference to Schools of Kallabor, Nagaon District / 360
Lipi Bhuyan
- ❑ Microfinance Sector Towards Rural Development in North East India / 369
A.M. Mahabooob Basha
- ❑ Forerunners for Rural Development - Health, Sanitation, Education :
A Study on a Selected Village of Dibrugarh District / 374
Monalisa Sarmah
- ❑ Refinance and Rural Credit : Role of NABARD and Regional Rural Banks / 385
Mousumi Gogoi & Devajani Bakalial
- ❑ Role of Micro-Finance in Rural Development of North East India : Challenges and Opportunities
Miridumita Phukan
- ❑ Performance of NABARD in Agriculture and Rural Infrastructure Development in Assam / 397
Pallab Jyoti Salkia & Porinita Devi
- ❑ Economic Empowerment of Women through Self Help Group -
A Study of Select Villages of Lakhimpur District / 404
Parthapratim Bora
- ❑ Future Possibilities (With Special Reference to Rastiya Krishi Vikash Yojana (RKVY)
in Sivasagar District of Assam / 411
Dr. Polakshi Bhattacharyya & Pankaj Jyoti Hazarika
- ❑ Role of Self Help Groups in Providing Microfinance with Special Focus in North East India / 419
Pompi Chetia
- ❑ Problems and Prospects for Marketing of Rural Products -
An Empirical Study of Pottery Craft of Salmora Village, Majuli (Assam) / 425
Porag Pachoni
- ❑ Women Empowerment Role of SHG in Rural Economy: A Case Study of
No. 2 Tinal Gaon Under East Padumoni Development Block, Golaghat / 530
Pronab Pathori & Sasankar Salkia
- ❑ Efforts of NABARD in Financial Inclusion in North Eastern Region of India / 536
Priti Goswami

Fisheries and Livelihood : Current Status and Future Possibilities (With Special reference to Rastiya Krishi Vikash Yojana (RKVY) in Sivasagar District of Assam

Dr. Polakshi Bhattacharyya
Pankaj Jyoti Hazarika

Assam is endowed with 3.90 lakh hectares of water bodies which include ponds and tanks, river fisheries, beels, reservoirs, forest fisheries and derelict water bodies or swamps. About 90% populations of the state consume fish and there is a growing demand of fish in the various schemes for fish production. Though, the Government has been giving due emphasis to the sector by implementing various schemes for fish producing in the state nevertheless it has not been met up the deficit of fish. The main aim of this paper is to examine the role of fishery sector, status and livelihood of the people in the rural area of Sivasagar district.

Key Words: Fishery sector, fishing, livelihood, rural area, agriculture, allied

I. Introduction:

Assam is endowed with 3.90 lakh hectares of water bodies which include ponds and tanks, river fisheries, beels, reservoirs, forest fisheries and derelict water bodies or swamps. About 90% population of the state are fish eaters and there is a great demand of fish in the state.

The fishery sector was officially recognized as a significant allied agriculture sector in the country during the first five year plan 1951-1956. It plays a pivotal role in the socio-economic development and employment generation in the state. Fishing and farming as a profitable economic activity, which is gradually gaining popularity amongst fisherman and the farmers in the state and they have been taken in this sector as commercial basis.

The primary sector is the most important in our Indian economy. It provides food to its population and generates employment and income to a significant portion of the people. Fish is an important source of many nutrients, including protein, retinol, vitamins D and E iodine and selenium. The consumption of fish enhanced brain development and improve

College Libraries in Assam Issues and Challenges

Editor-in-Chief
Dr Prasanta Kumar Deka

Editors
Dr Gouri Sankar Karmakar
Dr Nirmal Ranjan Mazumdar
Dr Kishore Kalita



Assam College Librarians' Association

About the Editor-in-Chief



Dr. Prasanta Kumar Deka is a Librarian (Associate) of a renowned K C Das Commerce College of Guwahati and has experiences of 15 years in ICT enabled fully automated library. He holds MLISc and Ph.D from Gauhati University. He has attended more than 40 seminars, conferences, workshop, etc at Regional, National and International levels and published more than 30 papers. He is a life member of IASLIC, ALA, GLA, KCDCECT and ACLA.

His areas of interest are Application of ICT in Libraries, Modern Library Services, e-Resource Collection Development, Modern Library Management, Institutional Repository, Digital Library, etc. Dr Deka has written two books on LIS. At present Dr Deka is General Secretary of ACLA and member of AIFUCTO. A UGC sponsored Minor Research Project titled 'E-Resource collection development and management in college libraries of Kamrup district: A study' has also been completed in the year 2013. In 2017, he acted as co-organizing secretary of international LIS event first ICTL-2017 organized by CIT, Kokrajhar and Gauhati University and was one of the Editors of the Proceedings of ICTL-2017.

About the Editors



Dr. Gouri Sankar Karmakar is working as Librarian at Pandu College, Guwahati, Assam. He holds degree in B.Sc., M.L.I.Sc., P.G.D.C.A., Ph.D., Certificate in Hardware & Networking and Certificate in French Language. He contributes 17 nos of articles in different seminar proceedings. He has also jointly edited one book and one issue of a journal. He is a life member of IASLIC, ALA, NBT and ACLA. His areas of interest are Application of IT in

College Libraries, ICT enabled Library Services, e-Resources, Open source LMS, Institutional Repository, Digital Library, etc.



Dr Nirmal Ranjan Mazumdar (MLISc, PGDHRM, M Phil, UGC-NET, Ph D) is working as Librarian in Pub Kamrup College, Baihata Chariali, Kamrup, Assam. He completed 'Apprenticeship on Library & Information Science' from Central Reference Library, Kolkata in 2005. He has participated in various national and international seminars and has more than 35 papers in his credit. Moreover, he edited the 'ACLA Bulletin' (ISSN: 2229-6492, Vol. 8) and the

'ACLA Newsletter' (Issue 1) published in the year 2016 and 2017 respectively. His areas of interest are manuscript preservation, digitization, human resource management, etc.



Dr. Kishore Kalita (MLISc, M Phil, Ph D) is currently working as a Librarian of Barbhag College, Nalbari and have 13 years experience in LIS field. Before joining in the present service he had worked as an Assistant Librarian at Assam Legislative Assembly Secretariat, Dispur. He did his MLISc and PhD from Department of Library and Information Science, Gauhati University. Dr Kalita authored more than 12 papers in many State,

National and International Seminars and Conference Proceedings. He has participated many State, National and International Seminars, Conferences and Workshop. Dr. Kalita is one of the editors of very first issue of ACLA Newsletter. He is a Life Member of ALA and Executive Member of ACLA.

Price: 750.00/-

Printed at Seven Stars Publications Pvt. Ltd, Adahari, Ph. 0361-2674555, e-mail: sevenstarspub@gmail.com

ISBN 978-81-920230-2-4



9 788192 022024


Registrar
University of Science & Technology,
Meghalaya

College Libraries in Assam: Issues and Challenges	
Sub Theme E: Digitization of College Libraries of Assam: Problems and Prospects	
16. Digitization of College Libraries in Dibrui District: Problems and Prospects <i>Jyotirmay Sarkar</i>	134
17. Need for Digitization: Problems and Prospects in College Libraries of Guwahati <i>Rubi Baishya and Trishoni Devi</i>	140
18. Uses of Information and Communication Technology in the Law College Libraries of Zone Four Assam to Gauhati University: A Preliminary Survey <i>Rudhika Devi Basumatary, Prasenjit Kr Choudhury, and Sujia Basumatary</i>	147
Sub Theme F: Best Practices in Library and Information Services in the College Libraries of Assam	
19. Best Practices in Library and Information Services in the College Libraries of North Kamrup (R) Area: A Study <i>Geetali Das and Bhawanati Devi</i>	157
20. Best Practices in College Libraries of Dibrugarh District: A Study <i>Suraj Goswami and Monalisa Chutia</i>	164
21. Greening College Libraries Towards Sustainable Development <i>Trinayan Borgohain and Nandita Barmun</i>	171
22. Open Access Initiative: A Special Reference to Massive Open Online Courses (MOOCs) <i>Amrita Devi</i>	178
23. Organization and Management of Journal Collection in the Colleges of Kamrup (Rural) District: A study <i>Kaberi Das and Deepjyoti Kalita</i>	186
Sub Theme G: Skill Development for LIS Professionals with Reference to College Libraries of Assam	
24. Development of Skills of College Librarian in the 21 st Century: Issues and Challenge <i>Nabjyoti Das</i>	194

Open Access Initiative: A Special Reference to Massive Open Online Courses (MOOCs)

Amrita Devi
Faculty, DLIS
USTM, Meghalaya

Abstract

The present paper describes about the universal access to knowledge and information in the network and digital environment. It highlights on different issues relating to the increasing demand of "open access" resources. In this context, the role of MOOCs (Massive Open Online Courses), a new type of online class that allow anyone, anywhere, to participate via video lectures, computer graded tests, and discussion forums, has been discussed. Along with it, the strengths, weaknesses and the possible relationships between academic libraries and MOOCs are also included.

Keywords: Open Access, Open Source, MOOCs, Digital Literacy, Information Literacy.

1. Introduction

The main motto of a library is to satisfy the Users demand with accurate information within the shortest possible time. Hence libraries are trying to conceive all measures/possibilities to keep the user community satisfied. Academic Libraries are in a developing phase now. Today, users are highly specific in their needs and are also aware of other alternatives which provide information. In this regards, the impact of ICT has been very high. The Digital technologies have created more than one revolution, and among those our focus goes mainly on Access revolution.

2. Open Access Initiative

The revolution of Open Access has been started since early 1990s. The concept open accesses justify direct access to particular content, document or information. The concept Open access came in to existence as a result of various limitation on use of scholarly and scientific publications like subscription fees, license fees or pay-per-view fees etc. The publishing houses charges different fees to access their document or information, Open access on the other hand gives full freedom to the user to access scientific and scholarly publication

RECENT TRENDS OF RESEARCH IN SCIENCE AND TECHNOLOGY

Proceedings of 59th Annual Technical Session
of Assam Science Society

VOLUME 15, 2014



Assam Science Society
Jawahar Nagar, Khanapara,
Guwahati

Published by Dr Dhireswar Kalita, General Secretary, on behalf of the Assam Science Society, Jawahar Nagar, Khanapara, Guwahati, with the financial assistance of NEIS Jorhat, Assam.
Phone No: 9864026155; E-mail: gsass2014@gmail.com

ISBN : 13-978-81930041-2-8

EDITORS :

P. K. Baruah
Department of Botany
Cotton College, Guwahati -1.

S. R. Patgiri
Department of Botany
Cotton College, Guwahati -1.

P. Sharma
Department of Geogarphy
Cotton College, Guwahati -1.

D. Borah
Department of Botany
Cotton College, Guwahati -1.

A M P Hussain
Department of Physics
Cotton College, Guwahati -1.

Copyright © 2014, Assam Science Society


Registrar
University of Science & Technology,
Meghalaya

Production of Citric acid from tender coconut water and unused tender coconut meat

Ipsita Bhattacharjee, P. K. Baruah,

Abstract.

Citric acid is the most important organic acid, used mainly as a natural preservative and conservative. It has found multiple applications in industries related to food, beverage, pharmaceuticals, etc. In this study, tender coconut water as well as unused tender coconut meat, are used for citric acid production using *Aspergillus niger* spores. The spores are mixed into the fermentative medium, supplemented with ammonium-sulphate and incubated at $30 \pm 1^\circ\text{C}$, for 60 hours. After incubation, the media are then tested for citric acid production, using some confirmatory biochemical tests. The amount of citric acid produced, was determined by titrimetric method. 100% tender coconut water showed the highest production of citric acid while the medium containing 180 gms of tender coconut meat showed the highest citric acid production. It was finally concluded from this study that, both tender coconut water as well as unused tender coconut meat can serve as excellent potential raw materials for citric acid production.

Keywords : Citric acid, *Aspergillus niger*, coconut water, coconut meat.

1. Introduction.

Among all the organic acids industrially produced, citric acid is the most important biodegradable, environmentally acceptable and versatile chemical. It is used in food, beverage, pharmaceutical, chemical, cosmetic and other industries. Fermentation is the only widely used technique for citric acid production on a mass scale (Kubick C. P *et al*, 1994, Rhr M, 1998 & Kristiansen B *et al*, 1978). According to estimates, citric acid produced through fermentation is 70×10^5 tonnes/annum.

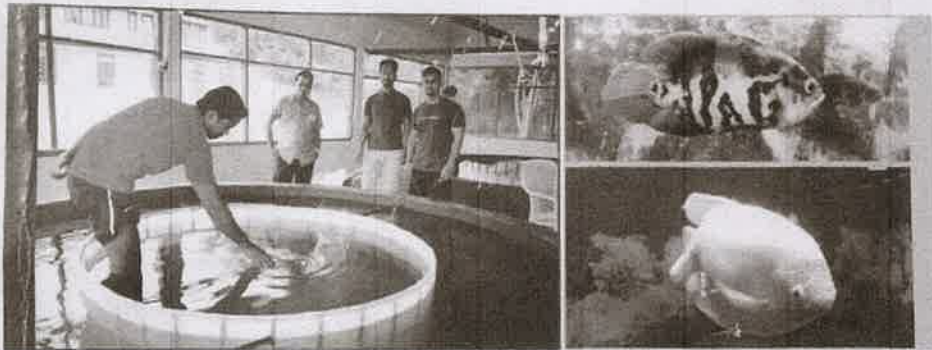
Correspondance

Department of Botany, Cotton College,
Guwahati- 781001, India.

INNOVATION

A GLORIOUS JOURNEY

Proceeding of National Seminar on Fisheries & Fish Breeding



Editor: Dr. Ranjit Hazarika, Saurabh Kr. Sarma

ISBN: 978-9381998-20-5

Content

MAGUR FARMING: A REALITY NOT A MYTH	/ A. K. Saha	// 1
RESEARCH & DEVELOPMENT TOWARDS INTENSIFYING INLAND AQUACULTURE IN ARUNACHAL PRADESH, INDIA	/ Prof. D. N. Das	// 5
STATUS REPORT ON ACUTE TOXICITY OF PESTICIDES IN FISHES IN INDIA	/ Dr. Ranjit Hazarika / Purbajyoti Deka / Bandana Deka	// 15
GROWTH OF FISHERIES AND ITS SIGNIFICANCE, IN BTAD AREA	/ Dr. Geeta Deves / Miss Anamika Das	// 21
ICHTHYO-FAUNAL DIVERSITY AND CONSERVATION IN BARBILA BEEL, NALBARI, ASSAM	/ Kamala Deka / Bibul Acharya	// 27
LEVEL OF MUSCLE PROTEIN AND MUSCLE CARBOHYDRATE IN SOME FRESHLY KILLED AND REFRIGERATED FISHES: A COMPARATIVE STUDY	/ Anamika Kalita / Rajib Ratan Kashyap	// 33
GENETIC VARIATION AMONG HONEY GOURAMI (<i>TRICHOGASTER CHUNA</i> , HAMILTON 1822) POPULATION ASSESSED BY RANDOMLY AMPLIFIED POLYMORPHIC DNA (RAPD) MARKERS FROM ASSAM	/ Merina Das / Mrigendra Mohan Goswami	// 44
IMPACT OF NAGAON PAPER MILL EFFLUENTS ON GILLS AND LIVER OF <i>CHANNA PUNCTATUS</i>	/ Queen Sulka / Mumun Deka / Chiranjib Bora	// 52
FISHING GEARS USED IN BAKSA DISTRICT, ASSAM	/ Runu Swarglary / Jugal Kishore	// 68
EFFECT OF ANTHROPOGENIC STRESS AND ITS IMPACT ON FISH FAUNA OF CHOUTRA NAITARA WETLAND OF GOALPARA, ASSAM, INDIA	/ Tulukdar / Manoj Kumar / Rajbongshi	// 80
FISH FARMING EDUCATION AND TRAINING	/ Gobinda Brahma / Champak Deuri	// 87
UNDERSTANDING THE METHODS OF FISHING AMONG THE SARANIA KACHARIS OF BAKSA DISTRICT (BTAD), ASSAM	/ Sarat Chandra / Bhuyan	// 89
SEASONAL INDUCED BREEDING OF ROHU (<i>Labeo rohita</i>), MRIGAL (<i>Cirrhinus mrigala</i>) AND BATA (<i>Labeo bata</i>) BY USING OYUPIN IN DABALIAPARA AREA OF BARPETA DISTRICT	/ Rujeena Khanam	// 91
AN OVERVIEW OF PRESENT POSITION OF PISCICULTURE IN ASSAM	/ Saurabh Kr. Sarma / Khalrul Islam	// 97
GEOGRAPHICAL OVERVIEW ON IMPORTANCE OF PISCICULTURE SPECIAL REFERENCE TO PAKABETBARI PAM AREA	/ Ajit Kumar Ojha / Saurabh Kr. Sarma	// 105
STUDY ON PHYSICO-CHEMICAL PARAMETERS OF PUTHIMARI BEEL, SOBHOOG, ASSAM	/ Dhramoni Moral	// 109
WATER QUALITY ASSESSMENT IN FEW PONDS OF DABALIAPARA AREA OF BARPETA DISTRICT	/ Ripan Kalita	// 112
TRADITIONAL FISHING GEARS AND FISH PRESERVATION BY THE FISHING PEOPLE OF GOPAL JARANI AND THEIR SOCIO-ECONOMIC STATUS	/ Deepshikha Baruah / Bibul Acharyee / Parag Deka	

TRADITIONAL FISHING GEARS AND FISH PRESERVATION BY THE MISHING PEOPLE OF GOPAL JARANI AND THEIR SOCIO- ECONOMIC STATUS

Deepsikha Baruah**

Research scholar, University of science and technology, Meghalaya

Bulbul Acharjee*

Associate Professor University of Science & Technology, Meghalaya

Parag Deka*

Pandu College, Pandu, Gauhati

INTRODUCTION :

Assam is a land of many tribes, culture and religions. It includes Bodo, Karbi, Mishings, Garo, Deuri, Kuki, Dimasa etc. Among the all tribes of Assam Mishings are the second largest ethnic tribes of Assam, population of which is estimated to be 1,237,569. They are also called 'Miri'. Mostly they live on the bank of mighty river Brahmaputra and its tributaries in certain areas like Lakhimpur, Dibrugarh, Sibsagar, Jorhat, Sonitpur. A large group of Mishing people lived in the area named as 'Gopal Jarani' in Biswanath district at the bank of river Brahmaputra. These tribal people are mainly making their livelihood by fishing. A lot of traditional gears and fishing methods are used by them to capture a vast range of fish species. They make the gears by themselves with their inherent traditional knowledge and are used by the communities to catch the fishes in relation to physiography of water body, nature of fish stock etc.

It is also noticeable that Mishing community of this locality of Gopal Jarani preserve the fish flesh and its taste and nutritive value which is called as Namsing and Perup. This local area is very backward and flood prone area, whereas



Assistant Professor, Department of Earth Science, USTM
 palme.borthakur@gmail.com
 Palme Borthakur has done her Master's Degree in Geography from Cotton College in 2002 and is pursuing PhD in the area of Music geography in University of Science & Technology, Meghalaya (USTM). The author is well experienced in teaching Post Graduate courses of USTM in Geography and Disaster Management. Her areas of interest are Cultural Geography, Regional Planning, Statistics and Geomorphology. The author was honoured as Ideal Teacher in 2016 and awarded twice as Performer Faculty in 2016 and 2017 by USTM. This is the first book of the author as a Joint Editor. The author has published a number of research papers in journals and seminar proceedings.



Lalit Saikia
 Assistant Professor, Department of Earth Science, USTM
 lalitsaikia@yahoo.com, lalitsaikia2008@gmail.com
 An MSc in Environmental Science (Tezpur University), Lalit Saikia has submitted thesis for PhD in Civil Engineering at IIT Guwahati (2017). His research work is on bank erosion problem of the Brahmaputra River. He qualified GATE in Chemistry, UGC NET in Environmental Science and Joint CSIR-UGC NET in Earth Sciences.

Besides research and teaching experience, Mr. Saikia has experience in UNICEF projects on hazard management, water quality and sanitation. His other areas of interest include environmental chemistry and climate change impacts. He has credit of research papers in journals, international & national conference proceedings and chapters in edited book volumes by publishers like Oxford University Press, Springer, IUCN etc.



Eahya Al Huda
 Assistant Professor, Department of Earth Science, USTM
 ea.huda@gmail.com
 He is an MA in Geography from Jagannath Barooah College, Jorhat affiliated to Dibrugarh University (2006) and PhD from North-Eastern Hill University, Shillong (2014). He has published more than 10 research papers in national and international referred journals. He has participated and presented research papers in national and international seminars/conferences in India and abroad. His areas of research interests include basin hydrology, water resource management, application of remote sensing & GIS.

Registrar
 University of Science & Technology,
 Meghalaya
 Shillong 791 004



RESOURCES AND CHALLENGES IN NORTH EAST INDIA
 Editors: Borthakur, Saikia, Huda

RESOURCES AND CHALLENGES IN NORTH EAST INDIA

Palme Borthakur • Lalit Saikia
 Eahya Al Huda *Editors*



Chandra Prakash
 on behalf of
 University of Science & Technology, Meghalaya

Jul 2020

Contents

<i>Foreword</i>	viii
<i>Preface</i>	xi
1 Environment and Development Issues and Concerns of North-East India <i>Abani Kumar Bhagabati</i>	1
2 The land and the People of Assam at a Glance <i>Palme Borthakur</i>	14
3 Water Resources of North East India and Challenges in Development <i>Lalit Saikia</i>	19
4 Water Resource Potentiality of High Humid Foot-Hill Areas of Arunachal Himalayas Using Runoff Prediction Model <i>Eahya Al Huda</i>	34
5 Respondents' Views on Natural Resource Potentials in Dhemaji District, Assam: An Analysis of Primary Survey Data <i>Krishna Das</i> <i>Ashok Kr. Bora</i>	52
6 Water Resource Management and Challenges in a Transforming Society: A Study on Kohima, Nagaland <i>Kughatoli V. Aye</i> <i>Kahuli V. Sangtam</i>	61
7 Channel Planform Analysis of Lower Dikhou River, Assam <i>Kashmiri Begum</i> <i>Sunil Kumar De</i>	77
8 A GIS Based Approach to Infrastructure Planning and Management in Community Block Level: A Case Study of Kathiatoli Development Block, Nagaon District, Assam <i>Narayan Chetry</i>	85

3 Water Resources of North East India and Challenges in Development

Lalit Saikia

Introduction

North East India, which includes the eight States of Arunachal Pradesh, Assam, Nagaland, Manipur, Mizoram, Tripura, Meghalaya and Sikkim, is known for its unique geo-strategic location and huge natural resources. Due to unique geographical location coupled with hydro-meteorological situation, North East India is endowed with vast water resources. There are rivers ranging from very small ones akin to streams to large rivers such as the Brahmaputra. The Brahmaputra basin and the Barak basin are the two major integrating river basins of North East India. The Brahmaputra basin of India is a part of the Tsangpo-Dihing-Brahmaputra basin which lies between latitude 25° N and 32° N and longitude 82° E and 97° E. Originated as the Yarlung Tsangpo from the Angsi glacier near Manasarovar lake in the Kailash range in southern Tibet, Brahmaputra is a trans-boundary river flowing from the Himalayas to the Bay of Bengal through China (Tibet), India and Bangladesh. With a value of $19.83 \times 10^3 \text{m}^3 \text{s}^{-1}$ average discharge at the mouth, Brahmaputra is the fourth (jointly with the Yellow river) as compared to other large rivers of the world, namely, Amazon, Congo and Yangtze (Goswami, 1989). Brahmaputra, Barak and well-knit network of the tributaries (Figure 1) controls the geomorphic regime of the entire region. The major rivers and tributaries of North East India are mentioned in Table 1. Unique ecology, biodiversity and monsoon regime cause all the small and big rivers of the region to have strong links to ecosystem dynamics and the productivity of the adjoining terrestrial and fluvial systems. The culture and livelihoods particularly of the tribal communities of the Northeast are intrinsically linked to the pristine forests and rivers.

Saikia L. (2017): Water Resources of North East India and Challenges in Development. In Borthakur P., Saikia L. and Huda E.A. (Eds.), *Resources and Challenges in North East India*, Chandra Prakash, Guwahati, pp. 19-33.

PROCEEDINGS

UGC SPONSORED NATIONAL SEMINAR ON "ISSUES OF TRAFFIC NOISE POLLUTION ON ENVIRONMENT AND CONTROL MEASURES IN NORTH EAST INDIA"

2017



Organized by
Department of physics
&

DBT Advance Institutional Biotech Hub
Dhing College,
Dhing, Nagaon, Assam

Carre page

Edited by
Debabrata Debnath

Registrar
University of Science & Technology,
Meghalaya

Monitoring & Measurement of Road Traffic Noise Level in Guwahati and its nearby area

Mrinmoy Koushik Bora

Ikbal Farid Ali,

Rima Kalita

Rakesh Ghimire Chetry

Anup Kr. Bordoloi

Abstract

The main objective to bring this paper is to reduce the traffic jam, one of the most important scenarios as observed in regards to noise pollution in Guwahati, the capital city of Assam. The noise pollution, which is a major and sever upcoming hazard in both urban and sub-urban areas, is found to be generated mainly due to the sudden pick up of speed in the vehicles and the uncivilized way of using the horn by the drivers. It has been a serious concern over the years especially in urban and sub-urban areas as the number of vehicles is found to be increasing in an exponential growth which in long turn may cause huge

PROSPECTS OF CONSORTIA FOR NORTH EAST INDIA LIBRARIES



Editor
Prof Narendra Lahkar

Proceedings of the National workshop on Prospects of Consortia for North East India Libraries organized during March 17- 18, 2016 by the Dept of Lib & Inf Science, GU in collaboration with the Indira Gandhi National Centre for the Arts (IGNCA), Ministry of Culture, Govt of India, New Delhi, edited by Prof Narendra Lahkar

© DLISc, Gauhati University

ISBN 978-81-908708-0-5

Published by the Department of Library and Information Science,
Gauhati University

Price : Rs 200/-

Assisted by
Ms Rubi Baishya

Disclaimer: The editor or publisher is not responsible for the statement/
opinions expressed by the author of the papers

Printed at
M/S Grafix, Hedayatpur, Guwahati 781003

Registrar
University of Science & Technology,
Meghalaya

x Prospects of Consortia for North East India Libraries

A brief study of National Institute of Electronics and Information Technology (NIELIT): with special reference to Kokrajhar Extension centre Library	Mr Kumar Machahary	119
Padmashree Modaram Brahma Central Library, Bodoland University: Prospects of Library Consortia	Mr Khagen Kalita	124
Library Consortia: A Prospect of Krishna Kanta Handiqui State Open University Library	Ms Anupama Chetia	131
Rabindra Library, Assam University	Dr Apurba Jyoti Mazumdar	137
Present Status of Bineswar Brahma Engineering College (BBEC) Library	Ms Dhiru Barman	140
Central Library Girls' College, Kokrajhar: Prospects of library consortia	Mr Rajib Kumar Das	143
Trailokya Nath Goswami Library, Nalbari College	Dr Ranjanjyoti Sarmah	147
Hojai Sub-Divisional Library, Directorate of Library Services, Assam	Mr Naba Jyoti Deka	153
Handique Girls' College Library, Guwahati	Dr Nabajyoti Das	156
A Note on Pandu College Library	Dr Gouri Sankar Karmakar	159
Assam Kaziranga University Library, Jorhat	Mr Tonmay Sabhapandit	162
Laxminath Bezbaroa Central Library, Dibrugarh University	Dr Utpal Das	165
Assam Engineering College Library, Guwahati	Dr Jyotika Devi	167
Assam Agricultural University Library	Ms Priyanka Chettri	169
University of Science & Technology Meghalaya (USTM) Library	Mr Shyamanta Bodo	174
Royal Group of Institution Library	Dr Bobby Goswami Baruah	176
Central Institute of Technology (CIT) Library, Kokrajhar	Ms Sabita Swargiary	177
Assam Don Bosco University Library	Ms Yendrembam Haripiya Devi	179
Barbhag College Library	Mr Kishore Kalita	182

Maulana Azad Central Library, University of Science & Technology Meghalaya

Mr Shyamanta Bodo

The Central Library of the University of Science and Technology, Meghalaya (USTM), named as Maulana Azad Central Library began its existence in the year 2011 along with the establishment of the University. The Library sets the goal of a world class library by integrating information sources and services across disciplines in one umbrella by building a sound and comprehensive collection of both print and electronic resources on all branches of knowledge with a robust hi-tech infrastructural facilities and to redesign and revamp the systems and services in efficient, effective, and dynamic ways tailoring to meet the myriad information needs of students, research scholars, and faculty members of the university pin-pointedly, exhaustively and expeditiously anytime during library hours for promoting academic excellence.

The Library is named as Maulana Azad Central Library after the name of Abul Kalam Azad, the first education minister of independent India. Maulana Azad Central Library supports the teaching, research and extension programs of the university. All students, faculty members, research scholars and employees of the university are entitled to make use of the library facilities on taking library membership.

The Maulana Azad Central Library, USTM started automation for the basic housekeeping operation through the open source software 'Koha'.

The Maulana Azad Central Library System (MACLS) comprises of a Central Library and Departmental Libraries that collectively support the teaching, research and extension programs of the University.

The Central Library houses a rich collection of about 33000

numbers of documents comprising of books, 86 numbers of print journals, 15 numbers of magazines, 8 numbers of news papers, 80 numbers of CDs/DVDs, 180 numbers of dissertations, 4 numbers of thesis in the fields of applied sciences, bio sciences. Besides all these the Maulana Azad Central Library, USTM has taken DELNET membership and also subscribed e-resources like JStore, Jgate, legal databases like Manupatra, LexisNexis.

Presently 7 (3 Professional and 3 Non-professional) numbers of human resources are engaging for tomorrow's better library services and including 2 library trainees. The MACLS provides various kinds of library services to the 3000 users like as OPAC, Circulation, News Clipping (ERDF News), E-News Clipping, E-Content, CAS, E-mail, Internet (Wifi/LAN), Reprography, Library Blog, Social Networking, Inter Library Loan, User orientation etc.



Taxonomy of Angiosperms and Medicinal Botany

Bhabananda Baruah



KALYANI

B.Sc (CBCS) Botany - Second Year
(Semester-III Paper-III)
of Telengana University



Registrar
University of Science & Technology,
Meghalaya

N 24528 05 ₹ 125.00

ISBN: 978-93-272-6377-4



www.kalyanpublishers.co.in
www.kalyanpublishers.co.in
www.kalyanpublishers.co.in

TAXONOMY OF ANGIOSPERMS AND MEDICINAL BOTANY

B.SC. (CBCS) BOTANY - SECOND YEAR
(SEMESTER-III PAPER-III)
OF TELENGANA UNIVERSITY

[Redacted]

[Redacted]
[Redacted]
[Redacted]
[Redacted] (BTC) Akkara

[Redacted]
[Redacted]



KALYANI PUBLISHERS

LUDHIANA - NEW DELHI - NOIDA (U.P.) - HYDERABAD
CHENNAI - KOLKATA - CUTTACK - GUWAHATI - KOCHI - BENGALURU

Contents

Ch. No.	Chapter	Pages
1.	INTRODUCTION	1-32
2.	ECONOMIC IMPORTANCE OF PLANTS	33-78
3.	ETHNOMEDICINE	79-91
4.	TRADITIONAL MEDICINE	92-116
	GLOSSARY	117-118

Registrar
University of Science & Technology,
Meghalaya

[Handwritten signature]

HEALTH AND DEVELOPMENT IN NORTH-EAST INDIA

SANJAY SINHA



MITTAL PUBLICATIONS

NEW DELHI (INDIA)


Registrar
University of Science & Technology,
Meghalaya

Call No.: 307.141209541 SIN/H
Acc No.: 42862

No part of this work may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical photocopying, recording or otherwise, without the prior written permission of the copyright owner and the publisher.

First Published 2014

© Sanjay Sinha

All rights reserved

ISBN 81-8324-500-5

Published and printed by Krishan Mittal for **Mittal Publications**
4594/9, Daryaganj, New Delhi - 110002, India
Phone: 23250398, **Telefax:** 91-11-41564398
e-mail : info@mittalbooks.com
Website : www.mittalbooks.com


Registrar
University of Science & Technology
Meghalaya

7. Implementation of ICDS in Mizoram: A Study in Lunglei District
—**LALSANGPUII** 77
8. Citrus: For Health and Development of North East India
—**SONY KUMARI** 91

SECTION-II

DEVELOPMENT ISSUES IN NORTH -EAST INDIA

9. Role of Medicinal Plants in the Development of Rural Economy of North-east India
—**BEDABATI DASGUPTA AND ARUDYUTI CHOWDHURY** 101
10. Technical Efficiency Estimation of Rice Producing Farms: A Case Study of Dhubri District Char-Chapari Area of Assam
—**MD. MUZHARUL ISLAM AKOND** 109
11. Women Empowerment and MGNREGS: A Gender Perspective
—**DEEPSHIKHA CARPENTER** 119
12. Agricultural Systems and Rural Development: An overview of Arunachal Pradesh
—**S.I. BHUYAN, O.P. TRIPATHI AND M.L. KHAN** 129
13. Socio-Economic Conditions of the Children of Migrant Tribal Workers in Tea Gardens of Tripura: An Analysis
—**PAPIYA DUTTA AND DEBASIS NEOGI** 139
14. An Analysis of the Waste Management System in Silchar Municipal Area of Cachar District of Assam. How far it is Sustainable?
—**ASHISH TARU ROY** 153
15. Total Factor Productivity Growth and the Rate of Technical Progress in Selected Tea Gardens of Assam
—**UTTAM DEB** 169
16. Exploring Student's Perception about Teacher-Student Relationship and their Academic Achievements — A Study on Postgraduate Programmes in North-eastern Region of India
—**PAPORI BARUAH AND RASHMI REKHA BARUAH** 181
- Index* 197

Modern Music of Assam

CONTENT

Part 1 :: GENESIS

Modern Music of Assam
An Overview
– Swapnanil Barua

■ 19

Assamese Modern Song
A Short Introduction
– Dr. Anil Saikia

■ 25

Kamrupee : Third
School of Music in India
– Dr. Bhuban Gogoi

■ 39

Music Tradition
of Kamrup-Kamakhya
– Dilip Changkakoty

■ 65

Folk Tradition
and Assamese Modern Song
– Nabajit Das

■ 74

Modern Music in Assam
Cultural Fusion and Diffusion
– **Palme Borthakur**
– Dr. Bhaben Ch. Kalita

■ 81

Part 2 :: LEGACY

Jyoti Sangeet
A Musicological Treatise
– Dr Bhuban Gogoi

■ 87

The Making of the
Genius of Jyotiprasad
– Anupam Choudhury
[In Conversation with Pulin Kalita]

■ 99

Jyoti Sangeet : The Sanctum
Sanctorum of Assamese Music
– Pulin Kalita

■ 111

Bishnu Rabha
A Revolutionary Genius
– Dr. Aparna Buzarbarua

■ 120

The Musical Legacy of
Jyoti-Bishnu-Bhupen
– Nand Banerjee

■ 137

Legendary Bhupen da
An Incredible Musical Sojourn
– Ratna Ojah

■ 150

Singing Voice of
Dr Bhupen Hazarika
A Scientific Analysis
– Dr. Manabendra Bhuyan
– Ms. Ananya Bonjyotsna

■ 166

Melody in
Bhupendra Sangeet
– Parineeta Goswami

■ 180



Modern Music in Assam

Cultural Fusion and Diffusion

Palme Borthakur

Dr. Bhaben Ch. Kalita

The following article gives an overview of the origin and development of modern music in Assam. Development of modern music in Assam reveals a long mythology and history. The development of modern music has been tried to be established on lights of diversity, cultural fusion, social identity, globalization and travel of popular sounds.

Methodology: The article is based on secondary source of data. Other sources of data collection are various articles on music in Assam published in magazines, blogs and books, listening to songs from music albums, both print and electronic media. Some external links also were used like conversations and personal interviews with some experts in the area.

Assam, a state situated in the North-Eastern region of India is a platter of incredible cultures and landscapes. Modern music in Assam is a hub of diverse array of styles shared by folk music in the region, ethnic music of the hilly people surrounding the state and also influenced by the music of its neighboring countries like Thailand, Myanmar and other far eastern countries. Descending scale of the ethnic music in Assam distinguishes it from any other Indian folk or *raag*-based music. Another significant characteristic of native music of Assam (including *Bihu* songs, Mising, Karbi and Bodo songs etc.) is, these are structured and sung to the pentatonic scale similar to traditional music from East Asia. It provides an indication of cultural diffusion between East Asian culture and

Assamese culture in ancient times.

The history of music in Assam claims that it is a conglomeration of one thousand years old folk music tradition, about five hundred years old tradition of written drama-songs, nearly three hundred years old tradition of Indian classical music which started since *Swargadeo* Rudra Singha's rule (1696-1714), about one thousand years old history of composing *charjyapadas* and nearly two thousand years old raga-based classical music *ojapali*. *Borgeet* which is another form of Assamese classical music composed by *Mahapurush Srimanta Shankardev* and *Madhabdev* gave a new dimension to the area. Then in the sixteenth century (according to some 17th-century), *Aajan Fakir* (Sufi saint and poet *Hazrat Shah Miran*) came to Assam


Registrar

University of Science and Technology
Meghalaya



Societal Spectra



Virendra K. Goswami

Societal Spectra

© 2019

This book contains information obtained from authentic and highly regarded sources. Reprinted material is quoted with permission, and sources are indicated. A wide variety of references are listed. Reasonable efforts have been made to publish reliable data and information, but the author and the publisher cannot assume responsibility for the validity of all materials or for the consequences of their use.

All rights are reserved under International and Pan-American Copyright Conventions. Apart from any fair dealing for the purpose of private study, research, criticism or review, as permitted under the Copyright Act, 1956, no part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means—electronic, electrical, chemical, mechanical, optical, photocopying, recording or otherwise—without the prior permission of the copyright owner.

ISBN: 978-93-85046-30-8

Published by:

Studium Press (India) Pvt. Ltd.
4735/22, 2nd Floor, Prakash Deep Building
(Near Delhi Medical Association),
Ansari Road, Darya Ganj, New Delhi-110 002
Tel.: + 91-11-43240200-15 (16 lines); Fax: 91-11-43240215
E-mail: pubdir@studiumpress.in

Printed in India


Registrar
University of Science & Technology
Meghalaya

Table of Contents

About the Author	v
Preface	vii
1. Synchronization of Science, Sprituality and Peace <i>VIRENDRA GOSWAMI (INDIA)</i>	1
2. Smart Defense Solution for Defense Personnel <i>MUNISH BHATIA AND SANDEEP K SOOD (INDIA)</i>	20
3. A Brief Review on Electric Propulsion for Spacecrafts <i>LEMI TÜRKER (TURKEY)</i>	52
4. Acting Loads and Stiffness in High-Speed Railway Infrastructure: Theoretical Analysis vs Observations and Measurements <i>KONSTANTINOS GIANNAKOS (GREECE)</i>	101
5. Agri and Dairy Entrepreneurship and Rural Livelihood of the Sample Farmers in North 24 Parganas District, West Bengal <i>SAIKAT MAJUMDAR AND DEBARATI MAJUMDAR BHOWMICK (INDIA)</i>	127
6. Substance in Plato's Metaphysics <i>FELIX AGBO OKWA (NIGERIA)</i>	134
7. An Overview to the Physical Needs of Man, The Universe and Its Twelve Categories <i>ISMAEL TABUÑAR FORTUNADO (PHILIPPINES)</i>	150
8. Boko Haram and Ethno-Religious Hypocrisy in Nigeria: Building on a Faulty Foundation <i>OKAFOR SAMUEL O (NIGERIA)</i>	181

Agri and Dairy Entrepreneurship and Rural Livelihood of the Sample Farmers in North 24 Parganas District, West Bengal

SAIKAT MAJUMDAR¹ & DEBARATI MAJUMDAR BHOWMICK²

ABSTRACTW

The Agriculture sector plays an important role in the rural economy as well as in the socio economic development of rural households. It is the back bone of Indian economy and is the dominant sector in terms of employment and playing thwe significant role in sustaining the rural livelihoods of North 24 Parganas District. It has been recognized as an instrument to bring socio-economic transformation in rural areas. With the increasing population rural people are still facing the problem of unemployment. Agri and Dairy Entrepreneurship are the solutions to many economic problems like poverty and unemployment. It is the important pillar of rural development. Youth Society is the pillar of any development. For this development their active participation, dedication is required.

¹ Department of Rural Development, University of Science and Technology, Meghalaya

² Department of Zoology, University of Science and Technology, Meghalaya

*Corresponding E-mail: saikat.majumdar24@gmail.com

Limelight

A Socio-Legal Journal

On

National & International Facets



Editor-in-Chief

Dr. Bhuban Ch. Barooah

Editors

Aditya Gogoi

&

Anurag Hazarika

Tezpur Law College

Tezpur, Sivasagar, Assam

Limelight is a collection of various articles and research based papers along with the papers from different prominent teachers, academicians, research scholars as well as intellectuals from Regional, National and International origin on Law, Social Sciences, Humanities edited by Dr. Bhuban Ch. Barooah (Editor-in-Chief), Aditya Gogoi and Anurag Hazarika (Editors) and published by Tezpur Law College on behalf of the Tezpur College Research Forum.

First Published April, 2019
Cover Design & Layout Mr. Bishnu Sharma
Tezpur Law College

ISBN 978-91-84188-26-3

Printed at: TICOL STYLE TRACK
Kumargaon, Tezpur
Ph : 03712 (224535)

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means electronic, mechanical, photocopying, recording, or otherwise without prior written permission of the publisher and editors.

Disclaimer: The authors are solely responsible for the contents of the papers in this volume. The publisher or editors do not take any responsibility for the same. Errors, if any, are purely unintentional and readers are requested to communicate the editors or publisher to avoid discrepancies in future.

Price: Rs. 400.00 (Rupees Four Hundred Only)

Registrar
University of Science & Technology,
Meghalaya

TRADITIONAL FESTIVALS

Dr. T. R. Gogoi

Dean, School of Social Sciences & Humanities,
USTM, Meghalaya

Festival is one of the most important cultural tradition in our society. Ethnic identity in Northeast is a term that is being frequently used today in political circles. But ethnicity is a new concept in social science, first used by David Riesman in 1953. But the concept with them does not appear to be either precise or clear, the terms of ethnic identity give the impression of measuring different things to different political people and in different context. In the context of the American society also ethnic group normally minority groups, but in the expression "Ethnicity" the connotations of the minority is by and large absent. The meaning of the term "ethnic" as found in the standard dictionaries give an indication of the lack of uniformity in respect of idea involved.

Assam the north eastern part of India has a colorful tradition having its various ethnic groups to these cultural traditions of Assam. The northern bank of Upper Assam originally known as "Kaliapani" has been contributing significantly along with the other parts of the state. Mostly, the ethnic groups of this area- Ahom, Chutia, Kachari, Deori, Mising, Konch, Kafia, Kointra etc have various traditional beliefs, customs, festivals and ceremonies since unknown times. All the traditional groups were known by their traditional beliefs and traditional culture of this area.

Since time immemorial various traditional festivals are celebrated by different ethnic groups in different time of this region. These traditional festivals have its own characteristics and greatly contributed to the greater Assamese culture. A varied number of tribes and tribal groups inhabit the region. They have their own distinct culture, heritage of arts and crafts and entertaining folk songs. A major portion of the tribal habitat is hilly and forest areas. Tribal population is mainly dominating thinly by clearing a field by Slash or burn method. Tribal groups of North East India hold our cultural features which indicate their own traditional culture. In North East region a common feature of all the tribal women in the valley of Assam is weaving.

Phato Bihu: A greater importance in present study; Dhakuakhana is a rural sub division of various ethnic groups. It has a number of traditional festivals in customary and ritualistic manner. The "Phato Bihu" of Dhakuakhana is an indigeneous form of traditional festivals of this locality. Originally, "Phato Bihu" was observed every year spontaneously after the first week of So-
Aug. Presently, it is observed in the later part of Bohag and Maghuli Chapori on the bank of the

Erudition : Research Papers & Articles- A Collection of Research Papers, Articles on Arts, Humanities, Management & Social Science. Erudition a research based International Book of Multidisciplinary Studies with Peer reviewed book. Published by Unity Education Foundation, Guwahati, Assam, India

Editorial Board

Chairman : Adv. A. S. Tapader, Unity Education Foundation
Editor : Dr. Safiqur Rahman, Guwahati College, Assam

Members and Papers Reviewers :

Dr. Machunwangliu Kamei, University of People, California, USA
 Dr. Aparajita Baruah, Gauhati University, Assam
 Dr. Ibadani Syiem, NEHU, Shillong, Meghalaya
 Dr. Rupa Rani Sonowal, Royal Global University, Assam
 Suneeta Khanna Ganguly, Handique Girls' College, Assam
 Banalata Das, PDUAM, Bongaigaon, Assam
 Sanjib Das, ICFAI, Nagaland
 Dr. N. Jayalakshmi, CMR Law School, Bangalore
 Adv. Parveena Rahman, Gauhati High Court, Assam
 Chayanika Bhuyan, Tezpur College, Tezpur, Assam
 Jedidah Nyawira Kimathi, Teachers Service Commission, Nairobi, Kenya

Published By : Unity Education Foundation, Guwahati
 © Unity Education Foundation, Guwahati

First Published : October 2017

ISBN : 978-93-5288-241-0

Price : INLAND : 1500/-
 : Overseas : US\$40

Printed at : Kaziranga Printing House, Chandmari, Guwahati-21

Disclaimer : Opinions expressed in this book do not reflect the policies or views of this organisation, but of the individual contributors. The authors are solely responsible for the details and statements in their Research Papers. All rights reserved, no part of this book may be reproduced stored in retrieval systems or transmitted in any form or by any means without prior permission of the copy right holder except for review or reference purposes.

Contents

1. ICT and Higher Education : Issues and Challenges	1
<i>Dr. N. Jayalakshmi</i>	
2. An Empirical Study on Investment and Savings Habits of Individual Households with Reference to Guwahati City	9
<i>Alimpiya Bordoloi</i>	
3. Food Policy and Statutory Framework in India	14
<i>Dr. Md. Sultan Haidar Alam</i>	
4. Stakeholders Sustenance in Tourism Progression in Ziro Valley of Arunachal Pradesh, India	
<i>Vajana Thakuria/ Prashanta Bhattacharya</i>	
<i>Utpal Talukdar</i>	
5. Human rights of differently able persons : a critical analysis	20
<i>Abdul Awal</i>	
6. Disability social worker to enhance effective services among the differently abled person	26
<i>Sangita Mahanta</i>	
7. Women Empowerment : A conceptual framework	35
<i>Amreen Razzak</i>	
8. The Discovery of Rights of a Special Child : With Special Reference to the RPWD, 2016	41
<i>Meu Amoeba Oasis</i>	
9. Representation of feminine liberty in Chaucer's Wife of Bath	46
<i>Dolly Devi</i>	
10. "Adoption under Hindu Law : A Critical Analysis	59
<i>Shrutimala Goswami</i>	
11. Euthanasia an analytical Study	62
<i>Pamali Kalita</i>	
<i>Rajib Kumar Kashyap</i>	
12. RAPE : A Sickening Sexual Violence	67
<i>Lina Rani Das</i>	
13. A Case Study on Channel Geometry and Flow Characteristics of Puthimari River, Kamrup Rural District of Assam	75
<i>Debajit Gogoi</i>	
14. Different Festivals of the Satras of Majuli	79
<i>Sikha Sarma</i>	
15. Nature and its importance : a study of some of the selected stories of Lakshminath Bezbarua's Grandma's Tales	87
<i>Jyotima Kalita</i>	
	90

Disability Social Worker to Enhance Effective Services Among the Differently Abled Person

Sangita Mahanta

Abstract : A disability social worker is a type of healthcare social worker who helps people with physical and mental disabilities copes with the challenges in their daily lives. The problems they face depend on the type of impairment and the severity of their disability. Disability social workers assist people in comprehending their diagnosis, and they support them in making lifestyle adjustments to accommodate their disability. Disability social workers can connect disabled individuals with the right support groups to help them manage their disability and live as independently as possible. This was an attempt to describe the scope of disability social worker in the larger society.

Key word: Social work, disability social worker

Introduction :

Disability is a contested concept and definitions have varied over history and according to social norms. There is considerable debate as to what disability is and who the disabled are. Later models of disability distinguished between the various components of disability and for the first time differentiated between the objective impairment, the resulting level of functioning (disability) and the social components that handicap the individual. Impairments can be physical, sensory and cognitive and also include physical, mental and chronic illness. The social model of disability emphasises the perspective that disability is created through structural barriers and is thus created by society while individual, medical models have viewed disability as something inherent in the person.

Background :

The World Health Organization (WHO) estimates that there are around 600 million persons with disabilities. Other estimates are at 650 million. These cover many types and degrees of impairments. The day to day life of around 25 per cent of the world's population is affected by disability. There is a strong correlation of impairment and ageing, hence it is estimated that the incidence of disability will rise. In the majority world the correlation of poverty and disability is well known. The history of how people with disabilities are treated is marked by marginalisation, discrimination, profound exclusion, and ultimate extermination. Throughout the

Assistant Professor, USTM, Meghalaya

A Preliminary Survey of Dhir Beel with Special Reference to its Some Physico-Chemical Parameters and Ichthyofauna



Arup Nama Das

Research Scholar,
Department of Zoology,
University of Science and
Technology,
Meghalaya, India

D. K. Sharma

Professor,
Dept. of Zoology,
University of Science &
Technology,
Meghalaya, India



Rezina Ahmed

Associate Professor,
Dept. of Zoology,
Cotton University,
Guwahati, Assam, India

Abstract

Beels, wetlands which possess huge fishery resources, if manage properly, it may provide huge benefits to the fishery sector and also for the settlement of unemployment problem. Assam is blessed with around 1,030 beels covering an area of 92,693 hectares (Goswami *et al.*). The potential of these beel fisheries could not be harnessed so far, as there is lack of proper management and change in the area of these beels due to encroachment. Presently, these beels are under the threat from many factors like pollution, habitat fragmentation and degradation which eventually lead to loss of biodiversity. The present investigation was undertaken, during the 2015–2016, to study the ecological parameters and hydrobiology of the Dhir beel for taking up proper managerial practices for sustainable utilisation of the available aquatic resources of the state. Dhir beel is situated at latitude $26^{\circ} 16'54.65''$ North and longitude $90^{\circ} 23'21.52''$ East with an altitude 34 m above sea level. It covers an area of about 689 hectare of land with depth of 7–22 feet during pick monsoon season. It is a floodplain lake of the Brahmaputra River basin is situated near Chapar town at about a distance of 5 km. The present investigation deals with the ichthyofaunal diversity of Dhir beel, its conspecific biotic communities present in the system and the understanding of its hydrobiology. A total of 65 species of fish under 37 genera belonging to 11 families and 6 orders have been identified. The fish productivity was around 14,740 kg during 2015–2016. The beel has shown an average temperature of 23° C; transparency ranges from 49.2–104 cm during the study period; the pH of water ranges from neutral to acidic i.e. 7.4 – 6.2; free CO_2 fluctuated from 3.0 to 17.2 mg/L; alkalinity ranged from 25 – 38 mg/L; total hardness was quite low as found to be 24–36.5 mg/L. Thus, the present studies have revealed the ichthyofaunal diversity of the beel with reference to its hydrobiology and ecological parameters, and it is suggested that the productivity of the beel can be sustained the by managing the environmental degradations in and around the beel.

Keywords: Dhir Beel, Ichthyofaunal Diversity, Hydrobiology, Ecology, Management, Productivity.

Introduction

The richness of the flora and fauna of north eastern region is well known to all. Starting from Hamilton (1822) till date, the region has discovered about 360 species of fishes (Vishwanath *et al.*, 2014). Wetlands, since time immemorial, have been perceived as life sustaining units of the world. They are considered as future food and fodder resources for human population and its related allies. Ecologically, wetlands are of great significance as they support varied food chains and food webs, regulate hydrological cycle, recharge ground water and maintain its quality by acting as filters, provide refuge to a large number of endangered flora and fauna help in trapping of energy and carbon-dioxide and in nutrient cycling treatment of waste water and provide natural check to floods. Wetlands also have great recreational and aesthetic values. Around 6.4% of the earth's surface is covered with wetlands. They are continuum of rivers and are locally known as beels, pats, mauns, jheels etc and are biologically sensitive ecosystems which play a vital role in the inland fish production of the eastern and northeastern part of the country. The beels are unique water bodies which need in depth scientific study before undertaking any management measure. Fishes make up most of

This book titled **“Role of Biodiversity in promotion of Adventure tourism and entrepreneurship”** contains some of the papers presented in the International conference (From 22-24th February, 2019) Corporation was organized by the Zoology department of Hojai College in collaboration with Indian Institute of Entrepreneurship in association with World Researchers’ Association.



EDITORIAL BOARD

Editors

Dr. Caroline Basumata, Dr. Dulumoni Tamuly

Members

Prof. Shankar Lal Garg, Editor in-Chief, World Researchers' Association.
Prof. P.S. Lohar, North Maharashtra University.
Prof. Sarawuth Chesoh, Prince of Sonkla University, Thailand.
Prof. Jogen Chandra Kalita, Human Resource Department, Gauhati University.
Dr. Abhijit Katakya, HOD, Department of Zoology, Hojai College.
Mr. Sanilal Sharma, Department of Zoology, Hojai College.
Dr. Sudem Basumatary, Department of Zoology, Hojai College.

Printed at : Computer Point,
Main Road, Hojai, Assam-782435

ISBN : 978-93-85310-48-5

Price : Rs. 299/- (Rupees two hundred ninety nine)

The editors are not responsible for the research findings and views provided by the authors in this publication.
Permissions in writings may be sought from the publisher if anyone intends to reproduce or transmit any part of this book in any form or by any means- electronics/mechanical, recording or information storage and retrieval system.

Contents

- Studies on fecundity of an Indian river shad(*Gudusia chapra*, Hamilton), in relation to total length, body weight, ovary length and ovary weight from the lower reaches of river Brahmaputra, Assam, Northeast India
Sudem Basumatary and Dandadhar Sarma 01-08
- Acute and chronic effects of organophosphate pesticide (Chlorpyrifos) to amphibian tadpoles (*Polypedates teraiensis*)
Dulumoni Tamuly, Ratul Nath and Mithra Dey 09-17
- Investigation of diversity of butterfly species in Panimur reserve forest, Dima-Hasao, Assam, India
Pallabi Hojai and Caroline Basumata 18-35
- Eco-tourism and its prospects in Dhir wetland, Assam
Arup Nama Das, Rezina Ahmed and D. K. Sharma 36-53
- Effects of butylparaben, an environmental toxicant on thyroid hormone in rats
Pobi Gogoi and Jogen Ch. Kalita 54-66
- Tourism in Sivsagar : prospects and problems
Jonali Das 67-76
- Role of Indigenous entrepreneurs towards the promotion of eco-tourism : A study related to Sonitpur district of Assam
Anjali Devi and Balin Hazarika 77-95
- Effect of concentrated mineral acids on soil ecosystem
Sujit Ranjan Acharjee 96-101
- Present status of micro enterprises(MES) in Kanirup (Rural) district of Assam
Kabita Choudhury and Biswajit Das 102-116

ECO-TOURISM AND ITS PROSPECTS IN DHIR WETLAND, ASSAM.

Arup Nama Das^{1*}, Rezina Ahmed², D. K. Sharma³

^{1,3}Deptt. Of Zoology, University of Science & Technology,
Meghalaya, 9th Mile Baridua, Ri-Bhoi-793101

²Deptt. Of Zoology, Cotton University, Guwahati-1 (Assam)
e-mail : arupn8@gmail.com

Introduction :

The Term ecotourism refers to the ecologically important and beautiful places with its tourist based management and income. Tourism has now a very big industry and its importance is increasing if the area is resourceful with natural beauty and historic evidences. As per international ecotourism society, "Ecotourism is a responsible travel to natural areas which conserves the environment and improves the well being of the local people" (TIES, 1990). Ecotourism reduces the adverse effect of tourism on nature and environment. It maintains the ecological balance between human society and nature.

Assam in Northeast India is the land of rivers and hills with large number National Parks, Wildlife Sanctuaries and Biosphere reserves. It has more than 950 wetlands known as beels are located nearby river Brahmaputra and Barak. The drainage system provides a huge biodiversity of Wildlife and landscape views on either bank of the rivers. Thus, it provides an ample opportunity for the people of Assam and its adjoining state for the