

CBSE Physical Education

(Including Practicals)



DR. SANJIB KUMAR BHOWMIK
DR. RAJ PHILIP
M. K. GULIA

XI

In accordance with the latest syllabus prescribed by the Central Board of Secondary Education, New Delhi.

CBSE

PHYSICAL EDUCATION

(Including Practicals)

Class XI

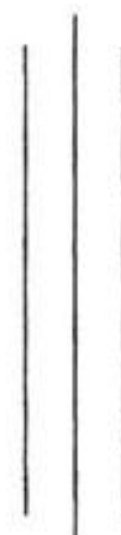
Dr. Sanjib Kumar Bhowmik

Ph.D. [LNIPE, Gwalior]

Assistant Professor

Deptt. of Physical Education

Tripura Central University



M. K. Gulia

M.Phil., M.P.Ed

Head of Faculty [Sports and Activities]

The Lawrence School, Sanawar

Kasauli.

Dr. Raji Philip

M.Phil., Ph.D. [LNIPE, Gwalior]

HOD Physical Education

The Lawrence School, Lovedale, Ooty



OSWAL PUBLISHERS

1/12, Sahitya Kunj, M. G. Road, Agra-282 002

No part of this book can be reproduced in any form or by any means without the prior written permission of the publishers.

Edition : 2017

Price : ₹ 353.00

ISBN : 978-93-86299-79-6



OSWAL PUBLISHERS

Head office : 1/12, Sahitya Kunj, M.G. Road, AGRA-282 002
Phone : (0562) 2527771- 4
Order at : contact@oswalpublishers.com, sales@oswalpublishers.com
Website : www.oswalpublishers.com
Facebook link : <https://www.facebook.com/oswalpublishers>
Printed at : Repro India Limited, Mumbai



ISSN: 2456-0057
IJPNPE 2017; 2(1): 228-231
© 2017 IJPESH
www.journalofsports.com
Received: 12-11-2016
Accepted: 13-12-2016

Jasbir Singh
Research Scholar Panjab
University, Chandigarh, Punjab,
India

Dr. Prasanta Kumar Das
Associate Professor Tripura
University, Tripura West,
Tripura, India

Effect of yogic exercises on forced vital capacity and resting pulse rate of undergraduate male students

Jasbir Singh and Dr. Prasanta Kumar Das

Abstract

This study was designed to find out the effect of selected Yogic exercises on forced vital capacity (FVC) and resting pulse rate (RPR) of undergraduate male students. To achieve this purpose a total of sixty (n=60) undergraduate male students were purposively selected from Akal college of physical education Mastuana Sahib, Sangrur (Punjab) as subjects. All subjects were healthy having no physical ailment and their age ranged from 18 to 22 years. The selected subjects were randomly divided into two equal groups. Group I served as the treatment group (n=30) and group II was treated a control group (n=30). The dependent variables selected for this study (FVC and RPR) were measured with a spirometer and radial pulse method respectively. All the subjects were tested at baseline and after the 6 weeks training period for FVC and RPR. Random group pre-test and post-test design was used as an experimental design. Then the collected data was statistically analyzed by using dependent 't'-test. The result showed a significant ($p < 0.05$) improvement in FVC with no change in RPR of the experimental group and there was no significant change was recorded in the control group on FVC and RPR. It concludes that even 6-week yogic exercises are effective enough on forced vital capacity in undergraduate male subjects.

Keywords: Forced vital capacity, resting pulse rate, spirometer, yoga

Introduction

“Yoga is a method by which the restless mind is calmed and the energy is directed into constructive channels” (Iyengar, 1989) [6]. Yoga defines itself as a science that is a practical, methodical, and systematic discipline or set of techniques that have the lofty goal of helping human beings to become aware of their deepest nature (Kumar, 2014). From ancient times, people are doing yoga without knowing its significance in health. In the modern era, due to the poor lifestyle, the health status of the people has been decreased. Especially in case of students there are so many health issues are reported, cardiorespiratory disorders are one of the major issue among them. According to the American Heart Association (2002) [2] “cardiovascular disease is the number one cause of death worldwide” and lung health of the youth is also not up to the mark (Kamat, 1977) [9]. But the heart and lung health can be easily improved with small changes in lifestyle (Chhabra *et al.*, 2014) [3] and by adding yogic exercises into one's routine. “Yoga can help lower blood pressure, increase lung capacity, improve respiratory function and heart rate, and boost circulation and muscle tone” (American Heart Association, 2012) [1]. The beneficial effects of different yogic exercises are well-reported and have a sound scientific basis (Lakhera *et al.*, 1984; Joshi and Gokhale, 1992) [10, 7]. In the present scenario, Yoga has become both physical activity and a spiritual practice. Yogic practice is a key to good health (Gopal, Bhatnagar, Subramanian, and Nishith, 1973; Gupta and Sawane, 2012) [4, 5], hence yogic exercises are important for improving the physical and physiological health of each individual (Udupa, Singh, and Settivar, 1975) [11]. Therefore, this study is designed to scrutinize the effect of yogic exercises on forced vital capacity and resting pulse rate of undergraduate male students.

Methodology

To achieve this purpose a total of sixty (n=60) undergraduate male students were purposively selected from Akal college of physical education Mastuana sahib, Sangrur (Punjab) as subjects. All subjects were healthy and having no physical ailment with their age ranged from 18 to 22 years. The selected subjects were randomly divided into two groups.

Correspondence
Jasbir Singh
Research Scholar Panjab
University, Chandigarh, Punjab,
India

Group I served as the treatment group, practiced yogic exercises for six weeks and group II was treated as a control group that didn't participate in any special yogic exercises except their routine. The dependent variables selected for this study FVC and RPR were measured with the help of a spirometer and radial pulse method respectively. All the subjects were tested at baseline (pre-test) and after 6 weeks of yogic exercises for post-test scores on forced vital capacity and resting pulse rate. Random group pre-test and post-test design was used as an experimental design. Both groups were recorded for FVC and RPR at baseline and after the 6 weeks of the training period.

Training protocol

The subjects in the experimental group participated in the Yogic exercise training programme for 6 days in a week except Sunday for six weeks. The yogic exercises period was approximately 50 minutes including warming up and cool down exercises. The package of exercises such as Suryanamaskar, Asanas (trikonasana, parsarita, sirasana,

sarvangasana, ustrasana, setubandha, baddhakonasana, suptavirasana, janusirsasana, padottanasana, paschimottanasana, sarvangasana, viparitakarani, and savasana), Pranayama (anulom vilom, nadi shodhana, ujjayi, agnisara, sheetali, sheetkari, bhastrika, kapal bhati, and bhrumari pranayama), Meditation and mantra chanting were given in the morning session between 6:00 am to 7:00 am.

Statistical Analysis

Statistical analyses were performed by using the statistical package for social sciences 15.0 version (SPSS). Data is expressed as the mean & SD. Dependent 't'-test was utilized to compare the means of the pre and post-test. The level of significance was set at 0.05 level of significance.

Result

The analysis of dependent 't'-test on the data obtained from the experimental and control group for FVC and RPR is analyzed and presented in Table 1 and Table 2 respectively.

Table 1: Pairwise, N, Mean, SD, SEM, and t-value of Male Undergraduate Students Belonging to the Experimental and Control Group During Pre-test and Post-test on the Forced Vital Capacity.

| Group | N | Test | Mean | SD | SEM | t - Value | p - Value |
|--------------------|----|-----------|------|------|------|-----------|-----------|
| Experimental Group | 30 | Pre-Test | 4.87 | 0.31 | 0.08 | 8.89 | 0.000* |
| | | Post-Test | 5.06 | 0.27 | 0.07 | | |
| Control Group | 30 | Pre-Test | 4.79 | 0.25 | 0.06 | 0.78 | 0.223 |
| | | Post-Test | 4.82 | 0.29 | 0.07 | | |

* Significant at 0.05 level ($p < 0.05$)

Table 1 shows the descriptive characteristics of pre-test and post-test measurements of the experimental and control group in the context of their forced vital capacity in terms of mean and standard deviation. The forced vital capacity mean & SD of the experimental group during pre-test and post-test are 4.87 & 0.31 and 5.06 & 0.27 respectively. In the control group, the forced vital capacity mean & SD during pre-test and post-test are 4.79 & 0.25 and 4.82 & 0.29 respectively. Table 1 also reveals that there is a significant difference in the experimental pre-test and post-test observations on the forced

vital capacity of male Undergraduate Students as the obtained t-value of the experimental group on forced vital capacity is 8.89 and p-value is less than 0.05 level of significance. Whereas in case of control group, pre-test and post-test observations on forced vital capacity are not found to be significant at 0.05 level of significance, as the obtained t-value of the control group is 0.78 and p-value is greater than 0.05 level of significance. The pre-test and post-test mean scores of experimental group and control group for forced vital capacity are graphically presented in Figure 1.

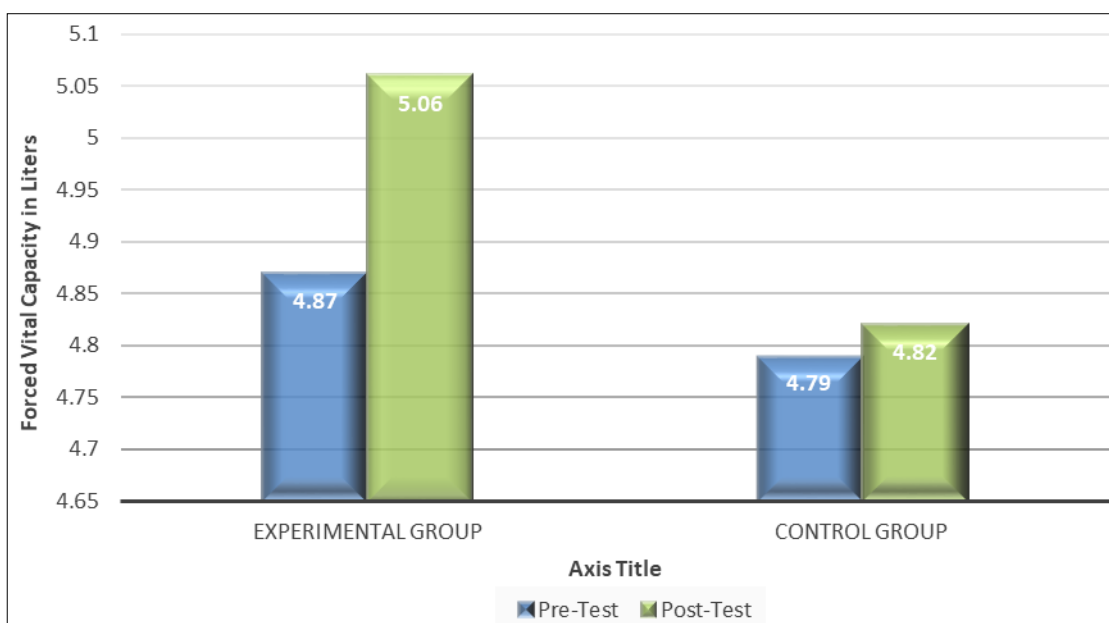


Fig 1: Mean Values of Pre-test and Post-test on the Forced Vital Capacity.

Table 2: Pairwise, N, Mean, SD, SEM, and t-value of Male Undergraduate Students Belonging to the Experimental and Control Group During Pre-test and Post-test on the Resting Pulse Rate.

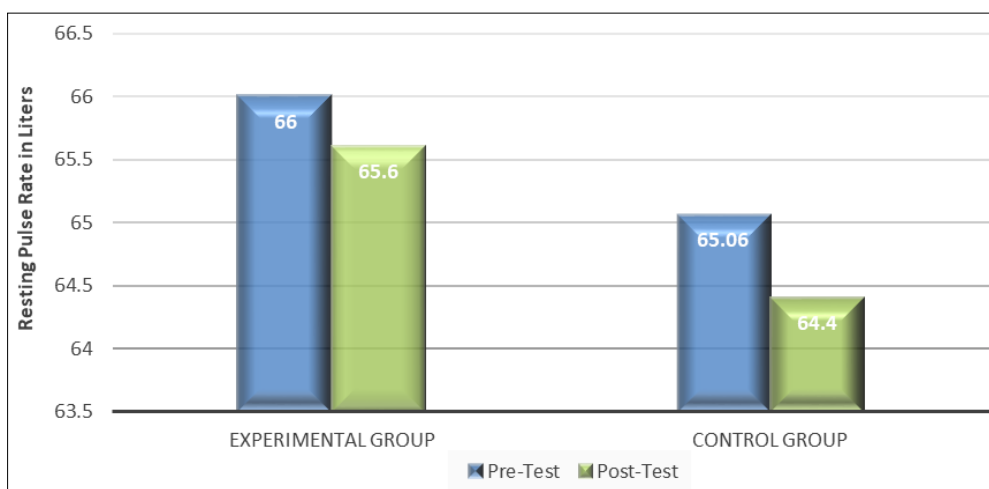
| Group | N | Test | Mean | SD | SEM | t - Value | p - Value |
|--------------------|----|-----------|-------|------|------|-----------|-----------|
| Experimental Group | 15 | Pre-Test | 66 | 3.54 | 0.91 | 1.87 | .082 |
| | | Post-Test | 65.6 | 3.48 | 0.89 | | |
| Control Group | 15 | Pre-Test | 65.06 | 4.39 | 1.13 | 2.09 | .055 |
| | | Post-Test | 64.4 | 3.94 | 1.01 | | |

* Significant at 0.05 level ($p < 0.05$)

Table 2 depicts the descriptive characteristics of pre-test and post-test measurements of the experimental and control group in the context of their resting pulse rate in terms of mean and standard deviation. The resting pulse rate mean & SD of the experimental group during pre-test and post-test are 66 & 3.54 and 65.6 & 3.48 respectively. In the control group, the resting pulse rate mean & SD during pre-test and post-test are 65.06 & 4.39 and 64.4 & 3.94 respectively.

Table 2 also reveals that there is no significant difference in the experimental pre-test and post-test observations on resting

pulse rate as the obtained t-value of the experimental group on resting pulse rate is 1.87 and the p-value is greater than 0.05 level of significance. In case of control group, the pre-test and post-test observations on resting pulse rate are also not found to be significant, as the obtained t-value of the control group is 2.09 and the p-value is greater than 0.05 level. The pre-test and post-test mean scores of the experimental group and control group for resting pulse rate are graphically presented in Figure 2.

**Fig 2**

Conclusions

In summary, the present work manifests an overriding endeavor to explore the effects of yogic exercises on forced vital capacity and resting pulse rate of undergraduate male students. The result showed a significant ($p < 0.05$) improvement in FVC with no change in RPR of the experimental group whereas there was no significant change was recorded in the control group on FVC and RPR. It concludes that even 6-week yogic exercises are effective enough on forced vital capacity in undergraduate male subjects. The daily practice of yogic exercises may help to improve the cardiac and lung health thus yogic exercises should be a part of the lifestyle of the undergraduate male students.

References

- American Heart Association. Yoga could boost heart health, 2012. Retrieved from: <https://www.yourethecure.org/yoga-could-boost-heart-health>
- American Heart Association. Heart Disease and Stroke Statistics-2003 Update, 2002. Retrieved from: http://www.americanheart.org/downloadable/heart/1046120785214_2003HDSStatsBook.pdf.
- Chhabra SK, Kumar R, Gupta U, Rahman M, Dash DJ. Prediction equations for spirometry in adults from northern India. The Indian Journal of Chest Disease and

Allied Sciences. 2014; 56(4):221-229. Retrieved from: <https://www.ncbi.nlm.nih.gov/pubmed/25962195>.

- Gopal KS, Bhatnagar OP, Subramanian N, Nishith SD. Effect of yogasanas and pranayamas on blood pressure, pulse rate and respiratory functions. Indian Journal of Physiology and Pharmacology. 1973; 17(3):273-276.
- Gupta SS, Sawane MV. A comparative study of the effects of yoga and swimming on pulmonary functions in sedentary subjects. International Journal of Yoga. 2012; 5(2):128-133. doi: 10.4103/0973-6131.98232
- Iyengar BKS. Tree of Yoga. Boston, USA: Shambhala Publications, 1989.
- Joshi LN, Gokhale LV. Effect of short term pranayama practice on breathing rate and ventilator functions of lung. Indian Journal of Physiology and Pharmacology. 1992; 36(2):105-108. Retrieved from: <https://www.ncbi.nlm.nih.gov/pubmed/1506070>.
- Kamat SR, Sarma BS, Raju VR, Venkataraman C, Balkrishna M, Bhavsar RC *et al.* Indian norms for pulmonary functions. The Journal of Association of Physicians of India. 1977; 25(8):531-540. Retrieved from: <https://www.ncbi.nlm.nih.gov/pubmed/614379>
- Kumar S. The meaning and purpose of yoga, 2014. Retrieved from: <https://www.speakingtree.in/blog/the-meaning-and-purpose-of-yoga>.
- Lakhera SC, Mathew L, Rastogi SK, Sen-Gupta J. Pulmonary function of Indian athletes and sportsmen:

Comparison with American athletes. Indian Journal of Physiological Pharmacology. 1984; 28(3):187-194.

Retrieved from:

<https://www.ncbi.nlm.nih.gov/pubmed/6519761>

11. Udupa KN, Singh RH, Settiwar RM. Physiological and biochemical studies on the effect of yogic and certain other exercises. The Indian Journal of Medical Research. 1975; 63(4):620-624.

Vol. 7, No. 1,
June 2017

ISSN 2229 – 6220

UGC Listed Journal No. - 48391

Journal of Educational Chronicle

an international journal of education



An Official Publication of
Institute of Professional Studies
Gwalior (Madhya Pradesh) India

EFFECT OF SURYANAMASKAR ON ABDOMINAL STRENGTH OF SCHOOL GOING CHILDREN

*Bhartendu Sharma

** Dr. Sanjib Kumar Bhowmik

Abstract

The objective of this study was to determine effect of Suryanamaskar on abdominal strength of school going children. A total number of thirty school going children were selected as subject and used as one experimental group (15) and other control group (15). Suryanamaskar was considered the independent variable and abdominal strength was considered the dependent variable. To measure the abdominal strength, modified sit-ups test was used as a criterion measure. The test subjects were regularly participating in training program of 40 minutes in the morning before the actual game played for 8 weeks. The Pre-Post Test randomize group design was used for this study. Tests were administered before the training program and after the completion of the treatment again test were administered. Paired t-test was used to locate significance effect of Suryanamaskar on abdominal strength of school going children at 0.05 levels of significance. In relation to abdominal strength, effect of Suryanamaskar was found significant.

Key Words: Suryanamaskar and abdominal strength

Introduction

Suryanamaskar gives one of the best methods for self-change and achieving one's maximum capacity. In the propelled phases of super cognizant states are accomplished which result in sentiment rapture, profound peace and the development of psychic forces. Suryanamaskar was created and idealized throughout the hundreds of years by savants and spiritualists in India. It is essentially a technique by which we increment the body's supply of vitality and expel any impedance to the transmission of vitality all through the body. Suryanamaskar has had some expertise in this subject for a large number of years, and streamlined the strategies to accomplish this point. Nowadays, Suryanamaskar classes are being held at most wellbeing and health focuses over the United States. Alongside reflection, it is presumably a standout amongst the most prevalent option treatments. Numerous doctors, who are distrustful about the viability of option prescription, bolster yoga with energy. There are numerous clinical examinations that demonstrate the adequacy of Suryanamaskar and the best piece of it is that it is something that should be possible in the solace of your home. A couple of breathing activities suggested by Suryanamaskar will go far towards better wellbeing and unwinding. Maybe a standout amongst the most capable devices in yogic practices is the utilization of the breath to acquire our cognizance back tune with the celestial grandiose breath. Suryanamaskar breathing or yoga has been honed for more than a large number of years. Before, people found interestingly how they were living and composed their story with letter set. Basic learning is exchanged starting with one era then onto the next era as children's stories. With this technique, information develops and moves toward becoming society. Clearly, yoga has been introduced since the past along these lines. Yoga is a protected and delicate exercise which can lessen the weight in day by day circumstances. Yoga is then viewed as an excitement for the advanced native. In spite of the fact that yoga hone is extremely prevalent; there are still puzzles for the vast majority. Yoga is neither a religion nor an unusual bizarre development of your body. Yoga hone concentrates on straightforwardness and delicate quality which regards your psyche and body. Yoga engages everyone who hones it since it can decrease the impacts from stretch. Plus, yoga makes adjust of positive and negative forces. Yoga, accordingly, can decrease and cure sickness. Blood streams in all aspects of your body. There will be no anxiety and weariness. Thus, a great body development can be accomplished. Joints can work well. There will be thoughtfulness regarding work

W B C I P E
J O U R N A L

ISSN : 2348-0777
UGC APPROVED Jr.No. 47009
PEER REVIEWED

VOL-IV

OCTOBER 2017

NO.2



Organ of the

WEST BENGAL COMMITTEE OF INSTITUTES OF PHYSICAL EDUCATION

(WBCIPE)



COMPARATIVE STUDY ON SELECTED ANTHROPOMETRIC PARAMETERS BETWEEN DIFFERENT AGE GROUP STATE LEVEL BATSMEN AND BOWLERS OF TRIPURA

*Kishalay Chakraborty**

*Research Scholar, Department of Physical Education, Tripura University

*Krishnendu Dhar***

**Assistant Professor, Department of Physical Education, Tripura University

Abstract

The purpose of the study was to analyze the differences between batsmen and bowlers on selected anthropometric parameters between different age-group cricketers of Tripura state. A total of 142 (N=142) cricketers, among which 83 batsmen and 59 bowlers across four groups were selected as subjects for the present study. The age groups were under-16 (batsman=23, bowler=12), under-19 (batsman=21, bowler=17), under-23 (batsman=22, bowler=17) and senior level (batsman=17, bowler=13) as per BCCI. The selected anthropometric parameters for the study were height, weight, BMI, arm length, shoulder width and calf girth. To achieve the result descriptive statistics of mean, SD and t-test were used. Results indicated that there was statistically significant difference in arm length in favour of bowlers for under-23 age group. Though not significant, the bowlers were found to have slightly greater mean values almost in all other selected parameters.

Key words: *Physical variables, Batsmen and Bowlers*

INTRODUCTION

The extent of human variability is so enormous that no two individuals can ever be the same. There are two fundamental causes for this variation. One is the genes inherited from parents and the other is the infinity of environment which acts upon individuals from cradle to grave. Therefore, scientists have always been fascinated by the phenomenon of human variation. With the numerous variety of human physique, it becomes a generalized consideration that some sports events are more suitable to individuals with specific physique than others (Reco-Sanz, 1998; Wilmore & Costill, 1999; Keogh, 1999). It has been well established that specific physical characteristics or anthropometric profiles indicate whether the player would be suitable for the competition at the highest level in a specific sport (Claessens et al., 1999; Bourgois et al., 2000, 2001; Reilly et al., 2000; Gabbett, 2000; Ackland et al., 2003; Slater et al., 2005). Various studies (Landers, Blanksby, Ackland & Smith, 2000) have shown that the anthropometric characteristics of athletes are major determinants of their potential for success in their chosen sports. Cricket is one of the most popular game in India. Every Indian have some interest about this sport. The number of test playing countries is limited compare to the Football. But the viewer inside the stadium and in to the TV set are growing in numbers. The Test match cricket passes through a long journey and cricket is immersing with many other formats. The one-



ISSN: 2456-0057
IJPNE 2017; 2(1): 311-314
© 2017 IJPESH
www.journalofsports.com
Received: 21-11-2016
Accepted: 22-12-2016

Singh Sorokhaibam Premananda
Research Scholar, Department of
Physical Education, Tripura
University (A Central
University), Tripura, India

Dr. Sanjib Kumar Bhowmik
Assistant Professor, Department
of Physical Education, Tripura
University (A Central
University), Tripura, India

Effect of psychological skills training program on state and trait anxiety of soccer players

Singh Sorokhaibam Premananda and Dr. Sanjib Kumar Bhowmik

Abstract

Purpose: The present study aimed to evaluate the effect of six weeks Psychological Skills Training (PST) Program on State and Trait Anxiety soccer players

Methods: For the purpose of the study sixty soccer players belong to Th. Birchandra Singh Football Academy (TBSFA), Imphal West, Manipur were selected purposively. Subjects were divided into experimental and controlled group (30 players in each group). The data was collected through the administration of the State and Trait Anxiety Inventory (STAI) by Spielberg for selected psychological variables.

Statistical analysis: To find out the significant effect of Psychological Skills Training Program on State and Trait Anxiety, ANCOVA for psychological variables was used and level of significance was set at 0.05.

Findings: It revealed that there was no significant effect of soccer players in Trait Anxiety those who underwent the PST program as compared to the players in controlled group and there was no significantly reduce of State Anxiety those who underwent the PST program as compared to the players in controlled group.

Keywords: Anxiety, state anxiety, trait anxiety

1. Introduction

For decades the elite athletes have enhanced the performance by exploiting advancements in systematic periodization of training in various sports. Now, an important constituent of the training received by the elite performer has focused on the interplay between mental and Physical skills training. The potency of pursuing multiple training approaches for developing both physical and mental skills have been taken by sports trainers and coach.

Psychological skills training (PST) is the systematic training methods designed to enhance an athlete's performance, physical activity self-satisfaction and achieving greater sport Performance. The goal of psychological skills training (PST) is to help the sports person for the development of psychological skills, by enhancing their psychological skills.

PST is as important to the Soccer Players as other sports, and most successful elite's players used a combination of physical, psychological abilities, technical and tactical. Weinberg and Gould make an example that coaches attribute 50-90% of an athlete's success depending upon to their psychological skills (Hardy, Jones & Gould, 1997^[3]; Weinberg & Gould, 1999)^[6].

Psychological Skill Training is an integral part of the athlete as other training components of sports training. 50-90% effort of their performance at main competition was contribute by the elite athletes through PST program. PST should be given and developed by the athletes as technical and tactical aspect of sports. Every individual or athletes has different needs in sports. So athletes must be trained systematically according to the individual need of players (Rosie chee, 2010)^[1].

2. Methodology

2.1 Subjects

A total of sixty (n=60) soccer players male, who accepted voluntarily to be the part of the study, were selected as the subject from Th. Birchandra Singh Football Academy (TBSFA), Imphal West, Manipur. The subjects were ranging from 17 to 20 years.

Correspondence
Singh Sorokhaibam Premananda
Research Scholar, Department of
Physical Education, Tripura
University (A Central
University), Tripura, India

2.2 Criterion Measure

For the purpose of the study following criterion measures were used:

- For PST training program selected Psychological intervention namely Self- talk, relaxation techniques (PMR) and Breathing Technique was given as a training tool for 6 weeks.
- For assessing the Anxiety (State and Trait Anxiety), Anxiety (State Trait and Anxiety Inventory) (STAI) containing 40 items by Charles D. Spielberger was used.

2.3 Procedure

To achieve the objective of the study Psychological Skill Training Program was prepared in consultation with the supervisor and other experts. Before implementing the training program Rapport was developed with Players by visiting the Th. Birchandra Football Academy, Taobungkhok, Imphal West, Manipur to communicate and observe the Players. The subjects were divided randomly into two equal groups i.e. Experimental Group and Control Group. Experiment Group (n=30) and control group (n=30). Prior to the training program Pre-data was collected from both the groups. Six weeks PST program was given to the Experiments Group whereas Control group was following the normal physical and skill training given by Academy coach. The Psychological interventions used for the study were Self Talk, Breathing Technique, and Pulmonary Muscle Relaxation Technique. After the Successful Completion of the six weeks Psychological Skill training program post-data was collected.

2.4 Administration of the Psychological skills

Skill Development program: PST program in Pulmonary Relaxation Technique, Breathing Technique and self-talk was implemented in the form of 30 minutes session for three days in a week.

Application and Evaluation: Selected Psychological intervention was imparted to Soccer Players for six weeks. First Soccer players (Experiment Group) were made aware of the Psychological Intervention and they started practice the techniques under the supervision of the head coach and researcher observed the training program. The data was collected at two stages, Pre-data i.e in the beginning before starting the PST Program and Post-data i.e after the

completion of PST Program.

2.5 Statistical Technique

To find out the effect of training the following Statistical Procedure was adapted:

- Descriptive statistics was used.
- To analyze the effects of Psychological Skill Training Program ANCOVA was used.
- For testing the hypothesis the level of significance was set at 0.05 level.

3. Findings

Table 1: Descriptive Statistics of State Anxiety of Soccer Players

| Dependent Variable: PST_SA | | | |
|----------------------------|---------|----------------|----|
| GROUP | Mean | Std. Deviation | N |
| TREATMENT | 41.0667 | 3.97348 | 30 |
| CONTROL | 38.6667 | 4.55111 | 30 |
| Total | 39.8667 | 4.40518 | 60 |

The above table reflects the mean value of the performance and number of Subjects in experimental and controlled groups, the mean value of all the Soccer players in mean of Experimental groups 41.0.6 ; SD is 3.97 (N=30), whereas Control group is 39.8; SD 4.55

Homogeneity of the group was tested by computing the levene’s test of equality; the findings are presented in table No. 2.

Table 2: Levene's Test of Equality of Error Variances of State Anxiety

| F | df1 | df2 | Sig. |
|---|-----|-----|------|
| .782 | 1 | 58 | .380 |
| Tests the null hypothesis that the error variance of the dependent variable is equal across groups. | | | |
| Design: Intercept + PRE_SA + GROUP. | | | |

Output shows the result of Levene’s test when pre PST program is included in the model as a covariate. The Levene’s test is insignificant, indicating that the group variances are equal. Hence, the assumption of homogeneity of variance has been met. The findings with regard to ANCOVA are presented in table 3.

Table 3: Tests of Between-Subjects Effects of State Anxiety of Soccer Players

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
|---|-------------------------|----|-------------|--------|------|---------------------|
| Corrected Model | 229.830 ^a | 2 | 114.915 | 7.158 | .002 | .201 |
| Intercept | 341.650 | 1 | 341.650 | 21.281 | .000 | .272 |
| PRE_SA | 143.430 | 1 | 143.430 | 8.934 | .004 | .135 |
| GROUP | 146.409 | 1 | 146.409 | 9.120 | .004 | .138 |
| Error | 915.103 | 57 | 16.054 | | | |
| Total | 96506.000 | 60 | | | | |
| Corrected Total | 1144.933 | 59 | | | | |
| a. R Squared = .201 (Adjusted R Squared = .173) | | | | | | |

The above table shows the ANCOVA table with the covariate included. Looking first at the significance value of *Group* it is clear that the result of F-test support the effect after

controlling for Pre performance, obtained F = 9.12 at p 0.04 < 0.05.

Table 4: Mean Difference between Experimental and Controlled Group

| Pairwise Comparisons | | | | | | |
|---|-----------|-----------------------|------------|-------------------|---|-------------|
| (I) GROUP | (J) GROUP | Mean Difference (I-J) | Std. Error | Sig. ^a | 95% Confidence Interval for Difference ^a | |
| | | | | | Lower Bound | Upper Bound |
| TREATMENT | CONTROL | 3.236* | 1.072 | .004 | 1.090 | 5.383 |
| CONTROL | TREATMENT | -3.236* | 1.072 | .004 | -5.383 | -1.090 |
| Based on estimated marginal means | | | | | | |
| *. The mean difference is significant at the .05 level. | | | | | | |
| a. Adjustment for multiple comparisons: Bonferroni. | | | | | | |

The above table exhibits that the mean difference among Experimental and Controlled group is 3.236, significant at .004 < 0.05.

Table 5: Descriptive Statistics of Trait Anxiety of Soccer Players

| Group | Mean | Std. Deviation | N |
|-----------|---------|----------------|----|
| Treatment | 37.7000 | 4.96991 | 30 |
| Control | 39.6333 | 3.79185 | 30 |
| Total | 38.6667 | 4.48979 | 60 |

The above table reflects the mean value of the performance and number of Subjects in experimental and controlled groups, the mean value of all the Soccer players in mean of Experimental groups 37.7; SD is 4.96 (N=30), whereas Control group is 39.6; SD 3.79. Homogeneity of the group was tested by computing the levene's test of equality; the findings are presented in table

No. 6

Table 6: Levene's Test of Equality of Error Variances

| Dependent Variable: POST_Trait Anxiety | | | |
|---|-----|-----|------|
| F | df1 | df2 | Sig. |
| 7.746 | 1 | 58 | .007 |
| Tests the null hypothesis that the error variance of the dependent variable is equal across groups. | | | |
| a. Design: Intercept + PRE_TA + GROUP | | | |
| a. Design: Intercept + PRE_TA + GROUP | | | |

Output shows the result of Levene's test when pre PST program is included in the model as a covariate. The Levene's test is insignificant, indicating that the group variances are equal. Hence, the assumption of homogeneity of variance has been met. The findings with regard to ANCOVA are presented in table

Table 7: Tests of Between-Subjects Effects

| Dependent Variable: POST_Trait Anxiety | | | | | | | |
|---|-------------------------|----|-------------|--------|------|---------------------|--|
| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared | |
| Corrected Model | 707.775 ^a | 2 | 353.888 | 41.888 | .000 | .595 | |
| Intercept | 47.670 | 1 | 47.670 | 5.642 | .021 | .090 | |
| PRE_TA | 651.709 | 1 | 651.709 | 77.140 | .000 | .575 | |
| GROUP | 44.222 | 1 | 44.222 | 5.234 | .026 | .084 | |
| Error | 481.558 | 57 | 8.448 | | | | |
| Total | 90896.000 | 60 | | | | | |
| Corrected Total | 1189.333 | 59 | | | | | |
| a. R Squared = .595 (Adjusted R Squared = .581) | | | | | | | |

The above table shows the ANCOVA table with the covariate included. Looking first at the significance value of *Group* it is clear that the result of F-test support the effect after

controlling for Pre performance, obtained F = 5.234 at p 0.26 > 0.05.

Table 8: Mean Difference between Experimental and Controlled Group

| Pairwise Comparisons | | | | | | |
|--|-----------|-----------------------|------------|-------------------|---|-------------|
| Dependent Variable: POST_Trait Anxiety | | | | | | |
| (I) Group | (J) Group | Mean Difference (I-J) | Std. Error | Sig. ^A | 95% Confidence Interval for Difference ^a | |
| | | | | | Lower Bound | Upper Bound |
| TREATMENT | CONTROL | 1.999* | .874 | .026 | .249 | 3.749 |
| CONTROL | TREATMENT | -1.999* | .874 | .026 | -3.749 | -.249 |
| Based on estimated marginal means | | | | | | |
| *. The mean difference is non- significant at the .05 level. | | | | | | |
| a. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments). | | | | | | |

The above table exhibits that the mean difference among Experimental and Controlled group is 1.9999, in significant at 0.26 > 0.05.

4. Discussion

The Psychological intervention namely Self-talk, VMBR and Relaxation Technique used for the study has been mostly used by the many researchers for reducing the anxiety with a normal physical training. Athletes in experimental group experienced more significant enhancement to reduce the state

anxiety after the intervention imparted to them as after compared to participants in the control group. Indeed, results show significant reduction of state anxiety and its shows that the implemented intervention technique that has been used for PST program meaningfully improves the participants to reduce the competition failure due to high anxiety before and during the competition. It is generally agreed that the best time to initiate a PST program is the off season or pre-season. In these time periods athletes have more time to learn and practice new skills, and also they do not have winning

pressure. This issue could be another reason for not reaching significant differences on anxiety.

In other hand current result also indicates insignificant differences in trait anxiety. The intervention results imply that experimental group did not have significantly decreases in trait anxiety from pre-test data to post test data. The reason for this result may be due to time duration of training program. According to Vary Cox (1998) the PST program must last minimum of three months to change some psychological skill and traits of participants. Another reason may be the participants age i.e. 17-20 years is not the specializing years to gain or developed the traits. According to the age ranging between 13-16 years is an specializing years.

Could not find significant decrease in anxiety levels of athletes. After the implementation of mental skills program on less than 19 years old athletes, findings of the study showed that there were no interpretable differences between groups' anxiety levels. In line with our hypothesis the results could be explained by the time between assessments may not have been long enough to allow subjects to perceive any changes in their trait anxiety. Moreover, implied their study to investigate the effect of psychological skill training techniques such as progressive muscle relaxation on anxiety. The results of that studies revealed that there was no significant difference in levels of anxiety among the male inter-collegiate volleyball players. The affect-reducing strategies of relaxation techniques may not be appropriate, especially during the limited time available during an intervention program.

5. Conclusions

After the examination of data in the present study it has been revealed that there was a significance improvement of State Anxiety and no significant was found in the Trait Anxiety following the PST program. The results of the current study with regard to the non-significant decrease in anxiety have been indicated by various researches. Same findings of those studies with current study could be explained by durations of the practices and not having ability about modifying perceptions of athletes.

6. Reference

1. Chee Rosie. Psychological Skills Training Critical To Athlete's Success. 2010. Retrieved from <http://www.bodybuilding.com/fun/psychological-skills-training.htm>.
2. Fletcher, Dawn, Psychological Skill Training for Improved Athletic Performance: A comprehensive Review Support for Development of a cross fit Mental Training Manual. 2010.
3. Hardy L, Jones G, Gould D. Understanding psychological preparation for sport: Theory and practice of elite performers. London, UK: John Wiley & Sons Ltd. 1997.
4. Martens R. Coaches guide to sport psychology. Champaign, Illinois: Human Kinetics. 1987.
5. Vealey RS, Mental skills training in sport, in Handbook of sport psychology, G. Tenenbaum, R. Eklund, R. Singer, Editors, John Wiley & Sons, New Jersey, 2007, 287-309.
6. Weinberg RS, Gould D. Foundations of sport and exercise psychology (2nd ed.). United States of America: Human Kinetics. 1999.
7. Williamon A, Connolly, Christopher, Mental Skill Training; Musical Excellence: Strategies and Techniques to enhance Performance, 2004, 221-243.

Identifying the Factors Influencing the Motor Fitness Performance among State Level Athletes of Siliguri

Ghosh Bibekananda ^a, Dhar Krishnendu ^b

^aAsstt. Secretary of Sports, North Bengal University, Siliguri, INDIA,

^bAsstt. Professor, Deptt. of Physical Education, Tripura University, Agartala, INDIA

Abstract

The purpose of the study was to observe the relation between the body compositions and selected motor fitness components among state level athletes of Siliguri, West Bengal. 30 state level male athletes were randomly selected from the male athletes of Siliguri Athletics Welfare Organization (SAWO), Siliguri. Their age ranges from 15 to 25 years with an average age of (18.7±2.8) years. They represented their district in the state athletic championships in recent times. The primary data of height, weight, training age etc. were recorded and Body Mass Index (BMI) was calculated from that measurement. Body composition was calculated from the Jackson-Pollock 3 sites skinfold measures. 50 m sprint for speed, standing broad jump for explosive strength and 1600m run for endurance were recorded. Correlation values showed that athletes with higher fat percentage had a higher performance time in sprint ($r = 0.62$) and endurance ($r = 0.77$) test. BMI showed a similar trend but fat percentage was more reliable measure to predict the motor performance. Leg explosive strength had no correlation with fat percentage or BMI of the athletes.

KEYWORDS: Motor performance, BMI, Body composition, Skinfold, Fat percentage

Introduction: Athletes' physical attributes vary greatly, and training the same way year-round can decrease your performance. Sports use varying levels of strength, stamina, endurance, glycogen, fat, fast-twitch and slow-twitch muscle fibers, aerobic and anaerobic energy and other skills and abilities, and this requires different training methods. Whilst everyone can improve their individual performance, only a selected few individuals will ever reach the top. There is a phrase "Sprinters are born, marathoners are made" which is only half true. The factors are mostly genetic. There are numerous number of factors which may influence the performance. This may be the training process or the Psychological condition or the environment or may be the environment etc.

The objective of the study was To find out the influential factors behind the sprinting , Leg explosive strength and Endurance performance of the athletes. This is only the first phase of data of a longitudinal work.

Subjects: Thirty (30) male Athletes of Siliguri Athletic Welfare Organization (SAWO) were the subject of the study. Their age range was 15 to 25 years. All the athletes are state level players representing Siliguri district.

Criterion Measure: The measured criterion were divided into few categories.

Health Parameters: Height (cm), Weight (kg), BMI (kg/m^2), Fat % (Jackson-Pollock 3 sites skinfold measures),

Pathological Parameters: Blood Glucose, Haemoglobin, Serum Creatinine

Fitness Parameters: 50m Dash (Sec.), Standing Broad Jump (m), 1600m run (Sec.)

Standard experimental protocols were maintained in measurement of each of the parameters.

Result and Discussions: The obtained data were tabulated and discussed after descriptive statistical analysis.

The personal data of the subjects like height and weight were measured and from there BMI was calculated. The mean and sd of the obtained data have been tabulated in the table no I.

Table I: Mean, SD and Range of Age, Height, Weight and BMI of the subjects

| Parameters | Age (kg) | Height (cm) | Weight (kg) | BMI ² (kg/ m) | Total=N |
|-----------------|-------------|--------------|-------------|---------------------------|-----------|
| Mean, SD | 18.7±2.8 | 168.92±6.7 | 56.54±9.5 | 19.76±2.8 | 30 |
| Range | (15-25) yr. | (158-184) cm | (43-81) kg | 15.19-26.75 | |

Source- Primary Data Aug, 2017

The BMI level of the athletes were in optimum level, but the range indicated a mixed body type. The table –II contains the mean and SD of the pathological parameters.

Table-II: Mean and SD of Fat %, Blood glucose, Haemoglobin, Serum Creatinine level of the subjects

| Fat% | Blood Glucose | Haemoglobin | Serum Creatinine |
|-----------|---------------|-------------|------------------|
| 7.48±4.86 | 82.12±7.03 | 13.08±1.60 | 0.752±0.09 |

Source- Primary Data Aug, 2017

The mean value indicated that all the obtained data were in the normal range. The motor fitness parameters were recorded in table-III. The mean and SD of the motor performance of the athletes were recorded. The recorded time and the achieved distance were tabulated

Table-III: Mean and SD of Performance in Sprint, Leg Explosive Strength and Endurance test

| 50 m Dash (Sec) | S.B.J (m) | 1600 m Run (min) |
|-----------------|-----------|------------------|
| 7.37±0.45 | 2.18±0.22 | 6:18±0.04 |

Source- Primary Data Aug, 2017

The table-IV contains the correlation between motor performance parameters and the other parameters.

Table-IV: Correlation between various parameters

| | BMI | Fat % | Glucose Level | Haemoglobin | Creatinine |
|-------------------------------|---|---|---|---|--|
| Sprinting Speed | Correlation coefficient = 0.399403 p-value = 0.0479 | Correlation coefficient = 0.627261 p-value = 0.0008 | Correlation coefficient = 0.103655 p-value = 0.622 | Correlation coefficient = 0.014372 p-value = 0.9456 | Correlation coefficient = -0.033819 p-value = 0.8725 |
| Leg Explosive Strength | Correlation coefficient = -0.1054437 p-value = 0.6159 | Correlation coefficient = -0.4719 p-value = 0.0172 | Correlation coefficient = -0.02321032 p-value = 0.9123 | Correlation coefficient = 0.2416949 p-value = 0.2444 | Correlation coefficient = 0.08567329 p-value = 0.6839 |
| Endurance | Correlation coefficient = 0.5623 p-value = 0.0034 | Correlation coefficient = 0.7742 p-value = 0.000006 | Correlation coefficient = 0.2787 p-value = 0.1773 | Correlation coefficient = 0.0925 p-value = 0.66 | Correlation coefficient = -0.0015 p-value = 0.994 |

The correlation wants to find out any relation in between the motor performance parameters namely Speed, Explosive strength and Endurance with fat%, or any other pathological parameters. From the table-IV, obtained p value indicated the relation in between the desired parameters. The sprinting speed and endurance of the athletes were highly correlated with BMI and fat%. This may be because of the nature of the athletes' body type, which was in optimum range. Leg explosive strength was also related with fat% of the athletes. The pathological parameters don't influence the motor performance.

Conclusion: The following conclusions have been made from the obtained data

1. Higher fat % reduces the Leg Explosive Strength of the Athletes.
2. Athletes with Optimum level of BMI and Fat Percentage may help in Endurance performance.
3. Blood glucose, haemoglobin, and serum creatinine level have no relation with motor performance of the athletes of Siliguri.

References:

Abigail, F (n.d.) " relationship between physical activity and motor and cognitive function in young children". Strength and conditioning research pp. 242-245.

Durmic T, Lazovic Popovic B, Zlatkovic Svenda M, *et al* The training type influence on male elite athletes' ventilatory function *BMJ Open Sport & Exercise Medicine* 2017;**3**:e000240. doi: 10.1136/bmjsem-2017-000240

Edim. Et al (2013) The effect of motor skills and flexibility on psychomotor achievement of secondary school students in Physical Education in Calabar municipality cross river state, Nigeria. *Science and medicine in sports*, pp 77-79

Frandsen J at al, *Int J Sports Med*. 2017 Nov;38(13):975-982. doi: 10.1055/s-0043-117178. Epub 2017 Oct 19.

Fields JB at al *J Strength Cond Res*. 2017 Nov 16. doi: 10.1519/JSC.0000000000002234.

Safrit, N. J. (2000). The validity and reliability of fitness tests. *Pediatric exercise science*

Indexed Journal

Refereed Journal

Peer Reviewed Journal

International Journal of Yoga, Physiotherapy and Physical Education

ISSN: 2456-5067

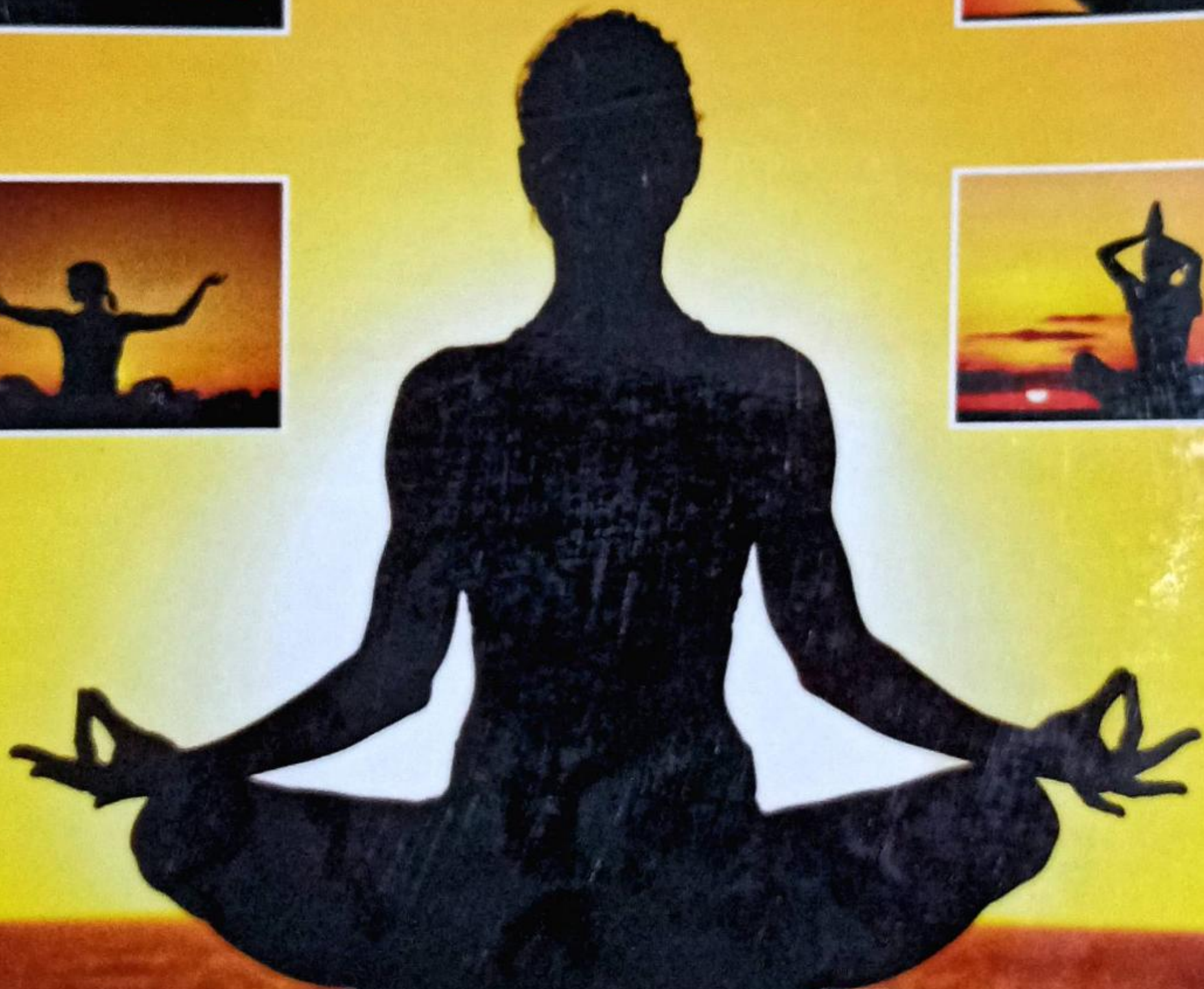
Impact Factor (RJIF) 5.24

Volume 2

Issue 2

Mar-Apr

2017



Published By
Gupta Publications,
New Delhi, India



Psychological skills among high performer and low performer soccer players

¹ Singh Sorokhaibam Premananda, ² Dr. Sanjib Kumar Bhowmik

¹ Research Scholar, Department of Physical Education, Tripura University (A Central University), Tripura, India

² Assistant Professor, Department of Physical Education, Tripura University (A Central University), Tripura, India

Abstract

Purpose: To compare the psychological skills among high performer and low performer soccer teams.

Methods: For fulfilling the purpose of the study one hundred thirty seven soccer players belonging to 8 different Soccer Club which participated in the Super Division Football League, Manipur (2014-2015) held at Th. Birchandra Football Academy, Toubungkhok, Imphal West, Manipur were selected. Subjects were divided into two groups according to their level of achievement i.e. high performer and low performer soccer teams. The data was collected through the administration of the Psychological Performance Inventory (PPI) for the sports as developed by James E. Loehr (1996) containing 42 items to assess an athlete's psychological skills.

Statistical analysis: To find out the significant differences in psychological skill among high performer and low performer soccer teams. The one way ANOVA was used and levels of significance was 0.05.

Results: The result of the study reveals that there was a significant difference among high performer and low performer soccer teams.

Conclusion: Result of the study indicates that some of the parameters in psychological skill have found significant namely (self-confidence, attention control, visual and imagery control and attitude control) and negative energy and positive energy have found insignificant at 0.05 level of significance. Self-confidence as the belief that individuals have in their capability to perform a particular task.

Keywords: self-confidence, attention control, visual and imagery control, attitude control, negative energy and positive energy

Introduction

Today in the field of sports the role of skills and psychological preparations of athletes in sport successes and achieving desire performance in completions and tournaments, even in some circumstance, be considered more important than the technical preparation. Many research evidences have confirmed this claim in psychological filed. Competitive soccer requires concentration, quick thinking and great deal of movements about attack and next about defence. They must be concentrating all the time, if they are keeping play wider. Soccer is an excellent sport for developing and maintaining physical fitness, strength, endurance, co-ordination and other physiological benefits. High level of achievement and excellence in any area do not come easily. There are numerous obstacles to overcome and barriers to push aside. Sports psychology as an applied psychology is the greatest blessing of the modern day of sports sciences in this age. Within a short span of time, sports psychology has taken giant strides. The knowledge is all field of human endeavour, especially of behaviour has expanded to such an extent that it is different to discuss one aspect of behaviour without reference of other.

Psychological skills training (PST) is the deliberate, systematic practice of strategies and methods designed to enhance an athlete's performance, by enhancing their psychological skills. PST is as important to the athlete as physical training, and in most sports success comes from utilizing and maximizing a combination of technical, tactical, physical, and psychological abilities (Hardy, Jones & Gould,

1997; Hodge, 2007; Orlick, 2000; Weinberg & Gould, 1999) [6].

Psychological skills training (PST) is as important to the athlete as physical training and can contribute 50-90% of their performance. Goal setting, self-talk, mental imagery and mental rehearsal, and relaxation are the four most prominent PST methods used by athletes. Like technical or tactical aspects of a sport, athletes must be learned, developed, and practiced by the athlete. Each athlete and individual has different sporting needs, psychological skill development, orientations and experience, so every PST program must be individualized to fit that athlete.

Psychological Skill Training is an integral part of the athlete as other training components of sports training. 50-90% effort of their performance at main competition was contribute by the elite athletes through PST program. PST should be given and developed by the athletes as technical and tactical aspect of sports. Every individual or athletes has different needs in sports. So athletes must be trained systematically according to the individual need of players (Rosie chee, 2010) [2].

Psychological skills, like technical or tactical aspects of a sport, must be learned, developed, and practiced by the athlete (Hardy, Jones & Gould, 1997; Hodge, 2007; Weinberg & Gould, 1999) [6]. There are three subsections of psychological skills: Foundation skills, performance skills, and facilitative skills. Like physical skills, psychological skills have different times in which they should be developed and practiced (Hodge, 2007).

BOT_SL_3a-Book chapter.pdf - Adobe Acrobat Reader DC (32-bit)

File Edit View Sign Window Help

Home Tools BOT_SL_3a-Book c... x Sign In

14 / 21 45.4%

Search 'Edit Text'

Export PDF

Adobe Export PDF

Convert PDF Files to Word or Excel Online

Select PDF File

BOT_SL_3a...hapter.pdf X

Convert to

Microsoft Word (*.docx)

Document Language:

English (U.S.) Change

Convert, edit and e-sign PDF forms & agreements

Free 7-Day Trial

4:20 PM 3/17/2021

Diversity of Fungal Endophytes and Antibacterial Study of Some Selected Endophytes Isolated from Five Plants of Tripura

Sukla Bhattacharjee*, Ajay Krishna Saha¹ and Panna Das²

¹Micrology and Plant Pathology Laboratory, ²Microbiology Laboratory, Department of Botany, Tripura University, Suryanagar – 796022, Tripura

*Corresponding author: sbhskla@gmail.com

Summary Plants are the reservoir of different micro-organisms among which endophytes have recently gained attention. An endophyte is an eukaryotic, often a bacterium or fungus or actinomycetes that usually colonize living internal tissues of plants without causing any "injury or overt symptom to their host". The present study was conducted to evaluate the diversity of fungal endophytes from some selected plants of Tripura. The study revealed a total of 17 fungal endophytes recovered from 405 segments of leaves, bark and root of five selected plants. Sterile forms were also isolated. Of these isolates *Fusicladium oxysporum* was found to be present in all the five plants whereas *Fusicladium sp.* and *Diaporthe pluvulorum* were found in four plants except *Dillenia indica* (L.). Further some selected species were screened for antibacterial activity against the Gram positive bacteria *Bacillus subtilis* MTCC 419 and negative *Staphylococcus aureus* MTCC 424 by the paper disk susceptibility test. All the endophytes showed differential inhibition zone against the tested bacteria.

Key words: Endophytes, Endosymbiosis, Diversity, Antibacterial activity

Fungi are heterotrophic eukaryotes with unique characteristics that set them well apart from both plants and animals. The role of symbiosis between plant and microorganism is considered a key element for eukaryotes colonization in the land (Heckman et al. 2003). Fungi are so versatile in adapting themselves that they could occupy a variety of ecological habitats (Suryanarayan 1998). Fungi are also known to establish themselves inside healthy plant tissues without causing any "injury or overt symptom to their host". Such an association is generally termed as endophytic association (Bills 1986). This is a topographical term and it includes bacteria, fungi, actinomycetes, and algae, which spend their whole life or a period of life cycle in the symplast or apoplast region of healthy plant tissues without producing any disease or symptoms. Fungal endophytes through very

BOT_SL_3a-Book chapter.pdf - Adobe Acrobat Reader DC (32-bit)

File Edit View Sign Window Help

Home Tools BOT_SL_3a-Book c... x Sign In

16 / 21 45.4%

Search 'Edit Text'

Export PDF

Adobe Export PDF

Convert PDF Files to Word or Excel Online

Select PDF File

BOT_SL_3a-...hapter.pdf X

Convert to

Microsoft Word (*.docx)

Document Language: English (U.S.) Change

Convert, edit and e-sign PDF forms & agreements

Free 7-Day Trial

4:24 PM 3/17/2021

Antibacterial Activity of Leaf Extracts of *Bambusa bambos* (L.) Vass. and *Bambusa tulda* Roxb. of Tripura

Sudipta Sinha¹, Gopal Debnath¹, Ajay Krishna Saha¹ and Panna Das²

¹Mycology and Plant Pathology Laboratory, ²Microbiology Laboratory, Department of Botany, Tripura University, Suryamaniganj-790 022, Tripura, India
^{*}Corresponding author: sudipta.sinha19@gmail.com

Summary Antibacterial activity of ethanolic and methanolic extracts of the fresh leaves of *Bambusa bambos* and *Bambusa tulda* was evaluated against Gram-positive and gram-negative bacterial strains by disc diffusion method. Inhibitory effect of two crude extracts was clearly visible against both types of bacteria tested. Moreover, the role of ethanolic leaf extracts in forming effective inhibitory zone against *Staphylococcus aureus* and *E. coli* is also highlighted.

Keywords: Bamboo, antibacterial activity, ethanolic leaf extract.

Bamboos popularly known as 'Green Gold', 'Poor Man's Timber', etc belonging to the family Gramineae, are represented world over by about 90 genera with over 1200 species. Asia is rich in bamboo diversity with approximately 900 species belonging to 65 genera, of which 14 species are endemic to the region. India is the home of about 136 species of bamboo falling under 23 genera with genus *Bambusa* widely distributed in the country. The most widely distributed genus is the *Dendrocalamus*, which is found to grow widely in the plains of south and central India. Bamboo has many health benefits. Medicinal uses of bamboo have been known and practiced by Asian healers of old. Bamboo leaves have been used clinically in some Asian countries in the treatment of fever and hypertension (Kwon *et al.* 2001, Wang *et al.* 2012). The medicinal effects of bamboo leaves are mostly attributed to their antioxidant capacity (Hoyweghen, *et al.* 2010). Bamboo leaves have been used in traditional Chinese medicine for treating fever and for detoxification for over 1000 years (Zhang and Ding, 1996). *Bambusa bambos* (L.) Vass. has been widely used in Indian Folk medicine. In ayurveda, the entire plant is used as astringent, laxative, for inflammatory conditions and as diuretic. Shoots of the plant are used for dislodgement of worms from ulcer. Leaves are used in treatment of leprosy, arsanorrhoea, dysmenorrhoea, eye troubles, lumbago, haemorrhoids and hemiparesis (Joshi, 2000). The crushed shoot juice of *Bambusa tulda* Roxb. is applied to the injury of nails due to iron sword or arrows.

Search 'Edit Text'

Export PDF

Adobe Export PDF

Convert PDF Files to Word or Excel Online

Select PDF File

BOT_SL_3a-...hapter.pdf X

Convert to

Microsoft Word (*.docx)

Document Language: English (U.S.) Change

Convert, edit and e-sign PDF forms & agreements

Free 7-Day Trial

part of Florida Atlas of Plant Science Research
Copyright © 2019, PSC, Inc.
Department of Botany, Tripura University, 2017

Checklist of Mushroom Diversity in West Tripura, North-East India

Sanjit Debnath¹, Aparajita Roy Das¹, Pritu Karmakar¹, Gopal Debnath¹,
Panna Das¹ and Ajay Krishna Saha¹
¹Mycology and Plant Pathology Laboratory, Microbiology Laboratory
Department of Botany, Tripura University, Suryamainagar-799 022, Tripura, India
^{*}Corresponding author: sanjitdebnath2888@gmail.com

Summary Mushrooms are one of the most important components of the forest ecosystem. Their edibility, poisonous nature, psychotropic properties, mycorrhizal and parasitic associations with the forest trees make them economically important and interesting to study. The Northeastern region of India abounds in forest wealth, including many species of trees and other woody plants. Tripura is one of the seven states in the north eastern part of India. The present study was conducted to assess the diversity of mushrooms found in West Tripura during May to September 2014. Collections were done from nine sites of West Tripura. Out of nine locations, Salbagan represented highest diversity of mushrooms compared to rest other sites. Overall twenty two mushroom species were collected under this study, of which five different morphotypes belong to *Marrasmius* sp., three to *Lentisus* sp., two to *Trematium* sp., and one each to *Agaricus* sp., *Lactarius* sp., *Tricholoma* sp., *Schizophyllum* sp., *Xylaria* sp., *Pleurotus* sp., *Xerulius* sp., *Auricularia* sp., *Gastrum* sp., *Polyporus* sp., and *Thelephora* sp. Out of total twenty two species, nine species categorized as edible mushrooms, twelve were categorized as non edible by the toxicity test. The study revealed that *Gastrum* sp., *Polyporus* sp. and *Schizophyllum* sp. were highly abundant and *Lentisus* sp. 2 was least abundant. Present checklist of mushroom diversity will be helpful for future studies as well as will provide a baseline data on mushroom diversity in Tripura.

Key words: Mushrooms, West Tripura, abundant, diversity.

Mushrooms are defined as "a macro fungi with a distinctive fruiting body which can be hypogeous or epigeous, large enough to be seen with the naked eye and to be picked by hand" (Chang and Miles (1992). Mushrooms alone are represented by about 41,000 species, of which approximately 850 species are recorded from India (Debnath 2004). Forest fungi play important ecological role in forest ecosystems, acting as mycorrhizal, symbionts, decomposers and pathogens (Dighton et al. 2005). During the rainy season, different species of both edible and non edible mushrooms usually grow on various

Search 'Edit Text'

Export PDF

Adobe Export PDF

Convert PDF Files to Word or Excel Online

Select PDF File

BOT_SL_3a...hapter.pdf X

Convert to

Microsoft Word (*.docx)

Document Language:

English (U.S.) Change

Convert, edit and e-sign PDF forms & agreements

Free 7-Day Trial

Series in Frontiers of Plant Science Research
Edited by S. Bhowmik, M.K. Das
© Department of Botany, Tripura University, 2017

Effects of pH, Carbon and Nitrogen Sources on Mycelial Growth of *Fusarium sporotrichioides* in Submerged Culture Condition

Pintu Karmakar^{1*}, Koyel Sen Gupta¹, Sreeta Gupta-Bhattacharya¹, Panna Das² and Ajay Kishna Bala¹

¹Microbiology and Plant Pathology Laboratory, ²Microbiology Laboratory, Department of Botany, Tripura University, Suryamainagar-789 022, Tripura, India
³Division of Plant Biology, Bose Institute, Main campus-93/1, Acharya Pratibha Chandra Road, Kolkata-700 009
* Corresponding author: pintukarmakar42@gmail.com

Summary The effects of carbon source, nitrogen source and pH on the mycelial growth of the *Fusarium sporotrichioides* in submerged culture were evaluated. Among the 5 carbon sources tested, the highest growth was found in lactose as carbon source which is slightly higher than that of sucrose supplemented medium. The highest mycelial submerged growth was recorded in peptone as nitrogen source. The maximum biomass production was observed at pH 6. The results showed that fungal growth decreased gradually at pH higher than 6.

Key words: *Fusarium sporotrichioides*, Carbon source, Nitrogen source, pH, Biomass
The genus *Fusarium* has been considered as one of the very interesting and important group of fungus because of its diversity and cosmopolitan distribution. They produce dormant structures, mostly in the form of chlamydospores to keep on living in soils for many years before these structures are stimulated to grow. *Fusarium* species produce three types of spores viz. micro-conidia, macro-conidia and chlamydospore. The genus *Fusarium* is common in temperate and tropical areas of the world. It has also been isolated from avocado fruit, bean, cabbage, hemp, soybean, etc. It produces toxins such as zearalenone and zereulenol (Verma *et al.*, 1998), but its role in antigenic/allergenic activity is unclear.

The knowledge of nutritional requirements is the main need in the cultivation of microorganisms using any cultural technique. Carbon is the major component and the molecules of carbon also contribute to oxygen and hydrogen. The media components are responsible for the mycelial growth and spore yield. Although the saprophytic fungi

BOT_SL_3a-Book chapter.pdf - Adobe Acrobat Reader DC (32-bit)

File Edit View Sign Window Help

Home Tools BOT_SL_3a-Book c... x Sign In

18 / 21 45.4%

Search 'Edit Text'

Export PDF

Adobe Export PDF

Convert PDF Files to Word or Excel Online

Select PDF File

BOT_SL_3a-...hapter.pdf X

Convert to

Microsoft Word (*.docx)

Document Language: English (U.S.) Change

Convert, edit and e-sign PDF forms & agreements

Free 7-Day Trial

Journal of Heredity: Frontiers of Plant Science Research
Edited by S. Bhat, R.K. Sinha
© Department of Botany, Tripura University, 2017

Phylloplane and Endophytic Fungal Diversity in *Ananas comosus* L. of Sepahjila District of Tripura and Antioxidant Potential of Two Isolated Endophytes

Benehile Bhattacharya¹, Ajay Krishna Gaha² and Panna Das²
¹Mycology and Plant Pathology Laboratory, ²Microbiology Laboratory
Department of Botany, Tripura University
^{*}Corresponding author: benehile2017@gmail.com

Summary Pineapple (*Ananas comosus* L.) is a natural fruit of Tripura. Queen and Kew are the two main cultivars grown in different parts of Tripura. The present investigation was conducted to document phylloplane fungi from green, senescing and decomposing leaf and endophytic fungi from green leaf and root of Queen variety of pineapple plant which is extensively cultivated in Sepahjila district. Though seven fungal species were isolated during fruiting and non-fruiting seasons only two leaf endophytic fungal species *Lasiodiplodia theobromae* and *Penicillium sclerotiorum* were screened for antioxidant activity by DPPH (1,1-diphenylpicrylhydrazyl) radical scavenging assay. Both of the fungal endophytes exhibited differential potential of antioxidant activity and the results have been analysed as well.

Keywords: *Ananas comosus* L., endophyte, *Lasiodiplodia theobromae*, *Penicillium sclerotiorum*, antioxidant activity.

Different fungal assemblages are present in each part of the substratum of each host. Phylloplane fungi, endophytes, wood-attacking fungi, litter decomposing fungi, plant parasitic fungi, root-inhabiting fungi and mycorrhizal fungi are found in the various niches of only one tree. Phylloplane fungi that include endophytes and epiphytes colonize the interior and the surface, thereby occupying two distinct habitats of the leaf (Peterson 1991). Phylloplane fungi occur not only on living leaves but also on decomposing leaves at the initial stages of decomposition.

Endophytes are the microbes that colonize living internal tissues of plants, without causing any immediate overt negative effect (Bacon & White, 2000), are found in diverse habitats. They reside asymptotically within most living tissues of plants. Numerous bioactive molecules have been isolated from endophytic fungi Strobel and Daisy, 2004.

Windows Taskbar: e, W, Chrome, Edge, PDF, Bot

System Tray: ENG, 4:54 PM, 3/17/2021

19 / 21 45.4%

Trends in Frontal Areas of Plant Science Research
Edited by: J. Srinivas, T. K. Srinivas
© Department of Botany, Tirupur University, 2017

Antibacterial Activity of Silver Nanoparticles Synthesized from Leaf Extract of *Paspalum conjugatum* R. J. Berguis

Gopal Debnath¹, Panna Das² and Ajay Krishna Saha¹
¹Myecology and Plant pathology Laboratory, ²Microbiology Laboratory
Department of Botany, Tirupur University, Suryasimranagar- 798022, Tripura, India
Corresponding Author: gopadebn@gmail.com

Summary The present study was conducted to evaluate the antibacterial activity of silver nanoparticles synthesized from the leaf extract of *Paspalum conjugatum* as bioreductant. UV-visible studies of the subjected materials revealing the surface Plasmon resonance at 442 nm confirmed the formation of silver nanoparticles. Biosynthesized silver nanoparticles were tested for antibacterial activity against Gram-positive bacteria *Staphylococcus aureus* (MTCC 96) and also in Gram-negative *E. coli* (MTCC 40) and *Pseudomonas aeruginosa* (MTCC 424) bacteria by the disc diffusion method. Silver nanoparticles showed more antibacterial activity than silver (Ag) ion and aqueous extract of leaf. The result suggested that green synthesized silver nanoparticles can be used as effective growth inhibitors in antimicrobial control systems and can be used in generation of antibacterial drugs.

Key words: *Paspalum conjugatum*, Silver nanoparticles, UV-Vis spectroscopy and Antibacterial activity.

In recent years, nanotechnology has been emerging as a rapidly growing field with numerous applications in science and technology for the purpose of manufacturing new materials (Savitramma *et al.* 2011). The most important and distinct property of nanoparticles is that they exhibit larger surface area-to-volume ratio. Among the nanoparticles studied so far, extensive research has been done on silver nanoparticles (AgNPs) keeping in view of their potential bio-medical applications (Sasikala *et al.* 2015). Different types of metallic nanoparticles like copper, zinc, titanium, gold, and silver have been produced by biological methods. However, the interest in silver nanoparticles has been increasing due to their high antimicrobial activity against bacteria, viruses and eukaryotic microorganisms (Rai *et al.* 2008). Silver nanoparticles have wide application in biomedical science like treatment of burned patients, antimicrobial activity and used in the targeted drug delivery, and so forth (Singh *et al.* 2010). The most important

Search "Edit Text"

Export PDF

Adobe Export PDF

Convert PDF Files to Word or Excel Online

Select PDF File

BOT_SL_3a-...hapter.pdf X

Convert to

Microsoft Word (*.docx)

Document Language:

English (U.S.) Change

Convert, edit and e-sign PDF forms & agreements

Free 7-Day Trial

Search 'Edit Text'

Export PDF

Adobe Export PDF

Convert PDF Files to Word or Excel Online

Select PDF File

BOT_SL_3a...hapter.pdf X

Convert to

Microsoft Word (*.docx)

Document Language:

English (U.S.) Change

Convert, edit and e-sign PDF forms & agreements

Free 7-Day Trial

South in Frontal Area of Plant Science Research
Edited by S. Saha, B.K. Datta
© International Society, Bengal University, 2017

Comparison of Arbuscular Mycorrhizal Fungal Colonization and Diversity of Two Different Rubber Plantations of Tripura, Northeast India

Atishi Debnath¹, Sudipta Sinha², Krishna Talapatra³, Kripansoy Chakraborty⁴,
Alpy Krishna Saha² and Parina Das⁵
¹Microbiology Laboratory, ²Physiology and Plant Pathology Laboratory,
Department of Botany, Tripura University,
Surpamantapur-799 002, Tripura, India
⁵Correspondence author: parina13@gmail.com

Summary The present study was conducted to evaluate the colonization and species composition of arbuscular mycorrhizal (AM) fungal of two rubber plantation sites of Tripura. The roots of rubber trees in Takmachara showed higher AM colonization than Amtali plantation. A total of 10824 spores/ 100g and 790 spores / 100g of soil were isolated from Amtali and Takmachara, respectively. 9 and 4 AM fungal morphotypes were found from Amtali and Takmachara, respectively. The genus *Glomus* represented the highest abundance in both the sites by 6 and 4 species from Amtali and Takmachara site, respectively.

Keywords: *Hevea brasiliensis* AM fungal colonization, AM Fungal Spores
Hevea brasiliensis Müll. Arg. is the main tree species exploited in the world for the production of natural rubber (Compagnon and D'Azave 1986). Rubber is an important commercial crop in Tripura. The rubber plantation in Tripura extends to 50070 ha with a production of 23280 t as on 2008-09 (Rubber Board 2010).

The term "Mycorrhiza" means literally "fungus root" it refer to the fact that fungi form many type of symbiotic association with the roots or other underground organ of plant (Kothmann *et al.* 2001). Among soil microscopic organisms, the arbuscular mycorrhizal (AM) fungi play a very important role in natural ecosystems as well as in agroecosystems due to their capacity to form arbuscular mycorrhizae, which are considered to be the most widely distributed and important symbiotic association in nature (Bachmann and Parniske 2006). The AM fungi are all obligately biotrophic, depending on green plants to supply the carbon compounds essential for tissue production and survival (Ho and

BOT_SL_3a-Book chapter.pdf - Adobe Acrobat Reader DC (32-bit)

File Edit View Sign Window Help

Home Tools BOT_SL_3a-Book c... x Sign In

2 / 21 45.4%

Search 'Edit Text'

Export PDF

Adobe Export PDF

Convert PDF Files to Word or Excel Online

Select PDF File

BOT_SL_3a-...hapter.pdf X

Convert to

Microsoft Word (*.docx) v

Document Language: English (U.S.) Change

Convert, edit and e-sign PDF forms & agreements

Free 7-Day Trial

Soil Nutrients and Plant Association Analysis Under Different Habitats of a Threatened Carnivorous Plant *Drosera burmannii* Vahl. in Tripura, India

Biswajit Sutradhar¹, Raj Krishna Dasgupta², Koushik Majumdar³ and Basu Kumar Das⁴

¹Plant Ecophysiology and Botany Laboratory, Department of Botany, Tripura University, Suryanagar, West Tripura, 799002, Corresponding author: biswajit@tripurauni.edu.in

²Natural History Museum, Kolkata

³Department of Botany, Tripura University, Suryanagar, West Tripura, 799002

⁴Department of Botany, Tripura University, Suryanagar, West Tripura, 799002

Abstract *Drosera burmannii* Vahl is a carnivorous plant species occurring in some restricted seasonal flooded agricultural fields of Tripura. In spite of the continuous decline of the species in natural habitats, assessment of population status and distribution of this plant is very important to know the impact of soil nutrient limitation. In this study, five different natural populations (collected in non-degraded and degraded sites) were selected. Five 1 x 1 m square quadrats were laid at five different sites in two different habitats. Identification of plant species and soil sampling was done. The soil physicochemical properties were estimated at two soil depths (0-10 cm and 10-20 cm). Overall 21 plant species belonging to 20 families were recorded. The soil nutrient levels (Carbon (Mg %), Total Nitrogen (Mg %), Total Phosphorus (Mg %)) was high at non-degraded sites than the degraded sites.

Key words: *Drosera burmannii* Vahl., Phytosociology, Soil Nutrient Profile.

Introduction Carnivorous plants comprises one of the largest genera of composite plants with leaf (Pillay and Maiti, 2008). *Drosera burmannii* Vahl, an annual or biennial plant is distributed widely in New Guinea, Malay, West Africa and Australia with their specific life forms associated with high glaucous leaves and flowers which trap insects (Natchikadan et al., 2004). Out of the 4 genera that compose the family Droseraceae, the genus *Drosera* occurs in Tripura. In Himalayan Mountain it was reported from the low up to 4000 m (20000 feet) in altitude and was found up to 1000 m (3280 ft) in north east India. The species has been reported from Khasi and Jaintia hills of Meghalaya (Kishor et al., 1984, 1986). The members of this family *Drosera* have captured and digest insect using stalked mucilaginous glands covering their leaf surface (Pillay and

BOT_SL_3a-Book chapter.pdf - Adobe Acrobat Reader DC (32-bit)

File Edit View Sign Window Help

Home Tools BOT_SL_3a-Book c... x Sign In

3 / 21 45.4%

Search 'Edit Text'

Export PDF

Adobe Export PDF

Convert PDF Files to Word or Excel Online

Select PDF File

BOT_SL_3a-...hapter.pdf X

Convert to

Microsoft Word (*.docx) v

Document Language:

English (U.S.) Change

Convert, edit and e-sign PDF forms & agreements

Free 7-Day Trial

Terms of Private Access of Plant Science Research
Library © 2016. All Rights Reserved
© The Author(s) 2017

Maximum Entropy Distribution Modelling and Habitat Suitability of a Critically Endangered Tree *Dipterocarpus gracilis* Blume in Tripura, Northeast India

Kaushik Majumdar^{1*}, Dibyendu Adhikari² and Basal Kumar Datta³

¹Plant Diversity and Distribution Laboratory,
Department of Botany, Tripura University, Suryamangalgar-799 030, Tripura, India
²Center for Advanced Studies in Botany, School of Life Sciences,
North-Eastern Hill University, Shillong-793 022, Meghalaya, India
*Corresponding author: majumdarbk@gmail.com

Summary With the rise of the risk for species loss, alternative strategies for predicting habitat distribution and population estimation were taken to conserve threatened species conservation. In order to improve the conservation status of *Dipterocarpus gracilis* Blume in its natural habitat, a model was proposed for predicting potential areas of distribution and suitable habitats using Maximum Entropy (MaxEnt) distribution algorithm and habitat species distribution programme in Tripura. The model was developed using twenty four sites data recorded in its native range in north Tripura. We used Normalized Difference Vegetation Index (NDVI) and Digital Elevation Model (DEM) to predict suitable habitat. The present study envisages additional record of *D. gracilis* for the flora of Tripura state with potential suitable habitat distributions within the current home range.

Keywords: Habitat suitability modelling, ENM, MDA, ENM, Critically Endangered Tree

Quantification of existing population, location of distribution and monitoring its habitat is the prime concern today for most conservation biologist and ecologist to mitigate the impacts of climate change on the remaining viable population and suitable habitats of threatened species (Chatterjee and Bose 2005). Ecological Niche Modelling (ENM) not only can provide a useful tool to predict species additional population and distribution areas but also help setting practical strategies for species conservation and restoration programme (Kocourek and Thuiller 2009). ENM has been using widely to assess the potential geographical distribution for many threatened and endangered species (Gaston et al. 2003, Kasson and Thuiller 2005, Peterson et al. 2005, Thuill...

About the Book

Educating the Marginalized: Right Based Inclusive Education is an edited book about the educational status of the different social groups who have the long history of educational exclusion. The book mainly focuses on social groups like women, scheduled castes and tribes, differently-abled children, minorities. This book also contains how these marginalized social groups can be included in the mainstream with efforts from government and NGO side. Right to Education which came into effect from 1st April 2010 ensures, inclusion of these socially excluded groups to form multicultural classroom. The challenges that brought into the classroom because of this diversity and how teachers will handle the challenges of teachers classrooms more inclusive. It also discusses the role and responsibilities of teachers and the strategies adopted by them in the classroom for educational inclusion. The book also discusses about how educational inclusion have taken place in all these years due to the affirmative actions taken by the government in the form of policies and programmes. Highlight of the book are some of the empirical studies of inclusion. This book will provide a reader a synoptic view about educational inclusion of these varied social groups.

About the Author

Dr. Indrajeet Dutta is presently working in Maulana Azad National Urdu University, as Assistant Professor in Teacher Education Department. Earlier, he present assignment, he was with Department of Education in Lingaya's Lalita Devi Institute of Management & Sciences (affiliated to GGSIP University), Delhi. He has in all 13 years of teaching experience of UG and PG students. He is on the editorial board two international and one national journal. He has given extension lectures in various colleges and chaired sessions at national seminars. He has presented 35 papers in international and national seminars and almost written three dozen research papers in international and national journals. He has also contributed chapters in nine books in different areas of education. He has written educational materials for NIOS, IGNOU, MPBPU and other national agencies. He has already edited one book on Education of the Marginalized: Including the Excluded by Shipra Publications.

NP

NEW DELHI PUBLISHERS

90, Sanik Vihar, Mahan Garden, New Delhi-110 059
E-mail: ndpublisher@gmail.com, Website: www.ndpublisher.in

Branch Offices

Room no. 208, 7/28 Vardaan House, Ansari Road, Daryaganj,
New Delhi-110002. Tel: 011-22251818, 9971678330

216 Flat-6C, Green Park, Narenderpur, Kolkata-700013

₹ 495

ISBN 978-93-86453-02-0



Educating the Marginalized
Right Based Inclusive Education

Indrajeet Dutta

Educating the Marginalized Right Based Inclusive Education

Indrajeet Dutta



Educating the Marginalized: Right Inclusive Education by Indrajeet Dutta,
Published by **New Delhi Publishers**, New Delhi, India

© Publishers

First Edition 2017

ISBN: 978-93-86453-02-0

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

New Delhi Publishers

90, Sainik Vihar, Mohan Garden, New Delhi – 110 059

Tel: 011-23256188, 9971676330

E-mail: ndpublishers@gmail.com

Website: www.ndpublisher.in

Branch Office

216 Flat-GC, Green Park,
Narendrapur, Kolkata-700103

Printed & bind in India by
Global Printing Services, New delhi-110092

*Dedicated to
Parents, Wife and
Sweet Little Daughter*

the main recommendations to educate the disabled. Unlike in other countries India first started educating the disabled children in segregated model which is also called the medical model thereafter in 1980s integrated model of education was proposed for educating disabled children. Later on Education conference in 1990s and Salamanca conference 1994 and Dakar Conference 2000 paved the way of educating them in inclusive manner. Two important acts i.e. PWD act 1995 and National Trust Act 1999 wherein all kinds of disability are taken into care and their education till the age of eighteen years were ensured along with 3% reservation in the seats in educational institutions as well as in jobs. These international events resulted in the change in the policy level especially in India by citing the two pieces of documents one of MHRD document on Inclusive Education Scheme (2003) and other National Curriculum Framework (2005) document. Even the latest RTE act (2009) has mentioned that special provisions to be made within the normal school or classroom wherein they can be taught with normal students. The right has given the impetus to disabled to have education along with the others and made them feel and others as they are also part of the mainstream.

The need for inclusive education as human has realized the centrality of all education planning policy making and administration and if we are letting out intentionally a large chunk of people from this policy making is itself non-humanitarian and defeats the very basic principle of equality of educational opportunities, justice etc. Since India is unique in many senses so the problem of exclusion is manifold unlike in other countries where social exclusion is confined to few social groups. Due to caste, class, religion, region, language and their interplays it becomes more difficult to sort it out. In spite of the constitutional and legal provisions made by the country yet, a large section of Indian society faces this marginalization or exclusion. In the given book the various articles written by authors describe the various social groups that they do face social exclusion and the efforts that government of India has made for them in educational system so that they can be included in the mainstream rather than outcaste by the system because inclusive growth of a country will not happen until and unless we have education and social system which is not inclusive in nature.

Therefore it is apt to quote Winger (2006): "All the societies have faced the fact of individuals who differed physically, intellectually, or socially, how these differences have been addressed mirrors the vibrant and shifting gestalt of societal dynamics and forms one critical indicator of a society's humanity".

Children with Learning Disabilities: An Analysis

Subhash Sarkar

Generally, children with learning disabilities reflect no signs or symptoms either or whatever problems seem to be apparent are mostly not looked into most people think that those problems are childish or due to child-like behaviour and will perish with advancement of age. But when those children start going to school, then different issues relating to their studies begin to crop up. According to some, the no. of children with learning disabilities has increased significantly from the middle of 21st century. Man has become aware and conscious to find out the reason behind this increase. In the year 1936, a conference on children with learning disabilities was held in Chicago, America, where the renowned psychologist Kirk stated that "Recently, I have used the term 'learning disabilities' to describe a group of children who has disorder in development in language, speech, reading, and associated communication skills needed for social interaction. In this group I do not include children who have sensory handicaps such as blindness or deafness, because we have methods of managing and training the deaf and blind. I also include from this children who have generalized mental retardation"

Meaning and Definition

Disability is noticed among a few children in some particular fields of learning but not in the entire learning process. In 1962, Samuel Kirk had entitled those children as learning disabled in whom there is disability in particular field of learning. Such learning disabled children are of different types in spite of being natural or almost natural in their intelligence, they face extreme difficulty to understand or to use spoken or writing language. Different educationist and psychologist thought in different way while defining the learning disabled children. Anderson (1970) defined the learning disabled children as 'hidden handicap'. Gearheart and Weishan (1980) said that disorder of learning disabled children face immense difficulties will evidently in the field of learning especially in reading, writing, spelling, summing up, speaking,

ABOUT THE EDITORS



Dr. Ahana Chakraborty, the Principal of Pailan College of Education is an educationist and an arduous social worker, who in her humble mean reach out to the needy and indisposed. She has completed her Master in Education(M.Sc.) in 1986 bagging a gold for being First Class First. She earned her Doctoral Degree in 2007 specializing in management styles of Principals and Organizational climate leading to effectiveness in institutions. Lately she completed her M.Ed. in the year 2015.

She studied 'Higher Education Management' at Queens College in Oxford and worked in six colleges in U.K. to understand management procedural in 1998. In the same year she completed 'School Leadership Management' from University of Warwick. Back in India she distinguished as 'Quality Auditor' from Quality Management International (QMI). She started her career in 1985 as a science faculty in a CBSE school and served as Head of the Institution for more than thirteen years in both ICSE and CBSE schools before she became the Principal of B.Ed. College from 2012 onwards. She is also attached to a reputed Degree College for more than seventeen years as Government approved Part Time faculty. Through her 24 years of attachment with 'Welfare Society For the Blind'. She has long drawn experience in family counselling and is attached to Legal Aid Services, West Bengal for more than 20 years.

She presented many papers in Education at the National Seminar and at the International Convention. Some of which needs a mention are University of Kunming, China, University of Tokyo, Japan, University Of Toronto, Canada, University of Sri Jayewardenepura, Sri Lanka, Daffodil University, Dhaka, Bangladesh and more. Her forthcoming publication is "Counselling- an Art and Science".



Dr. Prarthita Biswas is a teacher educator and a distinguished author in the field of teacher education. She is presently teaching as an Assistant Prof. in Pailan College of Education (Affiliated to The West Bengal University of Teachers' Training, Education Planning and Administration & Formerly affiliated to the University of Calcutta) under the banner of PAILAN GROUP OF INSTITUTIONS, Bengal Pailan Park, Joka, Kolkata. She has also served as a Resource person in the Department of Education of Diamond Harbour Women's University located at Sarisa near Diamond Harbour. She obtained M.A. and M Phil.

in History from Jadavpur University. She has obtained M.Ed. as well as M A in Education. She completed her Doctoral Degree from the Dept. of Education, University of Kalyani. She has written in more than 15 reputed educational journals and more than 25 articles in books. She also presented a number of research papers both in National as well as International Seminars (within India and abroad) and acted as a Resource Person in International Seminars as well. She also wrote two edited books on "Swami Vivekananda and Women Emancipation" and "Swami Vivekananda's Idea of a Rejuvenated India". She has also written several books on teacher education. She is the Editorial Board Member of "International Education Studies", Canadian Centre of Science and Education, Canada.



KUNAL BOOKS
 Publisher & Distributors

4648/21, First Floor, Ansari Road, Daryaganj, New Delhi-110 002 (India)
 Ph.: 011-23275069, Mob.: 9811043697, 9868071411, 9717662951
 E-mail: kunalbooks@gmail.com kunalbooks@yahoo.co.in
 Website: www.kunalbooks.com

₹1495/-



KUNAL

Editors:
Dr. Ahana Chakraborty
Dr. Prarthita Biswas

Knowledge is Power
 Inclusiveness and Human Development

KNOWLEDGE
 IS
POWER

Inclusiveness and Human Development



Editors:
Dr. Ahana Chakraborty
Dr. Prarthita Biswas

KUNAL BOOKS

4648/21, First Floor,

Ansari Road, Daryaganj,

New Delhi-110002

Phones: 011-23275069, 9811043697

E-mail: kunalbooks@gmail.com

Website: www.kunalbooks.com

Knowledge is Power: Inclusiveness and Human Development

© Editors

First Published 2017

ISBN: 978-81-933224-8-2

The Views expressed in the articles are solely of the writers. The editor and the publisher are in no way responsible for any disputes arising out of these articles

{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, mechanical, photocopying, recording or otherwise, without prior written permission of the publisher}.

19

Montessori Method and Development of the Whole Child

Dr. Subhash Sarkar*

Introduction

Dr. Maria Montessori an Italian was born in the year 1870. Her 82 years of life span brings a great shift in the thoughts of the world in regards to the educational aspect. She was called a revolutionaries as she revolutionaries the education system of the world. She was admired by the world as she devoted her full time for the understanding on how children develops socially, intellectually, physically, and spiritually. By the careful studies of the children all over the world regardless to their unique culture or the era in which they live, she develops a universal pattern of development. This universal pattern of development is present in every child all around the world. Dr. Montessori was the first lady whom Italy granted a diploma as a physician when she was 26 years of age. She had a forcing interest of understanding the human development as it leads her to aiding and supporting the clinic for mental illness. To fulfill her desire she later administered and directed the Orthophrenic School in Rome for children with physical,

* Assistant Professor, Department of Education, Tripura University, (A Central University), Tripura, India, Email: gcssarkar@gmail.com

mental and emotional illness. A lecture given by Dr. Montessori throughout Europe gives importance on the importance of children and their value, as they are the future citizen of our societies. She gives stress on the needs of changing our attitudes globally about children and their treatment.

In 1907, Dr. Montessori was given the chance to nurture a group of children in Rome's San Lorenzo slum district. She finds that children need to be treated in the right and positives manner. Children at an early stage of development need lots of care, love, admiration, nurturing environment etc. If children are nurtured with the required needs they will response to any environment positively and demonstrate their capabilities and show a reaction of good outcomes. A set of material specially designed over a period of time by Dr. Montessori along with her associates is proves that children are naturally motivated to learn in their normal course of development.

In 1913 at Italy Dr. Montessori got her first international training course and also her first American training course in California in 1915. Dr. Montessori was with a vision to change the educational process which will affect the growth and development of children all around the world. After she accomplished the training course she felt that time had come to implement her ideology and methodology to ensure the quality and integrity of what has been handed down in her training course. She founded the Association Montessori International (AMI) in 1920. Till today AMI still stands firm to continue to support quality teacher training worldwide.

Maria Montessori was a legendry and extra ordinary Italian women who stands firm to her vision despites of many challenges in her whole carrier. She steps out lecturing and teaching throughout Europe, India and in the United States. She is known by the world as an educators, psychologist and political leaders during her days. Anna Freud, Erik Erikson, Mahatma Gandhi, Alexander Graham Bell and Jean Piaget were the well known people of the world who were her associates and companion. Dr.

ABOUT THE EDITORS:



Dr. Santosh Kumar Behera (b.1980) is presently working as an Assistant Professor, Department of Education, Sidho-Kanho-Birsha University, Purulia, West Bengal-723104, India. After completion of Graduate Degree from Fakir Mohan University, Odisha, he got himself admitted to M.A. in Education at Vinaya Bhavana, Visva Bharati (A Central University, India) and then he done his research work leading to Ph.D. entitled "An Investigation into the Attitude of SC and ST Children of Southern Orissa towards Education" at Vinaya Bhavana, Visva-Bharati, Santal Panchayat. Previously he has got two years teaching experience as an Assistant Professor in Education at Jagannath Kishore College, West Bengal.

His research interests are SC and ST Education / Tribal Education, Educational Technology, Philosophy of Education, Peace Education, Teacher Education in Comparative Education, Curriculum Studies, Higher Education, Measurement and Evaluation in Education. He has contributed lot of articles and edited volumes in the educational fields. He is Editor-in-Chief, *EDUQUEST*, An International Refereed Journal in Education (ISSN: 2278-1614) (Printed Version) and International Journal of Academic Research in Education and Review (ISSN: 2360-7866).



Mrs. Mouchumi Duarah (b1971) is currently working as an Assistant professor, Department of Education, Nazira College, Sivasagar, Assam, 785685, India. She has 20 years teaching experience at Nazira College, Sivasagar. After completion of graduate degree she got M.A degree from Dibrugarh University, Assam. She got M. Phil degree on the topic 'Large Scale Failure of the students in HSLC examination in some selected schools of Sivasagar district'. She completed 3 Minor Research Projects granted by UGC. The research work leading to MRP is 'Impact of attitude on academic achievement on adolescence at secondary stage' (2008-09), 'A study of wastage and stagnation of students in secondary level examination of Nazira sub-division' (2012-12) and 'Impact on socio cultural status on academic achievement at secondary stage with special reference to Sivsagar district' (2013-14). She contributed many articles in journals and books on inclusive education, value education and problems of higher education etc. She also has contribution in creative writing. She published a short story book 'Kolazot amar mukhbur' (2010) and a novel 'Aastakashr Rong' ISBN: 978-81-89148-32-4 (2014).



Lalit Lalitav Mohakud (b1983) is presently working as an Assistant Professor, Department of Education, Jadavpur University, Kolkata, West Bengal-700032, India. After completion of Graduate Degree from Fakir Mohan University, Odisha, he got himself admitted to M.A. in Education at Ravenshaw University, Cuttack and then he has done B.Ed. and M. Phil. Now he is doing research work leading to Ph.D. entitled as "Effect of a Stimulating Package on the Cognitive, Creative and Social Development of Primary School Children: An Experimental Study" at A.M. School of Educational Sciences, Assam University, Silchar, Assam. He has 10 years of

teaching experiences. His research interests are Developmental & Cognitive Psychology, Educational Measurement & Assessment and Open & Distance Education. He has edited two books and contributed a lot of articles and chapters in journals, edited volumes and Self Learning Materials of national and International levels in the field of education. He is a member of different editorial and educational boards.

₹ 395



NEW DELHI PUBLISHERS

90, Sainik Vihar, Mohan Garden,
New Delhi 110059
Phone: 011-23256188
Website: www.ndpublisher.in,
Email: ndpublishers@gmail.com
Branch Office
216, Flat-GC, Green Park, Narendrapur,
Kolkata - 700103

ISBN: 978-93-86453-16-7



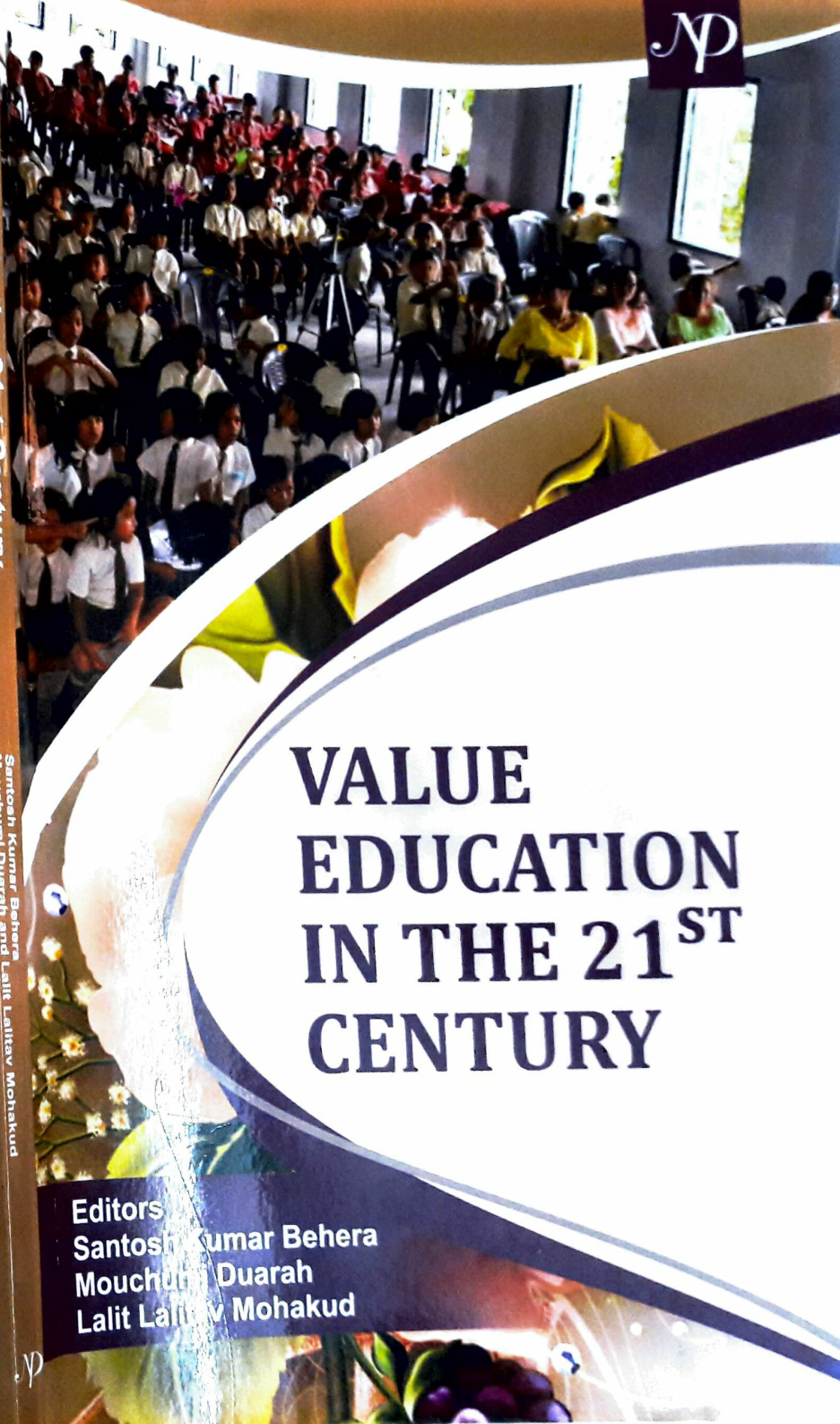
9 789386 453167

Value Education in the 21st Century

Santosh Kumar Behera
Mouchumi Duarah and Lalit Lalitav Mohakud

VALUE EDUCATION IN THE 21ST CENTURY

Editors
Santosh Kumar Behera
Mouchumi Duarah
Lalit Lalitav Mohakud



Value Education in the 21st Century Edited by Dr. Santosh Kumar Behera, Mrs. Mouchumi Duarah and Lalit Lalitav Mohakud, Published by New Delhi Publishers, New Delhi.

© Publishers

First Published, 2017

ISBN: 978-93-86453-16-7

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

New Delhi Publishers

90, Sainik Vihar, Mohan Garden, New Delhi-110 059

Contact: 9582248909, 9971676330, 9953694312

Website: www.ndpublisher.in, E-mail: ndpublishers@gmail.com

Branch Offices

216 Flat-GC, Green Park,
Narendrapur, Kolkata – 700103

Printed & bound in India by
Global Printing Services, New Delhi-110092

Preface

William Wordsworth wrote a poem between the seasons of 1770-1850. The name of the poem is, 'London, September, 1802'. It reads - 'O Friend! I know not which way I must look.../This is idolatry; and these we adore;/plain living and high thinking are no more.../the homely beauty of good old cause/is gone, our peace our fearful innocence...'. In this lyric Wordsworth amply tries to delineate a situation of Value Erosion back in London at 1770. In the interim, in the present time, both in national and global setting we are encountering the similar issue of erosion of value.

In 21st century, Education has promoted a holistic view of education comprising of four pillars specifically learning to know, learning to do, learning to be and learning to live together. So education has an extremely indispensable part to play in guiding the nation. In many fields today, we see individuals are doing things thoughtlessly. They even neglect to examine their capacities furthermore neglect to channelize the capacities in an appropriate and right bearing. We all know about the ugly contrast which is visible everywhere between luxury and poverty, hope and depression, moral values and erosion of values. In these respects we have to channelize the vitality of the young for helpful exercises in the general public then schools and every educational institution many give esteem based training from the early youth.

Value education is essential in modern era to eradicate the mental stress so that one can stand out in the public. In this way the individuals can be empowered that would be helpful to make the most of their life gentle and significant. Michael Marien, supervisor of 'Future Survey' published an article on 'Global Challenges for humanity'. In this article he centered '15 global challenges' and two of them are — How can social values and new security strategies reduce ethnic conflicts, terrorism and the weapon of mass destructions. And the second one is — How can ethical consideration be more routinely in cooperated global decisions. So in such difficult circumstances education guarantees an extraordinary centrality. It stirs interest, to the advancement of healthy relation among people and encourages one's ability to contemplate and furthermore for humanity. We can't extend and anticipate the future India without education. In this book we have amalgamated articles focusing in the niche space 'Value Education in the 21st century and its distinctive issues'.

The topic of the edited book is 'Value Education in the 21st Century'. This edited book attempts to cover diverse aspects of studies by distinguished experts and researchers that cover the leading and diverse issues and experiences connected with Value Education. In this book there are some chapters:

Subhankar Ghosh discusses Value Oriented Higher education, approaches to Value education and sustainable development in his paper on "Value Oriented

Value Education: A Way-Out for the Well-being of 21st Century Students

Dr. Subhash Sarkar¹ and Jantu Das²

*Assistant Professor, Department of Education, Tripura University,
(A Central University), Tripura, India*

Email: gcssarkar@gmail.com

*Guest Teacher, Department of Education, Tripura University,
(A Central University), Tripura, India*

Email: jantud5.jd@gmail.com

Introduction

The 21st century plights to be an era of a broad set of knowledge, skills, work habits, scientific and technological growth that is never before experienced in human history (Charles & Selvi, 2012). Industrialization, in this decade has changed the human life style into a high degree of genre and flourished the living standard of people that is become a complicated fraught in India as well as over the world. (Aneja, 2014). But unfortunately, youth and teenagers of the present world is getting increasingly willing towards, violence, environmental degradation, social evils and disrespect (Jindal, 2013). The students of the current era is being so due to colossal advancement of science and technology without controlling of values and morality at global level which brings corruption in social, political, economic, religious and in the educational field (Singh, 2003). Today, our country is undergoing radical social changes with the advancement of science and technology and also the world's peoples are motivated by the desires to satisfy their needs at any cost. But the wonder fact is that these changes in the material world have not been matched by same advancement in human character and morality (Sharma & Katoch, 2007). The world we live in has reached a numerous of moral debility that are termed as value erosion (Arulsamy, 2013). The aggregate crisis of values has felt a negative impact upon the mindset of the students. The teenagers have fallen in the enfold in decaying values such as disregard, insincerity, dishonesty, greed for money, kidnapping, raping and murdering (Ruchika *et al.*, 2005). Today's students are the nation builders of tomorrow and so definitely their morality will affect the nation either negatively or positively. Value education can minimize the

Dynamics of Higher Education



Kartick Das

Dynamics of Higher Education

Kartick Das

Dynamics of Higher Education



Kartick Das

REGAL PUBLICATIONS

F-159, Rajouri Garden, New Delhi-110027
E-mail : regalbookspub@yahoo.com
Visit us at : www.regalpublications.com

ISBN 978-81-8484-607-2



9 788184 846072

₹ 980



DYNAMICS OF HIGHER EDUCATION

ISBN 978-81-8484-607-2

© 2017 KARTICK DAS

All rights reserved. No part of this book may be reproduced, stored in a retrieval system or transmitted in any form or by any means: electronic, electrostatic, magnetic, tape, mechanical, photocopying, recording or otherwise without the written permission of the Publishers.

DISCLAIMER

The publisher has taken reasonable care in the preparation of this book, but makes no expressed or implied warranty of any kind and assumes no responsibility for any errors or omissions. No liability is assumed for incidental or consequential damages in connection with or arising out of information contained in this book. The Publisher shall not be liable for any special, consequential, or exemplary damages resulting in whole or in part, from the readers' use of, or reliance upon, this material.

Typeset by

RAHUL COMPOSERS

New Highway Apartments, Lakshmi Niwas

760, Pocket-D, Lok Nayak Puram, New Delhi - 110 041

Printed in India at

MAYUR ENTERPRISES

WZ Plot No. 3, Gujjar Market, Tihar Village, New Delhi - 110 018

Published by

REGAL PUBLICATIONS

F-159, Rajouri Garden, New Delhi - 110 027

Phone : 45546396, 25435369

E-mail : regalbookspub@yahoo.com, regaldeepbooks@yahoo.com

Dedicated To

Late Professor Pradeep Kumar Sengupta
University of North Bengal
Darjeeling

6

Vocationalization of Higher Education

An Appraisal

SUBHASH SARKAR AND JANTU DAS

INTRODUCTION

Education is a dynamic and all round developing process which changes with alteration of the situation in order to develop human in all way possible. Education leads us to develop nation proximately to human resource development. Man does radical works to develop a nation. Human Development Report, first came into existence in 1990 with the proclamation that "People are the real wealth of a nation", in its opening lines and also asserts that "the basic objective of development is to create an enabling environment for people to enjoy long, healthy and creative lives. This may appear to be a simple truth. But it is often forgotten in the immediate concern with the accumulation of commodities and financial wealth".

Higher education provides skills, quality and professional and occupational advantages among the individuals to participate in the developmental process of a country. In order to bring tranquilized to the reality, vocationalization of higher education is come into view. General education is unable to provide multi-skill and it is not

adequate for the increasing mobility of the market needs. In subsistence condition we have seen that development of a nation mostly depends on the flexible learning pedagogy which not only creates knowledge but also helps a nation to be enriched in regards with its social developmental infrastructure. To all round development and for living better in the society, vocational education is imparted in higher education which helps in the economic growth of a country.

CONCEPT OF VOCATIONAL EDUCATION

In present day vocational education became an important and an integral aspect of the modern developmental education. The actual consequences of the modern education cannot be realized without utilization of an adequate vocational training. In the perspective of acquiring profession and smooth running of family life in future, vocational education is unbounded. Now-a-day, one of the most important aims of education is to help the individual to build up a better life by dint of having a job. This is why vocational education is given too much emphasis.

Vocational education is that necessary portion of education which enables people to keep up his or her livelihood with a specific professional career. It is the process to make the pupils' self-dependent and self-sufficient. It also helps to earn at least minimum level of wages. In human resource development of a country, vocational education play an important role through creating skilled manpower.

Different educationists and sociologists interpret the definition of vocational education from their varied perspectives. Some of their interpretations are imparted below:

- **Herbert Spencer's view**, "vocational education is the process of preparing oneself for complete living in future".
- **Hartshorne defines**, "vocational education is an education of most effective kind, for lack of which, those who merely go to school, suffer all thin lives".

MEANING OF VOCATIONALISATION

The term vocationalisation is that kind of explanation which has various meanings, different scholars interpret it in different ways. Some prominent people has explained it as the vocational subject which should be imparted with general education to provide

The topic of the edited book is 'Secondary Education: Issues and Challenges'. This edited book attempts to cover diverse aspects of studies by distinguished experts and researchers that cover the leading and diverse issues and experiences connected with Secondary Education.



Dr. Santosh Kumar Behera (b.1980) is presently working as an Assistant Professor, Department of Education, Sidho-Kanho-Birsha University, Purulia, West Bengal-723104, India. After completion of Graduate Degree from Fakir Mohan University, Odisha, he got himself admitted to M.A. in Education at Vinaya Bhavana, Visva Bharati (A Central University in India) and then he done his research work leading to Ph.D. entitled "An Investigation into the Attitude of SC and ST Children of Southern Orissa towards Education" at Vinaya Bhavana, Visva-Bharati, Santiniketan. Previously he has got two years teaching experience as an Assistant

Professor in Education at Jagannath Kishore College, Purulia, West Bengal. His research interests are SC and ST Education/Tribal Education, Educational Technology, Philosophy of Education, Peace Education, Teacher Education, Comparative Education, Curriculum Studies, Higher Education, Measurement and Evaluation in Education. He has contributed lot of articles and edited volumes in the educational fields. He is the Editor-in-Chief, *EDUQUEST*, An International Refereed Journal in Education (ISSN: 2277-3614) (Printed Version) and International Journal of Academic Research in Education and Review (ISSN: 2360-7866).



Dr. Rohini P. Trivedi (b.1980) is an Assistant Teacher in RMSA, Government Secondary School, Keshardi, Ahmedabad, Gujarat, India from June 2016. She is having 10 years experience in Teachers' Training College and M.Ed. Colleges as an Assistant Professor. She has done M.A., M.Ed. from SNDT University, Mumbai, Maharashtra and completed her Ph.D. entitled "Narratives of Teacher Educators' Development" from M. K. Bhavnagar University, Gujarat. She has also qualified UGC NET and GSET in Education. She has contributed lot of articles in Regional Educational Magazines and

Edited Volumes at National level. She is also playing a role as an editorial board member in reputed journals.



ALTAR PUBLISHING HOUSE

L-9A, IInd Floor, Street No. 42,
Sadatpur Extension, Delhi-110094 (INDIA)
Email : altarpublishing@yahoo.com

ISBN 978-93-82745-10-5



9 789382 745105

₹ 1100 / \$ 85

Edited by
Santosh Kumar Behera
Rohini P. Trivedi



Secondary Education Issues and Challenges

Edited by
Santosh Kumar Behera
Rohini P. Trivedi



Secondary Education

Issues and Challenges



Published by

ALTAR PUBLISHING HOUSE

L-9A, IInd Floor, Street No. 42,
Sadatpur Extension, Delhi-110094
Phone No : 9899346553

Email : altarpublishing@yahoo.com
Website : www.altarbooks.com

SECONDARY EDUCATION ISSUES AND CHALLENGES

© Editors
1st Edition 2017
ISBN 978-93-82745-10-5

The responsibility for facts stated, opinion expressed or conclusions reached and plagiarism, if any, in this book is entirely that of the author/editor. The publisher bears no responsibility for them whatsoever.

Printed in India

Published by Altar Publishing House Delhi. Printed at Tarun Offset Printer, Delhi.

PREFACE

Secondary education is a stepping stone for admission in colleges and universities. It is thus regarded as a passport for higher education. Secondary education in any country is regarded as the connecting link between the primary and higher education. It is a complete unit in itself and it is a formative education for children. This stage is considered to be the backbone of the country's entire educational programme. It is the stage which marks the completion of education for the large majority of student. Secondary education is also the basis of higher education which gives the desired direction to the nation's power. An inefficient system of secondary education therefore is bound to affect adversely the quality of education at all later stages. Today there is a large difference in secondary school- curriculum, teaching, time table, evaluation system across the India. The Education Commissions and education policies worked for it and implemented more or less which brought uniformity in this pattern. Still there are many confusions and problems because of various boards which cover issues of teachers, students, procedures and teaching learning process as a whole. Here in this book we tried to cover all these issues and problems. There are also innovations and researches in secondary schools which enhance the quality of education. Our government also tries their best by new policy. The government has developed many new projects and approaches to strengthen secondary school education in India. One of them is the policy at present is to make secondary education of good quality available, accessible and affordable to all young persons in the age group of 14-18.

The topic of the edited book is 'Secondary Education: Issues and Challenges'. This edited book attempts to cover diverse aspects of studies by distinguished experts and researchers that cover the leading and diverse issues and experiences connected with Secondary Education. In this book there are some chapters:

Dr. Bimal Charan Swain and Dr. Rajalakshmi Das discuss about the development of secondary education before and after independence and researches on secondary education in Odisha in their paper on "*Development of Secondary Education in Odisha (1841 to 2015)*". Dr. P.S.Sreedevi in her paper on "*Secondary School Teachers Perspectives on Grading System of*

- Lack of parents and teacher responsibility
- Inadequate schools facility like water, bathroom, classroom
- Privatization system
- Poverty
- Not related to productivity
- Political imbalance
- Neglects co-curricular activities.

Inadequate number of able and trained teachers. Training is a pre-requisite condition for successful teaching and professional growth. Able and suitable teachers are also not available everywhere particularly in rural Areas.

Lack of health supervision

Caste & gender discrimination

Heavy and overload curriculum Pattern

Fault of examination system

Inadequate finance.

Limited training institute

Conclusion

Secondary education serves as a bridge between elementary and higher education and prepares young people between the age group of 14-18 for entry into higher education. In this age the government takes various steps to develop secondary education. Present days the secondary education has been developing in a proper way through various schemes like RMSA, SSA and each state government running those schemes to achieve the goal of universalization of secondary education and to develop the quality of secondary education.

References

Chandrasekhar, D. (2012). Recent Reforms in Education in India – Achievements and Unfinished Tasks. *International Journal of Social Science & Interdisciplinary Research*, Vol.1 Issue-8, August.

Ministry of Human Resource Development. "Rashtriya Madhyamik Shiksha Abhiyan". *National Informatics Centre*. Retrieved 2 February 2014.

Resources

<http://rmsaindia.org>

http://mhrd.gov.in/rmsa_status

<http://en.wikipedia.org/wiki/>

<http://www.indianeducationweb.in>

Secondary Education in India: Issues, Challenges and Suggestions

Dr. Subhash Sarkar, & Jantu Das

Introduction

Education is essential for everyone. It is an indispensable part of life both personally and socially. Education plays a significant role in transforming one's life globally. Secondary education serves as a link between the elementary and higher education, and plays a very important role in this respect. A child's future can depend a lot on the type of education she/he receives at the secondary level. But in our country, secondary education is yet to be developed although India is a vast country having with the abundant resources in both material and human. For many decades India has been a major seat of learning that is aimed at utilizing the both resources for the development of the nation through the development of education from lower to higher level adequately but the development in the field of education has not gone the way as was expected or as was desired. Lots of difficulties, issues and problems have been arising in India which has to be overcome and resolved for achieving the worth-while result. These issues are not out of the secondary education in India. The very purpose of secondary education in India is to help out the backwards to generate productivity in terms of personal advancement and thereby attain higher levels of prosperity. Education is required to unlock the doors to modernization so that an effective transition is possible from traditional to modern sectors.

Although education is a Fundamental Right of every citizen of our country, but unfortunately, despite several commissions appointed to improve the secondary education in our country since independence, not much headway has been made towards making it relevant to the needs of the time. Parrot learning and reproducing half-baked ideas in the examination halls has been the yardstick of assessing the quality of school goes in all levels whether it is Primary, Secondary or College Education. One of the

Educating Tribal Children with Special Reference to Tripura

Edited
by
Abhijit Chanda



TRIBAL RESEARCH AND CULTURAL INSTITUTE
GOVERNMENT OF TRIPURA, AGARTALA

Educating Tribal Children with
Special Reference to Tripura

Edited by : Abhijit Cha

Educating Tribal Children with Special Reference to Tripura

Edited by

Dr Abhijit Chanda

© Tribal Research and Cultural Institute
Government of Tripura, Agartala

First Published in 2017

Cover design

Pushpal deb

Type Setting

Caxton Printers

Published By

**TRIBAL RESEARCH AND CULTURAL INSTITUTE
GOVERNMENT OF TRIPURA, AGARTALA**

Phone : 0381 2324389

e-mail : dir.trci-tr@gov.in

web : www.tritripura.in

ISBN : 978-93-86707-01-7

All rights reserved. No part of this publication may be reproduced or transmitted, in any form or by any means, without prior permission of the publisher. Any person who does any unauthorized act in relation to this publication may be liable to criminal prosecution and civil claims for damages.

[The responsibility for the facts stated, conclusions reached etc., is entirely that of the paper presenter. The publisher and the editors is not responsible for them, whatsoever.]

Printed At

Caxton Printers, J. B. Road, Agartala, Tripura-799001

Phone : (0381) 2307500

email : jraksharpub@gmail.com

Price : Rs.240.00

“A Study on Parental Involvement & Scholastic Achievement of the Tribal Students at Secondary level in Tripura”

Subhash Sarkar
Kamal Deb
Joydeep Chakraborty

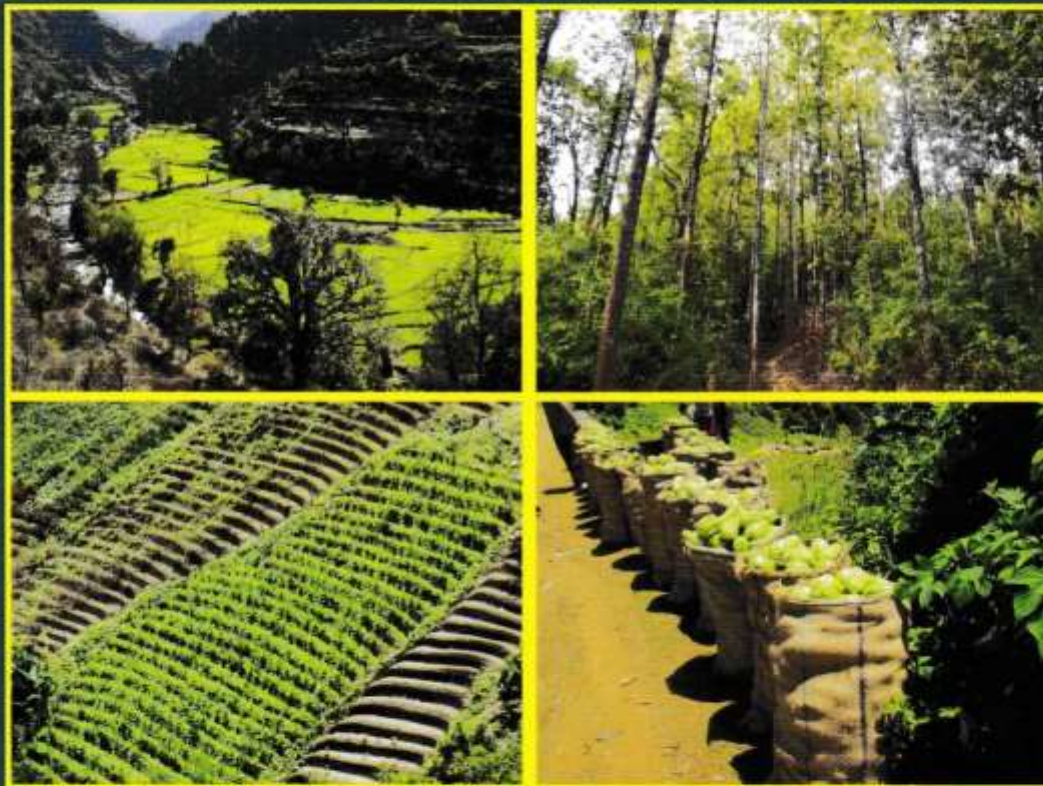
Introduction:

Education is essential for the development of Society. In the broader Sense, education is a kin to growth & development. In this Sense the Span of education is as wide as that of life. It means every experience in life related to education. In its technical Sense, Education is the process by which Society deliberately transmits its accumulated knowledge, skill and values from one generation to another.

Mainly family has responsibility to Socialize Children for making them productive member of Society. The process of education Start in family as soon as the child is born. Right from the ultra wall the child learns how to communicate, crying for mother's milk. Bringing up of the child takes a longer period in comparison to the off springs of the other animals. He/she remains dependent on parents, especially on mother throughout his childhood. In family child starts learning through imitation in the beginning. Later on, when he starts how to Speech mother initiates him in natural activities, as how to spit on and to clean him after natural call. Learning of culture begins at home through his/her parents. Child learns about the environment around him from his/her family member and also his/her parents. By the association of parent's involvement he/she learned many things.

Now the process of education Starts after attaining 3 of year of age. They go to the nursery school at his age. Due to commercialization of

Natural Resources Management for Sustainable Development and Rural Livelihoods



Vishwambhar Prasad Sati
K. C. Lalmalsawmzauva



About the Book

Natural resources are depleting at alarming rates because of their irrational use pattern. Although, utilization of resources is an intrinsic component of the process of development yet, overexploitation of natural resources has led to environmental degradation and change in pattern of rural economy. Rural communities, in particular, are greatly affected by the increasing use of natural resources. To many of them, development is about livelihood and survival rather than increasing productivity and accumulation of wealth. Management of natural resources seems to be the only way forward to sustain the livability of rural communities. It also requires collaborative works from various stakeholders as the use and un-use of natural resources depend upon a number of factors including historical, political, economic, social and cultural. Through the substantial holistic approach and concrete framework for policy research could be conceptualized, planned and implemented.

The book contains 109 chapters which are published in three volumes. The first volume is devoted to the theme, 'natural resources use pattern, management and policy perspectives' in which 22 chapters are incorporated. The second volume contains 37 chapters and the theme is 'agriculture and livelihood sustainability'. The third volume has three sections; the first one is 'climate change' with nine chapters. It is followed by the second section 'population and socio-economic development' which also contains nine chapters. The last section is interdisciplinary in nature in which 32 chapters are incorporated. The whole book comprises chapters from different disciplines such as Earth Sciences, Biological Sciences, Environmental Sciences, Social Sciences and Medical Sciences and thus the authors of proceedings' chapters are divers in nature and they contributed chapters from different respective fields.

The Editors



Vishwambhar Prasad Sati (b. 1966), D.Litt. (2011) and Ph. D. (1992), is a Professor of Geography and Resource Management, Mizoram University, Aizawl, India. He, having a teaching and research experience of above 22 years, has devoted almost all his career years in the development of mountain geography. He has served many national and international educational institutes in various capacities – Assistant Professor, Associate Professor and Professor in the Madhya Pradesh Higher Education and Associate Professor in the Eritrea Institute of Technology, Asmara, Eritrea, NE Africa. He has been a CAS-PIFI Fellow (2016), Visiting Scholar of CAS (2014), Visiting Scholar of TWAS (2010), worked at IMHE, Chengdu, China; Visiting Scholar of INSA (1012); General Fellow of ICSSR (2008-2009), worked at HNBBU, Srinagar Garhwal; an Associate at IAS, Shimla (2008); and Research Fellow of GBPIHED

(1993). He has received 'Bharat Gaurav Award, 2016' for his contribution in teaching and academic fields. He has completed 10 research projects; composed 25 text and reference books; published over 100 research papers in journals of international and national repute and a number of articles; presented research papers (79) in 17 countries and in all over India; received fellowships from 18 research organizations to participate in various international events; supervised six Ph.D. thesis; organized six conferences; chaired a number of academic sessions; served as Resource Person in several national and international conferences; and serving many international professional bodies as member, editor and reviewer.

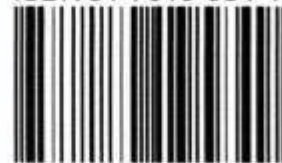


K.C. Lalmaisawmzauva (1982), Ph.D., is working as Assistant Professor in the Department of Geography and Resource Management, Mizoram University, Aizawl. He is the founder President of NEHU-Geographical Research Forum (NEHU-GRF). He has published five books (two authored and three edited) and above 20 research papers, visited the USA and European and African countries for the academic discourses and working on a major research project 'water resources management in Mizoram' funded by ICSSR, New Delhi. Besides, he has been actively engaged in teaching and research and holding a number of portfolios in the university associations.



Today and Tomorrow's Printers and Publishers
4436/7, Ansari Road, Daryaganj, New Delhi - 110 002 (India)
Ph : 23242621; 23241021; Fax : 23242621
E-mail: tpp@vsnl.net; tppindia@gmail.com; Web : tpp.in

ISBN 81-7019-584-1



9788170195849

Tree Species Diversity and Composition in Naturally Regenerating Forest Stands of Tripura

Maria Debbarma¹, Thiru Selvan^{1*}, and A S Senthivadi²

¹Department of Forestry and Biodiversity, Tripura University,
Suryamaninagar, Agartala, Tripura

²Director (P & A), Geological Survey of India, Kolkata

*Corresponding Author: tselvan@tripurauniv.in

Abstract

Regeneration in the forest reflects the well-being of the forest. The structural and functional pattern of plant communities are important factors for understanding the mechanism of co-existence of species and to know the long term ecological processes of natural forests. The present study for tree species diversity and composition was carried out in naturally regenerating forest stands of Tripura. In total, 86 tree species were recorded from 8 study sites and belonged to 60 genera and 36 families. Overall *Ficus* is the dominant genera with four species followed by *Artocarpus* with three species. Moraceae was found to be the dominant family with 7 species. The total number of individuals recorded from different forests was 1890 individuals including seedling, saplings and trees with 656.25 individuals ha⁻¹. The forest with highest diversity was recorded in South Tripura (121.66 individuals ha⁻¹). The Shannon-Weiner diversity index ranged from 1.39 to 3.10. The Simpson's dominance index value ranged from 0.03 - 0.09. The Sorenson similarity index was also performed to understand the similarity of species in different forest sites. The tree density, and IVI was found to be highest for *Tectona grandis*. *Tectona grandis* and

Microcos paniculata were common in all forest types. Some of the species which did not show regeneration are *Aegle marmelos*, *Areca catechu*, *Borassus flabellifer* and *Butea monosperma*.

Keywords: Natural regeneration, species composition; stand structure, biodiversity index, stand density

Introduction

Regeneration in the forest reflects the well-being of the forest (Murthy *et al.*, 2016). Regeneration is driven by small scale disturbance such as canopy gaps and natural succession. It infers that regeneration of dominant species and seedling diversity under the gap disturbance is majorly affected by soil characteristics and topographic features. It is because the canopy gaps are occupied by new arrivals and does not get suppressed by understory seedlings and saplings. The size of the canopy gap in fact is a measure for the rate of new germination and survival of seedlings and sprouts (Yang *et al.*, 2009). The canopy gaps enhance the new growths through better light interceptions, which provide favourable microclimatic conditions. This condition is more suitable for less shade tolerant species and show an overwhelming development (Runkle, 1985). The variations along physiographic and ecological gradients creates potential for species heterogeneity in establishment and regeneration (Peterson *et al.*, 2002). The adequate number of seedlings, saplings and young trees in a community represents the successful germination and establishment in that community (Henle *et al.*, 2004).

The structural and functional pattern of plant communities are an important factors for understanding the mechanism of co-existence of species and to know the long term ecological processes of natural forests (Miura *et al.*, 2001). It reflects the dominance status of the species and its development within community; defines the niche requirement of species, examines temporal and spatial heterogeneity of regenerations (Long and Smith, 1992; Chen *et al.*, 1993). This structural pattern is influenced by competitive interactions between trees and can be inferred from differences in the spatial distribution of adult and juvenile trees (Hubbel and Foster, 1987). A dominant species in the forest may not have a good future due to lack of seed bearing species which brings danger to its existence. However, a species with equal distribution of seedling, saplings and trees are ensured with dominant populating in the near future (Bhuyan *et al.*, 2003; Goirola *et al.*, 2012). Thus regeneration of a species is dependent on endogenic ecological processes as well as exogenic disturbances (Barker and Patrik, 1994).

Microcos paniculata were common in all forest types. Some of the species which did not show regeneration are *Aegle marmelos*, *Areca catechu*, *Borassus flabellifer* and *Butea monosperma*.

Keywords: Natural regeneration, species composition; stand structure, biodiversity index, stand density

Introduction

Regeneration in the forest reflects the well-being of the forest (Murthy *et al.*, 2016). Regeneration is driven by small scale disturbance such as canopy gaps and natural succession. It infers that regeneration of dominant species and seedling diversity under the gap disturbance is majorly affected by soil characteristics and topographic features. It is because the canopy gaps are occupied by new arrivals and does not get suppressed by understory seedlings and saplings. The size of the canopy gap in fact is a measure for the rate of new germination and survival of seedlings and sprouts (Yang *et al.*, 2009). The canopy gaps enhance the new growths through better light interceptions, which provide favourable microclimatic conditions. This condition is more suitable for less shade tolerant species and show an overwhelming development (Runkle, 1985). The variations along physiographic and ecological gradients creates potential for species heterogeneity in establishment and regeneration (Peterson *et al.*, 2002). The adequate number of seedlings, saplings and young trees in a community represents the successful germination and establishment in that community (Henle *et al.*, 2004).

The structural and functional pattern of plant communities are an important factors for understanding the mechanism of co-existence of species and to know the long term ecological processes of natural forests (Miura *et al.*, 2001). It reflects the dominance status of the species and its development within community; defines the niche requirement of species, examines temporal and spatial heterogeneity of regenerations (Long and Smith, 1992; Chen *et al.*, 1993). This structural pattern is influenced by competitive interactions between trees and can be inferred from differences in the spatial distribution of adult and juvenile trees (Hubbel and Foster, 1987). A dominant species in the forest may not have a good future due to lack of seed bearing species which brings danger to its existence. However, a species with equal distribution of seedling, saplings and trees are ensured with dominant populating in the near future (Bhuyan *et al.*, 2003; Goirola *et al.*, 2012). Thus regeneration of a species is dependent on endogenic ecological processes as well as exogenic disturbances (Barker and Patrik, 1994).

In particular quantitative information is lacking on regeneration status of Tripura but Majumdar *et al.*, (2012 & 2016) have carried out some works on species diversity and stand structure but these studies were limited to Trishna wildlife sanctuary and deciduous forest of Tripura. Quantifying the potential colonization rates of individual species is crucial for predicting how the forest ecosystem can responds to the rapid changes in the climate that have been forecasted. Therefore, the present research focuses on tree bio-diversity and its composition pattern and status of natural regeneration pattern in different forests of Tripura.

Methodology

Study area

The study was carried out in different forest types of Tripura which are mainly tropical evergreen, semi evergreen, and moist deciduous as mentioned in Table 1. The topography is undulating and plain in some parts with altitude ranging from 50 ft to 3080 ft above mean sea level. The climate is humid tropical, with a distinct dry season from November to March and having temperature ranging from 10°-35°C. The soil is laterite in the hills and alluvial in the plains. The soil is moderately acidic soil with pH of 6-7 and generally red or reddish brown appearance.

Table 1: Details of the study sites.

| Name of site/s | Districts | Latitude (N) | Longitude (E) | Altitude (m) |
|--|---------------|------------------------------|----------------------------|--------------|
| Barmura / Naireng (BAR) | West Tripura | 23°48' 55.9" to 23°48' 55.0" | 91°35'05.0" to 91°34'17.1" | 75-327 |
| Bagafa/ Birchandra Manu/ Patichari (BCM) | South Tripura | 23°24'10.4" to 23°19'31.0" | 91°30'36.4" to 91°29'32.6" | 11-794 |
| Jampui Jala/Takarjala/ Charilam (SEP) | Sepahijala | 23°13'53.6" to 23° 39'18.6" | 91°36'47.3" to 91°18'05.7" | 21-58 |
| Kanchanpur/ Satnala & Jampui hill (KAN) | North Tripura | 24°30' 31.9" to 23°57'16.5" | 91°31'02.3" to 92°16'53.1" | 315-645 |
| Karbook/ Khwrwi/ Gonachandra (KAR) | Gomati | 23°20' 51" to 23°20' 40.6" | 91°42'08" to 91°43'52.0" | 79-126 |
| Khowai/Khengra/ Gongkhor (KHO) | Khowai | 24°03'3" to 24°03' 09.9" | 91°31'02.4" to 91°33'23.5" | 63-112 |
| Kumarghat/Dwarchwi/ Chidongchara (KUM) | Unakoti | 24°10'36.7" to 24°07' 44.3" | 92°20'15.1" to 92°04'08.8" | 49-71 |
| Mandai/Mohontisikari/ Dinabandu para (MAN) | West Tripura | 23°45' 48.4" to 23°51'37.0" | 91°15'48.3" to 91°29'14.9" | 66-131 |

Collection and Analysis of data

Tree species diversity

In different forest types, mixed and monoculture plantations, 3 quadrats of 20 m × 20 m size was laid on ground to study the tree species diversity. The important quantitative values such as density, frequency and abundance were calculated as per Curtis and McIntosh, (1950). The basal cover of woody species was calculated following Ralhan *et al.*, (1991). The relative dominance was determined following (Pandey and Sukhla, 2001). The index was estimated to determine the overall importance of each species in a habitat. In calculating this index, the percentage value of relative density, relative frequency and relative abundance were summed up and this value was designated as important value index (IVI). Species Richness was calculated using Shannon-Wiener Diversity Shannon (1963) and Simpson (1949).

A similarity index was calculated using formula given by Sorensen (1948). Regeneration pattern of the study sites was done to predict the future changes of the vegetation. A total of 72 quadrats of 10 m × 10 m were laid down randomly in each range of forest area. The regeneration survey was carried out in linear strips where the intensity was 2%. A base line was drawn on the base of the map and parallel survey lines were drawn at right angles to the base line 200m apart by selecting the position of the first line by random sample.

Individuals were classified into trees, seedlings and saplings as per procedure of Knight, 1963. The regeneration status of phytosociological data was categorized as good, Fair, poor, no and new as per Shankar, 2001.

Result and Discussion

Tree biodiversity and its composition pattern

In total, 86 species were recorded from the 8 study sites including 15 unidentified tree species and the identified plants belonged to 60 genera and 36 families. The list of species with vernacular name and family name is shown in Table 2.

The total species recorded represent 36 families. Overall Moraceae family is the dominant family with 7 species followed by Euphorbiaceae with 5 species whereas Anacardiaceae, Apocynaceae, Bignoniaceae, Dipterocarpaceae, Myrtaceae and Verbenaceae families with two species each and the rest of the families with only single species. However, the recorded family excludes unidentified species.

Table 2: List of species recorded along with vernacular and family name.

| Species | Vernacular name | Family | Density ha ⁻¹ | Basal area m ² ha ⁻¹ | IVI |
|--|--------------------|------------------|--------------------------|--|-------|
| <i>Acacia auriculiformis</i> Benth. | Acacia | Mimosaceae | 0.005 | 0.028 | 1.13 |
| <i>Aegle marmelos</i> (L.) Correa. | Bel | Rutaceae | 0.024 | 0.048 | 2.35 |
| <i>Albizia lebeck</i> (L.)Benth. | Khwrwi | Mimosaceae | 0.039 | 0.024 | 2.65 |
| <i>Albizia procera</i> (Roxb.) Benth. | Khwrwi | Mimosaceae | 0.029 | 0.053 | 2.48 |
| <i>Alstonia scholaris</i> L.R.Br. | chethuwang | Apocynaceae | 0.010 | 0.025 | 1.17 |
| <i>Anogeissus latifolia</i> (Roxb. ex DC.) Wall. ex Guill. & Perr. | Borsroi | Combretaceae | 0.231 | 0.025 | 8.53 |
| <i>Areca catechu</i> L. | kuwai | Arecaceae | 0.068 | 0.005 | 4.05 |
| <i>Artocarpus chaplasi</i> J.R. Forster & G.Forster | Gwram | Moraceae | 0.333 | 0.055 | 11.07 |
| <i>Artocarpus heterophyllus</i> Lam. | Thaipung | Moraceae | 0.145 | 0.039 | 6.35 |
| <i>Artocarpus lakoocha</i> Roxb. | Lakoocha | Moraceae | 0.014 | 0.065 | 1.57 |
| <i>Bauhinia acuminata</i> L. | Kaya | Cesalpiniaceae | 0.039 | 0.010 | 2.80 |
| <i>Bombax ceiba</i> Burm.f. | Borchuk | Bombacaceae | 0.024 | 0.035 | 2.35 |
| <i>Borassus flabellifer</i> L. | Tal | Palmae | 0.014 | 0.100 | 1.57 |
| <i>Butea monosperma</i> Kuntze. | Palash | Papilionaceae | 0.029 | 0.009 | 2.18 |
| <i>Caryota urens</i> L. | Swmal | Arecaceae | 0.029 | 0.013 | 2.18 |
| <i>Cassia fistula</i> L. | Swka thuri | Cesalpiniaceae | 0.024 | 0.008 | 2.08 |
| <i>Cassia siamea</i> Lam. | Cassia | Cesalpiniaceae | 0.178 | 0.013 | 7.09 |
| <i>Citrus maxima</i> (Burm.) Merr. | Jamura | Rutaceae | 0.019 | 0.010 | 1.96 |
| <i>Crateva nurvala</i> (Lour.) DC | Borna | Capparaceae | 0.010 | 0.007 | 1.17 |
| <i>Croton spp</i> | Omokhwi | Euphorbiaceae | 0.019 | 0.012 | 1.72 |
| <i>Delonix regia</i> (Bojer) Raf. | Krishnachura | Cesalpiniaceae | 0.039 | 0.022 | 2.65 |
| <i>Dillenia indica</i> L. | Thaiplok | Dilleniaceae | 0.005 | 0.012 | 0.78 |
| <i>Dillenia pentagyna</i> Roxb. | Bolong Thaiplok | Dilleniaceae | 0.043 | 0.016 | 3.20 |
| <i>Diospyros spp</i> L. | Bolphantok | Ebenaceae | 0.072 | 0.019 | 4.27 |
| <i>Dipterocarpus turbinatus</i> C.F.Gaertn. | Garjan | Dipterocarpaceae | 0.405 | 0.025 | 12.88 |
| <i>Elaeocarpus floribundus</i> L.f. | Jalpui | Elaeocarpaceae | 0.029 | 0.015 | 2.18 |

| | | | | | |
|---|-------------|----------------|-------|-------|-------|
| <i>Emblica officinalis</i> Gaertn. | Amla | Euphorbiaceae | 0.024 | 0.003 | 1.95 |
| <i>Erythrina stricta</i> Roxb. | Mandar | Papilionaceae | 0.039 | 0.018 | 2.62 |
| <i>Erythrina variegata</i> L. | Mandar | Papilionaceae | 0.014 | 0.012 | 1.57 |
| <i>Eucalyptus grandis</i> Hill & ex Maiden. | Eucalyptus | Myrtaceae | 0.005 | 0.030 | 0.78 |
| <i>Ficus benghalensis</i> Linn. var. <i>krishnae</i> | | Moraceae | 0.005 | 0.003 | 0.78 |
| <i>Ficus hispida</i> L.f. | Dumur | Moraceae | 0.024 | 0.009 | 2.08 |
| <i>Ficus racemosa</i> Wall. | Khwichang | Moraceae | 0.068 | 0.004 | 3.89 |
| <i>Ficus religiosa</i> Forssk. | Bwrwiphang | Moraceae | 0.019 | 0.094 | 1.72 |
| <i>Flacourtia jangomas</i> (Lour.) Raeusch. | Supra | Salicaceae | 0.010 | 0.021 | 1.17 |
| <i>Garcinia spp</i> Dunn. | Kok | Clusiaceae | 0.039 | 0.010 | 2.80 |
| <i>Gmelina arborea</i> Roxb. | Gamai | Verbenaceae | 0.092 | 0.037 | 4.50 |
| <i>Grevillia robusta</i> A. Cunn. ex R.Br. | Silver oak | Proteaceae | 0.014 | 0.011 | 1.57 |
| <i>Holarrhena antidysentrica</i> (Roxb. ex Fleming) Wall. ex A.DC.) | Kuichima | Apocynaceae | 0.188 | 0.010 | 7.83 |
| <i>Jatropha curcus</i> L. | Karan | Euphorbiaceae | 0.024 | 0.003 | 1.95 |
| <i>Litchi chinensis</i> Sonn. | Lichu | Sapindaceae | 0.034 | 0.011 | 3.14 |
| <i>Mallotus philippensis</i> (Lam.) Muell. Arg. | Kamala | Euphorbiaceae | 0.053 | 0.010 | 3.16 |
| <i>Mangifera indica</i> L. | Thaichuk | Anacardiaceae | 0.063 | 0.036 | 4.01 |
| <i>Melia azedarach</i> L. | Bolong neem | Meliaceae | 0.029 | 0.021 | 2.18 |
| <i>Mesua ferrea</i> L. | Nageshwar | Calophyllaceae | 0.019 | 0.004 | 1.96 |
| <i>Michelia champaca</i> L. | Sampari | Magnoliaceae | 0.034 | 0.020 | 2.64 |
| <i>Microcos paniculata</i> L. | Pesla | Malvaceae | 0.309 | 0.008 | 10.49 |
| <i>Mitragyna rotundifolia</i> Korth. | Omokhwi | Rubiaceae | 0.092 | 0.011 | 4.78 |
| <i>Moringa oleifera</i> Lam. | Sajana | Moringaceae | 0.029 | 0.013 | 2.26 |
| <i>Murraya Paniculata</i> (L.) Jack. | Kamini | Rutaceae | 0.010 | 0.004 | 1.25 |
| <i>Oroxylum indicum</i> (L.) Benth. Ex Kurz | Tokharung | Bignoniaceae | 0.024 | 0.013 | 2.08 |
| <i>Phoenix dactylifera</i> L. | Khejur | Arecaceae | 0.010 | 0.027 | 1.17 |

| | | | | | |
|---|----------|------------------|-------|-------|-------|
| <i>Psidium guajava</i> | Goyam | Myrtaceae | 0.024 | 0.022 | 2.35 |
| <i>Polyalthia longifolia</i> (Sonn.) Hook.f.& Thomson. | Ashok | Annonaceae | 0.005 | 0.005 | 0.78 |
| <i>Schima wallichii</i> (DC.) Korth. | Madhuga | Theaceae | 0.612 | 0.019 | 17.74 |
| <i>Shorea robusta</i> C.F.Gaertn. | Sal | Dipterocarpaceae | 0.256 | 0.031 | 9.14 |
| <i>Spondias pinnata</i> L. | Thestwi | Anacardiaceae | 0.063 | 0.043 | 3.57 |
| <i>Sterculia villosa</i> L. | Lambak | Sterculiaceae | 0.082 | 0.036 | 2.08 |
| <i>Stereopermum personatum</i> (Hassk.) Chatterjee | Silai | Bignoniaceae | 0.024 | 0.009 | 4.52 |
| <i>Streblus asper</i> Lour. | Saruwa | Urticaceae | 0.024 | 0.012 | 2.35 |
| <i>Swietenia mahagoni</i> (L.) Lam. | Mahagoni | Meliaceae | 0.024 | 0.064 | 2.08 |
| <i>Syzygium cumini</i> (L.) Skeels. | Jam | Myrtaceae | 0.444 | 0.022 | 13.70 |
| <i>Tamarindus indica</i> Linn. | Thentrwi | Papilionaceae | 0.010 | 0.193 | 1.17 |
| <i>Tectona grandis</i> L.f. | Sejun | Verbenaceae | 0.916 | 0.016 | 24.55 |
| <i>Terminalia arjuna</i> W & A | Arjun | Combretaceae | 0.024 | 0.012 | 2.35 |
| <i>Terminalia bellerica</i> (Gaertn.) Roxb. | Boira | Combretaceae | 0.140 | 0.015 | 6.23 |
| <i>Toona ciliata</i> M. Roem. | Ronggin | Meliaceae | 0.212 | 0.018 | 8.05 |
| <i>Trema orientalis</i> (L.) Blume | | Cannabaceae | 0.019 | 0.018 | 1.72 |
| <i>Trewia nudifolia</i> Benth. | Mentha | Euphorbiaceae | 0.024 | 0.010 | 2.35 |
| <i>Vitex peduncularis</i> Wall. | | Lamiaceae | 0.029 | 0.040 | 2.18 |
| <i>Ziziphus jujuba</i> Lam. | | Rhamnaceae | 0.039 | 0.012 | 2.62 |
| Unidentified -1-15 | | | | | |

The total number of individuals recorded from different forests was 1890 individuals including seedling (SE), saplings (SA) and trees (TR) with 656.25 individuals ha⁻¹. The forest wise total individuals according to decreasing order is highlighted in Fig. 1. The distribution pattern of plant species indicates its adaptability to various environment factors and forest communities mainly depends on characteristics of sites and regeneration status (Wang *et al.*, 2004). The species recorded in the present study is much higher than other reports (Hossain *et al.*, 2004; Pala *et al.*, 2013). Furthermore Majumdar *et al.*, (2012) recorded higher species in Sal dominated forest and *Tectona grandis* dominated forest of Tripura. In the present study Moraceae was the dominant family, similarly Majumdar *et al.*, (2012) also found the same family as dominant one from lowland

primary and secondary moist deciduous forest of Tripura. While Wale *et al.*, (2012) reported dominance of Fabaceae family in Western Ethiopia.

The species density, basal area and important value index (IVI) of tree species as recorded from study sites are mentioned in Table 2.

The Shannon-Weiner diversity index was estimated to know the diversity status of an area. The values ranged from 2.88 (MAN) to 3.81 (SEP) in 8 different forest sites. Whereas, Simpson's dominance index value ranged from 0.03 (SEP) - 0.09 (KAN) (Table 3). The Sorenson similarity index was performed to understand the similarity of species in different forest sites. The similarity index value was recorded maximum between BCM and SEP with 57.8 % while the lowest value was 28.1% between MAN and SEP (Table 4).

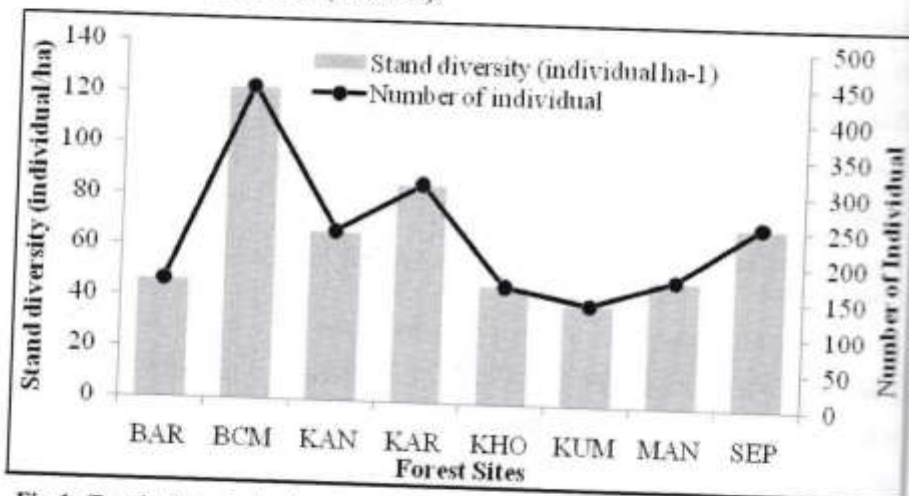


Fig 1: Trend of stand density (individual ha⁻¹) and number of individual in the studied forest sites.

Table 3. Summary of species inventory from the study sites

| Variables | BAR | BCM | KAN | KAR | KHO | KUM | MAN | SEP |
|--|-------|--------|-------|-------|-------|-------|-------|-------|
| Species richness | 28 | 39 | 29 | 27 | 38 | 25 | 20 | 44 |
| Number of genera | 23(5) | 31(4) | 22(7) | 21(7) | 36(2) | 24(6) | 18(2) | 39(5) |
| Number of families | 18 | 23 | 18 | 15 | 23 | 11 | 16 | 23 |
| Number of individual | 167 | 438 | 238 | 306 | 166 | 142 | 178 | 255 |
| Stand diversity (individual ha ⁻¹) | 46.38 | 121.66 | 66.11 | 85 | 46.11 | 39.44 | 49.44 | 70.83 |
| Shannon Weiner index | 3.38 | 3.60 | 2.91 | 3.40 | 3.77 | 3.31 | 2.88 | 3.81 |
| Simpson's index | 0.06 | 0.04 | 0.09 | 0.06 | 0.04 | 0.05 | 0.08 | 0.03 |

Values in parenthesis includes the unidentified species

Table 4. Similarity index values between different forest sites.

| sites | BAR | BCM | KAN | KAR | KHO | KUM | MAN | SEP |
|-------|-----|------|------|------|------|------|------|-------------|
| BAR | * | 38.8 | 31.5 | 36.3 | 45.4 | 41.5 | 41.6 | 36.1 |
| BCM | * | * | 47.0 | 48.4 | 44.1 | 34.3 | 37.2 | 57.8 |
| KAN | * | * | * | 35.7 | 38.8 | 48.1 | 40.8 | 38.3 |
| KAR | * | * | * | * | 30.7 | 38.4 | 42.5 | 42.2 |
| KHO | * | * | * | * | * | 31.7 | 34.4 | 41.4 |
| KUM | * | * | * | * | * | * | 35.5 | 34.7 |
| MAN | * | * | * | * | * | * | * | 28.1 |
| SEP | * | * | * | * | * | * | * | * |

Status of Natural Regeneration Pattern

A total of 882 seedlings (SE), 283 sapling (SA) and 725 trees (TR) were recorded from overall forest sites (Table 5 & Fig. 2). The Shannon-Weiner diversity index ranged between 1.39 to 3.10 in seedlings, sapling and trees. The Simpson's dominance index ranged between 0.07 to 0.35. The Shannon's diversity index was higher in the study area which is greater than recorded for old Sal plantations in Gorakhpur (Pandey and Shukla 1999), for sal forests in Eastern Himalaya (Shankar, 2001), for Western Ghats (Arunachalam, 2002), and a tropical dry evergreen forest of South India (Parthasarathy and Sethi, 1997). In the present study, the Simpson dominance value are comparable with the value for natural forest and for planted forest (Chauhan *et al.*, 2008). The calculated similarity index was almost similar to that recorded by Khan *et al.*, 1987 disturbed and protected subtropical forest of north-east India, Meghalaya. Furthermore, Majila *et al.*, (2010) reported 100% similarity between west and north aspect of middle altitude, and least similarity between east aspect of lower altitude and south aspects of higher altitude in Binsar Wildlife Sanctuary.

In the study, greater number of individuals in the seedling stage was observed and a sharp decline in sapling but there is an increase in tree individuals, which indicates fair development of all the forest sites. It also suggests that if the current recruitment of sapling does not improve, the population may decline in the long run. On the contrary, forest structure of Sarkot van Panchayat in Garhwal Himalaya is expanding in nature with more number of tree species than sapling and seedling (Pala *et al.*, 2012). Others have also reported either fair or good regeneration in seven species and 17 species showed poor or no regeneration status in Garhwal Himalaya (Pala *et al.*, 2013).

Table 7. Summary of seedling, sapling and trees of various study sites

| Variables | | BAR | BCM | KAN | KAR | KHO | KUM | MAN | SEP |
|-------------------------|----|-------|-------|-------|-------|-------|-------|-------|-------|
| Species richness | SE | 19 | 28 | 18 | 20 | 19 | 15 | 11 | 22 |
| | SA | 13 | 18 | 8 | 17 | 14 | 7 | 8 | 13 |
| | TR | 17 | 25 | 15 | 15 | 29 | 18 | 15 | 36 |
| Number of genera | SE | 15(4) | 22(6) | 12(5) | 16(4) | 17(2) | 12(3) | 11 | 18(4) |
| | SA | 11(2) | 18 | 7(1) | 12(5) | 14 | 4(3) | 7(1) | 12(1) |
| | TR | 15(2) | 23 | 11(4) | 11(4) | 28(1) | 13(4) | 13(2) | 32(4) |
| Number of individuals | SE | 77 | 218 | 158 | 157 | 44 | 68 | 55 | 105 |
| | SA | 31 | 58 | 12 | 64 | 27 | 18 | 46 | 27 |
| | TR | 59 | 162 | 68 | 85 | 95 | 56 | 77 | 123 |
| Shannon diversity index | SE | 2.40 | 2.76 | 2.02 | 2.48 | 2.70 | 2.37 | 1.78 | 2.77 |
| | SA | 2.36 | 2.15 | 1.91 | 2.59 | 2.49 | 1.46 | 1.39 | 2.31 |
| | TR | 2.32 | 2.66 | 2.21 | 1.84 | 2.95 | 2.55 | 2.01 | 3.10 |
| Simpson index | SE | 0.20 | 0.09 | 0.17 | 0.12 | 0.09 | 0.12 | 0.23 | 0.08 |
| | SA | 0.11 | 0.19 | 0.18 | 0.09 | 0.09 | 0.35 | 0.24 | 0.13 |
| | TR | 0.14 | 0.09 | 0.15 | 0.29 | 0.08 | 0.10 | 0.19 | 0.07 |

Values in parenthesis includes the unidentified species

The regeneration status varied from place to place and from species to species (Fig 3). The overall status of forest indicates that BCM in South Tripura district has the highest number of individual (438 individuals) and stand diversity (121.66 individuals ha⁻¹), whereas, KHO and KUM comparatively constituted with less individuals and less stand diversity. This indicates that BCM is less disturbed as compared to KHO and KUM, where settlement areas are nearby the forest sites. This increases the anthropogenic activities, thereby affecting the species diversity and forest population. In the disturbed forest sites, *jhum* cultivation in MAN and KAR and forest fires were also observed in KUM. In KAR, forest clearance was observed due to increasing rubber plantation and bamboo cultivation. The forest stands characterized with only adults species and low population of seedling and saplings are expected to face local extinction. In the present study, high forest fire sites were observed, this form the reason why the seedlings are higher in number but sapling number is low and increases in tree number. Same has been reported by Murthy *et al.*, (2002) and Sukumar *et al.*, (1997).

Table 7. Summary of seedling, sapling and trees of various study sites

| Variables | | BAR | BCM | KAN | KAR | KHO | KUM | MAN | SEP |
|-------------------------|----|-------|-------|-------|-------|-------|-------|-------|-------|
| Species richness | SE | 19 | 28 | 18 | 20 | 19 | 15 | 11 | 22 |
| | SA | 13 | 18 | 8 | 17 | 14 | 7 | 8 | 13 |
| | TR | 17 | 25 | 15 | 15 | 29 | 18 | 15 | 36 |
| Number of genera | SE | 15(4) | 22(6) | 12(5) | 16(4) | 17(2) | 12(3) | 11 | 18(4) |
| | SA | 11(2) | 18 | 7(1) | 12(5) | 14 | 4(3) | 7(1) | 12(1) |
| | TR | 15(2) | 23 | 11(4) | 11(4) | 28(1) | 13(4) | 13(2) | 32(4) |
| Number of individuals | SE | 77 | 218 | 158 | 157 | 44 | 68 | 55 | 105 |
| | SA | 31 | 58 | 12 | 64 | 27 | 18 | 46 | 27 |
| | TR | 59 | 162 | 68 | 85 | 95 | 56 | 77 | 123 |
| Shannon diversity index | SE | 2.40 | 2.76 | 2.02 | 2.48 | 2.70 | 2.37 | 1.78 | 2.77 |
| | SA | 2.36 | 2.15 | 1.91 | 2.59 | 2.49 | 1.46 | 1.39 | 2.31 |
| | TR | 2.32 | 2.66 | 2.21 | 1.84 | 2.95 | 2.55 | 2.01 | 3.10 |
| Simpson index | SE | 0.20 | 0.09 | 0.17 | 0.12 | 0.09 | 0.12 | 0.23 | 0.08 |
| | SA | 0.11 | 0.19 | 0.18 | 0.09 | 0.09 | 0.35 | 0.24 | 0.13 |
| | TR | 0.14 | 0.09 | 0.15 | 0.29 | 0.08 | 0.10 | 0.19 | 0.07 |

Values in parenthesis includes the unidentified species

The regeneration status varied from place to place and from species to species (Fig 3). The overall status of forest indicates that BCM in South Tripura district has the highest number of individual (438 individuals) and stand diversity (121.66 individuals ha⁻¹), whereas, KHO and KUM comparatively constituted with less individuals and less stand diversity. This indicates that BCM is less disturbed as compared to KHO and KUM, where settlement areas are nearby the forest sites. This increases the anthropogenic activities, thereby affecting the species diversity and forest population. In the disturbed forest sites, *jhum* cultivation in MAN and KAR and forest fires were also observed in KUM. In KAR, forest clearance was observed due to increasing rubber plantation and bamboo cultivation. The forest stands characterized with only adults species and low population of seedling and saplings are expected to face local extinction. In the present study, high forest fire sites were observed, this form the reason why the seedlings are higher in number but sapling number is low and increases in tree number. Same has been reported by Murthy *et al.*, (2002) and Sukumar *et al.*, (1997).

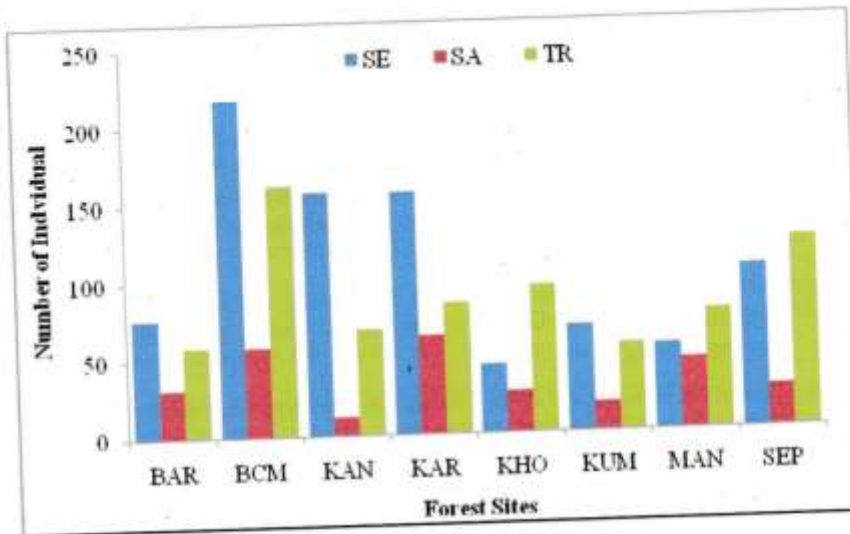


Fig 2: Number of individuals in different forest sites.

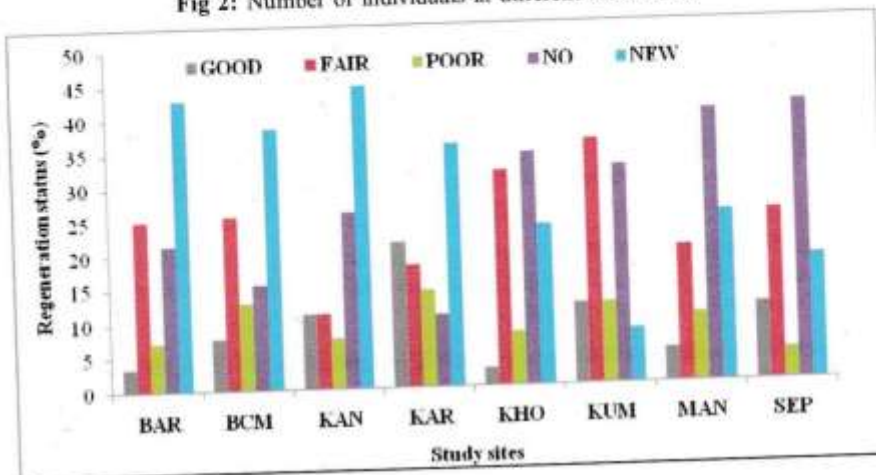


Fig 3. Regeneration status of study sites

The study finally concludes that a proper protection from human interferences and scientific management of natural regeneration of the study areas may lead a biodiversity rich site in the state.

References:

- Arunachalam, A. (2002). Species diversity in two different forest types of Western Ghats, India, *Annals of Forestry*. Vol. 10: 204-213.
- Barker, P.C.J. and Krik Patrik, J.B. (1994). *Phyllocladus asplenifolius*: variability in the population structure of the regeneration niche and dispersion pattern in Tasmanian forest, *Australian Journal of Botany*. Vol. 42: 163-190.

- Bhuyan, P., Khan, M., and Tripathi, R.S. (2003). Tree diversity and population structure in undisturbed and human-impacted stands of tropical wet evergreen forest in Arunachal Pradesh, Eastern Himalayas, India, *Biodiversity Conservation*. Vol. 12(8): 1753-1773.
- Chauhan, D.S., Dhanai, C.S., Singh, B., Chauhan S., Todaria, N.P. and Khalid, M.A. (2008). Regeneration and tree diversity in natural and planted forest in a Terai-Bhabhar forest in Katarniaghat wildlife sanctuary, India, *Tropical Ecology*. Vol. 49(1): 53-67.
- Chen, J., Franklin, J.F. and Spies, T.A. (1993). Contrasting microclimate patterns among clearcut, edge, and interior area of old growth Douglas-fir forest, *Agro Forest Meteorol.* Vol. 63 (3/4): 219-237.
- Curtis, J.T. and McIntosh, R.P. (1950) The interrelation of certain analytic and synthetic Phytosociological characters, *Ecology*. Vol. 31: 434-455.
- Henle, K., Saree, S. and Wiegand, K. (2004). The role of density regulation in extinction processes and population viability analysis, *Biological Conservation*. Vol. 13(1): 9-52.
- Hossain, M.K., Rahman, M. L., Rafiqul Hoque, A.T.M. and Alam, M.K. (2004). Comparative regeneration status in a natural forest and enrichment plantations of Chittagong (South) forest division, Bangladesh, *Journal of Forestry Research*. Vol. 15(4): 255-260.
- Khan, M.L., Raj, J.P.N. and Tripathi, R.S. (1987). Population structure of some tree species in disturbed and protected sub-tropical forest of North East India, *Acta Oecologia: Oecologia Applicata*. Vol. 8: 247-255.
- Long, J.N. and Smith, F.W. (1992). Volume increment in *Pinus contorta* var. *latifolia*: the influence of stand development and crown dynamics, *Forest Ecology and management*. Vol. 53: 53-64.
- Miura, M., Manabe, T., Nishimura, N. and Yamamoto, S. (2001). Forest canopy and community dynamics in a temperate old-growth evergreen broad-leaves forest, South-Western Japan: a 7 year study of a 4 ha plot, *Journal Ecology*. Vol. 89: 841-849.
- Majila, B.S. and Kala, C.P. (2010). Forest Structure and Regeneration along the Altitudinal Gradient in the Binsar Wildlife Sanctuary, Uttarakhand Himalaya, India, *Russian Journal of Ecology* Vol. 41(1): 75-83.
- Majumdar, K., Shankar, U. and Datta, B.K. (2012). Tree species diversity and stand structure along major community types in lowland primary and secondary moist deciduous forest in Tripura, Northeast India, *Journal of Forest Research*. Vol. 23(4): 553-568.
- Majumdar, K., Choudhury, B.K. and Datta, B.K. (2016). Changes of woody species diversity, horizontal and vertical distribution of stems across interior to outside within a primate rich habitat of Northeast India, *Journal of Forest Research*. Vol. 27(4): 787-798.
- Murthy, I. K., Murali K. S., Hegde G. T., Bhat P. R. and Ravindranath N. H. (2002). A

- Comiskey (eds.) *Forest Diversity Research, Monitoring and Modeling: Conceptual Background and Old World Case Studies*. Vol. I. Parthenon Publishing P. 529-540.
- Wale, H.A., Bekele, T. and Dalle, G. (2012). Floristic diversity, regeneration status, and vegetation structure of woodlands in Metema Area, Amhara National Regional state, North-western Ethiopia, *Journal of Forestry Research*. Vol. 23(3): 391-398
- Wang, T., Liang, Y.H., Ren, B., YU, D., Ni, J., Ma, K.P. (2004). Age structure of *Picea schrenkiana* forest along an altitudinal gradient in the central Tianshan Mountains, Northwestern China, *Forest Ecology Management*. Vol. 196: 267-274.
- Yang, J., Jianping, G.E., Lijuang Liu, Yi Ding, Yingchun Tan. (2009). Gap phase regeneration recruitment of mixed conifer-broadleaf forest in Wolong Nature Reserve, *Front. For. China*. Vol. 4(2): 153-158.

Innovative Health Financing Mechanisms for Affordable Healthcare Delivery



Edited by
Shibu John • P S Raychaudhuri

ABOUT THE BOOK

This volume is an outcome of intense academic discussion and debate held on the topic of innovative health financing mechanisms for affordable healthcare delivery in India. Twenty three papers from researchers, experts and scholars discussing the current conditions in India on various topics like universal health coverage, primary health care, healthcare expenditure, prospects of health financing, financial inclusion through health insurance, implementing health technology assessment, out-of-pocket expenditures, national health insurance schemes, tele-health services for rural healthcare, healthcare cost vs. quality, healthcare delivery and outcomes, healthcare funds transfer etc. form the basis of this volume. Overall, this book adopts a multi-disciplinary approach to address the different themes and issues of healthcare financing mechanisms, their impacts and their needs in an emerging economy like India.

This book will be a very good source of reference for academicians, researchers, policy makers, planners and students of healthcare management and allied subjects.

ABOUT THE DEPARTMENT

Department of "Health & Hospital Management", has excellent infrastructure, which facilitates teaching and research activities. Bringing together an able team drawn from academic and industry, has enabled students to bridge the gap between the academic and industrial sectors. The Department strives to provide students with the most up-to-date knowledge in the field of Health, Hospital & Pharmaceutical Management. In consequence, the students trained in the School have found ready acceptance in industry and business. The alumni occupy responsible positions in the corporate world, in India and abroad. The Department offers the following programmes of study: Doctor of Philosophy, MBA (Health & Hospital Management), MBA (Pharmaceutical Management) and MBA (Insurance).

ABOUT JAMIA HAMDARD

Jamia Hamdard is one of the most progressive universities of Delhi, which came into existence as the 'Deemed to be University' by the notification of the Ministry of Human Resource Development (Government of India) under section (3) of the U.G.C. Act. The University has been awarded 'A' grade by National Assessment and Accreditation Council (NAAC) of U.G.C. for three consecutive terms. Janab Hakeem Abdul Hameed, a renowned physician, was the Founder-Chancellor of Jamia Hamdard, which he established with his own resources. A great philanthropist, thinker and visionary, he set up several institutions with the funds of Hamdard Wakf Laboratories. School of Management and Business Studies was established in the year 1998 and in a span of just Eighteen years, the School has created a niche for itself and it has attracted students not only from all over India but also from over 28 countries.

ABOUT THE EDITORS

Shibu John, Dr. John has nearly twenty years of work experience in healthcare sector. He has joined Jamia Hamdard in 2004. Currently he is heading the Department of Health and Hospital Management. Before joining Jamia Hamdard, he worked in Indian Institute of health Management Research, Jaipur. He has done his post graduation in health & hospital management and PhD in Health Financing. He has published many research articles in national and international journals. His areas of interest include, Public Health, Health Economics, Material Management etc. Before coming to academics he has worked in corporate healthcare industry for nearly five years.

P S Raychaudhuri, Dr. Raychaudhuri, a faculty member with Department of Health & Hospital Management, Jamia Hamdard has been associated with academics since 2006. Prior to that, he had worked in the industry for 18 years in various capacities including 4 years of entrepreneurship and some experience in pharmaceutical sales and distribution. He is a PhD in Marketing from Jamia Millia Islamia and M.Tech (Gold Medalist) from Calcutta University. He has also done post graduate diploma in business administration and completed post graduate certificate in pharmaceutical marketing. He has published various papers in refereed International and National journals. His areas of interests are business & operations strategy, pharmaceutical marketing, public health, entrepreneurship, project management, organization development etc. Currently 4 doctoral students are associated with him, and earlier two have been awarded Phd.



Wisdom Publications

C/14, D.S.I.D.C. Work Centre
Jhilmil Colony, Delhi - 110095
Ph.: 8860099797, 9891185157, 9871355989
Email: wisdompublications25@gmail.com

₹795/-



Paradigm Shift in Rural Healthcare Through Tele-health Services: A Case of Tripura

Dr. Debarshi Mukherjee,¹ Dr. Rajesh Chatterjee²
& Mr. Soumen Mukherjee³

ABSTRACT

Telemedicine practice deploys advanced telecommunication technologies to disseminate health services to all the citizens of a country irrespective of geographical boundaries. Inundated terrains face a dearth of good doctors and a place like Tripura which is landlocked and geographically covered by Bangladesh from three sides sets a classic example of a land deprived of improved medical facilities where 2/3rd of the population inhabits in the rural side. Mostly speciality medical services are concentrated in the capital city of the state and in few relatively better facilities in other parts of the state indicating the fact that a significant population living in rural areas are outside the ambit of such speciality care. An electronic alternative in the form of telemedicine has been put into practice to curb the severe demand-supply gap. Every patient needs immediate access to the appropriate specialist in the specific discipline of medical consultation. Many of the rural folk of Tripura do not receive at least the basic primary care, whereas secondary and tertiary care is far away thing. Telemedicine bridges the gap between rural healthcare and urban healthcare. In this 21st century e-health technology is flourishing with the 4G technology of mobile and approaching 5G. The state is still developing and continuously adopting different strategies to bridge the gap between rural and urban areas with the help of infrastructure development to improve

-
- 1 Associate Professor & Head, Department of Business Management, Tripura University
 - 2 Assistant Professor, CSSEIP, Tripura University
 - 3 Research Scholar, Tripura University & Assistant Professor, Department of Healthcare Management, ICAI University; Email: soumenmuk@gmail.com

the quality of healthcare delivery system in the rural area. This paper aims to highlight the critical issues pertaining to the deployment of telemedicine and its subsequent benefit in the longer run. Statistical tools like Z-score and multiple regression methods were used to find out the impact of telemedicine in the lives of rural folk from a socio-economic standpoint. The study reveals that with the passage of time people have started embracing digital healthcare services and as such the perceived quality of healthcare services retains a positive relationship with the propagation of telemedicine and perceived healthcare services in rural Tripura.

Keywords: *Tele-medicine, health care, doctor, e-health, Tripura, North-East.*

Introduction

During the 90s, technology made a rapid progress to extend the idea of providing medical assistance to people in the far-flung remote areas in a conceptualized manner. The very idea to provide best quality medical advisory at lower cost was the genesis of Telemedicine. The multimedia applications used to provide medical advisory enhance the service quality and if administered correctly the people with limited access to good medical facilities can benefit immensely.

Telemedicine is the practice of medicine in which the information between doctors, or the doctor and the patient, circulates over an interactive communication network in the form of audio, video, fixed images and/or data (typical Multimedia application). Telemedicine may be as simple as two health professionals discussing a case over the telephone or as complex as using satellite technology and video conferencing equipment to conduct a real-time consultation between medical specialists in two different areas [Alice Lee, 2005 and Lames E. Cabral Jr, and Yongmin Kim, 1996]. Applications of telemedicine nowadays cover a growing number of medical specialties such as [XU Jun and Yu Xuezhong, 2005]: Teleconsultation, Teleconferencing, Teleradiology, Telepathology, Tele-education, Telemonitoring and Telesurgery. Rural areas lack sufficient experienced doctors; Telemedicine can eliminate the rural/urban health divide caused by the dichotomy that many of the qualified doctors live in urban areas [Sathyanarayan MN and Satyamurthy. 2005].

Tele-health refers to a broad application of technology to facilitate health care delivery and health management, improving access to care and patient health. Tele-health services include the use of

technology devices to collect and transmit patient information, clinical services that provide health care remotely through means such as secure video conferencing, and patient engagement tools such as mobile device applications.

According to Steve Jobs, "I think the biggest innovation of the 21st century will be the intersection of biology and technology". WHO defines e-health as "the use of information and communication technologies for health". In the view of European commission e-health referred to "tools and services using information and communication technologies that can improve prevention, diagnosis, treatment, monitoring and management".

Statistics said that among the total population of the country 75% population is based on the rural areas, whereas 75% of the healthcare infrastructure is based on the urban areas. So by the blessings of the ICT, telemedicine system is one of the successful tools, which provides the healthcare and could sophisticatedly bridge the gap between the urban and rural healthcare system. The low presence of doctors in rural and semi-urban areas has given the limited access to receive the proper healthcare facilities for the people of the country who are mainly dwelling in rural India. In this scenario, telemedicine and e-health are two options to this lack of access to the healthcare facilities by the people of rural India.

As we know that the growth of IT sector is very permissible in our country. We the Indians are moving from 4th generation Internet towards 5th Generation internet. [*E-health in India legal, regulatory, & tax overview January 2017, Nishit Desai Associates*]. In today's scenario, IT and Medical science have the enormous potential in meeting the challenges of healthcare delivery to mainly rural and remote areas of the country. Basically, telemedicine means "Distant healing" being derived from the Greek word "tele" means distance and the Latin term "mediri" means to heal.

With the innovation of computing and telecommunication technology, many elements of medical practices can be accomplished when the patient and healthcare provider are geographically separated. The combination of information technology and medical system give the access to information related to the certain patient, which prevent the patient from entering into the worsening situation of life.

The main objective of telemedicine is to cross the geographical barriers and provides healthcare facilities to rural and remote areas (Health for All). So, it is beneficial for the population living in isolated communication. The main advantages of telemedicine are:

ISBN No. 9789383463305

**1st
INTERNATIONAL CONFERENCE
On
Management and Business Practices - (ICMBP) 2017**

**MILLENNIUM MANAGEMENT PARADIGM
AND
CONTEMPORARY BUSINESS PRACTICES**

Conference Proceedings

ALIAH UNIVERSITY PUBLICATION

Influence of Culture on Adoption of E-learning Technologies among the Students of Management Studies in Tripura - An Empirical Study

Debarshi Mukherjee¹ & Anjana Kalai²

Abstract

India is moving towards digitization or can be called as computer-mediated communication culture. Learners exhibit traits of behaviour influenced by their native culture which also works as an important determinant towards adopting anything new which evolves with time. Far and wide culture has been recognized as the ideas, customs and social behaviour exhibited by people honoured in the society. Non-material components of culture reflect belief, knowledge, customs, social institutions and the material components skewed more towards tangibility. The growing multicultural issues within the teaching-learning process has made it critical for the instructor to deliver satisfactorily to the learners. The elements of culture are innate and fundamental to core one's ability of acceptance or contest an idea. Therefore, the environmental conduciveness under multicultural setting poses a formidable challenge to attain higher learning gain putting efficacy of such technologies in question. The cultural canvas of Tripura is a blend of Bengali and Tripuri culture as it is mostly populated by indigenous people of Tripura or Scheduled Tribes, and non-Tribe. The study was conducted to understand which culture: material or non-material culture influences the use of e-learning tools among the graduate and post graduate management students of Tripura coming from vernacular cultures and despite popular motions like digital India campaign technology adoption in academics is significantly low. Contrary to popular belief of infrastructural bottleneck in most of the colleges of higher education, the study reveals that the culture of certain pedagogical pattern overpowered the willingness to self paced learning. The findings of the study also include the constraints that the students are facing. The result will help in designing the e-learning tools and also the instructor on how to design the delivery of lectures using computer-mediated communication tools.

Keywords : *E-learning, Culture, Tripura, Cultural elements, Management and Education*

¹Associate Professor, Department of Business Management, Tripura University, Suryamanainagar, Tripura
E- mail: debarshimukherjee@tripurauniv.in (M): 9899882497

²Research Scholar, Department of Business Management, Tripura University, Suryamanainagar, Tripura
E-mail: anjana_kalai@tripurauniv.in (M): 9774448136

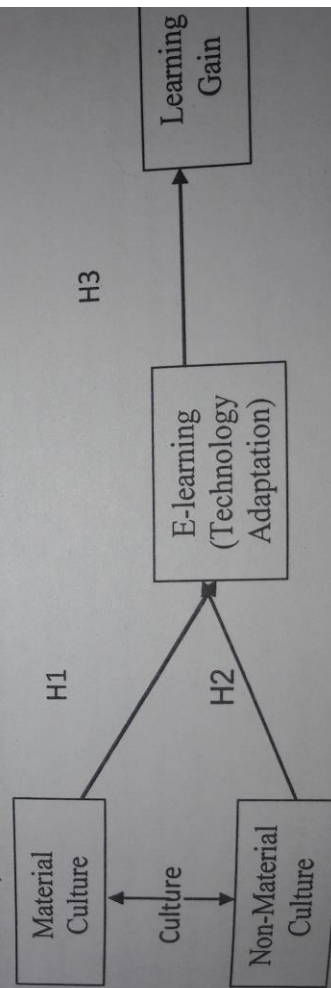
IMPACT OF CULTURE ON TECHNOLOGY ADOPTION IN TERTIARY MANAGEMENT EDUCATION OF TRIPURA UNIVERSITY – AN EMPIRICAL STUDY

MANAGEMENT EDUCATION OF TRIPURA UNIVERSITY, Tripura
 Dr. Debarshi Mukherjee, Tripura University, Tripura
 Anjana Kalai, Tripura University, Tripura

Abstract
 Technology and cultural issues have been deeply entwined since ancient past which has ordained the progress of the civilization over centuries. Adoption of technology on various facets of life has not only improved quality of life but at the same time professed a path for the future generations to explore. Culture identifies with communities of practice, traditions, belief, signs and language. Culture is the ideas, customs, and social behaviour of a particular people or society. While possession of artefacts-materials objects like furniture, automobiles, technology, farms explain the material aspects of culture; non-materialism has been governed by belief, knowledge, customs and social institutions. Learning is process which brings a permanent change in behaviour which occurs with experience. Impact of culture on students learning has long been documented by many previous empirical studies. The growth of information technologies or computer mediated communication has placed greater influences on education systems. The system has brought a change in teaching pedagogy as it is more advantageous in case of self-efficacy, accessibility, availability and flexibility. India is a diverse land where people practise the traditions, rituals, drawn from multitude of culture. Tripura is one of the North –Eastern states of India which celebrates coexistence of nineteen tribes residing over generations accounting almost 30% of state's population. The paper is an attempt to understand how cultural dimensions i.e., material culture or non-material aspects impact the adoption of e-learning tools and ensures learning gain of the students of tertiary management education of Tripura University.

Objectives of the study are:

1. To study the impact of cultural elements on the adoption of technology among the management students of Tripura University
2. To identify the elements having a stronger impact on adoption of e-learning among management students?
3. To study the outcome of technology adoption on learning gain. Proposed Research Model



**PROCEEDINGS OF THE
 NATIONAL MANAGEMENT CONCLAVE ON
 "BUSINESS, INNOVATION &
 SUSTAINABILITY"
 2017**

Edited by:
 Dr. Rajeev Kumar Panda
 Dr. Chandan Kumar Sahoo
 Dr. Dinabandhu Bag

Hypotheses

- H1. Material culture elements have a significant and positive relationship between in influencing the use of e-learning technologies.
- H2. Non-Material culture elements have a significant and positive role in influencing the use of e-learning, learning,
- H3. Adoption of technology by the students of management studies has a significant and positive relationship in achieving higher learning gain.

Research methodology: A structured questionnaire carrying simple statements was designed to capture the responses from 100 students of management studies measured in a seven point likert type scale. A pilot study has been carried out to test the appropriateness of the instrument after evaluating the validity and reliability of the same. The pilot study included 30 samples drawn proportionately from undergraduate and post graduate students. A stringent method of data collection has been deployed to collect data from the respondents. To realize the above objectives linear multiple regression was applied and the proposed model was tested.

Implications: Use of technology depends on the availability and accessibility to resources and constraints like low speed of internet, awareness of relevant tools and familiarity to technology environment. The students are successfully adopting the e-learning tools. Culture is acting as a strong motivator in adopting technology or e-learning. The e-learning environment enables the instructor and students to maintain pace depending on individual competency and need. Future studies can explore the entire tertiary education sector in Tripura to have an in depth study on the evolution of this new learning paradigm where the students have been acculturated to accepting the e-learning tools and measure subsequent learning gain. The study will help in designing the pedagogical approach to management education which would complement both the instructor and learner. Schemes and projects work can be formulated for the students who are living in rural areas.

Keywords: e-learning, culture, Management, education, and Tripura.



AMITY UNIVERSITY

UTTAR PRADESH



In Association with
THE UNIVERSITY OF
NORTHAMPTON

17TH INTERNATIONAL BUSINESS HORIZON

INBUSH ERA WORLD SUMMIT 2017

8th-10th
February, 2017

Certificate of Participation in Research Paper Presentation

This is to acknowledge the participation of "Debarshi Mukherjee" (Academician /Corporate /Research Scholar/ Student) in the Research Paper Presentation held during 17th International Business Horizon INBUSH ERA WORLD SUMMIT 2017. The paper titled Impact of culture on E-learning in Tertiary Management Education of Tripura University - An Empirical study. was worth appreciating for its efforts in generating, analyzing and presenting research content.

Prof. (Dr.) Gurinder Singh
Group Vice Chancellor
Amity University

Dr. Atul Chauhan
President
Ritrand Balved Education Foundation &
Chancellor, Amity University, UP

SIMANTA HAAT – A STRATEGIC IMPERATIVE TO RURAL LIVELIHOOD FOR THE INDO-BANGLADESH BORDER VILLAGES WITH SPECIAL REFERENCE TO TRIPURA

Dr. Rajesh Chatterjee, Assistant Professor, CSSEIP, Tripura University

Dr. Debarshi Mukherjee, Associate Professor, Dept. of Business Management, Tripura University

Introduction

Any trade depends on the basic demand of local community but border trade connotes to fulfill the claim of two or more countries without limit. Tripura being one of the land locked states of the North-East has suffered economically due to lack of major industrialization in the state since its annexation to India in 1949. The proximity of the state to Bangladesh could have facilitated a prosperous bilateral trade but due to long history of extremism and lack of infrastructural development landed the state into the list of one of the backward states. Border trade has huge potential for expansion of trade between countries. Illegal border trade takes advantage of restrictions, low transaction and transportation cost and it is far higher in volume than the legal trade. Legal trade elucidates the budding place for economic activity in the border regions to engender self-sustenance which is superficially linked to both countries. The strategic imperative to commencement of legal border trade, locally termed as *Simanta Haat* in Tripura and subsequently other four districts in the state have been deliberated for this endeavour.

The case looks at the aspirations of folks of the border towns of both sides paving way for economic prosperity and studies the underutilized avenue, area of up-gradation of border trade at a larger scale in the coming years. The study revealed that despite inertia and goodwill from both sides few unresolved challenges of product variety, currency exchange facility and supply chain issues putting a question mark

The case study is intended to be used as the basis for classroom discussion rather than to illustrate either effective or ineffective handling of a management situation. It is based on secondary research.

to the future of border trade. The sanctioned assortment of items sold in these weekly markets under the watchful eyes of the authorities has a limited financial implication in the livelihood of local folks since there is a cap of expenditure on sale and purchases. However, border trade have been initiated in Meghalaya-Bangladesh border areas specifically in *Balat* (Meghalaya, India)–*Dolora* (*Sunamganj*, Bangladesh) and *Kalaichar* (Meghalaya, India) – *Baliamari* (*Kurigram*, Bangladesh) Border markets in 2011. Though the history of Indo-Bangladesh border trade dates back in 1972; still there are only two states of the 4,096 km border areas have implemented the trade practices so far.

Background

The day of January 13th 2015 is an important day for the state of Tripura as it marks the beginning of a new dimension in bilateral trade with neighboring Bangladesh. The first *simanta haat* (Border Market) was inaugurated at the border town Srinagar in South Tripura District 140km away from the capital city Agartala. Tripura is known as a landlocked state fenced by Bangladesh from three sides. Tripura boasts a colourful ethnographic map and it is also a home for nineteen tribes which count to almost 31% of state's population of approximately 36 lakhs. The state also suffered and bled for two decades over insurgency issues and now has a stable government over the last decade and half. The lifeline of this state in NH44 that connects Tripura with rest of India and entire population needs to depend on this trade route for executing supply chain activities (ET, 2015). Such geographical uniqueness rendered the state in a funnel like situation where lack of infrastructures failed to help producers reach the market with nil elapsed time. Further, the scenario of industrialization within the state is not very encouraging since private investments didn't develop much over these years so the rate of creation of employment opportunity was meager in the private sector. Such deplorable conditions were enough to make Tripura a backward state.

From the socio-economic stand point it was important to create and explore opportunities with the neighbouring country. Before partition informal trade was continuing since no cultural difference between either sides of the border. Geographically, Kolkata which is the nearest metro city and business hub of Eastern India is 1,700 km away from Agartala whereas the cities like Dhaka and Chittagong are around 140 km away from some Tripura borders. According to Union Ministry of Commerce, Bangladesh exported goods worth INR342.65 crore to Tripura in 2015 while the import from Tripura was INR0.41 crore only. The observation of Tripura Chamber of Commerce is quite poignant when it says there is a huge disparity between the volume of import and export whereas the products are available in the market. The railroad closer to the *Akhaura* border (Dist. West Tripura) from Agartala which is under construction may boost the formal border trade but the state also sees prospect in informal border trade. Hence, in 2010, the previous UPA Government and the then Bangladesh Government conceded a plan to create four such border markets in the four districts of Tripura viz., Srinagar (Dist. Sabroom), Kamlasagar (Dist. Sipahijala), Kamlapur (Dist. Dhalai) and Dharmanagr (Dist. North Tripura) (Exhibit I). Only the first two markets are operational as of January 2017. The ministry has an ambitious plan to create similar border markets in all seven North-Eastern states to promote informal border trade. Two major highlights of these markets are, no local taxes would be imposed on goods sold and transaction is allowed in local currency (ESM, 2015).

Voter ID/AADHAR or any citizenship card issued by Government of India is important to secure entry in the *simanta haat* and the same condition is followed by the Bangladesh Government. State government issues licenses to the sellers with the help of local self-government. Both governments charge INR10 for issuing a gate pass. The buyers are restricted in this *haat* and the number is maximum 500 each from both countries.

This market is operational once in a week for the common people of this area. Two markets (*simanta haat*) have been thrown open for the common people of Tripura, one at Srinagar that started in January 2015 and another at Kamlasagar that started in June 2015 and has been facing certain issues since then. The study is based on the Kamlasagar Border Market. The buyers and sellers of this market are facing acute problem like, complicated method in issuing gate passes where people have to wait in long queue resulting inordinate delay and getting less time in the market, restriction imposed on additional quantity of items for sale by BSF

(Border Security Force of India)/BGB (Bangladesh Border Guards) on either side of the fence. Such confining approach to trade is working against the future of the market and the vendors are unable to bring goods as per the demand of the customers. Pricing policy of goods sold in the market is not legal as there is no system of currency exchange and for this reason sellers are charging higher price for their goods. As a result despite having a gap in the value of currency, prices of all Indian and Bangladeshi items do not vary much, even though the factors of seasonality and procurement challenges do not suffice the price differentiation.

Most demanding items of this market are *Hilsa* fish and *prawns* which is not enough to fulfill the demand of the customers. Those vendors, who have started their journey with generous hope, are compelled to stop their effort for theoretical exertion of the government affecting the profit. The export policy of 2015–2018 states that conditional permission will be accorded to the interested exporters of *Hilsa* which was banned from 2012 and the ban was lifted only in 2015. The ban of July 2012 was imposed to stop illegal fishing and depriving the Bangladeshi customers. However, the policy doesn't help the traders of the border markets since they are small time sellers and not exporters (Ahsan, 2015). *Hilsa* is a cash crop of Bangladesh and loved by the people from either side of the fence but in absence of a clear-cut guideline in terms of permissible trade volume and price the popularity of these markets may diminish in near future. Local demand is to allow more people in the market with easy management of entrance. Pecuniary soundness is also found as the unemployed youth in this area have started their business in this *simanta haat*. Local traders are more interested to commence legal business rather illegal which is tension free, hazardless and gives social status.

License Procurement Process

The rules of India is that the state government issues license to the sellers through local administration on first come first serve basis where *Upojeela Nirbahi Officer* (UNO) (Equivalent to District Magistrate in India) or the local district authority of Bangladesh gives license to the Bangladeshi traders. Very few of them who have no license get entry with the help of BGB. The licensing system is very easy and feasible. Till date no impediments were created by the PRI or BSF or BGB. Although there has not been a single instance of reported harassment incident at the market the delay in allowing a gate pass has so far been the main bottleneck. The market authority does not pose any additional restriction or otherwise on the sellers or customers.

Items Available for Purchase

All items are sold in this market like Agriculture products, grocery products, dry fish, clothing (Kashmiri shawl, bed sheet, Dhaka's Jamdani sarees, cotton made lungie, shirt, T-shirt, trousers etc.), utensils (like melamine, plastic, steel), variety of food (like chatni, pickles, masala muri etc.), handmade food (like tiler khaja, chirar khaja), different fruits (apple, orange etc.), and cosmetics for ladies. Maximum demand is for *Hilsa*, dry fish, Bangladeshi plastic product of RFL Company and confectionary goods of reputed PRAN Company of Bangladesh. A bulk purchase of cosmetic goods from the Bangladeshi vendor gives more return in Indian market and the Indian *sarees* are also attractive and profitable to the Bangladeshi sellers and consumers. Selling of meat, narcotic items are restricted in this market. Here majority of the customers are floating. Few customers who are involved in wholesale business and local purchasers come every week.

Cost of the same items in the market is not equal and there is no valid justification for this discrepancy. Again, few items are more costly than India. The customers' think that the sellers are charging additional money and cheating consumers for saggy procedures undertaken by both governments. Bangladeshi products are more costly than Indian products. Customers are not satisfied with the pricing system in this *simanta haat*. Customers purchase their required items not only for self-consumption but also for business purpose. Maximum purchase is also restricted in this market and it is upto INR5,000. Bulk transaction is controlled by the government. For this reason the customers and buyers want additional days in the market system. Although same items are sold in this market which is available in India but few items which are unavailable in local market like Chinese Apple or green apple and apple etc. Goods are common and not restricted to a specific country.

Motivation to the Sellers

1. Every Sunday is the schedule date of market treated as extra earning on a holiday.
2. To maintain unity between the two countries.
3. Every day many pilgrims come to Kamlasagar as it is a tourist spot where a famous temple is located and a sizable population visits the market as well. However, the long queues de-motivate them.
4. Sellers are more interested to commence legal business which is tension free and having no risk, giving social identity. Although they do not confess their past illegal business history which was disclosed by BSF.
5. The Bangladeshi sellers use this market as a platform to meet their wholesale requirement which wasn't a part of the MOU signed between two countries but the district administration facilitates bulk buying for the survival of the market.

Discussion

Border markets always try to fulfill the demand of local needs and it is not merely an effort to maintain good relation with neighboring country. They also demonstrate the business strength of the host sellers and customers of border country and vice-versa. Such type of model of *simanta haat* is extracted from new economic geography models, where location of border *haat* will be at Zero point and sellers need not pay any tax to sell their articles at this *haat* (Ottaviaro and Thisse, 2004). Government is promoting local entrepreneurs, unemployed youths with a new venture where ample opportunities help them to find out sustainability in earnings. In light of the above situation, the relationships among customers, authority, host sellers and sellers from the neighboring country to bridge the demand-supply gap on both sides of the fence come into picture.

Host Sellers vs Customers of Across the Border

Every day transaction of host sellers is miserable and depressing as they depend on local agriculture and handmade products and cost of their product is higher compared to Bangladeshi items and this threat may cause of gradual decrease of sellers of host country (Exhibit II).

There is a good relation between industrial concentration (Chen, 2004) and border effect. If medium and big industries of a border state are huge and sound, the economy of that state could enjoy more profit depending on border. Items which are sold in the border are accessible to each and every customer with reasonable price reflect the strength of Industry of that state. Only agriculture or allied agricultural products cannot help the inhabitants of an area in the process of income generation, on the other hand, plenty of natural resource cannot add any impetus to the process of development if the people are not skilled and adopt modern technology.

The *simanta haat* of these two areas reflect weak industrial status of Tripura as the seller are selling only agricultural allied products and very few customers of low income group are interested to purchase such agricultural and hand made products where the traders of neighboring country sell branded products of their country to the customers of different income level.

Host Customers vs Sellers of Border Country

"*Simanta Haat* could have been closed, if we close our shed"- Bangladeshi Traders.

Maximum sales in a day by a Bangladeshi seller(Exhibit II) varies between INR10,000 to INR12, 000 and the range is INR2,000 to INR3,000 in case of host country sellers. However, the members of the Indian administration differed in the recorded transaction volume and rather opined that the volume of transaction by Indian sellers is much higher to tune of INR40,000 to INR75,000 depending on the products. Total sheds (Stall) in the

market is 120 on 50:50 sharing basis between India and Bangladesh. The customers of Bangladesh like to purchase goods from their own vendors as there is no branded product of Indians.

The model may sustain and traders of host country will be benefitted if trade surplus of a state is allocated in this market besides the sellers have to face loss and it will be more challenging if domestic product is not enough to fulfill the need of domestic consumption (Krugman, 1980) which is called home market effect on border *haat*. Low turnover adding entrepreneurial depression and end of effort will be the consequence of native sellers.

High Demand vs Low Supply

Common articles with high demand are available in the border *haat* and were having tough competition in case of low supply. Fish like *hilsa*, prawn, etc., are always in the list of high demand, high cost and supply is low but available in the market and acceptable to the customers in any circumstances. Single article which is costly but supply is low cannot fulfill local demand causes insecurity in business. Such product has to be cultivated to fulfill domestic consumption and surplus to be supplied to the border market.

Low Demand vs Surplus Supply

Any product that competes in the open market basically depends on best quality and low cost compared to the other similar products. Agriculture and handicraft products which are available in the home market of both countries always face acute problem in the border market which does not give good sign to the economy of an area. Vendors of host country like India depend on such agriculture product and inferior quality handicraft products where supply is surplus and the demand is low. Rice, cereals and sugar is not permitted in this market. These three products are now being traded illegally in the border.

Legal vs Illegal Border Trade

It may be expected that illegal trade, mainly rice, sugar, cereals and narcotic items, which is going on in these border market have occupied a good percentage of total business of this area making future barrier to the legal traders. Such illegal business may be started by the vendors through legal process with the help of this border market or *simanta haat*. Almost 1/3rd stalls are vacant and traders stopped their business due to illegal trade, less quantity goods, selling condition of sellers and restriction on consumers purchase (a maximum of INR5,000 in a day).

Illegal border trade takes advantage of restrictions, low transaction and transportation cost and it is far higher in volume than the legal trade. Legal trade elucidates the budding place for economic activity in the border regions to engender self-sustenance which is superficially linked to both countries. The central government intends to propagate the idea of introducing such regulated weekly markets to facilitate border trade in all North-Eastern states bordering neighboring countries and success of which largely depends on Tripura's *Simanta Haats*.

Strategic Imperatives

Director General of Foreign Trade issued an extraordinary gazette on November 7th 2014 outlining the items and their types that could be sold in these markets. Centre's North-East policy was also quite commendable in understanding the need of people residing in the border towns of a state whose 85% border area is shared with Bangladesh. The gazette supports small-time traders to prosper and at the same time restricts bulk trading thus clearly distinguishing between informal and formal trade. However the ground realities are far from envisaged. These weekly border markets were planned to provide economic prosperity to the people residing within 5 km radius of both sides to provide an opportunity to sell local produce in these markets. The local administration claims that by facilitating sale of local produce like pineapple, jackfruits in these markets there is a significant drop in smuggling of these items. The three stage vigilance system by

District Police & BSF, Customs Department and Civil Administration ensures sale of legitimate products. From India, sellers and buyer ratio is much higher than Bangladesh. Average sale done by the Indian sellers are 80%-85% of permissible stock of items worth INR25,000–INR100,000 whereas the same is between 10%-15% for the Bangladeshi sellers. Indian cosmetics, plastic materials, and fruits are in great demand across the border whereas Indian buyers look for *Jamdani Saree*, a speciality of Bangladeshi weaving craft. The other products like confectionary items, dry fish are already available in local markets hence it works as a discouragement to the Bangladeshi sellers. On any given Sunday, the average footfall of Bangladeshi visitors ranges from 1,500–2,000 whereas maximum 500 Indian visitors could visit the market in a day. The entire market is run by a market management committee where the members come from local police and civil administration of both sides. A detailed discussion with the local administration of both sides revealed that the Indian sellers are doing a steady business which is increasing in trade volume even in some cases bulk purchases have been observed which is feeding the retail supply chain in the neighboring districts of Bangladesh.

The above instances identify with the fact these border markets have the potential to address the livelihood issues of the people living in border villages for which we may have find answers to some critical questions.

Assignment Questions

- I. Discuss the opportunities for the Home trades and possibilities of their sustainable benefit in the longer run under existing conditions.
- II. Discuss the strategic importance of these Border Markets and explain whether they are a sincere effort from the Government to uplift rural livelihood or a ploy to get political mileage.

Exhibit I: Tripura

Tripura

| Sl. No. | Border Haat | District in India | Location in Bangladesh | Status |
|---------|-------------------------|-------------------|--------------------------------------|--|
| 1. | Kamalasagar | West Tripura | Not provided by the State Government | Was informed informally that decision on Tripura Haats will be subsequent to the completion of agreement w.r.t. Meghalaya Haats. |
| 2. | Boxanagar | | | |
| 3. | Bamutia | | | |
| 4. | Srinagar | South Tripura | | |
| 5. | Ekimpur | | | |
| 6. | Pal Basti (Raghna) | North Tripura | | |
| 7. | Hiracherra (Kailasahar) | | | |
| 8. | Kamalpur | Dhalai | | |

Source: Mr. L.K. Gupta, Commissioner-cum-Secretary (Industries & Commerce), Government of Tripura's DO letter No.D1/FT/1(2)2001/P-1/dates 24.10.2002 addressed to Joint Secretary (BM), MHA

Exhibit II: Photographs of Tarapur-Kamlasagar Border Haat



A Bangladeshi vendor shares his challenges with the author



Dry fish is a popular product sold in the market

Contd...



Hanging Dry fish



A Vendor Identity card of Bangladesh



A Bangladeshi cloth seller shares his problems with the author



Jamdani Saree Bazar



Waiting for Customers



A dry fish seller



Bangladeshi plastic materials



Indian stalls observe higher footfall



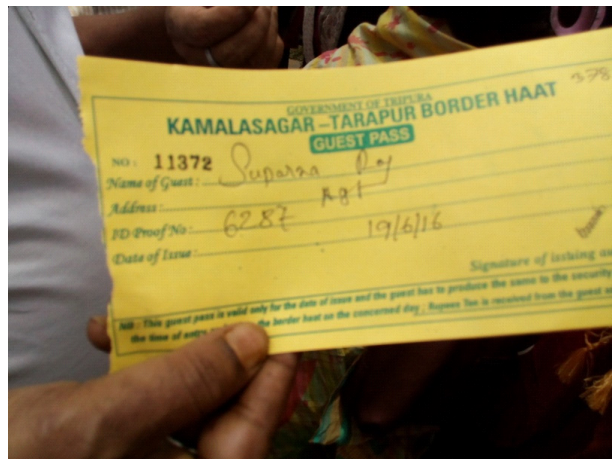
Indian jackfruit is a hit in Bangladesh



Indian fruits sold in the market



Long cue of Indian visitors awaiting Guest Pass to enter the market



A Sample Guest Pass

Declaration: The authors hereby declare that the images enclosed with this case are originally obtained by the researchers and due to high security reasons permission to obtain other documents and exhibits could not be procured from the authorities

Source: Photographed by the authors

References

- Ahsan N (2015), "Hilsa Export: New Export policy relaxes ban", NewAge. Downloaded from newagebd.net/158327/hilsa-export-new-export-policy-relaxes-ban/ and accessed on 15/6/16
- Anderson J. E. and E. van Wincoop (2003), "Gravity with Gravitas: A Solution to the Border Puzzle", *American Economic Review*, 93(1): 170-192
- Asian Development Bank (2006), "Asian Development Outlook", Manila, Philippines
- Bhattacharya Rahul (2005), "Trade Settlement Issues and Introduction of Letter of Credit for Promotion of Indo-Myanmar Border Trade", in Gurudas Das, N.Bijoy Singh and C.J. Thomas (Eds), Arkansha Publishing House, Delhi. pp. 228- 245
- Chakraborty Atri (2000), "Prospects of Border Trade in Power in the North Eastern Region", in Gurudas Das and R.K Purkayastha, (Eds.), *Border Trade North-East India and Neighbouring Countries*, Arkansha Publishing House, Delhi. pp. 143-148
- Chen N. (2004), "Intra-national versus international trade in the European Union: why do national borders matter?", *Journal of International Economics*, 63: 93-118
- Eastern Sky Media (2015), "First Border Haat Of Tripura On IndoBangla Border; More Being Planned". Downloaded from <http://easternskymedia.co.in/firstborderhaatoftripuraonindobanglabordermorebeingplanned/>. Accessed on 1st October 2015
- Economic Times (2015), "Border haat along Tripura Bangladesh border to be inaugurated on Tuesday". Downloaded from http://articles.economictimes.indiatimes.com/20150112/news/57983193_1_borderhaatfirstbordertripuraindustrialdevelopmentcorporation. Accessed on 30 April 2016
- Evans C. L. (2003), "The Economic Significance of National Border Effects", *American Economic Review*, 93(4): 1291-1312
- FAO (1996). Domestication and commercialization of NTFPs in agroforestry systems: Proceedings of an international conference held in Nairobi, Kenya.
- Government of India (1995), "Export and Import Policy, 1992-97", Director General Foreign Trade (DGFT), Ministry of Commerce, Delhi
- Government of India (2001), "Census of India 2001", Office of the Registrar General of India
- Government of India (2004), "Report", Office of the Commissioner of Customs (Preventive), Northeast Region, Shillong
- Government of India (2007), "Export Import Data Bank Country-Wise", Director General of Commerce Intelligence & Services, Ministry of Commerce & Industry. Kolkatta
- Indian Institute of Foreign Trade (IIFT), (1995), "Study of Promotion of Border Trade between India and Myanmar", New Delhi
- Islam Nurul (2004), "Indo-Bangladesh Economic Relations: Some Thoughts", *Economic and Political Weekly*, September 4, pp. 4069-4075
- Kenny, R. (1984). Making the Case for the Case Study. *Journal of Curriculum Studies*, 16, (1), 37-51
- Knirk, F. (1991). Case Materials: Research and Practice. *Performance Improvement Quarterly*, 4(1), 73-81
- Krugman P. (1980), "Scale Economies, Product Differentiation, and the Pattern of Trade", *American Economic Review*, 70: 950-59
- Kuppuswamy, C.S (2006), "India's Look-East Policy: More Aggressive, Better Dividends", South Asia Analysis Group, Paper No. 1663, March, 2006

- Muzvidziwa V (2005). *Women without Borders: Informal Cross Border Trade among Women in the Southern African Development Community Region (SADC)*. Organisation for Social Science Research in Eastern and Southern Africa (OSSREA) p.31
- Ottaviano G. I. P. and J. F. Thisse (2004), "Agglomeration and Economic Geography", in *Handbook of Regional and Urban Economics*
- Ruud P. A. (1986), "Consistent Estimation of Limited Dependent Variable Models Despite Misspecification of Distribution", *Journal of Econometrics*, 32: 157–187
- Will Martin (2003), "Developing Countries' Changing Participation in World Trade". *The World Bank Research Observer* 18 (2): 187-203

Influence of Family and Social Media on the consumer decision making of high involvement products

Ms. Mahasweta Das Saha¹ and Dr. Sangeeta Sahney²

¹ Assistant Professor, Deptt. Of Business Management, Tripura University, Suryamaninagar, Tripura West, Agartala, Tripura 799022, & Research Scholar, Vinod Gupta School of Management (VGSOM), IIT Kharagpur
Phone: +91-9612526229/ 0322-283866

Email: mahasweta_saha@tripurauniv.in / sahney@vgsom.iitkgp.ernet.in

² Associate Professor, Vinod Gupta School of Management (VGSOM), IIT Kharagpur, Kharagpur, West Bengal 721302

Introduction

The desired goal of any business should be to maximize consumers. According to Ward (1974) "consumer socialization refers to the process, by which individual consumers learn skills, knowledge, and attitudes from others through communication, which then assist them in functioning as consumers in the marketplace". Moschis and Moore (1979) state that "socialization agent may refer to a person or organization directly involved in socialization that have great influence because of their frequency of contact, primacy, and control over rewards and punishments given to the individual". Further, Moschis and Churchill (1978) have identified parents, teachers, peers and media as important socialization agents. According to different studies, it has been found that the influence of parents decreases with adolescence (Koester and May, 1985) but teens do consult their parents while purchasing clothing (Koester and May, 1985; Frances and Bums, 1992; Mascarenhas and Higby, 1993). However, Bearden and Randall (1990) have found that during making purchase decisions, adolescents tend to consult peer groups significantly. It is clearly evident that there is a contradiction between the choices of selection of socialization agents by adolescents. Further, Moschis (1985) has discussed that the "effects of family communication on the development of decision-making patterns appear to vary across stages of the decision-making process and type of product. A cross-sectional study of the development of adolescents' decision-making patterns suggested that parental influence may vary by stage of the decision-making process, with greater likelihood of influence at the information-seeking stage than at the product-evaluation stage (Moschis and Moore 1979a).



| | | |
|-------------------|---|-----|
| CHAPTER 8 | Awareness, Usage and Attitude of consumers towards Over-The-Counter Digestive Remedies: An Exploratory Study <i>Dr. Vijay Bhangale</i> | 76 |
| CHAPTER 9 | Resolving goal conflict through licensing and compensating behaviour: An Integrated Conceptual Model <i>Gurbir Singh and Himanshu Shekhar Srivastava</i> | 82 |
| CHAPTER 10 | Exploring consumer trust towards organic food products in the context of emerging markets <i>Hamida Skandrani, Kooli Kaouther</i> | 89 |
| CHAPTER 11 | Cart Vs E-Cart: A Study on the Influencing role of Retail Service Quality on Customer Satisfaction in emerging Indian Food and Grocery Multi Channel Retailing <i>Dr.M. SivaKoti Reddy, Dr.M.Kishore Babu, Mr.M.Naga Bhaskar, and Dr.Sheela Srivastava</i> | 95 |
| CHAPTER 12 | Young Consumers buying behavior towards Clothing <i>Suchita Jha</i> | 101 |
| CHAPTER 13 | Clustering green customers for creating a movement towards sustainability <i>Mahamaya Mohanty, Prof. Ravi Shankar</i> | 107 |
| CHAPTER 14 | Influence of Family and Social Media on the consumer decision making of high involvement products <i>Ms. Mahasweta Das Saha, Dr. Sangeeta Sahney</i> | 112 |



ISBN: 978-81-928560-2-5

First Edition: New Delhi, 2017

Copyright © 2017, IIM Lucknow

All Rights Reserved

Published by

IIM LUCKNOW

Noida Campus

Professional Consultancy by

B.T. Printer

284/ 2, Mehrauli, New Delhi-110 030

ajaysharma1info@gmail.com





CMEE

Centre for Marketing
in Emerging Economies

REACHING CONSUMERS OF EMERGING MARKETS

Proceedings of the 2017 Annual Conference of the
Emerging Markets Conference Board January 5–7, 2017

Edited by:

PROF. SATYABHUSAN DASH

PROF. ANITA GOYAL

PROF. DEVASHISH DAS GUPTA

PROF. KRITI BARDHAN GUPTA



Shot on Y83 Pro
vivo dual camera



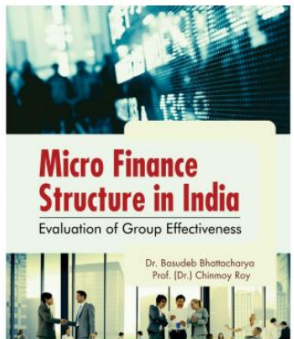
AKHAND PUBLISHING HOUSE
Publisher, Distributor, Exporter having an Online Bookstore

Search entire store here ...

Wish List (0)
My Compare

MY CART
0.00

Home | Micro Finance Structure In India : Evaluation Of Group Effectiveness



Micro Finance Structure in India : Evaluation of Group Effectiveness

₹640 ₹800

DETAILS

| | |
|---------------|---|
| AUTHOR'S NAME | DR. BASUDEB BHATTACHARYA, PROF. (DR.) CHINMOY ROY |
| ISBN | 978-81-8435-597-0 |

The mystic mountain-an anthology of tripura bangla poetry
in english by ashes gupta
translated compiled and edited by ashes gupta

© Author and Publisher

ISBN No - 978-93-84079-50-5

First edition : January 2017

Cover Design : Ashes Gupta

Type Setting & Printing : Caxton Printers, J. B. Road, Agartala, Tripura

Published by Subhabrata Deb from Akshar Publications,
Jagannath Bari Raod, Agartala, Tripura &
29/3, Sree Gopal Mallick Lane, Kolkata-700 012



Sales Centre at Agartala: 'Boighar' & Akshar Sales Counter,
J. B. Road, Agartala, Tripura- 799 001

Kolkata Centre : 29/3, Shree Gopal Mallick Lane, Kolkata- 700 012

Delhi Centre : 12/D, New Simapuri, New Delhi- 110 095

For Communication

Akshar Publications, 'Sanjib Villa', Jagannath Bari Road,
Agartala, Tripura-799 001

email : jraksharpub@gmail.com

visit us : www.aksharagartala.com

**Communication : (0381)-230-7500/232-4500/
9774339932/ 9436121109**

Price : Rs. 300.00

MUYA

Shoots of Imagination

Compiled & Edited

Somdev Banik



MUYA: Shoots of Imagination

Compiled & Edited by : Somdev Banik

Copyright: Somdev Banik

Copying of any content of this book in any format is strictly prohibited. Denial of this condition is punishable.

ISBN : 978-93-86781-04-8

1st Print September, 2017

Published by : Tirthankar Das

Niharika (A publication wing of Banya Creative Suite)

Shyamali Bipani Bitan, Shyamali Bazar,
Kunjaban, Agartala, Tripura (W), Pin-799006.
9436486400, www.niharikapublishers.com

niharikapublishers@gmail.com
[facebook/niharikapublishers](https://www.facebook.com/niharikapublishers)

Cover : Rupak Dey

Print : B-print, Agartala

Price Rs. 220/-, Tk. 350/- \$ 15

Contents

| | |
|--|----------------|
| Introduction | 7 |
| Myths and Legends | (13-45) |
| Metaphysical Healing: The Ancient Mutayatai Techniques of the Debbarmas | 13 |
| Songs and Dances of Jhum Cultivation | 22 |
| Myth of the Fourteen Gods of Chaturdas Devata Bari | 25 |
| The Para Matai Worship: The Ritual and the Myth Behind | 29 |
| The Worship of Karmapurusha | 34 |
| The Death Rites of Darlong Community | 38 |
| Recollecting the Past | (45-77) |
| Displaced | 45 |
| In Search of Lost Stories : A Journey Back to Past | 61 |
| The Hidden History of a Village | 67 |
| Futility of Militant Nationalism | 72 |

MAPPING THE PARTICULARLY VULNERABLE TRIBAL GROUP IN TRIPURA



LINCOLN REANG



TRIBAL RESEARCH & CULTURAL INSTITUTE
GOVERNMENT OF TRIPURA

**TRIBAL RESEARCH AND CULTURAL INSTITUTE
GOVERNMENT OF TRIPURA, AGARTALA**

Phone : 0381 2324389

e-mail : dir.trci-tr@gov.in, web : www.trci.tripura.gov.in

*Mapping the Particularly Vulnerable
Tribal Group In Tripura*

© Tribal Research & Cultural Institute

Government of Tripura, Agartala

First Published 2017

ISBN : 978-93-86707-16-1

Cover Design : Pushpal Deb

Type & Setting : Dhruba Debnath

Price : Rs. 240/-

Printed by :

New Quick Print, 11 Jagannathbari Road, Agartala.

Ph : 9436129362 e-mail : newquickprint573@gmail.com

TABLE OF CONTENTS

| <u>Contents</u> | <u>Page No.</u> |
|---|-----------------|
| Preface | i |
| Message | iii |
| Foreword | v |
| Acknowledgement | vii |
| From the Director's Desk | ix |
| List of Abbreviations | xi |
| List of Table | xii |
| List of Maps & Annexure | xiii |
| Executive Summary | xiv |
| Bibliography | 107 |
| 1. INTRODUCTION | 1 |
| 1.1 Hypothesis | 10 |
| 1.2 Brief profile of the Reang Community | 11 |
| 1.3 Nomenclature | 11 |
| 1.4 Origin and Migration | 12 |
| 1.5 Social Structure | 15 |
| 1.5.1 Family and Kinship | 16 |
| 1.5.2 Marriage | 18 |
| 1.6 Religion and Reang Society | 19 |
| 1.7 Cultural Spectrum | 23 |
| 1.7.1 Dress and Ornaments | 23 |
| 1.7.2 Folk Songs, Music and Dance | 24 |
| 1.7.3 <i>Boisu</i> | 25 |
| 1.7.4 <i>Tao Toi Khangmo</i> | 27 |
| 1.7.5 <i>Hodaigri</i> | 27 |
| 2. OBJECTIVES, DATA BASE AND METHODOLOGY | 33 |
| 2.1 Objectives of the Study | 33 |
| 2.2 Methodology | 33 |
| 2.3 Coverage and Sample Frame | 35 |
| 2.4 Expected Output | 35 |
| 2.5 Limitations | 36 |

| | |
|--|-----------|
| 3. SALIENT ECONOMIC BACKGROUND/ PROFILE OF THE REANGS | 37 |
| 3.1 Salient economic profile of the Reang family's | 37 |
| 3.2 Economy of the Reang Community | 38 |
| 3.3 Government Initiatives | 44 |
| 4. RESULT & DISCUSSION | 49 |
| 4.1 Economic Composition | 49 |
| 4.2 Family wise Religion Status | 52 |
| 4.3 Age Group wise Sex Ratio | 55 |
| 4.4 Age Distribution | 57 |
| 4.5 Major Occupation | 58 |
| 4.6 Education Profile (6-14) | 60 |
| 4.7 Educational Status | 61 |
| 4.8 Status of Electricity | 66 |
| 4.9 Status of Financial Inclusion | 68 |
| 4.10 Loan Habit Scenario | 69 |
| 4.11 Cyber and Telecommunication Status | 72 |
| 4.12 IAY and RSVY Beneficiary in the RD Blocks | 74 |
| 4.13 Beneficiary under MGNREGA | 77 |
| 4.14 FRA Distribution Status | 79 |
| 4.15 People involved with SHGs | 81 |
| 4.16 Social Assistance Scenario | 83 |
| 4.17 Natural Resource (Pond) in the Village-Water Bodies | 85 |
| 4.18 Family involved with Rubber Plantation | 86 |
| 4.19 Information of Livestock | 89 |
| 4.20 Major Health Problem | 91 |
| 4.21 Assets Availability | 95 |
| 5. SUMMARY AND SUGGESTION | 99 |
| 5.1 Important Observations from the Study | 99 |
| 5.2 Specific Suggestions/Recommendations | 104 |
| 5.2.1 Availability of Raw Material at Reasonable Rates | 104 |
| 5.2.2 Provision for Special Fund | 104 |
| 5.2.3 Infrastructural Development | 104 |
| 5.2.4 Developing Educational Facilities | 104 |
| 5.2.5 Health Care | 104 |
| 5.2.6 Reang Tourism | 105 |

In-vitro Wound Healing Activity of *Parkia javanica* on Human Keratinocyte (HaCat) Cell Line

Susmita Saha¹, Manikarna Dinda², Parimal karmakar² and Samir Kumar Sil^{1*}

¹Molecular Genetics and Cell Physiology Lab, Department of Human Physiology, Tripura University, Suryamaninagar, Tripura-799022, India.

²Department of Life Science and Biotechnology, Jadavpur University, 188, Raja S. C. Mallick Road, Kolkata, West Bengal-700032, India.

Corresponding author: s_k_sil@yahoo.com

Summary *Parkia javanica*, a medicinal plant, of North-East India, was screened for *in-vitro* wound healing activity using HaCat, human keratinocyte cell line. Fresh stem barks of *Parkia javanica* was collected and crude methanol extract (MEPJ) was prepared using Hahnshin rotary evaporator. The cell proliferation and wound healing activity were evaluated by MTT assay and scratch assay respectively. In dose kinetics study, optimum dose of MEPJ for proliferation was found to be 20µg/ml, with 40% increase compared to that of control. In time kinetics study, maximum proliferation was observed at 48 Hours. In scratch assay, at the dose of 20µg/ml, increase in wound closure was recorded in MEPJ treatment than that of control and the time dependent activity measured at different period of intervals has been analysed as well.

Key words: *Parkia javanica*, Human keratinocyte (HaCat) cell line, MTT assay, Scratch assay

Northeastern region of India, is rich in biodiversity with vast resource of medicinal plants (Deb 1983, Das *et al.* 2009, Roy *et al.* 2010). *Parkia javanica*, a large tree, growing to a height of 25 – 40 meters, has been found in traditional use as food and ethnomedicine in North-East India. The tribal people of Tripura (Tripuri and Reang) use *P. javanica* extract to cure stomach ache and cholera (Majumder *et al.*, 2009) wounds, scabies, diarrhoea, dysentery and food poisoning (Bharadwaj and Gakhar, 2005, Sinha, 1996). Although, the tribal people of North- East India use *P. javanica* plant for treating wounds, there is no data on scientific basis to prove its wound healing properties.

Keratinocytes, a major cellular component of the epidermis, are responsible for restoring the epidermis after injury through a process termed epithelialisation. In response to disruption of the barrier, keratinocytes release prestored interleukin 1 (IL-1), which acts



BLUE ROAN PUBLISHING

An independent Publishing Firm
Blue Roan Publishing House LLP
Chandranagar, Paldi,
Ahmedabad, Gujarat – 380 007

Copyright © Blue Roan Publishing House 2017

All rights reserved

Book Cover Design © Blue Roan Publishing House
First Edition, 2017 © Blue Roan Publishing House

No part of this publication may be reproduced, transmitted, or stored in a retrieval system, in any form or by any means, without permission in writing from Blue Roan Publishing House.

For permission contact: bluroanpublishing@gmail.com

For suggestions or reviews contact: bhaveshsharmagnu@gmail.com

ISBN: 978-81-934041-3-3

Disclaimer: The opinions expressed in our published works are those of the author(s) and do not reflect the opinions of Blue Roan Publishing House.

18. **Reinvigorating SAARC: India's Policy Options for Prosperity and Security**

Dr. Anju Lis Kurian

204

19. **The Changing Contours of Sino-Indian Relations: Revisiting Perceptions**

Dr. Debasis Nandy

212

20. **Indian Foreign Policy and Danger Signal of Pakistan and China**

Ankur Sarkar

228

About the Contributors



**SHARMA
S HSEVAHB
RODITE**

**Y
NGIEROF
S, AINDNI
NO SAYSSE**



Phonological Processes in Vaiphei

Khawlsoukim Suantak

1. INTRODUCTION

This paper attempts to discuss the various types of phonological alternation in Vaiphei- a Kuki-Chin group of Tibeto-Burman family. The language has phonologically conditioned changes in some segments. The most common phonological process in the language is assimilation, where two segments become more alike by having one segment take on values for one or more features from a neighboring segment. To some degree, it depends upon the speaker as well. In careful speech, some changes may not take place (e.g., assimilation); where as in narrations changes are much more common.

Majority of the Vaiphei speakers are found in the state of Manipur although they are also found in the neighboring states of Assam, Mizoram, Meghalaya and Nagaland. Like other languages, Vaiphei also has phonologically conditioned changes in some segments. These changes can be seen most completely in compound words. The most common phonological process in the language is assimilation, where two segments become more alike by having one segment take on values for one or more features from a neighboring segment. To some degree, it depends upon the speaker as well. In careful speech, some changes may not take place (e.g., assimilation); where as in narrations changes are much more common. The phonological processes found in Vaiphei are described in the next section along with the demographic and educational status of the language.

The Kannada Grammatical Tradition

Edited by
Basavaraja Kodagunti



DRAVIDIAN UNIVERSITY
SRINIVASAVANAM, KUPPAM - 517 426

The Kannada Grammatical Tradition

Edited by

Dr. Basavaraja Kodagunt

Assistant Professor

Dept. of Kannada

Central University of Karnataka

Gulbarga - 585106

Karnataka

© Dravidian University

First Edition: 2017

Publication No: 267

No. of Pages: viii + 108

Price: Rs. 80/-



Published by

Director

Centre for Publications

Dravidian University

Kuppam - 517426

For Copies

The Registrar

Dravidian University

Kuppam - 517426

ISBN: 978-93-81112-83-0

Printed at

M/s Vijayavani Printers

Chowdepalle - 517257

Phone: 08581-256234

Contents

| | |
|--|------------|
| Foreword | iii |
| Editor's Note | v |
| Need and Space for Research on the Grammatical Tradition of Kannada | 1 |
| <i>Basavaraja Kodagunti</i> | |
| Indian Grammatical Tradition | 7 |
| <i>Anantanarayana H.S.</i> | |
| Grammars of Non-Literary Dravidian Languages: A Short Survey | 25 |
| <i>B. Ramakrishna Ready</i> | |
| Traditional Grammars of Kannada | 58 |
| <i>P. Srikrishna Bhat</i> | |
| Bhaṭṭakalanka and His Grammar | 67 |
| <i>Uppangala Ramabatta</i> | |
| Karaka Vibhakti and Vibhakti Pratyaya | 74 |
| <i>Srinivasa Murty</i> | |
| A Note Concerning the Grammatical Tradition and Historiography of Dravidian Linguistics | 85 |
| <i>P. Sreekumar</i> | |
| Locative Nouns in Kannada | 100 |
| <i>Niranjan Uppoor</i> | |
| List of Contributors | 106 |

Locative Nouns in Kannada

Niranjan Uppoor

The present paper examines some morphosyntactic properties of Kannada words which are traditionally treated as adverbs and postpositions. We show that these words form a sub class of nouns owing to their declining features. An appendix of such words is provided at the end of the paper.

Kannada is a south Dravidian language spoken chiefly in the state of Karnataka and a minor language in many other states of India and across the world. Kannada exhibits overt morphological inflections which are, in many cases, regular. The language is agglutinating in nature, i.e. a word can be divided into a series of segments and each segment (morpheme) carries a distinct meaning in it.

In Kannada, words like *alli* 'there', *nāḷe* 'tomorrow' show some morphosyntactic properties which are similar to that of nouns, i.e they are declinable and come with suffixes that nouns bear as shown in (1) and (2).

(1) *rāju allige hoda*

Raju-NOM there-DAT go.PST.3MS

'Raju went there'

(2) *Tippu nāḷeyinda kelasakke baru vudilla*

Tippu-NOM tomorrow-ABL work-DAT come.NMZL.NEG

'Tippu would not come for work from tomorrow onwards'

In (1), *allige* 'to there' is analyzed as *alli* 'there' + *ge* 'dative case'. *alli* also takes other case markers (genitive *a*, ablative *inda*) as in *allina* (*alli* there + *a* genitive), *allinda* (*alli* there + *inda* ablative) and postpositions as in *allinavarege* 'till there'. In (2), *naaḷeyinda* 'from tomorrow' is analyzed as *nāḷe* 'tomorrow' + *inda* 'ablative case'. Other forms of *nāḷe* include *nāḷeya*

'tomorrow's', *nālege* 'to tomorrow', *nāleyavarege* 'till tomorrow'. On the other hand, unlike nouns, they cannot be modified by adjectives as shown in (3) and (4).

(3) **dodḍa alli*
big there
'big there'

(4) *dodḍa angaḷa*
big front-yard
'big front-yard'

In (3), *alli* 'there' cannot be modified by any adjective as against (4) where *angaḷa* 'front-yard' is modified by the adjective *dodḍa* 'big'.

Kannada grammars analyze such words as adverbs and postpositions owing to their meanings and syntactic functions corresponding to English adverbs and prepositions. Deviating from this conventional treatment, Spencer (1950) brings forth the morphological inflections that they bear and calls them 'indeclinables whose form declines' and exemplifies with some expressions. Analogous to this observation, Sridhar (1990) observes that 'postpositions form a semi-closed class of elements' considering the declining properties of words functioning as postpositions at syntactic level. These two observations are a deviation from the traditional perspective. The present paper attempts an examination of these words which is similar to these two observations. To analyze these words, we take a lead from the category Locative Noun developed by the ILILMT team at CALTS, University of Hyderabad, which traces its origin to the concept 'Adverbial Noun' put forward by Bh. Krishnamurti. Krishnamurthi and Gwyn (1985) comment that Telugu expressions corresponding to English adverbs of place and time are adverbial nouns. Both these terms (Adverbial/ Locative) refer to words that denote space and time. These words form a sub-class of noun category (declinables) rather than belonging to the categories of adverb and postposition (indeclinables) at the level of morphology as they are overtly realized with suffixes. We adopt this framework of analysis and analyze the words under study. These words are regularly expressed with overt case suffixes as shown from examples (5) to (9).

(5) *avanu-ø mēlin-a maney-alli iruttane*
 he-NOM on-POSS house-LOC be-FUT
 'He stays in the upper house'

(6) *nālin-a vishaya ēnu?*
 tomorrow-POSS topic what?
 'What is tomorrow's topic?'

In (5) and (6), *mele* and *naale* are in possessive form (*mēlina* and *nālina* respectively). In (5), *mele* has enough semantic meaning of 'an upper portion of a given space' (a location) to function as the possessor of the house giving the meaning 'the house that belongs to the upper portion (of a given space)'.

(7) *manjulā-ø udupiy-inda illi-ge bandaḷu*
 Manjulā-NOM Udupi-ABL here-DAT come-PST
 'Manjula came here from Udupi'

In (7), *illi* is in dative case (*illige*) denoting a goal.

(8) *nānu-ø all-inda mane-ge hōde*
 i-NOM there-ABL house-DAT go-PST
 'I went home from there'

(9) *rāju-ø nāle-inda shāle-ge hōguttāne*
 Raju-NOM tomorrow-ABL school-DAT go-FUT
 'Raju will go to school from tomorrow onwards'

In (8), *alli* 'there' is realized with ablative case marker denoting the point of origin (space) of the movement. In (9), *nāle* 'tomorrow' is marked for ablative case denoting the point of origin (time) of the action.

(10) *nann-a mane-ø alli ide*
 I-POSS house-NOM there-? Be-PRE
 'My house is there'

(11) *gītha-ø nāle baruttāle*
 Geetha-NOM naale-? Come-FUT
 'Geehta will come tomorrow'

These words also appear without any overt suffixes as shown in (10) and (11). Deictic expressions *alli*, *illi*, *nāḷe*, *ivattu* can appear without any overt suffixes. In such cases they function as adjuncts providing a temporal or spatial background for events.

- (12) *pustaka-ø* *mējin-a* *mēle* *ide*
 book-NOM table-POSS on-PSP be-PRE
 'The book is on the table'

Whenever these words take overt complements, they behave like postpositions as shown in (12). Here, *mēle* 'above' takes the overt complement *mēju* 'table' functioning as a postposition.

In examples from (5) to (9), these words exhibit nominal properties. Sentences from (10) to (11) capture the syntactic properties of these words. *alli* in (10) and *nāḷe* in (11) act as verbal modifiers whereas *mēle* 'on' in (12) acts as a postposition.

We conclude that it is possible to treat these words as a sub category of nouns especially considering their ability to form oblique stems. Their functions as adverbs and postpositions are at syntactic level. Further, studies have shown that closed-class words like case-markers and postpositions develop from open-class word like verbs and nouns. The words (*mēle* 'on' of example (12) and words like *hattira* 'near', *pakka* 'side', *munde* 'front', *hinde* 'back', *kelage* 'down' of appendix) under study here present another evidence where nouns denoting space function as postpositions.

References:

- Krishnamurti, B H & Gwyn, J P L. (1985). *A Grammar of Modern Telugu*. OUP, Delhi
- Rao G U. (2002). *A Computational Grammar of Telugu*. (mimeo). University of Hyderabad, Hyderabad.
- Spencer, H .(1950). *A Grammar of Kannada*. Basel Mission, Mangalore.
- Sridhar, S N .(1990). *Kannada*. Routledge, London

| Time | Meaning | Oblique form | Ablative | Dative | Locative e.g.: Until | Post positions |
|---------|--------------------------|--------------|--------------|-----------|-------------------------|------------------|
| ninne | <i>Yesterday</i> | <i>a</i> | <i>inda</i> | <i>ge</i> | <i>alli</i> | <i>varege</i> |
| nāle | <i>Tomorrow</i> | ninneya | ninneya | ninnege | | ninneya varege |
| ivattu | <i>Today</i> | nāleya | nāleyinda | nālege | | nāleya varege |
| yāvattu | <i>When</i> | ivattina | ivattininda | ivattige | | ivattina varege |
| modalu | <i>First</i> | yāvattina | yāvattininda | yāvattige | | yāvattina varege |
| kae | <i>Last</i> | modalina | modalininda | modalige | | |
| āga | <i>Then</i> | kaeya | kaeyinda | kaege | kadeyalli | kadeya varege |
| īga | <i>Now</i> | āgina | āgininda | | | |
| yāvāga | <i>When</i> | īgina | īgininda | | | |
| nantara | <i>Later</i> | yāvāgina | yāvāgininda | | | |
| monne | <i>Day before</i> | nantarada | | | | |
| | <i>yesterday</i> | monneya | monneyinda | monnege | | monnina varege |
| āmēle | <i>After (something)</i> | | āmelina | āmelinda | | |

| Space | Meaning | Oblique form | Ablative | Dative | Locative | Post positions e.g.: Until |
|---------|----------------|--------------|--------------|-------------|---------------|-------------------------------|
| | <i>a</i> | <i>inda</i> | <i>ge</i> | <i>alli</i> | <i>varege</i> | |
| alli | <i>There</i> | allina | allinda | allige | | alliyavarege |
| illi | <i>Here</i> | illina | illinda | illige | | illiyavarege |
| elli | <i>Where</i> | ellina | ellinda | ellige | | elliyavarege |
| hattira | <i>Near</i> | hattirada | hattiradinda | hattirakke | hattiradalli | |
| dūra | <i>Far</i> | dūrada | dūradinda | dūrakke | dūradalli | |
| madya | <i>Middle</i> | madyada | madyadinda | madyakke | madyadalli | madyadavarege |
| nauve | <i>Middle</i> | nauvina | nauvininda | nauvige | nauvinalli | nauvinavarege |
| kade | <i>Side</i> | kadeya | kadeyinda | kadege | kadeyalli | kadevarege |
| pakka | <i>Side</i> | pakkada | pakkadinda | | pakkadalli | pakkadavarege |
| munde | <i>Front</i> | mundina | mundininda | mundakke | | mundinavarege |
| hinde | <i>Behind</i> | hindina | hindininda | hindakke | | hindinavarege |
| oḷage | <i>Inside</i> | oḷagina | oḷagininda | | | |
| horage | <i>Outside</i> | horagina | horagininda | | | |
| mēle | <i>Upon</i> | mēlina | mēlininda | mēlakke | | mēlinavarege |
| kelage | <i>Below</i> | kelagina | kelagininda | | | kelaginavarege |

Contributors:**Basavaraja Kodagunti**

Asst. Professor
Dept. of Kannada
Central University of Karnataka
Gulbarga – 585106, Karnataka
bkodagunti@rediffmail.com

Anantanarayana H.S.

206, Brigade Classic
Armugam Circle
Basavana Gudi
Bengaluru
hsanathan@yahoo.com

Ramakrishna Reddy B.

Professor of Linguistics
Flat. 114, Gayatri Towers
Street No. 1, Tarnaka
Secundrabad – 17
brkrin@yahoo.com

Srikrishnabatta P.

Chinmaya Colony
Vidya Nagara
Kasaragod

Uppangala Ramabatta

'Parashara' 8-1-64B
Sudeendra Teerta Marga
Kunjibetta
Udupi - 576102

Srinivasa Murty J.

Lecturer in Sanskrit
Dept. of Sanskrit
M.E.S. College
Malleshwaram,
Bengaluru – 560003
jsreenivasamurthy@gmail.com

Niranjan Uppoor

Research Fellow in Linguistics,
Center for Applied Linguistics and Translation Studies,
University of Hyderabad, Hyderabad.
niranjan_uppoor@yahoo.com

P. Sreekumar

Assistant Professor
Department of Dravidian and Computational Linguistics
Dravidian University
Kuppam, Andhra Pradesh - 517 425
linguafranka@yahoo.com



MANAGING LIBRARY IN ELECTRONIC ERA: Principles and Practice

Editors

Surendra Sethy

Rabindra Kumar Mahapatra



Ess Ess Publications

New Delhi

Advertisement
Ads by Google
Stop seeing this ad Why this ad?

Conference Paper PDF Available

Earthworm Technology - A Tool for Sustainable Agriculture

November 2017

Authors:



Priyasankar Chaudhuri
Tripura University



Narayan Chandra Sarkar
Visva Bharati University

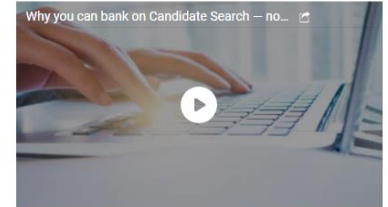
Download citation

Copy link

Citations (3) References (15) Figures (3)

Download full-text PDF
Read full-text

FEATURED VIDEOS Powered by **primis**

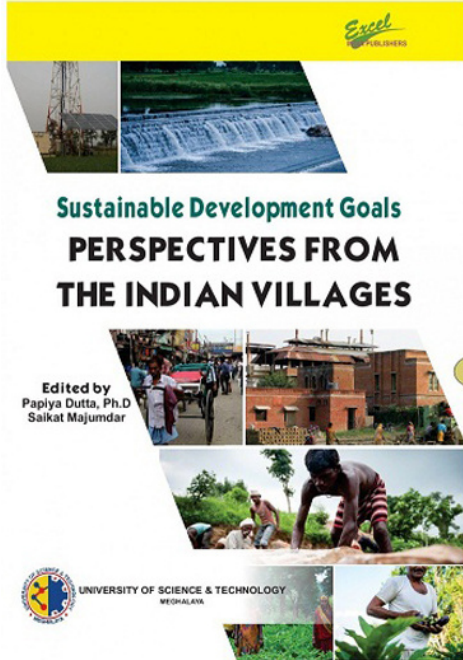


Why you can bank on Candidate Search - now and in the future [Read More](#)

Advertisement

Advertisement
Ads by Google
Stop seeing this ad
Why this ad?

Figures
https://www.researchgate.net/publication/323093661_Earthworm_Technology_-_A_Tool_for_Sustainable_Agriculture#read



Sustainable Development Goals Perspectives from the Indian Villages

Editors : Papiya Dutta and Saikat Majumdar

ISBN Number : 978-93-86724-00-7

Year of Publications : 2017

ENTITY

[Excel India Publishers](#)
[Excel Seminar Solutions](#)
[Excel Printing Universe](#)
[Excel Prepress Services](#)
[Excel Technoassignment India](#)

CHAPTER 8

The Molsom Traditional Religion of Tripura

Bhupesh Debbarma

Religion is one of the most important and outstanding features of human life. It is a universal phenomenon that can be found in all human societies and communities. It is said that *the proper study of mankind is man*. There is no more significant thing in the history of man than his religion. If the study of man is to be complete, it must include the study of religion. Different individuals may have their private opinions or personal attitudes towards religion. From the earliest times it has occupied a central place in life and history. So, I cannot afford to disagree with the words of *Max Muller*, the father of comparative religion, that the *true history of man is the history of religion*. In every community, the institutions of social life grow and develop in their own ways. As time passes, the ways in which the community does so become fixed. The rules which govern social behaviour become the law of the community. In a similar way, every community builds up its own religion, belief system, customs and culture. I would also like to put forward the view point of Comte, stating that 'religion resumes the entire history of human development'.¹

In this paper I intend to focus my attention on the study of traditional religion of Molsom which is one of the tribal communities of Tripura. It is to be noted here that so far no comprehensive study has been done on their traditional religion. Generally, it may be assumed that since Molsom has been recorded as sub - clan of the Halam community, no necessity was felt for comprehensive study on it. As a result it has failed to get the attention of the researchers and academicians. However, one must admit the fact that they also have distinct identity with unique traditions, culture, language, and belief systems. Before further discussions on their culture, traditional religion, rites, customs, and practices, I would like to provide a brief outline of Tripura indicating the land and its people, particularly Molsoms.

ধুবপদ
Dhubrapad
Edited by : Jayanta Roy

প্রকাশক
অধ্যাপক দেবাশিস চ্যাটার্জি
ইউনিক বুকস্ ইন্টারন্যাশনাল
৪৩, বি, বি গাঙ্গুলি স্ট্রিট,
বউবাজার, কলকাতা-৭০০ ০১২
মোঃ ৯৮৩০০১৪৮৮৪

প্রথম প্রকাশ
২২শে শ্রাবণ, ১৪২৩
(ইং ৭ আগস্ট ২০১৬)

দ্বিতীয় সংস্করণ ১১ জ্যৈষ্ঠ, ১৪২৪
(ইং ২৬ মে ২০১৭)

ISBN : 978-81-903618-2-2

প্রচ্ছদ : দীপগোবিন্দ চৌধুরী

মুদ্রক :
সাইবার গ্রাফিক্স
কলকাতা-৩৬

যোগাযোগ ৯৪৩২২৮৭৪৪৪

মূল্য : ৩৫০ টাকা

| | |
|--|---------|
| ভারতীয় রাগ সংগীতের রূপান্তর সমাজতন্ত্র থেকে বিশ্বায়নের পথে কৃষ্ণেন্দু দত্ত | ... ২৩২ |
| মুচ্ছকটিক প্রকরণের বসন্তসেনা : নিন্দীয় শ্রেণির বন্দনীয় প্রতিভা অর্ণব পাত্র, স্বপ্না রায়চৌধুরী | ... ২৩৮ |
| চাঁদ বণিকের পালা : আর্কেটাইপ ও পুরা-বিশ্লেষণের আলোকে রঞ্জিত জানা | ... ২৪২ |
| The Role of Kavigaan in the development of Bengali Songs During the 19th Century Sabitri Jhuri | ... 247 |
| Medicinal value of Indian raga music Bappa Dutta Banik | ... 248 |
| Tusu songs – A Musicological study Debashree Deb | ... 256 |
| The Origin Gharanar & short history Mashid Khani got & baaj Bhabanishankar Dasgupta | ... 263 |



All



ADVANCED SEARCH

Conferences > 2017 International Conference...

Discriminative feature selection for breast abnormality detection and accurate classification of thermograms

Publisher: IEEE

Cite This

Cite This

PDF

Usha Rani Gogoi ; Mrinal Kanti Bhowmik ; Anjan Kumar Ghosh ; Debotosh Bhattacharjee ; Gauta... All Authors

2 Paper Citations

144 Full Text Views

Export to Collabratec

Alerts

Manage Content Alerts

Add to Citation Alerts

More Like This

Asymmetry analysis in breast cancer detection using thermal infrared images Proceedings of the Second Joint 24th Annual Conference and the Annual Fall Meeting of the Biomedical Engineering Society [Engineering in Medicine and Biology Published: 2002

Early Stage Breast Cancer Detection System using GLCM feature extraction and K-Nearest Neighbor (k-NN) on Mammography image 2018 18th International Symposium on Communications and Information Technologies (ISCIT) Published: 2018

Show More

Abstract

Document Sections

- I. Introduction
- II. Database Description
- III. Analysis of Breast Thermograms
- IV. Classification of Breast Thermograms
- V. Conclusion

Downl PDF

Abstract:Infrared breast thermography with the potential of predicting the future risk of developing breast cancer, has been considered as an early breast abnormality detection to... **View more**

Metadata

Abstract: Infrared breast thermography with the potential of predicting the future risk of developing breast cancer, has been considered as an early breast abnormality detection tool. This paper investigates the importance of selecting the discriminative features for improving the classification accuracy of the infrared thermography based breast abnormality detection systems. Mann-Whitney-Wilcoxon statistical test has been used here to select the best discriminative features from a feature set of 24 features, extracted from each breast thermogram of DBT-TU-JU and DMR databases. Three set of features: FStat, STex and SSigFS generated from these 24 extracted features are then fed into six most widely used classifiers for comparing the efficiency of each feature set in breast abnormality detection. The experimental results show that among all three feature sets, statistically significant feature set (SSigFS) provides more accuracy in discriminating the abnormal breast thermograms from the normal.

Published in: 2017 International Conference on Innovations in Electronics, Signal Processing and Communication (IESC)

Authors

Figures

References

Citations

Date of Conference: 6-7 April 2017 **INSPEC Accession Number:** 17262162
Date Added to IEEE Xplore: 19 October 2017 **DOI:** 10.1109/IESPC.2017.8071861
Publisher: IEEE
ISBN Information: **Conference Location:** Shillong, India

Contents

I. Introduction

Detection and diagnosis of breast diseases before the onset of a malignant tumor is the only way to reduce the incidence rate of breast cancer. Infrared breast thermography with the capability of identifying the presence of breast abnormality before the onset of any malignant tumors has been adopted as a breast health monitoring method. It has the potentiality for signifying the future risk of developing breast cancer [1]. With the advancement of infrared thermography and image processing techniques, several research works have been carried out for infrared thermography based early breast abnormality detection. Among various breast abnormality detection methods, analysis of asymmetric thermal patterns in bilateral breasts by using statistical and texture features is found to be the most efficient method for the early breast abnormality detection [2], [3]. In our previous work [3] [4], a survey on statistical and texture feature based asymmetry analysis of the breast thermograms was made. In most of the works, the experimental results showed the effectiveness of different statistical and texture features along with different classifiers in early breast abnormality detection and classification of thermograms. However, sometimes use of redundant features in breast thermogram classification reduces the accuracy of the breast abnormality prediction systems. In this perspective, we emphasize to find the necessity of selecting the discriminative features for improving the prediction accuracy of a classifier system.

Authors 

Figures 

References 

Citations 

Keywords 

Metrics 

IEEE Personal Account

CHANGE USERNAME/PASSWORD

Purchase Details

PAYMENT OPTIONS

VIEW PURCHASED DOCUMENTS

Profile Information

COMMUNICATIONS PREFERENCES

PROFESSION AND EDUCATION

TECHNICAL INTERESTS

Need Help?

US & CANADA: +1 800 678 4333

WORLDWIDE: +1 732 981 0060

CONTACT & SUPPORT

Follow





All



ADVANCED SEARCH

Conferences > 2017 8th International Confer...

Qualitative measures of breast thermograms towards abnormality prediction

Publisher: IEEE

Cite This

Cite This



Kakali Das ; Gautam Majumdar ; Mrinal Kanti Bhowmik All Authors

1 Paper Citation

52 Full Text Views

Export to Collabratec

Alerts

Manage Content Alerts

Add to Citation Alerts

More Like This

Improving the Detection and Localization of Anatomical Landmark Points in Infrared Images Using Symmetry and Region Specific Constraints
2008 IEEE Instrumentation and Measurement Technology Conference
Published: 2008

Field-warp registration for biomedical high-resolution thermal infrared images
2006 International Conference of the IEEE Engineering in Medicine and Biology Society
Published: 2006

Show More

Abstract

Document Sections

- I. Introduction
- II. Methodology
- III. Result and Discussions
- IV. Conclusion

Download PDF

Abstract:Reported reviews in the existing literature reveals that there is no significant work on the quality of thermal medical images. In the present scope, we briefed an overvi... **View more**

Metadata

Abstract: Reported reviews in the existing literature reveals that there is no significant work on the quality of thermal medical images. In the present scope, we briefed an overview on the quality measures of thermograms that should consider during processing and analysis of thermal medical images. Our analysis shows the effect of image qualities on the processing of breast thermograms using correlation coefficient of feature vectors. Features of left and right breast should be more correlated for normal thermograms than the abnormal one. The fact is based on the asymmetry analysis of breast thermograms. Based on the correlation coefficient the analysis is conducted in this present work. The result of analysis validates that image qualities are an important factor during thermogram analysis.

Published in: 2017 8th International Conference on Computing, Communication and Networking Technologies (ICCNT)

Authors

References

Citations

Keywords

Metrics

More Like This

Date of Conference: 3-5 July 2017

INSPEC Accession Number: 17428930

Date Added to IEEE Xplore: 14 December 2017
DOI: 10.1109/ICCCNT.2017.8204013

Publisher: IEEE

ISBN Information:

Conference Location: Delhi, India

 Contents



Authors 

References 

Keywords 

Metrics 



IEEE Personal Account

[CHANGE USERNAME/PASSWORD](#)

Purchase Details

[PAYMENT OPTIONS](#)

[VIEW PURCHASED DOCUMENTS](#)

Profile Information

[COMMUNICATIONS PREFERENCES](#)

[PROFESSION AND EDUCATION](#)

[TECHNICAL INTERESTS](#)

Need Help?

[US & CANADA: +1 800 678 4333](#)

[WORLDWIDE: +1 732 981 0060](#)

[CONTACT & SUPPORT](#)

Follow



[About IEEE Xplore](#) | [Contact Us](#) | [Help](#) | [Accessibility](#) | [Terms of Use](#) | [Nondiscrimination Policy](#) | [Sitemap](#) | [Privacy & Opting Out of Cookies](#)

A not-for-profit organization, IEEE is the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity.

© Copyright 2020 IEEE - All rights reserved. Use of this web site signifies your agreement to the terms and conditions.

IEEE Account

» [Change Username/Password](#)

» [Update Address](#)

Purchase Details

» [Payment Options](#)

» [Order History](#)

» [View Purchased Documents](#)

Profile Information

» [Communications Preferences](#)

» [Profession and Education](#)

» [Technical Interests](#)

Need Help?

» **US & Canada:** +1 800 678 4333

» **Worldwide:** +1 732 981 0060

» [Contact & Support](#)

[About IEEE Xplore](#) | [Contact Us](#) | [Help](#) | [Accessibility](#) | [Terms of Use](#) | [Nondiscrimination Policy](#) | [Sitemap](#) | [Privacy & Opting Out of Cookies](#)

A not-for-profit organization, IEEE is the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity.

© Copyright 2020 IEEE - All rights reserved. Use of this web site signifies your agreement to the terms and conditions.



All



ADVANCED SEARCH

Conferences > 2017 8th International Confer...

Evaluation of background subtraction effect on classification and segmentation of knee thermogram

Publisher: IEEE

Cite This

Cite This



Shawli Bardhan ; Satyabrata Nath ; Mrinal Kanti Bhowmik All Authors

Export to

Collabratec

Alerts

Manage

Content Alerts

Add to

Citation Alerts

40 Full Text Views

More Like This

A study on feature extraction and disease stage classification for Glioma pathology images

2016 IEEE International Conference on Fuzzy Systems (FUZZ-IEEE)

Published: 2016

Study of Medical Image Processing Techniques Applied to Lung Cancer

2019 14th Iberian Conference on Information Systems and Technologies (CISTI)

Published: 2019

Show More

Abstract

Document Sections

- I. Introduction
- II. Methodology
- III. Result and Discussion
- IV. Conclusion

Downl PDF

Abstract: Presence of inflamed region in knee thermogram indicates the existence of abnormality related to inflammatory diseases. Classification based accurate decision making for ... [View more](#)

Metadata

Abstract: Presence of inflamed region in knee thermogram indicates the existence of abnormality related to inflammatory diseases. Classification based accurate decision making for knee abnormality and spread of disease analysis is negatively influenced by the unwanted background region of thermogram. In this paper, the effectiveness of background subtraction on knee thermogram classification and segmentation is highlighted depending on accuracy and quantification of segmentation output. The method mainly contains three steps: background subtraction, classification, and segmentation of inflamed region. Automated subtraction of background region is performed using Expectation Maximization method. Extracted features from 50 healthy and 50 arthritis affected knee thermograms are fed to classifiers for accuracy analysis before and after background subtraction. Effect of background subtraction increases the accuracy rate of classification at least by 10%. Popular state of the art segmentation techniques also shows that subtraction of background region enhances the accuracy of knee thermogram segmentation at least by 0.1%.

Authors

Figures

References

Keywords

Metrics

More Like This

Contents

I. Introduction

Thermoregulation in human body is influenced by pathological abnormality. Due to the involvement of unknown physiological phenomena, measurement of abnormality is a very complex task for joint pain diseases. Presently the quantification of inflammatory joint disease depends on the capability of person to express the condition mainly through words, visual analog scale, and facial expression. Therefore, diagnosis of joint abnormality is a complex task for medical experts, especially in case of children, old age person, and person with impairments. Recording of the distribution of temperature in human body joints provides helpful information associated with physiological abnormality related to inflammatory pain. The skin of human body plays an important role in infrared distribution through preserving or dissipating heat. The heat dissipation through human skin is radiative in nature and mainly falls under the infrared part of the light spectrum. It makes infrared detectors most appropriate for receiving the radiation and recording the distribution of skin temperature. Medical Infrared Thermography (MIT) is the non-invasive method to screen the temperature distribution for detection of abnormality associated with inflammatory joint pain [1]. In present scenario, arthritis is the most commonly occurring inflammatory joint disease, and it causes severe pain in joints. In US, 18% of total disabilities are the result of arthritis and 43.2% of arthritis patients facing limitation in their daily activities [2]. Fig. 1.

Row 1: thermograms of healthy knee; row 2: thermograms of arthritis affected knee

Authors 

Figures 

References 

Keywords 

Metrics 

IEEE Personal Account

CHANGE USERNAME/PASSWORD

Purchase Details

PAYMENT OPTIONS

VIEW PURCHASED DOCUMENTS

Profile Information

COMMUNICATIONS PREFERENCES

PROFESSION AND EDUCATION

TECHNICAL INTERESTS

Need Help?

US & CANADA: +1 800 678 4333

WORLDWIDE: +1 732 981 0060

CONTACT & SUPPORT

Follow





All



ADVANCED SEARCH

Conferences > 2017 8th International Confer...

Qualitative evaluation of visibility enhancement techniques on SAMEER-TU database for security and surveillance

Publisher: IEEE

Cite This

Cite This



Sourav Dey Roy ; Mrinal Kanti Bhowmik ; Siddhartha Shankar Saha All Authors

Export to

Collabratec

Alerts

Manage

Content Alerts

Add to

Citation Alerts

More Like This

Coarse-to-Fine Luminance Estimation for Low-Light Image Enhancement in Maritime Video Surveillance

2019 IEEE Intelligent Transportation Systems Conference (ITSC)
Published: 2019

Color based grayscale-fused image enhancement algorithm for video surveillance

Third International Conference on Image and Graphics (ICIG'04)
Published: 2004

Show More

32 Full Text Views

Abstract

Document Sections

- I. Introduction
- II. Review on State-of-Art Methods for Image Enhancement
- III. Designing of Sameer-TU Database
- IV. Comprehensive Discussion of Image Enhancement Techniques
- V. Performance Evaluation Measures

Show Full Outline

Downl PDF

Abstract:Computer vision applications such as surveillance, topography categorization, and independent navigation need accurate detection of image features and hence requires clear visibility. **View more**

Metadata

Abstract: Computer vision applications such as surveillance, topography categorization, and independent navigation need accurate detection of image features and hence requires clear visibility. But the images captured in outdoor scenes are usually degraded by the particles in the atmosphere and hence loses the contrast and color fidelity. The paper presents a significant methodological review on different categories of visibility enhancement techniques in weather degraded outdoor scenes and provides comprehensive descriptions of various representative methods in each of this category. Based on the rigorous review of these publications, the paper also explores a comparative analysis of some prominent image enhancement techniques for visibility restoration in our own SAMEER-TU database to verify the robustness of these used methods.

Published in: 2017 8th International Conference on Computing, Communication and Networking Technologies (ICCCNT)

Authors

- Figures
- References
- Keywords
- Metrics
- More Like This


Date of Conference: 3-5 July 2017 **INSPEC Accession Number:** 17428855
Date Added to IEEE Xplore: 14 December 2017 **DOI:** 10.1109/ICCNT.2017.8204002
Publisher: IEEE
ISBN Information: **Conference Location:** Delhi, India




 **Contents**

I. Introduction

For the last few decades, imaging technology has the potential to provide great benefits in computer vision applications. It is an interdisciplinary research program with broad range of applications that can impact our everyday lives such as surveillance, traffic monitoring, augmented reality, vehicle navigation, etc. Although computer vision systems are being appreciated for its major success in indoor environments but still has been limited in outdoor environments [1]. Analyzing the aspects of outdoor images under subjective lighting and weather conditions is a general difficulty in computer vision and generally relies on various weather conditions. These conditions can be classified into steady (i.e. fog, mist and haze) or dynamic (i.e. rain and snow) based on types and sizes of the particles involved and their concentrations in space [2]. A great deal of effort has been done into for measuring the physical properties of various atmospheric conditions.

Sign in to Continue Reading

- Authors** 
- Figures** 
- References** 
- Keywords** 
- Metrics** 

| | | | | |
|------------------------------|---|---|---|---|
| IEEE Personal Account | Purchase Details | Profile Information | Need Help? | Follow |
| CHANGE USERNAME/PASSWORD | PAYMENT OPTIONS VIEW PURCHASED DOCUMENTS | COMMUNICATIONS PREFERENCES PROFESSION AND EDUCATION TECHNICAL INTERESTS | US & CANADA: +1 800 678 4333 WORLDWIDE: +1 732 981 0060 CONTACT & SUPPORT |    |

About IEEE Xplore | Contact Us | Help | Accessibility | Terms of Use | Nondiscrimination Policy | Sitemap | Privacy & Opting Out of Cookies
 A not-for-profit organization, IEEE is the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity.

© Copyright 2020 IEEE - All rights reserved. Use of this web site signifies your agreement to the terms and conditions.

| | | | |
|--|--|---|---|
| IEEE Account | Purchase Details | Profile Information | Need Help? |
| » Change Username/Password » Update Address | » Payment Options » Order History » View Purchased Documents | » Communications Preferences » Profession and Education » Technical Interests | » US & Canada: +1 800 678 4333 » Worldwide: +1 732 981 0060 » Contact & Support |



All



ADVANCED SEARCH

Conferences > 2017 IEEE Nuclear Science Sym...

Estimation of Architectural Distortion in Mammograms using Fractal Features

Publisher: IEEE

Cite This

Cite This

PDF

Mrinal Kanti Bhowmik ; Anindita Roy ; Usha Rani Gogoi ; Niharika Nath All Authors

1 Paper Citation

29 Full Text Views

Export to Collabratec

Alerts

Manage Content Alerts

Add to Citation Alerts

More Like This

Detection of cancer tumors in mammography images using support vector machine and mixed gravitational search algorithm
2016 1st Conference on Swarm Intelligence and Evolutionary Computation (CSIEC)
Published: 2016

A Comparison of Breast Tumors Classifications Based on Mammography and Digital Breast Tomosynthesis: A Fractal Analysis Study
2019 International Conference on Medical Imaging Physics and Engineering (ICMIPE)
Published: 2019

Show More

Abstract

Document Sections

- I. Introduction
- II. Methodology
- III. Experimental Results And Discussions
- IV. Conclusion
- V. *Acknowledgement

Downl PDF

Abstract:Moving towards accurate breast cancer detection, X-ray mammography is the gold standard in medical imaging for its efficiency and reliability. Abnormalities often encount... **View more**

Metadata

Abstract: Moving towards accurate breast cancer detection, X-ray mammography is the gold standard in medical imaging for its efficiency and reliability. Abnormalities often encountered in mammograms are in the form of benign or malignant masses, calcifications, asymmetry and architectural distortion. Other than masses and calcifications, architectural distortion should not be overlooked, since it is often the major cause of nonpalpable cancer. However, due to the appearance variability and subtle differences of the abnormalities from the tissues, the radiologists face ambiguity to detect and differentiate the malignant one from the benign one. Due to the existence of irregular and ill-defined structure in architecturally distorted areas, fractal features namely fractal dimension and lacunarity are considered in our work to differentiate the malignant architectural distortion from the benign architectural distortion. Our study can provide a second opinion to the radiologists in decision making. The performance of the proposed system has been evaluated with a dataset of total 19 mammograms with architectural distortions from the mini-MIAS database. The Mann Whitney Wilcoxon nonparametric test shows the statistical significance of fractal features in differentiating

Authors

Figures

References

Citations

Keywords

Metrics

the abnormal mammograms from the benign ones. Based on the experimental results, we found that the combination of fractal dimension and lacunarity feature gives a prediction accuracy of 90%.

Published in: 2017 IEEE Nuclear Science Symposium and Medical Imaging Conference (NSS/MIC)

Date of Conference: 21-28 Oct. 2017 **INSPEC Accession Number:** 18264447

Date Added to IEEE Xplore: 15 November 2018 **DOI:** 10.1109/NSSMIC.2017.8533040

Publisher: IEEE

ISBN Information:

Conference Location: Atlanta, GA, USA

ISSN Information:

Contents

I. Introduction

Breast cancer is one of the major causes of cancer related deaths in women [1]. Survival rates are low in less developed countries due to lack of accurate detection [2]. X-Ray Mammography is considered as the gold standard screening modality for breast cancer. Abnormalities present in mammogram mainly constitute of circumscribed and spiculated masses, architectural distortion, asymmetry and calcifications [3]. Masses and calcifications are the most common form of abnormalities which are considered as precancerous or cancerous conditions [4]. However, architectural distortion should not also be overlooked, since it is the most common sign of non-palpable breast cancer. Analyzing the architectural distorted sites can lead to detection of abnormality at an early stage. As defined by BI-RADS [3] the normal area is distorted in architectural distortion with no mass visible. Architectural distortion is normally categorized as malignant or benign, where the malignant distortions represent the cancer and benign distortion includes scar and soft-tissue damage due to trauma [5]. Based on the characteristics of the distorted area having asymmetric, localized distorted patterns, poorly circumscribed opacities with ill-defined and irregular contours, the fractal features are found to be effective in differentiating these differences. Fractal features has found its wide applications in various imaging modalities such as in detection of breast abnormalities in mammograms or thermograms and in brain tumor detection from Magnetic Resonance Images [6, 7, 8, 9]. Fractal Dimension quantifies the space filling capacity of a fractal pattern and lacunarity quantifies the way in which the space is occupied by the shape with respect to their gaps [10]. Here in this work, the space filling capacity of the distorted area is determined by using fractal dimension and the Lacunarity is used to extract the information about how the space is filled by the distorted area. Based on the way of space filling, benign and malignant cases can be distinguished.

Authors 

Figures 

References 

Citations 

Keywords 

Metrics 



All



ADVANCED SEARCH

Conferences > 2017 IEEE Region 10 Humanitar...

Fractal feature based early breast abnormality prediction

Publisher: IEEE

Cite This

Cite This

PDF

Anindita Roy ; Usha Rani Gogoi ; Dipak Hrishi Das ; Mrinal Kanti Bhowmik All Authors

1 Paper Citation

92 Full Text Views

Export to Collabratec

Alerts

Manage Content Alerts

Add to Citation Alerts

More Like This

A Comparison of Breast Tumors Classifications Based on Mammography and Digital Breast Tomosynthesis: A Fractal Analysis Study
2019 International Conference on Medical Imaging Physics and Engineering (ICMIPE)
Published: 2019

Asymmetry analysis in breast cancer detection using thermal infrared images
Proceedings of the Second Joint 24th Annual Conference and the Annual Fall Meeting of the Biomedical Engineering Society [Engineering in Medicine and Biology
Published: 2002

Show More

Abstract

Document Sections

- I. Introduction
- II. Methodology
- III. Database Description
- IV. Experimental Results and Discussions
- V. Conclusion

Downl PDF

Abstract:Breast cancer is associated with high mortality rates in women of both developing and under developed countries. Moreover, due to the poor medical facilities and lack of ... **View more**

Metadata

Abstract: Breast cancer is associated with high mortality rates in women of both developing and under developed countries. Moreover, due to the poor medical facilities and lack of awareness, this mortality rate is higher in rural areas than that of the urban areas. Hence, to reduce this high mortality rate, the early detection of the breast diseases before the onset of the cancerous mass is very crucial. Among various breast imaging modalities, X-ray Mammography stands out to be the gold standard modality for Breast cancer detection. But vulnerability of women below 40 years towards radioactive exposure of X-ray mammography necessitates the concerned research community to explore avenues devoid of radioactive hazard as well as preferably non-invasive. Infrared Thermography (IRT) meeting such important requirements can be used as an adjunctive tool in breast abnormality detection of women of all age groups. Besides, due to its portability and cost effective nature, it can be used as a routine checkup tool for patients in remote areas and thus, can point out the subjects who requires urgent medical attention. To validate the predictability of both mammography and thermography in breast cancer detection, this paper develops a suspicious region based breast abnormality detection system. The paper investigates the efficacy of fractal features over the most widely used texture features in anomalous region based breast

Authors

Figures

References

Citations

Keywords

Metrics

More Like This

abnormality prediction from both mammograms and thermograms. We focus on fractal features in discriminating the abnormal and severe abnormal breast images from the normal and mild abnormal breast images by observing the difference in fractal dimension and lacunarity values. We investigated that the combination of fractal dimension and lacunarity features gives prediction accuracy of 95.94% on the mini-MIAS mammogram dataset of 128 images and 86.11% on a newly created DBT-TU-JU breast thermogram dataset of 36 abnormal images as compared to 79.31% and 78.94% using textu...

(View more)

Published in: 2017 IEEE Region 10 Humanitarian Technology Conference (R10-HTC)

Date of Conference: 21-23 Dec. 2017 **INSPEC Accession Number:** 17579705

Date Added to IEEE Xplore: 12 February 2018 **DOI:** 10.1109/R10-HTC.2017.8288896

Publisher: IEEE

ISBN Information:

Conference Location: Dhaka, Bangladesh

Electronic ISSN: 2572-7621

Contents

I. Introduction

Breast cancer is one of the major causes of cancer related deaths in women [1]. Due to the lack of medical facilities for early detection in less developed countries or rural areas, the survival rates is very poor. Even though, X-ray mammography is considered as the gold standard screening modality for breast cancer, but it is incapable of detecting a mass until it attains a certain size [2]. Moreover, due to the radiation risk of mammography, it is not recommended for women whose ages are below 40 years [2]. These limitations of mammography necessitate the concerned research community to explore the feasibility of radiation-free, non-ionizing, portable and cost-effective reading breast thermography (IBT) to be used as an adjunctive and routine checkup tool to improve the accuracy of breast abnormality prediction [1]. Moreover, due to its portability and non-ionizing nature, it can also be used for women in rural areas to pinpoint the patients that require urgent medical attention. Being a functional imaging modality, it detects the temperature distribution of the surface area. Due to angiogenesis, the temperature of the skin surface over the tumor is higher than the surrounding areas [3], [4], and therefore, the anomalous region is easily visible through an infrared camera.

Authors 

Figures 

References 

Citations 

Keywords 

Metrics 

[IEEE Personal Account](#)

[Purchase Details](#)

[Profile Information](#)

[Need Help?](#)

[Follow](#)

[CHANGE USERNAME/PASSWORD](#)

[PAYMENT OPTIONS](#)

[COMMUNICATIONS PREFERENCES](#)

[US & CANADA: +1 800 678 4333](#)



All



ADVANCED SEARCH

Conferences > 2017 IEEE Region 10 Humanitar...

A survey on visibility enhancement techniques in degraded atmospheric outdoor scenes

Publisher: IEEE

Cite This

Cite This



Sourav Dey Roy ; Mrinal Kanti Bhowmik All Authors

Export to

Collabratec

Alerts

Manage

Content Alerts

Add to

Citation Alerts

1 Paper Citation

107 Full Text Views

More Like This

A Review of Gradient-Based and Edge-Based Feature Extraction Methods for Object Detection
2011 IEEE 11th International Conference on Computer and Information Technology
Published: 2011

Fog detection system based on computer vision techniques
2009 12th International IEEE Conference on Intelligent Transportation Systems
Published: 2009

Show More

Abstract

Document Sections

- I. Introduction
- II. Review on Atmospheric Scattering Model Based Visibility Enhancement Techniques
- III. Review on Fusion Based Visibility Enhancement Techniques
- IV. Review on Dark Channel Prior Based Visibility Enhancement Techniques
- V. Review on Filtering Based Visibility Enhancement Techniques

Downl PDF

Abstract: Often the images of outdoor scenes are drastically altered by the atmospheric particles and loses the contrast and gradient information. Accurate detection of image featu... [View more](#)

Metadata

Abstract: Often the images of outdoor scenes are drastically altered by the atmospheric particles and loses the contrast and gradient information. Accurate detection of image features from outdoor scenes requires clear visibility in computer vision applications. Currently, there has been an augmented attention in the communities of image processing towards enhancing the visibility of outdoor images acquired in specific atmospheric conditions (i.e. fog, haze, mist, etc.). The paper presents a significant methodological review on visibility enhancement techniques degraded by different weather conditions in outdoor environment. In this survey, we categorized the enhancement techniques on the basis of approaches they used to restore the visibility and provide comprehensive description of different methods in each category.

Published in: 2017 IEEE Region 10 Humanitarian Technology Conference (R10-HTC)

Date of Conference: 21-23 Dec. 2017

INSPEC Accession Number: 17579793

Show Full Outline ▾

Date Added to IEEE Xplore: 12 February 2018 DOI: 10.1109/R10-HTC.2017.8288972

Publisher: IEEE

Authors

ISBN Information:

Conference Location: Dhaka, Bangladesh

References

Electronic ISSN: 2572-7621

Citations

☰ Contents

Keywords

I. Introduction

Computer vision is all about visualizing and interpreting the real world around us with wide scope of applications in our daily lives such as surveillance, topography categorization, and independent navigation [1]. Although computer vision systems are being appreciated for its major success in indoor environments but still has been limited in outdoor environments [2]. There are several reasons for degradation of outdoor scenes but one of the main reason is presence of bad weather conditions. These conditions can be steady (i.e. fog, mist and haze) or dynamic (i.e. rain and snow) based on types and sizes of the particles involved and their concentrations in space [2]. As a result, the outdoor images acquired under different weather conditions loses the contrast and color fidelity. Therefore enhancing the quality of image in poor visibility conditions is an evitable task for various computer vision applications.

Metrics

More Like This

Authors

References

Citations

Keywords

Metrics

IEEE Personal Account

Purchase Details

Profile Information

Need Help?

Follow

CHANGE USERNAME/PASSWORD

PAYMENT OPTIONS

COMMUNICATIONS PREFERENCES

US & CANADA: +1 800 678 4333



VIEW PURCHASED DOCUMENTS

PROFESSION AND EDUCATION

WORLDWIDE: +1 732 981 0060

TECHNICAL INTERESTS

CONTACT & SUPPORT

About IEEE Xplore | Contact Us | Help | Accessibility | Terms of Use | Nondiscrimination Policy | Sitemap | Privacy & Opting Out of Cookies

A not-for-profit organization, IEEE is the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity.

© Copyright 2020 IEEE - All rights reserved. Use of this web site signifies your agreement to the terms and conditions.

IEEE Account

Purchase Details

Profile Information

Need Help?

» Change Username/Password

» Payment Options

» Communications Preferences

» US & Canada: +1 800 678 4333

» Update Address

» Order History

» Profession and Education

» Worldwide: +1 732 981 0060

» View Purchased Documents

» Technical Interests

» Contact & Support

About IEEE Xplore | Contact Us | Help | Accessibility | Terms of Use | Nondiscrimination Policy | Sitemap | Privacy & Opting Out of Cookies

A not-for-profit organization, IEEE is the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity.

© Copyright 2020 IEEE - All rights reserved. Use of this web site signifies your agreement to the terms and conditions.



All



ADVANCED SEARCH

Conferences > 2017 IEEE Region 10 Humanitar...

Enhancing performance of PCA, ICA through distribution transformation

Publisher: IEEE

Cite This

Cite This

PDF

Anu Singha ; Mrinal Kanti Bhowmik All Authors

58 Full Text Views

Export to Collabratec

Alerts

Manage Content Alerts

Add to Citation Alerts

More Like This

Two Dimensional Principal Component Analysis based Independent Component Analysis for face recognition
2011 International Conference on Multimedia Technology
Published: 2011

The study of face recognition based on hybrid principal components analysis and independent component analysis
2011 International Conference on Electronics, Communications and Control (ICECC)
Published: 2011

Show More

Abstract

Document Sections

- I. Introduction
- II. Transformation of a Data Matrix to Gaussian (TDG) Process and Analysis
- III. Performance Evaluation and Analysis
- IV. Conclusion

Downl PDF

Abstract:Holistic based face recognition methods are generally more effective on normally distributed data matrix of face images. The distribution of data matrix follows the stand... **View more**

Metadata

Abstract: Holistic based face recognition methods are generally more effective on normally distributed data matrix of face images. The distribution of data matrix follows the standard Gaussian distribution according to central limit theorem, which has not been seen in practical scenarios. In this context, a simple and effective method called transformation of a data matrix to Gaussian matrix (TDG) is proposed. The TDG transforms an arbitrarily distributed data matrix to a Gaussian distribution. This transformed data matrix is then processed through Principal Component Analysis (PCA) and Independent Component Analysis (ICA). Experiments on a benchmark face database IRIS are demonstrated that the proposed transformation process could notably improve the accuracy rates than state-of-art methods.

Published in: 2017 IEEE Region 10 Humanitarian Technology Conference (R10-HTC)

Date of Conference: 21-23 Dec. 2017 **INSPEC Accession Number:** 17579751

Authors

Figures

References

Keywords

Metrics

Date Added to IEEE Xplore: 12 February 2018 **DOI:** 10.1109/R10-HTC.2017.8288941

Publisher: IEEE

ISBN Information:

Conference Location: Dhaka, Bangladesh

Electronic ISSN: 2572-7621

☰ Contents

I. Introduction

In image analysis, face recognition have been a challenging and quite attractive key area of research which is usually used in security systems and law enforcements. There are number of popular face feature extraction methods has been proposed which is being started with a data matrix that is a concatenation of 1D image column vectors. The most noticeable methods among these are Principle Component Analysis (PCA) [1], and a generalized version of PCA i.e. Independent Component Analysis (ICA) [2],[3]. PCA or ICA are more effective when the original image data matrix to be close to Gaussian distribution [2] [4] [5]. According to central limit theorem (CTL) [6], a several independent random variables are mixed together in an additive fashion, and then resulting distribution is usually normal or Gaussian. But the CTL states that in many situations, the sample mean vary normally if only the sample size is reasonably large. Since normality of data is one key assumption of many statistical issues, transformation of non-normal data to normal data or near normal becomes important.

Authors 

Figures 

References 

Keywords 

Metrics 

IEEE Personal Account

CHANGE USERNAME/PASSWORD

Purchase Details

PAYMENT OPTIONS

VIEW PURCHASED DOCUMENTS

Profile Information

COMMUNICATIONS PREFERENCES

PROFESSION AND EDUCATION

TECHNICAL INTERESTS

Need Help?

US & CANADA: +1 800 678 4333

WORLDWIDE: +1 732 981 0060

CONTACT & SUPPORT

Follow



[About IEEE Xplore](#) | [Contact Us](#) | [Help](#) | [Accessibility](#) | [Terms of Use](#) | [Nondiscrimination Policy](#) | [Sitemap](#) | [Privacy & Opting Out of Cookies](#)

A not-for-profit organization, IEEE is the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity.

© Copyright 2020 IEEE - All rights reserved. Use of this web site signifies your agreement to the terms and conditions.

IEEE Account

» Change Username/Password

» Update Address

Purchase Details

» Payment Options

» Order History

» View Purchased Documents

Profile Information

» Communications Preferences

» Profession and Education

» Technical Interests

Need Help?

» **US & Canada:** +1 800 678 4333


» **Worldwide:** +1 732 981 0060

» Contact & Support

Trends in Frontal Areas of Plant Science Research

Sangram Sinha

Rabindra Kumar Sinha



Narosa

Diversity, Botany and Importance of Two *Mucuna* Species: *M. bracteata* DC. and *M. interrupta* Gagnep. in Tripura

Debasree Lodh, Prasenjit Patari, Surochita Basu* and Md. Jasim Uddin

Department of Botany, Tripura University, Suryamaninagar- 799 022

* Corresponding author: surochitabasu@yahoo.co.in

Summary *Mucuna*, a tropical leguminous climber with ~150 sp distributed worldwide having ~10 reported from India, has attracted attention due to L-DOPA content in its seeds, widely used in therapeutics of Parkinson's disease. It is used in many Ayurvedic formulations as 'Atmagupta'. *Mucuna*, locally known as 'Bangphai' is used as ornaments, in religious festivals, and plant extract is used for pain relief, cut and wound healing by the tribal community. The two target species *M. bracteata* and *M. interrupta* grow wild in West and South Tripura and according to fruit morphology can be categorized in two distinct groups. The species show remarkable diversity in habitat, growth form, vegetative and reproductive morphology and plant-arthropod interactions. *M. bracteata* grows as widespread populations of cover crop in natural and managed terrestrial habitats and *M. interrupta* grows in isolated river side populations. Here is an effort to prepare a species specific key including collection area, plant exo-morphology, leaf micro-morphology, reproductive micro-morphology, chlorophyll and phenol content; and is first report of *M. interrupta* from Tripura.

Keywords: Diversity, growth form, interaction, reproductive morphology, chlorophyll and phenol content.

The genus *Mucuna* Adans (fam: Leguminosae), a tropical leguminous climber, represented by ~150 sp species of annual and perennial legumes has its centre of origin at Africa, China, Malaysia, India and West Indies (Burkill, 1966; Natarajan *et al.*, 2012); from where it spread to other regions of the world. There are 9-15 species from India (Jaheer and Sathyanarayana, 2010; Sathyanarayana *et al.*, 2011; Natarajan *et al.*, 2012), five are endemic to Western Ghats and Eastern Himalaya (Leelambika *et al.*, 2010), two are endemic to Peninsular India and *M. imbricata*, *M. bracteata*, *M. macrocarpa*, *M. sempervirens* and *M. nigricans* are restricted to North East region (Jaheer and Sathyanarayana, 2010). *Mucuna* has attracted attention due to presence of L- DOPA (L-3,4-dihydroxyphenylalanine), a non-protein amino acid precursor of the neurotransmitter dopamine in seeds, that is used

10. *Photobacterium leiognathi* cmb_001: New-generation oxygen detection biosensor for environmental quality monitoring.

CHAPTER - 14

***Photobacterium leiognathi* CMB_001: New-generation oxygen detection biosensor for environmental quality monitoring.**

Sourav Ghosh^{1,2}, Subhadeep Ghosh², Amrita Saha²,
Ashoke Ranjan Thakur³, Debabrata Datta³, Indranil Mukherjee²,
Shaon Ray Chaudhuri^{1,2*}

¹Department of Microbiology, Tripura University, Suryamaninagar,
Tripura West, Pin-799022

²Centre of Excellence in Environmental Technology and Management, Maulana
Abul Kalam Azad University of Technology, (Formerly known as West Bengal
University of Technology), BF 142, Salt Lake, Sector 1, Kolkata-700064,
West Bengal, India.

³Former Vice Chancellor, Techno India University, EM4/1, Sector V,
Salt Lake, Kolkata-700091, West Bengal, India.

⁴Computational Radiation Physics Section, Health Physics Division, Bhabha
Atomic Research Centre, Mumbai – 400085, India

*Corresponding author E-mail- shaonraychaudhuri@tripurauniv.in;
Telephone-00919831034236;

Abstract

The rapid biosensing detection system is of utmost importance now a day for environmental quality assessment on a real time basis. The novel strain of *Photobacterium leiognathi* CMB_001 (MCC2643) isolated from the marine waters have shown unique sensitivity towards both dissolved oxygen and molecular oxygen in water samples and air within 4 seconds and 8 seconds ($p < 0.05$; $n = 7$) of contact respectively. The Gram-negative bacilli ($1.37 \times 1.05 \mu\text{m}$) with no pathogenicity has the capacity of retaining chemiluminescence even after 32 months of isolation. Its sensitivity towards concentration of dissolved oxygen and chemical inhibitors were detected within 4 seconds. This biological system coupled with image

Microbe-Based Strategy for Plant Nutrient Management

Shaon Ray Chaudhuri, Madhusmita Mishra,
Sonakshi De, Biswajit Samal, Amrita Saha,
Srimoyee Banerjee, Abhinandan Chakraborty,
Antara Chakraborty, Sonali Pardhiya, Deepak Gola,
Joyeeta Chakraborty, Sourav Ghosh,
Kamlesh Jangid, Indranil Mukherjee,
Mathummal Sudarshan, Rajib Nath and
Ashoke Ranjan Thakur

Additional information is available at the end of the chapter

<http://dx.doi.org/10.5772/67307>

Abstract

The rapid industrialization and urbanization of developing countries such as India have encroached on cultivable lands to meet the demands of an ever-increasing population. The altered land use patterns with increased fertilizer use has increased crop yields with leaching of major portion of the applied nutrients from the soil. Nitrates and phosphates are the agricultural pollutants that are discharged into aquifers due to anthropogenic reasons causing severe environmental and health problems. Production of these nutrients requires energy and finite resources (rock phosphate, which has gradually depleting reserves). An alternative management strategy would be to sequester excess nutrients within a biomass that is reused for agriculture. Two discrete enriched microbial consortia with the potential of simultaneous nitrate and phosphate sequestration upon application as biofertilizer restricted them within the plant root zone, ensuring prevention of eutrophication through leaching while making it available for uptake by plants. The nutrient accumulated biomass enhanced the crop yield by 21.88% during mung bean cultivation with maintained elemental content and other nutritional qualities. The major drawback of conventional biofertilizer application (slow release and action) could be overcome using this formulation leading to environmental protection, crop yield enhancement and soil fertility maintenance post-cultivation.

The Kannada Grammatical Tradition

Edited by
Basavaraja Kodagunti



DRAVIDIAN UNIVERSITY
SRINIVASAVANAM, KUPPAM - 517 426

The Kannada Grammatical Tradition

Edited by

Dr. Basavaraja Kodagunt

Assistant Professor

Dept. of Kannada

Central University of Karnataka

Gulbarga - 585106

Karnataka

© Dravidian University

First Edition: 2017

Publication No: 267

No. of Pages: viii + 108

Price: Rs. 80/-



Published by

Director

Centre for Publications

Dravidian University

Kuppam - 517426

For Copies

The Registrar

Dravidian University

Kuppam - 517426

ISBN: 978-93-81112-83-0

Printed at

M/s Vijayavani Printers

Chowdepalle - 517257

Phone: 08581-256234

Contents

| | |
|--|------------|
| Foreword | iii |
| Editor's Note | v |
| Need and Space for Research on the Grammatical Tradition of Kannada | 1 |
| <i>Basavaraja Kodagunti</i> | |
| Indian Grammatical Tradition | 7 |
| <i>Anantanarayana H.S.</i> | |
| Grammars of Non-Literary Dravidian Languages: A Short Survey | 25 |
| <i>B. Ramakrishna Ready</i> | |
| Traditional Grammars of Kannada | 58 |
| <i>P. Srikrishna Bhat</i> | |
| Bhaṭṭakalanka and His Grammar | 67 |
| <i>Uppangala Ramabatta</i> | |
| Karaka Vibhakti and Vibhakti Pratyaya | 74 |
| <i>Srinivasa Murty</i> | |
| A Note Concerning the Grammatical Tradition and Historiography of Dravidian Linguistics | 85 |
| <i>P. Sreekumar</i> | |
| Locative Nouns in Kannada | 100 |
| <i>Niranjan Uppoor</i> | |
| List of Contributors | 106 |

Locative Nouns in Kannada

Niranjan Uppoor

The present paper examines some morphosyntactic properties of Kannada words which are traditionally treated as adverbs and postpositions. We show that these words form a sub class of nouns owing to their declining features. An appendix of such words is provided at the end of the paper.

Kannada is a south Dravidian language spoken chiefly in the state of Karnataka and a minor language in many other states of India and across the world. Kannada exhibits overt morphological inflections which are, in many cases, regular. The language is agglutinating in nature, i.e. a word can be divided into a series of segments and each segment (morpheme) carries a distinct meaning in it.

In Kannada, words like *alli* 'there', *nāḷe* 'tomorrow' show some morphosyntactic properties which are similar to that of nouns, i.e they are declinable and come with suffixes that nouns bear as shown in (1) and (2).

(1) *rāju allige hoda*

Raju-NOM there-DAT go.PST.3MS

'Raju went there'

(2) *Tippu nāḷeyinda kelasakke baruvidilla*

Tippu-NOM tomorrow-ABL work-DAT come.NMZL.NEG

'Tippu would not come for work from tomorrow onwards'

In (1), *allige* 'to there' is analyzed as *alli* 'there' + *ge* 'dative case'. *alli* also takes other case markers (genitive *a*, ablative *inda*) as in *allina* (*alli* there + *a* genitive), *allinda* (*alli* there + *inda* ablative) and postpositions as in *allinavarege* 'till there'. In (2), *naaLeyinda* 'from tomorrow' is analyzed as *nāḷe* 'tomorrow' + *inda* 'ablative case'. Other forms of *nāḷe* include *nāḷeya*

'tomorrow's', *nālege* 'to tomorrow', *nāleyavarege* 'till tomorrow'. On the other hand, unlike nouns, they cannot be modified by adjectives as shown in (3) and (4).

(3) **dodḍa alli*
big there
'big there'

(4) *dodḍa angaḷa*
big front-yard
'big front-yard'

In (3), *alli* 'there' cannot be modified by any adjective as against (4) where *angaḷa* 'front-yard' is modified by the adjective *dodḍa* 'big'.

Kannada grammars analyze such words as adverbs and postpositions owing to their meanings and syntactic functions corresponding to English adverbs and prepositions. Deviating from this conventional treatment, Spencer (1950) brings forth the morphological inflections that they bear and calls them 'indeclinables whose form declines' and exemplifies with some expressions. Analogous to this observation, Sridhar (1990) observes that 'postpositions form a semi-closed class of elements' considering the declining properties of words functioning as postpositions at syntactic level. These two observations are a deviation from the traditional perspective. The present paper attempts an examination of these words which is similar to these two observations. To analyze these words, we take a lead from the category Locative Noun developed by the ILILMT team at CALTS, University of Hyderabad, which traces its origin to the concept 'Adverbial Noun' put forward by Bh. Krishnamurti. Krishnamurthi and Gwyn (1985) comment that Telugu expressions corresponding to English adverbs of place and time are adverbial nouns. Both these terms (Adverbial/ Locative) refer to words that denote space and time. These words form a sub-class of noun category (declinables) rather than belonging to the categories of adverb and postposition (indeclinables) at the level of morphology as they are overtly realized with suffixes. We adopt this framework of analysis and analyze the words under study. These words are regularly expressed with overt case suffixes as shown from examples (5) to (9).

(5) *avanu-ø mēlin-a maney-alli iruttane*
 he-NOM on-POSS house-LOC be-FUT
 'He stays in the upper house'

(6) *nālin-a vishaya ēnu?*
 tomorrow-POSS topic what?
 'What is tomorrow's topic?'

In (5) and (6), *mele* and *naale* are in possessive form (*mēlina* and *nālina* respectively). In (5), *mele* has enough semantic meaning of 'an upper portion of a given space' (a location) to function as the possessor of the house giving the meaning 'the house that belongs to the upper portion (of a given space)'.

(7) *manjulā-ø udupiy-inda illi-ge bandaḷu*
 Manjulā-NOM Udupi-ABL here-DAT come-PST
 'Manjula came here from Udupi'

In (7), *illi* is in dative case (*illige*) denoting a goal.

(8) *nānu-ø all-inda mane-ge hōde*
 i-NOM there-ABL house-DAT go-PST
 'I went home from there'

(9) *rāju-ø nāle-inda shāle-ge hōguttāne*
 Raju-NOM tomorrow-ABL school-DAT go-FUT
 'Raju will go to school from tomorrow onwards'

In (8), *alli* 'there' is realized with ablative case marker denoting the point of origin (space) of the movement. In (9), *nāle* 'tomorrow' is marked for ablative case denoting the point of origin (time) of the action.

(10) *nann-a mane-ø alli ide*
 I-POSS house-NOM there-? Be-PRE
 'My house is there'

(11) *gītha-ø nāle baruttāle*
 Geetha-NOM naale-? Come-FUT
 'Geehta will come tomorrow'

These words also appear without any overt suffixes as shown in (10) and (11). Deictic expressions *alli*, *illi*, *nāḷe*, *ivattu* can appear without any overt suffixes. In such cases they function as adjuncts providing a temporal or spatial background for events.

- (12) *pustaka-ø* *mējin-a* *mēle* *ide*
 book-NOM table-POSS on-PSP be-PRE
 'The book is on the table'

Whenever these words take overt complements, they behave like postpositions as shown in (12). Here, *mēle* 'above' takes the overt complement *mēju* 'table' functioning as a postposition.

In examples from (5) to (9), these words exhibit nominal properties. Sentences from (10) to (11) capture the syntactic properties of these words. *alli* in (10) and *nāḷe* in (11) act as verbal modifiers whereas *mēle* 'on' in (12) acts as a postposition.

We conclude that it is possible to treat these words as a sub category of nouns especially considering their ability to form oblique stems. Their functions as adverbs and postpositions are at syntactic level. Further, studies have shown that closed-class words like case-markers and postpositions develop from open-class word like verbs and nouns. The words (*mēle* 'on' of example (12) and words like *hattira* 'near', *pakka* 'side', *munde* 'front', *hinde* 'back', *kelage* 'down' of appendix) under study here present another evidence where nouns denoting space function as postpositions.

References:

- Krishnamurti, B H & Gwyn, J P L. (1985). *A Grammar of Modern Telugu*. OUP, Delhi
- Rao G U. (2002). *A Computational Grammar of Telugu*. (mimeo). University of Hyderabad, Hyderabad.
- Spencer, H .(1950). *A Grammar of Kannada*. Basel Mission, Mangalore.
- Sridhar, S N .(1990). *Kannada*. Routledge, London

| Time | Meaning | Oblique form | Ablative | Dative | Locative e.g.: Until | Post positions |
|---------|--------------------------|---------------------|---------------------------|----------------------|-------------------------|--------------------------------|
| ninne | <i>Yesterday</i> | <i>a</i> ninneya | <i>inda</i> ninneyinda | <i>ge</i> ninnege | <i>alli</i> | <i>varege</i> ninneyavarege |
| nāḷe | <i>Tomorrow</i> | nāḷeya | nāḷeyinda | nāḷege | | nāḷeyavarege |
| ivattu | <i>Today</i> | ivattina | ivattininda | ivattige | | ivattinavarege |
| yāvattu | <i>When</i> | yāvattina | yāvattininda | yāvattige | | yāvattinavarege |
| modalu | <i>First</i> | modalina | modalininda | modalige | | |
| kae | <i>Last</i> | kaeya | kaeyinda | kaege | kadeyalli | kadeyavarege |
| āga | <i>Then</i> | āgina | āgininda | | | |
| īga | <i>Now</i> | īgina | īgininda | | | |
| yāvāga | <i>When</i> | yāvāgina | yāvāgininda | | | |
| nantara | <i>Later</i> | nantarada | | | | |
| monne | <i>Day before</i> | | | | | |
| | <i>yesterday</i> | monneya | monneyinda | monnege | | monninavarege |
| āmēle | <i>After (something)</i> | | āmelina | āmelinda | | |

| Space | Meaning | Oblique form | Ablative | Dative | Locative | Post positions e.g.: Until |
|---------|----------------|--------------|--------------|-------------|---------------|-------------------------------|
| | <i>a</i> | <i>inda</i> | <i>ge</i> | <i>alli</i> | <i>varege</i> | |
| alli | <i>There</i> | allina | allinda | allige | | alliyavarege |
| illi | <i>Here</i> | illina | illinda | illige | | illiyavarege |
| elli | <i>Where</i> | ellina | ellinda | ellige | | elliyavarege |
| hattira | <i>Near</i> | hattirada | hattiradinda | hattirakke | hattiradalli | |
| dūra | <i>Far</i> | dūrada | dūradinda | dūrakke | dūradalli | |
| madya | <i>Middle</i> | madyada | madyadinda | madyakke | madyadalli | madyadavarege |
| nauve | <i>Middle</i> | nauvina | nauvininda | nauvige | nauvinalli | nauvinavarege |
| kade | <i>Side</i> | kadeya | kadeyinda | kadege | kadeyalli | kadevarege |
| pakka | <i>Side</i> | pakkada | pakkadinda | | pakkadalli | pakkadavarege |
| munde | <i>Front</i> | mundina | mundininda | mundakke | | mundinavarege |
| hinde | <i>Behind</i> | hindina | hindininda | hindakke | | hindinavarege |
| oḷage | <i>Inside</i> | oḷagina | oḷagininda | | | |
| horage | <i>Outside</i> | horagina | horagininda | | | |
| mēle | <i>Upon</i> | mēlina | mēlininda | mēlakke | | mēlinavarege |
| kelage | <i>Below</i> | kelagina | kelagininda | | | kelaginavarege |

Contributors:**Basavaraja Kodagunti**

Asst. Professor
Dept. of Kannada
Central University of Karnataka
Gulbarga – 585106, Karnataka
bkodagunti@rediffmail.com

Anantanarayana H.S.

206, Brigade Classic
Armugam Circle
Basavana Gudi
Bengaluru
hsanathan@yahoo.com

Ramakrishna Reddy B.

Professor of Linguistics
Flat. 114, Gayatri Towers
Street No. 1, Tarnaka
Secundrabad – 17
brkrin@yahoo.com

Srikrishnabatta P.

Chinmaya Colony
Vidya Nagara
Kasaragod

Uppangala Ramabatta

'Parashara' 8-1-64B
Sudeendra Teerta Marga
Kunjibetta
Udupi - 576102

Srinivasa Murty J.

Lecturer in Sanskrit
Dept. of Sanskrit
M.E.S. College
Malleshwaram,
Bengaluru – 560003
jsreenivasamurthy@gmail.com


Niranjan Uppoor

Research Fellow in Linguistics,
Center for Applied Linguistics and Translation Studies,
University of Hyderabad, Hyderabad.
niranjan_uppoor@yahoo.com

P. Sreekumar

Assistant Professor
Department of Dravidian and Computational Linguistics
Dravidian University
Kuppam, Andhra Pradesh - 517 425
linguafranka@yahoo.com



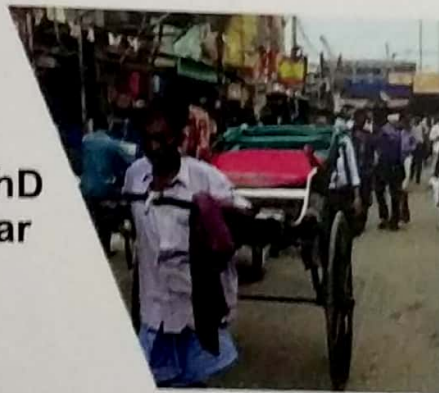


SUSTAINABLE DEVELOPMENT GOALS

Perspectives from the Indian Villages

VOL. 1

Edited by
Papiya Dutta, PhD
Saikat Majumdar



UNIVERSITY OF SCIENCE & TECHNOLOGY
MEGHALAYA



First Impression: 2017

© **University of Science and Technology, Meghalaya**

Sustainable Development Goals: Perspectives from the Indian Villages

Vol. 1

ISBN: 978-93-86724-00-7

No part of this publication may be reproduced or transmitted in any form by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the copyright owners.

DISCLAIMER

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

Published by

EXCEL INDIA PUBLISHERS

Excel
INDIA PUBLISHERS

91 A, Ground Floor
Pratik Market, Munirka, New Delhi-110 067
Tel: +91-11-2671 1755/ 2755/ 3755/ 5755
Fax: +91-11-2671 6755
E-mail: publishing@grouppexcelindia.com
Web: www.grouppexcelindia.com

Typeset by

Excel Prepress Services, New Delhi-110 067
E-mail: production@grouppexcelindia.com

Printed by

Excel Printing Universe, New Delhi-110 067
E-mail: printing@grouppexcelindia.com

| | |
|---|-----|
| 20. Problem and Prospects for Development of Majuli <i>Nayanmoni Hazarika</i> | 162 |
| 21. Indigenous Technology for Sustainable Community Development <i>Nitheesh Kumar K.P.</i> | 170 |
| 22. Role of Gram Panchayats in Achieving Sustainable Development Goals (SDGs) in Assam <i>Pabitra Kalita</i> | 175 |
| 23. Mainstreaming Youth for Rural Development: Issues and Challenges <i>Papari Deka, Nayan Talukdar and Utpal Deka</i> | 184 |
| 24. Gender Parity in Tripura under MGNREGA: A Study in West District of Tripura <i>Parama Chakma</i> | 195 |
| 25. A Study on the Issues Concerned with Physical Education <i>Pratisha Padmasri Deka</i> | 202 |
| 26. Consumer Behaviour and Perceptions of Youth towards Organised Fast Food Outlets: A Study of Guwahati City of Assam <i>Yelam Priyambada Devi</i> | 213 |
| 27. Exploring Poverty–Environment–Gender Linkages for Sustainable Development of Deepor Beel Wetland <i>Rohini Pran Changkakoti</i> | 224 |
| 28. Content Analysis of Top Profit Making Companies towards Sustainability and Sustainable Development <i>Ram Nayan Yadava and Bhaskar Sinha</i> | 230 |
| 29. Small and Medium Entrepreneurship Development in India: Trends, Opportunities & Challenges <i>Satish and Rifat Nahid</i> | 240 |
| 30. Growing up as Third Gender in a Two-Gender World: A Study of Hijras in Guwahati City of Assam <i>Sandeep Gupta</i> | 256 |
| 31. Rural Entrepreneurship in India <i>Sankhyashree Roy and S.K. Acharya</i> | 266 |

Gender Parity in Tripura under MGNREGA: A Study in West District of Tripura

Parama Chakma

Guest Lecturer, Tripura University
E-mail: mparama.chakma@gmail.com

Abstract—Mahatma Gandhi Rural Employment Guarantee Act is aimed at enhancing the livelihood security of the rural households of the country by providing at least 100 days of guaranteed wage employment in every financial year to every household whose adult members volunteer to do skilled and unskilled manual work. The scheme is considered to be gender sensitive as it has provided facilities such as (a) equal wages for women and men (b) creches for the children of women workers (c) absence of supervisor and contractor (d) work within radius of five kms (e) one third of the workers to be women etc.

MGNREGA was launched in India on 2nd February 2006 with 200 selected districts but in Tripura it was first introduced in Dhalai district and gradually by 2008 the other three districts was brought under this scheme. After its implementation, Tripura showed high participation of women among the other northeastern states and there have been payment of wages through either bank or post offices to ensure that there is no involvement of middlemen. However many cases are reported in the state regarding corruptions and the book adjustments shown against wages and issue of fake job cards.

This study will therefore aim to critically examine gender equality under MGNREGA and also to look at its impact on the economic conditions of women workers in west district of Tripura.

Keywords: MGNREGA, Poverty, Gender Equality, Livelihood, Wage Employment

1. Introduction

The National Rural Employment Guarantee Act 2005 has been introduced to provide livelihood security to every household in rural areas by providing the adult members of the household at least 100 days of wage employment every year. Though this scheme was been introduced to enhance the livelihood of the rural people, the act consisted of provisions such as equal wages for men and women, creches for children of women workers, work within the radius of five kms from the house, priority of women in the ratio of one third of the total workers, absence of any contractor and flexibility in choosing period of months of employment which encouraged a lot of women to work under MGNREGA.

The programme witnessed high participation of marginalized groups like SC/ ST with 57% in financial year 2007–08 and 55% in financial year 2008–09. It also surpassed the minimum requirement of women workforce with 43% in FY 2007–08 which increased to 48% in FY 2008–09 as recorded in the Annual Report 2008–2009 by Ministry of Rural Development).

This paper will aim to critically examine gender parity under MGNREGA and also to look at its impact on the economic conditions of women workers in west district of Tripura. For this study, beneficiaries from Madhya Debendranagar village of Jirania block from West district of Tripura has been selected for this study.

Communication seems to have taken the challenge to connect people of all sections through faster and reasonable social networking sites. The modern technology has found out ways to revolutionize the society at the same time putting the youth in addition of social networking. This book tries to address some of the issues and challenges of Communication in Modern Indian Society. This book provides various aspects of communication in the modern society of India. Basically this book is compilation of the research papers presented in the National Seminar on "Current Trends of Development in Innovation, Communication and Creativity in India" held on 27th & 28th February, 2016.

Shankha Shubhra Bhadra, Assistant Professor and Head, Department of Commerce, Holy Cross College, Agartala, India has eight years of teaching experience. He was the Department Head of BBA since 2010 till 2016. His research center is on the intersection of Narrative Accounting, Companies Act and Globalization. He has published three book chapters, three research papers in International Journals and participated in various National Seminar, Conference and Workshops. He conducted an International Seminar and two National Seminar and workshops since 2010 in Holy Cross College. He is also the co-editor of couple of books such as "Contours of Globalization", and "4G: Globalization, Growth, Governance and Goal". He is a full time member of ESSOT (Economic Science Society of Tripura) and takes active part in research work.

He was the Coordinator of Directorate of Distance Education, TU, Study Center and Academic Counselor of Graduate Program of IGNOU, Tripura. He is the Joint Director of ALS-IAS coaching center of Holy Cross College and fond of conducting mock interviews and provides consultation to Govt. job aspirants in Tripura. He is also resource person on some occasions of Teacher Orientation. He holds various administrative posts in the College such as Chairperson of Examination Committee, Member of IQAC, Convener of Placement Cell, Joint Coordinator of Wall Magazine, etc at Holy Cross College, where he encourages the Under Graduate students to be a part of research work. He was awarded as "Teacher of the Year" in the year 2015.

 GLOBAL
PUBLISHING
HOUSE (INDIA)

Door No. 13-1-1, Vigneshwari Enclave, Anthony Nagar,
Maharajpet, Visakhapatnam - 2, A.P. (India)
Email: globalpublishinghouse@gmail.com

Price: ₹ 895.00

ISBN 978-81-81163-19-7



COMMUNICATION & MODERN INDIAN SOCIETY

Shankha Shubhra Bhadra



COMMUNICATION & Modern Indian Society



Edited By
Shankha Shubhra Bhadra

Contents

- | | | |
|-----|---|-----|
| 1. | Facebook-A Popular Digital Space; Negotiating Between Identity Formation and Social Performance | 11 |
| | — Gitanjali Roy | |
| 2. | Personality Traits and Leisure time activity preferences among frequent and infrequent Facebook users | 11 |
| | — Dr. Sudeshna Chakrabarti | |
| | — Ms. Aparajita Singha | 20 |
| 3. | Right to Information Act: its contemporary trend and issues | 30 |
| | — Swapan Debbarma | |
| 4. | Market beyond Crisis | 38 |
| | — Prof. (Dr.) R.P. Banerjee | |
| 5. | The Right to Information Act, 2005: Issues and Challenges | 42 |
| | — Md Baharul Islam | |
| 6. | Cyber Crime: "A Challenge to the Future" | 57 |
| | — Vivek Kumar Mishra | |
| 7. | Factors Affecting Mobile Banking Adoption in Agartala | 69 |
| | — Nirmalya Debnath | |
| | — Dr. Abhishek Kumar | |
| 8. | Affirmative Effects of Different Communication Tools for the welfare of Consumer of this Society | 82 |
| | — Bindu Pal | |
| 9. | Social Construction and Perception of Mass Media among the Youths of Tripura: Case studies of Television, Cinema, Advertisement and Social Media | 107 |
| | — Bibaljoy Reang | |
| | — Lalnundika Darlong | |
| | — Sharmila Chhotaray | |
| 10. | Impact of Organizational Culture on Organizational Politics & Organizational Communication | 119 |
| | — Ms. Mithila Roy Bardhan (Deb) | |
| | — Dr. Madhurima Ganguly | |
| 11. | India's Look East Policy with Special Reference to Tripura | 130 |
| | — Sharmistha Rakshit | |
| 12. | Television Soap Operas as Women's Genre: Reviewing the Genesis and Current Trends of Reception Studies | 140 |
| | — Sudeshna Chanda | |
| | — Sharmila Chhotaray | |
| 13. | Politics of REDD+ and Community Forestry (FRA 2006): With Special Reference to North-East India | 152 |
| | — Piyali Dhar | |
| 14. | The Impact of ICT on Consumer Behavior | 160 |
| | — Sharmili Chakraborty | |
| 15. | Issues & Challenges of HIV Counsellors An Overview of Tripura | 174 |
| | — Rashmita Deb | |
| 16. | Social Media as Voice of the People or the Propagandist | 186 |
| | — Shivajyoti Das Baruah, | |
| | — Dr Deepak Upadhyaya | |

Television Soap Operas as Women's Genre: Reviewing the Genesis and Current Trends of Reception Studies

Sudeshna Chanda
Sharmila Chhotaray

Abstract

Daily soap operas are used to consider as women's genre because of its wide popularity among the women, irrespective of their heterogeneity. But in hegemonic discourse, it is presumed as inferior and unrealistic representation of some insignificant issues. Consequently, these viewers and their viewing practices were never got scholarly attention until the emergence of feminist discourse of reception.

Initially, it was assumed that media messages are very powerful to inject repressive ideology directly into the consciousness of the masses. Therefore, the analysis of media text as cultural constructor, imposing its intended messages on the audience, was given utmost importance. But contemporary culturalists argue that audiences are not passive viewers, rather, they are embedded in a social context that shapes their subjectivity and active engagement in interpretation or decoding of media messages. So, media messages are polysemic, negotiable, and subject to multiple interpretations. This ideological shift led to the development of reception theories. In this backdrop, the present article tries to focus on the shifting paradigm of media theories, from textual analysis to reception theory in the context of soap opera. It also intends to highlight the gradual shift in the whole reception paradigm from linguistic analysis to ethnographic turn and the recent amalgamation of text and context, with special reference to the feminist discourse.

Keywords: *Reception study, Women's genre, Soap opera, Feminist theory.*

Introduction

In the present-day world, mass media or more specifically, television is a crucial medium of cultural reconstruction. Due to limited avenues of entertainment and ease of access to television, it has been considered as the most popular and effective media for women. Among the variety of programmes, it is commonly evident that women are much more inclined to daily soaps, even more than cooking or fashion related programmes. Also most of the discussions among women's groups revolve around these soaps. It is believed that its features like centrality of female characters, multiple characters and plots, thrust on relationships, emphasis on problem solving, home as settings, portrayal of powerful female and sensitive male etc. appeal predominantly to the female audience. This preference cuts across the boundaries of age, class, race, communal or religious affiliation, profession, rural-urban residence, educational background and other heterogeneities of the women. In fact, in spite of its sexist, patriarchal content, the feminists themselves are admittedly hooked on these daily soaps (Zoonen, 1994). Consequently soaps are considered as women's genre. But in hegemonic discourse, soaps are always disdained as a low cultural form, representing inferior, morally questionable and unrealistic portrayal of some insignificant issues.

Around 1970s the impact of feminist theories is felt in diverse disciplines including literature, Cultural Studies, Anthropology, Sociology, Psychology etc. But the most radical challenge provided by the feminist theories is felt in cultural studies, which discard the value laden distinction between high and low culture as well as the patriarchal bias. As a consequence, the cultural representations like soap opera gain scholarly attention and the sources of pleasure and enjoyment of a huge majority of female audience necessitate its re-evaluation rather than complete dismissal. Focus has been given on the power of soap operas in the construction of women's lives and their concepts of femininity.

Communication seems to have taken the challenge to connect people of all sections through faster and reasonable social networking sites. The modern technology has found out ways to revolutionize the society at the same time putting the youth in addition of social networking. This book tries to address some of the issues and challenges of Communication in Modern Indian Society. This book provides various aspects of communication in the modern society of India. Basically this book is compilation of the research papers presented in the National Seminar on "Current Trends of Development in Innovation, Communication and Creativity in India" held on 27th & 28th February, 2016.

Shankha Shubhra Bhadra, Assistant Professor and Head, Department of Commerce, Holy Cross College, Agartala, India has eight years of teaching experience. He was the Department Head of BBA since 2010 till 2016. His research center is on the intersection of Narrative Accounting, Companies Act and Globalization. He has published three book chapters, three research papers in International Journals and participated in various National Seminar, Conference and Workshops. He conducted an International Seminar and two National Seminar and workshops since 2010 in Holy Cross College. He is also the co-editor of couple of books such as "Contours of Globalization", and "4G: Globalization, Growth, Governance and Goal". He is a full time member of ESSOT (Economic Science Society of Tripura) and takes active part in research work.

He was the Coordinator of Directorate of Distance Education, TU, Study Center and Academic Counselor of Graduate Program of IGNOU, Tripura. He is the Joint Director of ALS-IAS coaching center of Holy Cross College and fond of conducting mock interviews and provides consultation to Govt. job aspirants in Tripura. He is also resource person on some occasions of Teacher Orientation. He holds various administrative posts in the College such as Chairperson of Examination Committee, Member of IQAC, Convener of Placement Cell, Joint Coordinator of Wall Magazine, etc at Holy Cross College, where he encourages the Under Graduate students to be a part of research work. He was awarded as "Teacher of the Year" in the year 2015.

 GLOBAL
PUBLISHING
HOUSE (INDIA)

Door No. 13-1-1, Vigneshwari Enclave, Anthony Nagar,
Maharajpet, Visakhapatnam - 2, A.P. (India)
Email: globalpublishinghouse@gmail.com

Price: ₹ 895.00

ISBN 978-81-81163-19-7



COMMUNICATION & MODERN INDIAN SOCIETY

Shankha Shubhra Bhadra



COMMUNICATION & Modern Indian Society



Edited By
Shankha Shubhra Bhadra

Contents

- | | | | |
|---|----|--|-----|
| 1. Facebook-A Popular Digital Space; Negotiating Between Identity Formation and Social Performance | 11 | 9 Social Construction and Perception of Mass Media among the Youths of Tripura: Case studies of Television, Cinema, Advertisement and Social Media | 107 |
| — Gitanjali Roy | | — Bibaljoy Reang | |
| 2 Personality Traits and Leisure time activity preferences among frequent and infrequent Facebook users | | — Lalnundika Darlong | |
| — Dr. Sudeshna Chakrabarti | | — Sharmila Chhotaray | |
| — Ms. Aparajita Singha | 20 | 10 Impact of Organizational Culture on Organizational Politics & Organizational Communication | 119 |
| 3 Right to Information Act: its contemporary trend and issues | | — Ms. Mithila Roy Bardhan (Deb) | |
| — Swapan Debbarma | 30 | — Dr. Madhurima Ganguly | |
| 4 Market beyond Crisis | | 11 India's Look East Policy with Special Reference to Tripura | 130 |
| — Prof. (Dr.) R.P. Banerjee | 38 | — Sharmistha Rakshit | |
| 5 The Right to Information Act, 2005: Issues and Challenges | | 12 Television Soap Operas as Women's Genre: Reviewing the Genesis and Current Trends of Reception Studies | 140 |
| — Md Baharul Islam | 42 | — Sudeshna Chanda | |
| 6 Cyber Crime: "A Challenge to the Future" | | — Sharmila Chhotaray | |
| — Vivek Kumar Mishra | 57 | 13 Politics of REDD+ and Community Forestry (FRA 2006): With Special Reference to North-East India | 152 |
| 7 Factors Affecting Mobile Banking Adoption in Agartala | | — Piyali Dhar | |
| — Nirmalya Debnath | | 14 The Impact of ICT on Consumer Behavior | 160 |
| — Dr. Abhishek Kumar | 69 | — Sharmili Chakraborty | |
| 8 Affirmative Effects of Different Communication Tools for the welfare of Consumer of this Society | | 15 Issues & Challenges of HIV Counsellors An Overview of Tripura | 174 |
| — Bindu Pal | 82 | — Rashmita Deb | |
| | | 16 Social Media as Voice of the People or the Propagandist | 186 |
| | | — Shivajyoti Das Baruah, | |
| | | — Dr Deepak Upadhyaya | |

Kukis in Tripura : A Glimpse

Dr. Anjana Bhattacharjee



सिद्धात्त्वस्ति ए सव एव स्वाणं स
उक्तं सव माणि पितृवै वि
रुक्मण्युत्तिसया
दिमाकया ए समाणी
पञ्चसवत्तलसत
मानं गेर युत्ति ए सहाव
शिक्षा। एव तया। विगा ए सहा
एणिया।

॥ सरस्वत्यै वैषा घटयति यथेष्टं भगवती ॥

आन्तर्जातिकसंस्कृतसम्मेलने

‘पश्चिमवङ्ग आञ्चलिक इतिहास ओ लोकसंस्कृति चर्चा केन्द्र’ द्वारा प्रकाशिता

संस्कृतवार्त्तिका

(Sanskṛtavarttikā)

संस्करणम्-१ (प्रथमभागः)

प्रधानसम्पादकः डा. उत्तम-विश्वासः

सहसम्पादकाः प्रसेन्जित्मण्डलः, उदयशंकरखाट्टया सुजितदासश्च

भारतविद्यागवेषणासंगोष्ठी,

(Indological Research Group)

पश्चिमवङ्ग आञ्चलिक इतिहास ओ लोकसंस्कृति चर्चा केन्द्र

कोलकाता, २०१७

।। सरस्वत्येवैषा घटयति यथेष्टं भगवती ।।

आन्तर्जातिकसंस्कृतसम्मेलने

पश्चिमवङ्ग आञ्चलिक इतिहास ओ लोकसंस्कृति चर्चा केन्द्र द्वारा प्रकाशिता

Sharada Nath Tiwari

संस्कृतवर्तिका (Samskr̥tavarttikā)

संस्करणम्-१ (प्रथमभागः)

प्रधानसम्पादकः डा. उत्तम-विश्वासः

सहसम्पादकाः प्रसेन्जित्मण्डलः, उदयशंकरखाट्टया, सुजितदासश्च

भारतविद्यागवेषणासंगोष्ठी,

(*Indological Research Group*)

पश्चिमवङ्ग आञ्चलिक इतिहास ओ लोकसंस्कृति चर्चा केन्द्र

कोलकाता, २०१७

संस्कृतवर्तिका:

आन्तर्जातिकसंस्कृतसम्मेलने प्रकाशिता

संस्करणम्-१ (प्रथमभागः)

Sanskrtavarttikā:

Proceedings of 1st Annual International Sanskrit
Conference

Vol. I (Part 1)

कॉपीराइट: © पश्चिमवङ्ग आञ्चलिक इतिहास ओ लोकसंस्कृति
चर्चाकेन्द्र २०१७

No portion of this publication may be reproduced or transmitted by any means in part or whole by any method of reproduction or copying whether electronic/digital or otherwise, without the express, prior and written permission of the author and the publisher. The responsibility for the facts stated, opinions expressed and conclusions reached is entirely that of the author of the publication and the Paschimbanga Anchalik Itihas O Loksanskriti Charcha Kendra, as a body, accepts no responsibility for them.

प्रकाशकः मलय दास, अध्यक्ष, पश्चिमवङ्ग आञ्चलिक इतिहास ओ
लोकसंस्कृति चर्चाकेन्द्र, मध्यकल्याणपुर, बरूईपुर,
कोलकाता - ७००१४४
E-mail: anchalikitihas@gmail.com

ISBN 978-81-926316-8-4

मुद्रकः एस. पी. कम्युनिकेशन प्रा. लिमिटेड, ३१ बी, राजा दिनेंद्रा
स्ट्रीट, राजा राम मोहन राय सरणी, कोलकाता - ००९

मूल्यम्- ७०० रुपिया

| | |
|--|-----|
| वाक्यपदीये विवर्तवादः | 68 |
| वाणेश्वरजाना | |
| संस्कृतसाहित्ये वैदिशिकानामभिरुचिः | 74 |
| ड० भारतभूषणरथः | |
| श्रीलक्ष्मणापरिणयमहाकाव्ये संस्कृ तिचर्चा | 81 |
| वीणापाणिः दासः | |
| कुमारदासविरचितजानकीहरणमहाकाव्यस्य | 90 |
| समाजधर्मराज-नीतिविषयकमेकमध्ययनम् | |
| बुल्टीदासः | |
| कान्तावचनेन प्रसन्नगम्भीरमात्मतत्त्वम् : श्रीकृष्णमिश्रकीर्तिः | 97 |
| चिन्मयमिश्रः | |
| ✓ अमरचन्द्रसूरिकृतबालभारतमहाकाव्ये अलंकारविमर्शः | 103 |
| शंकरनाथतिवारिः | |
| चुमकिसाहा | |
| अद्यतनकाले भारतीयारस्तिकदर्शनानां प्रासङ्गिकत्वम् | 115 |
| देवव्रत साउ | |
| आत्मनः सदसद्विवेके भाष्यवार्तिकमतसमीक्षणम् | 123 |
| देवाशिषमिश्रः | |
| रसोत्पत्तिसमीक्षा | 132 |
| दिव्येन्दुमण्डलः | |

Shankar Nath Tiwary

अमरचन्द्रसूरिकृतबालभारतमहाकाव्ये अलंकारविमर्शः

शंकरनाथतिवारी:

अध्यापकः

चुमकिसाहा च,

शोधच्छात्रा त्रिपुराविश्वविद्यालयस्य

काव्यमलंकरोति स तत्त्वविशेषो नामालंकारः। अलंकारशब्दस्याभिप्रायो भवति- आभरणं परिष्कारो विभूषणं मण्डनमाभूषणादयः-“अलंकारस्त्वाभरणं परिष्कारो विभूषणम्॥ मण्डनं च”^१। अस्मिन्नेव कोशग्रन्थे ‘अलम्’ पदस्यापि त्रिविधोऽर्थः प्राप्यते “अलं भूषणपर्याप्तिशक्तिवारणवाचकम्”^२। अलंकारशब्दस्य द्विविधं निर्वचनं प्राप्तम्- “अलंकरोतीति अलंकारः” “अलंकृतिश्चालंकारः”। सर्वे आलंकारिकाः काव्यस्य जीवनाधायकतत्त्वरूपेण अलंकारं स्वीकुर्वन्ति-“अलंकारः काव्यजीवनमिति”। अत्र ‘अलमिति’ पदस्याभिप्रायः ‘पूर्णता’ भवति-“अलम्भावस्तु पूर्णता”^३। प्रायः सर्वे आलंकारिकैः स्वकीयविचारानुसारतः अलंकारस्य लक्षणं प्रदत्तम्। आचार्येण वामनेनोक्तम्-“सौन्दर्यमलंकारः”^४। अनेनाचार्येण काव्यसौन्दर्य-हेतुभूताः समे धर्माः अलंकारेऽन्तर्भूताः भवन्ति-“काव्यं ग्राह्यम-लंकारात्”^५। अलंकारसम्प्रदायस्य संस्थापकेनालंकारतंत्रप्रजापतिचिरन्तनालंकारिकभामहेन काव्येऽलंकाराणां गौरवयुक्तमेव स्थानमुद्घोषितम्। तस्य विचारोऽस्ति यत्- यथा वनितायाः वदनं कमनीयमपि अलंकारविरहितं शोभां न जनयति तथैव रम्यमपि काव्यालंकारवियुक्तं काव्यं न सहृदयहृदयाह्लादनाय प्रभवति-

“रूपकादिरलंकारस्तथान्यैर्वहुधोदितः।

न कान्तमपि निर्भूषं विभाति वनिताननम्॥”^६

भामहमतानुसारेणालंकाराः काव्यस्य स्वाभाविकशोभादायकधर्माः सन्ति यैः विदग्धमण्डनाकृशागिसहृदयानाम् अर्थमर्मज्ञानाम् अलंकृता वाणी विभूषिता भवति। अलंकारास्तावद् द्विविधाः शब्दगता अर्थगताश्चेति। बालभारतमहाकाव्येऽपि कविना

नानकचन्द्रोदयमहाकाव्ये रसविमर्शः

Shankar Hathi Tiwary

पौलमीमजुमदारः शोधच्छात्रा

अध्यापकः शंकरनाथतिवारिश्व त्रिपुराविश्वविद्यालयस्य

"रस्यते आस्याद्यते इति रसः"। अनया व्युत्पत्त्या निष्पन्नोऽयं रसशब्दः। 'रस आस्वादे' इति धातुयोगे 'घञ्' प्रत्यययोगे "पुंसि संज्ञायां घः प्रायेण"^१ सूत्रेण निष्पन्नोऽयं रसशब्दः। अतः ज्ञायते यत् रसे आस्वादयता गुणसाम्ये धर्मस्य प्रधानता भवति। आद्याचार्यभरतेनाप्युक्तम्-"रस इति कः पदार्थः उच्यते आस्वादयत्वात्"^२। संस्कृतवाङ्मये रसशब्दस्य प्रयोगं प्राचीनकालादेवायाति। अनेकार्थकोऽयं रसशब्दः। सारदुग्धजलद्रवतरलवीर्यानन्दप्रेमभावनाविषरागगन्धस्वादिष्टपदार्थ-लावण्यादयः अभिप्रायोऽस्ति रसस्य-

रसो गन्धो रसे स्वादे तिक्तादौ विषरागयोः

शृङ्गारादौ द्रवे वीर्ये देहधात्वभ्वुपारदे।।^३

अनेकार्थनाममालानामकग्रन्थे रसशब्दस्य सम्बन्धे एवं विधमुक्तं वर्तते-

शृङ्गारादौ कषायादौ घृतादौ च विषे जले।

निर्यासे पारदे रागे वीर्येऽपि रस इष्यते।।^४

ऋग्वेदे यजुर्वेदे सामवेदे अथर्ववेदे आयुर्वेदे छन्दःशास्त्रे काव्यचिन्तनक्षेत्रे नाट्यक्षेत्रे संगीतशास्त्रे मूर्तीकलाक्षेत्रे चित्रकलाक्षेत्रे प्रभृतिविचारक्षेत्रे अयं 'रस' शब्दः विभिन्नार्थं सुप्रयुक्तः वर्तते। रसशास्त्रे तु सहृदयावधारणायाः स्थानमतीवमहनीयमस्ति। तत्रैव हृदये संवादस्य रसनिष्पत्तौ सहृदयस्य हृदयसंवादस्य च स्थानं वरेण्यम् अस्ति। रसस्यार्थविकासप्रसंगे वयं पश्यामः यत् सामान्यव्यवहारे रसस्यार्थचतुष्टये प्रयोगः भवति-

१. पदार्थः रसः अम्लः तिक्तः कषादयश्च।

२. आयुर्वेदे रसः

३. साहित्यरसः

४. मोक्षोऽथवा भक्ति रसः।

বাংলা কথাসাহিত্যের
দেড়শো বছর

সম্পাদনা

ড. স্বপন শর্মা
ড. শ্রীমন্ত রায়

বিমল সিংহের কথাসাহিত্যে সাধারণ মানুষের সামাজিক ও অর্থনৈতিক জীবনের প্রতিচ্ছবি

ড. শিপ্রা রায়

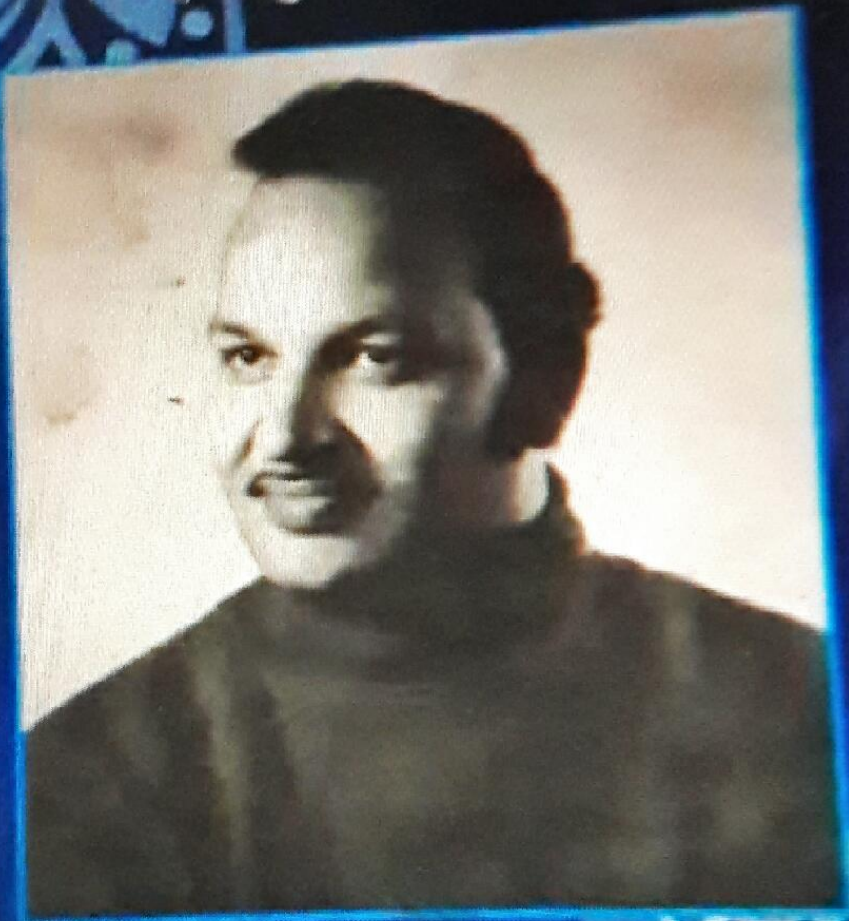
বিমল সিংহ ত্রিপুরা রাজ্যের একজন উল্লেখযোগ্য কথাসাহিত্যিক। ১৯৪৮ সালের ১৬ই অক্টোবর ত্রিপুরা রাজ্যের কমলপুর মহকুমার নিমটে বৃন্দপুর গ্রামের এক অভিজাত বিদ্যুপ্রিয়া মনিপুরি পরিবারে জন্ম বিমল সিংহের। কলেজে পড়ার সময় হাতেই তিনি খামপেশী ছাত্র সাংগঠনের সাথে যুক্ত হয়েছিলেন এবং পরে ত্রিপুরা রাজ্যের মন্ত্রীও হয়েছিলেন। তিনি শূন্য একজন রাজনীতিকই ছিলেন না, সহিত্যক্ষেত্রেও তিনি অসামান্য কৃতিত্বের স্বাক্ষর রেখেছেন। তিনি অনেক গল্প ও উপন্যাস লিখেছেন। সেগুলি হল - 'আঙ্গোরা টিকানা' (গল্প সংকলন), 'লংতরাই' (উপন্যাস), 'মনহিহাম' (গল্প সংকলন), 'তিতাস থেকে ত্রিপুরা' (উপন্যাস), 'করাচি থেকে লংতরাই' (বেড়া গল্প) এবং 'তখাপাড়ার ইতিকথা' (উপন্যাস)। এছাড়া বিদ্যুপ্রিয়া মনিপুরি ভাষায়ও তিনি প্রবন্ধ লিখেছেন। সেগুলি হল - 'পৌরেই' (প্রবন্ধ সংকলন), 'বরেইবরাই' (সোককথা) এবং 'সংহোর আলোকে বিদ্যুপ্রিয়া মনিপুরী' (প্রবন্ধ)। এই সব গল্প উপন্যাসের মধ্যে ত্রিপুরার বিভিন্ন জনগোষ্ঠী বিশেষ করে পার্বত্য জনপদের শোষিত লাঞ্চিত শ্রমজীবী মানুষের সামাজিক ও অর্থনৈতিক সংস্কৃতির ছবি তুলে ধরেছেন। উত্তরপূর্ব ভারতের যেই পাহাড়ি রাজ্য ত্রিপুরার বিভিন্ন গোষ্ঠীর মানুষের ভাষা ও সংস্কৃতিকে তাঁর গল্প ও উপন্যাসের মধ্যে তুলে ধরেছেন। এরই পাশাপাশি সাধারণ মানুষের সামাজিক ও অর্থনৈতিক জীবনের চিত্র বিমল সিংহ তাঁর কথাসাহিত্যের মাধ্যমে বর্ণনা করেছেন।

'লংতরাই' উপন্যাসে রিয়ার সমাজের জীবনের প্রতিচ্ছবি বর্ণনা করেছেন। এই উপন্যাসের নায়ক জরকা মুনি। লংতরাই পাহাড়ের উঁচু টিলার গায়ে বিস্তৃত জুম ক্ষেত। যৌথ শ্রমের বিভিন্ন প্রকার মাধ্যমে রিয়ার সমাজে জীবনযাত্রা নির্বাহ হয়। জুম চাষ, লাঙ্গল তৈরি ইত্যাদি নিয়েই বিয়ানের ব্যক্তিত্ব থাকত। উপন্যাসে দেখা যায় জরকা মুনির সাথে স্বজনবৃত্ত এর প্রথম এবং সংসার গড়ে উঠে। এরই মধ্যে হঠাৎ লংতরাই পাহাড়ে প্রকৃতির প্রভাবে খবর আবির্ভাব হয়। এর ফলে খাদ্যাভাব দেখা দেয়। সাধারণ মানুষদের স্বপ্ন বাস্তব হয়ে জীবিকা সংস্থানের জন্য অন্য বৃত্তি গ্রহণ করতে হয়। তারা আসাম আশ্রয়কলা সড়ক নির্মাণের কাজে অংশগ্রহণ করে এবং

श्रीहीरकप्राभृतम्

श्रीहीरकप्राभृतम्

(चतुर्थः खण्डः)



देवजाणी-परिषद्, दिल्ली

संस्कृत-विद्यालय-संज्ञिका-संग्रह-सूची

संस्कृत-विद्यालय-संज्ञिका-संग्रह-सूची

संस्कृत-विद्यालय-संज्ञिका-संग्रह-सूची

संस्कृत-विद्यालय-संज्ञिका-संग्रह-सूची

संस्कृत-विद्यालय-संज्ञिका-संग्रह-सूची

संस्कृत-विद्यालय-संज्ञिका-संग्रह-सूची

संस्कृत-विद्यालय-संज्ञिका-संग्रह-सूची

ড. শিপ্রা রায়

আধুনিক
সংস্কৃত
সাহিত্যের
সংক্ষিপ্ত
ইতিবৃত্ত

সংস্কৃত বুক ডিপো

আধুনিক সংস্কৃতসাহিত্যের সংক্ষিপ্ত ইতিবৃত্ত

ড. শিপ্রা রায়

এসোসিয়েট প্রফেসর ও প্রাক্তন বিভাগীয় প্রধান

সংস্কৃত বিভাগ, ত্রিপুরা বিশ্ববিদ্যালয়

এবং

প্রাক্তন সহ সচিব, ফ্যাকাল্টি কাউন্সিল ফর পোস্ট গ্র্যাজুয়েট স্টাডিজ,

ত্রিপুরা বিশ্ববিদ্যালয়



সংস্কৃত বুক ডিপো

২৮/১, বিধান সরণী

কলকাতা-৭০০ ০০৬

।। सरस्वत्येवैषा घटयति यथेष्टं भगवती ।।

आन्तर्जातिकसंस्कृतसम्मेलने

पश्चिमवङ्ग आञ्चलिक इतिहास ओ लोकसंस्कृति चर्चा केन्द्र द्वारा प्रकाशिता

संस्कृतवार्त्तिका (Saṃskṛtavarttikā)

संस्करणम्-१ (प्रथमभागः)

प्रधानसम्पादकः डा. उत्तम-विश्वासः

सहसम्पादकाः प्रसेन्जित्मण्डलः, उदयशंकरखाट्टया, सुजितदासश्च

भारतविद्यागवेषणासंगोष्ठी,

(*Indological Research Group*)

पश्चिमवङ्ग आञ्चलिक इतिहास ओ लोकसंस्कृति चर्चा केन्द्र

कोलकाता, २०१७

संस्कृतवर्तिका:

आन्तर्जातिकसंस्कृतसम्मेलने प्रकाशिता

संस्करणम्-१ (प्रथमभागः)

Samskr̥tavarttikā:

Proceedings of 1st Annual International Sanskrit
Conference

Vol. I (Part 1)

कॉपीराइट: © पश्चिमवङ्ग आञ्चलिक इतिहास ओ लोकसंस्कृति
चर्चाकेन्द्र २०१७

No portion of this publication may be reproduced or transmitted by any means in part or whole by any method of reproduction or copying whether electronic/digital or otherwise, without the express, prior and written permission of the author and the publisher. The responsibility for the facts stated, opinions expressed and conclusions reached is entirely that of the author of the publication and the Paschimbanga Anchalik Itihas O Loksanskriti Charcha Kendra, as a body, accepts no responsibility for them.

प्रकाशकः मलय दास, अध्यक्ष, पश्चिमवङ्ग आञ्चलिक इतिहास ओ
लोकसंस्कृति चर्चाकेन्द्र, मध्यकल्याणपुर, बरूईपुर,
कोलकाता - ७००१४४
E-mail: anchalikitihas@gmail.com

ISBN 978-81-926316-8-4

मुद्रकः एस. पी. कम्युनिकेशन प्रा. लिमिटेड, ३१ वी, राजा दिनेन्द्रा
स्ट्रीट, राजा राम मोहन राय सरणी, कोलकाता - ००९

मूल्यम्- ७०० रुपिया

| | |
|--|-----|
| कालिदासस्य शास्त्रीयभावना | 140 |
| जयश्रीपालः | |
| पाणिनीयव्याकरणे अतिदेशत्वविचारः | 146 |
| जयदेवदिन्दा | |
| काव्यकारणानुसन्धाने जगन्नाथस्य चिन्तनम् | 154 |
| झण्टुदासः | |
| नारीणामुत्कर्षतापकर्षताविषये मनुमतम् | 159 |
| कल्याण कुमार करः | |
| कालिदासस्य अभिज्ञानशकुन्तले नारीचरित्राणामवदानम् | 165 |
| मधुमिता जाना | |
| सामाजिकविषयविवेचने | 170 |
| गीतोक्तसारव्ययोगाध्यायस्यावदानम् | |
| मधुसूदनदासः | |
| उपनिषदां नीतिवचनम् | 174 |
| मुनमुन-नन्दी | |
| काश्मीरशैवदर्शनसिद्धान्तप्रतिपादके | 179 |
| भगवद्गीतार्थसंग्रहे अभिनवगुप्तस्याभिनवत्वम् | |
| पार्थसारथिशीलः | |
| नानकचन्द्रोदयमहाकाव्ये रसविमर्शः | 188 |
| पौलमीमजुमदारः शोधच्छात्रा | |

काश्मीरशैवदर्शनसिद्धान्तप्रतिपादके भगवद्गीतार्थसंग्रहे अभिनवगुप्तस्याभिनवत्वम्

पार्थसारथिशीलः

अध्यापकः त्रिपुराविश्वविद्यालयस्य।

भगवन्तं शिवमाश्रित्यैव शैवानां शास्त्रपरम्परा समाद्रियते। सैण्डर्सन्-महोदयस्य मतानुसारं न तु ये केवलं शिवस्योपासनां कुर्वन्ति ते एव शैवाः अपि च ये खलु देव्याः आराधनां कुर्वन्ति तेऽपि शैवाः इति।^१ एवं स्पष्टं भवति यद् शिवशक्तयोः भेदः नैव विद्यते तत्र प्रमाणं तावदागमशास्त्रम्। सूतसंहितावचने प्राप्यते“सा देवी परमादेवी शिवभिन्ना शिवङ्करी। शिवभिन्ना तथा हीनशिवोऽपि हि निरर्थकः॥”इति। अपि च आचार्येण शक्तिव्यतिरेके सति शिवस्य शिवत्वं नैव स्वीकृतम्, तत्र दृश्यते“न शिवः शक्तिरहितो न शक्तिर्व्यतिरेकिणी। शिवः शक्तस्तथा भावानिच्छया कर्तुमीहते। शक्तिशक्तिमतोर्भेदः शैवे जातु न वर्ण्यते॥”^२ यतो हि इ-कार एव शिवे (श+इ+व्+अ) शक्तेः द्योतकः वर्णः। अत्र पत्रेऽस्मिन् श्रीमद्भगवद्गीतायाः महामाहेश्वराचार्येण अभिनवगुप्तेन विरचिते गूढार्थप्रतिपादनात्मके व्याख्यामूलके भगवद्गीतार्थसंग्रहे ग्रन्थे काश्मीरशैवदर्शनानुसारं शिवाद्यवादोल्लेखपुरस्सरं मोक्षस्य स्वरूपं पर्यालोचयिष्यते। आगममूलकमेतत् त्रिकदर्शनम्। नवमशताब्द्याः प्रथमार्धे आचार्येण वसुगुप्तेन यानि शिवसूत्राणि स्वप्ने महादेवानुग्रहात् अधिगतानि, तानि अपि आगमकल्पानि शैवदर्शने। तस्य शिष्येण भट्टकोल्लटेन स्पन्दकारिकायां जगतः उन्मेषनिमेषहेतुभूताया अहंविमर्शरूपायाः ज्ञातृत्वकर्तृत्वरूपस्पन्दशक्त्याः विवेचनं कृतम्। ततश्च सोमा-नन्देन स्वस्य शिव-दृष्टौ^३ त्रिकदर्शनस्य सर्वाङ्गतत्त्वमुन्मेषितम्। सोमानन्दस्य शिष्येण आचार्येण उत्पलदेवेन ईश्वरप्रत्यभिज्ञाकारिकायां प्रत्यभिज्ञापर्यायं शैवदर्शनं सम्यक् प्रतिष्ठितम्। तदनु दशमशताब्द्याम् अभिनवगुप्तेन तन्त्रालोके तन्त्रसारे च शैवदर्शनालोकेन दर्शनस्यास्य सारः प्रदत्तः। त्रिकदर्शनप्रतिष्ठापकेषु लघुग्रन्थेषु अभिनवगुप्तेन विरचिताः परमार्थसारः, बोधपञ्चदशिका, परमार्थचर्चा, इत्यादयः ग्रन्था उल्लेखयोग्याः। स्तोत्रग्रन्थेषु च भैरवस्तव-क्रमस्तोत्र-अनुत्तराष्टिका-अनुभवनिवेदनस्तोत्र-देवस्थदेवतास्तोत्राणि च

प्रसिद्धानि। अनुत्तर-परमेश्वरस्य विश्वमये स्वरूपेऽत्र तादात्म्यत्वं प्रकटितम्। गुप्तपादेन ईश्वरप्रत्यभिज्ञाविमर्शिन्यां परात्रीशिकाविवरणे शिवदृष्ट्यालोचने च काश्मीरशिवाद्वय-वादस्य तत्त्वानि उन्मोचितानि। इतोऽपि श्रीमद्भगवद्गीतायाः व्याख्यामूलके भगवद्गीतार्थसंग्रहे काश्मीरशैवदर्शनस्य तत्त्वानुसरणमुखेन व्याख्या ग्रथिता। शैवसाहित्ये भगवद्गीतायाः महत्त्वम् अस्माद् कारणादधिकं विद्यते यतो हि एतत्परम्परानुसारेण ज्ञायते भगवता श्रीकृष्णेन महर्षेः दुर्वाससोऽद्वैतवादिनः शैवागमसमूहाः अधिगताः। उपमन्युतश्च अन्येषामागमानां तस्याहोरणमिति। अत्र टीकायां शुद्धविद्याविद्ययोः मध्ये संघातस्य एव पाण्डवकौरवयोर्मध्ये रणक्षेत्रं द्योतकम्। मूलतः अत्र प्रत्यभिज्ञादर्शनस्य शिवाद्वयवादः परिस्फुटति। का नाम प्रत्यभिज्ञा? अहमीश्वर एव नान्य इत्येवं यः साक्षात्कारः स प्रत्यभिज्ञेत्युच्यते^४ अथवा प्रतीपमात्मा-भिमुख्येन ज्ञानं प्रकाशः प्रत्यभिज्ञा।^५ अविद्यावशाद् जीवः स्वस्य शिवत्वं विस्मृत्य अणुत्वं लभते, ततश्च साधनया अविद्यापाशं नाशयित्वा पुनः शिवत्वमाप्नोति सोऽहं शिवेति प्रत्यभिज्ञां च जायते। त्रिकशास्त्रस्यास्य अपरं नाम स्वातन्त्र्यवादः, आभासवादः षडर्धशास्त्रं वा। अनुत्तरः इच्छा उन्मेषाश्च शक्तित्रयं त्रिक इत्यख्यया भूषितम्^६। परा-अपरा-परापराणां शक्तीनामपि कुत्रापि वा त्रिकत्वम्^७। दर्शनेऽस्मिन् केषुचिद् स्थलेषु चिच्छक्तीच्छाशक्तिज्ञानशक्तीनां त्रिकसंज्ञा अपि प्राप्यते।

अस्मिन् आगमसम्मते मते द्विनवतिः आगमाः स्वीक्रियन्ते। तेषु च सिद्धानामक-मालिन्यश्च मुख्याः आगमग्रन्थाः इति। त्रिकदर्शनानुसारं शिवस्य रूपद्वयं वर्तते। विश्वमयः विश्वोत्तीर्णश्चेति, तत्र सर्वाकृतिः विश्वमयः, निराकृतिः विश्वोत्तीर्णः। एकस्मिन् समये कथं तर्हि शिवस्य उभयत्र प्रकाशः? जयरथमतानुसारं दर्पणाद् भिन्नाः घटादयः पदार्थाः यथा दर्पणे प्रतिफलिताः अभिन्नरूपेण प्रतिभान्ति तथा परमशिवस्य इच्छानुसारं तस्य स्वरूपतः भिन्नरूपेण तस्यैव स्वरूपे अवभासितः स्थावरजङ्गमात्मकः विश्वः तस्य स्वरूपाद् अभिन्नरूपेण प्रकाशितः भवति। अतः स अवभासकरूपेण^८ विश्वमयः विश्वोत्तीर्णश्चेति उभयात्मकः।

अर्जुनः यदा युद्धात् विरतिं निर्णीतवान् तदा भगवता यान् विचारान् समाश्रित्य अर्जुनाय उपदिदेश तेषां गीतोपदेशानां संकलनरूपोऽयं ग्रन्थः श्रीमद्भगवद्गीतेति। श्रीमद्भगवद्गीता योगशास्त्रमप्यस्ति। प्रत्येकमध्यायस्यान्तिमे “ब्रह्मविद्यायां योगशास्त्रे” इत्युल्लेखेन ज्ञायते यद् गीतायाः मुख्यं प्रतिपाद्यं ब्रह्मविद्यायाः गूढविद्यायाः प्रतिपादनं सारल्येन भगवन्मुखेनेति। आध्यात्मक्षेत्रस्य सर्वेषां सिद्धान्तानां समन्वयं कृत्वा एकस्य सिद्धान्तस्य स्थापनकार्यं दुरूहं भवति। अतः आचार्येण शङ्करेणोक्तं “तदिदं गीताशास्त्रं

समस्तवेदार्थसारसंग्रहभूतं दुर्विज्ञेयम्"। शुद्धात्मकस्य शिवस्याभिव्यक्तिवशात् सृष्टे जगति सर्वं वासुदेवे परिसमाप्यते।

श्रीमद्भगवद्गीतायाः व्याख्यान्वितेऽभिनवगुप्तपादेन विरचिते भगवद्गीतार्थसंग्रहे महाभारतस्य काश्मीरपाठः गृहीतः। आचार्येण अत्र ग्रन्थान्तर्गतानां श्लोकानां पदार्थप्रदर्शन-पुरस्सरमर्थः नैव विहितः अपि च गूढार्थः एव प्रकटितः स्वस्य व्याख्यायाम्। अभिनवगुप्तात् प्रागपि काश्मीरेषु बह्व्यः टीकाः भगवद्गीतायाः लिखिताः। तासु टीकासु नवमशताब्द्यां राजानकरामकण्ठेन प्रणीतायां सर्वतोभद्रटीकायां यः पाठः प्राप्यते दशमशताब्द्यामभिनवगुप्तस्य गीतार्थसंग्रहे प्रायः स एव पाठ दृश्यते, क्षेत्रीयपरिधिवशात् पाठभेदः कदापि जायते तस्य एव उदाहरणमूलकोऽयं गीतार्थसंग्रहः। पाठभेदेषु केचन अत्र उदाहरणाय प्रदीयन्ते-

- धर्मक्षेत्रे कुरुक्षेत्रे सर्वक्षत्रसमागमे।(१.१)
- अपर्याप्तं तदस्माकं बलं भीष्माभिरक्षितम्।(१.१०)
- पर्याप्तं त्विदमेतेषां बलं भीमाभिरक्षितम्॥
- कर्मण्यस्त्वधिकारस्ते मा फलेषु कदाचन॥ (२.४८)
- ईश्वरः सर्वभूतानां हृद्येषु वसतेऽर्जुन (१८.६१)

गुप्तपादेन अत्र स्वीयदृष्ट्या गूढार्थप्रकाशनाय येषां स्थलानां व्याख्याकरणमावश्यकं मन्यते तेषां स्थलानामुपरि एव स्वस्य व्याख्या निगदिता। शरीरान्तर्गतयोः विद्याविद्ययोः शुभाशुभयोः भावनयोः प्रतिपादनं प्रतीकमुखेन विहिताऽत्र टीकायाम्। भक्तिरसस्रोतसा स्नातः भूत्वा अहंकारं परित्यज्य द्वैतसिद्धान्तस्य महामोहतः निर्गत्य च ब्रह्ममयिचितिशक्ते आलोकैक्येन उद्भासितः सन् माहेश्वराचार्यः अभिनवगुप्तः स्वस्य व्याख्याने शिवाद्वयवादस्य मतं प्रदत्तवान्। शिवाद्वयस्य समन्वयदृष्टिअत्र प्रतिभाति- "लसद्भक्तिरसावेषहीनाहंकारविभ्रमः। स्थितेऽपि गुणसंमर्दे गुणातीतः समो यतिः॥ "अपि च" हत्वाद्वैतमहामोहं कृत्वा ब्रह्ममयीं चितिम्।लौकिके व्यवहारेपि मुनिर्नित्यं समाविशेत्॥"^{१०} अस्यां टीकायां सर्वापेक्षया उल्लेखयोग्याः अभिनवगुप्तेन विरचिताः संग्रहश्लोकाः च गीतार्थावगमनाय द्रष्टव्याः। प्रथमोऽध्यायस्य प्रथमे श्लोके गुप्तपादेन कथितम् "कुरूणां करणानां यत्क्षेत्रं -अनुग्राहकम्, अत एव सांसारिकधर्माणां सर्वेषां क्षेत्रं-उत्पत्तिनिमित्तत्वात्, अयं स परमो धर्मो यद्योगेनात्मदर्शनम् (याज्ञवल्क्यस्मृतिः) इत्यस्य च धर्मस्य क्षेत्रम्, समस्तधर्माणां क्षयादपवर्गप्राप्त्या त्राणभूतं तदधिकारि शरीरम्"^{११}। अतः जीवस्य स्वस्य शत्रुभावनामित्रभावने च अत्र कौरवपाण्डवनिर्देशाद्

परिस्फुटतः। यतः शरीरमेव सर्वेषामिन्द्रियाणां क्षेत्रम् यत्र रागद्वेषक्रोधक्षमादयादीनां समावेशः दृश्यते। प्रथमोऽध्यायस्य दशमे श्लोके यत्र अन्यैः टीकाकारैः केवलं कौरवाणां विजयपक्षः प्रकटितः तत्र अभिनवगुप्तेन अनुकूलप्रतिकूलयोः उभयपक्षयोः अर्थः प्रदर्शितः।^{१२} सर्वेषामध्यायानां समापनावसारे अभिनवगुप्तेन संग्रहश्लोकः प्रदत्तः। अस्य गीतार्थसंग्रहस्य प्रथमोऽध्यायस्य अन्तिमे संग्रहश्लोके ज्ञानाज्ञानयोः चर्चा विद्याविद्ययोः उल्लेखेन सम्पूर्णस्याध्यायस्यास्य सारः निगदितः, तथा च निर्विकल्पसरण्यां त्यागस्य महत्त्वं च प्रदर्शितम्।^{१३} सेनयोरुभयोर्मध्ये इत्युक्ते ज्ञानाज्ञानयोर्मध्ये, “अत्र उभयोरपि ज्ञानाज्ञानयोर्मध्यगः भगवतानुशिष्यते” इति अभिनवगुप्तः।^{१४} स्वतन्त्रस्य परमेश्वरस्य चर्चा प्रसङ्गानुसारं उल्लिख्यते अभिनवगुप्तेन-“नास्य नाशकरणं शस्त्रादि किञ्चित्करम्, चिदेकस्वभावस्यानाश्रितस्य निरपेक्षस्य निरंशस्य स्वतन्त्रस्य स्वभावान्तरापत्त्याश्रय-विनाशावयवविभागविरोधिप्रादुर्भावादिक्रमेण नाशयितुमशक्यत्वात्।”^{१५} एवं स्वतन्त्रस्य परमेश्वरस्य अभिव्यक्तिवशाद् जगतः सृष्टि इत्यभिप्रायः। द्वितीयोऽध्यायस्य “अव्यक्तादीनि भूतानि व्यक्तमध्यानि भारत” इत्यस्य श्लोकस्य टीकायां “किञ्च यत्तन्मूलकारणं किञ्चिदभिमतं तदेव यथाक्रमं विचित्रस्वभावतया स्वात्ममध्ये दर्शिततत्तदनन्तसृष्टिस्थितिसंहतिवैचित्र्यं नित्यमेव” इति वदता गुप्तपादेन परमेश्वरे वासुदेवे सृष्टिस्थितिलयानां पर्यवसानं कृतम्।^{१६} “न हि कश्चित् क्षणमपि जातु तिष्ठत्यकर्मकृत”^{१७} श्लोकस्यास्य ज्ञानक्रिययोः प्रसङ्गे टीकायां प्राप्यश्लोकं “न क्रियारहितं ज्ञानं न ज्ञानरहिता क्रिया। ज्ञानक्रियाविनिष्पन्न आचार्य पशुपाशहा॥” आश्रित्य ज्ञानकर्मसमुच्चयवादस्य सिद्धान्तः उपलभ्यते। एवं श्रीमद्भगवद्गीता-र्थसंग्रहस्य द्वितीयोऽध्यायस्य संग्रहश्लोके^{१८} मनसः प्रवृत्तिः कथं भवति तद्विषयिणी चर्चा उल्लिखिता। चित्तस्य विषयाणां त्यागमाध्यमेन भोगः भोगेन च त्यागस्य सत्यरूपमत्र यथार्थतया तेन उपस्थापितम्। अन्यसंस्करणै सह काश्मीरीयपाठस्य तुलनात्मकावलोकने श्लोकसंख्यासु पाठभेदोऽपि दृश्यते। यथा तृतीयोऽध्यायस्य नवदश श्लोकतः पञ्चविंशतिश्लोकपर्यन्तं श्लोकेषु क्रमवैसादृश्यं दृश्यते, तथा च अत्र पञ्च संख्यकाः अधिकाः श्लोका अपि प्राप्यन्ते। यत्र अर्जुनः पृच्छति कामक्रोधादीनामुत्पत्तिः कथं वर्धते? प्रश्नानामुत्तरूपेण च कृष्णोपदेशः द्रष्टव्यः।^{१९} संवादोऽयं प्रचलितभगवद्गीतासु नैव प्राप्यते। तृतीयोऽध्यायस्य एकादश तमस्य श्लोकस्य व्याख्यायां यत्र अन्ये टीकाकाराः देव इति शब्दस्य अर्थः यज्ञार्थे^{२०} निर्दिष्टः, तत्र अभिनवगुप्तेन इन्द्रियार्थे^{२१} देवशब्दस्य व्याख्या विहिता। एवं प्रकारेण चतुर्थोऽध्यायस्य चतुर्त्रिंशत्तमे श्लोके^{२२} यत्र अन्यटीकाकाराणां मतानुसारं ज्ञानीनां शरणं प्रति ज्ञानं जायते तत्रापि इन्द्रियाणां प्रधानता अभिनवगुप्तेनोद्धोषिता।

इन्द्रियाणां शरणं गच्छन्तः मनुष्याः इन्द्रियान् संयम्य आत्मज्ञानलाभे समर्थाः भवन्ति।^{२३} तृतीयोऽध्यायस्य साररूपे संग्रहश्लोके^{२४} साधकस्य सन्मार्गे गमनाय धनादीनां तुच्छताज्ञानमावश्यकरूपेण वर्णितं तथा च तस्येव साधनं किं भवेदित्यस्य चर्चा चतुर्थोऽध्यायस्य संग्रहश्लोके^{२५} इन्द्रियाणां संयमन-रूपेणोल्लिखिता। अतः पञ्चमाध्यायस्य त्रयोदश^{२६}

श्लोकस्य व्याख्यायां सुन्दरोतया आत्मनः स्वरूपवर्णनायामभिनवगुप्तस्याभिनवत्वं पर्यवसति। अध्यायस्यास्य संग्रहश्लोके^{२७} उपनिषन्मध्येषु निगदितस्य चरमतत्त्वस्य ब्रह्मतत्त्वस्य अभिव्यक्तिः सुचारुतया उपस्थापिता। षष्ठाध्यायस्य बहुषु श्लोकेषु पाठभेदः^{२८} दृश्यते, अपि च अन्यत्र व्याख्यायां नवीनत्वमपि प्रणिधानयोग्यम्। यथा“तं विद्यादुःखसंयोगवियोगं योगसंज्ञितम्। स निश्चयेन योक्तव्यो योगोऽनिर्वण्णचेतसा॥ “श्लोकेऽस्मिन् न केवलं पाठभेदः, अपि च निर्विण्णचेतसा अस्मिन् स्थले अनिर्विण्णम् इत्यस्य पाठभेदस्य टीकायां चोक्तम्—“उपेयप्राप्तौ दृढतरं, संसारं दुःखबहुलं प्रति निर्विण्णं चेतो यस्य” इति। भक्तेः सारस्वतत्वमध्यायस्यास्य साररूपे संग्रहश्लोके^{२९} तस्य मोक्षमार्गस्य विस्तारक्रमः यथाक्रमं सप्तमाध्यायस्य संग्रहे^{३०} अष्टमाध्यायस्य सारे^{३१} च प्रस्तूयते। “चिदानन्दरूपः शिवोऽहम्” इत्यस्य वाक्यस्य सार्थकता तत्र अद्वयरूपे परमशिवे प्रतिपादिता। सप्तमेऽध्यायेऽर्थदृष्ट्या तादृशः भेदसमन्वितः पाठः नैव लक्ष्यते। अष्टमाध्यायस्य २२ तमे श्लोके यः पाठभेदः^{३२} दृश्यते तस्य उल्लेखः प्रचलितः भगवद्गीतासु नैव लभ्यते। अतः परवर्तिनि श्लोके अनावृत्तिः^{३३} इत्यस्य पदस्य अर्थः गुप्तपादेन मोक्ष इति उक्तः। ग्रन्थस्यारम्भे मङ्गलाश्लोकेषु मोक्षस्य स्वरूपं सम्यगवभासते यत्र आचार्येणाभिनवगुप्तेन लिखितः श्लोकोऽयम्—“मोक्षश्च नाम सकलाप्रविभागरूपे सर्वज्ञसर्वकरणादिशुभस्वभावे। आकाङ्क्षाविरहिते भगवत्यधीशे नित्योदित लय इत्यान्वथितः समासात्”^{३४} इति। एवं काश्मीरीयपाठान्विते भगवद्गीतासमन्विते गीतार्थसंग्रहे काश्मीरशैवदर्शनस्य मूलतः शिवाद्वयवादस्य प्रभा उदेति क्षणं क्षणम्। व्याख्यायां सर्वे ब्रह्मतत्त्वलाभाय अधिकारि न भवितुमर्हन्ति इति उदाहरणमुखेन सुष्ठु प्रदर्शितम्—“यद्वदाकाशवाय्वोरविनाभाविन्यपि संबन्धे न तु जातुचिन्नभःस्पृशता श्रुयते, एवं सकलसंसारविसार्यपि भगवत्त्वं न सर्वजनविषयम्” इति^{३५}। तथा टीकायां नारीशूद्रानां कृते आचार्येण अभिनवगुप्तेन समदर्शितायाः प्रमाणं प्रस्तुतम्। मोक्षलाभाय स्त्रीशूद्रादय अपि समर्था भवन्तीति सिद्धान्तः तस्य टीकायां तेन प्रदर्शितः—“ पापयोनयः पशुपक्षीसरीसृपादयः। स्त्रिय इत्याज्ञाः। वेश्या इति कृष्यादिकर्मान्तररताः। शूद्रा इति कात्स्र्येन वैदिकक्रियानधिकृताः परतन्त्रवृत्तयश्च। तेऽपि मदाश्रिता यजन्ते।

गजेन्द्रामोक्षणादीनि चरितानि हि परमकारुणिकस्य भगवतः सहस्रशः श्रूयन्ते। किमङ्गं पुनरेतद्विपरीतवृत्तयः।” एवं पूर्वोपक्षोत्तरपक्षोल्लेखपुरःसरं “मां हि पार्थ व्यपाश्रित्य चेऽपि स्युः पापयोनयः। स्त्रियो वैश्यास्तथा शूद्रास्तेऽपि यान्ति परां गतिम्”^{३६} इत्यादीनां श्लोकानां व्याख्या प्रस्तुता, यत्र भेदाभेदं निराकुर्वता तेन भगवतः सर्वानुग्राहिकाशक्तेः स्वरूपमेवोद्धोषितम्। सारसंग्रहे^{३७} च तस्याः एव द्यूतिः। एवं काश्मीरशैवदर्शनाश्रितानि तत्त्वानि उदाहरणमुखेन अनेभ्यः आगमादिभ्यः उल्लेखपुरःसरमन्येषु अध्यायेषु अपि व्याख्यातानि, मूलतः आचार्यस्य टीकायां प्रथमतः नवमोऽध्यायपर्यन्तं विस्तृता व्याख्या प्रणिधेया अत्र एव सारः। यतो हि नाम्ना ज्ञायते गूढार्थानां संग्रहत्वाद् गीतार्थसंग्रह इति अतः अनुल्लिखिताः संग्रहश्लोकाः अन्तटिप्पण्यांप्रदीयन्ते सारावगमनाय इति।^{३८}

ज्ञानकर्मसमुच्चयवादस्य प्रतिष्ठापिकायामस्यां व्याख्यायां प्रकाशविमर्शमाया-रूपस्या-द्वयशिवस्य चिच्छक्तेः वा स्फुरणात्मकं ज्ञानं भासते। सत्यस्य शिवस्य अभिव्यक्तिः अस्मिन् जगति, प्रसङ्गेऽस्मिन् उदाह्रियते लक्ष्मणजूमहाराजस्य कथनम्- “Vedanta holds that this universe is untrue, unreal. It does not really exist. It is only the creation of illusion (Māyā). Concerning this point Kashmir Shaivism argues that if Lord Śiva is real then how could an unreal substance come out from something that is real. If Lord Śiva is real then his creation is also real. Why should it be said that Lord Śiva is real and his creation is an illusion (Māyā)? Kashmir Shaivism explains that the existence of this Universe is just real as the existence of Lord Śiva. As such it is true, real, pure and solid. There is nothing at all about it which is unreal. एवं कार्यकारणतत्त्वेऽत्र सांख्यदर्शनं स्वीक्रियते। यद्यपि काश्मीरशैवदर्शने परमशिवस्य इच्छाशक्तेः कारणादेव सृष्टिर्भवतीति। अत्र गीतार्थसंग्रहे अभिनवगुप्तेन ज्ञानकर्मणोः समुच्चयः प्रदर्शितः, सृष्टेः आभासः च वर्णितः, पञ्चमोऽध्यायस्य चतुर्दश-श्लोकस्य टीकायां तेन उक्तम्-“एष आत्मा न किञ्चित्कस्यचित्करोति। प्रवृत्तिस्त्वस्य स्वभावमात्रं न फलेप्सया। तथाहि संवेदनात्मनो भगवतः प्रकाशानन्दस्वातन्त्र्यपरमार्थस्वभावस्य स्वभावमात्राक्षिप्तसमस्त-सृष्टिस्थितिसंहति-प्रबन्धस्य स्वस्वभावान्न मनागप्ययो जातुचित्। इति न कर्त्रवस्थातिरिक्तं कर्तृत्वं किञ्चिद्। तदभावात्कानि कर्माणि, तद् सत्त्वे कस्य फलम्, को वा कर्मफलसंबन्धः। कर्मात्र क्रिया। कर्मफलमपि च क्रियाफलमेव।” अनेन च गीतार्थसंग्रहे

काश्मीरशिवाद्वयवादस्य मतं प्रतिष्ठापयता आचार्येण अभिनवगुप्तेन स्वरचनयायामभिनवत्वं च प्रस्तुतम्। ब्राह्मणेन लोटकेन प्रचोदिते सति एषा व्याख्या अभिनवगुप्तेन ग्रथिता अतः दृश्यते अयं श्लोकः—“तच्चरणकमलमधुपो भगवद्गीतार्थ-संग्रहं व्यादध्यात्। अभिनवगुप्तः सद्विवजलोटककृत-चोदनावशतः”। व्यासदेवप्रणीतस्य महाभारतस्य अन्तर्गतायाः मोक्षप्रतिपादिकायाः^{१०} भगवद्गीतायाः टीकायां गूढार्थप्रकाशनाय^{११} एषः प्रयासः विहितः। गीतार्थसंग्रहे काश्मीरशिवा-द्वयवादस्य आलोचनासमापनावसरे भगवन्तं शिवं प्रति अभिनवगुप्तपादस्य प्रणतिपूर्वकं लेखनी तस्य अभिनवत्वमेव प्रकटयतीत्यलम्।

“अभिनवरूपा शक्तिस्तद्गुप्तो यो महेश्वरो देवः।

तदुभययामलरूपमभिनवगुप्तं शिवं वन्दे ॥”^{१२}

अन्त्यटीका-

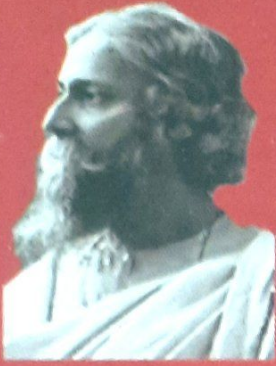
१. नवजीवन, रास्तोगी, काश्मीर शिवाद्वयवाद की मूल अवधारणाएँ, पृ. १
२. शिवदृष्टिः, ३/२-३.
३. आत्मैव सर्वभावेषु स्फुरन्निर्वृतचिद्वपुः।
४. अनिरुद्धेच्छाप्रसरः प्रसरद्विक्रयः शिवः ॥, शिवदृष्टिः, १/२.
५. प्रत्यभिज्ञादर्शनम्, सर्वदर्शनसंग्रहः।
६. ईश्वरप्रत्यभिज्ञा
७. अतः षण्णां त्रिकं सारं चिदिष्युण्मेषणात्मकम्, तन्त्रालोकः, ३/१९१.
८. त्रिकं परादिशक्तित्रयाभिधायकं शास्त्रम्, तन्त्राभिधानम्, प्रथमः भागः।
९. विश्वाकृतित्वाच्चिदचित्तद्वैचित्र्यावभासकः। तन्त्रालोकः।
१०. भावार्थः, पृथ्वीनाथ पुष्प, अभिनवगुप्त तथा गीतार्थसंग्रहः, पृ. १५.
११. तत्रैव।
१२. भगवद्गीतार्थसंग्रह, १.१.
१३. भीमसेनाभिरक्षितं पाण्डवीयं बलम् अस्माकमपर्याप्तं- जेतुमशक्यम्, अथवा अपर्याप्तं कियत्तदस्मद्वलस्येत्यर्थः। इदं तु भीष्माभिरक्षितं बलमस्माकं संबन्धि एतेषां पाण्डवानां पर्याप्तं जेतुं शक्यम्, यदि वा पर्याप्तं – बहु न समरे जय्यमेतैरिति। गीतार्थसंग्रहः, १/१०.
१४. विद्याचिद्योभयाघातसंघट्टविवशीकृतः। युक्त्या द्वयमपि त्यक्त्वा निर्विकल्पो भवेन्मुनिः ॥ गीतार्थसंग्रहः, संग्रहश्लोकः, प्रथमोऽध्यायः।
१५. गीतार्थसंग्रह, १.१०.
१६. गीतार्थसंग्रह, २.२६
१७. गीतार्थसंग्रह, २.२९.
१८. गीतार्थसंग्रह, ३.५.

१९. अहो नु चेतसश्चित्रा गतिस्त्यागेन यत्किल। आरोहत्येव विषयाञ्छ्रयंतांस्तु परित्यजेत्॥
गीतार्थसंग्रहः, संग्रहश्लोकः, द्वितीयोऽध्यायः।
२०. भवत्येष कथं कृष्ण कथं चैव विवर्धते। किमात्मकः किमाचारस्तन्ममाचक्ष्य पृच्छतः॥
भगवद्गीतार्थसंग्रहान्विता श्रीमद्भगवद्गीता, ३/३८.
२१. अनेन देवताराधनभूतेन देवान् मच्छरीरभूतान् मदात्मकान् आराधयत यत "अहं हि सर्वयज्ञानां
भोक्ता च प्रभुरेव च (भ.गीता, ९/२४) इति वक्ष्यते।, रामानुजभाष्यम्, भगवद्गीता।
२२. देवाः क्रीडनशीला इन्द्रियवृत्तयः करणेश्वर्यो देवता रहस्यशास्त्रप्रसिद्धाः, ता अनेन कर्मणा तर्पयत
यथासंभवं विषयान्भक्षयेतेत्यर्थः। गीतार्थसंग्रहः, ३/११.
२३. तद्विद्धि प्रणिपातेन परिप्रश्नेन सेवया। उपदेक्ष्यन्ति ते ज्ञानं ज्ञानिनस्तत्त्वदर्शिनः॥ भगवद्गीता, ४/३४.
२४. यतो एवंभूतस्य एव ज्ञानिनो निजा एव संवित्तिविशेषानुगृहीता इन्द्रियविशेषाः, तत्त्वम् उप-समीपे
देक्ष्यन्ति प्रापयिष्यन्ति। तथा हि तत्त्वमेव दर्शयन्तीति तत्त्वदर्शिनः। उक्तं हि - " योग
एवास्योपायः। ऋतम्भरा तस्य प्रज्ञा" (योगसूत्रम्, १/४८), गीतार्थसंग्रहः, ४/३४.
२५. धनानि दारान्देहं च योऽन्तत्वेनाधिगच्छति। किं नाम तस्य कुर्वन्ति क्रोधाद्याश्चित्तभ्रमाः॥
गीतार्थसंग्रहः, संग्रहश्लोकः, तृतीयोऽध्यायः।
२६. विद्यते कर्म यत्किञ्चिदक्षेच्छामात्रपूर्वकम्। तेनैव शुभभाजः स्युस्तृप्ताः करणदेवताः॥ गीतार्थसंग्रहः,
संग्रहश्लोकः, चतुर्थोऽध्यायः।
२७. यथा वेश्मन्तर्गतस्य पुंसो न गृहगतैर्जीर्णत्वादिभिर्यागः, एवं मम
चक्षुरादिच्छिद्रगवाक्षनवकालङ्कृतदेहगेहगतस्य न तद्धर्मयोगः। गीतार्थसंग्रहः, ५/१३.
२८. सर्वाण्येव भूतानि समत्वेनानुपस्यतः। जडवद्भवहारोऽपि मोक्षायैवावकल्प्यते॥ गीतार्थसंग्रहः,
संग्रहश्लोकः, पञ्चमोऽध्यायः।
२९. योगोऽस्ति नैवात्यशतो न चैकान्तमनश्चतः। न चातिस्वप्नशीलस्य नातिजागरतोऽर्जुन॥
गीतार्थसंग्रहान्विता भगवद्गीता, १/१७.
३०. भगवन्नामसंप्राप्तिमात्रात्सर्वमवाप्यते। फलिताः शालयः सम्यग्वृष्टिमात्रेऽवलोकिते॥ गीतार्थसंग्रहः,
संग्रहश्लोकः, षष्ठोऽध्यायः।
३१. स्फुटं भगवतो भक्तिराहिता कल्पमञ्जरी। साधकेच्छासमुचितां येनाशां परिपूरयेत्॥ गीतार्थसंग्रहः,
संग्रहश्लोकः, सप्तमोऽध्यायः।
३२. सर्वतत्त्वगतत्वेन विज्ञाते परमेश्वरे। अन्तर्बहिर्न सावस्था न यस्यां भासते विभुः॥ गीतार्थसंग्रहः,
संग्रहश्लोकः, अष्टमोऽध्यायः।
३३. पुरुषः स परः पार्थ भक्त्या लभ्यस्त्वनन्यया। यं प्राप्य न पुनर्जन्म न लभन्ते योगिनोऽर्जुन॥
गीतार्थसंग्रहसमन्विता भगवद्गीता, ८/२२.
३४. यत्र काले त्वनावृत्तिमावृत्तिं चैव योगिनः। गीतार्थसंग्रहसमन्विता भगवद्गीता, ८/२३.
३५. गीतार्थसंग्रहः, मंगलाचरणम्, ३.
३६. गीतार्थसमन्विता भगवद्गीता, ९/७.
३७. गीतार्थसमन्विता भगवद्गीता, ९/३३.
३८. अद्वैते ब्रह्मणि परा सर्वानुग्रहशालिनी। शक्तिर्विजृम्भते तेन यतनीयं तदाप्तये॥ गीतार्थसंग्रहः,
संग्रहश्लोकः, नवमोऽध्यायः।
३९. इच्छायामिन्द्रिये वापि यदेवायाति गौरवम्। हठाद्विलापयंस्ततत्त्वत्प्रशान्तं ब्रह्म भावयेत्॥

गीतार्थसंग्रहः, संग्रहश्लोकः, दशमोऽध्यायः।

४०. शुद्धाशुद्धविमिश्रोत्थसंविदैक्यविमर्शनात्। भुर्भुवः स्वस्त्रयं पश्यन्समत्वेन समो मुनिः ॥
गीतार्थसंग्रहः, संग्रहश्लोकः, एकादशोऽध्यायः।
४१. परमानन्दवैवश्यसञ्जातावेशसम्पदः। स्वयं सर्वास्ववस्थासु ब्रह्मासत्ता ह्यनन्तः ॥ गीतार्थसंग्रहः,
संग्रहश्लोकः, द्वादशोऽध्यायः।
४२. पुमान्प्रकृतिरित्येष भेदः संमूढचेतसाम्। परिपूर्णास्तु मन्यते निर्मलात्ममयं जगत् ॥ गीतार्थसंग्रहः,
संग्रहश्लोकः, त्रयोदशोऽध्यायः।
४३. लसद्भक्तिरसावेशहीनाहंकारविभ्रमः। स्थितेऽपि गुणसंमर्दे गुणातीतः समो यतिः ॥ गीतार्थसंग्रहः,
संग्रहश्लोकः, चतुर्दशोऽध्यायः।
४४. हत्वा द्वैतमहामोहं कृत्वा ब्रह्ममयीं चितिम्। लौकिके व्यवहारेऽपि मुनिर्नित्यं समाविशेत् ॥
गीतार्थसंग्रहः, संग्रहश्लोकः, पञ्चदशोऽध्यायः।
४५. अबोधो स्वात्मबुद्ध्यैव कार्यं नैव विचारयेत्। किन्तु शास्त्रोक्तविधिना शास्त्रं बोधविवर्धनम् ॥
गीतार्थसंग्रहः, संग्रहश्लोकः, षोडशोऽध्यायः।
४६. स एव कारकावेशः क्रिया सैवाविशेषिणी। तथापि विज्ञानवतां मोक्षार्थं पर्यवसति ॥ गीतार्थसंग्रहः,
संग्रहश्लोकः, सप्तदशोऽध्यायः।
४७. भङ्गा ज्ञानविमोहमन्थरमयीं सत्त्वादिभिन्नां धियंप्राप्य स्वात्मविभूतसुन्दरतया विष्णुं
४८. विकल्पागतित्म्। यत्किंचित्स्वरसोद्यदिन्द्रियनिजव्यापारमात्रस्थिते-हँलातःकुरुतेतदस्य
४९. सकलंसंपद्यतेशङ्करम् ॥ गीतार्थसंग्रहः, संग्रहश्लोकः, अष्टादशोऽध्यायः।
५०. Kashmir Shaivism, The Secret Supreme, P.106
५१. द्वैपायनेन मुनिना यदिदं व्यधायिशास्त्रं सहस्रशतसंमतिमत्र मोक्षः। माधान्यतः फलतया
प्रथितस्तदन्यधर्मादि तस्य परिपोषयितुं प्रगीतम् ॥ मङ्गलाचरणम्, २, गीतार्थसंग्रहः।
५२. तास्वन्यैः प्राक्तनैर्व्याख्याः कृताः यद्यपि भूयसा। न्याय्यस्तथाप्युद्यमो मे तद्गूढार्थप्रकाशकः ॥
मङ्गलाचरणम्, ५, गीतार्थसंग्रहः।
५३. उपसंहारश्लोकः, ४, गीतार्थसंग्रहः।

লোক সংস্কৃতি : উত্তরাধিকার



ড. নির্মল দাশ

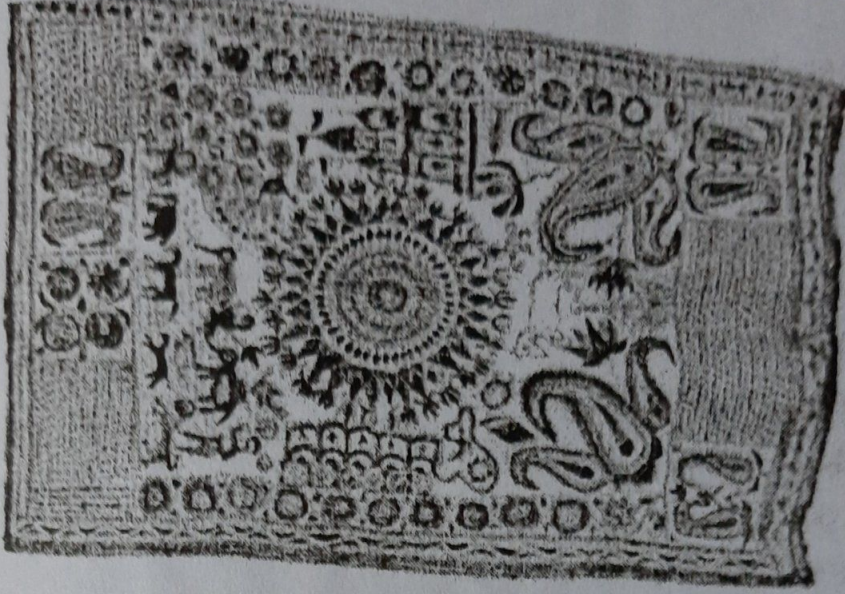
লোকসংস্কৃতি : উত্তরাধিকার
(দ্বিতীয় পর্ব)

Lokasanskriti : Uttaradhikar
by Dr. Nirmal Das

- প্রথম প্রকাশ : আগরতলা, জানুয়ারি, ২০১৭
গ্রন্থস্বত্ব : সৌভিক দাশ
মুদ্রণ : লোক শিক্ষা মুদ্রণ সমবায়িকা লিমিটেড
হরিগঙ্গা বসাক রোড, আগরতলা, ত্রিপুরা পশ্চিম
প্রকাশক : সতীনাথ সরকার
ত্রিপুরা বাণী প্রকাশনী
দত্ত সুপার মার্কেট, শকুন্তলা রোড,
আগরতলা, ত্রিপুরা পশ্চিম, পিনঃ ৭৯৯০০১
দূরভাষ ৯৪৩৬৪৮৯৮৪৫/৯৮৬২৪৭৮৩৪৯
E-mail : tripurabaniprakashani@yahoo.in
অঙ্কর বিন্যাস : ত্রিপুরা বাণী প্রকাশনী
কলকাতা কেন্দ্র : ত্রিপুরা বাণী প্রকাশনী
৮/৯ বঙ্কিম চ্যাটার্জি স্ট্রিট, কলকাতা ৭৩
দূরভাষ : ০৯৮৩০৬২৪১৯৫
প্রচ্ছদ : রাজকুমার অমরজিৎ সিংহ
ISBN : 978-81-88997-90-9
মূল্য : ২০০ টাকা

সূচিপত্র

- | | |
|--|---------|
| □ রবীন্দ্রনাথ ঠাকুর : লোকসংস্কৃতি চর্চা: | ১১-৬৪ |
| ক. ববীন্দ্রসৃষ্টিতে লোকসংস্কৃতি : একটি রূপরেখা | ১১ |
| খ. ছেলেভুলানো ছড়া : পাঠ পরিক্রমা | ১৭ |
| গ. কবিসঙ্গীত : পাঠ পর্যালোচনা | ৩৯ |
| ঘ. গ্রাম্যসাহিত্য : পাঠ পরিক্রমা | ৪৯ |
| □ দক্ষিণারঞ্জন মিত্রমজুমদার : | ৬৫-৮৮ |
| ক. জীবনকথা | ৬৫ |
| খ. একটি লোককথার রূপতাত্ত্বিক বিশ্লেষণ | ৭৫ |
| □ উপেন্দ্রকিশোর রায়চৌধুরী : | ৮৯-১০২ |
| ক. জীবনকথা | ৮৯ |
| খ. লোকসংস্কৃতি প্রসঙ্গ | ৯৭ |
| □ অবনীন্দ্রনাথ ঠাকুর : | ১০৩-১২৬ |
| ক. জীবনকথা | ১০৩ |
| খ. বাংলার ব্রত : পাঠ-প্রসঙ্গ | ১১৪ |
| □ গুরুসদয় দত্ত : | ১২৭-১৫৭ |
| ক. জীবনকথা | ১২৭ |
| খ. লোকসংস্কৃতি চর্চা | ১৩৩ |



কাঁথা শিল্প

আছে সসংকোচে আপনি তাকে অখ্যাতি থেকে মুক্ত করে সর্বজনের মধ্যে তার আসন করে দেবার চেষ্টা করবেন। মানুষ কেবল অন্নের অভাবে মরে না- আনন্দের অভাবে তার পৌরুষ শুকিয়ে মারা যায়। পাশ্চাত্য মহাদেশে নৃত্যকলা পৌরুষেরই সহচরী। তাই আমি কামনা করি আপনার চেষ্টা ব্যাপক হোক, সার্থক হোক।।’

সহায়ক গ্রন্থ :

১. গুরুসদয় দত্ত : বাংলার লোকশিল্প ও লোকনৃত্য, ছাতিম বকুস, কলকাতা ১৬, ২০০৮।
২. সনৎ কুমার মিত্র (সম্পাদিত) : লোকসংস্কৃতি গবেষণা পত্রিকা, (২০ বর্ষ, ৮১তম সংখ্যা), এপ্রিল-সেপ্টেম্বর ২০০৮।



লোকসংস্কৃতি প্রবন্ধমালা

ড. নির্মল দাশ



Lokasanskriti Prabandhamala
by Dr. Nirmal Das

প্রকাশকাল : ফেব্রুয়ারি ২০১৭

© সৌভিক দাশ

প্রচ্ছদ : চৈতন্য ফকির

প্রকাশক : সুমিতা পাল ধর

যোগাযোগ : হলাইমুড়া, কুমারঘাট ৭৯৯২৬৪, উনকোটি, ত্রিপুরা, ৯৪৩৬১৬৭২৩১



পরিবেশক

স্রোত, কুমারঘাট, ত্রিপুরা

Visit us at : www.srot.co.in

email : srot_gobinda@rediffmail.com / boibari15@gmail.com

মুদ্রণ : আকাশ, ৫২/জি/১, ডলি আবাসন, বাবুপাড়া, গোরাবাজার, বহরমপুর (পঃ বঃ)

অঙ্করবিন্যাস : অরুণ দেবনাথ-৯৮৬২৪৬৬৭৭৬

ISBN : 978-93-80904-22-1

মূল্য : ২২৫ টাকা

সূচিপত্র

প্রথম পর্ব

| | |
|---|----|
| ভুবনায়ন ও লোকসংস্কৃতি | ১১ |
| লোকসংস্কৃতির অভিমুখ : বাস্তব ও নির্মাণ | ২৩ |
| লোককথায় দ্বন্দ্ব ও দণ্ড : একটি রম্য পাঠ | ৩০ |
| লোককথা : ট্যাবু - টোটোম- বিশ্বাস-সংস্কার | ৪৩ |
| লোককথায় রাক্ষস : একটি তীর্যক পাঠ | ৫২ |
| কথন সাহিত্য : উত্তর-পূর্ব ভারত | ৬৩ |
| লোকসংস্কৃতি : প্রাসঙ্গিক ভাবনা ও উত্তর-পূর্ব ভারত | ৭৬ |
| আদিবাসী সংস্কৃতি ও ত্রিপুরা | ৮৩ |
| বাঁশ ও সংস্কৃতি | ৯৩ |

দ্বিতীয় পর্ব

| | |
|--|-----|
| রবীন্দ্রনাথ : নিম্নবর্গীয় লোকভারত | ১০৭ |
| মঙ্গলকাব্য পাঠক রবীন্দ্রনাথ | ১২৩ |
| কবিগানের কলকাতা : সূচনা থেকে বিস্তার ও কবিয়াল হরিচরণ আচার্য | ১৩৯ |
| সুবোধ ঘোষ-এর নৃবিদ্যা চর্চা : একটি পাঠ পরিক্রমা | ১৫৬ |
| অদ্বৈত মল্লবর্মণের সৃষ্টিতে লোক উপাদান | ১৭১ |

ভূবনায়ন ও লোকসংস্কৃতি

ক

ভূবনায়ন বা গ্লোবলাইজেশন অর্থনীতির সঙ্গে সম্পর্কিত গভীর ব্যঞ্জনাবাহী একটি শব্দ। সম্প্রতি, বিভিন্ন দৃষ্টিকোণ থেকে বিবিধ ব্যঞ্জনায় শব্দটি আমাদের কাছে পরিচিত হয়ে উঠেছে। সাহিত্যের গতি প্রকৃতি নির্ধারণে অর্থনীতিরও যে একটি সম্পর্ক রয়েছে, তা সবারই জানা। আমরা নির্বাক বিস্ময়ে অর্থনীতির জগতে এই 'গ্লোবলাইজেশনের' সর্বগ্রাসী আধিপত্য প্রত্যক্ষ করছি। অতি দ্রুত, অর্থনীতির একটি জালে আপামর ভারতবাসী বন্দী হয়ে যাচ্ছে। এ হল বাণিজ্য ও বিনিয়োগের বিশ্বব্যাপী বিস্তার ব্যাপারটা যে আগে ছিল না, তা নয়। তার স্বরূপ ভিন্ন এবং এর মাত্রাও ছিল না বহুমুখী। তবে সাম্প্রতিক বিশ্বায়নের বহুব্যাপকতা ও আগ্রাসন লক্ষ্যণীয় বিষয়। শুধু বাণিজ্য ও বিনিয়োগ নয়, সামগ্রিক উৎপাদন ব্যবস্থা, উঁচুতলা থেকে নিচুতলা পর্যন্ত রুটি-রুজির সঙ্গে তার সুসম্বন্ধ। আক্ষরিক অর্থেই বিশ্বায়ন অর্থনীতির জগতের সমান্তরালে গোটা দুনিয়ার মানবসংস্কৃতির প্রতিস্পর্ধী হয়ে দাঁড়িয়েছে।

বিশ্বায়নের গতিশীল প্রক্রিয়ায় ব্যবসা-বাণিজ্যের প্রশ্নে দেশীয় অর্থনীতি এবং জাতীয় মুদ্রার নির্দিষ্ট গণ্ডি অবলুপ্ত হয়ে গেছে। ১৯৯৭ সালের আগস্ট মাসে হাভানায় (কিউবার রাজধানী) বিশ্বের তিনশো দেশের ট্রেড ইউনিয়নের প্রতিনিধিরা বিশ্বায়নের সূত্র নিয়ে আলোচনায় সমবেত হয়েছিলেন। গৃহীত মূল প্রস্তাবে বিশ্বায়ন সম্পর্কে বলা হল :
That the neo-liberal Globalisation in a new stage of capitalism characterised by Economic concentration in the hands of transnational corporations which in its search for competitiveness and cost effectiveness, one trying to cut back but all possible means.

ফসল। এখানে আলোচনা করতে গিয়ে অদ্বৈত পুরাণ প্রসঙ্গ টেনে এনেছেন। যাকে লোক উপাদান আখ্যা দেওয়া যায়। প্রসঙ্গত, ভিখারীদের নিয়ে গবেষণার ক্ষেত্র অদ্বৈতকে আমরা পথ প্রদর্শক বলতে পারি।

‘গঙ্গাসাগর মেলায়’ যাবার অভিজ্ঞতা অর্জন করেছিলেন অদ্বৈত। মানুষেরা মেলায় এসে জীবনকে ভিন্ন চোখে দেখার দার্শনিক প্রত্যয় লাভ করে আবার সংসার জীবনে ফিরে যায়। তাঁরা কপিলমুণির পায়ে শ্রদ্ধা নিবেদনের জন্য এখানে আসে। সগররাজার ষাট হাজার সন্তানের কথাও তাদের জানা আছে। লেখক জানিয়েছেন : “দিশেহারা কুলহারা মানুষ অনেক দুঃখ ক্লেশ ভোগ করে এখানে এসে উপস্থিত হয়। কেন, কিসের আশায়? এর জবাব দেওয়া সহজ নয়।”

অদ্বৈত লক্ষ্য করেছেন : “খোশআমোদে গান আর সরকারের প্রচার যেন মানুষের তীর্থ দর্শনের সমস্ত আকাঙ্ক্ষাকে মাটি করে দেয়। আমার মতে তীর্থস্থানের দুর্গমতাকে তার কৃচ্ছ সাধ্যতাকে এভাবে পঙ্কিল করে দেওয়া কোনক্রমেই উচিত নয়। বিশেষ করে এই স্থানে আমোদ-প্রমোদের আমদানি একান্তই গর্হিত।”

অদ্বৈত মল্লবর্মণ তাঁর সৃষ্টিকে সমৃদ্ধি দিয়েছিলেন লোকসংস্কৃতিকে অবলম্বন করেই। তাই তিনি লোকসংস্কৃতির উপাদান সংগ্রাহক এটা যেমন সত্য তেমনি জলজীবনের মহাকাব্য রচনার ক্ষেত্রেও তিনি একজন সফল স্রষ্টা। তিনি উপলব্ধি করেছিলেন, উচ্চকোটির সংস্কৃতির প্রভাবে লোকসংস্কৃতির জগৎ ক্ষতিগ্রস্ত হয়। লোকসংস্কৃতির বৃত্ত ভেঙে যায়। তাই ‘সাগরতীর্থে’ প্রবন্ধে লিখেছেন : “তীর্থক্ষেত্রে যাবার জন্য যেদিন থেকে আমরা যান্ত্রিক যানবাহনকে অবলম্বন করতে শিখেছি, সেইদিন থেকে তীর্থ আমাদের নিকট তাদের মাহাত্ম্য কিছু কিছু হারাতে বসেছে। তিনি এই হারিয়ে যাবার কথাই উপন্যাসে বলেছেন একটু ভিন্নভাবে। তিনি বলেছেন : “মালোদের নিজস্ব সংস্কৃতি ছিল। গানে, গল্পে, প্রবাদে এবং লোকসাহিত্যের অন্যান্য মালমসলায় সে সংস্কৃতি ছিল অপূর্ব। পূজাপার্বণে, হাসি ঠাট্টায় এবং দৈনন্দিন জীবনের আত্মপ্রকাশের ভাষাতে তাদের সংস্কৃতি ছিল বৈশিষ্ট্যপূর্ণ।”

অদ্বৈত মল্লবর্মণ অত্যন্ত সচেতনভাবে একজন লোক উপাদান সংগ্রাহকের ভূমিকা পালন করেছেন। আবার তাঁর শ্রেষ্ঠকীর্তি ‘তিতাস একটি নদীর নাম’ উপন্যাসের সমৃদ্ধি লোক উপাদানকে কেন্দ্র করেই। মালোদের জীবনসংস্কৃতি এই উপন্যাসের আত্মা। দেহ হল উপন্যাসের কাহিনি। এই দুইকে কখনো ছিন্ন করা যায় না।



PROCEEDINGS
ISBN : 978-81-934492-0-2

NATIONAL SEMINAR
'19th & 20th Century Literary
Periodicals of Assam & Bengal'

Organised by
Assamese & Bengali Department
PRAGJYOTISH COLLEGE,
GUWAHATI, ASSAM 781 009

In Collaboration with
Kolikata Little Magazine Library O Gabeshana Kendra
Kolkata

সম্পাদনা সমিতি

সম্পাদক

ড° জ্যোতির্ময় সেনগুপ্ত

সহযোগী সম্পাদক

ড° বৈকুণ্ঠ রাজবংশী

সদস্য

ড° ইন্দ্রাণী কলিতা, ড° কল্পনা তালুকদার
ড° অভিজিত দত্ত, শ্রী বরুণ কুমার সাহা

ACKNOWLEDGEMENT

We thankfully acknowledge the generous support and contribution for publishing the Proceeding volume of the National Seminar on '19th & 20th Century Literary Periodicals of Assam and Bengal' to the Principal i/c Dr. Paramananda Rajbongshi, Joint Secretary UGC-NERO, Sandeep Dutta, Coordinator KLMGK Kolkata, honorable Resource Persons, late Gautam Hanerjee, Working President BSSS Guwahati, Kamal Das, President Alumni Association Pragjyotish College and Vicky Communication & Associates, Guwahati. Our special thanks to Sri Swapan Basu, Sri Rajen Saikia and Dr Ushantjan Bhattacharjee.

Dr. Baikuntha Rajbongshi
Organizing Secretary

National Seminar, Pragjyotish College

Dr. Jyotirmoy Sengupta
Convener

কথামুখ-১

খ্রীষ্টাব্দের প্রাগজ্যোতিষ মহাবিদ্যালয়ের ইতিহাসে আন্তর্বিদ্যক চর্চার অঙ্গ হিসাবে বাংলা ও অসমিয়া বিভাগের যৌথ প্রয়াসে প্রথমবারের মতো একটি জাতীয় পর্যায়ের আলোচনা চক্র অনুষ্ঠিত হয়েছিল ২০১৪ সালের ২৯ ও ৩০ ডিসেম্বর। আজ প্রায় দুবছর অতিক্রান্ত। পর্যবেক্ষণ সমিতির প্রতিবেদন অনুযায়ী বিভিন্ন অংশগ্রহণকারীদের কাছে পুনর্লিখনের জন্য পাঠানো গবেষণা নিবন্ধগুলো সংগ্রহ করে এই সংকলন প্রকাশে আমাদের অনাবশ্যক দেয়ি হয়ে গেল। সেজন্য আমরা কৃতজ্ঞ।

এই আলোচনা চক্রের আলোকবর্তিকাটির শিরোনাম '১৯ ও ২০ শতকে প্রকাশিত অসম এবং ঝড়দেশের সাহিত্য-সাময়িকী।' ইউ.জি.সি-র আর্থিক অনুদান এবং 'কলিকাতা লিটল ম্যাগাজিন লাইব্রেরি ও গবেষণা কেন্দ্র'-র সহযোগিতায় আলোচনা চক্রটি সুসম্পন্ন হয়েছে। ২৯ ডিসেম্বর মহাবিদ্যালয়ের অধ্যক্ষ শ্রী হলধর তালুকদার এবং অন্যান্য বিশিষ্ট ব্যক্তিদের দ্বারা মঙ্গলদীপ প্রজ্জ্বলনের মাধ্যমে অনুষ্ঠানের শুভসূচনা হয়। ড° প্রণতি শর্মা গোস্বামীর সভাপতিত্বে অনুষ্ঠিত উদ্বোধনী সভায় সুচক-ভাষণ প্রদান করেন বিশিষ্ট পণ্ডিত ও সাময়িক পত্রিকার নিরাত গবেষক শ্রী স্বপন বসু। এছাড়া সারগর্ভ বক্তব্য রাখেন প্রথিতযশা গবেষক শ্রী রাজেন শইকীয়া। মধ্যাহ্ন বিরতির পর বিভিন্ন কক্ষে এবং মূল প্রেক্ষাগৃহে অসমিয়া, বাংলা ও ইংরেজিতে লেখা গবেষণা পত্রগুলো নিয়ে অধিবেশন শুরু হয়। ৩০ ডিসেম্বরেও একই ভাবে অধিবেশনগুলো চলতে থাকে। এদিন মধ্যাহ্ন বিরতির আগে অনুষ্ঠিত আলোচনা সভায় অসম ও বঙ্গের পত্রপত্রিকা নিয়ে তথ্য সমৃদ্ধ বক্তব্য প্রদান করেন কলিকাতা লিটল ম্যাগাজিন লাইব্রেরি ও গবেষণা কেন্দ্র-র কর্ণধার শ্রী সন্দীপ দত্ত। এরপর সমাপ্তি অধিবেশনে বিশিষ্ট রবীন্দ্র-গবেষক অধ্যাপক উষারঞ্জন ভট্টাচার্য লক্ষ্মীনাথ বেজবরুয়ার প্রথম কন্যা সুরভিকে কেন্দ্র করে অসম ও বাংলার সাময়িক পত্রে সাহিত্যচর্চার একটি মনোজ্ঞ ছবি শ্রোতাদের উপহার দেন। বিশ্বভারতীর বাংলা বিভাগের অধ্যাপক অমল পাল ছিলেন অনুষ্ঠানের অন্যতম আমন্ত্রিত অতিথি। তিনি না আসতে পারায় তাঁর পাঠানো ঠাকুরবাড়ির শিশু-পত্রিকা বিষয়ক একটি নাতিদীর্ঘ চিত্তাকর্ষক লেখা অনুষ্ঠানে পড়ে শোনানো হয়। সব শেষে ছিল প্রশংসাপত্র বিতরণ। অধ্যক্ষ শ্রী হলধর তালুকদার সেগুলো অংশগ্রহণকারীদের হাতে তুলে দেন। ইংরেজি বিভাগের অধ্যাপক অভিজিৎ দত্ত উপস্থিত সবাইকে ধন্যবাদ জ্ঞাপন ও বিদায় সম্ভাষণ জানালে এই আলোচনা চক্রের ওপর যবনিকা নেমে আসে।

19th & 20th Century Literary Periodicals of Assam & Bengal

অসমীয়া, বাংলা আৰু ইংৰাজী মিলি সৰ্বমুঠ ১০৭খন গৱেষণা পত্ৰৰ সাৰাংশ পোৱা হৈছিল যদিও পৰ্যবেক্ষণ সমিতিৰ প্ৰাথমিক নিৰ্বাচনৰ ভিত্তিত ৯১ খন পত্ৰহে মনোনীত হয়। এই পত্ৰসমূহ দুদিনধৰি ৮টা সত্ৰৰ বিষয়ভিত্তিক সঞ্চালকসকল- ড° বিভাস চৌধুৰী, ড° বিকাশ বয়, ড° মালিনী গোস্বামী, ড° বিভা ভৰালী, ড° সঞ্জয় দে, ড° ৰামচন্দ্ৰ ডেকা, ড° পৰমানন্দ ৰাজবংশী, ড° প্ৰণতি শৰ্মা গোস্বামী আদি বিধানমণ্ডলীৰ সঞ্চালনাত পঠিত হয়। সত্ৰসঞ্চালক সকলে কিছুসংখ্যক গৱেষণা পত্ৰ সংকলনত সন্নিবিষ্ট কৰাৰ আগেয়ে সংশোধনসহ পুনৰ্লেখনৰ বাবে পৰামৰ্শ দিয়ে। সত্ৰ সঞ্চালক আৰু পৰ্যবেক্ষণ সমিতিৰ প্ৰতিবেদনমৰ্মে বিশেষ কিছুমান গৱেষণা পত্ৰ অংশগ্ৰহণকাৰীলৈ পুনৰ লিখন অথবা শুধৰণিৰ বাবে প্ৰেৰণ কৰা হৈছিল। ইয়াৰে কিছুমান পত্ৰ আমি বহুবাৰ যোগাযোগ কৰিও সংশোধিত ৰূপত নোপোৱা বাবে তেখেতসকলৰ পত্ৰসমূহ এই সংকলনত স্থান দিব পৰা নগ'ল। সংকলনটি প্ৰকাশ কৰাত অনিচ্ছাকৃতভাৱে পলম হোৱাৰ ইয়ো এটা কাৰণ। তাৰ বাবে আমি ক্ষমাপ্ৰাৰ্থী।

দুদিনীয়া এই অনুষ্ঠান সকলমে সম্পন্ন কৰাত অধ্যাপক উষাৰঞ্জন ভট্টাচাৰ্য, ড° সন্দীপ দত্ত, মান্যবৰ গৌতম বন্দোপাধ্যায় আদি ব্যক্তি সকলৰ সু-পৰামৰ্শ, উৎসাহ উদ্দীপনা আছিল আমাৰ অনুপ্ৰেৰণাৰ উৎস। মহাবিদ্যালয়ৰ প্ৰাক্তন ছাত্ৰ সন্মিলনীৰ সভাপতি শ্ৰীযুত কমল দাসৰ সহায়ৰ কথাও আমি কৃতজ্ঞতাৰে সূৰবিছো। মহাবিদ্যালয়ৰ অসমীয়া বিভাগৰ স্নাতক তথা স্নাতকোত্তৰ শ্ৰেণীৰ ছাত্ৰ-ছাত্ৰী, বাংলা বিভাগৰ ছাত্ৰ-ছাত্ৰী আৰু গুৱাহাটী বিশ্ববিদ্যালয়ৰ বাংলা বিভাগৰ কিছু উৎসাহী ছাত্ৰ-ছাত্ৰী লগতে মহাবিদ্যালয়ৰ বিভিন্ন বিভাগৰ সহকৰ্মী, কৰ্মচাৰী আদি সকলোৰে একান্ত সহযোগতহে এই আলোচনা চক্ৰখন সফল হৈছিল। এই আপাহতে সংশ্লিষ্ট সকলোকে আমি ধন্যবাদ আৰু কৃতজ্ঞতা জ্ঞাপন কৰিছো লগতে আলোচনা চক্ৰত অংশগ্ৰহণ কৰা বক্তা, সঞ্চালক, গৱেষক আদি সকলোটিকে আমি কৃতজ্ঞতাৰে স্মৰণ কৰিছো। এই সংকলনৰ ছপাৰ দায়িত্ব ভাৰ গ্ৰহণ কৰিছে ব্যতিক্ৰম ছপাশালে। সুন্দৰ-সুচক প্ৰকাশনৰ বাবে আন্তৰিক শুভকামনা জনাই তেওঁলোকলৈ আমি ধন্যবাদ জনালোঁ। সংকলনৰ সমস্ত দোষ-ত্রুটিৰ বাবে দায়ী আমি — তাৰ বাবে সকলোৱে ওচৰত শিব নতহৈ ৰ'লো।

বৈকুণ্ঠ ৰাজবংশী

সাংগঠনিক সম্পাদক, আলোচনা চক্ৰ

CONTENTS

অসমীয়া ভাষাত প্ৰস্তুত কৰা গৱেষণা পত্ৰৰ পাঠ প্ৰতিবেদন ॥ ১১
 বাংলা ভাষায় পঠিত আলোচনা-পত্ৰৰ পাঠ-প্ৰতিবেদন ॥ ১৫
 Report on the Papers presented in English ॥ 18
 আলোচনা চক্ৰৰ সূচক-ভাষণ সাহিত্য পৰিকা-বাংলা ও অসমীয়া ॥ ২০

অসমীয়া বিভাগ

মঞ্জু গোস্বামী ॥ ২৩ ॥ ইন্দ্ৰাণী কলিতা ॥ ৩০ ॥ গীতাজলি দাস ॥ ৩৯ ॥ প্ৰভাত ভূঞা ॥ ৫৬ ॥
 পল্লৱিকা শৰ্মা ॥ ৫৬ ॥ অলকানন্দা শইকীয়া ॥ ৬৩ ॥ সংযুক্তা বৰুৱা ॥ ৬৯ ॥
 নিবেদিতা দেৱী ॥ ৮০ ॥ লিপিকা তালুকদাৰ ॥ ৮৫ ॥ মায়াক্ষী মহন্ত ॥ ৯১ ॥ বিজু বৰুৱা ॥ ৯৭ ॥
 বয়নাথ কাগয়ুং ॥ ১০৬ ॥ ড° অনুৰাণী দেৱী ॥ ১১২ ॥ কল্পনা তালুকদাৰ ॥ ১১৯ ॥
 কৰবী খেৰকটাৰী বড়ো ॥ ১৩০ ॥ চন্দ্ৰালী চৌধুৰী ॥ ১৩৫ ॥ অনুপমা ৰাভা ॥ ১৪৫ ॥
 চম্পা পাঁচগিৰি ॥ ১৫০ ॥ অৰ্চনা হাজৰিকা ॥ ১৫৭ ॥ হীৰামণি ছজুৰী ॥ ১৬২ ॥
 অনিন্দিতা বৰঠাকুৰ, বেহানা চুলতানা ॥ ১৭৩ ॥ সীমান্ত দাস ॥ ১৭৮ ॥
 মিন্ধা কটকী ॥ ১৯০ ॥ প্ৰতিভা শইকীয়া ॥ ২০০ ॥

বাংলা বিভাগ

সমীৰণ মণ্ডল ॥ ২০৯ ॥ শিবাণী দে ॥ ২১৬ ॥ মিথিলেশ চক্ৰৱৰ্তী, অমিতাভ গোস্বামী ॥ ২২৪ ॥
 সূৰজিৎ সাহা ॥ ২৩০ ॥ তপতী দত্ত ॥ ২৪০ ॥ ৰত্নদীপ পূৰকায়স্থ, ৰাছল দে ॥ ২৫২ ॥
 অমৃতী সিকিদাৰ ॥ ২৬০ ॥ বৰুণ কুমাৰ সাহা ॥ ২৬৭ ॥ বাসব দাস ॥ ২৭৩ ॥
 ৰিন্দু দাস ॥ ২৮০ ॥ মহা, আজহাৰ উদ্দিন ॥ ২৮৫ ॥ সৈকত ৰাউত ॥ ২৯৫ ॥

English

Darshana Goswami ॥ ৩০৮ ॥ Dittee moni Baruah ॥ ৩১৪ ॥
 Rima Saikia, Jitimoni Das ॥ ৩২০ ॥

সঞ্জয় ভট্টাচার্যের 'পূর্বশা'

সিদ্ধি দাস
সহকারী অধ্যাপক, বাংলা বিভাগ
ত্রিপুরা বিশ্ববিদ্যালয়

বাংলা সাহিত্যে অনেক কবি-লেখকই সাহিত্য পত্রিকা সম্পাদনার সঙ্গে যুক্ত। কিন্তু কখনোই তাঁদের সম্পাদক পরিচিত সাহিত্যিক পরিচিতির ছাপিয়ে যায়নি। এক্ষেত্রে অন্যতম ব্যতিক্রম 'পূর্বশা'-র সম্পাদক সঞ্জয় ভট্টাচার্য। কবি, প্রাবন্ধিক এবং ঔপন্যাসিক হিসেবে অসামান্য প্রতিভার স্বাক্ষর রাখলেও সম্পাদক হিসেবে তাঁর পরিচিত বহু প্রচারিত। আর তাই কবি, প্রাবন্ধিক অথবা ঔপন্যাসিক নয়, 'পূর্বশা'-র সম্পাদক হিসেবেই তাঁকে আমরা অধিক গ্রহণ করেছি। অল্প জীবনামশ মাসের মৃত্যুর পর তাঁর শোকসভার পঠিত সঞ্জয় ভট্টাচার্যের স্বরচিত কবিতা শুনে সুধীন্দ্রনাথ দত্ত তাঁর মৃত্যুতে প্রকাশ করে বুধসেবক বসুকে বলেছিলেন,

আমাদের সময়ে সঞ্জয় আর কেউ এরকম সিরিক কবিতা লেখেন নি, লিখেন না, তিনিই প্রধান হয়ে

রইলেন।^১

বুধসেবক ও সুধীন্দ্রনাথের সঙ্গে সহ মত পোষণ করেছিলেন। অসঙ্গত জীবনামশের উদ্দেশে পঠিত কবিতাটির উল্লেখ করা যেতে পারে:

'তুমি যুগে কেঁদে ওঠো বলে আমি অপরাধে জাগি,
কোনো অক্ষয়র ক্ষেপে, নীরর অথবা পৃথিবীর।
সেখানে হয়ত অনুভবী সব আলো অপরাধে,

কালোর শিক্তি কৃমি-নীল জেলেও বেখানে।
আলোর বোকানে আলো পায় না দেখার কোনো
মানে মূর্খের বিমর্ষ অমায়স্যা-অপরাধ ছেড়ে এলে।
যা-যা দেখে কেঁদে ওঠো সব শিশু-তোষে অক্ষয়
অপরাধ-চিহ্নময় যমিক অঙ্গার - নেভানে জীবন্ত
মারলিপি-বলমল লেখা ছেলে। সাধুনার ভস্মি
টিনহংসক পুরাতন গৌরে দেলা বেনিশান নতুনের
শিশানের সুখ।'

সুধীন্দ্রনাথের কাছ থেকে মরাজ সার্টিফিকেট পাওয়ার পরও কবি নয়, পত্রিকা সম্পাদক হিসেবেই সঞ্জয় আজও সকলের কাছে সমাদৃত পরিচিত। তাঁর বিচিত্র সৃষ্টিশীল প্রতিভার যথার্থ মূল্যায়ন এখনও গবেষকদের বিবেচনামহীন।

'পূর্বশা'-র সম্পাদক হিসেবে ১৯৩২ থেকে ১৯৭০ - এই দীর্ঘ ঊনত্রিশ বছরের পথ পরিভ্রমণ ও এই পত্রিকার সঙ্গে সঞ্জয়ের অচ্ছেদ্য সম্পর্ক প্রমাণ করে দেয় একজন সং ও নিষ্ঠাবান সম্পাদকের সায়িত্ববোধ। শুধু সায়িত্ববোধ নয়, চিত্তকুমার সঞ্জয় ভট্টাচার্যের সঙ্গে 'পূর্বশা'-র যেন গড়ে উঠেছিল এক গভীর প্রণয়ের সম্পর্ক। আর তাই জীবনের মূল্যবান ও দীর্ঘ সময়কে তিনি সমর্পণ করেছিলেন এই পত্রিকার উদ্দেশে। বাস্তবায়ন বিদগ্ধ ও বিশৃঙ্খল হাত থেকে

একে উদ্ধার করার মরিয়া প্রচেষ্টাই তার সাক্ষ্য বহন করছে।

পূর্বসের কুমিল্লা শহরের একটি চায়ের দোকানে একদল শিক্ষিত বেকার যুবকের চায়ের আসরের বিশিষ্ট সভা ছিলেন সঞ্জয় ভট্টাচার্য। নটিক, গানের আশর, সাহিত্যলোচনা করতে করতে নিজেদের সাহিত্যচর্চা, মতবাদ ও সাহিত্যে অবদান কোনো সাময়িক পরে প্রচার করার কথা অনুভব করেন এই শিক্ষিত সাহিত্যসুরাগী যুবকের দল। এই দলের এক অন্যতম সদস্যের ভাষা অনুসারে,

"চায়ের পেয়ালায় তুফান বইতে শুরু করল। ক্রমেই আশ্রয়ের বন্ধন ধারণা হল যে আমাদের সাহিত্যচর্চা, মতবাদ বা সাহিত্যে অবদান কোনও সাময়িক পত্রিকার মাধ্যমে প্রচারিত হওয়ার শুভকরপ এসে গেছে। এই তরঙ্গ বোম্বারদের দল একটি অতি মূল্যবান কাজে অঙ্গের মেল।"^২

নিজের আঙ্গা দিতে নিতেই একটি মাসিক কাগজের বের করার সিদ্ধান্ত গৃহীত হয় সকলে মিলে। সঞ্জয় ভট্টাচার্য পত্রিকাটির নামকরণ করেন 'পূর্বশা'। অল্প অল্প ভট্টাচার্য পত্রিকার নামকরণের কথা উত্থাপন করলেন,

"স্বদেশের একটা সূতের অনুবোধে আমি 'পূর্বশা' শব্দটি ব্যবহার করেছিলাম, কলনাম, 'পূর্বশা' হলে কেমন হয়, যার মানে পূর্বমুকি?"

সর্বদয়তিক্রমে নামটি গৃহীত হয়। সঞ্জয় ভট্টাচার্যের প্রস্তাবক্রমে পত্রিকার সম্পাদক মনোনীত হন সঞ্জয়। সহসম্পাদক মনোনীত হন অজিত গুহ এবং শ্রীমান নরায়ণ চৌধুরী ছিলেন মূহুর্তক প্রকাশক। কর্মব্যস্ত ছিলেন এতুশ বছরের যুগক সভাপ্রসঙ্গ দত্ত। পত্রিকার কার্যালয় ছিল তাঁদের চায়ের আশ্রয়স্থল লক্ষ্মী কেবিন। 'কল্লোল', 'সালিকলম' ও 'প্রতি' পত্রিকার অবদৃষ্টির পর তাদের ছান নিতেই এই পত্রিকার চরিত্রিক বৈশিষ্ট্য সেই অনুযায়ী করার সিদ্ধান্ত গৃহীত হয়। এই পত্রিকার প্রথম সংখ্যার প্রচ্ছদ একেই ছিলেন সঞ্জয় ভট্টাচার্য নিজেই,

"সাতটি সমাকর্ষিক বৃত্ত - সূর্যের প্রতীক, তার উপর পূর্বশা লেখা - যা ছুপার হরফের মতো নয়, অসাময়িক।"

'পূর্বশা'-র প্রথম সংখ্যার উল্লেখযোগ্য রচনা ছিল প্রবোধচন্দ্র সেনের ত্রিপুরায় ইতিহাস বিষয়ে প্রবন্ধ,

অচিন্তকুমার সেনেরও একটি

'দ রোড থ্যাং' উপন্যাসের

অজয় ভট্টাচার্য এ ছাড়া

'দূর্বশা' নামের একটি

লেখা ছিলেন 'পূর্বশা'র

পত্রিকায় প্রকাশিত

যা। এই ধরনের

রচনাবলি

প্রমুখ। ১৩৫০-এর

সঞ্জয় ভট্টাচার্য

কবিতার গাঙি

'নবদীপক

তাঁর নিজস্ব

করলেই

সজ্জাই

'কল্লোল'

মননশীলতা

সমন্বয়

এবং

ছিল

'সম্পাদক

লেখকদের

লিখতে

একদিনে

দিলীপকুমার

তরলতমা

নারায়ণ

আধুনিক

হলে এই

হয়েছিল।

এক বছর

রাজধানী

অচিন্তকুমার

কারণ

MANUAL

For

Internet and Social

Networking Sites Attitude Scale

ISNSAS - SSDP



Dr. Subhash Sarkar

Assistant Professor / Former Head (I/C)
Department of Education
Tripura University
(A Central University)
AGARTALA (Tripura)

Prasenjit Das

Guest Lecturer
Government Degree College
Gandacherra
DHALAI (Tripura)

Manual
for
INTERNET
and
SOCIAL
NETWORKING
SITES
ATTITUDE
SCALE

ISNSAS-SSDP

Dr. Subhash Sarkar
Assistant Professor & Former Head (I/C)
Department of Education
Tripura University
(A Central University)
AGARTALA (Tripura)

and

Prasenjit Das
Guest Lecturer
Government Degree College
Gandacherra
DHALAI (Tripura)



T. M. Regd. No. 564838
Copyright Regd. No. © A-73256/2005 Dt. 13.5.05

An ISO 9001 : 2008 Certified Company

ISBN : 978-93-86203-09-0

Estd. 1971

www.npcindia.com

☎ : (0562) 2601080

NATIONAL PSYCHOLOGICAL CORPORATION

UG-1, Nirmal Heights, Near Mental Hospital, Agra-282 007



T. M. Regd. No. 564838
Copyright Regd. No. A-73256/2005 Dt. 13.5.05

Estd. 1971

NATIONAL PSYCHOLOGICAL CORPORATION

UG-1, Nirmal Heights, Near Mental Hospital, Agra-282 007

• Email-npc_agra@yahoo.com • website : www.npcindia.com

☎ (0562) 2601080

(An ISO 9001:2008 Certified Company)

Internet and Social
Networking Sites
Attitude Scale

Dr. Subhash Sarkar
Prasenjit Das

ISBN : 93-86203-09-X



Manual

For

RISK

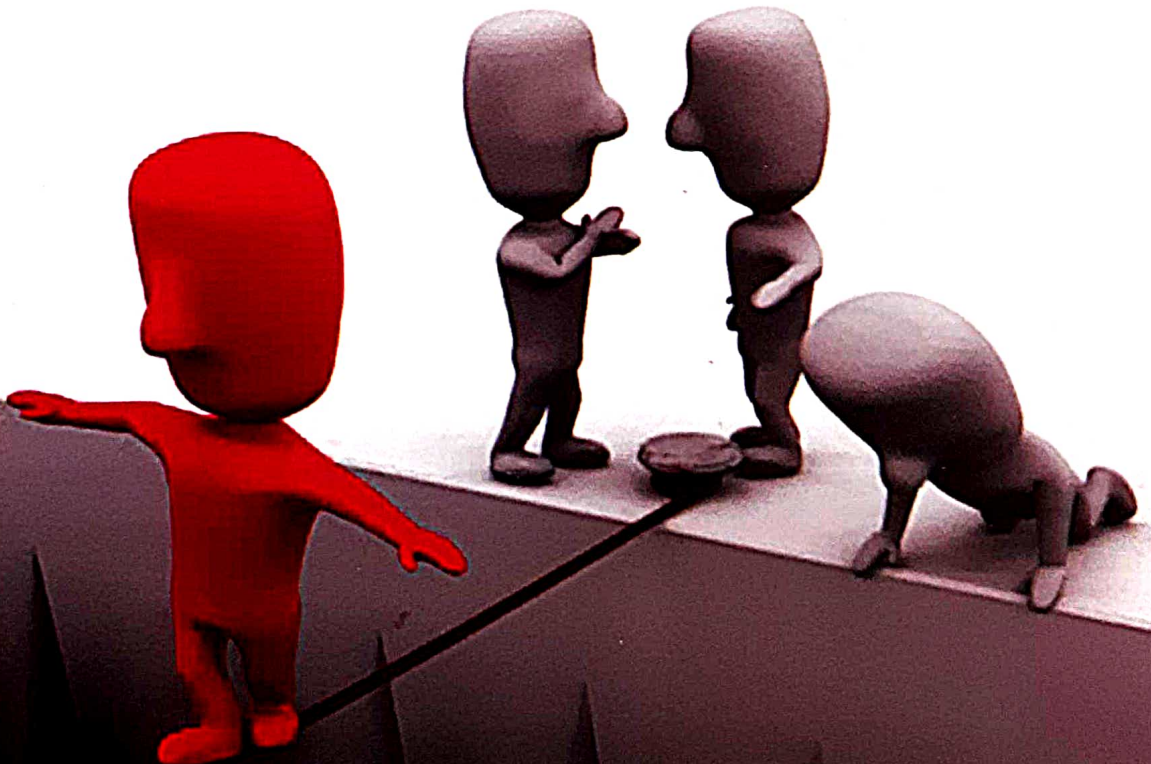
TAKING
Scale

RTS - SS

Dr. Subhash Sarkar

Assistant Professor & Former Head (I/C)
Department of Education
Tripura University
(A Central University)

AGARTALA (Tripura)



Manual
for
RISK
TAKING
SCALE
RTS-SS

Dr. Subhash Sarkar
Assistant Professor & Former Head (I/C)
Department of Education
Tripura University
(A Central University)
AGARTALA (Tripura)



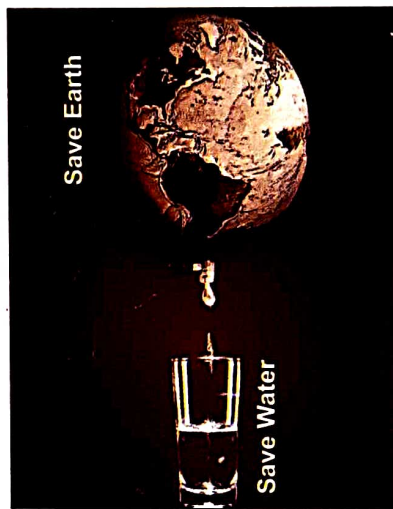
ISBN : 978-93-83398-91-1

Estd. 1938

☎:(0562) 2601080

H. P. Bhargava Book House

LG-1 & 2, Nirmal Heights, Near Mental Hospital, Agra-282 007



H. P. BHARGAVA BOOK HOUSE

LG 1-2, Nirmal Heights, Near Halwal Ki Bagichi & Mental Hospital, Agra-282007

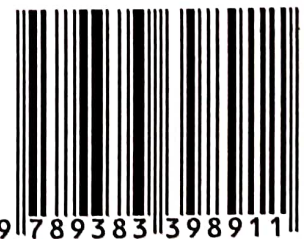
☎ 0562-2601080

Estd. : 1938

Risk Taking
Scale

Dr. Subhash Sarkar

ISBN : 93-83398-91-4



9 789383 398911

Toggle navigation

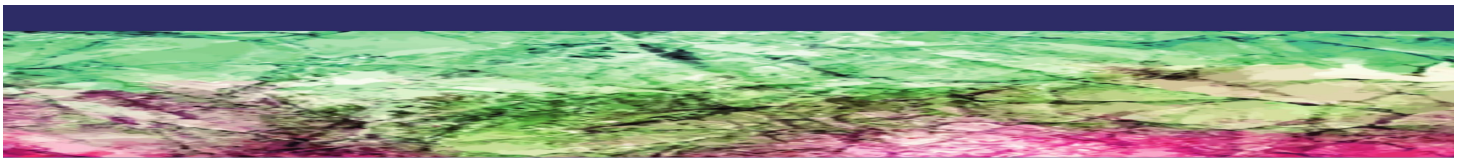


LOGIN

It's time to publish your thesis

Publish now

Back



Subhash Sarker
Samuel Kaipeng
**Tagore's Thoughts & Ideas
on Education: An
Introspection**



Tagore's Thoughts & Ideas on Education: An Introspection

LAP Lambert Academic Publishing (2017-10-04)

€ 64,90

Buy at the MoreBooks! Shop

This book is about the entire educational thoughts and ideas of Tagore. We have added all the important and relevant information about Tagore's educational philosophy with regard to present day education. The reason behind publishing this book was lack of adequate information in term of Tagore's educational thoughts and ideas. Even though there are thousands of books on Tagore's educational thoughts, it is very rare to find the whole information on his educational experiments, thoughts, ideas and so on. Besides that there is no book that can give complete information on Tagore's educational work. So, keeping that in mind, we have decided to create a complete book on Tagore's Educational thoughts and Ideas. Through this book, readers will get all the information about how Tagore pursued his life as an educationist and what led him to setup an institution of his own where he practiced his own educational ideas within his institution. We have tried our best to present Tagore's thoughts and ideas in a simple and readable manner for students as well as for the teachers. We firmly hope that our readers will be satisfied with our writings on Tagore's Educational contributions.

Book Details:

| | |
|------------------|----------------------------------|
| ISBN-13: | 978-3-659-50726-7 |
| ISBN-10: | 3659507261 |
| EAN: | 9783659507267 |
| Book language: | English |
| By (author) : | Subhash Sarkar Samuel Kaipeng |
| Number of pages: | 208 |
| Published on: | 2017-10-04 |
| Category: | Education, Occupation, Career |



e-brochure author info

Lambert Academic Publishing
on facebook

Educating Tribal Children with Special Reference to Tripura

Edited by

Dr Abhijit Chanda

© Tribal Research and Cultural Institute

Government of Tripura, Agartala

First Published in 2017

Cover design

Pushpal deb

Type Setting

Caxton Printers

Published By

TRIBAL RESEARCH AND CULTURAL INSTITUTE
GOVERNMENT OF TRIPURA, AGARTALA

Phone : 0381 2324389

e-mail : dir.trci-tr@gov.in

web : www.tritripura.in

ISBN : 978-93-86707-01-7

All rights reserved. No part of this publication may be reproduced or transmitted, in any form or by any means, without prior permission of the publisher. Any person who does any unauthorized act in relation to this publication may be liable to criminal prosecution and civil claims for damages.

[The responsibility for the facts stated, conclusions reached etc., is entirely that of the paper presenter. The publisher and the editors is not responsible for them, whatsoever.]

Printed At

Caxton Printers, J. B. Road, Agartala, Tripura-799001

Phone : (0381) 2307500

email : jraksharpub@gmail.com

Price : Rs.240.00

8. An Analysis of the Education of the Tribal Girls in Tripura 87-93
Monika Debbarma
9. Gender issues in Tribal Education: A Study of Tribal Women in Tripura 94-102
Jhumli Debbarma
10. Tribal Students and their Activities for Spreading Education in 1940s Tripura 103-110
Dr Monisankar Misra and Nayem Hussain
11. AN Appraisal of Tripuri Women's Status in Takka Tulsu ADC village under South Tripura District, Tripura 111-121
Rajiblal Debbarma and Dr Saptarshi Mitra
12. Importance of Mental Health in Educating Higher Secondary Tribal School Students 122-129
Rebeka Debbarma & Dr Anjana Bhattacharya
13. Trend among the Tribal children towards Technical Education: An Analysis in the context of Tripura 130-140
Sabbir Kumar jamatia
14. Tribal Children's R.T.E. in Tripura- A Human Right Prespective 141-160
Saini Sarkar
15. Issues and Challenges of Education of Tribal people in Tripura 161-172
*Santanu Bhattacharya
& Debasis gan chaudhuri*
16. Dimensions of Tribal Education : A study of Chawmanu Block Area of Tripura 173-185
Tapas Chakma
17. Unveiling the Constitutional and Judicial Safeguards Towards 'Tribals' 186-194
Vivek kumar Mishra
18. Stress and Academic Achievement: A ase Study of Tribal Students Studying in Degree College at Agartala 195-200
Dipankar Pal

Tribal students and their Activities for Spreading Education in 1940's Tripura

Monisankar Misra
Nayem Hussain


The Background :

The prospect of education in Tripura during the rule of the Maharajas was very disappointing. The state administration did not pay necessary attention for improvement of education¹. During the Second World War period there were practically no political activities in the State. Almost all of the main political leaders or workers were imprisoned or expelled from the State and order banning political activities was promulgated. At the same time Tripura felt some sort/... of the 1942 August movement. The student unrest in Tripura became the cause of anxiety for the king. It was at the middle of 1940s that a mass movement on education called Jansiksha Andolan, was launched by the Janasiksha Samiti, a non-government voluntary organization. From that time the state of Tripura witnessed a number of student movements. The spirit of the student movement in the State can be traced back in the philosophy of the Janasiksha Samiti. The basic philosophy of the Samiti was to spread education among the poor tribal people of the State. In this environment the Tripura Rajya Janasiksha Samiti was established on 11 Pous, 1355 Tripura Era corresponding to 27 December, 1945 A. D². The purpose of the movement was to end the social injustices and superstitions through the spread of education.

Gerrit Jasper Schenk
Editor

Historical Disaster Experiences

Towards a Comparative and Transcultural
History of Disasters Across Asia and Europe

 Springer

Editor
Gerrit Jasper Schenk
Fachgebiet Mittelalterliche Geschichte
Institut für Geschichte
Darmstadt, Germany

ISSN 2191-656X

ISSN 2191-6578 (electronic)

Transcultural Research – Heidelberg Studies on Asia and Europe in a Global Context

ISBN 978-3-319-49162-2

ISBN 978-3-319-49163-9 (eBook)

DOI 10.1007/978-3-319-49163-9

Library of Congress Control Number: 2017934489

© Springer International Publishing AG 2017

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, express or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Cover illustration: Ambrosius Theodosius Macrobius, Commentary of Cicero's 'Somnium Scipionis' (Venice: Lucantonio Giunta/Augustino de Zaninis da Portese, 1513), fol. 1r, woodcut. Bayerische Staatsbibliothek, Munich: 2 A.lat. b 493. Credit by Bayerische Staatsbibliothek München.

Printed on acid-free paper

This Springer imprint is published by Springer Nature

The registered company is Springer International Publishing AG

The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

| | |
|---|------------|
| Measuring “Disaster”: The “Everydayness” of Fluvial Landscapes and the Colonial State in Gangetic <i>Diaras</i>, 1790s–1880s | 369 |
| Nitin Sinha | |
| When the “Deluge” Happened: The Flood of 1929 in the Surma–Barak Valley of Colonial Assam | 379 |
| Monisankar Misra | |
| Alpine Landscapes of Defence: On Modern-Vernacular Avalanche Protection Systems in the Swiss Alps | 399 |
| Michael Falser | |
| Name Index | 423 |
| Place Index | 427 |
| Subject Index | 431 |

When the "Deluge" Happened: The Flood of 1929 in the Surma-Barak Valley of Colonial Assam

Monisankar Misra

Abstract The Surma-Barak valley comprised the districts of Sylhet and Cachar in colonial Assam. This valley has been prone to flooding from time immemorial. Although our knowledge of floods in pre-colonial days is inadequate, with the arrival of the British from the late eighteenth century, our sources of information took a great leap forward. One of the heaviest floods to visit Sylhet and Cachar was in June 1929, and it left a trail of havoc in the valley. But this flood is more important because it provided another occasion for the Indians to evaluate the role of the British in aggravating floods in the valley. The majority of the inhabitants of the valley considered the flood of 1929 to be a *Plabon* or Deluge, the like of which had never happened before. On the other hand, the British officials flatly rejected these allegations. In the end, a committee was formed to investigate the causes, but its findings failed to satisfy the Indians. This paper will deal with this important event in the history of Assam and will show that nationalist critique of colonial rule in Assam had varied dimensions, as yet unexplored by historians.

Introduction

The Surma-Barak valley is one of the major river systems in the colonial province of Assam. It included the districts of Sylhet and Cachar. Both of these districts had been flood-prone from time immemorial. The floods were caused not only by local rainfall, but also by rains in the surrounding Khasi, Jaintia, North Cachar, Lushai, and Manipur hills. The water that accumulates in the hills ultimately finds its way into the Sylhet-Cachar plains, further complicating the flood problem. As a result, people living in this part of the globe had to devise coping mechanisms to negotiate floods. They were helped in the process by "nature's topography," to use a phrase

M. Misra (✉)

Tejapra University, Agartala, India

e-mail: monisankarmisra@gmail.com

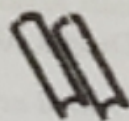
© Springer International Publishing AG 2017

G.J. Schenk (ed.), *Historical Disaster Experiences, Transcultural Research - Heidelberg Studies on Asia and Europe in a Global Context*,
DOI 10.1007/978-3-319-49163-9_19

Playing with Nature

HISTORY AND POLITICS
OF ENVIRONMENT IN
NORTH-EAST INDIA

Edited by
SAJAL NAG



MANOHAR
2017

Playing with Nature

HISTORY AND POLITICS
OF ENVIRONMENT IN
NORTH-EAST INDIA

First published 2017

© Individual contributors, 2017

All rights reserved. No part of this publication may be reproduced or transmitted, in any form or by any means, without prior permission of the editor and the publisher.

This edition is for sale in India, Sri Lanka, Nepal, Bangladesh, Afghanistan, Pakistan and Bhutan

ISBN 978-93-5098-135-1

Published by

Ajay Kumar Jain for

Manohar Publishers & Distributors

4753/23 Ansari Road, Daryaganj

New Delhi 110 002

Printed at

Salasar Imaging Systems

Delhi 110 035

9. State-Science, Hegemony and Shifting the
Cultivator: Contesting the 'Anti-modernity'
Discourse on Shifting Cultivation in South Asia
Debojyoti Das 181
10. Land Use/Land Cover Change and its Impact
on Climate in the Barak Valley, Assam
Bashabi Gupta 209
11. *Rain, Rain, Come Again*: History of Rainfall,
Deforestation and Water Scarcity in Cherrapunji,
the Rainiest Spot in the Globe
Sajal Nag 229
12. Challenging Times, Challenged Body: Decolonization,
Displacement and Disease among East Pakistani
Refugees in South Assam, 1947-1954
Binayak Dutta 255
13. The Empire as a World of Sport: Aspects of
Hunting in Colonial Assam, c. 1850-1900.
Bipul Chaudhury 273
14. Colonizing the Wild: British Policies towards
Wildlife in Assam, 1874-1947
Gectasbree Singh 283
15. Encountering Floods: Colonial State and the
Flood of 1916 in the Surma-Barak Valley of Assam
Monisankar Misra 305
16. Environmental Impact of the Great Earthquakes
of 1897 and 1950 on North-East India
Srymananda Bhattacharjee 323
17. Mythology as a Protest Narrative: A Lepcha Tale
Kerry Little 341
- List of Contributors* 353
- Index* 355

CHAPTER 15

Encountering Floods: Colonial State and the Flood of 1916 in the Surma-Barak Valley of Assam

MONISANKAR MISRA

INTRODUCTION

Socio-economic formation in a particular geographical space is always dependent on the type of climate and topography of the prevalent area. Human history is replete with examples of ancient civilizations mostly growing in and around sources of water, namely rivers, seas, lakes, etc. Such sources of water provided sustenance to these civilizations by helping agriculture and communication. Abundance of rainfall was and is a crucial factor that contributed to civilizational growth. For example, Indian civilization over the centuries has depended on timely monsoon and agricultural calendar of Indian peasants evolved as a response to it. But there is also another side of the story. Excess of rainfall have caused largescale flooding leading to destruction of not only property but also human and animal lives. The Andhra flood of 2009 is a case in point. But still, mankind over the centuries in every part of the globe had devised means to cope with natural calamities. It had shown more 'prudence' than 'profligacy' in dealing with 'nature' in pre-industrial/colonial age. However, with the coming of the industrial age, first in Europe and then gradually spreading to other parts of the globe since the nineteenth century, led to a change in the mentality of the people, particularly those in power. A new found confidence in science and technology began to shape their attitude. Developments in science and technology created an illusion that humans can control anything under the sun and be the master of all. 'Nature' was now to be controlled and 'natural resources' were now to be extensively harnessed and exploited for the use of man. In short, 'nature' is to be made subservient to 'humans'. Natural calamities such as floods were now begun to be

State Politics in India

edited by

HIMANSHU ROY

MAHENDRA PRASAD SINGH

A.P.S. CHOUHAN



PRIMUS BOOKS

An imprint of Ratna Sagar P. Ltd.
Virat Bhavan
Mukherjee Nagar Commercial Complex
Delhi 110 009

Offices at CHENNAI LUCKNOW
AGRA AHMEDABAD BENGALURU COIMBATORE DEHRADUN GUWAHATI HYDERABAD
JAIPUR JALANDHAR KANPUR KOCHI KOLKATA MADURAI MUMBAI PATNA
RANCHI VARANASI

© Himanshu Roy, M.P. Singh and A.S.S. Chouhan for editorial selection 2017

© Individual contributors for their respective essays 2017

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, without the prior permission in writing from Primus Books, or as expressly permitted by law, by licence, or under terms agreed with the appropriate reproduction rights organization.

Enquiries concerning reproduction outside the scope of the above should be sent to Primus Books at the address above.

First published 2017

ISBN: 978-93-84092-99-3 (hardback)

ISBN: 978-93-86552-03-7 (e-book)

ISBN: 978-93-86552-02-0 (paperback)

ISBN: 978-93-86552-12-9 (POD)

Published by Primus Books

Lasertypeset by Sai Graphic Design

Arakashan Road, Paharganj, New Delhi 110 055

Printed and bound in India by Replika Press Pvt. Ltd.

This book is meant for educational and learning purposes. The author(s) of the book has/have taken all reasonable care to ensure that the contents of the book do not violate any existing copyright or other intellectual property rights of any person in any manner whatsoever. In the event the author(s) has/have been unable to track any source and if any copyright has been inadvertently infringed, please notify the publisher in writing for corrective action.

- | | |
|---|-----|
| 12. State, Society and Identity Politics in Karnataka: Shifting Paradigms MUZAFFAR ASSADI | 387 |
| 13. Missionaries, Marxists and the 'Model State': Engaging with Political Practices in Kerala BURTON CLEETUS | 409 |
| 14. Madhya Pradesh: Politics of Democracy, Domination and Dissent A.P.S. CHOUHAN and NIRAJ KUMAR JHA | 440 |
| 15. Caste, Politics and Development in Maharashtra ASHOK T. BORKAR | 462 |
| 16. Politics in Manipur: A Congress Bastion M. AMARJEET SINGH | 493 |
| 17. State Politics in Meghalaya: A Regionalism that Poses No Threat to Nationalism SUSMITA SEN GUPTA | 525 |
| 18. Politics in Mizoram: A Rare Example of Democratic Transition on Troubled North-Eastern Border JAGADISH K. PATNAIK | 566 |
| 19. Politics in Nagaland: From Military to Electoral Democracy KEDILEZO KIKHI | 598 |
| 20. Mapping the Contours of State Politics in Odisha in Context of Elections in Recent Decades MOHAMMED BADRUL ALAM | 625 |
| 21. Puducherry Politics: Politics in an Exceptional Union Territory L. PREMASHEKHARA | 644 |
| 22. Punjab: Politics of a Borderland State ASHUTOSH KUMAR | 664 |
| 23. State Politics in Rajasthan B.C. UPRETI | 683 |
| 24. State Politics and Political Participation in Sikkim A.C. SINHA | 705 |
| 25. Dravidian State Politics: From Social Reforms to Populism P. RAMAJAYAM | 727 |
| 26. State Politics in Tripura: A Synoptic View MONISANKAR MISRA | 759 |

State Politics in Tripura A Synoptic View

MONISANKAR MISRA

In popular imagination fed by media reports, Tripura is represented as a disturbed state where insurgents and separatists run the show. Oblivious of the fact that since its merger, Tripura, despite several handicaps and obstacles, has made slow but steady strides forward, its image was tarnished for a long time and it still continues. The present essay, exploratory in nature, is a sincere attempt, albeit briefly, to highlight and examine the major, complex and variegated pattern of political developments in its history, particularly in the twentieth century when both constitutional and extra-constitutional methods were employed from time to time to achieve the desired political goal by the concerned stakeholders. Its twentieth-century history is in fact a story of transition from monarchy to democracy. The year was 1949 when the Manikya dynasty that had been ruling Tripura for 600 years decided to merge with India. The transition was otherwise smooth at a time when momentous changes were happening all around the subcontinent. However, faultlines soon appeared and Tripura could not remain unscathed from these momentous changes, some of which had a direct bearing on the state itself. Tripura's contemporary politics still reverberates with issues whose origin lie between the late 1940s and 1960. Tripura, geographically a small entity, nationally a non-entity, has an unusual complexity in its politics being shaped by a wide spectrum of political opinions from Marxist to nationalist to ethnic varieties for the last 70 years, consequently, its reading becomes a very interesting case study. In the twenty-first century, Tripura's importance has increased because of its strategic geographical location in the overall schema of the Look East Policy and therefore a perusal of its politics and problems deserves the utmost care and attention from policymakers. It is an irony of history that Partition and Independence of mid-twentieth century, which put Tripura in a quandary because of its geographical isolation from rest of India, now finds itself in thick of things because of its very geographical location!

* I am grateful to Salim Shah, Assistant Professor in the Department of Economics, Tripura University for sharing some of the data and ideas on the economy of Tripura with me.

Chapter 21

Role of Rural Libraries in Community Development: A Case Study of Kokborok Library

Mithu Anjali Gayan , R.K. Mahapatra and Samendra Debbarma

Abstract

Information needs vary from individual to individual so does information seeking behavior. The information need of an urban user is quite different from the information need of a rural user. Although the basic library services remain same across the world the needs and expectations of the users vary. The libraries of rural areas can play vital role in community development and upliftment. The present study is an attempt to investigate the need and expectation of Kokborok library users and the services provided by them. It was found that 70% of the total population belongs to male category; (95%) of the sample belong to the age group 18-29; Highest number of users (40%) prefers to read fictional books followed by reference books (15%); 65% of the sample find the collection very useful; majority (80%) of the users belong to students category followed by Govt. service holder, farmer, housewife, business holder 5% each; users (40%) use internet services in the library followed by library lending services (30%); 55% of the total population uses the library weekly followed by daily (15%). The results found by the study give a clear picture of the Kokborok library; its services and users needs and expectations.

Keywords: Rural library 2. Community library 3. Kokborok library 4. Tribal Library 5. Public Library

Introduction

Information needs vary from individual to individual so does information seeking behavior. The information need of an urban user is quite different from the information need of a rural user. In India, more than half of the population resides in rural areas. But the rural population's access to information is in a very poor state. The rural libraries, in Indian context, are still not equipped with advanced technologies and are mostly in traditional

A Scientometric Study of DOAJ: The Current Status of the Journal Directory

Mithu Anjali Gayan¹ and Dr. R.K. Mahapatra²

¹Assistant Professor, Department of Lib. and Information Science, Tripura University, Suryamaninagar, Tripura

²Associate Professor, Department of Lib. and Information Science, Tripura University, Suryamaninagar, Tripura

E-mail: ¹mithuanjaligayan@tripurauniv.in,

²rkmahapatra@tripurauniv.in

Abstract—The study aims to analyze the current status of the Directory of Open Access Journals. A survey was used to gather data. The web-based directory DOAJ was searched and browsed for collecting data from the period 20 December 2016 to 31 December 2016. Highest number of journals is contributed in the year 2016: 70.63 times more journals have been contributed in the year 2016 as compared to its beginning year 2002. Brazil (9.64%) has the highest number of journals included in the open access directory followed by United Kingdom and United States. The directory also includes foreign languages such as Spanish, apart from English. From study, it is seen that developing and developed countries have taken open access more seriously.

Keywords: Open Access, Journals, DOAJ, Scholarly Communication

INTRODUCTION

The scholarly community has seen a paradigm shift of priced journals to open access journals. The major reason behind rising of open access journals is the elevating cost of the journal and monopoly of the publishers. Over the years, the cost of journals is increasing and at the same time the budget of libraries is shrinking. As the amalgamation of information communication technology, World Wide Web and the internet has emerged and touched the sea of scholarly communication the Open Access (OA) movement has been at the vanguard of journal growth. Open Access Journals (OAJs) lay concrete on the means for more admittance to research findings. (Mohammad reza Ghane and Mohammad Reza Niazmand, 2016).

Journal prices are rising above the increased rate and thereby, are bringing about a financial disaster for research libraries (Bosch and Henderson, 2012; Odlyzko, 2013). As a result, libraries face a big issue in terms of buying scientific journals at huge cost. This results in mired for researchers and other library users in accessing scientific findings. Also, the authors are required to give away their rights to the content in the commercial publishing picture. Finally, the copyright restrictions and licensing policies boost up the author's loss of control over publications mostly funded by public investments (Suber, 2012). Researchers/ authors worked mutually to solve this crisis and eventually developed open access publications.

Use of Mobile Technologies in the Academic Environment: A Comparative Study of Three Indian Universities

Mithu Anjali Gayan

Garvita Jhamb

Sanasam Sandhyarani Devi

Abstract

The main purpose of this paper is to make a comparative study of the use of handheld device by the students / scholars of 3 universities i.e. Manipur University, Tripura University, and Delhi University in terms of their academic activities. On the other hand, it examines the degree of handheld device usage in the student population. This paper will help to find the purpose of handheld device usage, the degree of internet usage through handheld devices, the use of handheld devices concerning academic dealings.

A survey was conducted through a well-structured and precise questionnaire circulated personally among 180 students in 3 universities in the study.

A large majority of the students of three universities uses smart phone, and (68%) of Manipur University (MU), 56% in Tripura University (TU) and 58% in Delhi University (DU) use internet for reading news. 82% students of DU use internet for reading study related documents, while 60% students of TU and 72% in MU students use internet for reading documents. Most of the populations from each University i.e. MU 82%, TU 80%, and DU 92% are interested in accessing e-Books, e-articles, and e-reviews services through mobile technology.

The paper highlights the use of handheld device for academic purpose and students' opinion regarding the use habit of handheld device.

Keywords: Handheld Device, Handheld Technologies, ICT, Mobile Services, E-Books, Mobile Technology, Smart Phones

1. Introduction

Technology has touched every sphere of life in every possible way. It has brought immense change in our lifestyle. The way one gathers information, reads, or one does online transactions have totally changed because of availability of numerous technologies. With the use of mobile phones and the popularity of smart phones, access to the technologies has become even easier.

The whole world has monitored the wave of technological changes and so have libraries. Libraries have always accepted the challenges of adopting new technologies, implementing use of modern equipments, and automating it in services, so that it can provide better and ubiquitous services to its user community. Emergence of ICT has compelled the libraries to revise and rework its services (Malathy & Kantha, 2013). To provide the best service, to compete with the search engines, to satisfy the user needs and to change the passive library users into active library users, libraries must



adopt all available and advanced technologies such as Wi-Fi, mobile communications, and Library 2.0 and 3.0 etc. Since, it is seen that mobile devices are extensively used by today's younger generation; libraries can take advantage of it and start providing their services with the help of mobile communications. But at the same time, it is important to realize whether they would like to be offered such services. With this aim, the current study is being conducted to determine the mobile phone usage by the student / scholar community of three different universities and their attitude towards receiving library services through their mobile devices, and also to study the impact of mobile phone usage on academic activities.

1.1 Different Types of Handheld Devices

There are various categories of mobile devices or handheld devices such as cellular phones, multimedia phones, laptops, notebooks, e-book readers cameras, etc. But this study is only confined to smart phones as it is the most widely used amongst all devices. Smart phone, today, is used for performing a range of activities including voice and video calling, e-mail transfer, text messaging, photography, playing and making videos, setting an alarm clock, searching the internet, searching databases of scholarly information, accessing a course management system, reading or listening to books and articles, newspapers, online shopping, internet banking, using a GPS navigation system, playing games, uploading and downloading content from internet (Joan K. Lippincott, 2010).

Today, another shift has been experienced i.e. from the web to app. It has been observed that many commercial entities have stopped their services on the World Wide Web and have started their services

only through the installed mobile apps, and lucrative offers are also provided for installing the apps. This phenomenon has also, in some or the other way, popularized the use of internet enabled smart phones.

Nowadays, Smart phones are being used by different age groups and more particularly by the younger generation. So, the study is intended to determine the perception, attitude, and awareness of students and scholars of three Indian universities. The study has also tried to compare the perceptions and attitudes of the students/scholars from the selected three universities.

1.2 Objectives of the Study

1. To determine the degree of handheld device usage among the students / scholars of three universities in the study.
2. To determine the purpose of handheld device usage.
3. To determine the degree of internet usage through handheld devices.
4. To determine the use of handheld devices in academic activities.
5. To find out the e-book usage habit of the sample population.
6. To compare the handheld device usage habits of students /scholars from the selected three universities.

1.3 Scope of the study

The study was made to understand the information seeking among the students /scholars in the mobile era using mobile technologies and understand their interest in receiving such services from their libraries.

1.4 Limitation of the study

Due to different constraints the study is confined only to the students/ scholars population. The study does not stress on the librarian's /library professionals' point of view. The study is limited to only three Indian universities.

2. Literature Review

Nor Shahriza Abdul Karim, Siti Hawa Darus, and Ramlah Hussin (2006) studied the perceptions on the application of wireless hand services in the context of library and information services and received highly positive response. A high majority of the respondents indicated their willingness to become the users of such services if offered.

Reese Bomhold Catharine (2013) investigated educational use of smart phone technology. This research provided evidence on the actual use of mobile devices by students for library administrators and educators interested in developing integrated mobile academic library applications. Lorraine Paterson and Boon Low (2011) provided facts for libraries to determine the value of developing their personal mobile services. It also demonstrated the proliferation of mobile device usage within the university and library context, and indicated the services students would find most useful on a mobile device. It also provided insight into a rapidly moving area of technology. The research found that it is very important for libraries to cuddle the varying student mentality by providing services through the handheld devices.

Peter Richardson, Steven Dellaportas, Luckmika Perera, Ben Richardson (2013) did a research on students' insight on using ipods in accounting education and found that students like to use ipods

because of its portability. It supports well-organized use of time and study planning. Students with an inclination for visual education rated the iPod as being vital to their learning. Amit Kumar (2014) studied opinion of students of JNU about the success of mobile technology in libraries. It was found that the a large number of students were willing to use mobile technology for better services, and it was anticipated by the students that services should be provided to them by libraries through mobile technology. Patrick Lo, Allan Cho, Man-hon Leung, Dickson K.W. Chiu, Eddie H.T. Ko, and Kevin K.W. Ho (2016) undertook a study to find the use of smart phones by art and design students for accessing library services and learning. The survey explored art and design students' use of smart phones for accessing library services and learning at the Hong Kong Design Institute (HKDI). Survey results showed that while the HKDI students were all smart phone owners and active users of such mobile communication devices, only a minority of them "frequently" use these mobile devices for formal learning purposes. They demonstrated a keen preference to use search engines, social communications, and other diverse use of smart phones. Except for research and image /audio-visual needs, the rest of their needs and usage behaviour is similar to mainstream university students.

3. Methodology

To meet the objectives of the study a survey was conducted in all three universities simultaneously. Total 180 questionnaires were distributed among the students / scholars, out of which 150 students responded (50 from each university). The study was conducted during July 3rd to July 22nd, 2016. Each student was approached individually.

4. Data Analysis

4.1 Types of Mobile Devices used by Students

Findings of this study indicated that 82% students in MU use smart phones and rest use tablet, out of which 90% use Android operating system and 10% use Windows; and on an average 10-15 apps (44%) are installed. In TU 94% use smart phones, out of which 68% use Android OS, and 32% use Windows.

MU followed by 50% in TU and 72% in DU. 54% use internet for online shopping in MU, 48% in TU and only 40% in DU.

Maximum use internet for the reading of study related documents (82% by DU) followed by social networking (72% by DU students) and to read news (68% by MU students). The study found that Google

Table 1: Purpose of Using Internet in Phone

| Purpose of Using Internet in Phone | Manipur University | Tripura University | DelhiUniversity |
|--------------------------------------|--------------------|--------------------|-----------------|
| To read news | 34 (68%) | 28 (56%) | 29 (58%) |
| To play online games | 4 (8%) | 7 (14%) | 9 (18%) |
| To read related documents to studies | 37 (74%) | 30 (60%) | 41 (82%) |
| To download music and movies | 6 (12%) | 25 (50%) | 15 (30%) |
| To recharge mobile | 10 (20%) | 15 (30%) | 10 (20%) |
| To read blogs | 0 (0%) | 7 (14%) | 8 (16%) |
| To use social networking | 31 (62%) | 25 (50%) | 36 (72%) |
| Online shopping | 27 (54%) | 24 (48%) | 20 (40%) |
| Online ticket booking | 7 (14%) | 9 (18%) | 18 (36%) |
| Online banking | 16 (32%) | 11 (22%) | 5 (10%) |

On an average, 5-10 apps (42%) are installed in the smart phones. In DU 98% use smart phones with Android OS in a majority of smart phones (78%). On an average 5-10 apps (42.7%) are installed in smart phones. Whatsapp is the most used app by the majority of students (58%) in the universities under study.

Table 1 shows that majority of the students (68%) of MU use internet for reading news while 56% in TU and 58% in DU. 82% students of DU use internet for reading study related documents while in TU 60% and 74% in MU. 62% use social networking in

(78%) is predominantly used search engine by students of all three universities under the study.

The study also stated that highest number of students 36% from MU makes use mobile devices to complete study related assignments, followed by 42% from TU and 68% from DU. It was found that 48% students of MU use office in their smart phones while only 36% in DU and 32% in TU.

On an average, majority of the students (90.7%) read articles in their smart phones from all three universities under the study.

The study revealed that 64% in DU, 62% in TU, and 52% students in MU feel that it is important to be connected through the phones. 76% students from MU subscribe to alerting services while 64% in DU and 54% in TU through their mobile devices.

4.2 Library Usage

The study found that highest number of students from MU i.e. 26% use the library catalogue a couple of times in a week, 16% in TU and 8% in DU. 34% of the population has never used the catalogue in MU & TU while 44% in DU. 20% in TU, 2% in MU and 8% in DU never visited the library.

Table 2: Services

| Services | Manipur University | Tripura University | Delhi University |
|---|--------------------|--------------------|------------------|
| e-Books, e-article and e-reviews | 41 (82%) | 40 (80%) | 46 (92%) |
| Links to library catalogue | 7 (14%) | 12 (24%) | 16 (32%) |
| Pay fines | 13 (26%) | 3 (6%) | 15 (30%) |
| Reminders | 2 (4%) | 9 (18%) | 3 (6%) |
| Book reservations | 5 (10%) | 12 (24%) | 7 (14%) |
| Programs, events, new additions, library news | 21 (42%) | 10 (20%) | 20 (40%) |
| Feedback | 3 (6%) | 3 (6%) | 5 (10%) |
| Services of positioning of holdings | 1 (2%) | 0 (0%) | 2 (4%) |
| Booking library training sessions | 1 (1%) | 1 (2%) | 0 (0%) |
| Any other (please specify) | 0 (0%) | 0 (0%) | 0 (0%) |

Table 2 portrays that most of the populations from each University i.e. MU 82% TU 80% and DU 92% are interested in accessing the e-Books, e-article and e-reviews services through mobile technology.

Table 3: Impact of mobile technologies

| Impact of Mobile Technologies | Manipur University | Tripura University | Delhi University |
|-----------------------------------|--------------------|--------------------|------------------|
| Access to the library | 12 (24%) | 19 (38%) | 22 (44%) |
| Usability of information sources | 7 (14%) | 15 (30%) | 10 (20%) |
| Ease of use the library | 5 (10%) | 8 (16%) | 20 (40%) |
| Quality and efficiency of library | 26 (54%) | 8 (16%) | 6 (12%) |

Highest number of population i.e. 54 % in MU feels that the impact of mobile technology will increase the quality and efficiency of the library while 38% in TU and 44 % in DU feel that it will increase the access to the library.

Table 4: Use the Catalogue

| Use the catalogue | Manipur University | Tripura University | DelhiUniversity |
|----------------------------------|--------------------|--------------------|-----------------|
| While traveling | 4 (8%) | 5 (20%) | 22 (44%) |
| At my place of residence | 6 (12%) | 8 (16%) | 2 (4%) |
| Within the Library | 15 (30%) | 8 (16%) | 10 (20%) |
| As a part of a study group | 12 (24%) | 14 (28%) | 6 (12%) |
| On campus, outside the libraries | 13 (26%) | 12 (24%) | 12 (24%) |

Table 4 depicts the interest of the sample population in terms of using the library catalogue in different circumstances. It was found that highest number of population i.e. 30 % in MU is interested to use the library catalogue within the library premise, 28% from TU is interested in using it as a part of a group study while 44% from DU would like to use it while travelling.

4.3 E-book Usage

The study depicted that 40% of the population from TU reads E-book very often, 40% from MU reads sometime and 32% DU reads E-book very often, out of which 74% from MU and 68% from DU read it on smart phones while 50% from TU reads it on Laptop. Majority of the population from each university (92% in MU, 66% in TU and 96% in DU) have not purchased an e-book. Majority of the sample population (40% in MU, 40% in TU and 48% in DU) have never listened to audio books and only 28% in MU, 26% in TU and 20% in DU listens to audio books sometimes. Majority of populations from each university (70% in MU and TU & 88% in DU) do not own kindle for reading E- books. None of the three university libraries provide Kindle facility. Majority of the sample under the study (98% in MU, 80% in TU and 90% in DU) wants their library to have kindle facilities to be provided by their libraries. In MU

and in TU 100% population use PDF format to read e-book in their smart phone while in DU 85% read it in PDF format and the rest 15% in dedicated apps.

5. Conclusion

The study found that majority of students in each university use smart phones among different handheld devices available, and Whatsapp is the most used app by them. A good number of students in DU use internet for the reading of study related documents and social networking, while in MU maximum students use internet for reading news. In TU most students use internet to download music and movies. The result shows that maximum students from each university are interested in accessing the e-books, e-article and e-reviews services through mobile technology. Out of all, majority of students of MU feels that mobile technology will increase the quality and efficiency if the library. Students from MU are interested to use the library catalogue within the library premises, from TU as a part of group study whereas from DU during travelling. In case of e-book usage, it was found out that students of TU and DU read e-books very often either on their smart phones or laptop mostly in PDF format. None of the libraries are providing Kindle facilities and hence majority of students wants their library to provide the same.

References

1. Joan K. Lippincott, (2010), "A mobile future for academic libraries", Reference Services Review, Vol. 38 Iss 2 pp.205 <http://dx.doi.org/10.1108/00907321011044981>
2. Malathy, S., & Kantha, P. (2013). Application of mobile technologies for libraries. DESIDOC Journal of Library and Information Technology , Vol. 33 No.5, 361-366.
3. Peter Richardson Steven Dellaportas Luckmika Perera Ben Richardson, (2013), "Students' perceptions on using iPods in accounting education: a mobile-learning experience", Asian Review of Accounting, Vol. 21 Iss 1 pp. 4 - 26 Permanent link to this document: <http://dx.doi.org/10.1108/13217341311316922>
4. Patrick Lo Allan Cho Man-hon Leung Dickson K.W. Chiu Eddie H.T. Ko Kevin K.W. Ho , (2016), "Use of smart phones by art and design students for accessing library services and learning", Library Hi Tech, Vol. 34 Iss 2 pp. 224 - 238 <http://dx.doi.org/10.1108/LHT-02-2016-0015> accessed on 04 July 2016, At: 22:30
5. Lorraine Paterson Boon Low, (2011), "Student attitudes towards mobile library services for smart phones", Library Hi Tech, Vol. 29 Iss 3 pp. 412 - 423 Permanent link to this document: <http://dx.doi.org/10.1108/07378831111174387> accessed on 04 July 2016, At: 22:27
6. Amit Kumar , (2014), "Students opinion about the success of mobile technology in libraries", New Library World, Vol. 115 Iss 9/10 pp. 471 – 481 <http://dx.doi.org/10.1108/NLW-10-2013-0075> accessed on 04 July 2016, At: 22:35
7. Reese Bomhold Catharine , (2013), "Educational use of smart phone technology", Program, Vol. 47 Iss 4 pp. 424 - 436 <http://dx.doi.org/10.1108/PROG-01-2013-0003> accessed on 04 July 2016, At: 22:31
8. Nor Shahriza Abdul Karim, Siti Hawa Darus, and Ramlah Hussin, (2006), "Mobile phone applications in academic library services: a students' feedback survey", Campus Wide Information Systems, Vol. 23 Iss 1 pp. 35 – 51 <http://dx.doi.org/10.1108/10650740610639723> accessed on 04 July 2016, At: 22:33

About Authors

Ms. Mithu Anjali Gayan, Assistant Professor, DLIS, Tripura University.

Email: mithu.anjali@gmail.com

Ms. Garvita Jhamb, Research Scholar, DLIS, Delhi University.

Email: j.garvita7@gmail.com

Ms. Sanasam Sandhyarani Devi, Research Scholar, DLIS, Manipur University.

Email: sanasam.dse.geo@gmail.com

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/320167021>

An Overview of Digital Library Software: with special reference to open source software

Chapter · January 2017

CITATIONS

0

READS

90

2 authors, including:



Surendra Kumar Pal

Tripura University(A Central University), Agartala India

22 PUBLICATIONS 7 CITATIONS

SEE PROFILE

Some of the authors of this publication are also working on these related projects:



Management of Online Resource in libraries [View project](#)



Innovation and Creativity iinto Strategic planning in libraries. [View project](#)

0. It
role
ND

nd

l."

an
ed
d,

"

).

r.

).

)

r

l

l

l

l

l

l

l

l

l

l

l

l

l

l

22

An Overview of Digital Libraries Software With Special Reference to Open Sources Software

Surendra Kumar Pal and R.K. Mahapatra

Abstract

Open source software is free alternative to costly commercial software for developing the digital libraries. Digital libraries play an important role in academic institutions. Lack of awareness and knowledge in open source technology among library professionals restricts wide adoption of open source digital library software. This article gives an overview of available major open source digital library software.

Keywords Open Source Software, Computing Technology, Digital Library

Surendra Kumar Pal and Bal Ram (eds),
Applications of Modern Tools and Technology in Library Services
© Studera Press 2017

121462.indd5

Introduction

Open source software is computer software whose source code is available under a license (or arrangement such as the public domain) that permits users to study, change, and improve the software, and to redistribute it in modified or unmodified form. It is often developed in a public or collaborative manner. It is the most prominent example of open source development and often compared to user-generated content.

For many libraries, organising their thesis, dissertations, university publications and other media can be a daunting task, especially as the library grows with more material. With today's computing technology, it is very easier to browse the publications of university in their digital library through internet connection at any place. It is just because the world has been blessed with wonderful software solutions that make everything easier to do, doesn't mean that every library in the universe is using these solutions. Many Libraries do not have huge amounts of money to burn, and any that they do get usually goes to purchasing additional resources. Because of this need for software (and the installation and training costs associated with any), and the lack of money available to spend on it, many libraries are left to fend for themselves when it comes to staying up to date with the latest technology. Unless, of course, they embrace the open source movement and use some of the countless software solutions available to help out. Most software that we all use every day is known as "proprietary" which in a nutshell means that it costs money and that the actual code of the software is restricted, in that the code of the software cannot be modified, copied, or changed from its original construction. The code is "unreadable" and pretty much is what it is. Open Source Software, on the other hand, is quite the opposite. The open source mentality revolves around sharing and collaboration, and these two important elements describe open source software perfectly.

First and foremost, open source software is free for anyone to have; more importantly, not only is the software free, but it is also free for anyone to copy, hack, modify, etc. This increases the possibilities of a software program's potential because of this free-thinking model. Many large groups of programmers have customised basic open source programs into whatever they deemed necessary, and have in turn given these modifications back to the open source community for free where others can continue to build on their work. There are many different kinds of open source software solutions out there today that could be embraced by the library. There's basic operating system, document processing programs, Library Management Software (LMS), Digital Library software, Content management software and many more.

Background of Open Source Software Movement

The history of open source software began with the early stages of computer and software development. At that time programmers and developers frequently shared their software freely. Advent of companies in software development with the aim of profit making restricted the culture of sharing source code of software. Milestones in the history of open source Software are:

- 1983 - Richard Stallman formed GNU project
- 1985 - Creation of Free Software Foundation
- 1991 - Development of Linux kernel by Linus Torvalds
- 1998 - Open Source Initiative (OSI) formed by Eric Raymond

The two terms, "free" and "open source" have been used as synonymous for free distribution of software. Popular licenses used for this purpose are the GNU General Public License (GPL), BSD license, GNU Lesser General Public License, MIT License, Mozilla Public License and Apache License. All these licenses have some differences in their terms and conditions; they ensure users freedom to using, copying, distributing and improving the software. Fundamentals of these licenses are similar to the philosophy of Free Software Foundation. "Free software is matters of the users' freedom to run, copy, distributes, study, change and improve the software" (Kumar 2008).

In 1998, a group of individuals advocated that the term free software be replaced by open source software (OSS) as an expression which is less ambiguous and more comfortable for the corporate world. Software developers may want to publish their software with an open source software license, so that anybody may also develop the same software or understand how it works. Open source software generally allows anybody to make a new version of the software, port it to new operating systems and processor architectures, share it with others or market it. The aim of open source is to let the product be more understandable, modifiable, duplicatable, reliable or simply accessible, while it is still marketable. The Open Source Definition, notably, presents an open-source philosophy, and further defines a boundary on the usage, modification and redistribution of open-source software. Software licenses grant rights to users which would otherwise be prohibited by copyright. These include rights on usage, modification and redistribution. Several open-source software licenses have qualified within the boundary of the Open Source Definition. The most prominent example is the popular GNU General Public License (GPL). While open source presents a way to broadly make the sources of a product publicly accessible, the open source licenses allow the authors to fine-tune such access. The "open source" label came out of a strategy session held in Palo Alto in reaction to Netscape's January 1998 announcement of a source code release for Navigator (as Mozilla). A group of individuals at the session included Todd Anderson, Larry Augustin, John Hall, Sam Ockman, Christine Peterson and Eric S. Raymond. They used the opportunity before the release of

Navigator's source code to clarify a potential confusion caused by the ambiguity of the word "free" in English. The 'open source' movement is generally thought to have begun with this strategy session. Many people, nevertheless, claimed that the birth of the Internet, since 1969, started the open source movement, while others do not distinguish between open source and free software movements. The Free Software Foundation (FSF), started in 1985, intended the word 'free' to mean "free as in free speech" and not "free as in free beer." Since a great deal of free software already was (and still is) free of charge, such free software became associated with zero cost, which seemed anti-commercial.

Advantages of Open Source Software

- **Lower Software Cost** Open source solutions generally require no licensing fees. The logical extension is no maintenance fees. The only expenditures are for media, documentation, and support, if required.
- **Simplified License Management** Obtain the software once and install it as many times and in as many locations as you need. There's no need to count, track, or monitor for license compliance.
- **Lower Hardware Cost** In general, Linux and open source solutions are elegantly compact and portable, and as a result require less hardware power to accomplish the same tasks as on conventional servers (Windows, Solaris) or workstations. The result is you can get by with less expensive or older hardware.
- **Scaling/Consolidation Potential** Again, Linux and open source applications and services can often scale considerably. Multiple options for load balancing, clustering, and open source applications, such as database and email, give organisations the ability to scale up for new growth or consolidate to do more with less.
- **Support** Support is available for open source—often superior to proprietary solutions. First, open source support is freely available and accessible through the online community via the Internet. And second, many tech companies are now supporting open source with free online and multiple levels of paid support, for example, Liblime.
- **Escape Vendor Lock-in** Frustration with vendor lock-in is a reality for all IT managers. In addition to ongoing license fees, there is lack of portability and the inability to customise software to meet specific needs. Open source exists as a declaration of freedom of choice.
- **Unified Management** Specific open source technologies such as CIM (Common Information Model) and WBEM (Web Based Enterprise Management) provide the capability to integrate or consolidate server, service, application, and workstation management for powerful administration.
- **Quality Software** Evidence and research indicate that open source software is good stuff. The peer review process and community standards, plus the fact

that source code is out there for the world to see, tend to drive excellence in design and efficiency in coding.

Disadvantages of Open Source Software

- There is no guarantee that development will take place. In other words; it is not possible to know if a project will ever reach a usable stage and even if it reaches it, it may die later if there is not enough interest.
- There may be significant problem with intellectual property.
- OSS requires high maintenance, if possible structurally quality issue with the source code.
- There is no guarantee to work your software well in future. Unless you will try to develop yourself as master of that software because there is no support for your software at your library.
- It is very important with OSS that you have to develop your own skills for particular that software which you are going to implement in your library.

Digital Library

A digital library is an organised and focused collection of digital objects, including text, images, video and audio material stored as electronic or digital formats along with methods for access, retrieval and for selection, creation, organisation, and maintenance of the collection. The digital library should have the following elements:

- Collection in the form of electronic format.
- It is not a single entity.
- The linkage between the many digital libraries and information services are transparent to the end user.
- Universal access to digital libraries is a primary goal of many libraries.

Digital libraries have some expectation like: Content Management, User Interface, user administration, system administration, interoperability, etc. The main characteristics of digital library software are:

- Object model
- Collection and relation supports
- Metadata and digital content storage
- Search and browse
- Object management
- User interface
- Access control

- Multiple language supports
- Interoperability feature
- Level of customisation

Advantages of Digital Library

Digital Library has certain characteristics, which make them different from traditional library. It has expansive and accurate system of searching with large volumes of text, image and audio video resources. Digital libraries do not need physical space to build collection and it can be accessed from anywhere, anytime. Different people can access same source at the same time. The advantages of digital libraries are mentioned hereinbelow:

- Preserve the valuable documents, rare and special collections of libraries, archives and museums.
- Provide faster access to the holding of libraries worldwide through automated catalogues.
- Help to locate both physical and digitised versions of scholarly articles and books through single interface.
- Search optimisation, make simultaneous searches of the Internet possible, prepare commercial databases and library collections.
- Offering online learning environment
- Making short the chain from author to user.
- Save preparation/ conservation cost, space and money.
- Digital technology affords multiple, simultaneous user from a single original which is not possible for materials stored in any other forms

Digital Library Software

There are so many digital library open sources software by implementing one of which, we can make digital library or institutional repository at our library. Some of them are given below:

1. Greenstone Digital Library Software (GSDL)

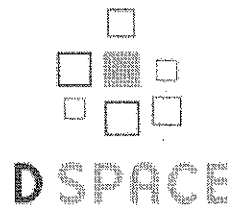
The Greenstone digital library software is an open-source system for the construction and presentation of information collections. It builds collections with effective full-text searching and metadata-based browsing facilities that are attractive and easy to use. Moreover, they are easily maintained and can be augmented and rebuilt

**greenstone digital
library software**

entirely automatically. The system is extensible: software "plugins" accommodate different document and metadata types. The aim of the Greenstone software is to empower users, particularly in universities, libraries, and other public service institutions, to build their own digital libraries.

2. DSpace

DSpace is a groundbreaking digital institutional repository that captures, stores, indexes, preserves, and redistributes the intellectual output of a university's research faculty in digital formats. It manages and distributes digital items, made up of digital files and allows for the creation, indexing, and searching of associated metadata to locate and retrieve the items. DSpace has been designed and developed by Massachusetts Institute of Technology (MIT) Libraries and Hewlett-Packard (HP). DSpace was designed as an open source application that institutions and organisations could run with relatively few resources. It is to support the long-term preservation of the digital material stored in the repository. It is also designed to make submission easy. DSpace supports submission, management, and access of digital content.



3. EPrints

EPrints is an open source software package for building open access repositories that are compliant with the Open Archives Initiative Protocol for Metadata Harvesting. It shares many of the features commonly seen in Document Management systems but is primarily used for Institutional Repositories and scientific journals. EPrints has been developed at the University of Southampton School of Electronics and Computer Science and released under a GPL license.



4. Fedora

Fedora open source software gives organisations a flexible service-oriented architecture for managing and delivering their digital content. At its core is a powerful digital object model that supports multiple views of each digital object and the relationships among digital objects. Digital objects can encapsulate locally managed content or make reference to remote content. Dynamic views are possible by associating web services with objects. Digital objects exist within a repository architecture that supports a variety of management functions. All functions of Fedora, both at the object and repository level, are exposed as web services. These functions can be protected with fine-grained access control policies. This unique combination of features makes Fedora an attractive solution



in a variety of domains. Some examples of applications that are built upon Fedora include library collections management, multimedia authoring systems, archival repositories, institutional repositories, and digital libraries for education.

5. Digital Commons

Digital Commons is a hosted IR platform licensed by Berkeley Electronic Press (or Bepress) that was officially launched in 2004. Digital Commons is a hosted open access institutional repository and publishing solution, combining traditional institutional repository functionality with tools for peer-reviewed journal publishing, conference management, and multimedia. Digital Commons supports OAI-PMH version 2.0. Metadata is exposed through the OAI. Content published to Digital Commons institutional repositories is optimised for indexing by Google, Google Scholar, and other major search engines. With Digital Commons institutional repository software, "institutions can collect, preserve, and make visible all of their intellectual output, including pre-prints, working papers, journal articles, dissertations, master's thesis, conference proceedings, presentations, data sets, images, and a wide variety of other content types. Digital Commons supports a variety of publication and editorial workflows, as well as peer review. Content is uploaded through batch uploads, by linking to external sites, or via a customisable submission form.



Digital Commons provides user notification tools and options for social sharing. These include RSS feeds and automatic email notification for reports of newly-published content, mailing list manager to announce newly-published research and social sharing buttons. Digital Commons also provides individual readership statistics to users through its Author Dashboard. Digital Commons institutional repositories integrate with other Bepress software including SelectedWorks and the Digital Commons Network.

6. OPUS

OPUS is an open source software package under the GNU General Public License used for creating Open Access repositories that are compliant with the Open Archives Initiative Protocol for Metadata Harvesting. It provides tools for creating collections of digital resources, as well as for their storage and dissemination. It is usually used at universities, libraries and research institutes as a platform for institutional repositories.



OPUS, originally an acronym for the Online Publikationsverbund der University ät Stuttgart, was developed with the support of the Deutsches Forschungsnetz in 1997 and 1998 at the University of Stuttgart. OPUS is used at many universities and library networks. Since December 2010, the Cooperative Library Network of Berlin-Brandenburg (KOBV) took over the development and

management of the project at the Zuse Institute in Berlin. In Germany, the OPUS software is the most commonly used for the operation of open access repositories (according to a survey carried out in 2012, 77 repositories were based on OPUS). OPUS-based repositories may either be hosted or operated by universities on their own or as part of hosting services provided by the German library network.

7. CDS Invenio

CDS Invenio (formerly CDSware), the integrated digital library system, is a suite of applications which provides the framework and tools for building and managing an autonomous digital library server. The software is readily available to anyone, as it is free software, licensed under the GNU General Public Licence (GPL). The technology offered by the software covers all aspects of digital library management. It complies with the Open Archives Initiative metadata harvesting protocol (OAI-PMH) and uses MARC 21 as its underlying bibliographic standard. Its flexibility and performance make it a comprehensive solution for the management of document repositories of moderate to large size. CDS-Invenio is a web-based integrated digital library system developed by CERN. CDS Invenio is maintained by, and used at, the CERN Document Server



8. MyCoRe

MyCoRe is an Open Source project for the development of repositories, digital library and archive solutions. The technical base of the system is formed of Java class libraries, XML technology and different database backends. MyCore has several features, some of them are:



- Metadata Management
- Classification Management, hierarchical or flat
- Persistent identifier with Uniform Resource Name URN Standard
- Search
- User and rights management
- Supported Interfaces: OAI, Z39.50, WebServices
- Image viewer (optional)
- Integration of audio / video streaming server (optional)
- Simple workflow for users (optional)
- Simple Web Content Management System
- Institutional Repository Functionality

9. dLibra

dLibra is the first Polish system for building digital libraries, which has been developed by the (PSNC) since 1999. dLibra is an effect of research in the field of digital libraries which has been performed in PSNC since 1996.



dLibra system is now the most popular software of this type in Poland. dLibra enables building professional repositories of digital documents which can be accessed by external individuals and systems on the Internet. Communication and data exchange is based on well-known standards and protocols such as: RSS, RDF, MARC, DublinCore or OAI-PMH. Digital libraries based on dLibra offer to their users expanded possibilities such as: searching the content of stored elements, searching bibliographic description with use of synonyms dictionary, grouping digital publications and navigating in these structures or precise and expanded access rules to elements. dLibra is used by institutions such as academic and public libraries to make stored digital publications available on the Internet. These institutions by using PIONIER network and dLibra software create Polish platform of distributed digital libraries. Current list of installations of dLibra system is available here. In addition, PSNC offers training and technical help in the field of dLibra system usage.

Conclusion

There will be continuing expansion of digital library activities. LIS and computer science professionals face challenges that will lead to improved systems. More and more libraries will have departments and programs in the digital library arena. Digital libraries will build upon work being done in the information and data management area. Digital libraries provide an effective means to distribute learning resources to students and other users. Planning a digital library requires thoughtful analysis of the organisation and its users, and an acknowledgement of the cost and the need for infrastructure and ongoing maintenance (Adams, Jansen, and Smith 1999).

Open Source essentially empowers less privileged communities though it does not follow that it is meant only for them. There is no denying the fact that OSS enables bridging the digital divide in more ways than one. Libraries in the developing countries are able to support electronic access, digital libraries, and resource sharing because they are able to use OSS. Even libraries in well-developed countries are becoming more inclined towards OSS to improve their services. The Dspace is fairly powerful software. The major advantage of the software is that it allows submission of digital documents by its members. Presently, it lacks METS (Metadata Encoding and Transmission Standard), which will make it much more powerful. Dspace is the most popular among the digital library solutions available in the open source domain. Other digital library software like Eprints is

also widely used. Educational institutions dominate in the use of these packages. However, many institutions have implemented digital libraries, but not all are online. Open access of knowledge is possible only if these repositories are made online. India is benefiting well from the open source movement.

References

- Adams, W.J., B.J. Jansen and T. Smith. 1999. "Planning, building, and using a distributed digital library." Presented in *Third International Conference on Concepts in Library and Information Science*, Dubrovnik, Croatia. Available at http://ist.psu.edu/faculty_pages/jjansen/academic/pubs/colis99/colis99.html
- Altman, Micah. 2001. "Open Source Software for Libraries: from Greenstone to the Virtual Data Center and Beyond." *IASSIST Quarterly*, 5-11. Retrieved from <http://iassistdata.org/publications/iq/iq25/iqvol254altman.pdf>
- Bailey, Charles W. Jr. 2006. *Open Access and Libraries*. Retrieved from <http://www.digital-scholarship.com/cwb/OALibraries2.pdf>
- Balas, Janet L. 2004. "Considering open source software." *Computers in Libraries*, 24(8): 36-39. Retrieved from <http://www.infoday.com/cilmag/sep04/balas.shtml>
- Bretthauer, David. 2002. "Open Source Software: A History." *ITAL: Information Technology and Libraries*, 21(1): 3-11. Retrieved from <http://www.ala.org/ala/lita/litapublications/ital/2101bretthauer.cfm>
- Corrado, Edward M. 2005. "The Importance of Open Access, Open Source, and Open Standards for Libraries." *Issues in Science & Technology Librarianship*, 42. Retrieved from <http://www.istl.org/05-spring/article2.html>
- Ferraro, Joshua. 2006. *Why Your Library Needs Open Source*. Retrieved May 23, 2016, from <http://liblime.com/c/welcome.html>
- Hebert, Eric. *How Open Source Software Can Improve Our Library*. Retrieved from <http://www.degreetutor.com/library/managing-expenses/open-source-library>
- Kumar, V. 2008. "Selection and management of open source software in libraries." Asian School of Business. Accessed on 01.07.2008 from <http://eprints.rclis.org/archive/00008739/01/OSS-selection-management.pdf>
- Kumar, Manoj K. (ed.). Proceedings of CALIBER. 2007, 1-5.
- Mackenzie, Adarian. 2001. "Open Source Software: When is a Tool? What is a Commodity?" *Science as Culture*, 10(4): 541-552.
- Morgan, Eric Lease. 2002. "Possibilities for Open Source Software in Libraries." *ITAL: Information Technology and Libraries*. 21(1): 12-15. from <http://www.ala.org/ala/lita/litapublications/ital/2101morgan.cfm>

- Pal, Surendra Kumar and Sainul Abideen P. 2015. "Transforming Role of Librarians & Library Services from web 1.0 to web 4.0." *e-Library Science Research Journal*, 4(2): 595.
- Pal, Surendra Kumar. 2012. "Role of Digital Libraries in the Development of Distance Education in India", in B G Mukhyadal & khandare Rahul B. (eds), *Emerging Technology in Library & Information Science*, Pune Atharva Publication.
- <http://www.greenstone.org/>
- <http://www.eprints.org/uk/>
- <https://foss4lib.org/package/mycore>
- <http://digitalcommons.bepress.com/>
- http://shodhganga.inflibnet.ac.in/bitstream/10603/3731/19/19_chapter%2010.pdf
- <http://www.fsf.org/>

AI

Lib
au
to
gro
are
The
cor
sou
rea
also
out
ma

Sur
App
© S

Awareness and Perception Towards E-learning Among Faculty Members of Tripura University: A Case Study

Mithu Anjali Gayan

Saumen Das

Abstract

Learning is gaining or acquiring of new knowledge and skills in something by study, experience or being taught. Learning can be facilitated by direct means, by personally attending classes conducted in the academic institutions or by indirect means such as distance learning. The online education refers to teaching and learning method mediated by a computer system of a place which may be different from the learner's personal computer system. The modern developments in ICTs and emergence of the Internet have brought a gigantic transformation in the method of teaching and learning. The current study investigates the awareness and perception towards the new form of learning, i.e. e-learning among the faculty members of Tripura University. The study discovered that 52% of the total respondents belong to male category. 36% of the respondents are from age group 30-34, followed by age group 25-29 (34%). Maximum response from each department is 4 (4%). Most of the respondents are Assistant Professor (36%), followed by guest faculty (32%). Maximum (96%) respondents are aware of e-learning concept which is very encouraging in itself. Most respondents (76%) are aware of SWAYAM. More than half of the total respondents (52%) are interested to conduct course through Swayam. Maximum (80%) respondents are aware of e-PG Pathshala. Maximum of the respondents (84%) have not enrolled in any e-learning course. The maximum respondents (25 %) out of the enrolled ones have enrolled for e-learning course is from NPTEL portal. The results found will be a great help for the stakeholders of E-learning as it provided new insights.

Keywords: E-Learning, Online Learning, Swayam, E-PG Pathshala, Tripura University

1. Introduction

Today's education system is facing a paradigm shift as influenced and shaped by information communication technologies, digital technologies and their application in the education system. Though education system is always known to undergo a massive transformation by adopting newer and advanced technologies, the benefits

remained limited to the learning institutions in mostly the first world countries. But now the scenario has tended to change as developing countries are also taking the wave of E-learning seriously. For instance, Govt. of India's ambitious initiative "Swayam" platform may come up as a game changer.

In the beginning of the third millennium, a new form of learning called e-learning is being introduced. The e-learning decreases the educational costs and it is more effective learning than traditional learning. Globally, it allows the fast dissemination of new techniques and processes, cancelling geographic



challenges. In addition, time, efficiency plays a role, as travel is reduced. Users can conveniently access training materials from home or while on the road via the Internet.

The letter “e” in e-learning stands for the word “electronic”, e-learning would incorporate all educational activities that are carried out by individuals or groups working online or offline, and synchronously or asynchronously via networked or standalone computers and other electronic devices. These various types or modalities of e-learning activity are represented in Table 1.

Table 1. E-Learning Modalities

(Romiszowski, 2004).

| | |
|---|--|
| Individualized self-paced-learning online | Individualized self-paced-learning offline |
| Group-basede-learning synchronously | Group-basede-learning asynchronously |

The mechanism of interactive use of the Internet, information communication technologies and digital technologies in teaching and learning process can be referred to as E-learning. There are a series of terms used synonymously with E-learning such as online learning, virtual learning, distributed learning, network and web based learning.

The process Teaching and learning have advanced over time; and the current situation being experienced in academic institutions is the use of information technology as an arbitrator. This novel swing provides another outlook on education, with an emphasis on the use of electronically mediated tools to ease the learning process (Piccoli et al., 2001).

E-Learning, defined as instructional content or learning experiences delivered or enabled by electronic technology (Aydin and Tasci, 2005), predominantly computer networks and standalone computers, is one of the main advancements that is increasingly diffusing in corporate settings.

The study aimed to survey the awareness and perception of e-learning among the faculty members of Tripura University. Tripura University is the only central university in Tripura. In the year 1987 it was started as a state university and converted to central university in the year 2007. A total number of 40 departments are there running different courses under the University, which includes Certificate Courses, Under Graduate, Post Graduate Diploma and Post Graduate Studies.

Government of India has taken some striving steps towards implementation of E-learning courses through portals such as “Swayam” and “E- PG Pathshala”.

1.1 SWAYAM

Swayam is a programme started by the Government of India and designed to attain the three fundamental principles of Education Policy viz., access, equity and quality. The aim of this effort is to take the best teaching learning resources to all. This is done through developing IT platform that facilitates hosting of all the courses, taught in classrooms from 9th class till post-graduation to be accessed by anyone, anywhere at any time. All the courses are interactive, prepared by the best teachers in the country and are available, free of cost to the residents in India. More than 1,000 specially chosen faculty and teachers from across the Country have participated in preparing these courses.

1.2 E-PG Pathshala

E-PG Pathshala is another MGRD, Government of India initiative taken under National mission on Education through ICT (NME-ICT). Under this program, UGC has been allocated to design E courses under 77 subjects at postgraduate level. Scholarly courses under all areas of knowledge have been included in this program.

1.3 Objectives of the study

- ❖ To identify the rate of awareness on E-learning among the faculties of Tripura University.
- ❖ To determine the frequency of use of E-learning tools among the sample population.
- ❖ To identify perception towards using E-learning tools among the faculties.
- ❖ To identify future plans regarding conducting of E-learning courses among the faculties of the university.
- ❖ To identify the rate of enrolment of E-learning courses by faculties of the university.

1.3 Significance of the study

E-learning is the type of educational instruction that occurs through the Internet. Whenever one watches a training video online or enrolls in a virtual class one is engaging in E-learning activities. Recently, the use of the Internet and other information communication technology has brought immense change to the mechanism of teaching and learning. In this regard, it is important to study the rate of awareness and perception of E-learning among the academicians active in higher education. With this view the current study was prepared to determine

the awareness and perception of E-learning among the faculty members of Tripura University.

1.4 Limitation of the study

Due to time constraints, the current study investigated the awareness and perception towards E-learning only among the faculty members of Tripura University. For this study, opinion of students and research scholars was not undertaken. Also, the study considered faculties from only one organization that is Tripura University.

2. Review of Literature

Wang, Q., Zhu, Z., Chen, L. & Yan, 2009 studied the status of E-learning in China and found that there was a significant difference in in terms of development in different geographical locations in the country. The study also found that there is a certain group of students who cannot attain highly regarded universities after completion of their senior schools and as a consequence they crave for E-learning.

Ehlers, U. D, 2009 abridged the related literature in the area of E-learning and sketched the differences between e-learning 1.0 and e-learning 2.0 and combined it with a succession of formerly available literature.

Tai, 2008 constructed a hybrid system composing of artificial neural network (ANN) and data-mining (DM)tools. They used ANN tools to identify the different types of E-learners and data mining tools were used to bring out the best learning path rules.

Csete and Jennifer Evans, 2013, studied the institutional proposals to implant E-learning in a university in Hong Kong, from 2006-12, through large-scale funding of 43 e-learning projects. The

guiding principles behind the university's E-learning development was outlined. They strongly stressed that e-learning projects need careful preparation, scaffolding and managing. Also that piloting, evaluation and formal reporting as well as the availability of professional, technical and instructional design sustain are noteworthy aspects in triumph.

Sawang, S., Newton, C. & Jamieson, 2013 insisted that in order to conquer technological blockades, organizational support should be offered to the E-learners. The support mechanism includes user training, technical support, and managerial sustain to use e-learning. Organizations adopting e-learning need to examine the support requirements of the potential learners, and, where necessary, have resources for that support in place.

Richard Boateng, 2016 tried to determine factors affecting E-learning adoption among students of the University of Ghana. They studied factors such as computer self-efficacy (CSE), perceived ease of use (PEOU), perceived usefulness (PU) and attitude towards use (ATTU) in the conceptual model of the study. It was found that "perceived usefulness" and "attitude towards use" had a direct effect on E-learning adoption whilst, PU and PEOU also had a direct relationship on ATTU. Other variables such as CSE and PEOU had an indirect relationship on ELA though they were found to have an insignificant direct relationship on ELA.

3. Methodology

For the current study two methods were applied. An extensive literature survey was done to get the idea about previously done work in the area of E-learning. A questionnaire was prepared with Google

form and distributed through e-mail IDs to all the faculties of Tripura University. 100 responses were received from 30 different departments of the university within 25 days. The responses received were analyzed with the help of Microsoft excel.

4. Data collection and analysis

The collected data is analyzed and represented in both tabular and graphical format.

Table 1: Gender wise distribution of sample population

| Sl. no | Category | Number | Percentage |
|--------|--------------|------------|-------------|
| 1 | Male | 52 | 52% |
| 2 | Female | 48 | 48% |
| | Total | 100 | 100% |

Table 1 reveals the gender wise distribution of the sample and it shows that out of 100 respondents, 52 (52%) are male and 48 (48%) are female.

Table 2: Age Group wise distribution

| Sl. No. | Age group | Number | Percentage |
|---------|--------------|------------|-------------|
| 1 | 25-29 | 34 | 34% |
| 2 | 30-34 | 36 | 36% |
| 3 | 35-39 | 20 | 20% |
| 4 | 40- ABOVE | 10 | 10% |
| | Total | 100 | 100% |

Table 2 shows the Age group wise distribution of the respondents, out of 100 respondents, 34 (34%) respondents are from age group 25-29, 36 (36%) respondents are from age group 30-34, 20 (20%) respondents are from age group 35-39 and 10 (10%) respondents are from age group 40 - Above.

Table 3: Department wise distribution

| Sl. No. | Department | No. of Respondents | Percentage |
|---------|-----------------------------------|--------------------|------------|
| 1 | Sociology | 3 | 3% |
| 2 | Commerce | 4 | 4% |
| 3 | Chemical and polymer Engineering | 2 | 2% |
| 4 | M(16) Language Division | 3 | 3% |
| 5 | Library and Information Science | 4 | 4% |
| 6 | Economics | 4 | 4% |
| 7 | Business Management | 4 | 4% |
| 8 | Law | 3 | 3% |
| 9 | Statistics | 3 | 3% |
| 10 | Material Science and Engineering | 4 | 4% |
| 11 | Mathematics | 3 | 3% |
| 12 | Computer Science and Engineering | 2 | 2% |
| 13 | Political Science | 4 | 4% |
| 14 | Philosophy | 4 | 4% |
| 15 | Botany | 3 | 3% |
| 16 | Zoology | 3 | 3% |
| 17 | Electrical Engineering | 4 | 4% |
| 18 | Microbiology | 3 | 3% |
| 19 | Physics | 3 | 3% |
| 20 | Human Physiology | 3 | 3% |
| 21 | Chemistry | 4 | 4% |
| 22 | Philosophy | 3 | 3% |
| 23 | Rural management and development | 4 | 4% |
| 24 | Journalism and Mass communication | 2 | 2% |

| | | | |
|----|--------------------------------------|------------|-------------|
| 25 | Geography and Disaster management | 4 | 4% |
| 26 | Forestry and Bio-diversity | 3 | 3% |
| 27 | Information Technology | 4 | 4% |
| 28 | Molecular Biology and bioinformatics | 3 | 3% |
| 29 | Pharmacy | 3 | 3% |
| 30 | English | 4 | 4% |
| | Total | 100 | 100% |

Table 3 shows the department wise respondents. Out of 100 respondents from 30 departments, the department of Sociology, Language Division, Law, Statistics, Mathematics, Botany, Zoology, Microbiology, Physics, Human Physiology, Forestry and bio-diversity, Molecular Biology have 3 (3%) respondents from each. The department of Commerce, Library and Information science, Economics, Business Management, Material Science and Engineering, Political Science, Philosophy, Electrical Engineering, Chemistry, Rural Development and Management, Geography and Disaster Management, Information Technology and English have 4 (4%) respondents from each. The department of Chemical and Polymer Engineering, Computer Science and Engineering, Journalism and Mass Communication have 2 (2%) respondents from each.

Table 4. Designation wise distribution

| Sl. No. | Designation | Number | Percentage |
|---------|---------------------|------------|-------------|
| 1 | Professor | 12 | 12% |
| 2 | Associate Professor | 20 | 20% |
| 3 | Assistant Professor | 36 | 36% |
| 4 | Guest Faculty | 32 | 32% |
| | Total | 100 | 100% |

Table 4 states that out of 100 respondents, 12 (12%) respondents are Professors, 20 (20%) respondents are Associate Professors, 36 (36%) respondents are Assistant professors and 32 (32%) respondents are Guest faculties.

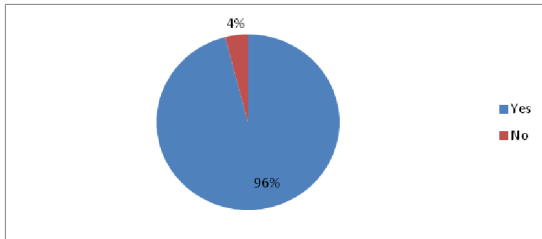


Figure 1: Awareness wise distribution of the respondents

Figure 1 states that out of 100 respondents, 96, (96%) respondents are aware of E-learning whereas 4, (4%) are not aware of it.

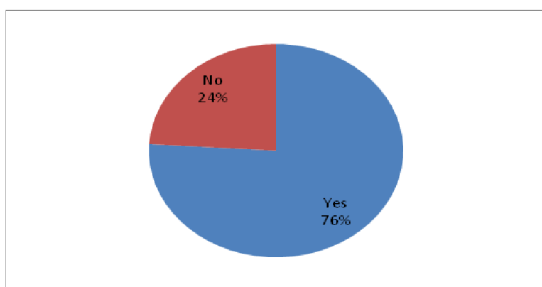


Figure 2: Awareness of Swayam

Figure 2 represents that out of 100 respondents, 76, (76%) respondents are aware of Swayam and 24, (24%) respondents are not aware of it.

Table 5 : Interest in conducting E-learning courses-wise distribution

| Sl. no | Category | Number | Percentage |
|--------|--------------|------------|-------------|
| 1 | Yes | 52 | 52% |
| 2 | No | 4 | 4% |
| 3 | May be | 44 | 44% |
| | Total | 100 | 100% |

Table 5 states that out of 100 respondents, 52, (52%) respondents are interested in conducting a course through Swayam. 4, (4 %) are not interested and 44 (44%) respondents are not sure of it.

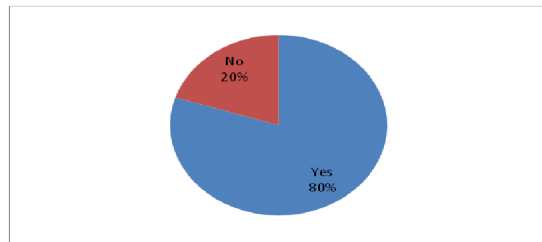


Figure 3: Awareness of E-PG Pathshala?

Figure 3 shows that out of 100 respondents, 80 (80%) respondents are aware of E-PG Pathshala, whereas 20, (20%) are not aware of it.

Table 6: Enrollment for any e-learning courses wise distribution

| Sl. no | Category | Number | Percentage |
|--------|--------------|------------|-------------|
| 1 | Yes | 16 | 16% |
| 2 | No | 84 | 84% |
| | Total | 100 | 100% |

Table 9 reveals that out of 100 respondents, 16, (16%) respondents have enrolled for E-learning course from some of the portal. Whereas 84, (84%) respondents have not enrolled for any E-learning course.

Table 7: Portal of Enrolment wise distribution

| Sl. No. | Portal name | Number | Percentage |
|---------|-----------------------|-----------|----------------|
| 1 | Khan Academy | 3 | 18.7% |
| 2 | NPTEL | 4 | 25% |
| 3 | Coursera | 2 | 12.5% |
| 4 | www.class-central.com | 3 | 18.7% |
| 5 | edx | 2 | 12.5% |
| 6 | WIPO | 2 | 12.5% |
| | Total | 16 | 100.00% |

Table 7 shows portal used by the respondents to enroll them in the e-learning course. 3 (18.7%) respondents have enrolled to each Khan Academy and www.class-central.com. 2 (12.5 %) respondents have enrolled to each Coursera, edx and WIPO. And 4 (25%) respondents have enrolled to NPTEL.

Table 8: Courses offered wise distribution

| Sl. No. | Responses | Number | Percentage |
|---------|--------------|-----------|----------------|
| 1 | Yes | 4 | 4% |
| 2 | No | 96 | 96% |
| | Total | 16 | 100.00% |

Table 8 portrays that out of 100 respondents only 4 (4%) respondents have said that their department or departmental colleagues offering E-learning course, 96 (96%) respondents have responded in negative.

Table 9: Future Planning regarding E-learning course offering

| Sl. No. | Responses | Number | Percentage |
|---------|--------------|------------|-------------|
| 1 | Yes | 56 | 56% |
| 2 | No | 8 | 8% |
| 3 | May be | 36 | 36% |
| | Total | 100 | 100% |

Table 9 states that out of 100 respondents, 56 (56%) respondents are planning to offer e-learning course in near future from their department. 8 (8%) respondents are not going to offer and 36 (36%) are not sure of it.

Table 10: Attending training wise distribution

| Sl. No. | Responses | Number | Percentage |
|---------|--------------|------------|-------------|
| 1 | Yes | 32 | 32% |
| 2 | No | 68 | 68% |
| | Total | 100 | 100% |

Table 10 depicts that out of 100 respondents, 32 (32%) respondents have got training program on how to conduct e-learning courses and 68 (68%) respondents have not gone through any such program.

Table 11: Frequency of using E-learning tools

| Sl. No. | E-learning tools | Frequently Use | Percentage | Sometimes Use | Percentage | Rarely Use | Percentage |
|---------|--------------------|----------------|------------|---------------|------------|------------|------------|
| 1 | Video conferencing | 4 | 4% | 16 | 16% | 80 | 80% |
| 2 | Emails | 84 | 84% | 12 | 12% | 4 | 4% |
| 3 | Search engines | 84 | 84% | 8 | 8% | 8 | 8% |
| 4 | Virtual Classrooms | 4 | 4% | 24 | 24% | 72 | 72% |
| 5 | Audio/Video tapes | 28 | 28% | 48 | 48% | 24 | 24% |
| 6 | WebCT | 16 | 16% | 12 | 12% | 72 | 72% |

Table 11 shows the frequency of using different e-learning tools.

- ❖ Video conferencing: Out of 100 respondents, 4 (4%) respondents frequently use it, 16 (16%) respondents sometimes use it and 80 (80%) respondents rarely use it.
- ❖ Emails: 84 (84%) respondents frequently use it, 12 (12%) respondents sometimes use it and 4 (4%) rarely use it.
- ❖ Search Engines: 84 (84%) respondents frequently use it, 8 (8%) respondents sometimes use it and 8 (8%) rarely use it.
- ❖ Virtual Classroom: 4 (4%) respondents frequently use it, 24 (24%) respondents sometimes use it and 72 (72%) rarely use it.
- ❖ Audio/Video Tapes: 28 (28%) respondents frequently use it, 48 (48%) respondents sometimes use it and 24 (24%) rarely use it.
- ❖ WebCT: 16 (16%) respondents frequently use it, 12 (12%) respondents sometimes use it and 72 (72%) rarely use it.

Table 12: Perception towards using E-learning tools

| Sl No | Perceptions | Agreed | Percentage | Disagreed | Percentage | No-idea | Percentage |
|-------|---|--------|------------|-----------|------------|---------|------------|
| 1 | I dislike the idea of using e-learning tools | 4 | 4% | 84 | 84% | 12 | 12% |
| 2 | I have a generally favourable attitude towards using e-learning tools | 92 | 92% | 0 | 0% | 8 | 8% |
| 3 | I believe it will be a good idea to use e-learning tools | 92 | 92% | 4 | 4% | 4 | 4% |
| 4 | Using e-learning tools is a foolish idea | 0 | 0% | 100 | 100% | 0 | 0% |

Table 12 represents the perception towards using e-learning tools, here we have taken some of the perceptions are

I dislike the idea of using e-learning tools: Out of 100 respondents, 4 (4%) respondents are agreed with this statement. 84 (84%) respondents are disagreed and 12 (12%) respondents have no idea about this.

I have a generally favorable attitude towards using e-learning tools: Out of 100 respondents, 92 (92%) respondents are agreed with this statement. 8 (8%) respondents have no idea and none of them are disagreed about this statement.

I believe it will be a good idea to use e-learning tools: Out of 100 respondents, 92 (92%) respondents are agreed with this statement. 4 (4%) respondents are disagreed and 4 (4%) respondents have no idea about this.

Using e-learning tools is a foolish idea: Out of 100 respondents, 100 (100%) respondents are disagreed with this statement.

5. Findings and Discussions

52% of the total respondents belong to male category. 36% of the respondents are from age group 30-34, followed by age group 25-29 (34%). Maximum response from each department is 4 (4%). Most of the respondents are Assistant Professor (36%), followed by guest faculty (32%). Maximum (96%) respondents are aware of E-learning concept which is very encouraging in itself. Most respondents (76%) are aware of Swayam. More than half of the total respondents (52%) are interested to conduct course through Swayam. Maximum (80%) respondents are aware of E-PG Pathshala. Maximum of the respondents (84%) have not enrolled for any E-learning course. The maximum respondents (25

%) out of the enrolled ones have enrolled for e-learning course are from NPTEL portal.

Most of the department or departmental colleagues (96%) of the respondents are not offering any e-learning course. More than half of the total respondents (56%) are planning to offer e-learning course in near future from their department. Most of the respondents (68%) have not got any training program on how to conduct e-learning course. Emails (84%), search engines (84%) are most used e-learning tools by the respondents. More than 90% respondents are in favor of e-learning concept.

6. Conclusion and Suggestions

Technical ability is not an obstacle when learners are provided with an authentic learning task. In other words, the authenticity of the task and the content of the E-learning system act as a bridge mechanism for exemplifying perceived benefit from E-learning; put simply, the system must be, and must be seen to be, a good way of learning. Organizations can do little to fundamentally alter employees' openness to change, except by fostering a change-friendly environment. Using technology such as E-learning as a supplemental system and allowing it to demonstrate its perceived benefit may alter the intention to adopt. However, it is essential that the system clearly demonstrates relative advantage as the lever for adoption. From the above study a few suggestions have been conclude such as:

1. It is suggested that the department should provide the e-learning courses.
2. The faculty must get enrolled to any e-learning course to understand the concept of it more clearly.
3. The faculty must get training to conduct such type of program.

References

1. Wang, Q., Zhu, Z., Chen, L. & Yan, H. E learning in China. *Campus-Wide Inf. Syst.* **26**, 77–81 (2009).
2. Ehlers, U. D. Web 2.0 – e-learning 2.0 – quality 2.0? Quality for new learning cultures. *Qual. Assur. Educ.* **17**, 296–314 (2009).
3. Tai, D. W.-S., Wu, H.-J. & Li, P.-H. Effective e-learning recommendation system based on self-organizing maps and association mining. *Electron. Libr.* **26**, 329–344 (2008).
4. Csete, J., Evans, J., Csete, J. & Evans, J. Strategies for impact/ : enabling e-learning project initiatives. (2013). doi:10.1108/10650741311330348
5. Sawang, S., Newton, C. & Jamieson, K. Increasing learners' satisfaction/intention to adopt more e-learning. *Educ. + Train.* **55**, 83–105 (2013).
6. Boateng, R., Mbrokroh, A. S., Boateng, L., Senyo, P. K. & Ansong, E. Determinants of e-learning adoption among students of developing countries. *Int. J. Inf. Learn. Technol.* **33**, 248–262 (2016).
7. Romiszowski, A. (2004). How's the e-learning baby? Factors leading to success or failure of an educational technology innovation, *Educational Technology* 44(1), January-February, 5-27.
8. Piccoli, G., Ahmad, R. and Ives, B. (2001), "Web-based virtual learning environments: a research framework and a preliminary assessment of effectiveness in basic IT skills training", *MIS Quarterly*, Vol. 25 No. 4, pp. 401-426.
9. Aydin, C.H. and Tasci, D. (2005), "Measuring readiness for e-learning: reflections from an emerging country", *Educational Technology & Society*, Vol. 8 No. 4, pp. 244-57.
10. Retrieved from <https://swayam.gov.in/about>. Accessed on 24.04.2017
11. Retrieved from epgp.inflibnet.ac.in. Accessed on 22.04.2017

About Authors

Ms. Mithu Anjali Gayan, Assistant Professor, Department of Library and Information Science, Tripura university, Suryamaninagar, Tripura
Email: mithuanjaligayan@tripurauniv.in

Mr. Saumen Das, Guest Lecturer, Department of Library and Information Science, Tripura University, Suryamaninagar, Tripura
Email: saumendas1990@gmail.com

15

Collection Development Strategy in Library and Information Centers

Rabindra Kumar Mahapatra*
Surendra Sethy**

ABSTRACT

In libraries and information centers, collection development is considered an essential element of the information life cycle. The goal of any collection development organization must be to provide the library with a collection that meets the appropriate needs of its clients within the limits of its fiscal and personnel resources. To reach this goal, selection policies and practices play fundamental role in developing a strong collection. Collection development involves a number of activities by which a library acquires materials of all types by implementing the selection policy and the plans for document acquisition. Collection development is a dynamic and continuous activity. It involves the users, the library staff, and the subject experts on selection team. It is not an end in itself.

-
- * Associate Professor, Dept. of Library and Information Science
Tripura University, (Central University), Tripura.
- ** Asst. Librarian, Sir Padampat Singhania University, Udaipur,
Rajasthan, India.

ANALYSIS OF SCOPUS INDEXED LIBRARY AND INFORMATION SCIENCE RESEARCH PAPERS DURING 2007 – 2016

Dr. Manoj Mishra

Dr. D. B. Ramesh

Dr. R. K. Mahapatra

ABSTRACT

Basically, Bibliometrics is some calculations used in scientific research. But recently it is frequently used in social science research. It is taken as best equipment in research field to analyze institutional publication output, growth rate of published documents, authors association in different academic institutions, most popular journal and geographic distribution of authors etc. This paper closely illustrates the LIS literature published in different journals indexed in Scopus during the year 2007 to 2016. The paper highlights the various facts like growth of research articles, subject coverage, and geographical distribution of articles. This paper also includes different types of documents, authors association with different organizations and mainly tabulates the key words used by the authors to publish their research articles.

Keywords: Collaborative research, Library and Information Science, Scopus, Bibliometrics

1. Introduction

Quantitative academic literatures can be analyzed using bibliometrics methods. Bibliometrics also measures the quality of documents in different modifications. Analysis of published documents depends upon the both qualitative and quantitative interest of same field or others. Now most of the Information Science researchers use this method to describe patterns of publications within a given field. Bibliometrics methods are technically used to find out research pattern, research growth, degree of collaboration, most productive author, most popular source etc. in any field of global knowledge. It is taken as best equipment in research field to analyze institutional publication output, growth rate of published documents, authors association in different academic institutions, most popular journal and geographic distribution of authors etc.

Communication seems to have taken the challenge to connect people of all sections through faster and reasonable social networking sites. The modern technology has found out ways to revolutionize the society at the same time putting the youth in addiction of social networking. This book tries to address some of the issues and challenges of Communication in Modern Indian Society. This book provides various aspects of communication in the modern society of India. Basically this book is compilation of the research papers presented in the National Seminar on "Current Trends of Development in Innovation, Communication and Creativity in India" held on 27th & 28th February, 2016.

Shankha Shubhra Bhadra, Assistant Professor and Head, Department of Commerce, Holy Cross College, Agartala, India has eight years of teaching experience. He was the Department Head of BBA since 2010 till 2016. His research center is on the intersection of Narrative Accounting, Companies Act and Globalization. He has published three book chapters, three research papers in international journals and participated in various National Seminar, Conference and Workshops. He conducted an International Seminar and two National Seminar and workshops since 2010 in Holy Cross College. He is also the co-editor of couple of books such as "Contours of Globalization", and "4G: Globalization, Growth, Governance and Goal". He is a full time member of ESSOT (Economic Science Society of Tripura) and takes active part in research work. He was the Coordinator of Directorate of Distance Education, TU, Study Center and Academic Counselor of Graduate Program of IGNOU, Tripura. He is the Joint Director of ALS-IAS coaching center of Holy Cross College and fond of conducting mock interviews and provides consultation to Govt. job aspirants in Tripura. He is also resource person on some occasions of Teacher Orientation. He holds various administrative posts in the College such as Chairperson of Examination Committee, Member of IQAC, Convener of Placement Cell, Joint Coordinator of Wall Magazine, etc at Holy Cross College, where he encourages the Under Graduate students to be a part of research work. He was awarded as "Teacher of the Year" in the year 2015.

G GLOBAL PUBLISHING HOUSE (INDIA)

Door No. 13-1, Vigneshwara Enclave, Anthony Nagar, Maharanipeta, Visakhapatnam - 2, A.P. (India)
Email: globalpublishinghouse@gmail.com

Price : ₹ 895.00
ISBN 978-91-41543-39-7
9 789381 563397

COMMUNICATION & MODERN INDIAN SOCIETY

Shankha Shubhra Bhadra



COMMUNICATION & Modern Indian Society



Edited By
Shankha Shubhra Bhadra

Social Media as Voice of the People or the Propagandist

Shivajyoti Das Baruah
Dr Deepak Upadhyaya

Abstract

Today internet has become an unavoidable adage, freeing its wings through platforms like Social Media. Social Media is becoming a potent tool for voicing opinion of the **netizens** or people, exercising a power given by the new evolving web based technology of this century. In a democratic country like India where a free voice and participation among the people are the accepted norms, Social Media is the power that is given to the people. We can see how this power is used in Jasmine Revolution of Arabian countries and Anna Hazare movement of India. With globalization and free economy of this country, Social Media can really have a pivotal role for development of our country.

With growing number of **netizens** throughout the globe, Social Media can surely be a potent tool for development by bridging Digital Divide in a country like India. But this power and technology are also used by propagandists to spread their partial views and sometimes becomes a tool for spreading partisan ideas. Then the same power becomes a malevolent tool in the hands of a few destabilizing the very base of society, as seen in India also.

The paper dwells on the use of Social Media as a cause for bringing issues through participatory mode in a democratic country like India by merging digital divide and as a reaction for overlooking by mainstream media. But at the same time it brings the threat of spreading unhealthy rumors by propagandist's elements which can destabilize the existing one.

Shivajyoti Das Baruah & Dr Deepak Upadhyaya 187

Keywords: Social Media, Democracy, Online Activism, Propagandist, Netizens

Introduction

"The mass do not now take their opinions from dignitaries in Church or State, from ostensible leaders or from books. Their thinking is done for them by men much like themselves, addressing or speaking in their name, on the spur of the moment."

— John Stuart Mill

In the recent dynamics of media, technology has empowered people to view this world with more power to people. People are now becoming the content creator for the media with evolution of New Media like Social Media which is a huge platform of sharing and seeking information online.

India, the largest democracy, has a resurging sweep of Social Media paradigm influencing prevalent system of politico, socio economic scenario. With this, the **netizens** decentralize media and strive to democratize information online. Social media is also considered as a tool to merge the digital divide of the country which is riddled with perennial problems of poverty, unemployment etc.

This Social Media is changing the world by providing people a platform for freedom of speech. People are now active readers who engage themselves on international forum with discussion, comment on subject pertinent to them. They are "instantly collaborating, contributing, interpreting and interacting" (Senger & Suopis, 2010). Along with some odds, Social Media paves the way for empowering citizens in terms of information, though sometimes how far the information is with quality or positive becomes an another important area of concern.

Methodology

The study is basically based on secondary data collected from various online sources and libraries. The researchers have done extensive literature review to understand the relation of online activism and social media and how **netizens** use it to spread

Communication seems to have taken the challenge to connect people of all sections through faster and reasonable social networking sites. The modern technology has found out ways to revolutionize the society at the same time putting the youth in addiction of social networking. This book tries to address some of the issues and challenges of Communication in Modern Indian Society. This book provides various aspects of communication in the modern society of India. Basically this book is compilation of the research papers presented in the National Seminar on "Current Trends of Development in Innovation, Communication and Creativity in India" held on 27th & 28th February, 2016.

Shankha Shubhra Bhadra, Assistant Professor and Head, Department of Commerce, Holy Cross College, Agartala, India has eight years of teaching experience. He was the Department Head of BBA since 2010 till 2016. His research center is on the intersection of Narrative Accounting, Companies Act and Globalization. He has published three book chapters, three research papers in international journals and participated in various National Seminar, Conference and Workshops. He conducted an International Seminar and two National Seminar and workshops since 2010 in Holy Cross College. He is also the co-editor of couple of books such as "Contours of Globalization", and "4G: Globalization, Growth, Society of Tripura) and takes active part in research work. He was the Coordinator of Directorate of Distance Education, TU, Study Center and Academic Counselor of Graduate Program of IGNOU, Tripura. He is the Joint Director of AIS-IAS coaching center of Holy Cross College and fond of conducting mock interviews and provides consultation to Govt. job aspirants in Tripura. He is also resource person on some occasions of Teacher Orientation. He holds various administrative posts in the College such as Chairperson of Examination Committee, Member of IQAC, Convener of Placement Cell, Joint Coordinator of Wall Magazine, etc at Holy Cross College, where he encourages the Under Graduate students to be a part of research work. He was awarded as "Teacher of the Year" in the year 2015.

G GLOBAL PUBLISHING HOUSE (INDIA)

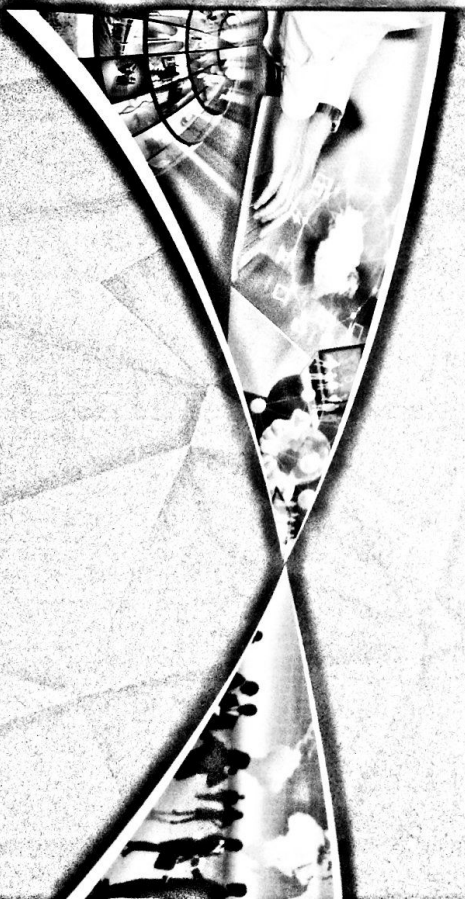
Door No. 13, I-1, Vigneshwara Enclave, Anthony Nagar, Maharanipeta, Visakhapatnam - 2, A.P. (India).
Email : globalpublishinghouse@gmail.com

Price : ₹ 395.00
ISBN 978-91-91533-39-7
97893381563397

COMMUNICATION & MODERN INDIAN SOCIETY

Shankha Shubhra Bhadra

COMMUNICATION & Modern Indian Society



Edited By
Shankha Shubhra Bhadra



Uses and Gratification of Facebook: A Critical Study

*Dr. Deepak Upadhyaya
Ms. Saslang Jamatia*

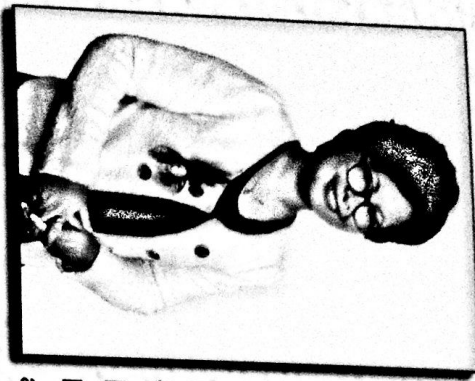
Abstract

This paper is a quantitative study aimed at understanding the form and extent of Facebook usage among a selected sample of post graduate students from Tripura University. This study was conceptualized to find out the usage behaviour of Facebook among young adults in a population still having characteristics of significant deficit in digital media literacy. The study used opinion survey as tool of research and deployed a structured questionnaire among 100 students. This study has revealed that the young adults of Tripura are active, aware and cautious on social media but at the same time are relatively passive in community interaction. This study has concluded that gratification through use of SNS(Social Networking Sites)in the form of 'likes', positive comments, tagging etc. is the prime reason behind use of Facebook among the young adults as represented by the selected sample of respondents.

Keywords: *Social Media, Facebook, Uses and Gratification, Post Graduate, Tripura*

Introduction

Social Networking is a recently popularized communication activity in the world; it has gained popularity across countries with high and low digital media access due to the rapid explosion in accessibility of digital devices and services. It is an online social



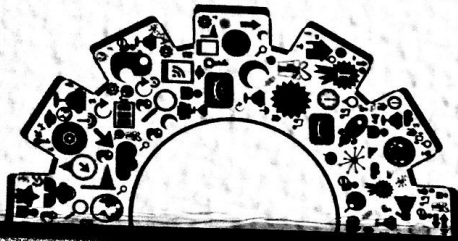
Dr. Rupa Rani Sonowal is an Assistant Professor at Royal School of Communication and Media, Royal Global University, Guwahati, Assam. She had done her PhD from Department of Mass Communication, Assam University, Sivasagar. She had working experience of three years in academics and six years of industry experiences. Dr. Sonowal had few number of research papers published in different refereed journals and has attended a good number of National and International seminars and conferences.

Prior to the publication of this book, she was also the Sub-Editor and Editorial Board Member of few National and International books and Journals. Besides, she is the Regional Secretary (NE) of Women television (www.wtvindia.in), the online web portal for women in India.



Price : ₹ 500/-

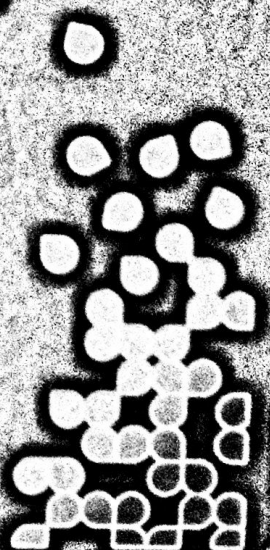
ISBN : 978-93-5279-855-1



Published by : Unity Education Foundation, Guwahati

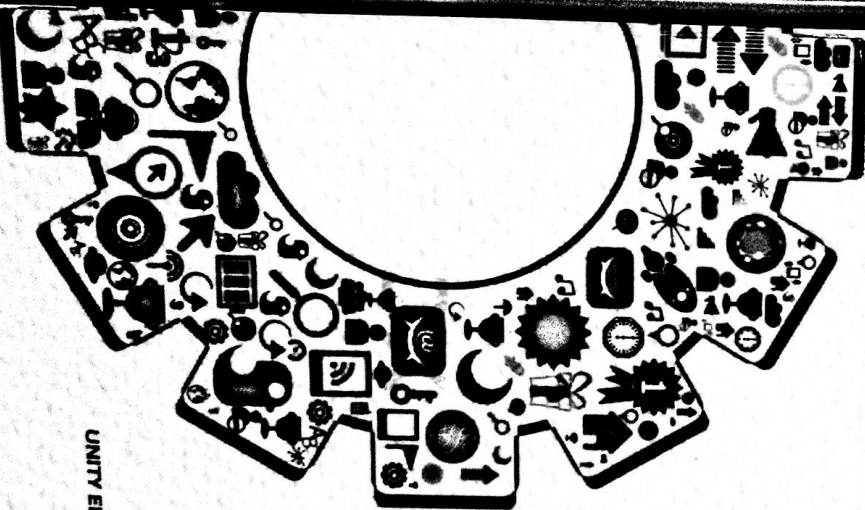
Printed at Eastern Panorama Offset Press, Keating Road, Shillong - 1

Media & Social Dynamics International Book of Media Studies Edited by Dr. Rupa Rani Sonowal



MEDIA & SOCIAL DYNAMICS

International Book of Media Studies



Edited by
Dr. Rupa Rani Sonowal

UNITY EDUCATION FOUNDATION
GUWAHATI



DOES DIGITAL MEDIA USE MEAN DIGITAL EMPOWERMENT?

A CRITICAL STUDY WITH SPECIAL REFERENCE TO MARGINAL COMMUNITIES IN TRIPURA

Mr. Debraj Deb

Research Scholar,
Department of Mass Communication,
Assam University, Silchar

Dr. Deepak Upadhyaya
Assistant Professor

Department of Journalism and Mass Communication,
Tripura University, Tripura

Abstract :

This study is a historical study on major Internet and social media usage habits. This study seeks to find out significant works in the direction that have been done in Tripura in the past. It offers a critical understanding of the relationship between usage of social media use and social media empowerment among users in marginal digital spaces like Tripura, where average digital footprint is still low.

Keywords: *Internet, Social media, Facebook, marginal digital space, Tripura, India.*

1. Introduction

Before going into any analytical study of social media behaviour, usage or implications on users, perhaps a bit of introspection on the type and form of social media we are discussing about is the call of the hour. The widely accepted nomenclature – ‘social media’ in the academic domain as well as common parlance has rather obscured the very motto of having a ‘social’ media.

As Dahlberg (Dahlberg, 2015) says, a host of pre-Web social media were active as interactive platforms for the then users of computer-mediated communication. These included computerized bulletin board systems like the Usenet, FidoNet, synchronous online chat platforms like the Internet Relay Chat (IRC). However, one would be grossly misplaced in an argument, should the assumption be based on free interactive platforms ruling the virtual interactive space in the 1990s. There were solely subscription-based, highly firewalled commercially run interactive platforms like CompuServe, American Online as well.

Hence, how could one really differentiate between the virtual interactive platforms predating the current millennium? Well, the answer perhaps could only be better utility and a discursive array of functions available now that weren't the case then. By now, we mean the post-2004 phase when Facebook (then The

Facebook) came into being. As we now see, the use of the new social media is divided into two distinct segments. One among them is the utilitarian use of social media, where the users set professional connections as sole purpose of the networking.

We have got developers offering professional networking platforms like LinkedIn, with all the facilities of new social media. And then, we have a second segment of new social media users who have taken up usage of such platforms for pure entertainment. The new social media are most popular in the hands of users from the latter group. They are usually relatively less-educated users from humble backgrounds, who are most adept to embracing new technological facilities.

A study conducted on them by Neha Kumar has shown that urban poor, especially users from under-privileged classes are the fastest adapters to new technology. Their choice of use of cell phones were found to be heavily influenced by the device's capacity of accessing fast internet, Facebook and other interactive applications. However, the same users weren't well-versed with the use of basic internet functions, which revealed very important finding that social media enabled users aren't exactly synonymous to digitally enabled youths.

II. Contextualising Digital Empowerment

Numerous studies have been conducted on the definition of digital empowerment. However, the closest definition that could be achieved by the European Parliament and the European Council in 2006. A segment in a set of recommendations put forth by the European Parliament and the European Council stressed on the term digital competence, which has come to be the closest and categorized relative of digital empowerment. The recommendation identified digital competence as a condition which fulfilled one out of 8 key components that were considered essential for a knowledge society.

“Digital competence involves the confident and critical use of information Society technology (IST) for work, leisure, learning and communication. It is underpinned by basic skills in ICT: the use of computers to retrieve, access, store, produce, present and exchange information, and to communicate and participate in collaborative networks via the Internet.”

Some researchers have tried to focus on the aspect that all interaction and communication media, which were computer-mediated and pre-dating 2000, were equally social as the ones widely practised today are. (Dahlberg, 2015) Hence, he chooses to call social networking sites like Facebook, Twitter, Instagram and the like as new social media. To him, the older versions of computer-mediated communication platforms like Usenet, FidoNet, IRC etc. were the pathfinders to reach the age of new social media that we have today.

However, we have a different school of thought as well, who have chosen to refute scholars like Dahlberg. They have claimed that social media is actually a phenomenon instead of

| | |
|-----------------------------|----|
| Co mu S D Vidy | 14 |
| De Tri S D IAS | 20 |
| Ecc S D IAS | 19 |
| Vol Exc I Ali Arth | 18 |
| DE AF | 18 |

Technical Efficiency of Degree Colleges of Barak Valley in Assam, India: A Consolidated Analysis of Parametric and Non-parametric Approach

Authors Subhrabaran Das, Monalisa Das

Publication date 2017

Book Contemporary Social Science: Issues and Challenges edited by Dr.Sumitra Naha & Dr. Mahua Roy Choudhury

Pages 7-30

Publisher NSPS Publication, Siliguri, West Bengal

M Das, A Sen, S Das

International Journal of Research in Management & Social Science, 30

[Technical Efficiency of Degree Colleges of Barak Valley in Assam, India: A Consolidated Analysis of Parametric and Non-parametric Approach](#) 2017

S Das, M Das

Contemporary Social Science: Issues and Challenges edited by Dr.Sumitra Naha ...

[Competitiveness and Role of Research and Development: A Study of Indian Automobile and Drugs and Pharmaceuticals Industry](#) 2013

P Das, S Das

[A Reformulation to Quantify Human Development and Study of Inter-State Disparity in Achievement in India](#) 2012

SK MAHAJAN, S DAS

JOURNAL OF HUMAN DEVELOPMENT 4 (2), 79-98

[Impact of market structure and performance on research and development in Indian automobile industry](#) 2012

S Das, P Das

Gokhale Institute of Politics and Economics (GIPE), Pune (India)

[An Alternative Measure to Examine Variation in Achievement of Human Development among Selected States of India: Use of Varimax Rotated Principal Component Analysis](#) 2012

SK MAHAJAN, S DAS, S DUTTA

JOURNAL OF HUMAN DEVELOPMENT 4 (1), 35-48

Antioxidant, Total Phenol and Some Nutritional Status of *Dioscorea hamiltonii* Hook. F. and *Dioscorea bulbifera* L. Var. *sativa* (Hook.f.) Prain, in Tripura, NE India

Bimal Debnath*, Chiranjit Paul and Amal Debnath

Department of Forestry and biodiversity, Tripura University,
Suryamaninagar-799022, Tripura, India

*Corresponding author: bimalbc@rediffmail.com

Summary The present study was carried out to investigate the antioxidant activity (DPPH scavenging potential), total phenolic content, total protein, free amino acid, carbohydrate and moisture content of male and female tubers of *Dioscorea hamiltonii* and *Dioscorea bulbifera* var. *sativa*. Methanolic extracts of female tubers of both the species had the highest phenolic content and antioxidant activity in comparison to their male stalks. Direct correlation is observed in their phenolic content and antioxidant activity. Total protein, free amino acid and carbohydrate content of the female stalk of both the species were found to be higher in comparison to male tubers. *D. hamiltonii* female has highest Soluble sugar content (5.92 ± 0.132 mg/gm) and *D. bulbifera* var. *Sativa* female has the lowest (2.09 ± 0.119 mg/gm). Moisture content is highest (67%) in male *D. bulbifera* var. *Sativa* and lowest (65%) in *D. hamiltonii*. The data furnish useful information for utilization of this underutilized wild tuber crop in Tripura.

Keywords: Antioxidant activity, *Dioscorea hamiltonii* and *Dioscorea bulbifera* var. *sativa*

Dioscorea a dioecious genus of Dioscoreaceae is an important tropical 'Yam' which plays a vital role among the tribal communities of Tripura by serving as a food and as a traditional medicine. The literature survey reveals that, some varieties are producing toxic tuber, although some variety produces popular tuber vegetables and food. Different ethnic groups of the State have been using several species of *Dioscorea* as a source of food due to their high nutrient content. Most of the *Dioscorea* species grow widely in the forest floor in adverse climatic condition. For their edible tubers the wild varieties *D. bulbifera* var. *sativa* and *D. hamiltonii* are quite popular to the forest dwellers of the State. *D. hamiltonii* is also consumed by these people to get relief from piles and burnt and *D. bulbifera* var. *sativa* enhances appetite (Teponno *et al.*, 2007). *D. bulbifera* var. *sativa* is also used for the treatment of leprosy and tumour in Bangladesh (Mbiantchaet *et al.*, 2011).

Tubers of *bulbifera* are also used for the treatment of pig cysticercosis by the native people of western highland of Cameroon (Teponno *et al.*, 2007). Tubers of *D. hamiltonii* are very popular among the tribal peoples of Tripura and is often compared with potato tubers for their taste as a vegetable. High antioxidant activity of storage protein (dioscorin) and mucilage (carbohydrate) of tubers are also reported in other species of *Dioscorea* (Hou *et al.*, 2001, 2002).

Although both the species of *Dioscorea* have long been used as food and traditional medicines, no scientific work has so far been carried out to highlight the nutritional status and anti-oxidant activity of these species. Therefore the present work was undertaken to evaluate the nutritional status and anti-oxidant activity of these species.

Materials and Methods

Materials

The fresh tubers of *D. bulbifera* var. *sativa* and *D. hamiltonii* were collected from Debipur, South Tripura, India. Plants were identified using the Flora of Tripura (D.B Deb, Vol.-II, 1983) Flora of Assam (Kanjilal *et al.*, 1939) and Bangladesh ethno botany online data base.

Plant Sample Extraction

Tubers were cleaned, shade dried and pulverized to a powder in a mechanical grinder. Required quantity of powder was weighed and transferred to stopper flask and treated with methanol until the powder is fully immersed. The flask was shaken every hour for the first six hours and then it was kept aside and again shaken after 24 hours. This process was repeated for four days and then the extract was filtered with Whatman NO. 1 filter paper. The filtrate was collected and evaporated to dryness by using the vacuum distillation unit.

Moisture Content

The moisture content was determined by drying the samples in an oven at 80°C for 48 hrs and was expressed on a percentage basis.

Estimation of Total Phenol Content

Total phenol content was estimated using the Folin-Ciocalteu method. Samples (100 µl) were mixed thoroughly with 2 ml of 2% Na₂CO₃. After 2 min. 100 µl of Folin-Ciocalteu reagent was added to the mixture. The resulting mixture was allowed to stand at room temperature for 30 min and the absorbance was measured at 743 nm against a blank. Total phenol content was expressed as milligram per gram of methanol extract of plant samples using Gallic acid as standard.

DPPH Radical Scavenging Activity

The free radical scavenging activities of methanol extract of all the samples were evaluated by 1, 1-diphenyl-2-picryl-hydrazyl (DPPH) method. Different concentration of

methanol extracts (50, 100, 200, 400, 600, 800, 1000, 1200 µg/ml) was mixed with 300 µl DPPH (0.02mM). The absorbance was measured at 517 nm using a UV-VIS double beam spectrophotometer (Dynamica, DB-20, Sl. No. - 6622065) after 30 minutes of incubation at dark. Blank is prepared by mixing methanol with DPPH. Ascorbic acid was used as the reference. Scavenging of DPPH was calculated by using the formula: DPPH scavenging activity (% of inhibition) = $(A_0 - A_1) * 100 / A_0$, where A_0 is the absorbance of control reaction and A_1 is the absorbance of the sample. All the sets were repeated thrice and results were recorded as average.

Estimation of Total Free Amino Acids

The amount of total free amino acid was estimated following the method of Yemm and Cocking (1955). In this method, 50mg fresh tubers were homogenized in 10ml of 50% aqueous ethanol with a pinch of activated charcoal. The slurry was centrifuged at 1000 rpm for 10 minutes and free amino acids were extracted in the form of a clear supernatant. The volume of supernatant was raised to 10 ml with aqueous 50% ethanol. To 1ml of the supernatant 2ml of Ninhydrine (2%, w/v in dehydrated alcohol) was added. The mixture was kept in a water bath at $75 \pm 2^\circ\text{C}$ for 10 minutes and after cooling, aqueous alcohol (1:1) was added to make up the volume to 3ml. The absorbance of the violet complex was measured at 570nm on a spectrophotometer. The amount of total free amino acid was calculated with the help of a standard curve prepared from glycine and was expressed as mg of amino acids per gram fresh weight of the sample.

Total Protein

The total amount of protein was determined by the Lowry method (1951). In this 500mg sample crushed in 5ml of extraction buffer and centrifuged in 10,000 rpm for 30 minutes and the supernatant is used for estimation of protein.

Estimation of Carbohydrate

The amount of total Carbohydrate was estimated by the Anthrone method. In this method 100mg dried powder sample was taken into a test tube and hydrolyzed by keeping it in a boiling water bath for three hours with 5ml of 2.5N HCl and cool to room temperature. The material was neutralized with solid sodium carbonate until the effervescent stopped. After that the volume was made upto 100ml with distilled water and centrifuged. The supernatant was collected. To 0.5ml of the supernatant 4ml of 0.2% anthrone was added and the volume was made up to 5ml with distilled water. The mixture was heated for eight minutes in a water bath, cooled rapidly and measure the green to dark green colour at 630 nm.

Estimation of Soluble Sugar

The amount of total soluble sugar was estimated following the method of Yemm and Willis (1955). In this, 500mg fresh tubers were crushed in 10ml of 95% aqueous ethanol and centrifuged at 5000 rpm for 15 minutes, to the supernatant pinch of activated charcoal was

added and the volume was made up to 10ml, it was centrifuged at 5000 rpm for 15 minutes and the clear solution was taken. To 0.2ml of the supernatant 2.5ml of 2% anthrone was added and the volume was made up to 3ml with 95% aqueous ethanol. After 30 minutes absorbance was measured at 620nm on a spectrophotometer. The amount of total soluble sugar was calculated with the help of a standard curve prepared from glucose and was expressed as mg of soluble sugar per gram of the fresh weight of the sample.

Statistical Analysis

All the data were analyzed by using (Statgraphics Centurion XVII, software) and means were compared by T-test. Mean was considered to be significant when the P-value is less than 0.05 ($P < 0.05$). Correlation tests were done using Microsoft Excel 2007.

Result and Discussion

The highest phenol content of methanolic extract of female tubers of *D. hamiltonii* and *D. bulbifera* var. *sativa* were found to be 11.66 ± 0.24 mg/gm and 13.5 ± 0.90 mg/gm respectively. Methanolic extract of the female tuber of both the species showed the highest phenolic content (13.50 ± 0.9) and antioxidant activity (IC_{50} value is 57.17 ± 3.12) in comparison to their male stalks (Table-1, Fig. 3). Total protein (0.188 ± 0.05 mg/gm.; 0.186 ± 0.01 mg/gm.), and carbohydrate content (1.42 ± 0.036 mg/gm.; 1.02 ± 0.08 mg/gm.) of the female tubers of *Dioscorea hamiltonii* (Table-1, Fig. 1) and *Dioscorea bulbifera* var. *sativa* are significantly higher than that of their male tubers (Fig. 2). Significant direct correlation was observed in the phenolic content, antioxidant activity, carbohydrate content and total protein content of both the species studied. Highest free amino acid content was recorded in male stalk of *D. bulbifera* var. *sativa*. Soluble sugar content of both the stalks, male (4.83 ± 0.045 mg/gm) and female (5.92 ± 0.132 mg/gm) of *D. hamiltonii* and the male tubers (5.86 ± 0.175 mg/gm) of *D. bulbifera* var. *sativa* were recorded higher than the female tubers of *D. bulbifera* var. *sativa*. The moisture content was highest (67%) in male *Dioscorea bulbifera* var. *sativa*, than that present in both the male and female *D. hamiltonii* (65%). Whereas, the moisture content of female tuber of *Dioscorea bulbifera* var. *sativa* was 57% which showed the woody nature of the tuber. The antioxidant activity and the total phenol content reported in this paper is in accordance with the previous report on *D. alata* (Lin et al. 2005) and *D. batatas* (Hou et al. 2002). These data may be used for future research and utilization of this underutilized wild tuber crop in Tripura.

Table 1: Antioxidant activity (IC_{50}) and some nutritional status of male and female tubers of *D. hamiltonii* and *D. bulbifera* var. *sativa*.

| Constituents | <i>Dioscorea hamiltonii</i> | | <i>Dioscorea bulbifera</i> var. <i>sativa</i> | |
|---|-----------------------------|-------------------|---|-------------------|
| | Male | Female | Male | Female |
| Moisture content (%) | 65 | 65.5 | 67 | 57 |
| Total Protein (mg/gm) mean \pm SD | 0.17 \pm 0.010 | 0.188 \pm 0.005 | 0.21 \pm 0.005 | 0.186 \pm 0.005 |
| Carbohydrate (mg/gm) mean \pm SD | 0.63 \pm .060 | 1.42 \pm .036 | 0.67 \pm .01 | 1.02 \pm 0.08 |
| Soluble sugar (mg/gm) mean \pm SD | 4.83 \pm 0.045 | 5.92 \pm 0.130 | 5.86 \pm 0.175 | 2.09 \pm 0.119 |
| Free amino acid (mg/gm) mean \pm SD | .015 \pm 0.0025 | .025 \pm 0.004 | 2.69 \pm 0.098 | 1.22 \pm 0.04 |
| Antioxidant activity (IC_{50} value in μ g/ml) | 220.27 \pm 3.02 | 104.27 \pm 3.38 | 131.78 \pm 2.70 | 57.17 \pm 3.12 |
| Phenol(mg/gm) \pm SD | 1.69 \pm 0.091 | 11.66 \pm 0.245 | 5.78 \pm 0.09 | 13.5 \pm 0.9 |

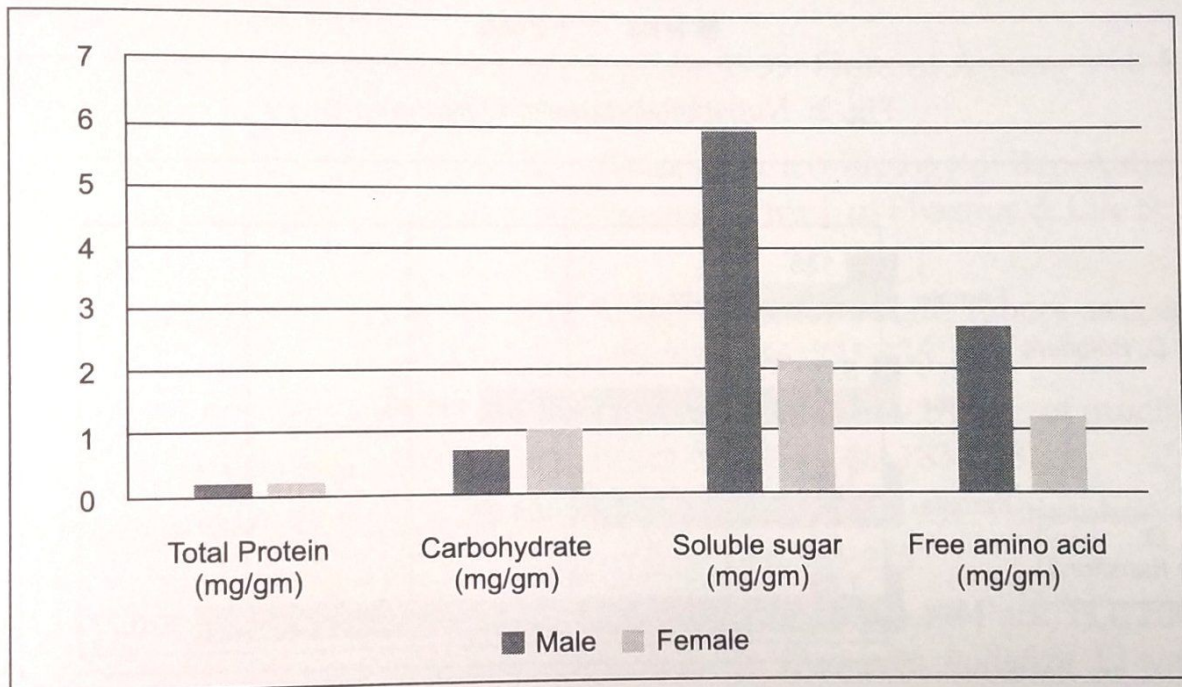


Fig. 1: Nutritional status of *D. bulbifera* var. *sativa*.

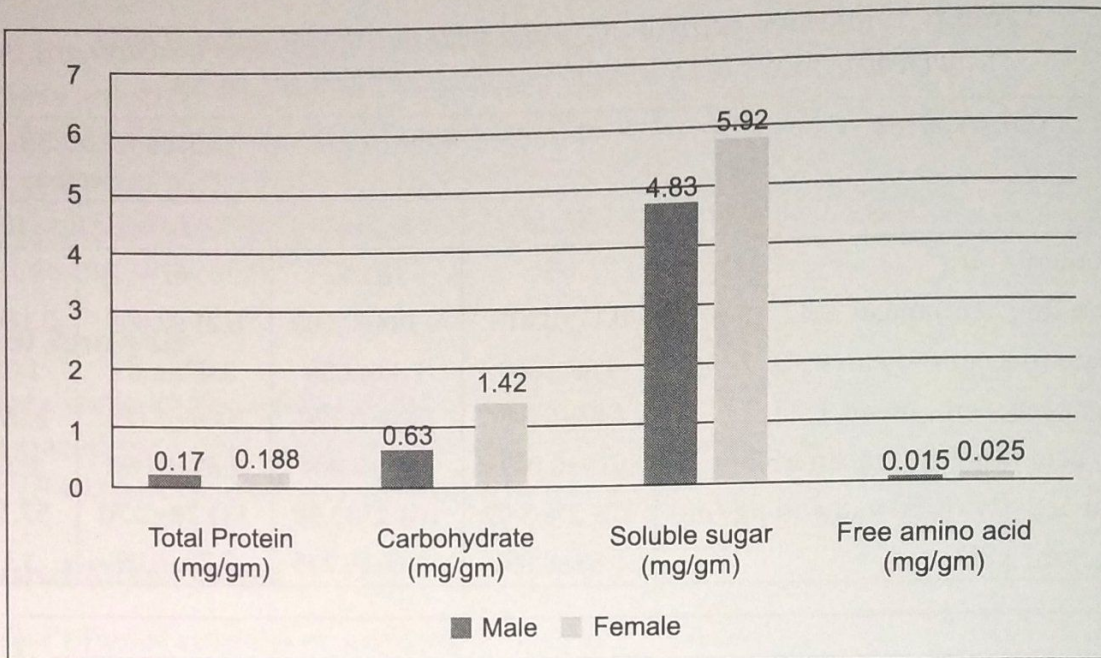


Fig. 2: Nutritional status of *D.hamiltonii*.

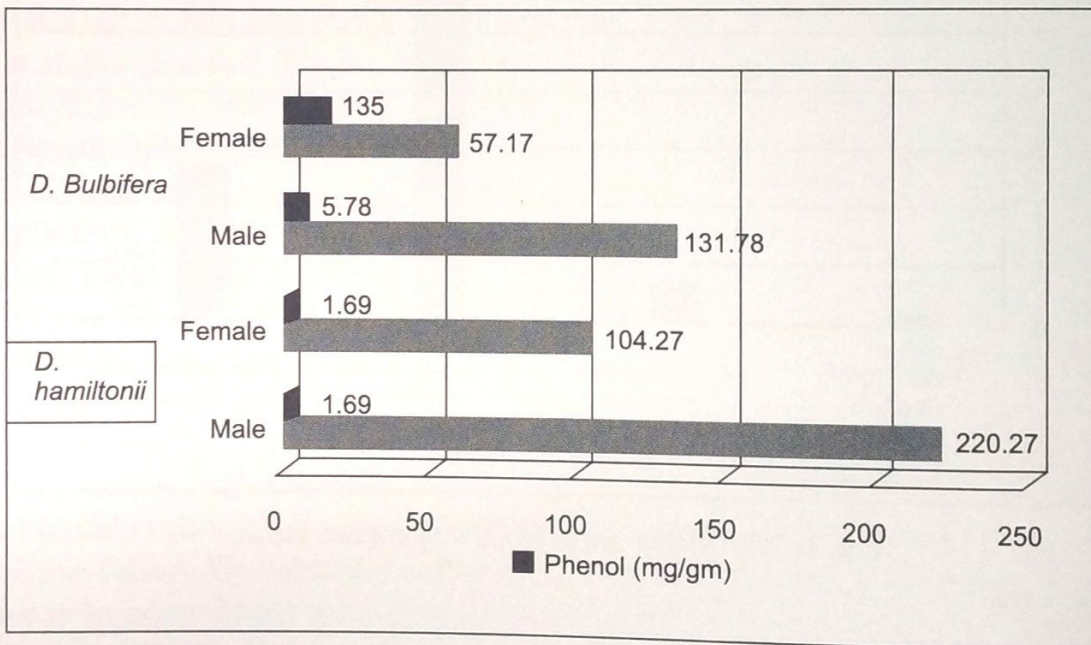


Fig. 3: Phenolic content and antioxidant activity of *D. hamiltonii* and *D. bulbifera* var. *sativa*.

Acknowledgement

The corresponding author is thankful to UGC for providing a Start-Up grant which helped to carry out this work. The authors gratefully acknowledge, the support of Sri SamratHore, Department of Statistics, Tripura University during statistical analysis of the results.

REFERENCES

- Blois, M.S. *Nature*. 1958. **181**: 1199-1200.
- Deb, D.B. 1983. *The Flora of Tripura state, Today & Tomorrows' Printers and Publishers, New Delhi*. **2**. Pp. 417 – 422.
- Hou, W.C., Lee, M.H., Chen, H.J., Liang, W.L., Han, C.H., Liu, Y.W. and Lin, Y.H. 2001. Antioxidant activities of dioscorin, the storage protein of yam (*Dioscorea batatas* Decne) tuber. *J Agric Food Chem* **49**:4956–4960.
- Hou, W.C., Hsu, F.L. and Lee, M.H. 2002. Yam (*Dioscorea batatas*) tuber mucilage exhibited antioxidant activities in vitro. *Planta Med* **68**:1072–1076.
- Hedge, J.E., and Hofreiter, B.T. 1962. In: *Carbohydrate Chemistry*, 17 (Eds. Whistler R.L and Be Miller, J.N.), Academic Press, New York. <http://www.ebbd.info> : Bangladesh Ethnobotany Online Database
- Kanjilal, U.N., Kanjilal, P.C., Das, A. and De, R.N. 1939. *Flora of Assam, Vol. III*. Bishen Singh and Mohendra Pal Singh, Dehradun.
- Kumar, S., Parida, A.K., and Jena, P.K., 2013. Ethno-Medico-Biology of Ban-Aalu (*Dioscorea* species): a neglected tuber crops of Odisha, India. *Int.J. of Pharma. & Life Sci. (JPLCP)* **4**: 3143-3150.
- Lachman, J., Hamouz, K., Orsak, M. and Pivec, V. 2000. Potato tubers as a significant source of antioxidant human nutrition. *Rostl Vyr*. **46**: 231-236.
- Lin, S.Y., Liu, H.Y., Lu, Y.L. and Hou, W.X. 2005. Antioxidant activities of mucilages from different Taiwanese yam cultivars. *Bot Bull Acad Sin* **46**: 183–188.
- Lowry, O.H., Rosenbrough, N.J., Farr, A.L. and Randall, R.J. 1951. Estimation of protein with the folin-phenol reagent. *J. Biolog. Chem.* **193**: 265-275.
- Teponno, R.B., Taponjou, A.L., Hyun, J.J., Nam, J.H., Tane, P. and Park, H.J. 2007. "Three new clerodanedieterpenoids from the bulbils of *Dioscorea bulbifera* L. var. *sativa*," *Helvetica Chimica Acta*, **90**: 1599–1605.
- Yemm, E.W. and Cocking, E.C. 1955. The determination of amino-acids with ninhydrin. *Analyst*, **80**:209-213.
- Yemn, E.W. and Willia, A.J. 1954. The estimation of carbohydrates in plant extracts by anthrone. *Biochem. J.* **57**: 508-514. 2

