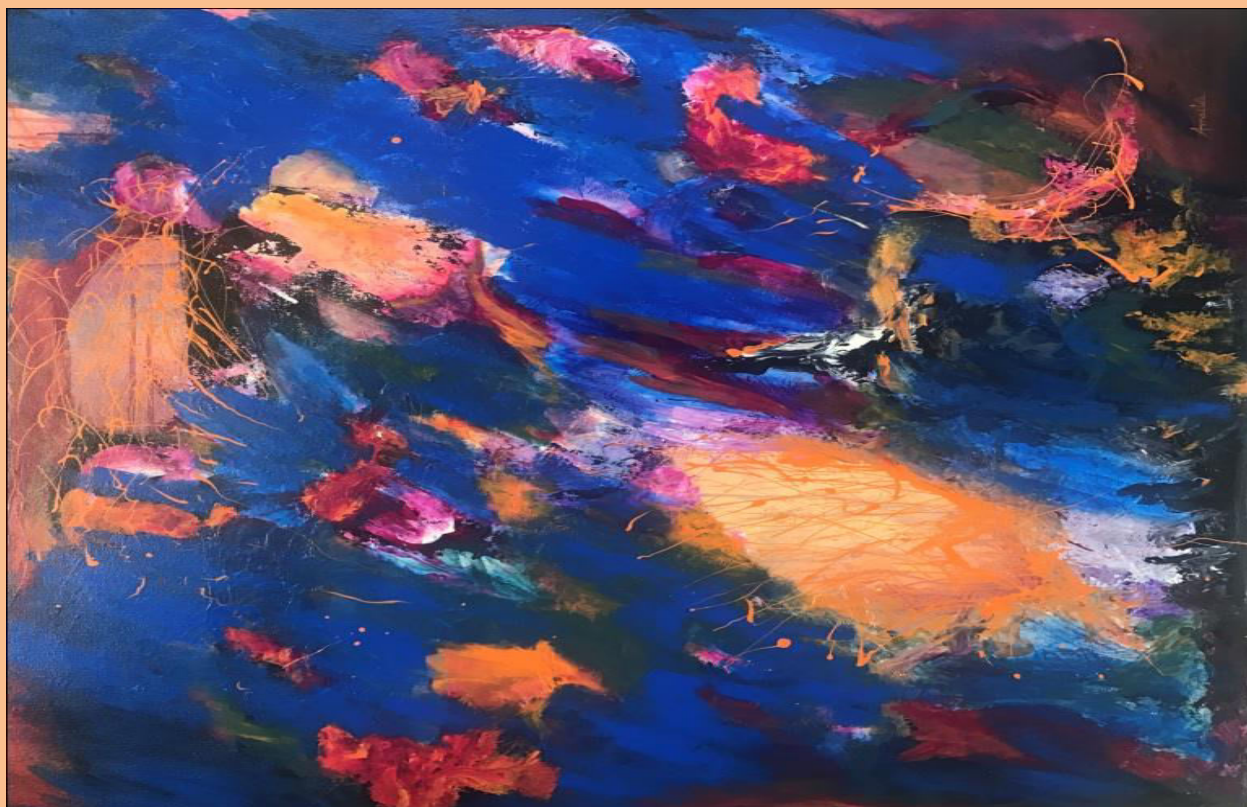




ISSN: 2278-8670
ISSUE-13, JULY 2018
7TH YEAR, VOLUME-I

**INTERNATIONAL JOURNAL
OF
INTEGRATED RESEARCH AND DEVELOPMENT**
(UGC Enlisted Sl. No. 448; Journal No. 41601, Peer Reviewed and Multi-Disciplinary)



Cover: Anna Rosa Pelayo, Amaitee.

BARIN KUMAR PRAMANIK
Editor-in-Chief

BISWAJIT MAITI
Managing Editor

GUIDELINE TO THE AUTHORS FOR SUBMISSION OF PAPERS

GENERAL & TECHNICAL REQUIREMENTS:

Full length article/paper may be typically of about 3000 words (minimum) or six to eight pages. The Authors are requested to send their paper with an abstract in 100 to 150 words. The paper should be written in single line-spaced, fully justified format in 12 point Times New Roman font. One line space is to be kept between paragraphs and no indent is to be provided at the first line of a new paragraph. First level heading is required to be consequently numbered like 1., 2., etc. left justified and bold. Second level heading should be numbered consequently like 1.1., 1.2., etc. left justified and bold. Other than English language authors are requested to send their paper in both PDF and Word format. Font size should be eye soothing or 12/14 font size. Title should appear at the top centre of the paper in bold font. The name of the author is to appear next in a separate line along with name of the organization/institution, place of affiliation(s) with full address of the organization/institution and E-Mail ID or Phone No. All figures and tables are to be numbered sequentially and should be placed above the table. Tables and figures should be distinct and readable even after some amount of reduction.

BIBLIOGRAPHY:

Bibliography should be arranged/maintained as per the International norms. List of References will be as per the examples given below corresponding to a book [1], Journal/Magazine/Paper [2], Conference proceedings [3] and the website and other media [4].

- [1] Bhattacharyya, Nabarun, Herbert, Deys Publishing, Kolkata, ISBN 978-81-29-16-6, Pp 32-33, 1st ed., 2004.
- [2] Ganguli, Su, Solar Thermal-A versatile Technology, Reason-A Technical Magazine, Vol. XI, pp 8-10, 2012, ISSN 2277-1654.
- [3] Baserville, T.A., Allard, J., Wayman, C. & Douglas, A. J. Dopamine oxytocin in penile erection. Proceedings of 22nd International Conference of Neuroscience, New York, USA, 2012.
- [4] Socio-affective Neuroscience & Psychology 2013. 2013 Donald L. Hilton. This is an Open Access article distributed under the terms of the Creative Commons Attribution 3.0 License (<http://creativecommons.org/licenses/by/3.0/>).

DECLARATION:

A declaration form is needed to be signed by the corresponding author and/or on behalf of other author (if any) along with the submission of the manuscript for consideration for publication in the journal which is mandatory.

PROCESSING FEES:

The processing fee for publication in the journal is INR 2000.00 (INR Two Thousand only) / US \$ 100.00 (US Dollar One Hundred only). For color plates or color photos extra charges of INR 1000.00 (INR One Thousand only)/ US\$ 50.00 (US Dollar Fifty only) has to be paid.

Hard copy of the journal may be available by paying INR 300.00 (INR Three Hundred only) / US \$ 20.00 (US Dollar Twenty only).

Exchange Price: 300 INR (\$20.00)

CORRESPONDENCE:

Dr. Barin Kumar Pramanik
Editor-in-Chief
Mobile: 09433128121
E-mail: barinkp1969@gmail.com
Or editor.ijird@gmail.com

Dr. Biswajit Maiti
Managing Editor
Mobile: 09836952605
E-mail: bmkgcec@gmail.com



Volume: 1/Issue: 13/July 2018-ISSN: 2278 8670

International Journal of Integrated Research and Development

ISSN: 2278-8670

Editor-in-Chief: Barin Kumar Pramanik

Managing Editor: Biswajit Maiti

PEER REVIEW BOARD:

President: Sudhir Chakraborty Sahitya Academy Awarded Eminent Bengali Scholar.

Vice-President: Prabir Kumar Das Retd. WBSSES, Former Member Secretary, Higher Education Council, Govt. of W.B.

Honorable Members: From Abroad

- 1. Andrew Nicholson** Professor, Department of Asian American Studies, Stoney Brook University, USA, 11794.
- 2. Hans Harder** Professor of Modern South Asian Languages and Literatures (Modern Indology). Haidelberg, Head of the Department of Modern South Asian Languages and Literatures, Heldelberg University, Germany.
- 3. Madhab Prasad Pokhrel** Professor, Department of Linguistics, Tribhuvan University, Nepal.
- 4. Niaz Ahmed Khan** Chair Professor, Department of Development Studies, University of Dhaka, Bangladesh.
- 5. Toni Guerra** Teacher, Autonomous University of Mexico, University of Guadalajara, Jalisco; Chief Executive Officer and Founder Director of Exagono (Independent Fine Arts Workshop); Member of the Modern Art, Center of Guadalajara, Jalisco, Mexico.



From India

6. Mohd. Shahid Hussain Professor, Centre for Indian Languages, SLL & CS, Jawaharlal Nehru University (Urdu & Persian), Academy Awarded Scholar, New Delhi.
7. Nandalal Chakraborty Associate Professor, Political Science, Presidency University, Eminent Scholar and writer about Netaji.
8. Goutam Kumar Chatterjee President, Abhinavagupta Academy, Department of Journalism and Mass Communication, Banaras Hindu University and Film maker of Theory of Aesthetics, U.P.
9. Rampratap Sinha Associate Professor in WBES, Department of Economics, Government College of Engineering and Leather Technology, W.B.
10. S. K. Mollay IFS, Divisional Forest Conservator, North Division, Siliguri, W.B.
11. Pankaj Kumar Roy Associate Professor & H.O.D of Commerce, New Alipur College, W.B.
12. Raghunath Ghosh Honorary Director, ASC and Retired Professor & Head, Dept. of Philosophy, North Bengal University, W.B.
13. Madhusudan Mondal Retired Scientist and Additional Director, Botanical Survey of India, W.B.
14. Debabrata Chowdhry Textile Engineer (Manchester), MBA (PE, Chartered Engineer FIE (I) FII Prod., FCA & FIV, General Secretary: INDIAN SOCIETY OF ENGINEERS, Kolkata, W.B.
15. Sibsankar Pal Associate Professor & H.O.D of Bengali, Govt. General Degree College at Tehatta, W.B.
16. Debabrata Das Associate Professor & H.O.D of Botany, Govt. General Degree College at Lalgah, W.B.



BOARD OF ASSOCIATE EDITORS:

SOCIAL SCIENCE, LANGUAGE, LITERATURE AND ARTS

1. Tapas Kumar Pal Associate Professor & H.O.D of Economics, Darjeeling Gov. College, W.B.
2. Preetam Ghoshal Associate Professor, Department of Philosophy, Jadavpur University, W.B.
3. Arun Mahata Associate Professor, Department of Philosophy, Jadavpur University, W.B.
4. Biswajit Roychoudhury Assistant Professor of Geography, Vidyasagar College, Kolkata, W.B.
5. Sanjit Kumar Das Vice-Principal, Bhairab Ganguly College, Kolkata, W.B.
6. Surajit Sengupta Assistant Professor, Department of Commerce, Bhairab Ganguly College, W.B.
7. Aditi Parta Assistant Professor, Department of Philosophy, Hooghly Mohsin College, W.B.
8. Suparna Sengupta Assistant Professor, Department of Sanskrit, Hooghly Mohsin College, W.B.
9. Sanghamitra Mukherjee Assistant Professor, Department of Sanskrit, Ramkrishna Sarada Mission Vivekananda Vidya Mission, W.B.
10. Tanwi Mukhoadhyay Assistant Professor, Department of Bengali, Bethune College, W.B.

SCIENCE AND TECHNOLOGY

11. Phalguni Gupta Associate Professor, Department of Physics, Dinabandhu Andrews College, Kolkata, W.B.
12. Swapan Kumar Ghosh Associate Professor, Department of Physics, Durgapur Govt. College, W.B.



13. Partha Sarathi Singha Officer-in-Charge, Govt. General Degree College,
Kharagur-II, W.B.
14. Pampi Ghosh Assistant Professor, Department of Botany, Seva
Bharati Mahavidyalaya , W.B.

EDITORIAL BOARD:

1. Asin Md. Ansari Assistant Professor, Department of History,
Gorubathan Govt. College, Kalimpong, W.B.
2. Arpana Kalden Assistant Professor, Department of History,
Gorubathan Govt. College, Kalimpong, W.B.
3. Varun Kumar Roy Assistant Professor, Department of History, University
of North Bengal, Darjeeing, W.B.
4. Pratit Tamang Assistant Professor, Department of Political Science,
Gorubathan Govt. College, Kalimpong, W.B.
5. Ujjal Das Assistant Professor, Department of English,
Gorubathan Govt. College, Kalimpong, W.B.
6. Sumana Bandyopadhyay CWTT (Govt. Approved), Deptt. Of Commerce,
Bhairab Ganguly College, W.B.
7. Sandipan Talukdar Assistant Professor, Department of Zoology,
Gorubathan Govt. College, Kalimpong, W.B.
8. Rabin Ghosh Assistant Professor, Department of Bengali,
Gorubathan Govt. College, Kalimpong, W.B.
9. Subhra Kanti Mandal Assistant Professor, Department of Chemistry,
Gorubathan Govt. College, Kalimpong, W.B.
10. Raju Subba Assistant Professor, Department of Chemistry,
Gorubathan Govt. College, Kalimpong, W.B.



Volume: 1/Issue: 13/July 2018-ISSN: 2278 8670

- 11. Rajendra Mistri** Assistant Professor, Department of Economics, Gorubathan Govt. College, Kalimpong, W.B.
- 12. Sangeeta Yonzon** Assistant Professor, Department of Economics, Govt. General Degree College at Mominpur, Kolkata, W.B.
- 10. Dipa Goswami** Assistant Professor, Department of Philosophy, Chandernagore Govt. College, Chandernagore, Hooghly, W.B.
- 11. Madhumita Chatterjee** Assistant Professor, Department of Philosophy, Barasat Govt. College, 24 Parganas (North), W.B.



PREFACE

With this issue we have entered into the glorious seventh year of the publication of our journal. I specially thank to all the members of the journal society and especially to Dr. Sibsankar Pal our former editor-in-chief for their hard working, also the toil and trouble they have taken for uplifting the quality of our journal.

Our motto from the very beginning was to publish high quality research papers and articles and we are successfully trying our level best to achieve our goal. Our journal has been appreciated and recognized all over the world which is a great achievement to us. Apart from research papers and articles we also try to recognize paintings of different renowned artists from India and abroad by placing their painting on the front cover page of our journal. In this issue we have placed the painting of Anna Rosa Pelayo of Amaitée entitled 'Mistral'.

Anna Rosa Pelao is a renowned artist. She was born in Guadalajara Jalisco on the 30th of March of 1960. Graduated from the School of Architecture of the Autonomus University of Guadalajara (UAG) (1978-1982). She holds a diploma on Visual Arts Appreciation endorsed by the INBA. She has taken specialised courses to contribute to her formation and learn new pictorial and sculptural techniques. She is an architect by formation and a plastic artist by passion. Restless and curious, rather than a seeker she finds answers that guide her through diverse paths, adding complementary topics that give sense to her life and lead her to the path of self knowledge and internal life. She studies what can be felt rather than seen, she transits since years ago through the path of meditation and different disciplines to connect and interpret the internal world. To translate the symbols and her dreamlike word in shapes and colors. She imparted classes in the school of architecture for 5 years. Besides teaching, her work experience was in construction companies where she developed design projects.

"The painting of Anna Rosa Pelayo - Amatee - depicts soul immersion and vital force, her compositions impregnated with primitive sap evoke a pictorial ontology. With her, you are in front of an artist of nomadic existence open to multiple drifts. In her proposal, poetry and painting converge in their quality of language conveyors of an aesthetic and emotional experience, whose nature situates the landscape of life and the soul given over to the exploration of the last substrate that links both artistic manifestations: the most recondite depths of being."

She has participated, both nationally and internationally, in diverse individual and collective expositions, in cities such as Guadalajara, Mexico City, Puebla, Veracruz, Guaymas, New York, Milan, Madrid, Cordoba and Malaga. She has also participated in numerous charitable auctions.

Her work has been chosen for the first international biennial of San Luis Potosi and the biennial of Milan. She holds the International prize tribute to Tiziano in Venice. Italy and the International prize Raffaello in Bologna, Italy.

Our special thanks goes to Dr. Sibsankar Pal for arranging this painting from the artist. We also thank the artist Anna Rosa Pelayo for her contribution.



Unless and until there is good research work it is hard to get good paper for publication. For good research work good research environment is required. For that reason good research instigute is essential. Our focus is also to get a research institute of our own in future where we can provide better research environment for the scholars. We have aready initiated our motivation towards our target and I am sure that our journal will do much better in future.

Thank you.

**Dr. Barin Kumar Pramanik,
Editor-in-Chief.**



EDITORIAL-1

It is obviously very great honour to me that I have been given the responsibility of editor-in-chief of this journal from this issue i.e. July, 2018. I thank all the members of the journal society for this and assure that I will try my level best to shoulder the responsibility that you have given to me. I am the third editor-in-chief of this journal. First editor-in-chief was Dr. Ram Pratap Sinha from the year 2012 to 2014 and then the second editor-in-chief was Dr. Sibsankar Pal from 2014 to December, 2017. I have been attached with this journal from the very beginning as managing editor. I welcome our new managing editor Dr. Biswajit Maiti, Associate Professor and H.O.D, Department of Physics, Govt. General Degree College at Kharagpur-II. From the very day of its starting we all have worked jointly to uplift the quality of this journal. The journal has become national to international and now it is UGC recommended.

Recently we had attended a seminar on biodiversity conservation at Seva Bharati Mahavidyalaya at Jhargram, West Bengal funded by bio-diversity board of West Bengal. It was a memorable day we had many fruitful discussions on that day. In this context I would like to add some of my views regarding bio-diversity and its conservation.

In the year 1992 the UN Convention on Biological Diversity (CBD) which was the first international environmental agreement negotiated in Nairobi, Kenya. In the same year the Global Environment Facility (GEF) for funding biodiversity conservation in developing countries was launched. Yet after 26 years biological population and diversity continue to decline both on land and in the oceans. The main reasons are chronic underfunding of global biodiversity conservation; and the failure to control habitat conservation, resource over exploitation, species invasion and other drivers of biodiversity loss. Recently in the year 2015 Paris Climate Change Agreement took place where it has been targeted for conserving half of the terrestrial realm for biodiversity by 2050. In other words to conserve at least 50% of the terrestrial, inland water, coastal and marine habitats by 2050. Now the question is how such a deal might be implemented to overcome the funding problem in biodiversity protection.

As with any public good, biodiversity conservation suffers from a free-riding problem, in which governments have an incentive to provide less than the optimal level of funding in the hope that the others (private players) will cover the costs. This is especially pertinent when the benefits of such payments accrue to other countries. In particular, global funding to support conservation effort in developing countries, which host most biodiversity, is woefully inadequate to prevent habitat loss and overexploitation. The global benefits of biodiversity conservation are much greater than the benefits accruing to developing countries. Left on their own, the latter countries will preserve insufficient biodiversity. Existing international institutions and funding mechanisms, including the CBD and GEF, have boosted conservation efforts but failed to deliver enough funding to where it is most needed. As a result, global conservation falls short of what is required to attain safe biodiversity levels. As in Paris agreement, all countries should declare their own national targets, policies and timelines, subject to 5-year review, for attaining the overall target. For wealthier countries, these targets and timelines should also include financial and technological commitments to assist conservation in developing countries through the GEF,



other international bodies, or bilateral pledges.

A global agreement for biodiversity would engage government and industry, and hopefully other non-state actors in a manner unparalleled in the history of conservation. In addition, the current global biodiversity crisis is in large part due to the lack of international commitment and funding over the past 25 years. A global agreement for biodiversity would also overcome these shortcomings. Ensuring safe levels of global biodiversity will require the corporations that can benefit financially from conservation to joint efforts in order to avoid continued irreversible loss of biodiversity.

**Dr. Barin Kumar Pramanik,
Editor-in-Chief.**



EDITORIAL-2

In the present society, our family structures are incredibly different from the one what we found a decade or two ago. There is no dominant family structure – joint family is the thing of past and even nuclear family is dissolving to individuality. Individuals have much more freedom of choice of life in regard to lifestyle, social and cultural settlement, sexual preferences and personal relationship. It has its reflection on the society at large which is fragmented into small groups mainly based on race, religion, occupation, income level and some other common interests. The gap between concerned groups is widening day by day mainly due to economical inequalities, political, educational and occupational differences. Added to this, technological advances of internet, email and electronic communication have been changing the pattern of work and leisure and one's life becomes less predictable. It breaks the barrier of time and space and has its effect on psychological or behavioural pattern of an individual. Individuality dominates over society and man becomes more self contended.

Though people are telling about global village or global society one can clearly see that unpredictability, uncertainty, risk consciousness and loss of rationality looms large on our life. It has "multitude of interconnected fatal consequences–social disintegration, breakdown of democracy, more rapid and extensive deterioration of the environment, spread of new diseases, increasing poverty and alienation": the civil war in a number of Afro-Asean countries along with wide spread migration to the European countries and the plight of humanity is the concern of the day.

Higher educational institutions, non-governmental and philanthropic organizations and civic societies should play a greater role in influencing public policy making with a view towards humanitarian and developmental efforts across boundaries for all race and religion. Then only present day social and economic instability may be addressed for the good of humanity. Intercultural communication or cultural diffusion of ideas, religions, science, technologies and languages through the writings of the scholars, thinkers and the readers might pave the way for social equality, environmental protection, economic stabilization and restoration of civilization in true sense. We through IJIRD are publishing articles in all spheres of life and study to dream of a world where humanity is above all and everybody lives in harmony with peace and pride.

**Dr. Biswajit Maiti,
Managing Editor.**



INDEX

1. A Critical Analysis on the Disparities in Health Care Infrastructures in Birbhum District of West Bengal
Biswajit Roy Chowdhury & Dr.Uttam Mukhopadhyay 1 – 08
2. f'jq;k' J flhaÑk-N AeªhaÑe
09 – 12
AdÉjL φhj-mn -hlj
3. Performance Analysis of Five Selected Commercial Banks in India
Surajit Sengupta & Sumana Bandyopadhyay Chatterjee 13 – 34
4. Relevance of plant ecology as reflected in *MANUSAMHITĀ*
Dr. Bhaskar Jha 35 – 38
5. a;l-LnĀl paÉjNĒq B-¼cime J h%£u Lw-NĒp
39 – 42
Evm Ljφ"
6. Three-Fold Typology towards Religious Harmony: A Critical Analysis
Iti Chattopadhyay 43 – 48
7. haÑjje pj;-Sl °eφaL p-Qae;u djÑ
49 – 54
pjjpª-æp; Mjaæe
8. 'Who Am I'? -Some Reflections from Sri Aurobindo's Philosophy
Dr. Aditi Patra Nee Ray 55 – 64
9. Terrorism – Its Different Dimensions and an Alternative Approach for Survival
Madhumita Chatterjee 65 – 72
10. Fight of Imagination
Suparna Sen Gupta 73 – 80
11. Conservation of an Atavistic and Unorthodox Feeding Behaviour in a Cosmopolitan Polytopic Genus *Drosophila*
Dipita Bhattacharyya & Debasis Mutsuddi 81 – 100
12. Mind-Brain Identity Theory—A Critical Review
Dipa Goswami 101 – 108
13. Estimating the Impact Analysis of India ASEAN FTA



Volume: 1/Issue: 13/July 2018-ISSN: 2278 8670

- on Indian Chemical Industry: A Gravity Model Approach Dr. Avijit Mandal 109 – 118
14. Emerging Scenario in Global Learning System Jhuma Bandyopadhyay 119 – 126
15. The World of Homosexuals (1977): An Attempt at Appraisal Sayantan Mitra 127 – 136
16. শমৈজানন্দরে গল্প : নম্বিনবর্গরে ভন্বিন স্বর □□□□□□□□□□
□□□□□ 137 – 144
17. Status of Self-Financing Courses in West Bengal Dr. Sanjit Kr. Das 145 – 170
18. □□□□□ □□□□□□□□□□□□ □□□□□□ □□□□□ □□□□□ □□□□□ □□□□
□□□□□□□□□□ Arun Mahata 171 – 174
19. Portrayal of Ursula as a New Woman by D.H. Lawrence Priyanka Mukhopadhyay Basu 175 – 184



A Critical Analysis on the Disparities in Health Care Infrastructures in Birbhum District of West Bengal

Biswajit Roy Chowdhury¹, Dr.Uttam Mukhopadhyay²

1. Lecturer, Department of Geography, Vidyasagar College, Kolkata.

2. Associate Professor, Department of Geography, Vidyasagar College, Kolkata.

Abstract:

Health is one of the key indicators of human happiness. It is the duty of state to secure proper healthcare services for her people irrespective of all sex, race and religion. But sometimes it is hard to find any region where people in all parts of that particular region can avail this facility equally. It is mainly because of some uneven distribution of healthcare infrastructures which ultimately helps to enhance one kind of regional disparity. Birbhum, the most important cultural and educational hub of West Bengal, is also getting struck by such diseases. Therefore through this paper an attempt has been made to highlight the block level disparities of health care facilities of this district and try to find out their basic underlies.

Keywords: *Birbhum, Health Infrastructure, Regional disparity, Deprivation Index, Development Index.*

Email: profbrc@gmail.com

(Paper received on 11/03/2018; Paper accepted on 14/03/2018; Paper published on 1st July, 2018.)

Introduction

India, after getting its independence covers almost 68 years. Since independence lots of planning and projects are implemented to cater the way of development in respect of health but since a result huge ups and downs are the picturesque scenario of all the States of India including West Bengal. A project report namely 'Health Efficiency in West Bengal' funded by Dept. of Health and Family Welfare, Govt. of West Bengal (2011) reveals the fact of such discrepancies in healthcare services specially in rural areas. As well the work of Prof. P.K. Rana and B.P. Mishra on 'Ailing Health Status of West Bengal' in 2012 explained how due to the lack of proper planning and adequate infrastructures the overall health status of the state has been declined and this situation can most profoundly be found

specially in case of maternal health care services. Even the data analyzed from Annual Health Report of West Bengal of all the states vividly explain the scenario of such block level discrepancies regarding healthcare services mostly in rural Bengal. To minimize this gap Govt. of India has launched National Rural Health Mission (NRHM) in 2005 and took some agendas to improve the quality of health care services and lots of money were funded to cater the situation, but the results are not so satisfactory.

Objectives

The major objectives are as follows:

- To identify the existing healthcare infrastructures of the study area.
- To highlight the block level disparities in healthcare facilities of the study area.

- To find out the status of development in terms of health care services.

Data base and Methodology

For conducting this research, secondary data are used on secondary sources i.e. District Statistical Hand book of Birbhum,

Study Area

Birbhum, often called '*the land of red soil*' is noted for its unique topographic and cultural heritage. Topographically this region comprises a distinct collaboration between both the plateau and the plain landscape. The presence of Jharkhand and Bihar on the west, Santhal Parganas on the north, Murshidabad district on the east and Bardhaman from south makes this district an unique '*Triangle Shaped*' pattern. Comprised with 3 major Sub-Divisions (i.e. Bolpur, Rampurhat and SuriSadar) and 19 Blocks, Birbhum is considered as the major administrative unit of the Indian State of West Bengal.

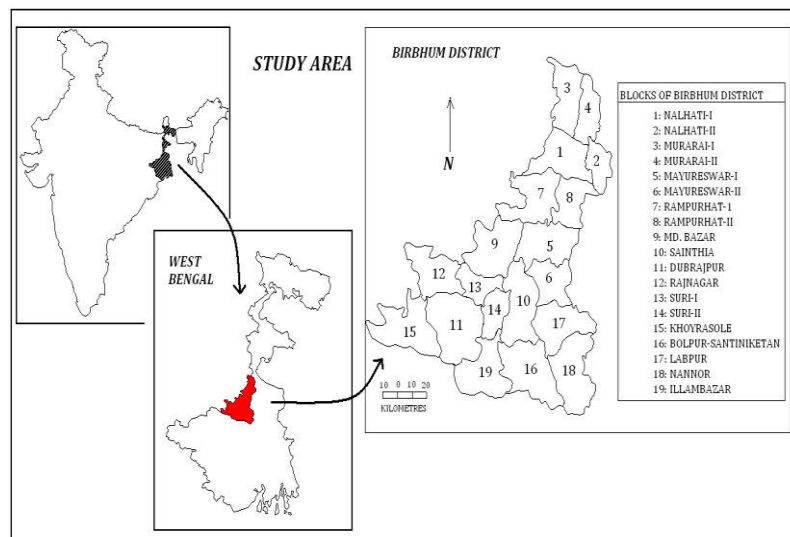


Fig:1- Study area

Available Health care Infrastructures

Since Independence the Govt. of West Bengal has provided a special attention on improving the public health status. For that purpose, several initiatives have been taken to provide better health care facilities especially for the people belonging at the remote places through infrastructural development. Birbhum is not an exception. Along with various development processes, health standards in Birbhum have improved considerably. Longevity has more than double since independence, Infant Mortality Rate has fallen, malaria

2006-2007 and Human Development Report of Birbhum District. The information gathered from all such sources was analysed and process to give the study a geographical perspective. After analysing the data Deprivation Index and Development Index has been applied to evaluate the disparities or the status of health care services of the district.

has been contained, small pox and guinea worm have been completely eradicated and leprosy and polio are nearing elimination (Kurukshetra, February 2010, vol-58, p-2). Despite all these achievements, the health care facilities provided by the District authority to her people are not so adequate. Even the initiatives taken for the improvement of infrastructural facilities does not spread equally to all the regions of this district. As a result, from the infrastructural point of view, this district remains far from satisfactory level and lacking of this facility leads to inconsistency in the

development of basic health care system as well as in overall development of the society.

- **Health Centres and Available Beds**

The public health care infrastructure of Birbhum district consists of 58 Primary Health Centres (PHCs), 15 Block Primary Health Centres (BPHCs), 4 Rural Hospitals (RH), 1 Sub-Divisional Hospitals (SDH) and 1 District Hospital (DH) located at the district headquarter. Within these 58 PHCs, only 15 have in-patient care facility and the total number of beds in these PHCs, BPHCs and RHs are 392, 170 and 340 respectively. That means altogether there are only 902 beds are distributed among 77 health care centres which are mainly engaged in serving the rural population of the district. Out of these 4 RHs, there are two rural hospitals, namely, Sainthia and Dubrajpur, which also serve the urban population of these areas. In case of urban areas the number of

beds available in the DH's and 2 SDHs are 520 and 411. Besides, 396 beds are available in the private sector nursing homes and 382 in other hospitals also, which means a total of 1709 beds allotted among 47 secondary and tertiary level healthcare centres in urban Birbhum. Thus, from the perspective of population-bed ratio, it can be inferred that in urban areas 157 persons are served per bed while in rural areas 3301 persons were served by one hospital bed. In comparison with the State, there are 1243 persons are served per bed in Birbhum district whereas 931 persons are served per bed in West Bengal as a whole. In other words, there are about 0.8 beds per 1000 population in Birbhum compared to 1 bed per 1000 population in the state as a whole. This indicates that there exists a huge gap in case of the availability of beds in between rural and urban areas. Therefore to minimize this gap more beds are required especially in rural areas in the district.

Table-1: Health Infrastructure in Birbhum in Comparison with West Bengal

Type of the Facilities	Birbhum		West Bengal	
	Total No. of Institutions	Total No. of Beds	Total No. of Institutions	Total No. of Beds
SCs	484	Nil	10356	Nil
PHCs with only OPD facility	43	Nil	922	5247
PHCs with indoor facility	15	NA	NA	NA
BPHCs	15	301	241	3475
RHs	4	170	93	3468
SDHs	2	413	45	6823
State General Hospital	Nil	Nil	34	3127
DH	1	500	15	6567
Medical College	Nil	Nil	9	10396
Other Hospitals	1	NA	32	7223
Population served per bed	1243		931	
Doctors per 100,000 population	8		46	
Estimated population in 2006	2977103		62359244	

Source: District Health Action Plan



• Healthcare Institutions

There can be seen a significant variation in case of population density and the number of health care institutions across the different blocks of Birbhum. Among the three sub-divisions, Rampurhat have the highest population density and the highest aggregate population in the district in comparison with the other two subdivisions. But the number of public healthcare infrastructure i.e. institutions and health care personnel in Rampurhat do not appear to be substantially larger than the healthcare resources supplied to the other less populated blocks in the district. For example, there are 627 hospital beds and 81 doctors in Rampurhat Sub-division, whereas only 1173 hospital beds and 103 doctors positioned in SuriSadar subdivision which has the lowest population density in the district. Like population the numbers of healthcare institutions such as BPHCs that provide both in-patient and out-patient facility and PHCs and SCs that basically provide out-patient care also vary substantially across the district. It is worth noting that out of 58 PHCs, only 15 of them have necessary infrastructure to provide in-patient care facilities. Even the distribution of workload among these PHCs are quite uneven i.e. normally every PHC in the district serves about 53,000 people, which indicates moderate system load, but across the blocks the distribution of this number ranges from 35,000 (in Sainthia) to about 89,000 (in Murarai-I) persons per PHCs. PHCs which have very high system load, like the PHCs belonging to Nalhati-I, Mayureswar-I, Illambazar, Nanoor and Bolpur-Sriniketan, serve very densely populated regions of the district except Illambazar. As a result because of this high

system load in these PHCs, most of the patients are often compelled to travel to nearby BPHCs or RHs or SDHs not only to obtain in-patient care facilities but also for out-patient care services, which in turn also increases the system load in the higher level healthcare facilities. Besides the above mentioned blocks there are several other blocks in Birbhum where the desired national norm of PHC-population ratio is quite satisfied. In that respect Sainthia block holds the best position in terms of PHC-population ratio followed by Rajnagar, Md. Bazar, Mayureswar-II and Suri-II. In regional terms, the largest shortfall can be found in the Nalhati-I block followed by Murarai-I in Rampurhat sub-division and Bolpur-Sriniketan and Nanoor blocks in Bolpur sub-division. It has been resolved that Nalhati- I block requires 5 additional PHCs. while other aforesaid blocks require 4 PHCs under the existing norm. On the other hand, the blocks like Mayureswar-II, Md. Bazar, Sainthia, Rajnagar, Suri-II and Labhpur where the corresponding gaps are among the lowest, requires one additional PHC to maintain the existing PHC-population norm. Therefore, it can be said that to mitigate this situation, as a whole, each block of the district should be served by more than 5 PHCs under the existing national norms instead of the present average per block, which is just above 3 per block.

In case of Sub-Centres (SCs), the highest shortfall is observed in Nalhati-I followed by Murarai-II and Bolpur-Sriniketan while Sainthia and Suri-II stands for the lowest. There are a number of blocks, such as Murarai-I, Mayureswar-II, Rampurhat-I, Labhpur, Nanoor and Illambazar, which require



additional 8 SCs under the existing norm. While Rajnagar holds a most favourable position in terms of SCs. In this block there has one more SC than its requirement and each SC serve more than 5,000 populations by itself. It is estimated that to fulfill the requirements, on an average, every block needs to add 7 SCs to the existing ones. Therefore, the requirements for such a number of SCs are quite logical because a large portion of rural population is deprived by basic healthcare services and they have to travel to the nearby PHC or BPHC in order to obtain primary healthcare bearing direct and indirect costs. Not only that the Govt. should also focus their attention to improve the infrastructural condition of these SCs because the infrastructure of most of the SCs in the district is not up to the mark. It has been found that about 36% per cent of the SCs do not have own building, 43% do not have electricity connection, 22% per cent do not have any toilet facility and about 7% per cent run without water supply. In spite of that, the average clinic attendance is found to be high (**Table 1**).

- **Health personnel**

The norm regarding the presence of skilled health assistant per 1,000 populations is not followed in most of the states in India, and Birbhum is not an exception. Besides the mismatch of institutional network of hospitals, PHCs and SCs in the blocks, the quality and effectiveness of healthcare delivery are also affected by the disparity between the availability of medical (i.e. doctors) and para-medical staffs. As a result several blocks have enjoyed an excessive number in case of doctor-population ratio while others remain below the standard norms. For example, in most

of the blocks of Rampurhat subdivision such as Nalhati-I and II, Murarai-II and Mayureswar-I, the number of doctors per lakh population is just 2, which is well below the norm. Similar ratio can be seen in case of Suri-I, Khoyrasole and Nanoor. Whereas several blocks of Suri and Bolpur subdivision such as Sainthia, RajnagarSuri-II, Mayureswar-II, Bolpur-Sriniketan etc. this doctor-population ratio remains in a relatively better position. Similarly, like low doctor-population ratio, the populous blocks of the district have also suffered by the presence of fewer paramedical personnel and the sufficient number of nurses than those blocks where the doctor-population ratios are quite well.

Like doctors the Rural Health Personnel (RHP) also play a significant role in educating rural population by providing information regarding various health related matters in general and about reproductive health matters in particular. Services of them would significantly improve the healthcare seeking behaviour and guide patients to the referral system. Analysis shows that the requirement of these RHP is huge in every block (ranging from 218 in Nalhati-I to 59 in Rajnagar), but the actual figure is far from the real. Even if we consider the sanctioned, existing and vacant positions of RHP, it can be seen that almost 9% RHP posts are lying vacant. The number of vacant positions is very high in Murarai-I followed by Khoyrasole. All these evidences invariably indicate that due to the inadequacies of proper health infrastructures and medical staffs a substantial amount of rural population of the district live beyond the reach of the healthcare system.

Existing Disparities

From the above discussion it is quite clear that there remain significant block level disparities regarding the availability of existing health care infrastructures. Therefore to measure and identify the spatial variation of health care infrastructure among the block and the factors leading to such deprivations, a Development Index has been prepared on the basis of 8 indicators (**Table-2**) which shows that, in

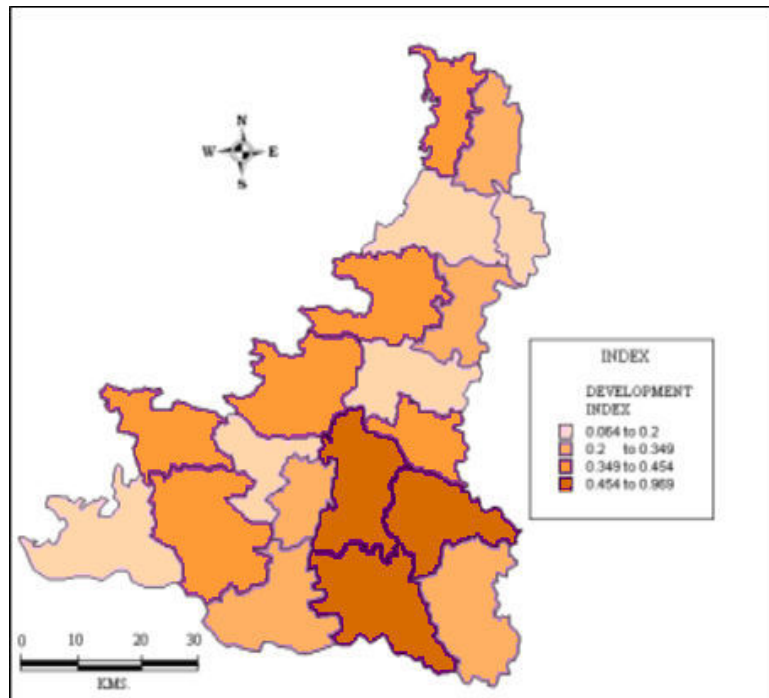
case of PHCs, Sainthia and Labpur both remain above the deprivation level while the blocks of Nalhati-II, Murarai-I, Rajnagar, Mayureswar-I, Suri-I, Suri-II and Illambazar are completely deprived because there are only two PHCs in each blocks. At the same rate in the blocks of Nalhati-I, Mayureswar-II, Rampurhat-II, Khayrasole, Bolpur-Santiniketon, Nanoor the number of PHC is quite considerable. Besides that in case of medical officers, only Sainthia block ranks lowest in the

Table-2: Health Infrastructural Variables for Measuring Development Index

C.D. Blocks	PHCs	Medical Officers	Para-medical Staffs	Nurses	No. of Hospital Beds	Doctors per 10000 Population	Nurse per 10000 Population	Beds per 10000 Population
Nalhati-I	3	6	4	16	47	2	6	2
Nalhati-II	2	3	5	7	31	2	6	3
Murarai-I	2	6	7	18	66	3	10	4
Murarai-II	4	5	6	13	47	2	6	2
Mayureswar-I	2	3	5	9	31	2	6	2
Mayureswar-II	3	6	4	11	52	5	9	4
Rampurhat-I	4	6	8	13	43	3	7	2
Rampurhat-II	3	6	6	11	52	3	6	3
Md. Bazar	4	5	5	14	62	3	9	4
Sainthia	5	10	7	30	102	6	17	6
Dubrajpur	4	8	4	17	58	5	10	3
Rajnagar	2	4	5	11	31	5	15	4
Suri-I	2	2	6	9	27	2	8	2
Suri-II	2	4	5	11	31	5	13	4
Khoyrasole	3	3	4	14	37	2	10	3
Bolpur-Sriniketan	3	5	7	23	86	3	12	4
Labhpur	5	9	4	23	60	5	12	3
Nanoor	3	5	6	13	37	2	6	2
Illambazar	2	7	5	13	46	4	8	3

Source: Human Development Report

Deprivation index whereas Suri-I, Khoyrasole, Mayureswar-I and Nalhati-II falls under the category of highly deprived region. Similar situation is observed in case of presence of other paramedical staffs which shows that Nalhati-I, Mayureswar-II, Dubrajpur, Khoyrasole and Labpur are those blocks where the number of paramedical staffs are very low while Rampurhat-I is saturated by them. The number of staff nurse is very high in Sainthia, while Nalhati-II is completely deprived. Sainthia is also stands in highest position in case of number of hospital beds per populations,



but others like Suri-I, Suri-II, Fig-2: Development Index Regarding Healthcare Infrastructures Rajnagar and Nalhati-II are the deprived blocks in this category.

Conclusion

Thus, on the basis of the above analysis it is proved that there remains a substantial gap in case availability of health infrastructures as well as the health personnel across the blocks of this district. There are some regions where these facilities are over flown than their actual requirements while some other blocks remain far behind to meet their healthcare demand. These regions require special attention because due to such inadequacies of facilities here, a large section of the rural population may either seek alternative healthcare from private practitioners (qualified or unqualified), traditional healers or simply do not seek any treatment due to the variety of constraining factors (District Human Development Report, Birbhum, 2006-2007). Several blocks like Sainthia, Labpur and Bolpur have adequate medical

facilities while the blocks of Rampurhat-I, Nalhati-I, Nalhati-II, Rajnagar, Suri-I, Suri-II, Khoyrasole, Mayureswar-I and Mayureswar-II are ranked as under developed blocks. People of these blocks spend more amounts in health care than food. Therefore, to mitigate this situation, more hospitals, primary health centers and health personnel's are needed immediately. Simultaneously, along with the improvement of health care infrastructures, it is necessary to develop public health conditions through the improvement of sanitation, sewage and safe drinking water facility of these blocks because these are related with the well-being of people.

References

- i. Bloom e David & Canning David. (2000), *Health and Wealth of Nations*, Science

- compass, Policy Forum, Vol-287, February 18, 2000. Website: www.sciencemag.org.
- ii. Census of India, Provisional Population Totals, West Bengal, Director of Census Operation, West Bengal, Kolkata (2011)
- iii. Canning David. (2010), *Progress in Health around the World*, Human Development Research Paper, 2010/43, October 2010, UNDP.
- iv. Dev S.M., Inclusive Growth in India, Oxford University Press, New York, 112-118 (2010)
- v. Debapriya, A. and Mohanty, M.K. (2006). Inter District Variation in the level of Industrial Development of Orissa: A Quantitative Analysis, Asian Economic Review, Vol. 48, No.1.
- vi. District Human Development Report, Birbhum District, 2007-2008.
- vii. District Statistical Handbook of Birbhum, (2011).
- viii. Datar A., Mukherji A. and Sood N., Health Infrastructure and Immunization Coverage in Rural India, Indian Journal of Medical Research, 31-42 (2007)
- ix. Human Development Report of Birbhum District 2007
- x. Nachane D.M., *India Development Report 2011*, Oxford University Press, New York, (2011)
- xi. Seth M., Women and Development: The Indian Experience, Sage Publications, New Delhi, 32-46 (2001).
- xii. Singh R. (2006). Regional Disparities in level of socio-economic Development in post Reforms Period: A District level Analysis, Annals of NAGI, Vol. 26, Dec., No.2, pp.87-94.



f'jqjk' J flhaÑŁkα-N AeaħaÑe

AdÉjfl ĉhj-mn -hlj
ĉnhfł cŁehłŹ CeĉØVĉVENE (L-mS)

Abstract:

°hĉłL -nĒ±ajeaùj-el -L-¼cĒ °hĉłL k'z nafb hĒjĵZj-a k'C -nĒù LjÑz k' nĕĉV "kSÚ' djaŹ -b-L ĉeƒæz -ĉajl E-Ÿ-nĒ âhĒ-pjŹÑZ-L k' h-m (âhĒw -ĉajl aÉjNx - Lj. -nĒ±. 1/2/2)z k' J kjN HC cœC n-ĕl AbÑ fĒju HL , a-h k' hĒflal HLĉV pjdjZ ejj, aŹmeju kjN HLĉV ĉh-no ejz k' qm -ĉajl E-Ÿ-nĒ âhĒ ĉe-hceZ ĉLĉ'Ź kjN HLĉV ĉh-no Aeaùje, -kje - CĉłkjN, fłkjN, -pjkjN fĒi«ĉaz k' J -qjj ÙŸm ij-h flØf-ll pjbÑL q-mJ Ei-ul j-dĒ ĉh-no fjbÑLÉ B-Rz "kSÚÚ' djaŹl àlj ĉhĉqa LjÑ kjN Hhw ý djaŹl àlj ĉhĉqa LjÑ -qjjz

nafb hĒjĵ-Z f'jqjk'-L ĉh-noij-h jqjk'!©-f ĉQĉq²a Llĵ q-u-R - "f'h jqjk'jxz aj-eĒh jqjĉeĵĉZ i'ak-'j jeœÉk'x ĉfa«k-'j -ĉhk-'j hĒĵk' CĉaÚ'z AbÑjv -jjV fyjQĉV jqjk' - i'ak', jeœÉk', ĉfa«k', -ĉhk' J hĒĵk'z HC fyjQ k'-L jqjĉe hmĵ q-u-Rz p-œ -kje hjC-ll -Lje GĉaÆLÚ mj-N ej, kyjlĵ kSjje ayjlĵ ĉe-SljC GĉaÆLÚ , -aje f'jqjk-' NªqŸŸ kSjjeC GĉaÆLÚ , -Lje fœ-lĵĉqa ĉekœš² Ll-a qu ejz Bhjl pœ -kje cŁOÑĉce d-l Ll-a qu hj Llĵ kju, -aje f'jqjk-'l AeaùjeJ BjZ LaÑhĒz flhaÑŁLj-m Øj«ĉanjŸ»...ĉm, ljjjuZ, jqjjla, fłjZ HC k'jeaùj-el jjqjaĒĒ ĉh-noij-h E-đM L-l-Rz Bđœel pjS hĒhŸŸju HC k'jeaùje-L fĒaŁLl©-f NĒqZ Ll-m ajl fĒjĵ%Laĵ NĒqZŁu ĉL ej aj ĉhQjlpj-frz k'ĉV QĉłœNaij-h NªqĒjeaùj-el p-% aŹmeŁuz ijœLlj pjuZ hĒjMÉj fĒp-% h-m-Re HC f'jqjk' °œhĉZÑŁ kjhŁhe fĒaÉq Aeaùje Ll-hez jqjĉe hm-a ijœLlj hœĉT-u-Re H...ĉm jqjĉe LjZ H...ĉm pwMjĒu HLjĉdL, Aeaùje kjhŁhe Hhw -Lje ĉh-no GĉaÆ-Ll fĒ-uĵe -eCz

pŹQLnĒ (Keywords): °hĉłL, k', kjN, i'ak', jeœÉk', ĉfa«k', -ĉhk', hĒĵk'z

Email: bimaleshbera@gmail.com

(Paper received on 17/03/2018; Paper accepted on 15/05/2018; Paper published on 1st July, 2018.)

°hĉłL -nĒ±ajeaùj-el -L-¼cĒ °hĉłL k'z nafb hĒjĵZj-a k'C -nĒù LjÑz k' nĕĉV "kSÚ' djaŹ -b-L ĉeƒæz -ĉajl E-Ÿ-nĒ âhĒ-pjŹÑZ-L k' h-m (âhĒw -ĉajl aÉjNx - Lj. -nĒ±. 1/2/2)z k' J kjN HC cœC n-ĕl AbÑ fĒju HL, a-h k' hĒflal HLĉV pjdjZ ejj, aŹmeju kjN HLĉV ĉh-no ejz -ĉajl E-Ÿ-nĒ âhĒ ĉe-hce Llĵ qu Hje -k -Lje LjÑC q-µR k'z ĉLĉ'Ź kjN hm-a -hjTju -Lje ĉh-no Aeaùje -kje - CĉłkjN, fłkjN, -pjkjN, A%okjN, fĒdjekjN CaÉjĉcz¹ k' J -qjj ÙŸm ij-h flØf-ll pjbÑL q-mJ Ei-ul j-dĒ ĉh-no fjbÑLÉ B-Rz "kSÚÚ' djaŹl àlj ĉhĉqa LjÑ kjN Hhw ý djaŹl àlj ĉhĉqa LjÑ -qjjz kj-N cyjĉs-u jĉ»i-ĉ¹ 'h±oVŸ' h-m

Býĉa ĉc-a quz ĉLĉ'Ź -qj-j h-p -b-L jĉ»i-ĉ¹ 'üjqj' nĒ EµQjZ L-l Býĉa quz²

nafb hĒjĵ-Z f'jqjk'-L ĉh-noij-h jqjk'!©-f ĉQĉq²a Llĵ q-u-R - "f'h jqjk'jxz aj-eĒh jqjĉeĵĉZ i'ak-'j jeœÉk'x ĉfa«k-'j -ĉhk-'j hĒĵk' Cĉa'z³ AbÑjv -jjV fyjQĉV jqjk' - i'ak', jeœÉk', ĉfa«k', -ĉhk' J hĒĵk'z HC fyjQ k'-L jqjĉe hmĵ q-u-Rz p-œ kyjlĵ kSjje ayjlĵ ĉe-SljC GĉaÆLÚ , -aje f'jqjk-' NªqŸŸ kSjjeC GĉaÆLÚ , -Lje fœ-lĵĉqa ĉekœš² Ll-a qu ejz Bhjl pœ -kje cŁOÑĉce d-l Ll-a qu hj Llĵ kju, -aje f'jqjk-'l AeaùjeJ BjZ LaÑhĒz flhaÑŁLj-m



Øj«φan;Û»...φm, l;juZ, jqi;ila, f;l;Z HC k'jæu;el j;qiæÉÉ φh-noi;h E-ðM L-l-Rz BdæφeL p;js hÉhUÛ;ju HC k'jæu;e-L fÉa£Ll©-f NÉqZ Ll-m a;l fÉ;ipφ%La; NÉqZ£u φL e; a; φhQ;lp;frz k'φV QφlœNai;h NªqÉ;jeu;el p-% a¥me£uz i;oÉL;l p;juZ hÉ;MÉ; fÉp-% h-m-Re HC f'jq;k' °œhφZNL k;h£he fÉaÉq Aæu;je Ll-hez j;qipœ hm-a i;oÉL;l hªφT-u-Re H...φm j;qipœ L;lZ H...φm pWm;Éu HL;φdL, Aæu;je k;h£he Hhw -L;je φh-no GφaÆ-Ll fÉ-u;Se -eCz⁴

i'ak'

nafb hÉ;ip-Z fÉb-jC i'ak-'l E-ðM Ll; q-u-Rz °aφš£u BIZÉ-Ll hÉ;MÉ;ju i-;júl HC k'...φm-L φeaÉ h-m E-ðM L-l-Re - "φeaÉ; H-a k'j'x'z⁵ °aφš£u BIZÉ-Ll hÉ;MÉ; Aæp;il HC i'ak' φhnÄ-chai; E-ÿ-nÉ fÉc;je Ll; quz i'ak' fÉp-% hm; q-u-R - "AqlqiN"-a-iÉ; hφmw q-laUÛ'z⁶ "i'-a-iÉ;' hm-a jeoÉ φiæ AeÉ -k jeo-oÉal fÉ;jZ£ L¥,¥l, h;ip CaÉ;φc fõfr£-cl E-ÿ-nÉ -k hφmfÉc;je a;il-LC -h;T;e; q-u-Rz

jeoÉk' h; e'ak'

nafb hÉ;ip-Z φaa£u j;qipœ φqp;h jeoÉk-'l E-ðM B-Rz EcLf;œ -b-L Sm NÉqZ L-l Jce;φc pq k; hÉ;ipZ-L fÉc;je Ll; qu a;C jeoÉk'z f;lúl NªqÉp§-œ 2/9 L;™φV f'jq;k' L;™ e; j fÉφpÛz -pM;e e'ak' pÇf-LN hm; q-u-R -k °hnÄ-c-hl Aæ -b-L φLR¥ fçlj;Z Aæ a¥-m φe-u Sm pq -pC Aæ hÉ;ipZ-L fÉc;je Ll-hez a;lfl φir¥L J Aφaφb-cl-L kb; -k;NÉ J -i;Se;φcl à;l; p;¥ø Ll-hez a;lfl Nª-ql h;imL-cl huxœ²j Aæp;il -i;Se Ll;l fl -n-o Nªqφa J faÆ irZ Ll-hez

φfa«k'

EcLf;œ -b-L EcL NÉqZ L-l φfa«N-Zl E-ÿ-nÉ Sm fÉc;je-el à;l;C φfa«k-'l Aæu;je Ll-a q-hz i'ak-'l -r-œ

φaeφV hφm fÉc;je Ll; qu - "fSÑeÉ;ju e;ix', "AcU-iÉ; e;ix', "fªφb°hÉ e;ix'z -pC p;ju' hφm...φml çφrZ φc-L "φfa«iÉx üd; e;ix' h-m φfa«k-' çφrZφc-L f§hNf;l'oN-Zl E-ÿ-nÉ HLφV hφm fÉc;je Ll; q-hz °aφš£u BIZÉ-LJ φfa«N-Zl E-ÿ-nÉ üd;Ll-Zl Lb; E-ðM Ll; q-u-Rz

-chk'

-chk' fÉp-% nafb hÉ;ip-Zl hš²hÉ qm ü;qiL;l-ll à;l; L;ùp;§q -b-L -chai-cl E-ÿ-nÉ L;ùpq -k qφhx fÉc;je Ll; qu a;C qm -chk'z HC k' -q;ijaÉL J f;lúl NªqÉp§œ;æp;il⁷ °hnÄ-c-hl Aæ -b-L p;ju' -chai; pðâ£u Aæ;l;φn NÉqZ L-l AφNÄ-L fÉçφrZ L-l "hÉp-Z ü;qi;', "fÉSifa-u ü;qi;', Aæja-u ü;qi' CaÉ;φc j;»à;l; Aæ AφNÄ-a Býφa φc-a q-hz p§kN;φc -chai;NZ-L p;¥ø Ll; HC k-'l fÉd;je E-ÿnÉz

hÉpk'

"hÉp' nēφV -h-c hýφhd AbN hqe L-l, a-h "hÉp' n-ël fÉ;Q£e AbN GL-hc Aæp;il h;lÚ, j;», -Û'jœ, nÛ» CaÉ;φcz HM;e hÉpk' hm-a fÉd;ei;h -hcf;W h; ü;dÉ;ju f;W-L hªT-a q-hz nafb hÉ;ip-Z hm; q-u-R - "ü;dÉ;ju-ü °h hÉpk'x'z⁸ p;NÉ -h-cl pÇf'ZÑ AdÉueC hÉpk' l©-f L£çšNaz fa"φm ay;l j;qi; -oÉ "hÉp-Ze φeXL;l-Z; djN;x os-%; -h-c;§-dÉ-u; -'u-ÖQφa⁹ h-m ü;dÉ;juφhφdl AhnÉLaÑhÉa; φed;NIZ L-l-Rez °aφš£u BIZÉ-L -hc;dÉuela hÉp;Q;l;l k; -a ü;dÉ;ju hÉa i% e; qu -pSeÉ fÉaÉq A;¹ax HLφV GLÚ φLwh; HLφV p; j φLwh; HLφV N;ib; φLwh; HLφV -hc;j;» AdÉue Ll-a q-hz nafb hÉ;ip-Z ü;dÉ;ju fÉnwp; Ll; q-u-Rz hÉp;Q;l;l -hc;dÉu-el fÉ-u;Se J Evp;q-L nafb hÉ;ip-Z φhÛ';çlai;h fÉnwp; Ll; q-u-Rz

AæhaÑe

f'jq;k'...φm flhφaÑL;l-m f;l;Z;φc p;φq-aÉ k;l j-dÉ l;juZ, jqi;ila,



jeapwφqaj hi AeÉjeÉ djÑnjÚ)...φm-a AeaphaNa hi φhLφna q-u-Rz jeapwφqajl a«a£u AdÉj-u fÉju f'jnφVI -hn£ -nÔj-L f'jqjk-l φhouj§q φhÚ¹«aij-h hφZÑa q-u-Rz HRjsjJ φàa£u AdÉj-ul pšlφV -nÔj-L f'jqjk-l j-dÉ hÉpk-l ...!|aÆ, hÉpQj|£l LaÑhÉ EφðφMa q-u-Rz a«a£u AdÉj-ul HLφV -nÔj-L f'jqjk-l AbÑ...φmJ Øfφ Ll j q-u-Rz -

NªqÙÙdjÑl©-f eªk' J i'ak-l pφhÚ¹jl E-ðM B-Rz

pªªaljw -cMj kj-µR, f'jqjk-l fÉbj Evp hÉjβZ pjφq-aÉ, -p...φm flhaÑ£Lj-m djÑnjÚ», fªljZ, ljjjuZ, jqjijlajφc Lj-hÉ abj Øj«φanjÚ»...φm-a HLφc-L -kje φhÚ¹jl mji L-l-R, AeÉφc-L -ajφe kª-N kª-N -p...φml ea¥e hÉjMÉj J AbÑ pw-kjφSa q-u-Rz

"AdÉjfew hÉpk'x φfa«k'Ú¹¥ afÑZjÚz -qi-ji °c-hj hφm-iÑ±-aj eªk-'j\$φaφbf§SejÚzz'¹⁰

jeª fÉjQ£e BQjkÑ-ch ejj E-ðM L-l h-m-Re -k HC fyjQφV jqjk-l AeÉfÉLjl ejj B-Rz

"S-fj\$ý-aj ý-aj -qijx fÉý-aj -i±φa-Lj hφmxz hÉjβÉw ýaw φàSjNÉÉjQÑj fÉjφnaw φfa«afÑZjÚzz'¹¹

Aya = hÉpk', ýa = -chk', fÉýa = i'ak', hÉjβýa = eªk', fÉjφna = φfa«k'z jeª fÉφaφV k-l öðª hÉjMÉjC L-le φe, aj-cl φœ²ujfÉZjm£J hÉjMÉj L-l-Rez jeapwφqajl 3/122-154 fkÑç¹ -nÔj-L φfa«k' pÇf-LÑ hφZÑa q-u-Rz -pMj-e HLφc-L -kje φfa«k-l LIZ£u -ajφe φfa«nÉj-Ül φhou, LI-ZI pªªgm, ALI-ZI fÉaÉhju, φfa«k-l Aφaφb, φfa«k-l cφrZj Hhw Ljlj φfa«k-l Aeªfkªš² hj φejç»Z irZ LI-a fj-l-he ej -p pÇf-LÑJ φhÚ¹«a B-mjQej B-Rz hÉpk' hj üjdÉju pÇf-LÑJ A-eL B-mjQej jeapwφqaj-a B-Rz jeapwφqajl kª-N f'jqjk' AaÉç¹ ...!|aÆ mji L-lφRmz

abÉp§œ :

1z X: Ajl L¥jil Q—jfidÉju pÇfjφca °hφcL k', fª-13

2z X: Ajl L¥jil Q—jfidÉju pÇfjφca °hφcL k', fª-13

kj'hóÉpφqajl fÉbj AdÉj-u A-eL...φm -nÔj-L f'jqjk-l ül©f J ajl gm pÇf-LÑ φhÚ¹«aij-h E-ðM Ll j q-u-Rz HRjsj φho-¥fªlj-Z, jqjijl-al njφç¹f-hÑ, LjaÉjue fçlφn-ø f'jqjk-l E-ðM B-Rz φh-no L-l φho-¥fªlj-ZI HLjcn AdÉj-u



3z na. hĒj. 11/5/6/1

4z âøhÉ - pjuZiøÉ - na. hĒj. f'jqik'z

5z i-iúliøÉ - °a. B. , na. hĒj. f'jqik'z

6z na. hĒj. 11/5/6/2

7z fj. Nª. p§. - 2/9/2

8z na. hĒj. 11/5/6/3, 4

9z fØfnjq²f - 1/9

10zjeapwçqaj - 3/70

11zjeapwçqaj - 3/74

pqiuL NĒĵŪpjšq:

Q—jfidÉju, AjlŸjil : °hçcL k', pwú«a
fæŪ'L ij™il, LmLjaj, fĒbj fĒLjn h%øjĕ
1411z

fjluł NªqÉpšœ : pwú«a fæŪ'L ij™il,
LmLjaj, h%øjĕ 1406z

hpªª, -k;NŒl;S : -h-cl fçlQu, gjŸi
-L, Hm, Hj fĒjC-iV çmçj-VX, LmLjaj
a«aŒu fĒLjn 1993z

çho-ŸfaiZ : pÇficej - BQ;kŸ
f'jee aLŸjlaÀ , ehiĵla fjhçmnjpŸ,
LmLjaj, fĒbj pwúZ h%øjĕ 1390z

jeapwçqaj : pÇficej - jje-h³cĒ
h-³cifidÉju, p-cn, LmLjaj, fĒbj fĒLjn
h%øjĕ 1412z

Adhikari, T.N.: Gopatha Brahmana : A
Critical Study, Sanskrit Pustak Bhandar
Kolkata 1994

Macdonell. A. A. : A History of
Sanskrit Literature, 1899, Rpt. MLBD,
Delhi 1976

Satapatha Brahmana : Gian Publishing
House, 5 Vols, Delhi 1987

Taittiriya Aranyaka : Ed. A. M. Shastri
and K. Rangacharya, MLBD, Delhi
1985

Yajnavalkyasmriti : Ed. Narayan
Ram Acharya, Nag Publishers, Delhi, Rpt.
1985

Performance Analysis of Five Selected Commercial Banks in India

Surajit Sengupta, Assistant Professor, Deptt. Of Commerce, Bhairab Ganguly College & **Sumana Bandyopadhyay Chatterjee**, CWTT (Govt. Approved), Deptt. Of Commerce, Bhairab Ganguly College.

Abstract:

This study is an empirical study based on secondary data available from monetcontrol.com and it is ranged between 2008 to 2017. It is well known that known economic growth process of a country is highly correlated with the strength of its financial sector. Existence of well established financial sector especially banking sector contributes to financial assistance to all the sectors of the economy. Its primary objective is to provide monetary assistance for operating feasibly in manufacturing, trading and agriculture as well as in service sector also. In this area the role of commercial banks are undeniable. Indian banking sector is regulated by the Reserve bank of India and banking industry is one of the major contributor to the GDP with the improvement in the welfare and productivity aspect of wide networking. However, modernization brings some formidable challenges coupled with alarming level of non-performing assets (NPA). Technology also increases competition in the area of banking business in terms of liberal credit policy as a result welfare aspects of the depositors become less worthy. In India commercial banks operate at ground level and majority of the Indian people are closely related to these banks in terms of their savings or credit. Higher level of NPAs, fall in the quality of the assets become a matter to look after. Against this backdrop in this paper we are trying to make a fundamental analysis of few commercial banks like SBI, Bank of Baroda (BOB), Canara Bank, AXIS bank and ICICI. In this context we will examine the key financial ratios of the banks and identifying the value of stocks of these banks our study will identify investment opportunities.

Keywords: Financial sector, Fundamental analysis, RBI, SBI, BOB, ICICI, Canara bank, AXIS.

Email: surajit.sengupto@gmail.com

(Paper received on 09/04/2018; Paper accepted on 15/05/2018; Paper published on 1st July, 2018.)

I. Introduction

It is undeniable that for the purpose of economic development, the existence of strong financial sector is necessary. Several researches on growth economics have found that growth of GDP is significantly

dependent on the domestic credit provided by the financial sector (Ghosal, 2016). Some studies were country specific where as some of these were cross-country level analysis. Particularly for developing countries where the matter of the gaining of the benefits of



technological development it is well known imitation or innovation is crucial. For this purpose expenditure on research and development as percentage of GDP must be increased as well as for skill development expenditure on education should be enlarged. Therefore, for the socio-economic development the availability of credit in case of developing and undeveloped countries is key factor. It is well known that banking sector is one of the key elements of financial system. It provides financial assistance directly at micro-level. Further, banking sector has always been there for providing credit to primary, secondary and tertiary sector. However, our study in country specific and we select Indian industry for the purpose over analysis. Reserve Bank of India is the apex of Indian Banking system. It regulates all spheres of monetary policy in order to ensure monetary stability in the Indian economy. Indian banks are segregated into different types such as commercial banks (scheduled as well as non-scheduled), public sector banks, private sector banks, foreign banks etc. Moreover, to create the banking habits in terms of savings and credit amongst the rural poverty afflicted section the role of regional rural

banks is undeniable. Both in rural and urban area co-operative banks are operating as a money lender and borrowers amongst the members. Interestingly, with the unprecedented improvement in the field of technology after globalization has change the way of banking is done. Turning from the conventional to modern way of banking improves productivity and welfare of the economy. Modern way of banking also reduces cost in terms of savings in time. However, technological improvement brings some challenges that Indian banking industry is facing. We all knows that Indian banking industry conduct banking business under a well regulated environment coupled by the support from our Union Government. Surprisingly, lack of efficient management, from the emancipation of Indian economy from British Colonial power up to modern era the volume of non-performing assets becomes the major concern of all commercial banks that are operating in India. It unfortunately brings restructure of assets and profitability of banking industry is found to deteriorate. Moreover, expansion of banking industry with weak fund management is one of the major reasons for such increasing NPAs. To mitigate the



problem of asset-liability mismatch banks are now allowed issuing long term bonds without maintaining statutory reserve. Again, public sector banks are not efficient enough to catch up the benefits of technological innovations such that new intermediary has come into the picture to play the role of banks with differences.

Against this backdrop this paper deals with the public and private sector banks in India. For the purpose of our analysis we consider three public sector commercial banks (SBI and BOB and Canara) and two private sector bank (namely ICICI and AXIS). We, through performance analysis, will try to examine specific key financial ratios over the period from 2008-2017 for help in identifying the area of investment. Our paper is structured as follows: in Section II we review literature and find gap there in. Section III explores data and methodology; in Section IV we analyse data and finally Section V we represent our concluding observations.

II. Review of literature

Literature in this area is plenty and we can safely classify literatures on the basis of their nature and focus. Some studies provide

emphasis on advantages that enjoys banks today (Kaundal, 2012; Samreen, 2014).

Venkates et.at. (2012) in their country specific study on establishing the relation between fundamental analysis and stock returns have found that individual accounting signals have a positive correlation with future stock returns and for majority of the signals correlation is significant both at 1% and 5% levels. Dhingra (2013) in her study on Fundamental Analysis of public sector banks explored that the Indian Banking system has no direct exposure to the sub-prime mortgage assets and it has very limited off-balance sheet activities. This study also reveals that the banks with diversified activities other than conventional banking can act as market makers. Maharaja and Saravanakumar (2014) in their study on fundamental analysis for Investment decision on five major banks by using tools of fundamental analysis have found that real worth of the shares may not always be reflecting in the market price. This study also recognizes that fundamental analysis is always the right and proper method of arriving at the results of the company or industry provides financial performance. Ahsan (2016) in his study on



selected Islamic banks in Bangladesh have measured performance based on CAMEL. This study exposed that for uplifting the economy financial sectors is required to be improved and in this respect effective and efficient operation of banking sector helps to reduce the risk of failure of an economy. Kundal (2012) in his study have explored that banks are benefited from various reforms that has been introduced from time to time by the policy makers of India and overall profitability increases due to introduction of these reforms. In this respect public sector banks are lagging behind the foreign and private sector banks in terms of profitability. Samreen (2014) on the other hand have made an analysis on the status of banking industry by using Porter's five forces model. While analyzing the challenges, developmental aspects of banking industry this study throw light on the efficiency and effectiveness in the area of management Mohapatra et.al. (2015) on the other hand in their study on the operational efficiency and challenges faced by the public sector bazaar reveals a picture that efficiency in the sphere of management and skill of the employees of public sector banks are far below that of the levels of

foreign banks. Interestingly there is another study done by Davda (2012) by taking in to account six private sector banks namely – ICICI, HDFC, AXIS, INDUSIND, ING VYSYA and KOTAK. This study was done to analyse performance and sustainability of the banks. This study empirical in nature and has taken a time period of 10 years (2002 to 2011). This study explores that Kotak bank and HDFC have achieved better positions in case of net profit margin. However, ICICI has achieved but yield in terms of return on assets. Bhattacharya et. al. (1997) in their study on 70 Indian commercial banks has made a DEA analysis by using data over period from 1986 to 91. This study explores that the efficiency of the public sector banks was highest on the other hand another study done by Sathye (2003) by using same methodology (DEA) has explored that private sector banks are less efficient the public sector and foreign banks. Uppal (2011) has examined the efficiency of all the bank groups by taking in data over the period from 1999 to 2006 i.e. during post liberalization period. This study has explored that the efficiency of new private sector banks is much higher. Again in another study made by Singla (2001) has explored a

satisfactory picture. This study reveals that during post liberalization period the profitability position was satisfactory.

However, there is some studier which throws light on the technological aspects of banking industry (Mariappan, 2006); Malik, 2014)

Mariappan (2006), in his study has taken into consideration recent revolution in the field of information technology and has found that this revolution brought a massive effect on the present day banking. Malik (2014) on the other hand has analyzed the impact of technology on transformation of banking in India. This study reveals that the improvement in technology coupled by financial innovations brought a major change in the sphere of banking services.

From the above literature survey we have found that there is as such no study on profitability position of the selected public and private sector banks in India by using recent data over the period of 10 years. This motivates us to undertake this study.

Objective of the study:

This study has prime objective to analysis the profitability position of public and

private sector banks by using recent data such that this study can be helpful in taking investment decision.

III. Data and Methodology

This study is empirical in nature based on secondary data that are taken from the moneycontrols.com over the period from 2008 to 2017 for the purpose of our analysis. In this study we select three public sector banks namely State Bank of India (SBI), Bank of Baroda (BOB) and Canara Bank and two from private sector commercial banks namely ICICI and AXIS. Moreover, we have chosen several profitability ratios for the purpose of our analysis:

(i) Operating Profit Margin (OPM henceforth) = $\frac{\text{Operating income}}{\text{sales revenue}} * 100$

(ii) Net Profit Margin (NPM henceforth) = $\frac{\text{Net Profit}}{\text{Net Sales}} * 100$

(iii) Return on Equity (ROE henceforth) = $\frac{\text{Earnings available for equity shareholders}}{\text{Shareholders equity}}$

(iv) Earnings Per Share (EPS henceforth) = $\frac{\text{Earnings available for equity shareholders}}{\text{Outstanding equity shares}}$

(v) Price Earnings Ratio (P/E ratio henceforth) = MPS/ EPS

(vi) Dividend Per Share (DPS henceforth) = $Dividends/ No\ of\ Outstanding\ shares$

(vii) Dividend Pay Out ratio (D/P ratio henceforth) = DPS/ EPS

So it is obvious from the above that all ratios measures profitability. Since our study considers 10 years data, we also compute average values and dispersions of the data for the purpose of our study. We also compute annual compound growth rates (ACGR henceforth) of all the ratios of individual banks over the period of our study. For measuring the equality of means of the ratios separately across the banks we have done one way ANOVA. For the purpose of analyzing the data we use E-views 8.0 portable version.

IV. Analysis and Findings

In this section we portray the results of our analysis. This study considers three banks and 10 years for the purpose of analysis.

Operating Profit margin of SBI hovers around 14.23% to -11.12%. It is surprising

that the operating profit margin of SBI over the periods from 2011 to 2016 has shown negative rate. Moreover, highest negative operating margin was -11.12% in 2016. All other banks also depicts highest negative operating margin in 2016. It may be due to the sudden demonetization of Indian Economy. Over the period of our study we see that AXIS has achieved highest OPM in 2010 and this higher is highest amongst the all which is found to be 12.24% (see table-1). All the banks have achieved negative average in case of OPM over the period of our study. However, SBI in this respect have shown maximum value. BOB has achieved larger variability amongst the others. Further, in case of variability it is discernible from table-1 that the variability in OPM in case of AXIS is highest while performance of private sector banks is looked after. Again, in case of AXIS we found a precipitous fall in the rate of OPM from 2016 to 2017. One of the plausible major reasons may be demonetization of Indian economy of poor asset management system of the bank.

Table-1: Trends in OPM

year	Operating Profit Margin (%)				
	AXIS	BOB	Canara	ICICI	SBI
2008	10.19	3.95	5.72	10.1	10.11
2009	11.2	10.04	8.22	10.32	10.42
2010	12.24	8.28	7.5	7.28	6.66
2011	-8.2	6.54	5.29	-5.76	-10.38
2012	-5.35	5.34	1.15	-3.09	-2.48
2013	-5.04	2.41	-0.82	-0.05	-1.61
2014	-3.87	0.2	-3.77	-1.39	-5.61
2015	-2.83	-2.33	-4.22	-2.03	-6.21
2016	-2.8	-23.59	-17.46	-10.61	-11.12
2017	-17.98	-12.73	-15.54	-17.91	-14.23
Mean	-1.244	-0.189	-1.393	-1.314	-2.445
SD	9.6551	10.4653	9.1011	8.9837	8.8696
CV	-776.1335	-5537.2181	-653.3478	-683.6931	-362.7664

Source: Moneycontrol.com

Again, one way ANOVA reflects that there exists equality of means in case of OPM over the period of our study (see table-2). That is null hypothesis is accepted. It reflects that mean values of OPM do not

differ significantly. All banks are suffering from the problems of increasing competitions that reduces operating profit margin.

Table-2: Test for Equality of Means amongst Series of OPM

Method	df	Value	Probability
Anova F-test	(4, 45)	0.071802	0.9903
Welch F-test*	(4, 22.4811)	0.063404	0.9921
Analysis of Variance			
Source of Variation	df	Sum of Sq.	Mean Sq.
Between	4	25.55882	6.389705
Within	45	4004.575	88.99057
Total	49	4030.134	82.24764

However, In case of Net Profit margin the ICICI has achieved highest value amongst all other banks which is found to be 22.76% in 2015. Surprisingly, in the year 2016, BOB and Canara bank have suffered from loss. NPM of SBI also reveals gradual decrease in the rate over the period from 2015 to 2017 (see table-3). ICICI has got highest mean

value than that of the others while BOB has got greater dispersion. ACGR of NPM in case of ICICI has found to be positive over the period of our study and BOB and Canara bank have got deplorable picture in this respect. Barring ICICI all other selected banks have found to achieve negative ACGR in NPM over the period of our study.

Table-3: Trends in NPM

year	Net Profit Margin (%)				
	AXIS	BOB	Canara	ICICI	SBI
2008	12.52	11.13	10.02	10.54	11.85
2009	13.65	13.28	11.22	9.67	12.25
2010	16.85	16.66	14.77	12.79	10.99
2011	22.35	19.38	17.54	19.83	9.05
2012	19.28	16.87	10.64	19.27	10.99
2013	19.05	12.73	8.42	20.77	11.78
2014	20.29	11.66	6.16	22.2	7.98
2015	20.73	7.91	6.17	22.76	8.59
2016	20.06	-12.24	-6.38	18.44	6.07
2017	8.26	3.27	2.71	18.09	5.97
Mean	17.304	10.065	8.127	17.436	9.552
SD	4.458	9.104	6.665	4.739	2.363
CV	25.766	90.456	82.009	27.180	24.741
ACGR	-0.04074	-0.11528	-0.12257	0.055504	-0.06626

Source: Moneycontrol.com

One way ANOVA reflects rejection of null hypothesis. So, in Case of NPM we can conclude that there exists significant inequality amongst the mean values of NPM over the period of our study. It indicates

plausibly increasing competition (see table-4). It indicates increasing competition amongst commercial banks in the arena of borrowing and lending. Welch F-test also depicts that at

least two mean values differ significantly (see table-4)

Table-4: Test for Equality of Means between Series for NPM

Method	df	Value	Probability
Anova F-test	(4, 45)	5.791237	0.0008
Welch F-test*	(4, 21.2311)	9.554102	0.0001
Analysis of Variance			
Source of Variation	df	Sum of Sq.	Mean Sq.
Between	4	811.8552	202.9638
Within	45	1577.102	35.04671
Total	49	2388.957	48.75423

On the other hand, another profitability ratio i.e. ROE, in case of SBI has shown gradual decrease over the period from 2015 to 2017. There is significant fall in the ROE of AXIS from 2016 to 2017. However, Canara bank in the year 2010 has achieved highest return on equity which is found to be 24.09%. It is found to be highest amongst the others. In the year 2016 ROE of BOB has shown bleak picture. ICICI bank in this respect has shown almost steady state over the period of our study (see table-5). Average ROE of AXIS over the period of our study has

shown highest amongst the others followed by Canara bank. Further, mean values of ROE of the banks have shown almost equal picture between BOB and SBI. Further, Canara bank has larger dispersion amongst all the three banks. It is obvious from table-5 that ACGR of ROE in case of ICICI is marginally positive and a deplorable picture has been identified in case of all other banks. Again, variability in ROE which is measured in terms of CV reflects that BOB has occupied first place followed by Canara bank.

Table-5: Trends in ROE

year	Return on Equity (%)				
	AXIS	BOB	Canara	ICICI	SBI
2008	12.21	12.99	18.86	8.94	13.72
2009	17.77	17.35	20.64	7.58	15.74
2010	15.67	20.24	24.09	7.79	13.89
2011	17.83	20.15	22.43	9.35	11.34
2012	18.59	18.22	15.91	10.7	13.94
2013	15.64	14.01	12.57	12.48	14.26
2014	16.26	12.61	10.1	13.39	9.2
2015	16.46	8.53	10.21	13.89	10.2
2016	15.46	-13.42	-10.75	11.19	6.89
2017	6.59	3.43	3.96	10.11	6.69
Mean	15.248	11.411	12.802	10.542	11.587
SD	3.5159	10.1938	10.4076	2.2121	3.2233
CV	23.0584	89.3328	81.2966	20.9840	27.8183
ACGR	-0.05981	-0.12468	-0.14451	0.012375	-0.06931

Source: Moneycontrol.com

Our classical one way ANOVA test reflects acceptance of null hypothesis i.e. mean values are equal (see table-6). Surprisingly,

Welch F-test reveals that at least two mean values differ significantly.

Table-6: Test for Equality of Means between Series of ROE

Method	df	Value	Probability
Anova F-test	(4, 45)	0.694648	0.5996
Welch F-test*	(4, 21.4268)	2.972773	0.0426
Analysis of Variance			
Source of Variation	df	Sum of Sq.	Mean Sq.
Between	4	133.3034	33.32586
Within	45	2158.883	47.97518
Total	49	2292.187	46.77932

Now, another measure of profitability i.e. EPS over the period of our study reveals an interesting picture. From 2015, EPS of all selected banks has fallen precipitously (barring BOB and Canara from 2016 to 2017). In the year 2016, Canara has highest negative EPS followed by BOB. The plausible explanation would be increasing competition and existence of higher levels of NPAs (see table-7). Further, descriptive statistics reveals that SBI has achieved highest average value with larger dispersions over the period of our study

followed by BOB and ICICI. In case of ACGR of EPS across the banks reveals bleak picture over the period of our study. This may due to the overburden of NPAs and inefficiency from the part of the management to manage funds efficiently and existence of strict rules and regulations framed by the banks from time to time over the period of our study. Variability in EPS which is measured in terms of CV has shown that Canara and BOB have larger variability amongst the others.

Table-7: Trends in EPS

year	Basic EPS				
	AXIS	BOB	Canara	ICICI	SBI
2008	32.15	39.41	38.17	32.19	126.62
2009	50.61	61.14	50.55	33.76	143.77
2010	65.78	83.96	73.69	36.14	144.37
2011	82.95	116.37	97.83	45.27	130.16
2012	102.94	127.84	74.1	56.11	184.31
2013	119.67	108.84	64.83	72.2	210.06
2014	132.56	107.38	54.48	84.99	156.76
2015	31.18	15.83	58.59	19.32	17.55
2016	34.59	-23.89	-53.61	16.75	12.98
2017	15.4	6	20.63	16.84	13.43
Mean	66.783	64.288	47.926	41.357	114.001
SD	40.959	52.842	41.417	23.450	72.916
CV	61.331	82.195	86.419	56.702	63.961
ACGR	-0.07096	-0.17157	-0.05968	-0.06274	-0.20098

Source: Moneycontrol.com

One way ANOVA for equality of means reveals rejection of null hypothesis. So,

there exists inequality among the mean values of EPS of five banks over the period



of our study (see table-8). Again Welch F-test depicts that at least two mean values

differ significantly over the period of our study.

Table-8: Test for Equality of Means between Series in case of EPS

Method	df	Value	Probability
Anova F-test	(4, 45)	3.358192	0.0173
Welch F-test*	(4, 21.6105)	2.563357	0.0674
Analysis of Variance			
Source of Variation	df	Sum of Sq.	Mean Sq.
Between	4	32377.94	8094.484
Within	45	108466.6	2410.370
Total	49	140844.6	2874.379

On the other hand, in case of disbursement of dividend of five banks over the period of our study explored bleak picture. In case of all five banks dividend per share from 2014 to 2015 and onwards has shown precipitous fall. So, it is clear that banks are facing challenges of new competition and the burden of larger NPAs plausibly. Over the period from 2008 to 2014 the performance of SBI and ICICI were encouraging, where as AXIS has occupied moderate picture regarding distribution of dividend

distribution. BOB in this respect barring 2013 and 2014 was lagging. Dividend per share was always significantly smaller than EPS. Descriptive statistics reveals that regarding DPS, SBI has achieved highest mean value with second largest dispersion over the period of our study. BOB in this respect has occupied first place. Like EPS also here we find negative ACGR in DPS across the banks over the period of our study. SBI has occupied first place followed by Canara and ICICI.

Table-9: Trends in DPS

year	Dividend/Share (Rs.)				
	AXIS	BOB	Canara	ICICI	SBI
2008	6	8	8	11	21.5
2009	10	9	8	11	29
2010	12	15	10	12	30
2011	14	16.5	11	14	30
2012	16	17	11	16.5	35
2013	18.00	21.5	13	20	41.5
2014	20.00	21.5	11	23	30
2015	4.6	3.2	10.5	5	3.5
2016	5	0	0	5	2.6
2017	5	1.2	1	2.5	2.6
Mean	11.06	11.29	8.35	12	22.57
SD	5.811	8.116	4.397	6.662	14.462
CV	52.542	71.884	52.662	55.521	64.074
ACGR	-0.01807	-0.1728	-0.18775	-0.13771	-0.19043

Source: Moneycontrol.com

One way ANOVA F-test suggests that mean values among the banks regarding dividend per share differ significantly (see table-10).

Again, Welch F-test reveals that at least two banks differ significantly in respect of dividend per share.

Table-10: Test for Equality of Means between Series for DPS

Method	df	Value	Probability
Anova F-test	(4, 45)	4.056443	0.0068
Welch F-test*	(4, 21.9427)	2.301425	0.0909
Analysis of Variance			
Source of Variation	df	Sum of Sq.	Mean Sq.
Between	4	1208.805	302.2013
Within	45	3352.459	74.49909
Total	49	4561.264	93.08702

However, D/P ratio of selected banks over the period of our study explores that in case of SBI this ratio hovers around 19.52% in the year 2015 to 25.85% in the year 2011 with mean value of 20.77 and smallest dispersion amongst all banks. However, annual compound growth rate is found to be negative over the period of our study. In case of BOB D/P ratio hovers around 13.87% to 24.07% with positive mean value

and larger dispersion compared to SBI. On the other hand, D/P ratio of ICICI hovers around 25.94% to 33.24% with highest mean values amongst the all other banks coupled by greater dispersion. ACGR of D/P ratio in case of SBI is found to be negative where as in case of BOB and AXIS the same is found to be marginally positive over the period of our study.

Table-11: Trends in D/P ratio

year	Dividend payout ratio (%)				
	AXIS	BOB	Canara	ICICI	SBI
2008	23.5	23.76	20.96	29.53	20.18
2009	23.17	17.23	15.83	32.59	20.19
2010	22.57	17.93	13.57	33.24	20.78
2011	16.92	15.24	12.11	31.31	25.85
2012	15.52	13.87	14.85	29.42	20.07
2013	16.3	20.22	20.06	27.72	20.13
2014	15.12	20.34	20.81	27.08	20.57
2015	14.79	21.43	20.02	25.94	19.52
2016	14.49	0	0	29.9	20.29
2017	32.55	24.07	0	0	20.12
Mean	19.493	17.409	13.821	26.673	20.77
SD	5.8538	6.9759	7.9393	9.6552	1.8149
CV	30.0302	40.0708	57.4436	36.1985	8.7383
ACGR	0.033114	0.001297			-0.0003

Source: Moneycontrol.com

Further, one way ANOVA test reflects that there exists a significant difference in the mean values of the selected banks (see-

table-12). Again, Welch F-test reveals that at least two banks differ significantly in respect of dividend payout.

Table-12: Test for Equality of Means between Series of D/P ratio

Method	df	Value	Probability
Anova F-test	(4, 45)	4.618920	0.0033
Welch F-test*	(4, 19.7264)	3.081967	0.0399
Analysis of Variance			
Source of Variation	df	Sum of Sq.	Mean Sq.
Between	4	895.9949	223.9987
Within	45	2182.316	48.49591
Total	49	3078.311	62.82267

We all know that P/E ratio is another important ratio that is used in measuring performance. It is evident from table-13 that barring ICICI all other selected banks have achieved negative ACGR over the period of our study. BOB in this respect has greater dispersion than that of the others (see Table-13). In case of SBI P/E ratio is found to

hovers around 8 to 25, in case of BOB maximum and minimum values of P/E are found to be 33 and 4 respectively. Further, in case of ICICI bank P/E ratio remains more static over the period from 2008 to 2013. P/E of BOB in this respect has achieved highest positive annual compound growth rate followed by AXIS and ICICI.

Table-13: Trends in P/E ratio

year	P/E ratio				
	AXIS	BOB	Canara	ICICI	SBI
2008	25	7	6	20	14
2009	8	4	3	10	8
2010	20	8	6	25	14
2011	17	9	7	25	25
2012	11	7	6	17	13
2013	11	6	6	14	10
2014	11	7	5	14	13
2015	17	11	7	17	14

2016	13	-6	-4	14	14
2017	33	33	17	17	25
Mean	17	9	6	17	15
SD	7.7292	9.8733	4.9092	4.8030	5.7052
CV	46.60812172	115.4092013	84.35089	27.78593	38.0762947
ACGR	0.029186	0.166543	0.109762	-0.01807	0.057557

Source: Moneycontrol.com

Moreover, our one way ANOVA reflects that there exist significant differences among the mean values of P/E ratio over the

period of our study. Again, Welch F-test reveals that at least two banks differ significantly in respect of P/E ratio.

Table- 14: Test for Equality of Means between Series of P/E ratio

Method	df	Value	Probability
Anova F-test	(4, 45)	5.572736	0.0010
Welch F-test*	(4, 22.2307)	7.525231	0.0005
Analysis of Variance			
Source of Variation	df	Sum of Sq.	Mean Sq.
Between	4	1047.080	261.7700
Within	45	2113.800	46.97333
Total	49	3160.880	64.50776

Interestingly, this study has also made a modest attempt to analyse the performance of the banks on the basis of its management in terms of the effectiveness of the policies adopted under competitive situations. For the purpose of our analysis we have taken credit deposits ratio of the five banks over

the period from 2013 to 2017 and interesting picture comes out that both the private sector banks have higher credit deposits ratio over the period of our study with larger average and greater dispersion. Moreover, our study explore that all public sector commercial banks kept in hand at least 15% of the funds to meet unforeseen



contingencies (see appendix table-1). Another interesting picture reveals from appendix table-2 that over the period from 2015-2017 gross NPAs of public sector banks increases substantially whereas in case of ICICI and AXIS bank the rate of

increment is moderate. ICICI and AXIS in this respect achieved greater variability which is measured in terms of CV. The picture remains almost same if we look at trends in net NPSs (see appendix table-3).

V. Concluding Observations:

Following conclusions have emerged from our study:

First, all the banks have achieved negative average in case of OPM over the period of our study. However, SBI in this respect have shown maximum value. BOB has achieved larger variability amongst the others. Variability in OPM in case of AXIS is highest while performance of private sector banks is looked after. Again, in case of AXIS we found a precipitous fall in the rate of OPM during last two years. One of the plausible major reasons may be demonetization of Indian economy of poor asset management system of the bank. Net Profit margin of the ICICI has achieved highest value amongst all other banks which is found to be 22.76% in 2015. In the year 2016, BOB and Canara bank have suffered from loss. NPM of SBI also reveals gradual decrease in the rate over the period from 2015 to 2017. ICICI has got highest mean

value than that of the others while BOB has got greater dispersion. ACGR of NPM in case of ICICI has found to be positive over the period of our study and BOB and Canara bank have got deplorable picture in this respect. Barring ICICI all other selected banks have found to achieve negative ACGR in NPM over the period of our study. Classical one way ANOVA test reflects acceptances of null hypothesis i.e. mean values are equal as well as Welch F-test reveals that at least two mean values differ significantly.

Second, descriptive statistical results reveal that SBI has achieved highest average value with larger dispersions over the period of our study followed by BOB and ICICI. In case of ACGR of EPS across the banks reveals bleak picture over the period of our study. This



may due to the overburden of NPAs and inefficiency from the part of the management to manage funds efficiently and existence of strict rules and regulations framed by the banks from time to time over the period of our study. Variability in EPS which is measured in terms of CV has shown that Canara and BOB have larger variability amongst the other banks. Moreover, one way ANOVA for equality of means reveals rejection of null hypothesis. So, there exists inequality among the mean values of EPS of five banks over the period of our study. On the other hand, Welch F-test depicts that at least two mean values differ significantly over the period of our study

Third, Dividend is one of the major sources for attracting money as it allured people to invest. Descriptive statistics in this respect reveals that regarding DPS, SBI has achieved highest mean value with second largest dispersion over the period of our study. BOB in this respect has occupied first place. Like EPS also here we find negative ACGR in DPS across the banks over the period of our study. SBI has occupied first place followed by Canara and ICICI. One way ANOVA F-

test suggests that mean values among the banks regarding dividend per share differ significantly. In addition to previous Welch F-test reveals that at least two banks differ significantly in respect of dividend per share

Fourth, in case of SBI P/E ratio is found to hovers around 8 to 25, in case of BOB maximum and minimum values of P/E are found to be 33 and 4 respectively. Further, in case of ICICI bank P/E ratio remains more static over the period from 2008 to 2013. P/E of BOB in this respect has achieved highest positive annual compound growth rate followed by AXIS and ICICI. Moreover, our one way ANOVA reflects that there exist significant differences among the mean values of P/E ratio over the period of our study. Further Welch F-test reveals that at least two banks differ significantly in respect of P/E ratio

Finally, NPAs of all private and public sector banks shows an increasing trend over last two years. Due to increasing competition private sector banks provide more loans from deposits compared to public sector banks taken for the purpose of our analysis.



References:

1. Ahsan. Mohammad. Kamreel (2016). *Measuring Financial Performance based on CAMEL: A study on selected Islamic Banks in Bangladesh*. Asian Business Review, Vol-6, No-1.
2. Bhattacharya.A, Lovell.C.A.K and Sahay.P (1997). *The Impact of Liberalization on the productive efficiency on Indian commercial banks*. European Journal of Operation Research, 98, pp-332-345.
3. Das.Abhiman and S.Ghosh (2006). *Financial Deregulation and Efficiency: An Empirical Analysis of Indian Banks during the Post Reform period*. Review of Financial Economics, Vol-15(3), pp-193-221.
4. Dhingra. Deepika (2013). *Fundamental Analysis of Public Sector Banks*. IJMSSR. Vol-2, No-6.(2016),
5. Dwivedi. Amit Kumar and Charyulu.D.Kumara (2011). *Efficiency of Indian Banking Industry in the Post Reform Era*. Working paper 2011-03-01 March 2011 IIMA.
6. Davda. Nishit.V (2012). *A Comparative Study of selected Private Sector Banks in India*. International Journal of Research in Commerce and Management, Vol-3(7), pp-161-165.
7. Ganesh.L, Tyagi.Madhu and Venkates.C.K (2012). *Fundamental Analysis and Stock Returns. An Indian evidence*, Global Advanced Research Journal on Economics, Accounting and Finance. Vol-1, No-2.
8. Gupta . Omprakash.K , Doshit. Yogesh and Chinubhai.Aneesh (2008). *Dynamics of Productive efficiency of Indian Banks*. International Journal of Operations Research, Vol-5(2), pp-78-90.
9. Koundal.Virendra (2012). *Performance of Indian Banks in Indian Financial System*. International Journal of Social Science and Interdisciplinary Research, Vol-1(9).
10. Maharaja.T and Saravanakumar.M (2014). *Fundamental Analysis for Investment decision on five major Banks*. SMS, Vol-VII, NO-2.



11. Malik. Seema (2014). *Technological innovation in Indian Banking Sector: changed face of banking*. International Journal of Advance Research in Computer Science and Management studies, Vol-2(6).
12. Mariappan. V (2005-06). *Changing the way of Banking in India*. Vinimaya, Vol-26(2), pp-26-34.
13. Mohaptra. Malaya. Ranjan, Lenka. Avizeet, Pradhan. Subrat. Kumar (2015). *A study of Operational Efficiency of Commercial Banks in Indian Financial system: At a Glance*. Abhinav Journal of Research in Commerce and Management, Vol-4(6), pp-13-18.
14. Ranjan.S.S, Reddy. K.L.N and Pandit. V.N (2011). *Efficiency and Productivity Growth in Indian Banking*. Working Paper No.199. Centre for Development Economics Department of Economics, Delhi School of Economics.
15. Rao. P.Hanumantha and Dutta Sudhendu (2014). *Fundamental Analysis of Banking Sector in India*. Indian Journal of Finance, (8:9), pp-47-56.
16. Samreen.Sana (2014). *An Analysis of Indian Banking Industry with special reference to ICICI Bank*. International Journal of Recent Research In Social Sciences and Humanities (IJRSSH).Vol-1(1), pp-29-39.
17. Sathye.Milind (2003). *Efficiency of Banks in a Developing Country: The case of India*. European Journal of Operational Research, Vol-148(3), pp-662-671.
18. Singla. H.K (2008). *Financial performance of banks in India*. The ICFAI Journal of bank Management, 22(1), pp-50-62.
19. Sodhi.Amanjot.Kaur and Waraich. Simran (2016). *Fundamental Analysis of selected public and private sector banks in India*. NMIMS Management Review, Vol-XXVIII, : Jan-Feb 2016.
20. Subbaroo.P.S (2007). *Changing Paradigm in Indian Banking*. Gyan Management, Vol-4(2),pp-151-160.
21. Uppal.R.K (2011). *Global Crisis: Problem and Prospects of Indian Banking Industry*. Journal of

Economics and Behavioral Studies,
Vol-2(4), pp-171-176.

Operational Research Society, Vol-
41(7), pp- 591-597.

22. Vassiloglou. M, Giokas.D (1990). *A study of Relative efficiency of Bank Branches: An Application of Data Envelopment Analysis*. Journal of

23. Walia. Karan (2012). *A study of Fundamental Analysis of Banking Sector*. Asian Journal of Research in Banking and Finance, Vol-2(4).

Appendix table-I: Trends in Credit deposits ratio

year	Credit deposits ratio				
	Axis	BOB	Canara	ICICI	SBI
2013	77.68	71.68	69.61	99.25	84.03
2014	80.6	69.54	70.05	100.71	85.71
2015	85.74	69.54	70.63	104.72	84.04
2016	92.44	68.13	68.73	105.08	82.72
2017	93.85	65.24	68.44	98.69	77.61
Mean	86.062	68.826	69.492	101.69	82.822
SD	7.0980	2.3722	0.9094	3.0244	3.1008
CV	8.247552	3.446616	1.30857	2.974097	3.743876
ACGR	0.01909	-0.00937	-0.00169	-0.00057	-0.00792

Source: Moneycontrol.com

Appendix table-I I: Trends in Gross NPA

year	Gross NPA (%)				
	Axis	BOB	Canara	ICICI	SBI
2011	1	1	1	0	3
2012	1	2	2	0	5
2013	1	2	3	0	5
2014	1	3	2	0	5
2015	1	4	4	4	4
2016	2	10	9	6	7
2017	5	10	10	9	7
Mean	2	5	4	3	5
SD	1.4960	3.8235	3.5989	3.6839	1.4639
CV	87.26821	83.63876	81.26642	135.7242	28.46375
ACGR	0.174619	0.258925	0.258925		0.088423

Source: Moneycontrol.com

Appendix table-III: Trends in Net NPA

year	Net NPA (%)				
	Axis	BOB	Canara	ICICI	SBI
2011	0	0	1	1	2
2012	0	1	1	1	2
2013	0	1	2	1	2
2014	0	2	2	1	3
2015	0	2	3	2	2
2016	1	5	6	3	4
2017	2	5	6	5	4
Mean	0	2	3	2	3
SD	0.7868	1.9760	2.1602	1.5275	0.9512
CV	183.5857	86.45206	72.00823	76.37626	35.04383
ACGR			0.196231	0.174619	0.071773

Source: Moneycontrol.com

Appendix table-IV: Trends in Capital Adequacy ratio

year	Capital adequacy ratio				
	Axis	BOB	Canara	ICICI	SBI
2013	--	13.3	--	18.74	--
2014	--	12.28	--	17.7	--
2015	--	12.6	--	17.02	--
2016	--	13.17	--	16.64	--
2017	--	13.17	--	17.39	--
Mean		12.904		17.498	
SD		0.4416		0.7999	
CV		3.422365238		4.571665	
ACGR		-0.00098177		-0.00745	

Source: Moneycontrol.com

TITLE: RELEVANCE OF PLANT ECOLOGY AS REFLECTED IN *MANUSAMHITĀ*

Dr. Bhaskar Jha
Associate Professor in Philosophy,
Raiganj University.

Abstract:

Most of the systems of Indian philosophy believe in rebirth and also in the law of karma or action. We know that every effect has a cause. If the cause presents, the effect will also present. Indian philosophy teaches us that we are bound to enjoy the fruits of our actions. If we do not enjoy the same in this life, then we have to enjoy it in the future life. So, rebirth is necessary. The present paper deals with the following problems: how the concepts of rebirth and karma of Indian philosophy were used by Manu in his Manusamhitā to describe plant ecology, what types of paths were presented by him to protect plant kingdom, etc.

Keywords: Manusamhitā, Cause, Effect, Rebirth, Himsā, Plant-Ecology, Samskāra.

Gmail: bhaskarjha1972@gmail.com; Mobile No: 9434231601.

(Paper received on 11/03/2018; Paper accepted on 15/05/2018; Paper published on 1st July, 2018.)

1

Newton, in his third law, said that every action has an equal and opposite reaction. It may be said that Newton's third law is very much similar with the concepts of *Karma* and rebirth of Indian Philosophy. The Hindus believe in the cycle of birth and re-birth. We find the reflection of this belief in the *Bhāgavat Gītā* where it was said that if a person does not obtain the result of his action in this life, then he will enjoy it in a future life. "*Apāram bhavato janma param janma vivasvatah/ katham etad vijānīyām tvam ādau proktavān iti*"¹ Here it may be said that Newton's third law is very much similar with this view. Morality demands that action does not vanish unless their results are enjoyed. Manu said that mental, physical and propositional or verbal actions of human beings determine their consequent conditions. "*Subhāsubhaphalam karma manovāgdehasambhavam/ Karmajā gatayonrinā muktamādhyamamadhyamā*"²

Manu spoke about ten types of actions which may be originated from human's mind, speech and body. "*Tasyeha trividhasyāpi tryadhishthānasya dehinah/ Dasalaksanajuktasya manovidyāt pravattakarma*."³ Three kinds of sinful mental actions are coveting the property of others', thinking undesirable word about others' and love of false doctrines. "*Paradravye svabhidhyānam manasā nisthacintanam/ Vitathābhinivesasca trividham karmamānasam*"⁴ Wrong verbal actions may be of four types. These are telling hard word to other person, telling false statements, talking irrelevant word and stealing the merits of other persons. "*Pārusyamananritancaiva paisunyancāpi sarvasah/ Asamvaddha pralāpasca vāmmayam syāccaturvidham*"⁵ Three kinds of bodily actions are taking an un-given object, injuring or killing animals and adultery. "*Adattānāmupādānam himsā caivā vidhānatah/ Parādāropasevā ca sārīram trividham smritam*"⁶



2

According to Manu, a person may obtain different condition in the next birth due to his performances of sinful actions. A person will take rebirth in the form of a plant or a tree or other animals if he does sinful acts by his body in this life. In respect of sinful acts done by speech, the next life will be the life of a bird or a beast, and in respect of mental sinful acts, the next life will be a lower one. “*Sarīrajaih karmadosaihrjāti sthāvaratām narah/ Vācikaih paksimrigatām mānasairantajātītām//*”⁷ That means, we have to enjoy the result of our sinful acts, whatever it may be either mental or verbal or physical. The new body of a person will be formed in respect of the actions he has done in this life.

If we take the properties of other persons without their permissions, then it will be called *adattānām upādānam*. Manu said that the presence of four elements are necessary in the case of a gift- *dātri* or the person who gives, *pratigrahītri* or the person who receives, *deya* or the article of gift and *vyāpāra* or the motive of gift. The property of the giver may be transformed to the receiver if the above four conditions present correctly. In that case, the receiver may utilize the property of the giver according to his own will and the giver does not enjoy the right of ownership of the property given. A gift will not be determined as a gift in its full sense if the receiver does not present at the time of gift. It may be described as *utsarga* or dedication. In that case, it is the duty of the giver to protect the property until the receiver actually receives it and he may not use the property for his own purpose as

he has already given it. If the giver does so, then the results of such actions will be rebirth in the forms of plants or shrubs as he has used here the properties which are also called *adattānām upādānam*.

According to Manu, in the bodies of plants or trees, there reflected the activities of their past actions. All our actions produce fruit whether these are enjoyed in this life or not, just like a tree produces fruits though there may be nobody to enjoy them. Due to the *samskāra* of past evil *karma*-s, a person gets the life of a tree where he is bound to offer his flowers and fruits unquestioningly.

Himsā or killing was not sanctioned by law. Only for the benefit of the society, killing can be entertained and in all other cases, killing was strictly prohibited. Without the sanction of law we should not injure any creature, whether it may be an animal or a tree. A person gets the life of a tree or a plant if he does such types of sinful acts. The reflections of all our actions will be present in our next birth. The plants and trees are bound to tolerate various types of injury such as, cutting their branches, striking of stones to them, plucking their fruits and flowers etc. The barks of the trees are used by people for various purposes. The barks of *Neem* and *Arjuna* are used to prepare medicine, the barks of *Bhurja* are essential to produce manuscripts etc. The tolerance of trees will be clear if we look the facts that many animals like birds etc. take shelter in the branches, leaves etc. of the trees.

Intercourse with another man's wife is called *paradāropaseva* which is a sinful act. The person who does such types of



actions will reborn as plant or tree. The development of plant kingdom is dependent on the bodily actions of human beings. Man is related with the plant ecology by action-result relationship. There is ecological connection between an action and its result. The relation between man and plant is determined ecologically.

3

According to Manu, among the created beings, human beings are the best. “*Bhutānām prānīnah sresthāh prānīnām buddhijīvinah/ Buddhimatsu narāh sresthā naresu brāhmanāh smritāh//*”⁸ The entire life of human beings is dependent upon nature. But man exploits nature in various ways. Food, cloth etc. which are the basic needs of human beings are produced from trees. To protect himself from heat, cold, rain etc. man forms house with the help of timbers of trees. Many medicines are produced from trees. That means, man borns within nature and utilizes natural resources in many ways.

Gradually man became civilized and came to realize the importance of trees and environment in his life. Ecology is a new branch of science which was originated when man started to study about the relationship among animals and environment. Though in ancient India, Ecology was not existed as a separate branch of science, yet it is a fact that the botanists of ancient India were fully aware about Ecology. The importance of plants in human life was understood also by the law makers of ancient India. We find many information about plant ecology in the *Dharmasāstras* like *Manusmriti*, *Yājñavalka Smriti* etc. In *Manusmriti*, we

find a scientific knowledge of plant kingdom. There we find detail informations about the *ausadhi*, *vanaspati*, *vriksa* trees. *Asudhis* are those plants which die after giving fruits. “*Udbhijāh stāvarāh sarve vījakāndaprarohinah/ Ausadhyah phalapākāntā vahupuspaphalopagāh//*”⁹ Manu said that *Vanaspati*-s are those trees which deliver fruits without flowers. *Vriksas* give us both fruits and flowers. “*Apuspāh phalabanto je te vanaspatayah smritāh/ Puspenah phalinascaiva vriksāstubhayatah smritāh//*”¹⁰ Manu also said that some plants originate from seeds, some from shoots and some from slivers. “*Gucchagulmam tu vividham tathaiva trinajātah/ Vījakāndaruhānyeva pratānā vallya eva ca//*”¹¹ Indian citizens, in ancient past were aware about plant culture and its various methods. Manu had the idea about the life of plants also. He thought that from philosophical standpoint, there is no difference between the life of plants and the life of man. Plants are also subjects of birth and rebirth. Like human beings, the plants also enjoy pleasure and pain which are dependent on their past *karmas*.

If people or cattle destroy plants, they should be punished. One has to perform some sorts of ransom such as, he has to recite one hundred *Rikas* if he cuts fruit-trees, flowering-plants etc. “*Phaladānām tu vriksānām chedane japyamriksatam/ Gulmavallī latānām ca puspitānām ca vīrudhām//*”¹² A man should serve a cow for a day if he destroys plants which are produced by cultivation. “*Krishtajānāmosadhinām jātānām ca svayam vane/ Vrithā lambheanugacched gām dinamekam payobratah//*”¹³ If a



person steals plants, flowers etc., then he should be punished to pay some fine. Manu said that the landowners should take sufficient care to protect their gardens and corn fields from domestic animals. Manu suggested that the landowners should enclose their corn fields in such a way that no animal can enter into the cornfields. “*Vritim tatra prakurvīt jāmustro na vilokayet/ Chidram ca bārayet sarvam sva sūkarah mukhānugam//*”¹⁴ A cattle owner shall be fined one hundred *pana*-s if his cattle mischief the corns of an enclosed field. Explaining the usefulness of plants for human beings, different types of punishments were determined for the damage of plants. Manu said that in the cases of disputed lands, boundaries can be marked by plants and trees. In this purpose, trees like *Asvatha*, *Kimsuka*, *Sāla*, *Bamboo* of different types may be used. Such type of plant ecology was mentioned in the *Manusmriti*.

4

Conclusion: It is known to us that the result of an action is dependent on that action. Manu thought that the man who does the work of stealing plants, will acquire a different life in future. A person will become a dog in his future life if he steals the juice of sugarcane, will become a waterfowl if he steals water and so on. Thus Manu tried to establish that the future life of a man will be determined by the work of his present life.

I think that our ancient *dharmaśāstrakāra* Manu was fully aware about the utility of plants in human life. He had presented before us many ways by which we can protect the plants and trees and our

environment. In the present days we are very much anxious about the environmental pollution. To stop the degradation of environment, many seminars, debates, conferences have already occurred. There the wise persons have explained about the terrible situations of environmental pollution. If we want to stop environmental degradation, then we have to sow more trees. It is not possible for us to create new forests due to the increase of population of the world. We need more lands for cultivation. As a result, the natural forests are destroyed by us. But we can change the situation. We can sow more trees beside the national, state and village roads, beside the boundaries of playgrounds, lands, crop-fields etc. as prescribed by Manu. The Government should take initiative so that each people sow some trees in his house. If there are insufficient lands in our houses to sow trees, then we may sow plants of flowers and fruits in the tub of the roof or balcony of our houses. Thus, we can say that the opinions of Manu about plant ecology is relevant even today.

References:

1. *Bhagavadgītā*, Chapter IV, Verse no. 4,
2. *Manusamhitā*, Chapter XII, Verse no. 3.
3. *Ibid*, Verse no. 4.
4. *Ibid*, Verse no. 5.
5. *Ibid*, Verse no. 6
6. *Ibid*, Verse no. 7.
7. *Ibid*, Verse no.9.
8. *Ibid*, Chapter I, Verse no. 96.
9. *Ibid*, Verse no. 46.
10. *Ibid*, Verse no. 47.
11. *Ibid*, Verse no. 48.
12. *Ibid*, Chapter XI, Verse no. 143.
13. *Ibid*, Verse no. 145.
14. *Ibid*, Chapter VIII, Verse no.23



ajl-LnÄI paÉjNĚq B-¾cjmē J h%oŁu Lw-NĚp

Evm Ljč”

pqLjlf AdÉjfl (Cčaqjp čhiN),
čnhfal cŁehãŸ CečØVčVENE (L-mS),qjJsJz

Abstract:

ýNmŁ -Smjl ajl-LnÄI jč¾acl qm čq¾acŸ-cl HLčV fčhœ aŁbŇŮŮjezhjwmj abj ijlah-oŇI čhčiae A'-ml fæZÉjbŇŇlĭ HMj-e B-pe fæZÉ ASŇ-el SeÉz čLčŸŸ ajl-LnÄ-ll -jjqčŸŸlj čRm Apv, AaÉjQjlf J cæŇŇŇčæ fljuez HječL ejlf OčVa hÉjfi-J Sčs-u fs-aez HC pjŮ' Ači-kj-NI fĚčæLj-ll SeÉ h%oŁu fĚj-cčnl Lw-NĚp, jqjhŇl cm fĚi«čæ SeNe-L p-%o če-u paÉjNĚq B-¾cjmē BlŇ L-lezjæpmjje, čnM fĚi«čæ pčfĚčj-ul jjeæoj HC B-¾cjmē-L °ečæL pjbŇe Sjče-učRmz g-m ajl-LnÄI-L -L¾cĚ L-l lĭSÉ lĭSeŇčæ Ešjm q-u E-WčRmz pjĚjSĚhjcŁ Cw-IS pLlĭ HC B-¾cjmē-e plĭpčl qŮ'-rf ej Ll-mJ f-lj-r -jjqčŸŸ-clc pjbŇe L-lčRmz g-m djŇčičšL HC B-¾cjmē SjæLæajhjcŁ pjĚjSĚhjc čh-ljčŁ B-¾cjmē-el Qčlœ NĚqe L-lčRmz Cw-IS-cl pjbŇe p-šĀJ Lw-NĚppq čhčiae pwnw-el -ea«æjčdŇe NeB-¾cjmē-el Lj-R -jjqčŸŸ paĚnQ¾cĚ čNčl J ayĭ AæŇjĭŇlĭ flĭSu ŮŇLlĭ Ll-a hjdĚ q-učRmz Ah-n-o, 1929 Hl 6C e-iđl ýNmŁ -Smj S-Sl lĭ-u BCeNa ij-h SeN-el cjhŇ fĚčæčŮa q-učRmz

pšQLnĚ (Keywords): ajl-LnÄI, aŁbŇŮŮje, paÉjNĚq B-¾cjmē, h%oŁu Lw-NĚp, jqjhŇl cmz

Email: ukanjddb@gmail.com

(Paper received on 29/03/2018; Paper accepted on 15/05/2018; Paper published on 1st July, 2018.)

pæacŁOŇ Ljm d-IC ýNčm -Smjl ajl-LnÄI jč¾acl qm čq¾acŸ-cl HLčV fčhœ aŁbŇŮŮjezh -Lhmjĭœ hjwmj eu, ijlah-oŇI čhčiae A'-ml fšZÉjbŇŇlĭ HMj-e B-pe fšZÉ ASŇ-el SeÉz haŇjĭ-e hjPĭmŇl ašĀjhdĭ-e HC jč¾acl pSŇh J fĚjehčŸŸ q-u EW-mJ HC jč¾ac-ll fĚčæŮjĭ Cčaqjp B-mĭQej Ll-m -cMĭ kju -k, HC jč¾acl fĚčæŮjĭ hjPĭmŇl -Lje Ahčje -eCzajl-LnÄI qm cnejŇŇ °nh pčfĚčj-ul fĚdĭje jWz nŸlĭQj-kŇl fĚdĭje Qjĭ Se čnoÉ čR-me, Hlĭ q-me- fcĚfĭc, qŮ'ĭjmL, jām J -ajVLz HC QjĭSe čn-oÉl Bhĭl cnSe čnoÉ čRmz HC cnSe čnoÉ -b-L flhaŇŇLĭ-m cnejŇŇ pčfĚčj-ul Eáh q-u-Rz¹ hjwmj -c-nl čhčiae j-Wl lčaqjčpL cčmm J -c-hjŇl pčfčšl ajucĭc -b-L čheu -Oĭo -cčM-u-Re -k, Ačjcn najĚŇl B-N cnejŇŇ °nh pæÉjĭŇlĭ hjwmj-c-n B-pčez² djŇŇfĚQj-ll jqĭje E-ŸnĚ če-u Ešl ĭl-al cnejŇŇ pæÉjĭŇlĭ ejĭje -c-n OŇl-a OŇl-a hjwmj-c-nl ýNčm -Smj-a H-p -fŷy-RčR-meZ³ cŁ-enQ¾cĚ ĭ-ĭQj-kŇl j-a, lĭSĭ ĭlĭj-đl fĚčš ajl-LnÄI j-Wl -k cĭefœ flĭJuĭ -N-R , aj-a 1729 pĭ-m ajl-LnÄI j-Wl fĚčæŮjĭ quz j-Wl fĚčæŮjĭaj q-me jĭujčNčl dæjĚfĭje hj pĭææejb čNčlĭz

nĚjŮ»Łu čhdĭje AæŇkjue, jWdĭlf pæÉjĭŇlĭ hj -jjqčŸŸ-cl -Lje -ĭjNmĭmpĭčc-a fĚh^{aš} bĭLĭ EčQv euz čLčŸŸ hjŮ'h SŇh-e -jĭ-ql "AčŸ" qJuĭ -k La LčWe, aj A-eL j-Wl A-eL -jĭq-čŸŸ hĚčš²Na SŇhe -b-L aĭl fĚjĭje flĭJuĭ kjuz aĭl-LnÄI j-Wl -jjqčŸŸ-cl SŇheJ aĭl hĚčæœ² čRm ej z aĭl-LnÄI jč¾ac-ll -jĭq-čŸŸ čhlĭ-Ů aŁbŇŇkjœŁ-cl Ačĭ-kĭN hŷčc-elz -jjqčŸŸ ĭš²h^{aš}¾c aŁbŇŇkjœŁ-cl LĭR -b-L -Sĭl L-l AbŇ Bcĭu Ll-ajz -LE ej čc-m hj fĚčahĭc Ll-m aĭ-cl Efl AaÉjQjĭ Llĭ qaz HječL ejlfOčVa hÉjčĭQj-llJ Ačĭ-kĭN čRmz⁴ HC pjŮ' Ačejj, cæŇŇŇčæ J hÉjčĭQj-ll SeÉ aŁbŇŇkjœŁ-cl p-%o HmĭLĭl SepĭdĭlZJ AčŮŮĭ q-u E-WčRmz

acĭeŇčŸŸe čh-cnŇ Cw-IS pLlĭ Hph -c-Mö-eJ QŸf L-l bĭL-aez⁵ aĭC HC pjŮ' Ačĭ-kĭN fĚčæLj-ll SeÉ aĭl-LnÄI Hhw aĭl Qĭlfĭ-nl NĚjĭ...čm-a pĭj L-l paÉjNĚq B-¾cjmē-el fĚŮŮŸčæ J fĚQjĭ Qĭmĭ-eĭ quz paÉjNĚq B-¾cjmē fčlQĭmeĭl SeÉ jqjhŇl c-mĭ LmLĭajĭ 179 ew qĚĭčlpe -lĭ-X Hhw aĭl-LnÄ-ll HLčV L-l Ačgp -Mĭmĭ qu Hhw LĭkŇlĭŇlĭ pčjčæ NWe Llĭ quz fĚčæŮjĭaj ŮjŇŇ čhnÄĭje³¾c, -peĭfčæ- ŮjŇŇ pčmQcĭe³¾c, pčfĭcL- jĭMemĭm ĭju J pq-



pÇfjcl cãNÑj çpw Hhw üqih hËpQjlf-L çehÑjçQa Lli quz⁶ jqihËl c-ml fr -b-L üjzË çhnÄje¾c -hejl-pl çq¾c¥ jqjpijl pijfça-L 1924 pi-ml 3li HçfË-m -mMj çQçW-a ajl-LnÄl jç¾c-ll -jjqç¹ çhlj-Ü paÉjNËq B-¾cime Lli çpÜj-ç¹ Lbj Sjeje Hhw ayil piqikÉ fËjbÑej L-lez

hijwmjl liseËça-a aMe üljSÉ c-ml -ea«aÆz jqihËl c-ml fr -b-L ajl-LnÄ-ll pjÜ¹ OVeil Aepåje J jfjwpil SeÉ -cnhå¥ çQšl⁷e çj-nl p-%o -kijNj-kijN Lli quz -cnhå¥l çe-cÑn ja -jjqç¹ çhlj-Ü Açi-kijN ...çm h%øu fËj-cçnl Lw-NËp LçjçVI pÇfjcl-LI çelV fçW-u -cJuj quz h%øu fËj-cçnl Lw-NËp LçjçVI fr -b-L -jjqç¹ AaÉjQil çho-u Sjejl SeÉ -cnhå¥ çQšl⁷e çjn, pãijçQ¾cË hpaã, Xx -S.Hj. çjn...ç, Xx fËajfQ¾cË ...qlju, nËËnQ¾cË QÉjVjSÑË, paËnQ¾cË plLil fËjçM 1924 pi-ml 8C HçfËm ajl-LnÄ-l EfçUÛa qez -cnhå¥ -Yim pqlv L-l fËQil Lli-me Eiufr-L XjLhijwmju H-p Lw-NË-pl çelV pirÉ -çjl SeÉz⁷ fËju 43 Se Ü»Ë-mjL -jjqç¹ çhlj-Ü pirÉ -cez -jjqç¹ L-uLSe LjÑQjlfç -jjqç¹ çhlj-Ü pirÉ -cez HRjçj ÜÜjeËu A-eL -cjljççil Hhw üjzË çhnÄje¾cçl pirÉ NËqe Lli quz Sepjçil-el fr -b-L -ea«aÆ-L Sjeje-u -cJuj qu jç¾cçl Sepjçil-el pÇfçšz pãaljw çneËËça fljue -jjqç¹-L NçcQÉ¥a Lhjl SeÉ paÉjNËq B-¾cime Lli fË-uçsez pirÉ NËqe L-l -cnhå¥ h-me -k, "-k plm LjÑË paÉjNËq B-¾cime ajl-LnÄ-l p¾çø L-l-Re, aji-cl ijlahjçf jji-æC Aep-jjce J piqikÉ Lli EçQvz⁸

h%øu fËj-cçnl Lw-NËp LçjçVI pÇfjcl-LI üjççla HL çhh¾ça-a hmj qu, ajl-LnÄ-ll -jjqç¹ Hhw ayil LjÑQjlfç-cl AaÉjQj-ll Lbj hijwmjl O-l O-l fËQjçlaz ajl-LnÄl q-µR AaÉç¹ ...l)aÆfçZÑ HLçV aËbÑÜÜjez -Lhmjçæ hijwmjl eu, pjNË ijlah-oÑl çhçiaæ fËjç¹ -b-L hý jjeæo aËbÑij-el E-ÿ-nÉ ajl-LnÄ-l B-peç ajiç ajl-LnÄ-ll OVej öðã hijwmjl eu, pijl ijla h-oÑl pjçÉj q-u E-W-Rz⁹ ajl-LnÄ-ll OVejhmË pjçile jjeæo-L Sjejl SeÉ LmLjaju B-mjQej pijl B-uçse Lli quz 23-n HçfËm LmLjajl çhXe -újuç-l B-uççSa HL pijl pijçaaÆ L-le p⁷ËheË fççLjl pÇfjcl L«o-L¥jil çjçez çaçe h-me, ""HVj çq¾c¥l LaÑhÉ -jjqç¹-L NçcQÉ¥a Lli"züjzË

çhnÄje¾c h-me -k, "" HLSe pæÉjçfËl SËhe q-h çir¥-Ll j-aj, çLç¹¥ aji-LnÄ-ll haÑjje -jjqç¹¹ SËhe Açahjçqa L-le lçSjl j-ajz jç¾cçl pwmNÄ pjÜ¹ pÇfçš Sepjçil-el Hhw -jjqç¹ -Lje AççLl -eC aji hËjçš²Na pãM -üjçR-¾cÉl SeÉ HC pÇfçš hËhqjil Lliz⁷ çaçe Bl J h-me, "" paÉjNË-ql jççÉ-j jç¾cçl-ll cMm -eJuj q-hz¹⁰

1924 pi-ml 20-n -j ajl-LnÄ-l paÉjNËq B-¾cime ölj quz ölj çhlj fl HL pçç-ql j-dÉ LmLjaju fyjçQçV Sepjçil E-ðM fçjuç kjuç Sepjçil ...çm-a Sepjçil-el E-ÿ-nÉ B-hce Lli qu paÉjNËq B-¾cime -kijN -çjl SeÉ Hhw B-¾cime BçbÑL piqikÉ -çjl SeÉJ Aep-ljç Sjeje-ej quz hš²ijl h-me, djÑËu B-¾cime Hhw ülj-Sl SeÉ B-¾cime HL J pjjeç hš²ijl Açi-kijN L-le, plLil -jjqç¹-L lriç L-l Q-m-Re, aji çm aji çhlj-Ü -k pjÜ¹ Açi-kijN B-R aji-a 110 ew çæ²çjeçm -LjX AepkjuË aji-L A-eL B-NC -NËççil Lli qaz 24-n -j ççlñfçLÑ Hhw L-mS -újuç-ll Sepjçil BfçšLl hš²hÉ lç-Me YjLil nËËnQ¾cË QÉjVjSÑË, çaçe kãhl-cl E-ÿ-nÉ çS¹çpiç L-le, "" çq¾c¥ kãhlil, kyjil Hlçj -hijç çfÜ¹m çe-u kãÜ L-IR, ayjil LË iËa aji-cl djÑ-L fçhç lçMjil B-¾cime -kijNçje lli-a⁷?¹¹ Hççj-h HC jç¾cçl -Lç¾cËL B-¾cime üjçËeaj B-¾cime-elç HLçV Aw-n ççlZa quz

8C S¥e h%øu fËj-cçnl Lw-NËp LçjçVI LmLjaju HL pij Aepçüa quz HC pijl aji-LnÄl B-¾cime ççlQimeçl ççuaÆ -ehj çpÜjç¹ -eJuj quz pijl BIJ çWL qu -k, aji-LnÄl paÉjNËq B-¾cime ççlQimeçl jçm ççuaÆ bjL-h fËajfQ¾cË ...qlju-Hl Eflz HRjçj 25 Se pç-pÉl HLçV LçjçVJ NWe Lli qu B-¾cime ççlQimeçl SeÉz -cnhÜ¥ çQšl⁷e çjn pijfça, mçma -jjç çjç pÇfjcl Hhw jçç-jjçç hjÑe ççpçhlç ççpç-h çehÑjçQa qez HLC p-%o LmLjajl çhçiaæ SjuNju Lw-NËp LçjçV...çm-L aji-LnÄl paÉjNËq B-¾cime-L pgm Lli SeÉ Qyççj -ajmjl J -üçRjç-phL fçWjç-ej çe-cÑn -cJuj quz HRjçj -cnhå¥ çQšl⁷e çjn fçaa jçç-jjçç jçmhÉ Hhw jçamjç -e-çlçl jççÉ-j jççÉ-cnËu pçç-cl aji-LnÄl paÉjNËq B-¾cime -kijN -çjl SeÉ Beçl -Qçj L-çR-meç

hý çhMÉja fËçauje J hÉçš² aji-LnÄl paÉjNËq B-¾cime-L pçbÑe L-çR-me Hhw

ajl-LnÄl paÉjNËq B-¾cime J h%øu Lw-NËp/ Evfm Ljç⁷



B_z1ϕIL ij-h p_iq_ikÉJ L-lϕR-mez LmL_jaj h_yh_iS_i-ll B-aÉ_jæϕa pϕjϕal qϕlnQ³/₄c ϕnLc_jl, ϕNlÉ³/₄cÉ_jeb h-³/₄cÉ_jidÉ_ju, AeaL^mQ³/₄cÉ_j ja-M_jifidÉ_ju, Se_jC-Hl geÉi^oZ ja-M_jifidÉ_ju, B-aÉ_jæϕa pϕjϕal ih_jeÉf_al n_jM_jl k_ahLh³/₄c, hl_jeN-ll M-N³/₄cÉ_jeb Q-_jifidÉ_ju fÉ_jjaM h_y k_ahL paÉ_jNÉq B-³/₄c_jm-e -k_jNc_je L-lϕR-mez Ešh%_o -b-L L_jmÉfc h_jNQÉ h_y k_ahL-L f_jϕW-uϕR-mez -cnhá% ayil HL_jjœ f_aœ ϕQl^l"e-L paÉ_jNÉq Ll_jil SeÉ a_jl-LnÄ-l f_jϕW-u-cez Ešl_fis_jil Aj_jeb ja-M_jifidÉ_ju, h_yh_iS_i-ll l_jSL_jil -O_jo_jm, ϕnM pϕfÉ_jc_j-ul BL_jmÉ p_aa³/₄cl ϕpw fÉ_jjaM paÉ_jNÉq -cM-a B-pe_j BQ_jk_jÑ fÉ_jg_aoQ³/₄cÉ_j l_ju a_jl-LnÄ-l paÉ_jNÉq B-³/₄c_jm-e-L fšZ_jÑ p_jb_jNe S_je_je Hhw -cnh_jpÉ-L paÉ_jNÉq B-³/₄c_jm-e-L p_iq_ikÉ Ll_jil SeÉ Aea-l_jd L-lez¹²

a_jl-LnÄ_j paÉ_jNÉq B-³/₄c_jm-e kϕc_j ϕq³/₄c_jϕ-cl à_jil_j pwNϕWa HLϕV dj_jÑÉu B-³/₄c_jm-e, ah_jja_j p_jpm_je p_jiS B-³/₄c_jm-e-L fšZ_jÑ p_jb_jNe S_jϕe-u ϕR-mez LmL_jaj ϕM_jigv LϕjϕVI fr -b-L a_jl-LnÄ_j paÉ_jNÉq B-³/₄c_jm-e-L fšZ_jÑ p_jb_jNe S_je_j-e_j qu Hhw hm_j qu , j_jq_je ϕq³/₄c_jϕS_jϕal HC B-³/₄c_jm-e-L -k -L_je h_jÜ¹h pϕ_ja p_iq_ikÉ Ll-a j_apm_je p_jiS fÉ_jÜ¹ϕaz 1924-Hl 4W_j S_jϕm_jC ha_jÑ_je nÉ_jÜ_je³/₄c f_j-L_jÑl HL Sep_ju -j_amhÉ Bh_cam q_j-j_c h-me -k, -" kMe ϕq³/₄c_jϕ-cl L_jR -b-L dj_jÑ l_ril SeÉ Bq_jÄ_je Bp-h, aMe j_apm_jil_j ϕq³/₄c_jϕ-cl p-%_o q_j-a q_ja ϕ_jϕm-u dj_jÑl_ril SeÉ B-³/₄c_jm-e p_iϕ_jm q-h"¹³

B-³/₄c_jm-e há Ll_jil p_jÜ¹l_j fÉ-Q_jh_j hÉb_jÑ qh_jl fl -j_jq_j1 pl_jl_jÉ p_iq_ikÉ fÉ_jb_jNe_j L-lez ϕaϕe Aϕ_j-k_jN L-le, j_jq_jhÉl c-m_jl fr -b-L a_j-L qaÉ_jl ý_jϕL -c_jJu_j q-μRz -j_jq_j1 Aϕ_j-k_j-Nl ϕl-fÉϕ_j-a a_jl-LnÄ_j jϕ³/₄c-l HLSe -Øf_jn_jm jÉ_jϕS-ØVÉV ϕe-u_jN Ll_j qu BCe n^aM_j h_jS_ju l_jM_jil SeÉz -k -L_je lL-jl AfÉÉ_jϕaLl fϕlϕÜÜϕa -j_jL_jϕhm_ju ÜÜ_jeÉu f_aϕmn-L p_jq-k_jϕNa_j Ll_jil SeÉ p_jijϕL h_jϕqeÉ a_jl-LnÄ-l -fÉle Ll_j quz f_aϕmn h_y paÉ_jNÉqÉ-L -NÉ_jil L-l Hhw -S-m_jl j-dÉ a_j-cl fÉse L-lz-NÉ_jil q_jJu_j paÉ_jNÉqÉ-cl h_jwm_jl ϕhϕiæ -S-m hcmÉ Ll_j qu Hhw ϕej_jÑ_j i_j-h AaÉ_jQ_jl Ll_j quz Hl fÉϕah_j-c paÉ_jNÉqÉl_j A-eL p_ju -S-mC Aene dj_jNOV Ll-aez j^aafÉ_ju h³/₄cÉ paÉ_jNÉqÉ-cl SeÉ ϕQϕLvp_jil hÉhÜÜ_j fk_jÑ_j1 La_jÑ«fr Ll-ae e_jz¹⁴

-cnhá% ϕQš^l"e c_j-n_jl Oe Oe a_jl-LnÄ-l Bp_j Hhw paÉ_jNÉq B-³/₄c_jm-e-L p_jb_jNe 'j_fe i_jla pl_jl_j-L EϕàNÄ L-l -a_j-mz HC p_ju h_jwm_jl Nie_jÑl mX_jÑ ϕmVe Qy_jQ_jϕ_js_j; p_jg-l Bp-m ýNmÉ -Sm_jl Lw-NÉp LϕjϕV a_jyl p_jg-ll ϕhl_j-Ü fÉϕah_jic S_jϕe-u q_jl_jm Ll_jil fÉÜ¹ϕa NÉqe L-lez HC Efm-r ýNϕm-a HL Sep_ju fÉ_ju 300 Se -m_jl EfϕÜÜa quz hš²_jil_j ϕmV-el Qy_jQ_jϕ_js_j; p_jg-l huLV Ll_jil Hhw a_jl-LnÄ_j paÉ_jNÉq B-³/₄c_jm-e-L Q_jϕm-u k_jh_jil Aea-l_jd S_je_jez mX_jÑ ϕmVe Qy_jQ_jϕ_js_ju HLϕV hš²«a_j fÉp-%_o h-me :"" Bfe_jil_j a_jl-LnÄ-ll hÉ_jif_j-l B_jil j-e_j-k_jN BLo_jNe Lϕl-a-Rez Nie_jÑ-j³/₄V -L_je pϕfÉ_jc_j-ul fÉS_jN-elC dj_jÑϕhnÄ_jp jšmL hÉ_jif_j-l -L_jeϕce -L_je fÉL_jil h_jd_j fÉ_jc_je L-le e_jCz i_j-al Cϕa_jq_j-p dj_jÑiÉl_j A' hÉϕš²N-el dj_jÑ_jáa_jl p_aa-k_j-N a_jq_iϕcN-L E-šϕSa Lϕlu_j ü_jb_jÑfl l_jS^oeϕaL B-³/₄c_jm-eL_jlÉN-el l_jS^oeϕaL Q_jimh_jSÉl Cq_jC fÉbj c³ø_j1 e-qz a_jl-LnÄ_j paÉ_jNÉq B-³/₄c_jm-e HLϕV i_j1 d_jle_jil Efl ϕe-S-L fÉϕa_jü_j Lϕlu_j Qϕm-a-Rz a_jl-LnÄ-ll ha_jÑ_je AhÜÜ_j-L ϕh-nÖoe Lϕl-m Cq_jC h_aϕT-a f_jil_j k_ju -k, LaL...ϕm ϕh-hL h_aϕÜqÉe l_jS^oeϕaL B-³/₄c_jm-eL_jlÉ LaL...ϕm plm ϕhnÄ_jpÉ ϕq³/₄c_jϕ Sep_jd_jil-el pϕqa HLV_j "fÉL_jä d_jèh_jSÉ' Lϕl-a-R"¹⁵

pl_jl_j -k paÉ_jNÉq B-³/₄c_jm-e-l ϕhl_j-Ü ja -f_jioe L-lϕR-me, a_j mX_jÑ ϕmV-el i_joe -b-LC -h_jT_j k_juz ϕL_j1ϕ mX_jÑ ϕmV-el i_joe-LC "d_jè_jh_jSÉ' j-e L-l paÉ_jNÉq B-³/₄c_jm-e fšZ_jÑ EcÉ_j-j Qm-a b_j-Lz a_jl-LnÄ_j paÉ_jNÉq B-³/₄c_jm-e pϕfL_jÑ mX_jÑ ϕmV-el j_j1hÉ-L ϕhϕiæ Sep_ju O^ae_j S_je_j-e_j quz B-³/₄c_jm-e-l p_f-r fÉQ_jl Q_jim_j-e_jil SeÉ 10C S_jϕm_jC ϕ_jS_jÑ_jf_al f_j-L_jÑ HL p_jil quz HC p_ju h_jwm_jl k_ah nϕš²-L paÉ_jNÉ-q p_iϕ_jm q-a -cnhá% Bq_jÄ_je S_je_jez¹⁶ S_jϕm_jC j_j-p_jl -no pϕ_j-q paÉ_jNÉq p_jh LϕjϕVI HL p_jil quz p_ju ϕQš^l"e c_jn h-me, ay_jil S_j-ee e_j BIJ Laϕce a_j-cl -j_jq_j1 ϕhl_j-Ü m_s_jC Ll-a q-hz ϕaϕe BIJ h-me -k, j_jq_jhÉl cm, hÉb_jpi_j h_j AeÉ -k -L_je pwÜÜ_j kϕc paÉ_jNÉq B-³/₄c_jm-e-l fšÉÑ c_jϕuaÉ ϕe-a Q_je, a_jq-m ϕaϕe q_jϕp ja-M a_j-cl q_j-a B-³/₄c_jm-e fϕlQ_jme_jil i_jl a_jϕ-m ϕc-a fÉÜ¹ϕaz paÉ_jNÉq p_jh- LϕjϕVI EcÉ_j-N 3l_j BNØV ϕ_jS_jÑ_jf_al f_j-L_jÑ HL p_jd_jle p_jil Aeaϕ_jua quz p_ju "BfϕšLl ' hš²hÉ l_j-Me Xx -S. H_j. c_jn...ϕz ϕaϕe h-me, HC ϕLRϕ

a_jl-LnÄ_j paÉ_jNÉq B-³/₄c_jm-e J h%Éu Lw-NÉp/ Evfm L_jϕ"



ϕce B-N HLSe alle Bc-nÑl SeÉ ayil Sñhe ϕhpSÑe ϕc-u-Rez j³aEÿcä ö-e ϕaϕe h-mϕR-me, "" ayil -c-ql fËϕaϕV lš²ϕh³4cÿ -ke ijil-al O-l O-l üjdÿea il hÿS Rsuz" fËp%oa Øjleÿu Ef-ljš² jç¹hÉ L-lϕR-me nËÿljjf³ll ϕhfÔhÿ -Njffÿejb -czQimÑp -VNjVÑ-L Mæe Ll-a ϕN-u -Njffÿejb iÿm L-l Mæe L-le ϕjx C.-X. eijL HL -nÄa;%-Lz ϕhQj-l 1924 pi-m 1mj jQÑ -Njffÿej-bl gyiϕp quz -S.Hj. cjin...ç BIJ h-me -k, kϕc HLSeJ k³hL ayil Sñhe ϕc-a ljsÿ qu, aij-m hijwmj fË-aÉ-L ϕLRÿ ej ϕLRÿ üjbÑ aÉjN Ll-a fËÜ¹ÿa bjl-h ayi-cl djÑÿu üjdÿea il rjl SeÉz¹⁷

BNØV ji-pl ϕääÿu pçj-q aij-LnÄl paÉjNËq B-³4cim-el pjbÑ-e 6 ϕV pij Ae³ϕüa quz Hl j-dÉ 3 ϕV Sepij qu Bpje-pi-mz Bpje-pi-m HL pijl üjjÿ ϕhnÄje³4c hš²hÉ li-Mez ayil ijoe pçf-LÑ BC.ϕh. ϕl-fi-VÑ hmj qu, ϕhnÄje³4c ayil hš²-hÉl -n-o -Oioej L-le ϕaϕe hijC-l Aϕqwp, ϕLç¹ÿ ϕia-l pϕqwpz¹⁸ 21-n BN-ØVl plLijÿ -Njfe eϕb -b-L Sijej kij u -k, -jjqç¹ f-r fËijaQ³4cË ϕjœ Hhw ϕh.-L. Qœ²haÑÿ aij-LnÄl paÉjNËq B-³4cim-el Hlvj jÿjwpjil SeÉ ϕQšl³e cjin pi-b pijrv L-le Hhw ϕejÄϕmϕMa hÉçš²-cl ϕe-u HLϕV pijϕmϕn -hixÑ NW-el fËÜ¹jh -ce : 1z SijϕØVp jeÉbejb j³mjSÑÿ, 2z jce-jjje hijÑe (jqihÿl c-m l fËϕaϕeϕd), 3z ϕejÑm Q³4cË Q³4cË (Lw-NËp LçjϕVI fËϕaϕeϕd), 4z lju q-l³4cËejb -Q±d³lÿ (hÉjppijl fËϕaϕeϕd), 5z fËijpQ³4cË ϕjœ (-jjqç¹ fËϕaϕeϕd)z¹⁹ AeÉϕc-L, ϕQšl³e cjin fËÜ¹jh qm- jç³4cl -b-L AϕSÑa hijϕoÑL B-ul Hlvj Awn üljSÉ c-m gi-ä ϕc-a q-hz fËija ϕNϕl -jjqç¹ cijuaÿe ϕe-a fil-hez a-h ϕaϕe -Lhm jjoç -jjqç¹ hÉçš²Na Sçjçijÿ ϕho-u -Lje ϕpÜjç¹ ϕe-a fil-he, ϕLç¹ÿ jç³4c-ll pjÜ¹ dl-el pçfϕš Hhw jç³4cl fçlQimejil cijuaÿe bjl-h fçlQimL pçjçal Eflz

fËju Qil jip d-l aij-LnÄl paÉjNËq B-³4cime Qmjl fl -cñh³ÿ ϕQšl³e cjin fË-Qøju Hlvj pijdie pšœ fijjuj kijuz 1924 pi-m 23-n -p-ÄVðl -jjqç¹ paÿnQ³4cË ϕNϕl-L p-%o ϕe-u ϕQšl³e cjin aij-LnÄl B-peç -jjqç¹ fËijpi-cl pij-e ϕaϕe pij Xj-Lez HC fËLjNÉ pij u ϕQšl³e cjin -jjqç¹ paÿnQ³4cË ϕNϕl-L rji QjC-a h-mez -jjqç¹ paÿnQ³4cË ϕNϕl HC pij u h-me-"" Bçj ijil-al

ϕhçiaç cm-L AbÑ ϕcu; jqihÿl c-m l J Lw-NË-pl ϕhlj-Ü cyjs LlçCu; ϕe-S-L lrj Lçl-a fçl eijCz NieÑ-j³4V-L hÿ AbÑ ϕc-uϕR ; f³çm-nl pijqkÉ mCu;ϕR; -Lje gm qCm eiz -cñh³ÿ ϕQšl³e cjin jqin-ul ϕeLV EfçÜÜa qCu; ayiqil Øjleifæ qC-aC ϕaϕe Bjju AcÉ qC-a cjuj³š² Lçl-mez Bçj aij-LnÄl aÉjN Lçl-aϕR, 'j-e ϕLwhj A'j-e kϕc -Lje AeÉju Bfej-cl ϕeLV Lçlu; bçl Bjj-L rjl Lçl-hez"²⁰

a-h 1929 pi-m 6C e-ið-l BCeNaij-h SeN-el Aϕdlj-ll cjhÿ fËϕaϕüa quz l ϕce ýNçm -Smjl SS -L. çp. eijN h-me -k, jç³4c-ll pçfçš fçlQimejil SeÉ fçlQimL pçjçal -k hÉhÜÜj Ll-he, -jjqç¹ aij -j-e ϕe-a hijdÉ bjl-hez jç³4cl q-µR SeN-el pçfçš Hhw jç³4cl fçlQijϕma q-h ϕhçiaç Ne pwNW-el J plLij-ll fËϕaϕeϕdl àijz -jjqç¹ LçjϕVI ϕe-cÑ-n LjS Ll-hez -jjqç¹ fçlQimeju kϕc fËSj h-NÑl Efl -Lje AaÉjQil qu hij -jjqç¹ eij-k ϕc c³æÑÿçal Açj-kjN J-W aij-m fçlQimL pçjçal hÉhÜÜj NËqe Ll-hez HjeçL fË-u;Se q-m fçlQimL pçjçal -jjqç¹-L hçqújl L-l eaÿe -jjqç¹J ϕe-u;N Ll-a fil-hez"²¹

1924 pi-m aij-Lnl paÉjNËq pwNËjj hijwmj abj ijla h-oÑl Cçaqi-p HL Øjleÿu OVeiz djÑçijçšL q-mJ HC B-³4cime f-l Sjaÿua;hijçÿ pijËjSÉhijç ϕh-ljçÿ B-³4cim-el Qçlœ NËqe L-lz²² h³çVn plLij B-³4cim-e pljçl qÜ¹-rf eij Ll-mJ f-lj-r -jjqç¹-clC pjbÑe Sijçe-uçRmz g-m ϕQšl³e cjin abj Lw-NËp -ea«aÿejdÿe paÉjNËq B-³4cime HLC p-%o -jjqç¹ J h³çVn ϕh-ljçÿ B-³4cim-e fçlZa q-uçRmz HRjij çq³4cÿ-cl B-³4cime-L j³pmjje, ϕnM fËi«çal pçfËçj-ul °eçal pjbÑe B-³4cime-L -Sijçil J fËjehç¹ L-l aÿ-mçRmz B-³4cim-el Qj-f -jjqç¹-cl A-djÑ J Af-L-jÑl ÜÜ-m fËϕaϕüa q-uçRm djÑz Su q-uçRm -cñh³ÿ, Su q-uçRm hijwmj Lw-NË-pl Hhw phÑfçl Sepidjil-elz

abËpšœ:-

- 1/ cš, Aru Lÿjil, ijlahoÑÿu EfijpL pçfËçju, Lmlaj, 1318, f^a.20z
- 2/ -Oio, çheu, fçÖQjh-%ol pwú«çal (çääÿu Mä), Lmlaj, 1978, f^a.370z
- 3/ fš-hÑjš², f^a.372z



- 4/ h-¾cÉjfdÉju, -q-j¾cÉ , n;çmMjl Cçah^{aš}, qjJs_j, 1982, f^a.78z
- 5/ h-¾cÉjfdÉju, -q-j¾cÉ , fyjQ-nj hR-ll qjJs_j, LmLjaj, 1992, f^a.111z
- 6/ Bhattacharya, Buddhadev, Satyagrahas in Bengal (1921-1939), Calcutta, 1977, P.105.
- 7/ Forward, 9th April, 1924, P.4.
- 8/ h-¾cÉjfdÉju, e-l¾cÉeib, a;il-LnÄl paÉjNËq pwNËjj, LmLjaj, 1355, f^a.65z
- 9/ Forward, 8th April, 1924, P.4.
- 10/Forward, 24th April, 1924, P. 6.
- 11/I.B. Report on the Political Situation and Labour Unrest for the weekending, 29th May, 1924.
- 12/ h-¾cÉjfdÉju, e-l¾cÉeib, fš-hÑjš², f^a.99, 110z
- 13/ Buddhadev Bhattacharya, Ibid, P-110.
- 14/ Ibid, P.104.
- 15/ h-¾cÉjfdÉju, e-l¾cÉeib, fš-hÑjš², f^a.97-98z
- 16/-q-j¾cÉ h-¾cÉjfdÉju, qjJs_j -Smjl Cçaqjç, LmLjaj, 1999, f^a.182z
- 17/ I.B., C.I.D. Bengal, Report on the Political Situation and Labour Unrest for the weekending, 7th August, 1924.
- 18/ I.B., C.I.D. Bengal, Report on the Political Situation and Labour Unrest for the weekending, 14th August, 1924.
- 19/ I.B., C.I.D. Bengal, Report on the Political Situation and Labour Unrest for the weekending, 21th August, 1924.
- 20/ h-¾cÉjfdÉju, e-l¾cÉeib, fš-hÑjš², f^a.103z
- 21/ West Bengal District Gazetteer, Hooghly, Calcutta, 1972, PP. 724-726
- 22/ -c, -N±aj Lçjil, ýNm£ -Smjl NZ B-¾c;me (1930-1947), LmLjaj, 2004, f^a.28-29z



Three-Fold Typology towards Religious Harmony: A Critical Analysis

Iti Chattopadhyay
Department of Philosophy,
Raiganj University,
Raiganj, Uttar Dinajpur.

Abstract:

Religion is an important phenomenon in human life. It is as old as mankind because man became religious from the very beginning of human civilization. But though the word 'religion' does not have any unanimously accepted definition in the academic circle, it plays an ambivalent role in our life. It wants to establish peace as well as has been associated with violence since antiquity. Many attempts have been made in order to provide a way out of violence in the name of religion and Allan Race's three-fold- typology that consists of exclusivism, inclusivism and pluralism, is one of them. This paper aims at to analyze this typology critically in order to find out whether any of these three views can be an appropriate way out of such problem.

Keywords: Religion, Man, Violence, Exclusivism, Inclusivism, Pluralism.

E-mail: chattopadhyayiti@gmail.com

(Paper received on 24/03/2018; Paper accepted on 15/05/2018; Paper published on 1st July, 2018.)

Introduction:

Religion is an ancient concept. Man became religious from the very beginning of human civilization. Archaeologists and anthropologists discovered the proof of religious rituals dating back to 13,000 BCE. Thus, religion is as old as humanity. But religion is an abstract word. It is growing and dynamic. Hence, it is very difficult to define it. In fact, there is no definition accepted by all. However, the general definition may be a set of beliefs and practices.

Likewise, nobody agrees about its origin and numbers. It is generally believed that religion is originated out of fear or

ancestor worship or demand for security or like this. But though there is no agreement about the definition and origination of religion, it is however, nearly a universal phenomenon. In fact, no nation has ever been found without religion. Only sixteen percent people say they have no religious affiliation¹.

Religion, however, plays ambivalent role. On the one hand it not only embodies some values and ideals that are important for co-existence, but addresses some existential problems such as birth, death, sufferings, purpose in life and like this; on the other it has been responsible for many



bloodsheds. It is undoubtedly true that though religious actors and organizations contributed a lot to non-violence, reconciliation, peace etc throughout century, religion has been associated with violence since antiquity. We find religiously motivated conflicts, wars, persecutions etc. are rampant throughout human history. Mark Juergensmeyer rightly observes that:

“Violence has always been endemic to religion. Images of destruction and death are evoked by some of religion’s most popular symbols, and religious wars have left through history a trail of blood”ⁱⁱ.

Juergensmeyer also believes that followers of religion intend to create separate state in the name of religion. He says:

“Sikhs seek a separate state of their own, Hindu fundamentalists lobby for India to be declared a Hindu state, Iran seeks to render itself fully Islamic, and Orthodox Christian Bosnians battle Muslim Bosnians in the name of God. In the coming era, religion may prove to be even stronger than nationalism as a constructive force in human affairs or, alternatively, as a destructive power of murder and mayhem”ⁱⁱⁱ

In the like manner Swami Vivekananda also believes that religion has been responsible for both peace and violence. To quote him:

““...there is nothing that has brought to man more blessings than religion, yet at the same time there is nothing that has brought more horror than religion”^{iv}.

The question arises in this context, if religion preaches peace, then why men fight each other in the name of religion?

Many attempts have been made to provide a solution to this problem. Various religious traditions of the world have offered various models of interreligious relations in the view to solve this problem and Alan Race’s threefold typology^v, the most popular and dominant, is one of them. This paradigm consists of Exclusivism, Inclusivism and Pluralism. To elucidate:

Exclusivism:

Exclusivist holds that one’s own religion alone is true and all other religions are false. Fundamental and essential truth is contained only in that religion and therefore, it alone can provide salvation. In this model, believers of other religions are



considered out of divine touch. According to this view, religious harmony is possible only by uniting the whole world by one true religion. We found that monotheistic religions generally hold this view. Christian Exclusivism is of three kinds: 1. Church Exclusivism, which holds that only Church membership can bring salvation. 'Extra Ecclesiam nulla Salus'- outside the Church there is no liberation. 2. Gospel Exclusivism claims that in order to attain salvation, one must hear and believe in the Gospel teachings. 3. According to Special revelation Exclusivism, unless and until God sends special revelation one cannot be liberated without hearing Gospel teaching in this life. Karl Barth, Emile Brunner and Hendrik Kraemer formulated this Exclusivistic view.

Exclusivism is not tenable due to lacking of neutrality. There are no religiously neutral criteria in order to determine the exclusive truthfulness of one's own religion. Thus, Exclusivism cannot be a satisfactory view for religious harmony. Rather it necessarily encourages and fuels religious violence among followers of different religions. Its aggressive attitude actually becomes

religious fundamentalism which poses as the main threat to global peace and harmony. According to Swami Vivekananda, the view which expresses that only one religion is true and all others are false, is abnormal. Because, he believes that variation is inevitable. It is the plan of universe.

Inclusivism:

Inclusivism, which belongs to the middle position in the threefold typology, too asserts that one's own religion is true and other religions are included into one's own religion. It, however, admits that other religions are partially true and thus not totally false. Truth can be found in their religions also but in an incomplete and inadequate form only. Karl Rahner, a German Catholic theologian, first advocated Inclusivism as the interreligious attitude.

Though this view is much more open for interreligious dialogue and acknowledges that other religions involves truth, still feels that one's own religion is the best. Thus it also cannot be a suitable means in bringing religious harmony as it involves the feeling of superiority and lacks neutrality. In fact, it is a concealed form of exclusivism as it believes that



one's own religion is the best and contains the complete truth while other religions are not. Almost all world religions contain some form of exclusivistic or inclusivistic attitude. For example, Christianity believes 'Extra Ecclesiam nulla Salus' - beyond the Church liberation is not possible. Buddhism believes that only bodhisattva can attain salvation. Likewise, Hinduism too claims that only jivanmukta can achieve liberation.

Pluralism:

Pluralism, which is critical to exclusivism, advocates all religions are true and equally valid paths to salvation. It accepts all religions without ignoring their own unique features. Thus, openness, tolerance and equality toward other religions are the basic and important features of this view. This idea was introduced by Arnold Toynbee, W.E. Hocking and Ernst Troeltsch which was given firm foundation by Paul Tillich, Wilfred Cantwell Smith and John Hick.

Apparently it seems that pluralism has potential for bringing religious harmony. Unlike other two views, it shows tolerance towards other religions. But toleration involves the sense of superiority

and Swami Vivekananda thinks it is a kind of 'blasphemy'. To quote him

".....toleration is often blasphemy.....Toleration means that I think that you are wrong and I am just allowing you to live. It is not a blasphemy to think that you and I are allowing others to live?"^{vi}

Moreover, like inclusivism, pluralism too is a covert form of exclusivism argues Gavin D'Costa, a professor of theology because it too involves best feeling mentality. He cites examples of Dalai Lama and Dr. Sarvapelli Radhakrishnan, two popular and well known pluralists, who advocate all religions are true, but at the same time, claim that their own religion is the best. Dalai Lama says:

"Among all those who accept religion, each follower has his own sort of system, his own method in order to achieve that goal. I want to stress that it is not necessary for everyone to follow one path, nor is there only one way.... You cannot say that there is only one religion and that one religion is the best, or that a particular religion is the best. Now for example I am a Buddhist but I cannot say Buddhism is best, although for me Buddhism is best....



For certain people Christianity is much more influential than Buddhism, so for them Christianity is the best.”^{vii}

He thinks in order to attain liberation one has to become Buddhist monk. He observes:

“Liberation in which ‘a mind that understands the sphere of reality annihilates all defilements in the sphere of reality’ is a state that only Buddhists can accomplish.”^{viii}

Not only that, according to him, there is a hierarchy of truths in Buddhism and it is the Tibetan Buddhism, more specifically, the dGe lugs tradition to which he belongs is the highest and complete form of Buddhism because it contains all systems of Buddhism such as Hināyana (Low Vehicle), Mahāyana (Sutra Great Vehicle) and Tantra (Mantra Great Vehicle)^{ix}. Then how can Dalai Lama be considered as pluralist? Radhakrishnan also a notable pluralist, advocates without non-dual Advaitin experience, liberation (moksha) is not possible. These examples clearly indicate that though Pluralism claims neutrality, openness, tolerance and equality, it is, in fact, is a concealed form of exclusivism.

So, as the three-fold model proposed by Alan Race towards interfaith relations is faulty and contains the best feeling attitude, or ‘frog-in-the-well’ mentality, it cannot be regarded as a proper way out of religious dissensions. Then the pertinent question arises: how can we get rid of such violence in the name of religion?

References:

-
- ⁱ . Schlager, N & Jayne Weisblatt, eds., *World Religions*, Vol., 1, Detroit: Thomas Gale, 2007, p., 2.
- ⁱⁱ . Juergensmeyer, Mark, ed., *Violence and the Sacred in the Modern World*, London: Frank Cass, 1992, p., 1.
- ⁱⁱⁱ . *Encyclopedia of Violence, Peace and Conflicts*, Vol., 3, p., 236
- ^{iv} . *The Complete Works of Swami Vivekananda*, Vol.2, Kolkata: Advaita Ashrama, 2009, p. 360.
- ^v . Race Alan, “Christians and Religious Pluralism,” in Gavin D’Costa , *Meeting of Religions and the Trinity*, Maryknoll: Orbis Books, 2000, p., 20.
- ^{vi} *The Complete Works of Swami Vivekananda*, vol. 2, Kolkata: Advaita Ashrama, 2009, pp.373-74.



^{vii} . Dalai Lama, “The Good Heart: A Buddhist Perspective on the Teachings of Jesus,” in D’ Costa, *Meeting of Religions and the Trinity*, p., 75.

^{viii} . Dalai Lama, *The Bodhgaya Interviews*, in *ibid.*, p., 33.

^{ix} . Dalai Lama, *Kindness, Clarity and Insight*, in *ibid.*, p.79.



haÑjje pjí-SI °eçal p-Qaeju djÑ

jpaa-æpi Mjaæe
pq-AdÉjçfLj, cnÑe çhiñN
hqjlfal L-mS, cšlijo -9434451167

Abstract:

djÑ hm-a pjdilZij-h -hijTju, -Lje AçafÉjL«a pšju jjeæ-ol çhnÄip Hhw JC AçafÉjL«a pšil pç'çø çhdj-el SeÉ Abhj ajl p-%o HLjaËmj-il SeÉ fšSi, AQÑej, Bljdei CaÉjçc LjÑjjeæùjez çLç'1æ, ijlæu ni-Ù» "djÑ' n-ël AbÑ Aeapåje Llj q-u-R AeÉij-hz "da' djaæi p-%o "je' fÉaÉu -kñN L-l djÑ nëçV Evfæ q-u-Rz "da' djaæi AbÑ dijZ Lljz "ki pjNË çhnÄ-L dijZ L-l B-R, ki pjNË çh-nÄi na'Mmj-L Irj L-l aJC djÑz jjeæ-ol rjaç pÉçja aJC -p pjÜ' pjjçSL pjpÉil pjdje L-l a fi-l eiz aJC -p ApÉj, p-hñjµQ rjaçpçfæ, phñnçš'jje -Lje AaÉç'çÉu pšil Lj-R pjfñZ L-lz Bjj-cl LjÑ-r-œ -kje, kMe -cçM -Lje hÉçš² AçdL rjaçpçfæ 'j-el çcL -b-LC -qjL Bl A-bÑl çcL -b-LC -qjL, ajl fÉça pçjje fÉcnÑe Lçlz Bjil j-a, d-jÑl BcnÑ...çm-L kçc pjjçSL pjpÉi pjdj-el Efju çqpi-h NÉqZ Lçl, ajq-m A-eL pjpÉj, c'çà çh-ic cšl q-h Hhw jjeçhL jšmÉ-hjd-L SjNÉa Llj pñh q-hz jjeæo çqpi-h NZÉ q-a -N-m HLçV BcnÑ hj jjeçä pjj-e -l-M H-Nj-a q-hz aJC d-jÑl eÉça J BcnÑ...çm Bjilj kçc jje-a fiçl, AbÑjv Bjilj kçc fÉçaçV d-jÑl BcnÑ J eÉça...çml Lbj -j-e Qçm ajq-m Bjj-cl j-dÉ -Lje çh-ic bjL-h eiz piçfÉççjuL à'çà J çh-ic cšl q-u pwqça J l-LÉl hjaçhIZ °alÉ q-hz

pšQLnë (Keywords) X çh-nÄi na'Mmj, jšmÉ-hjd, djÑ-Qaej, °eçal -Qaej, Aeapñjez

Email: contactsamsun@gmail.com, Ph. No. 9434451167.

(Paper received on 18/04/2018; Paper accepted on 15/05/2018; Paper published on 1st July, 2018.)

djÑ hm-a pjdilZij-h -hijTju, -Lje AçafÉjL«a pšju jjeæ-ol çhnÄip Hhw JC AçafÉjL«a pšil pç'çø çhdj-el SeÉ Abhj ajl p-%o HLjaËmj-il SeÉ fšSi, AQÑej, Bljdei CaÉjçc LjÑjjeæùjez çLç'1æ, ijlæu ni-Ù» "djÑ' n-ël AbÑ

Aeapåje Llj q-u-R AeÉij-hz "da' djaæi p-%o "je' fÉaÉu -kñN L-l djÑ nëçV Evfæ q-u-Rz "da' djaæi AbÑ dijZ Lljz "ki pjNË çhnÄ-L dijZ L-l B-R, ki pjNË çh-nÄi na'Mmj-L Irj L-l aJC djÑz d-jÑl Aiçh SN-a na'Mmjil Aiçh OVaz djÑ B-mjQej



LI-a ϕN-u jeα h-m-Re, "jjeα-ol Hje -Lje ϕœ²u_i e_iC k_i L_{ij} (desire) -b-L Eá" a eu, ϕLζ¹≠ HC L_{ij} a-j_i...-Zl fĒL_{ij}nz a_iC L_{ij}-L ϕeuζ»Z L-l jjeαo k_i-a pĒL_{ij}-h ϕœ²u_i LI-a pjbŃ qu, -pSeĒC EfŪŪ_ife_iz HC d-jŃl fšhŃhšŃŒ qm G-NĀ-cl Ga AbŃ_{ij}v °eϕaL ϕeu-jl (moral order) d_iz_{ij}z d_jŃ °eϕaL ϕeu-jl ja ϕeuζ»-LI L_iS L-lz -k p_jiS d-jŃl fĒϕa ka nĒŪ_inĒm, -p p_jiS aa pααlϕra, -k p_jiS a_i eu, -p p_jiS aa ϕe-Sl rϕaL_ilLz "" d_jŃ Hh q-a_i qϕζ¹ d-jŃ_i lϕrax jeα pwϕqa_i-8/15 (The Manu Samhita` V.Raghavan, The cultural Heritage of India, Vol-II, 1969, p.p. 341-343) jq_ijl-a d_jŃ hm-a ϕLR≠ p_ciQ_{ij}l h_i pααeĒϕa f_ime-L -h_iT_i-e_i q-u-Rz eĒϕaϕe Aeα_ije_iϕc ϕœ²u_i jšmÉqĒe'-fĒ_iQĒeL_i-m ūĒL«a HC eĒϕa °eϕaL BQIZ p_jŪ¹ ϕœ²u_ijeα_i-el BhϕnĒL naŃz a_iC jq_ijl-a hm_j q-u-R, ""h_y AnĀ-jd k' L_il -Q-u paĒLbe A-eL_iw-n -nĒuz"

jjeα-ol ū_i-hl j-dĒC d_jŃŒu i_jh ϕeqĒaz d-jŃl jšm a_iC jjeα-ol ū_ih, h_iC-l euz jjeαp kMe HL_iζ¹ Apq_{iu} -h_id L-l, Q≠s_iζ¹_i-h ϕhfkŃŪ¹ qu, kMe a_{ij} ϕeS nϕš²-a SĒhed_{ij}z pŃh h-m j-e qu e_i, aMe -pC cαhŃm jαq̄-aŃ -p a_{ij} ū_ih-nC h_iC-l p_iq_{ik}É L_{ije} L-lz Bϕc_j jjeαo kMe heS%-m hph_{ij}p Lla, aMe ϕe-Sl AϕŪ¹aĒ Ir_{ij}l AϕifĒ_i-u, a_{ij} ϕhdhŪ¹J ϕhfkŃŪ¹ SĒh-e h_iC-l AϕafĒL«a nϕš²_i L_iR -b-L p_iq_{ik}É fĒaÉ_{ij} L-l-Rz fĒ_iL«ϕaL cα-kŃ_i-N SĒhe ϕhfæ, heÉ ϕqwpĒ fĒ_iZĒl Bœ²_j-Z SĒhe ϕhfæ, nœf-rl jjeα-ol AaϕLŃa Bœ²_j-Z SĒhe ϕhfæ, qh_{ij}l pŃhe_j -b-L BaĒ_{ij}l fĒ_i-u_iS-e Aϕaj_{ij}ehĒu pš_{ij}l LŌfe_i L-l-Rz a_{ij}l_i -i-hϕRm ϕe-Sl rŷá J pĒϕ_{ij}a nϕš² ϕc-u HC ϕh_iŪ nϕš²-L Su L_il ApŃhz HC Apq_{iu} jα_y-aŃ h_iC-l -b-L

p_iq_{ik}É fĒaÉ_{ij} L-l Aϕaj_{ij}ehĒu pš_{ij}l fšS_i, AQŃe_i Bl_{ide} L-l p_iq_{ik}É fĒ_ibŃe_i L-lϕRmz HC_{ij}-h Bϕc_j j_{ij}eh p_ji-Sl ϕhhaŃ-el ϕhϕiæ fkŃ_i-u"-gϕVp fšS_{ij}h_ic'(Fetishism`), fĒ_iZh_ic(Animism), -fĒafšS_{ij}h_ic (Ghost-Worship Doctrine`), -V_i-V_jh_ic (Totemism) CaÉ_iϕcl fĒQme quz HC_{ij}-h Bϕc_j p_jiS -N_iϕĒd-jŃl (Tribal Religion) fĒhaŃe O-Vz

p_jiS fϕlhaŃ-el flhaŃŒ ...!aĒfšZŃ d_i-f, ϕhϕiæ -N_iϕĒ h_i EfS_iϕa kMe flϕfl ϕ_jϕma q-u "S_iϕa' NWe L-l aMe -N_iϕĒd_jŃ "S_iaĒu d-jŃ (National Religion) EæĒa quz HC fkŃ_i-u -N_iϕĒd-jŃl h_y BaĒ_{ij}l fĒϕa °eϕaL ϕhnŌoZ B-l_{ij} L-l jjeαo h_y -cha_{ij}l LŌfe_i L-lz HC fkŃ_i-u fĒ_iLϕaL BaĒ_{ij}...ϕm-a elaĒ d_jŃ B-l_{ij}ϕfa quz HCph -cha_{ij}-cl j-dĒ ϕqwp_i, -ào J nœŷa_i ϕRmz fĒ_iu 3,000 MĒĒø fšhŃ_i-Ē HV_iC ϕRm S_iaĒu d-jŃl ϕQœz MĒĒøfšhŃ 1000 -b-L 3000 fkŃ_iζ¹ d-jŃl -rœϕV-L HL "pααhZŃkαN' hm_j qu, L_{ij}m -Spf_{ij}pŃ k_i-L (Axial period) h-m-Rez (The origin and goal of Histong, Karl Jaspers, 1949, Chap. 1) HC p_ju ϕhϕiæ -c-n ϕLR≠ p_idα p-ζ¹ BϕhiŃh quz a_{ij}l_i fĒQϕma d-jŃl p-% eĒϕa-L kαš² L-l a_{ij}l EvLkŃ p_{ij}de L-l Hhw eĒϕapϕ_{ij}a d-jŃl h_iZĒ-L p_{ij}d_{ij}z jjeα-ol L_i-R p_qS J plm_{ij}-h fĒL_{ij}n L-lez flhaŃŒL_i-m 800-300 MĒĒø fšhŃ_i-Ē ϕh-nĀl e_{ij} fĒ_i-ζ¹ d_jŃpwú_{ij}l jq_{ij}fα_{ij}-ol BϕhiŃ_{ij}h quz

a-h d-jŃl Evfϕš J ϕhL_i-nl Cϕa_{ij}p B-m_{ij}Qe_i L-l-m HV_i ϕfø qu -k d_jŃ ϕhnĀ_{ij}-pl jš-m jjeα-ol Apq_{iu}-h_{ij}d J SĒhekα-Ū -hy-Q b_{ij}l_{ij}l fĒhm a_{ij}se_i; flhaŃŒL_i-m "-hy-Q b_{ij}l_{ij}l a_{ij}se_i' "Eæa



Sfhemi-il hipeju' fclhZa quz pjiS Sfh-e d-jñi HLçV çhçnø i'çjLi B-Rz pjiS Sfh-e djñ ejeij-h çe-S-L fELin L-lz çhçiaè fçlhiçlL, Abñ°eçal, IjS°eçal Aeæùje-fEçau-el Efl djñ aji fEiçh çhU'1l L-lz djñEu fEçauje...çm pijçSL -jmj-jnjl ...l'aÆfSZñ -L³cEz HC pijçSL -jmj-jnjl g-m pjiSÜÜ hEçš²-cl j-dÉ fçlçfçlL pqjeæi'çA J fEÉçal p'il quz Li-SC djñEu fEçauje...çm jjeæ-ol j-dÉ i'çjLi«aÆ-hjd SjnÉa Lijl ...l'aÆfSZñ -L³cEz djñEu j-eijçh A-el pju jjeæ-ol ILÉhÜ L-l J SeLmÉjZjçmL Ljkñ pçfice Lijl SeÉ fE-Ziçca L-lz djñ jjeæ-ol Qçlæ-L fEiçha L-l pjiS Sfh-e-L NçWa L-lz djñ hEçš² j-e pijçSL jçmÉ-hjd p'çlç L-l, djñ hEçš²-L pijçSL çeuç -j-e Qm-a, Af-ll çQç'1j J Aeæi'çal fEçA nEÜjnçm q-a, pijçSL ççuaÆ fime Li-a Hhw çQç'1ju J Li-kñ çh-hL-hæçÜpçfæ çnrç -cuz djñ °eçalaLijl AeÉaj Evpz djñ qm jjeæ-ol Sfh-el -nEø jçmÉ...çml (Values) üçL«çaz Abñiv paÉ, çnh J pææ³ç-ll Efmçiz -pç Lijl-Zl IjdjL«o:je h-m-Re, "pææ³çl, çnh J p-aÉl SeÉ j-el -k A-eÄoZ aijç qm DnÄli-eÄoZz S.Radhakrishan, Religion and society, page-47 jç-um HXJuçXñpç djñ-L HC çªçø-aç -c-M-Rez çaçe h-me, djñ pçfLñç Sjnçal çªçøi%çl paÉaj fEçNÀ fEçjea Bjç-cl fljçç-mÉl hij'haçl fEçNÀz" -Mail Eduwards: The philosply of Religion, page-225 pijçSL çhoulç-f djñ-L HC çªçø-aç -cMh jçmÉ-hj-dl ççlçV, jjeçajl ççlçV Hhw aji pijçSL pwqçal ççlçVz

djñ çL pwqçA ççš² ej çh-µRc pªçø Lijl ççš²? d-jñi çççV ççL B-R, hEçš²Na ççL J pijçSL ççLz hEçš²Na

Sfh-e d-jñi E-eÉo kij SeÉ hEçš² ppçj q-mç HL Apçj pçil jç-T çe-Sl fçZñaj J Ajlaj-L Myç-S -f-a Qju Hhw aji p-% çjçma q-a Qjuç H-r-æ jjeæ çe-S-L Apç-jl p-% ççš² Lijl fE-Qøç L-lz Bl HLçV qm pijçSL ççLz HC pijçSL ççlçVC jjeæ-ol fløf-ll p-% ççš² L-lz

hañjje çç-N d-jñi fEçje i'çjLi q-h jjeæ-ol fEççal hæ-L çªt L-l -ajmiz d-jñi hççl% Abñiv hijçqÉL BQçl-Aeæùje, lççA-eççA, çeuçijçh fime Lijç--k kbjbn djñ-hj-dl fçlQjuL eu, çhçiaè djñ pijçfEççui'ç² jjeæ-ol -pç çnrç çç-a q-hz Af-ll fEçA çh-ào, OªZi, çqwpçl j-eijçl hçe Lijl kbjbn djñ-hj-dl fçlQjuL euz djñ fEçAçV jjeæ-ol eççafliuç, pççQijç, LañhÉfliuç, Eççl J pwkçç q-a çnrç -c-hz d-jñi fEçL«a Abñ Efmçl Li-m jjeæ hæT-a fçl-h, djñihççç jjeæ-ol pwLçZñjeç, ççš²-Qaç, üjbnçl J çeçhñQijç L-l -aj-m, kbjbn djñçQijl euz

BçççLij-m kMe SNv pð-å Hhw Bfeçl pð-å jjeæ-ol 'je AçA AOfç çRm aMe fçlçfçZñaj mç-ll -Lje dçlZju çRm eiz Sfh-e dçl-Zl SeÉ ççLçç MççÉ, -l±å, hæçø, nççA -b-L lri fçhçl SeÉ HLçV BñEu, fEçm nçæçl Bçç²Z -b-L BaÉlri, HCph çRm jjeæ-ol fEçje LijÉ, Hhw HCph LijÉhU'1çmçij Lijl SeÉ jjeæ-ol A-fri nçç²nçmç HL hij HLijçdL AcªnÉ, AçafEçL«a, AjjeççL ççš² Efl çeiñi Lij, aij-cl niZiçæ qjuç HLijçæ Eççl h-m j-e Lij çaz Lijmç²-j HCpLm ççš² EççpÉ -chajçlç-f fçlZa qm Hhw HCij-h djñ-Qaeçl Evfçç qmç æ²-j æ²-j HLçç-L -kçe Qij LijÉ hU'1ç pð-å jjeæ-ol dçlZi çç²jn Eæal qm -ajç EççpÉ -chaj pð-å jjeæ-ol dçlZiçl ççlhañe qmç hí -chajl UÜç-e HL pçU'1 phñnççç²çje, phñ' pLm pç...-Zl



BnËu DnÄ-ll çhnÄipC çQç¹in£m hÉçš²-cl j-e hÜj\$mqmz œ²-j Açajjeh£u pšjl Efl çeiÑl L-l -Lhmjjoç çe-Sl -Qøj-aC flj LjjÉhÜ¹¥ mji Ll_i -k-a fj-l HC -hjd S;NËa qmz jjea-ol hççÜl çhL_i-nl p-%o p-%o ij-mj Hhw j-¾cl fjbn-LÉl Evfæ qm Hhw ajl p-%o KçQaÉ-hjd N-s EWmz

Bçcj ka-N jjea-ol j-e djÑ-Qaej J °çal -Qaej j-dÉ fjbnLE çRm eiz çLç¹¥ kMe jjea-ol j-e HC fjbn-LÉl -hjd SeÉju aMe -cM_i -Nm -k, LMeJ LMeJ djÑ£u Aeañipe Hhw pjjçSL hj °çal Aeañip-el j-dÉ çh-ljd EçÜÜa qu, aMe hçT-a fj-l -k, -Lje LjS djñjea-jjçca q-mJ eççapçja eij q-a fj-l Hhw -k LjS eççapçja aij djñjea-jjçca eij q-a fj-lz -kje, çhçiaç d-j fohm£ djñjea-jjçca çLç¹¥ °çal ççç-a AeaçQa LjSz djñi-hl pil qm nÉÜj, çhnÄip, flçeiÑlaj, Bl °çal-hj-dl pil qm EçQa J AeaçQ-al fjbnLE pçf-LÑ çhQilhççÜ fE-u_iN J BaÈçeiÑlajz djñ J eççal j-dÉ -LjeçV jjea-ol LjjÉhÜ¹¥ mji Ll_i SeÉ jME HC çe-u çjnçel-cl j-dÉ jaçh-ljd B-Rz fkñjuç²-j çhQil Ll-m -cM_i kju B-N H-p-R djñ, f-l H-p-R eçça-hjdz BdÉjçael S£h-e djñ pideju fE-u_iSe j\$MÉ Hhw °çal çhQil -N±Zz -Leej, ayj-cl j-a jjea pp£j S£h, ayj 'je J Ljñnçš² ççç p£çjaz aij çe-Sl hççÜ fE-u_iN L-l EçQa J AeaçQa çezÑu Ll_i LçWez paaalw d-jñl Beañipe fjme Ll_i Rjsj Bji-cl -Lje NaÉç¹IC -eCz f' C¾çÉu çhçnø jjea hçççEL fE-m_i-e A-eL A°çal LjS Ll-a fj-lz S£he çlQkñil -r-œ A-eL hjd çhfçšl pçj¥M£e q-a qu, k_i aij HL_i HCph hjd çhfçšl pçj¥M£Z qJu_i J fE-m_ije Su Ll_i çxpjçÉz paaalw HL Aeç¹ nçš²jje flj Ll_iZju DnÄ-ll nljZfæ qJu_i

Rjsj -Lje Efiu bj-L eiz paaalw jjea-ol BdÉjçael S£h-e d-jñl ÜÜje phÑj-NEz

Aflf-r, -Lje-Lje çjnçel Açija -fjoZ L-l-Re BdÉjçael S£h-e °çalajl ÜÜjeç fEbjz Bji BaÈp-Qae-çhQilhççÜpçfæ S£hz Bji-cl çhQilhççÜ fE-u_iN L-IC -Lje Ljñ Ll_i EçQa, -Lje Ljñ Ll_i AeaçQa aij çÜÜl Ll-a quz S£h-el AeÉjeE-r-œ, -kje çh'je-pideju, fEkaçš²-çhçÉju kçç Bji-cl çhQilhççÜ Hhw CµR_i nçš² çhfam piggÉm_i Ll-a fj-l, aij-q-m °çal S£h-eC hj aij-cl rja_i ü£L_i Ll-a -çjo L£? AçdLjwn ÜÜ-mC Bji-cl djñ£u çhnÄip...çm Hjeij-h Aå L¥-pwúj-ll p-%o Sçs-u aij f^abL Ll_i LçWez -cM_i kju Aå-L¥pwúj_i -b-L fE«a djñçhnÄip-L f^abL Ll_i SeÉ çhQilhççÜ Efl çeiÑl Ll-a quz

djñ-Qaej J eçça-hj-dl j-dÉ fjbnLE bjL-mJ aij-cl j-dÉ çh-ljd -eCz aij fløf-ll çlçf\$ILz jjea HLjdi-l pp£j-Ap£j S£h (Finite-infinite beging) Aflçç-L -ajeç pLmfEL_i fjçbnh Ljjeil fEijh Açaçç² L-l flj -r-œ hj Aj^aaaÆm_i-il SeÉ EvpaaLz -çqdj£ S£h çqpi-h fE-aÉLçV jjea pjjçSL çl-h-n hphip L-lz fE-aÉLçV jjea-ol pjjçSL S£he B-Rz Bji f^açbh£-a hý hÉçš²l pwøf-nñ Bçp Hhw aij-cl p-%o fEaÉr hj f-ljri-h âhé çhçejju, Ljñ çhçejju J ijhçhçejju L-l bjçLz Hl g-m Bji EfmçÜ Lçl -k, Bji-cl fE-aÉ-Ll phÑj%£Z j%om pji-Sl p-%o Oçççij-h pçfLñkçš²z Bji-cl BdÉjçael Eæçal SeÉ eççac k-bø, d-jñl -Lje fE-u_iSe£ua_i -eC HLb_i fç-ljçl NÉqZ-kjNE euz -Lje AçafÉjL«a, Açajjeh£u nçš²l Lj-R BaÈpjñZ eij L-lj, HjeçL Hlçf -Lje nçš²l Aç-Ü¹-Ü¹ çhnÄip



e; L-IJ jjeao S£h-el Qlj p; bÑLa; m; j LI-a f; l çLe; HC fËnÀ -b-LC k; uz A-eL çel£nÄlh; ç£ hÉçš², A-‘uh; ç£ hÉçš² çR-me Hhw HMeJ B-Re ky; l; ay; -cl çejÑm Qçlœ, LaÑhÉçeu; , flçq°aoe; , -cn-içš² üS; ça--fËj fËi«ç a pcÚ...-Zl SeÉ pL-ml nËÜ; ASÑe L-l-Rez çLç¹¥ a; p-šÄJ B; j-cl °eçal S£h-e Hje A-eL p; pÉ; B-R k; -cl p-ç¹joSeL p; j; d; je e£ç a-h; id, -L; je AçafË; jL«a, Açaj; eh£u pš; j; l Efmçil p-%o Sçsa eu, -Lhm; j; œ a; j; l p; i; q; kÉ L; j; pñhfl euz

haÑjjeL; -m çhç; iæ Ilj p; j; jçSL Afl; id cš; j; l Lh; j; l SeÉ A-eL Ilj çeu; j-L; jeæ °al£ q-u-Rz p; j; wçhd; jçel çhçdçe-od, j; jeh; jçdL; j; l pwl; r-Zl SeÉ BCe °açl q-u-Rz çLç¹¥, fË; jQ£eL; -m kMe l; jø h; j; pL; j-l fË; i; h Ha hÉfL çRm e; j, aMe djÑ p; j; jçSL BQ; j-l-hÉh; q; j; l çeu-ç»l hÉ; j; f; -l HLçV fË- u; j; Se£u iç; j; l; j; f; jme Llaz Bçç; j; p; j; -S fæçmn -SmM; je; j; BCe-pwçq; a; j; CaÉ; jçç Ha fË-L; j; f J fË; a; j; f çRm e; j; z k; j; çRm a; j; qm fËhm pçœ²u Se; j; az fË; jQ£eL; -m HC Se; j; a-L fË; aÉ; j; i; j-h çeuç»Z Lla djÑ£u -ea«h³⁄cz f-l; r çeuç»Z Lla p; j; S a; j; l h³qšl ü; j-bÑz phÑ; j; -fr; j; -k nçš² p; j; S-L çeuç»Z Lla a; j; qm djÑz

fË; jQÉJ d-jÑl h; j; djÑ fËhš²; j-cl "h; jZ£' h; j; DnÄ-l fË; aÉ; j; -cn h; j; Aeæ; j; j; pe çRm p; j; S£h-el çeu; j; jLz çq³⁄c¥ p; j; -Sl djÑ çRm "Øj«ç a-nË¥ç a-f; j; l-Z; jš²'z AbÑ; j; v BkÑ j; æçe-Gço-cl çhd; j; ez -hc-Efçeoc j; q; j; j; l; a-djÑn; j; Ü»-H-cl ç; içš-a çq³⁄c¥-cl djÑ J L-jÑl çeuç»Z qaz jeæ pwçq; a; j; k; j; çq³⁄c¥l p; j; jçSL J djÑ£u S£h-el f; b; f; c; nÑL, a; j; HLçV AeÉaj -nËù djÑNË; ç; Üz N£a; j; j; p; j; jçSL S£he, AbÑ°eçal S£he çeuç»-Zl

AeÉaj NË; ç; Üz Cpm; j; , MË£ø; je d-jÑl p; j; jShÉhÜÜ; j; fæ-l; j; fæçl d-jÑl à; j; j; çeZÑ£a J Aeæ; j; jçpaz p; j; d; j; lZ; j; -h -cM-a -N-m fæçbh£l pLm -nËù djÑNË; ç; Üz p; j; S-c-çl -j; l; çä ü; lçfz

d-jÑl fË; j; bçjL iç; j; l; j; jjeao çhnÄhË; j; p; j; ä J a; j; l pËø; j; l p-%o pçfLÑ çeZÑuz djÑ jjeæ-ol f; j; f-fš-ZÉl d; j; lZ; j; l çeZÑ; j; uLz djÑ jjeæ-ol p-%o jjeæ-ol e; j; j; fËL; j; l LmÉ; j; ZLl L; j; -kÑ p; q- k; j; çNa; j; J pw- k; j; N p³çø L-lz l; j; jL«o· ç; j; ne, i; j; la -ph; j; nË; j; pwO, j; æçš² -g±S (salvation Army) CaÉ; jçç iNhc -fËZ; j; u EàæÜ pwÜÜ; j; ...çm p; j; jçSL fËç; a; j; ç; je çq; j; -h e; j; j; fËL; j; l Seçq; aLl L; j; -kÑ çekæš² B-Rz BaÑ œ; j; z, ç; jçl-âl -ph; j; , pLm jjeæ-ol i; j; a«-aÆl BcnÑ CaÉ; jçç qm pLm d-jÑl jšm mrÉz jjeao a; j; l p; qS çhQ; j; l hæçÜ- a kMe çh; j; jç¹ J çcn; j; q; j; l; j; q-u f-s, eÉ; j; u-AeÉ; j; u çUÜl L-l a f; j; -l e; j; aMe djÑ a; j; l L; j; -R çpÀ; ç; AçehÑ; j; z c³aqÜ¹ d³a B-m; j; l hç; aÑL; j; l; j; az Bh; j; l djÑ pççfLÑa BQ; j; l-Aeæ; j; -elJ HLçV a; j; vfkÑ B-Rz MË£ø; je-cl "hsçce' Hl Evph, j; æpm; j; je-cl Dc, çq³⁄c¥-cl cšNÑ; j; fšS; j; HCph Aeæ; j; -el j; j; dÉ- j; jjeæ-ol j- dÉ HL; a; j; J i; j; aaÆ«-h; j; -dl E-eÉo O-Vz çe-S-cl j- dÉ çh-ic, c³⁄à cšl L-l H-l Af-l; l L; j; R; j; l; çR H-p HLçV n; jçç¹ h; j; a; j; hZ °al£ L-l a f; j; -l; z

B; j; -cl p; j; -S -cM-a f; j; C -L; j; -e; j; -L; j; -e; j; jjeao B-R ky; j; l; j; pçfZÑlç-f djÑ-h; j; d pççfæ Bh; j; l -L; j; -e; j; -L; j; -e; j; jjeao B-R djÑçel-fr e£ç; a; j; je çhçnø Bl HL -nËZ£l jjeao B-R ky; j; -cl d-jÑ çhnÄ; j; p -eC, e£ç; a; j; je eu çLç¹¥ a; j; C h-m a; j; l; j; çæÑ£çaf; j; ueJ euz Hy-c-lL "immoral` e; j; h-m "amoral hm; j; k; j; uz p-hÑ; j; cu -ea; j; SufËL; j; n e; j; j; uZ HC; j; -h "a moral`



jjeα-ol kαφš²h_i-cl hÉ_iMÉ_i φc-u-Re-
 "jjeαo fĒnÀ L-l -k, -Le pv qC-hz DnĀl
 e_iC, BaĒ_i e_iC, flSeĒ e_iC, SeĒ²aφÉl
 f_ilCfkĀ e_iCz jjeαo f²ā_id_il, BLφØjL_i-h
 a_iq_il SeĒ, a_iq_il fl f²ā_i-aC φhmαφcz -p
 a_iq_il QaφØf_i-nĀ -cφM-a-R Ap-al Su--p
 -cφM-a-R cαeĀÉφa, L_i-m_ih_iS_ilÉ,
 φ_ibĒ_ij_io_i, a'L_a_i, φeù_iφ_a_i r_a_il ms_iC,
 hmĒ-u_iNz ü_ih_a_iC -p fĒnÀ Lφl-h, -p -Le
 fαZÉh_ie qC-a k_iC-h? B_j_i-cl BdαφeL
 p_j_i-Sl pC_jφa Hhw hŪ¹φ_a_iφ_z»L cnĀe
 (Q_ihĀ_iL-cl eÉφa) k_iq_i BS jjeαo-L
 f_ilQ_iφma Lφl-a-R, a_iq_il φeLV qC-a Eš
 Bφp-h: fαZÉh_ie qCJ e_iz Eš² jjeαo ka
 Qaφ_i J ...ZpC_fæ qC-h aaC p_iq-pl pφqa
 -p HC eaφe eÉφaq_iea_il AeαnÉme Lφl-hz
 HC eÉφaq_iea_il j-dÉ j_iehS_iφal üfÀ
 BL_i'M_i BμRæ J φhL«a qCu_i k_iu'z HC
 hš²-hÉl jšm AbĀ qm eÉφa'jeq_iea_il, dĀ_i J
 eÉφal ja p_j_i-SIC p^aφøz Cq_i p_j_iSSÉh-el
 φhL«φal gmz Cq_i p_j_iS-L dÆw-p_ieĒφMÉ
 L-lz dĀ_i J eÉφa EiuC jjeα-ol A_z¹-ll
 Efmφ_iz H-cl φe-cĀn h_i φhd_ie l_iøÉÉu
 BCe A-fr_i EμQal nφš²φhφnøz a-h BC-el
 mrÉ p_j_i-Sl eÉφa J d-jĀ_il BcnĀ-L l_r_i L_iz
 φL_z¹φ BCe jjeα-ol Qφlæ NWe L-l e_i, a_il
 h_iφqÉL BQI-ZI φeuz»Z L-l k_i-a jjeαo
 EμQal SÉhe-k_ife Ll-a f_i-l a_il f_il-hn p^aφø
 Ll-a p_iq_iu_a_i L-lz φL_z¹φ dĀ_i jjeα-ol A_z¹-ll
 φeuz»Z L-l, A_z¹-ll öφÜ φe-u B-pz
 p_ij_iφSL n^aMm_i hS_iu l_iM_il SeÉ -k_ie
 h_iφqÉL BQIZ φeuz»-ZI SeÉ clL_il BCe,
 -ajφe A_z¹-ll öφÜ_il SeÉ clL_il dĀ_iNz

a-h fĒ_iQ_iÉeL_im -b-LC -cM_i
 k_iu, jjeαo d-jĀ_il fĒ_i-h Q_iφma qJu_iu p_j_i-S
 ILÉ J pwqφal f_ilh-aĀ e_ie_ie φh-l_id J
 pwOoĀ -cM_i φc-u-Rz Cφaq_i-p d-jĀ_il d-jĀ_il
 pwO_ia J dĀ_iNkα-Ül A-eL eφSl f_iJu_i k_iuz
 -k_ie, j_iLĀ_i-pl j-a "dĀ_iN' qm jjeα-ol Bφgwz

d-jĀ_il j_icL_a_iu BμRæ jjeαo φe-Sl AφdL_il J
 pααM-pααφhd_i pδ-ā Ec_ipÉe qu Hhw
 Af_iφbĀ_ih hŪ¹φ_i jαM_i-frÉ q-u f-sz dĀ_iN H_i-h
 jjeαo-L HLφœa e_i L-l f%oφ J cαhĀ_im L-l
 l_i-Mz k_iC-q_iL, j_iLĀ_i-pl HC ja-L p_jbĀ_ie L_i
 k_iu e_iz d-jĀ_il -k_ie -eφah_iQL φcL B-R,
 -ajφe B_h_il Cφah_iQL φcLJ B-Rz X.
 l_id_iL«o·e kb_ibĀ_iC h-m-Re, ""kMe B_j_il
 hŪ_išm pwú_il J pw'_i φe-u aLĀ Lφl aMe
 B_j_il flØfl -b-L f^abL q-u f_il_z φL_z¹φ kMe B_j_il
 fĒ_ibĀ_iNz_i J dÉ_ie-L -L³/₄cÉ L-l dĀ_iNÉu SÉh-e
 BnĒu NÉqZ Lφl, aMe B_j_il flØf-ll p-%o
 φ_jφma qC"z

jjeα-ol SÉh-eJ -N_iV_i j_ieh
 p_j_i-Sl f-r dĀ_iN k L-a_i fĒ-u_iSeÉu a_il f_ilQu
 B_j_il f_iC φLEh_il φg-cmL_i-Ū»l Lb_iuz φaφe
 h-m-Re, h_y -r-œC dĀ_iN fĒ_iφaφœ²u_inÉm
 ü_i-bĀ_i hÉhq@a q-u-R HV_i -k_ie pφaÉ
 -ajφe B_h_il HLb_iJ pφaÉ -k, dĀ_iNÉu φnr_iu
 AeαfĒ_iφZa q-u f^aφbhÉ-a p^aø q-u-R
 ANφZa pφaÉL_i-ll j_iq_ie jjeαo, k_y_il L_iS
 L-l-Re, BaĒaÉ_iN L-l-Re j_ieh LmÉ_i-el
 E-Ÿ-nÉz j_ieh p_iÉa_i-L HφN-u φe-u k_ih_il
 -r-œ ay_i-cl Ahc_ie Af_il_pÉz φaφe j-e L-le,
 BdαφeL φQ_z¹l E-eĒ-ol B-N q_iS_il q_iS_il
 hRl d-l dĀ_iN j_iehp_j_iS-L fb -cφM-u-R Hhw
 d-jĀ_il -pC i²φ_iL_i BSJ -no q-u k_iuφez

jjeα-ol r_a_i pÉφ_a a_iC -p p_jŪ¹
 p_ij_iφSL p_jpÉ_il p_jd_ie Ll-a f_i-l e_iz a_iC -p
 ApÉ_i, p-hĀ_iμQ r_a_ipC_fæ, phĀ_inφš²j_ie
 -L_ie AaÉφ³/₄cÉu pš_il L_i-R p_jfĀ_iNZ L-lz
 B_j_i-cl L_iĀ_i-r-œ -k_ie, kMe -cφM -L_ie hÉφš²
 AφdL r_a_ipC_fæ 'j-el φcL -b-LC -q_iL Bl
 A-bĀ_il φcL -b-LC -q_iL, a_il fĒ_iφa pC_j_ie
 fĒ_icnĀe Lφl_z B_j_il j-a, d-jĀ_il BcnĀ...φm-L
 kφc p_ij_iφSL p_jpÉ_il p_jd_i-el Ef_iu φq_p_i-h



NĒqZ Lϕl, a;q-m A-eL pjpÉj, c³⁄₄à ϕh-ic c§l q-h Hhw jjeϕhL j§mÉ-hjd-L SjnĒa Ll; pñh q-hz j§mÉ-hj-dl Ahru q-m HLϕV pjiS dÆwp q-u k;-hz AbÑ°eϕaL, l;S°eϕaL, °h'jϕeL pjÚ¹ ϕcL -b-L Eæϕa OV-mJ kϕc jjeæo ayil j§mÉ-hjd qjϕl-u -g-m a;q-m -pC pji-Sl pijϕNĒL Eæϕa -Ljeij-hC pñh euz djñC jjeæo-L jjeæo L-lz je-oal fĒjZ£ djñ ϕe-uC SeĒ NĒqZ L-l, ϕLj¹¥ jjeæo-L djñ ASÑe Ll-a quz jjeæo ϕqp;-h NZÉ q-a -N-m HLϕV BcnÑ hj jjecä pij-e -l-M H-Nj-a q-hz a;C d-jñl e£ϕa J BcnÑ...ϕm Bjlj kϕc jje-a fjϕl, AbÑjv Bjlj kϕc fĒϕaϕV d-jñl BcnÑ J e£ϕa...ϕml Lbj -j-e Qϕm a;q-m Bji-cl j-dÉ -Lje ϕh-ic bjL-h eiz pijϕĒc;ϕuL à³⁄₄à J ϕh-ic c§l q-u pwqϕa J l-LÉl hjajhlZ °al£ q-hz

abÉp§æ x

- 1z djñ cnÑe- l-jnQ³⁄₄cĒ j³⁄₄p£, °hL¥ã h²L qjEp, 2004-05z
- 2z pijϕjϕeL e£ϕahcÉj J djñcnÑe - X. pij-l³⁄₄cĒ i-jQjkÑ, h²L ϕpϕä-LV fĒjC-iV ϕmϕj-VX, 2009z
- 3z pijSϕh'j-el i'ϕjLj- AdÉjfl M-N³⁄₄cĒe; b -pe, ϕhcÉj fĒLjne, 2000z
- 4z djñcnÑe- ϕX.jjujm H-XjujXñp, Ae²h; c: p²²²²²mL¥jil Qæ²haÑ£, fϕÖQjh% l;SÉ f²Ú¹L fkÑc, 1989z
- 5z djñ J cnÑe - lh£³⁄₄cĒe; b cij, ϕjæj, 2005z
- 6z i;la£u e£ϕaϕhcÉj- c£fLL¥jil hjNQ£, fĒNϕan£m fĒLjnϕe, 2008z
- 7z cnÑe p£ϕjri- afeL¥jil Qæ²haÑ£, pwú«a f²Ú¹L i;ä;il, 20012z



‘Who Am I’? -Some Reflections from Sri Aurobindo’s Philosophy

Dr. Aditi Patra Nee Ray.

Assistant Professor,

Department of Philosophy,

Hooghly Mohsin College, Chinsurah, Hooghly, WB.

Abstract:

In the Indian Philosophical thought, the concept of consciousness and its relation to the physical body is the basis of reality. Many important discussions about consciousness have been made in Indian philosophical systems. Starting from the Vedas and Upanisads up to the contemporary Indian thinkers there are so many things to discuss about the concept of consciousness in Indian perspective. But in this paper, my concern is to throw some lights on the concept of consciousness from Sri Aurobindo’s Integral Yoga philosophy. It is also our search whether Sri Aurobindo’s Integral philosophy goes beyond the traditional Indian concept of consciousness and highlights a new dimension to the thought of consciousness.

Keywords: self- realization, consciousness –force (Cit-śakti), supramental, supermind, ascent, descent.

Email. Id- aditipatra.2009@rediffmail.com; Contact No: 8697743077

(Paper received on 27/04/2018; Paper accepted on 15/05/2018; Paper published on 1st July, 2018.)

Introduction

The concept of consciousness is the central theme of both the eastern as well as western philosophers. Throughout the course of history, almost all the philosophers of east as well as west had tried to propagate the concept of consciousness, such as what is the nature of consciousness? From where does it originate? What is its relation to the human mind? And these questions have always been challenged by the philosophical community all over the world. There have been philosophers throughout the course of

history who have offered solutions to these queries from their insights and self-realization.

AitareyaĀranyaka represents the earliest metaphysics of consciousness in Hindu thought. Upanisadic sages tried to find out the true nature of *Ātman* which is seen to develop from plants to man and to disclose the *rahasya* of *Ātman*. In *Chândyoga Upanisad*, *Prajâpati* unfolds successively this *Rahasyam* when *Indra* and *Virochana* approach him for Knowledge of the immortal self. The *Ātman* is progressively identified with the



body consciousness, the dream consciousness, and the deep sleep unconsciousness till finally it is declared to be the one, which persists unaffected through all these conditions of the empirical existence.

Actually, Upanisadic psychology starts with four states of consciousness, the wakeful, the dream, the sleep and the super-consciousness corresponding to the four such states of cosmic consciousness namely the *Virat*, the *Hiranyagarbha*, the *Īswara* and the *Brahman*. Further, consciousness is not an attribute of mind but of the self, which illuminates both mind and body.

So, what is the nature of the consciousness? There can be three main answers to this question raised frequently in the discussion of Indian philosophical thoughts. Firstly, the individual self is an eternal spiritual entity dependent on Brahman and it is at the same time very distinct from him. It is the pure consciousness (*cit*) which is free from all the imperfections of the elements of *Māya*. Secondly, the individual self can have the realization of both the identity with the static Brahman and living in the supreme Divine person beyond dynamic power and static being. In this respect, the individual self becomes the devotee of the supreme power, the Brahman, the Divinity. Thirdly,

the Brahman, the Absolute, has three statuses – transcendent, universal and the individual. The Transcendent is of the nature of *Sat-Cit-Ānanda* (Existence, consciousness and bliss absolute).

However, the word '*Cit*' has been taken in the sense of '*Citśakti*', i.e. consciousness is consciousness –force, which is the delight of existence. This view is propounded by Sri Aurobindo in his integral yoga philosophy. According to his view, the individual self is the Universal Brahman as a specific center of his knowledge –force and delight. The *jīvatruly* is thus nothing but the Brahman as a conscious focus and center of its self-knowledge and self-enjoyment and a means of its power and manifestation. The individual self descends into the world as the soul or psychic being and evolves into its utterly free nature. But that is not all. It not only itself evolves but is also the pivot of the evolution of the earth-nature to its intended perfection. Sri Aurobindo has tried to establish the fact that as the individual self is necessary as a center of consciousness-force for the manifestation of the world out of the multiple one, so also the individual soul is indispensable for the evolution of the triple nature of matter, life and mind into the power of supramental substance, force and knowledge.



However, it is found that in his teaching it is not enough for the individual soul to realize its spiritual being and nature, to achieve union with God and identity with the Absolute.

Sri Aurobindo opines that the true individual being in man, the real person in him, is the soul. But this person is the soul in mind, life and matter. In its actual nature it has evolved out of matter and life into mind.

The Absolute manifests itself into two forms: Being and Becoming. The Being is the fundamental reality and the Becoming is the effectual reality. It is the creative energy and the dynamic power as well as the working out of the Being. Becoming is the outcome of its immutable formless essence. From Sri Aurobindo's Being-Becoming Dialectics, it is observed that the eternal Divine is the Being and what is developed in consciousness, conditions, forces, forms, etc., by the divine power is the Becoming. In this connection one question may be raised, i.e., How do we reconcile the world of change with the One Being? It can be answered in this way: 'Being and Becoming, One and Many are both true and are both the same thing. Being is one and Becoming are Many; but this simply means that all Becoming are one Being who places himself variously in the

phenomenal movement of his consciousness.'¹

Thus, Sri Aurobindo considered both the Absolute and the Universe as true and real, and accordingly posited them an equal ontological status. According to Sri Aurobindo, the contact of the human and the individual consciousness with the divine is the very essence of Yoga. Yoga is the union of that which has become separated in the play of the universe with its own true self, origin and universality. The contact may take place at any point of the complex and intricately organized consciousness which we call our personality.

Moreover, to analyze the concept of individual from Sri Aurobindo's perspective, it is observed that according to Sri Aurobindo, the individual is not a mere accompaniment or auxiliary product of the play of consciousness in the body but is a persistent reality, an eternal portion of Eternal Spirit. Behind all the changes of our personality and upholding them, there is a person, a real spiritual individual, a true *puruṣa*. This *puruṣa* is nothing else than the Supreme spirit dwelling within us. The individual *puruṣa*, in working out his cosmic relations with the Supreme Spirit, has to assume a physical body, and this assumption of physical body is what is called Birth of an individual. In this way,



according to Sri Aurobindo's philosophy, Birth, is an essential condition of the manifestation of the *puruṣa* on the physical plane. But this Birth whether, in the human form or in any other, cannot be an isolated phenomenon without a past which was preparatory to it or a future for further fulfilment. Birth, therefore, of any individual soul in a body must be continued in other births and must have been preceded by other births. In this way, Sri Aurobindo, somehow accepts the theory of rebirth of an individual and he opines that rebirth is self-evidently a necessary part and the sole possible machinery of such an evolution. Thus, there is a rhythm in the individual evolution as there is a rhythm in the cosmic evolution. The progressive evolution of the spirit in the cosmos has its counterpart in the progressive evolution of the individual soul through different births. Thus evolution means a transformation of the whole of our terrestrial existence, material, mental and vital, first by ascending to the higher principle, and secondly, by a transformation of the whole being through the light emanating from the soul.

From Sri Aurobindo's perspective, consciousness is a reality inherent in existence. Consciousness is not only power of awareness of self and things; it

has also a dynamic and creative energy. It can determine its own reactions or abstain from reactions. Consciousness is not only *Cit* but it is also *Citśakti*. According to Sri Aurobindo, consciousness is usually identified with mind, but mental consciousness is only the human range which no more exhausts all the human possible ranges of consciousness. So, there are changes of consciousness below and above the human range, with which the normal human has no contact, and these are the unconscious and supramental or submental and over mental ranges. Sri Aurobindo also conceives consciousness as the ultimate reality of the nature of *Sat-Cit-Ânanda*. According to him, *Satcitânanda* is the one with a triple aspect. In the supreme the three are not three but one- existence is consciousness, consciousness is bliss and they are thus inseparable, not only inseparable but so much each other that they are not distinct at all. *Brahman* is the reality of things which fills and supports their form and idea. In relation to the Universe the Supreme is *Brahman*, the only reality which is not only the spiritual, material and conscious substance of all the ideas and forces and forms of the universe, but their origin, support and possessor, the cosmic and the supracosmic spirit. Our supreme self and the supreme Existence



which has become the universe are one spirit, one self and one existence. Sri Aurobindo realized this unity saying that, 'Atman, our true self, is Brahman; it is pure indivisible being, self-luminous, self-consecrated in consciousness, self-concentrated in force, self-delighted. Its existence is light and bliss. It is timeless, space less and free.'²

At this juncture, other observations like *Advaita* Vedantins view regarding the concept of consciousness would be worth mentioning. Consciousness, in traditional *Vedânta* philosophy, is treated as the principle of passive illumination, self-revealing and revealing others, shining like a lamp requiring no other agency to reveal itself. It only exists, is fully complete and satisfied in itself. It requires neither any activity, nor any dynamic relation to our world. It only shines as a light, but as marked by Sri Aurobindo, there is no definite radiation emission from such light. According to the traditional *Advaita* philosophy, consciousness is a pure form of identity having no trace of plurality in it. As a consequence, of this pure monism, i.e., 'Advaitavâda' creation of a real multiple world would not be explicable. Brahman is declared incapable of diversity.

The *Advaita* Vedantins follows the *Upanisads* in enumerating four states of

consciousness, e.g., the wakeful (*jagat*), the dream state (*svapna*), the sleep (*susupti*), the super-consciousness (*turiya*). If we combine dream and sleep into one and identify the same with the sub-consciousness state, there remain three distinct states, i.e., sub-conscious, conscious and super-conscious. The super-conscious is the highest state, the state of self-realization, identification of self and Brahman, the state of Absolute consciousness.

Sri Aurobindo starkly deviated from this type of monism, explicated the fact that the world is the expression of the Ultimate Reality, and has been created by a descent of consciousness. According to him, Brahman is not only transcendental, but also immanent in this universe. Super mind is the great connecting link between Brahman and the material world. In its process of descent, super mind descends into over mind, then into intuition and gradually into illumined and higher minds, mind is general and then into life and matter. Here, it is this process of descent that Sri Aurobindo presents as one of the salient features in his concept of Integral Yoga. So far, the most traditional theories had chalked out the process of ascending to higher states of consciousness from our mental level only to get merged into the Supreme. Undoubtedly, Sri Aurobindo



accepts the ascending process, but adds to it the process of descent and thus makes a magnificent departure from the beaten track of the traditional yoga. In a way, it can be said that according to Aurobindo, when we proceed through yogic path for achieving the union with the Supreme, we must not only go upwards in uplifting ourselves, but also must surrender and pray for the supreme to descend on us and make the union possible. The union with the Supreme Brahman is the goal of all the traditional yogic paths, which is also the case in Sri Aurobindo's Yoga. But in this process of achieving this goal, this material universe must not be rejected. In this way, Sri Aurobindo asserts this point by saying that 'Our Yoga is an endeavor to rise to the highest possible supramental level and bring down its consciousness and power into mind, life and body.'³The descent of the Divine into the earthly level for transforming and purifying the whole structure of the universe is a counterpart of our ascending consciousness too. "If 'descent' means a gradual process of diminishing facial value of spirit to terminate in matter, evolution or ascent of consciousness means a return journey of matter to culminate in spirit."⁴ At this juncture, one quote from Sri Aurobindo's *Savitri* needs to be mentioned: "Make of thy daily way a pilgrimage, for through

small joys and grief there mov'st towards God''⁵.

Now the interesting issue is: what is the nature of the evolution of consciousness according to Sri Aurobindo?

In the *Advaita* philosophy of *Sri Śankara*, evolution of the world is the apparent transformation of the *Brahman*. The evolution that occurs is traced to the *Prakṛti* or *Mâyâ*, the cosmic principle of illusion that at once covers the reality and projects the Universe with all its diversity. At the end of a world cycle, when names and forms go back to the state of non-manifestation or involution, the *guṇas* remain in a state of non-differentiation or equilibrium. This is called the seed state of the Universe; it is described as the sleep of the cosmic soul. *Mâyâ*, in association with *Brahman*, or pure consciousness, at that time exists as the cause alone, without any of its manifestation. When this equilibrium is disturbed, and the *guṇas* begin to assert their individual characteristics, different objects, subtle and gross, come into existence. The tangible universe manifests itself step by step.

On the contrary, the evolution of consciousness acquires a great significance in the philosophy of Sri Aurobindo. According to him, the Universe is not



illusory but has the same ontological status as the Absolute. Consciousness evolves in and through the Universe. All evolution is in essence a heightening of the force of consciousness in the manifest being, so that it may be raised into greater intensity of what is still unmanifest, from matter into life, from life into mind, from the mind into spirit. The one being and consciousness is involved here in matter. Evolution is the method by which it liberates itself, consciousness appears in what seems to be inconsistent, and once having appeared, is self-impelled to grow higher and higher and at the same time to enlarge and develop towards a greater and greater perfection. Life is the first step of this release of consciousness, mind is the second, but the evolution does not finish with mind. Sri Aurobindo admits that mind has self-consciousness and through self-consciousness, human mind apprehend the eternal being, reality. Mind awaits a release into something greater, a consciousness which is spiritual and supramental. The next step of evolution must be towards the development of super mind and spirit as the dominant power in the conscious being. Only then the involved divinity in things release itself entirely and it becomes possible for life to manifest perfection. Thus, what Sri Aurobindo means to say is that the word

‘evolution’ carries within it, in its intrinsic sense, in the idea at its root, the necessity of a previous involution. All that evolves already existed involved, passive or active, but is concealed from us in the shell of material nature. The spirit which manifests itself here in a body must be involved from the beginning in the whole of matter and in every knot, formation and particle of matter. Life, mind and whatever is above mind must be latent, inactive or concealed as active powers in all the operations of material energy. Before there could be any evolution, there must be an involution of the Divine. Otherwise, there would be not an evolution but a successive creation of new things not contained in this antecedents. For that reason, Sri Aurobindo says ‘... the whole of creation may be said to be a movement between two involutions, Spirit in which all is involved and out of which all evolves downwards to the other pole of matter, matter in which also all is involved and out of which all evolves upwards to the other pole of Spirit.’⁶

Now, what will be the relation of our individual existence to the cosmic consciousness to which we have attained? Since we have a mind and body and human life, our individual existence persists even though our separate individual consciousness has been



transcended. It is quite possible to realize the cosmic consciousness without becoming that, we can see it with our soul, feel it and dwell in it, we can even be united with it without becoming wholly one with it. According to Sri Aurobindo, the individual consciousness may be preserved within the cosmic consciousness of the universal self. The summit of this cosmic realization by knowledge is always the power to dissolve the personality in universal being, to merge the individual in the cosmic consciousness. This is *laya* or *mokṣa*, i.e., liberation, at which the Yoga of knowledge attains. It is that into which one merges himself or herself in the cosmic consciousness is *Sachchidânanda*. It is one eternal existence that we then are, one eternal consciousness, which sees its own works in us and others, one eternal will or force of that consciousness which displays itself in infinite workings, one eternal Delight which has the joy of itself and all its workings. In this way, it has also been observed that *Sachchidânanda* is the eternal harmony as well as it is the essential relation and the practical results of this internal transformation has also been observed. It is the most evident fact in Sri Aurobindo's philosophy that by dwelling in this cosmic consciousness, our whole experience and valuation of everything in the universe will be radically

changed. By entering into the cosmic consciousness, one may begin to participate in that all-vision and see everything in the values of the Infinite and the One. In this state, one should not suffer by the limitations of one's mind, life and body. Thus, one may arrive at a perfect liberation and an infinite equality.

Conclusion

To wind up, it can be said that both traditional *Vedânta* philosophy and Sri Aurobindo conceive of consciousness to be the ultimate reality of the nature of *Sat-Cit-Ânanda* (Existence, Consciousness and Bliss absolute). But at this juncture, Sri Aurobindo goes beyond pure monism by including, besides existence, consciousness and bliss, a fourth essentiality, i.e., 'Force' or '*śakti*' in the nature of Brahman. According to him, 'Force is inherent in Existence. *Śiva* and *Kali*, Brahman and *Śakti*, are one and not two who are inseparable.'⁷ In addition to this, in Sri Aurobindo's Philosophy, consciousness has been turned into a dynamic force (*Citśakti*) and this kind of force leads us to the process of evolution. It is this dynamism of the nature of Absolute that makes involution and the subsequent evolution possible. In other words, the theory of evolution presupposes the act of transformation of everything that



is less developed into something more developed. This principle of development is followed not only in our mental world but also in the physical world. In Sri Aurobindo's philosophy, this process of development is supposed as Integral Yoga. Thus, the whole process of Integral Yoga is the practical application of the underlying metaphysical principle of consciousness to our individual as well as collective life.

Sri Aurobindo opines that the integral view of the unity of Brahman with the individual is not to give up the bodily life to attain to the mental and spiritual, but we can arrive at a point of view where the preservation of the individual activities is no longer inconsistent with our comprehension of the cosmic consciousness. Actually, individual is the center of the whole universal consciousness, the universe is a form and definition which is occupied by the entire immanence of the Formless and Indefinable. The universe and the individual are the two essential appearances into which the Unknowable descends as well as they are necessary to each other in their ascent. Sri Aurobindo says, "The universe comes to the individual as life, - a dynamism the entire secret of which he has to master and a mass of colliding results, a whirl of

potential energies out of which he has to disengage some supreme order and some yet unrealized harmony. This is after all the real sense of man's progress."⁸

The psychic transformation of the threefold nature of ignorance in an individual is the first step of integral yoga. The next aim is spiritual transformation which means a descent into the same threefold nature through the psychic being of the Peace, Knowledge, Power and Joy of the Spirit. This step prepares a man for reaching to the real end of integral yoga. It is thus incumbent on the practitioner of integral yoga to develop and perfect his outward nature or personality.

However, according to Sri Aurobindo's philosophy, the basic problem in modern Indian society is not to transform the harmonious relationship of the individual with the society. Sri Aurobindo has tried to find out the clue to the solution of this problem in the Integral Yoga. Yoga must now be revealed to mankind because without the concept of 'I' consciousness, mankind cannot take the next step in the human evolution. In reality there is nothing hidden or mystic about Yoga. Sri Aurobindo believed that his Integral Yoga is the method of actualizing the potentialities of self, of opening new doors of consciousness, of realizing the



kingdom of heaven on Earth, the Life Divine. Mother also says, “In action, the personality is the inevitable and indispensable intermediary of Thy will and Thy forces.... The stronger, the more complex, powerful, individualized and conscious is the personality the more powerfully and usefully can the instrument serve.”⁹ In the Life Divine, Sri Aurobindo has himself summed up his philosophy of life: ‘The ascent to the divine Life is the human journey, the work of works, the acceptable Sacrifice. This alone is man’s business in the world and the justification of his existence without which he would be only an insect crawling among other ephemeral insects on a speck of surface mud and water which has managed to form itself amid the appalling immensities of the physical universe.’¹⁰

References

1. Sri Aurobindo, *The Upanisads*, Sri Aurobindo Birth Centenary Library, Sri Aurobindo Ashram, Pondicherry, 1972, Vol-12, pp-137-138
2. Sri Aurobindo, *The Life Divine*, Sri Aurobindo Ashram, Pondicherry, 1940, p- 718
3. Sri Aurobindo, *On Yoga*, Sri Aurobindo Birth Centenary Library, Sri Aurobindo Ashram, Pondicherry, 1972, Vol-II, Book-I, p-6
4. NaliniK.Gupta, *The Yoga of Sri Aurobindo*, Sri Aurobindo Library, Madras, 1950, p-31
5. Sri Aurobindo, *Savitri*, Sri Aurobindo Birth Centenary Library, Sri Aurobindo Ashram, Pondicherry, 1972, Vol-28, Book VI
6. Sri Aurobindo, *Evolution*, Sri Aurobindo Birth Centenary Library, Sri Aurobindo Ashram, Pondicherry, 1972, Vol-16, p-129
7. Sri Aurobindo, *The Life Divine*, Sri Aurobindo Ashram, Pondicherry, 1940, p-78
8. *ibid*, p-51
9. The Mother, *Prayers and Meditations*, Sri Aurobindo Ashram, Pondicherry, 1954, p-100-101
10. Sri Aurobindo, *The Life Divine*, Sri Aurobindo Ashram, Pondicherry, 1940, p-48



TERRORISM - ITS DIFFERENT DIMENSIONS AND AN ALTERNATIVE APPROACH FOR SURVIVAL

Madhumita Chatterjee
Assistant Professor,
Department of Philosophy,
Barasat Govt. College (Barasat).

Abstract:

Defining terrorism in a nutshell poses a real difficulty, since aforesaid term includes a wide range of problems concerning a particular aspect of human life and activity within its ambience. The paper intends to undertake the difficult task of narrating the aforesaid term in brief to bring out the essential constituting factor which seems essentially related with the phenomena of terrorism. The paper starts with a definition of a terrorist as a person who uses violence and is ready to sacrifice his life for the cause he is fighting for. Acts of terrorism, the paper will try to focus has a long history throughout the world. Section - I will focus on observing historical roots of the phenomena in brief, while pointing out that terrorism of the historical age and present day time differ widely in techniques, sentiments and ideologies. Next Section will be totally concerned with the question regarding the moral justification of the phenomena. Finally the paper will try to show an alternative path for survival citing the prescriptions of Mahatma Gandhi and Goutama Buddha which can save us from the devastating effects of indiscriminate use of violence which is encouraged by terrorism.

Keywords: Violence, Terrorism, Non - Violence

madhumitachatterjee70@gmail.com.

(Paper received on 25/04/2018; Paper accepted on 15/05/2018; Paper published on 1st July, 2018.)

INTRODUCTION

“The terrorist acts in an environment where the society has a good deal of ambivalence about the cause the terrorist is concerned with. Society is unwilling to come to grips with the cause the terrorist is proposing, but will ignore the cause unless it finds it cannot do so. What the terrorist does is indicate that he is willing to die or sacrifice himself for the cause”¹.

The following paper begins with the aforesaid yet preliminary definition of

person, where a person is defined as a terrorist when he is ready to sacrifice his life for a cause which has been ignored and therefore adopts violent means combining a cautious strategy and tactics on the one hand and a definite ideology on the other hand. Such irrational use of violence of which ordinary citizens often become easy victims is believed to bring about a fundamental social change which terrorists, sincerely believe will inspire the public to withdraw support from an established regime and hence make wider revolutionary acts possible by weakening the resolve of the opposition². Such act of violence causing



terror is a very common phenomenon, which is disturbing the globe at an alarming rate. To put in other words various acts of terrorism is posing a great threat for humanity at large, particularly for all concerned with human welfare.

SECTION - 1

After identifying the basic features of a terrorist the paper will try to probe into whether terrorism particularly in the Western world, and secondly on other parts of the Earth is a recent phenomena or it rooted earlier in the history of mankind? History reveals that the use of terrorism is quite old, since humans, wanted to exhibit their willingness to use violence, which severely affected the existing political structure of the society. Few examples regarding terrorism was observed in the pre-modern Europe. In the sixth and seventh century B.C many Greek rulers established a tyrannical rule to maintain the existing social order. Some of them were Polycrates of Samos, Cypsetus ruler of Corinth, Pisistratus son of the Greek Physician Hippocrates. Sicarii were Jewish group who belonged in the first century killed their enemies and their collaborators in their campaign to outset their Roman rulers from Judea. In the twelfth century the kings of Assyria proved themselves to be the worst perpetrators of terrorism who were notorious for their cruelty and fighting prowess.³ This long legacy of terrorism is still present in a different form in our society.

The word ‘terrorism’ gained prominence from the reign of terror which was initiated by Robespierre, who killed his enemies and established dictatorship. “He justified his methods as necessary in the transformation

of the monarchy to a liberal democracy”⁴ Robespierre’s use of violence laid the foundation for modern terrorists where it was thought that Violence was the most suitable means to make a fundamental change in the existing social order.⁵ The anti – Tsarist Russian movement Narodnaya Volya, for instance wanted to overthrow the Tsarist rule, by using terror, Again, the bomb – throwing anarchist who held the notion of propaganda-by-deed,⁶ rose, who sincerely believed that social regeneration can be achieved through adopting violent means against those who controlled the institutions of social order. Gradually, it has been observed, that the adoption of terror, as a weapon of maintaining the order of the state, lost its significance, became and terrorism became prominent as an instrument for demolishing the existing political order. Guerrilla method, by non – state representative was adopted in the last half of the twentieth century where terrorists rose in revolt to promote their ethnic nationalism and express their anti-colonial sentiments which fostered the growth of new ideologies. International terrorism which did not remain confined within a particular state or country but expanded and operated amidst different state and countries is a significant phenomenon of the recent times. Moreover terrorism motivated by religious sentiments has emerged which pose the most alarming threat to the modern day world. Islamic groups like Al Qaeda, Hamas strike our mind at first. Still Christianity, Judaism, Hinduism, all have given rise to extremist terrorism who in turn their best to use religious concepts to satisfy their purpose.

Prior discussion, reveals, that there has been a major difference in the techniques, sentiments or ideologies between pre-



modern terrorist and their modern counterparts. More specifically, development of new scientific ideas and rapid progress of technology helped modern terrorists to invent new and newer techniques. While some of the yester techniques are being omitted due to their ineffectiveness and inapplicability in the modern day world, still it is undeniably true, that terrorism of the present day which has achieved nearly an universal dimension crossing the boundaries of states and countries are multi – layered and multi-faceted and is driven by deep- rooted problems existing in the society. The basic factors which have contributed towards the development of a phenomena like terrorism are injustice coupled with severe discrimination, marginalization, economic disparity including extreme poverty in some cases an unnecessary violence inflicted by the state machinery on several occasions, as well as deep rooted ethnic, ideological and religious separations,⁷ moral degradation . All these factors have desperately led to the development of newer techniques and ideologies, which acts as a directive to a terrorist or a terrorist group in determining their course of action. Here, we need to mention that phenomena of terrorism, is a complex one and has several layers as brilliantly identified by Walter Laqueur. He identifies ‘terrorism from above terrorism from below’ and ‘parallel terrorism’.⁸ Out of these three, the first one, includes government or state terror where the established authority inflicts terror on the weaker citizens. Terrorism from below, has emerged in many different forms and out of these various motivations religious protest movements, political revolts and social uprisings are prominent.⁹

Thirdly parallel terrorism is another level of terrorism which includes, caste violence, various sectarian conflicts and inter communal violence.¹⁰ But, however it cannot be denied that different levels of terrorism that functions both within the state and across the state except the foremost one has emerged, as a rebellion against the state authority for establishing independence, which has been repressed by the coercive state power. In fact terrorism has been a weapon to establish identity of the weak against the strong. A well organized, neatly- planned set up seems essential for terrorist to operate successfully. Secrecy, sharpness in intelligence, well-equipped weapons, supplies, uninterrupted communication and presence of a group of men who passively agree with the goals of terrorist groups, help in expanding the ideas of the terrorists. Thus moral, economic and logistic supports are necessary for the proper operation of a terrorist group.

SECTION -2

Now, a pertinent question crops up regarding whether phenomena of terrorism which is a common and popular phenomena of the present century can be morally justified. Any answer, to such a discourse is to put oneself against the prevalent and well-accepted belief system which condemns terrorism outright. Several factors it has been observed, if taken singly or comprehensively have given rise to this phenomenon, and none of them is less serious to each other. Normally, terrorism has been condemned from social and political point of view with reference to its impact on nations and people at large. But as an impartial observer, we need to explore whether the event is the justifiable or not and on what grounds? A thorough examination of the moral justifiability of the



phenomena reveals that terrorists claim that they have sufficient grounds to take resort to the instrument of terror as a method of redressal against social evils present in the society.

Here, we Have to go back to our earlier definition of a terrorist who is a described as a selfless, and sincerely committed person ready to sacrifice his life for a cause, which has been ignored by those who are in power. Such a prominent position justifies terrorism particularly in the third world countries, who have often used terror in their struggle to liberate them from colonial and imperial rule, because colonial rule denied identity, to a nation and application of terror was seen as an assertion of a colonised nation's lost dignity. India's struggles for liberation, Algerian war against France are examples of application of violence to combat illegitimate colonial or racist regime.¹¹

Terrorists often try to justify their activity as the cause of making the public aware of institutional injustice.¹² Terrorists enthused by an ideology take the initiative to make the people aware about the abuses of the government by applying terror.

Finally, Terrorism is resorted to when different alternatives for the solution of the problems are thought to be absent or inadequate and oppressed, marginalized people resort to violence, in the hope that it is the only useful way left, to bring about social change.

But, even if terrorism is defended on certain grounds still viewed from the global perspective the phenomena stands, unjustified since it makes use of unauthorized violence on innocent people, in many cases, even symbolically to pressurize the government to abide by their terms. Here, terrorism stands far apart from the just war, since, to victimize innocent people to death who are unrelated to the cause for which terrorists are fighting is morally wrong, particularly in a democratic set-up, where people are expected to be competent enough to express their grievances, to the government. Moreover, logically an act of terrorism cannot be associated with the immediate removal of social and political justice. More specifically an action in order to be considered as morally justifiable must promote human welfare. But, unfortunately incidents like revolt of Puerto Rico against U.S. oppression exposes the fact that though terrorism at times, upheld the cause of the terrorist group but on occasions, it fails to promote human welfare, at large. In a nutshell, terrorism only exalts violence, destroys democracy, interferes with fundamental right to life and 'it saps the will of civilized society to defend itself'.¹³ Moreover Terrorism in order to operate successfully gets related with various criminal activities like drug trafficking, Kidnapping etc in order to maintain and facilitate their organizational set up which disturbs law and order of the society.

CONCLUSION

After evaluating deeply, factors in favour and against terrorism it can be observed that terrorism is not a sporadic outcome, but it dates back to the earliest times of human civilization, although its point of emphasis and mode of operation has changed radically. But amidst major shifts in the



aforesaid ideology and technique and barring the type of 'terrorism from above' the other significant form of terrorism, namely 'terrorism from below' expose that people who have a feeling of deprivation which creates in them a crisis of identity and a feeling of utter despair, finds its expression in aggression and violence. A penetrating observation in human psyche and factors which modify it, expose that feeling of frustration results into tremendous aggression which finally takes the shape of terrorism as an instrument for fulfilling these deprivation. But another parallel psychology, present in the minds of public is a feeling of an unknown fear of danger and insecurity which disturbs their mental equilibrium.

Media, plays quite a significant role in the latter case, since terrorism has been negatively glorified by media, being an instrument which profoundly affects the mind of the general public, in the name of terrorism. Since media frequently reflects the policies of government in power. But undoubtedly terrorism weakens the social fabric, by denying human rights, and dignity of an individual, by thwarting economy and through destabilizing the polity. Moreover, history teaches us that no where terrorism has been able to bring about permanent social change though it has been successful, in bringing temporary well being. Terrorism is often crushed by the state power, where state employs, greater violence to suppress violence, of the terrorists.

All these difficulties show, that terrorism though try the achieve socio-political justice in some way or other; it cannot gain universal approval of all from different corners of the world. Terrorists are

supported, sympathized by their own group and beyond, still search for an alternative becomes essential to combat the phenomena of terrorism after examining and thereby fulfilling the objectives which terrorists aim to fulfill to a certain extent.

Fundamental preventive measures, which are often employed by the state for deterring terrorists is by applying police and military forces to fight, them. Further state should employ superior strategies, which will prevent potential terrorist from attacking¹⁴. Firstly, several anti-terrorism policies need to be implemented, which include that political power should be equally and fairly distributed among various levels of government¹⁵. Secondly implementation of market economy, based on an extreme form of decentralization is essential since such form of economy is less vulnerable to terrorist attacks¹⁵.

Apart from the aforesaid measures, terrorist may be sent to visit other countries, interact with different academic institutes, and such informal conversation regarding the justifiability of their ideologies and suggestion for an alternative way to implement may mellow their terrorist inclination. Further, terrorists actively engaged in movements may be guaranteed secured life in future if they are prepared to leave the organization and agree to return to the mainstream society.

Perhaps most successful result will occur when an open discussion will take place between terrorists and the government regarding their goals and grievances and sincere attempts should be made to compromise between state and terrorist wherever feasible.



Such pragmatic considerations need to be undertaken if terrorists are to be deterred from their way of life, but beyond all these pragmatic measures the invaluable prescriptions of non-violence and love as preached by Goutama Buddha, and Gandhi should be the guiding directives which will to end the spirit which gives birth to terrorism. It is necessary to mention that Buddhist ethics has earnestly tried to develop compassion and equanimity towards all which will liberate one from all sufferings and end all sorts of discords with others. Buddhism therefore called for reframing from all activities which do not harm other beings and harps on developing good intention, or (cetana)¹⁶ and an action which springs from such intention which includes not to harm others and not to inflict injury towards others, will foster happiness. To put it more aptly purity of intention will lead one to attain peace annihilating hatred, and greed and fostering emergence of wisdom and Loving – Kindness towards all others surrounding one and will help one to reach an elevated state, which advocates peace and non-violence.

The aforesaid enlightened vision, of love, tolerance and compassion as prescribed by Buddha can resolve all sorts of crisis which arises and conflicts among us. Developing good intention will eliminate the potential causes that gives birth to terrorism and violence. More reflecting it can be said that human ignorance which nurtures the feeling of separation from others gives birth to deep-rooted malice which gets manifested in different violent activities including terrorism. But once we realize that, separation is arbitrary and not real and all the entities of this world depend on each other, and are inter- related will help to

identify one's interests with that of others and end all sorts of discrimination.

Hence following, Buddhist philosophy terrorism which essentially involves indiscriminate himsa needs to be condemned. Non-violence, is to be practiced, which is essential for moral purification which will reveal that he is an inextricable part of world.

Terrorist, it must be indicated, should possess universal love, for others and person who loves others is free from suffering. It however cannot be denied that the objective for which they are committed are sometimes justified to a certain extent and it is difficult to develop the feeling of love for others specially when grievance rules the relations, yet the means should not be violent and on the contrary peaceful means should be undertaken to resolve the conflict and remove the points of disagreement between state and the terrorist. Universal love, sympathy, feeling of oneness and freedom from any sort of fanaticism can resolve this controversy.

Non- violence, to Gandhi significantly had a positive dimension, which means developing love towards the entire creation. A part from the ordinary meanings of ahimsa, which signifies non-hurting, non-killing, non-violence advocates according to Gandhi refraining from evil thought. Hence “Ahimsa is not merely a negative state of harmlessness but it is a positive state of love doing good even to the evil doer”¹⁷. However Gandhi quite like Buddha, acknowledged that ahimsa or non-violence does not support the wrong doer, by



tolerating his evil practices, but positively resist his act of violence. Moreover hatred towards others is not supported by Gandhi and Buddha. Such an attitude of love in Gandhi's opinion has universal appeal, and this forceful spirit, will definitely solve a number of crisis – social, economic and political which originates from a total misunderstanding about world and people at large. The concept of interrelation and interdependence if acts as the spiritual and ethical foundation of any action will help one to transcend from evil thought and evil practices.

Gandhi, therefore believed in the purity of means as well as ends and in his opinion a noble end cannot be achieved by adopting ignoble means Gandhi sincerely advocated that the intention to harm somebody or wishing him ill is a form of violence which should be completely abandoned. Like Buddha, Gandhi also prescribed non – violence and thought that violent means to liberate the nation brings endless conflict. Non-violence brings complete self-purification. Hence, we may conclude that terrorism though growing fast across the countries if it is to be controlled should be enlightened with the teachings of Buddha and Gandhi.¹⁸

BIBLIOGRAPHY

- 1) Henderson, Harry. *Global Terrorism – The complete Reference Guide*, Jaico Publishing House, Mumbai, New York , . P 15, 2003

Also in interview with David Rapport, cited in Schmid, Alex P and Jongman, Albert J, *Political Terrorism* edited New York, P 22. 1988.

- 2) Horowitz, I.L. “*Political Terrorism and State Power*”. *Journal of political and Military Sociology* I, PP 147-157. 1973.
- 3) Bhattacharya, Sanu. *Terrorism and Moral Questions*. Kolkata, Sarat Book Distributors, P1. 2007.
- 4) Downloaded from internet, Report by Zalman Amy, Global Terrorism Expert. The History of Terrorism [www.readingfaratic .com](http://www.readingfaratic.com)
- 5) Bhattacharya, op cit P3.
- 6) Ibid , PP 34-52.
- 7) Laqueur, Walter. *Terrorism*, Weidenfeld and Nicolson, London, PP 7-11. 1997.
- 8) Ibid . PP 7-11
- 9) Ibid
- 10) Op.cit Bhattacharya, P 100
- 11) Wolfgang , M.E, (ed) *The Annals*, Vol – 463 Sage Publication.London, P - 142, 1982.
- 12) Kegley c.w (jr); *International Terrorism*, Macmillan Education Ltd, London, P 21. 1990.
- 13) Frey, Bruno. S and Luechinger, Simon, “*How to Fight Terrorism*”, in *Defence and Peace Economic*, 2003 Vol (14) 4, August , P-237



14) Frey and Luechinger, P 240.

15) Frey and Luechinger P 240.

16) Adam.Martis.T. No-violence and Emptiness: Buddha Gandhi and the “Essence of Religion” in the Journal of the Faculty of Religion studies, Mc Gill University, Vol 34, 2006, P3

17) Gandhi M.K from, Yeraveda mandir Jitendra. T.Desai, Navajivan Publishing House, 1932, Ahmedabad, India.

18) Gauba, O.P *An Introduction to Political Theory*, Macmillan Indian Ltd, Delhi, PP 60-62.



FLIGHT OF IMAGINATION

Suparna Sen Gupta
Assistant Professor,
Department of Sanskrit,
Hooghly Mohsin College.

Abstract:

Birds fly with wings, poet fly with imagination. Literature, therefore, describes flying creatures, however of heavenly being or of Spiderman. Thrice Kālidāsa narrates journey through sky in detail. The journey of cloud in Meghadūta is imaginary. The topmost poet of Sanskrit literature is competent enough to create a penpicture land and rivers from sky. Moreover some scientific errors prove less developed knowledge regarding sky in ancient times.

Dūṣyanta's decent from heaven is narrated in seventh act of Abhijñānaśakuntala is a vertical journey. It narrates the activities of divine beings and of other fantasiess.

Raghuvamśa canto XIII elaborates the flight of well-known flying chariot Puṣpaka. This description is influenced by Rāmāyaṇa. We find that i) the space and mode of operation of Puṣpaka is impossible in reality, ii) eyesight level of the passengers in it fluctuates abnormally iii) everywhere it has been stated as divine craft. This is true in case of source Rāmāyaṇa also.

Literature stands on earth-surface and its extent reaches heaven, reaches infinity. Poet is foreseer. Especially a poet like Kālidāsa does not need experience to create literature. He can fly above the sky, above clouds, even above heaven. We must admire and enjoy his imaginations, his literary essence, his excellence and must not exaggerate to dishonour him.

Man cannot fly, man do not fly; that is why his imagination flies. We are still enjoying poetic flight. Today's technology has elevated man to sky and therefore, imagination has met reality.

Keywords: Literature on aviation, Kālidāsa, subtle description, imagination, errors, modern science, technology.

Email id: Sanskrit2207@gmail.com

(Paper received on 30/04/2018; Paper accepted on 15/05/2018; Paper published on 1st July, 2018.)

Birds fly with wings, poets fly with imagination. Literatures of various language presents, therefore, descriptions of flying creatures, however of heavenly being or of Spiderman. We have not enough space to discuss the history of such literature here. We have to speculate the sky above Kālidāsa only.

Thrice Kālidāsa narrates flight or journey through sky. One is in well known Meghadūta and others are in seventh act of Śākuntala and in Raghuvamśa canto thirteen. Among these, the idea of Raghuvamśa canto thirteen is borrowed from Rāmāyaṇa, rest is his original imagination. In Meghadūta the journey is merely directed, while others show actual



journey. Again, journey in *Śākuntala* is vertical, in other two horizontal.

Poet presents lively running commentary of those flights, a reader can see the journey, enjoys himself as accompanying the cloud or *Dūṣyanta* or *Rāma*, can feel the wind passing by. By default a question arises, whether *Kālidāsa* experienced such type of flight or not.

Before entering the central point of discussion, let us agree at some points related to those.

1. *Kālidāsa* did not present any aircraft of reality.
2. Narration of real aviation is not found in other pieces of literature.
3. Existence of real aviation in ancient India is not historically approved.
4. *Kālidāsa* had the excellence to present everything acutely live.

Description of the journey through sky may also be considered in this respect.

Now we may turn our vision towards the journey of the cloud in *Meghadūta*. One may feel at ease that it was rather the lover's heart, which rushed to *Alakā*, the land of fulfillment of all desires. *Yakṣa* requested the cloud to go, which seems to be a continuation of the world of fantasy that consists of supernaturalism, heavenly bodies, etc. But poet himself created an almost unnecessary excuse for that invitation. The passionate lovers, says *Kālidāsa*, are unable to differentiate between animate and inanimate.¹ It appears, therefore, the requesting speech of *Yakṣa* do not describe the journey, rather presents the flight of imagination with relevant insertion of the cloud.

Major portion of *Pūrvamegha* draws the picture of earth surface at rainy season. Of those the verses regarding rivers describe from much higher eyesight level above the surface. *Revā* looks as a line of something like sandal at the skin of an elephant. The currents of *Vetravatī* draws face of a young lady with much curved brows. *Nirvindhya* moves with unequal steps, the girdle of birds around the waist is loosened therefore and her deep naval is opened. *Gambhirā* glances with frequently moving *Śaphara* fish, she loosely holds with her water-girdle with hands of cane. Dark cloud comes down at *Carmanvatī*, looks like an *Indranīla* gem fastened in the midst of pearls.

These descriptions meant that the rivers were seen fully with length and breadth within the range of eyesight. In other words, these rivers are described as if those are seen from above. The last is seen from a position higher than the said cloud. We may think that the poet must have enjoyed this type of vision or in short, he had enjoyed flight. It is necessary to mention here that rest verses of *Pūrvamegha* do not present such flight. Those tell the beauty of the western part of northern India at rainy season with special attention towards *Ujjayinī* and various deities, shape and beauty of the messenger cloud etc.

Now we may refer to the first and fourth point mentioned earlier. This journey was entirely imaginary. The topmost poet of Sanskrit literature is competent enough to create a penpicture of the rivers from sky. For this kind of subtle description, he needed no travel with some vehicle like aircraft. A painter sometimes keeps some moments meditating on the object, which is to be painted, observes it from different angle within his mind and then he paints that clearly. Likewise the poet, habituated to see



the river from the bank, may easily imagine himself observing it from above. He is *Kālidāsa* after all!

Some geographical errors might be noticed in the text. Components of cloud are stated as smoke, light, water and air. Inclusion of light is definitely wrong and air cannot be considered as a forming part of cloud. Drinking water from river by cloud is not approved by science. Of course these are not directly connected with so called flight but may help us to infer that the concept of Troposphere was not clear. If aviation would have been practiced, knowledge regarding sky would have been developed to a large extent, which would have been reflected in literature. Is it possible that in a certain era only one poet enjoys flight, no one other?

Let us have a look at the way of *Dūṣyanta* from heaven to earth. He is riding on Indra's chariot, driven by *Mātali*. He draws *Dūṣyanta*'s attention towards the place where residents of heaven are writing the activities of *Dūṣyanta* with pigments, left after use by heavenly beauties, on silk produced by Kalpa-tree. Can any of modern passengers of aircraft see something like this? If you say that *Dūṣyanta* enjoyed flight much above, we will ask whether he was within lower zone of Troposphere or not. If yes, today's passengers would also be able to observe such heavenly and entertaining scene, would have taken snaps of those or selfie with those and would have shared those at Facebook, Twitter or Whatsapp etc. immediately. If no, how did *Dūṣyanta*, a creature of earth breath there?

The chariot comes down to the path of air (surely not Troposphere), where divine portion of *Gaṅgā* (*Mandākinī*) flows, stars glow, no dust exists. This is glorified as *Viṣṇu* put his second step here at his

Vāmana incarnation. This is, enough to say, total imagination, never to be treated as presentation of reality. We need not spare much word to refute the idea of aviation regarding this description. Our motive is to show that *Kālidāsa* had no experience of real flight but not to expose '*mulocchedī pāṇḍityaprakarṣa*'² to spoil the literary essence.

Cātakas are passing through the spaces between spokes of chariot wheels, which are suddenly moistened. Horses are glowing with the luster of lightning. *Dūṣyanta* recognizes that he is inside cloud. It seems impossible to pass through such high potency of electricity unless the passenger is protected by capsule of some insulator. A similar topic will be discussed once again in context of *Raghuvamśa*.

The eighth verse of seventh act is famous for encouraging the idea of existing flight in ancient India. At early days of Sanskrit Honours we got thrilled to read this more than excellent vivid description and from this sole verse we inferred that technology of aviation surely existed in ancient India. Let us quote.

*Śailānāmavarohatīva śikharādunmajjatām
medinī
Parṇābhyantarātām vijahati skandhodayāt
pādapāḥ.
Santānattanubhāvanaṣṭasalilā vyaktim
bhajantyāpagāḥ
Kenāpyutkṣipateva paśya bhuvanam
matpārśvamānīyate.*

As if, hills are emerging and from their peaks the Earth (plain land or earth surface?) is descending. Trees hidden beneath leaves are being visible with stems and branches. Rivers are widening and water



is seen. Someone is throwing the Earth towards me.

What a live telecast! Just recollect the descent at vertical merry-go-round. Neither *Meghadūta* nor *Raghuvamśa*; this verse make us believe or trust upon the conjecture that *Kalidasa* experienced such kind of journey. After about nineteen years I am feeling once again that I am falling down, a little bit of anxiety, therefore, is touching my heart.

We have a humble question. Will you be able to see stems and branches of trees from above at the same time, when you are just identifying hills and rivers? To see the trees so closely, you have to come down at the height of three storied or four storied building at least. The hills would be seen laterally and rivers almost the same. Please note the sequence; first hills, second trees, third rivers, fourth surface.

When we come down even with a closed door elevator, generally we feel that the floor of the elevator is moving downwards and some of us try to hold the walls to maintain balance. This verse presents a high speed descent and everything external is seen. *Kālidāsa* could have added similar feeling to this subtle description. *Mātali*, a divine being, next to deities, habituated to pass through sky, may not have such vertigo-type feeling. Does *Dūṣyanta*'s braveness resist him to feel so?

Dūṣyanta saw a golden coloured mountain, stretched up to both eastern and western ocean. *Mātali* told that it was *Hemakūṭa*, *Varṣa* mountain of *Kimpuruśa*. *Kimpuruśa*³, like many of other geographical references of ancient India, is not specifically identified⁴. Whatever the place might be, a mountain, other than *Himavata*

(*Himālaya*), as stated above, does not fully match any of Asia. This may denote the imaginary description by *Purāṇas*, followed by *Kalidasa*.

Let *Dūṣyanta* meet *Śakuntalā* once again along with their son, we may now drive our airbus towards *Puṣpaka* chariot, in which *Rāma*, *Sītā* and *Lakṣmaṇa* are returning to *Ayodhyā*. *Rāma* is expressing his feelings and memories to *Sītā* during the journey from *Lankā* to *Ayodhyā*. Three co-passengers, namely *Lakṣmaṇa*, *Sugrīva* and *Vibhīṣaṇa*⁵ seem to be keeping silence or keeping themselves aside to allow the reunited couple to talk freely. This chariot seems to be a cabin because verse no. 21 tells of window in it. We should highlight the verses in connection with aviation or passing through sky only⁶.

Author does not mention of any charioteer of *Puṣpaka*⁷. It is a divine vehicle referred as '*Vimāna*' (not *ratha*)⁸, driven by wish of the owner, hence needs no pilot. Verse no. 76 says that it is '*Kāmagati*'⁹. Verse no. 19, which will be discussed later, is also important in this respect. The size of the chariot seems to be adequately big because it carried many passengers at a time. They mounted on it once again, accompanied by *Bharata*, at the bank of *Sarayu*, to move towards *Ayodhyā*. Number of passengers thus increases to six. The subjects of *Ayodhyā* were astonished to see the vehicle at the time of landing. It appears then that the vehicle was completely divine. People did not see it or something like it regularly. The door or exit of it did not reach the ground level. Passengers used staircases to come down after landing. Was there any airport at the bank of *Sarayu*?

Let us trace the word *vimāna* in *Nāmaṅgānuśāsana* of *Amarasimha*.

Vimāna is included in *Svargavarga* as a synonym of *Vyomayāna*. All of the words of this chapter refer to heavenly beings. Please note that *Vimāna* and *Vyomayāna* are excluded in the following chapter *Vyomavarga* which compiles the words related to sky. Emperor Asoka mentioned of *vimanadasana* as a divine scene in his Fourth Rock Edict. There are more references of *Akaśayāna* used by *Apsaras* in second and third act of *Vikramorvaśīya* as well as in the sixth act of *Śākuntala*. All these clearly denote that the said *Vimāna* does not present any real vehicle. Interestingly the seventh act of *Śākuntala* tells of another flight, which needed no vehicle at all. Great Sage *Mārica* instructed his disciple *Gālava* to reach the hermitage of *Kaṇva* by sky and to tell him about the reconciliation of *Dūśyanta* and *Śakuntalā*. The inference is - the common men could not access, could not even see any vehicle that could aviate.

In *Raghuvamśa*, as we have mentioned earlier, *Kālidāsa* presents the longest narration of flight. Some of the verses merely describe the Indian Ocean (better to say Palk Strait) and mainland India without reference to flight. Some of the rest give attractive pen-pictures of the journey through sky. Yet a minute study will reveal the discrepancy among the descriptions. If *Kālidāsa* would have enjoyed a flight over the sea, he would not be able to identify snakes carrying gems at their heads because no snake carries gem at its head. Again, it is unlikely to see the group of mollusks passing through coral from above. This might be seen only from a closer point of view. Scientists tell us that mollusks generally dwell at aphotic zone (where light cannot reach) beneath the sea. It is absurd to see them from above. They come up to shallow water or euphotic zone (where light

reaches) at nuptial season but the verse does not suggest so. The reference of coral should be kept in mind in this context. Most of the corals belong to much deeper water. Of course some corals belong to shallow water i.e. 60m and above but observing mollusks on coral at that depth from sky still seems impossible. Before *Prayāga* (Allahabad) *Rāma* pointed a banyan tree with fruits. This is also a closer view because those fruits are too small to be seen from much above. Verse no. 14 is well known even today as Bankim Chandra Chattopadhyay has quoted it in his *Kapālakuṇḍalā*.

Dūrādayaścakranibhāsyā tanvi
Tamālatālīvanarajinīlā.
Ābhāti velā lavaṇāmburāśer-
Dhārānibaddheva kalamkarekhā.

The sea beneath seems like an iron wheel and the thin belt of the jungle of *Tamāla* and palm tree seems like rust on its end. This could be visualized only when the sea is very big like Bay of Bengal or Arabian Sea. Palk Strait is too narrow for this.





Description of the land from southern end proves that the route or our *Puspaka* did not cover any of those said seas. This wheel-like view of water might be seen if the viewer is not flying, rather floating.

The problem is related to fluctuating eyesight level. Our poet is wise enough to note this and he defends it at verse no. 19.

*Kvacitpathā saṃcarate surāṇām
Kvacidghanānām patatām kvacicca.
Yathāvidho me manaso 'bhilāsaḥ
Pravartate paśya tathā vimānam.*

The 'Vimāna' sometimes passes through the way of deities, sometimes through cloud, sometimes through the way of birds – as *Rāma* wishes. Here we may remember the word 'Kāmagati' once again. The summary is – when *Rāma* wishes to fly above, the aircraft rises high; when *Rama* wishes to come down, it comes down. So he can see mollusks beneath the sea and cloud hanging over it in short gap of time.

An extreme imagination appears at verse no. 21. When *Sītā* stretches her hand through open window of *Puspaka*, it looks ornamented with bangle of lightning. We have already pointed the absurdity of such concept earlier. No more comment this time.

Now the question is whether the vivid descriptions of flight can refute what we have discussed so far? Some narrations may suggest existence of aviation in ancient India, and some faults among those suggest the reverse, what should be the inference then? We may now recollect the initial points of our discourse. Airways were unknown to *Kālidāsa* as well as to ancient India. Excavations throughout our subcontinent have not discovered even a smallest particle of so called aircraft of ancient India. Wherever description of flight or aviation is found is Sanskrit or any other ancient Indian text, the central idea remains always divine; so in texts of *Kālidāsa*. What about the vivid description then? He was competent enough to draw such pictures. Why do we think that everywhere *Kālidāsa* need experience to create literature? He can fly above the sky, above clouds, even above heaven. He can make us fly. He is *Kālidāsa* after all. We must admire his imaginations and must not exaggerate to dishonour him.

Poet is foreseer¹⁰. Let us enjoy the beauty of the flight of imagination with his eyes. Science need not be tagged with literature at every moment. What is literature, if merely reality is represented by words?

Man cannot fly, man do not fly; that is why his imagination flies. We are still enjoying poetic flight. Today's technology has elevated man to sky and therefore, imagination has met reality.

Notes and references:-

1. Vide verse no. 5 and P. C. Bhattacharya's comments on that.
2. *Mallinātha* on commentary of the 2nd verse.
3. These descriptions are more or less same in many Purāṇas.
4. 'The description of the trans-Himālayan Varṣas is, in the main, as idealistic and mythical as the island continents surrounding Jambudvīpa'- H. C. Raychaudhuri.
5. Company of *Sugrīva* and *Vibhīṣaṇa* is mentioned later. *Rāmāyaṇa* tells that the families of the so called monkeys arrived at the aircraft at *Kiskindhyā*, Number of seats, though not mentioned in the text but that reaches the extent of absurdity.
6. Following the philosophical tradition *Kālidāsa* mentioned sky as the source or location of sound in the first verse of canto XIII. This hypothesis is refuted by science.
7. In *Aranyakāṇḍa* it is described as a *ratha* joined with ass(es) driven by a charioteer. It sounded harshly. *Jaṭāyu* killed the charioteer and broke the chariot. But *Rāvaṇa* again jumped to the sky. It is not clear whether *Puṣpaka* was reconstructed and if so, how. Later, when it appeared for carrying *Rāma* it is described as a marvelous palace. It is 'Kāmagati' of course but never mentioned as 'Kāmarūpa'. Such variations might be taken as indication the lack of real experience.
8. *Puṣpaka* was not used by *Rāvaṇa* in the battlefield. Vide *Yuddhakāṇḍa* of *Rāmāyaṇa*.
9. *Kālidāsa*'s narration does not exaggerate the statements of *Rāmāyaṇa*. Vide *Aranyakāṇḍa* 49/19; *Yuddhakāṇḍa* 121/9-11, 123/27, 123/30, 123/37. There are number of other verses regarding this chariot.
10. Vide *Brahmavarga*, *Amarakoṣa*.

Sources:-

- Baidya, P. L. ed. *Rāmāyaṇa of Vālmīki*. Vol. VI. Baroda: Oriental Institute, 1971. Print.
- Bhattacharya, Parbati Charan, ed. *Meghadutaparichay*. Kolkata: Sanskrit Pustak Bhandar, 1389 Bengali era. Print.
- Chakraborty Dhyanes Narayan, ed. *Rāmāyaṇa of Vālmīki*. Vol. I. Kolkata: New Light, 1996. Print.
- Chakraborty, Dhyanes Narayan, ed. *Rāmāyaṇa of Vālmīki*. Vol. II. Kolkata: New Light, 1997. Print.
- Chakraborty, Satya Narayan, ed. *Abhijñānaśakuntala of Kālidāsa*. Kolkata: Sanskrit Pustak Bhandar, 2003. Print.
- Chaudhuri, J .B. *Meghadūta of Kālidāsa*. Kolkata: Sanskrit Pustak Bhandar, 2008. Print.
- Dwivedī, Rewā Prasāda, ed. *Raghuvaṃśa of Kālidāsa*. New Delhi: Sahitya Academi, 1993. Print.
- Kale, M. R, *Abhijñānaśakuntala of Kālidāsa*. Delhi: Motilal Banarsidass Pvt. Ltd., 1969. Print. rpt. 1987.
- Monier-Williams, Monier. A *Sanskrit-English Dictionary*. Delhi: Sarada Publishing House, 2005. Print.



“Palk Strait”. *Wikipedia*. Wikipedia, n.d. web. 22 Mar. 2017. https://en.wikipedia.org/wiki/Palk_Strait.
Ray Chaudhurdhuri, Hem Chandra. *Studies in Indian Antiquities*. Kolkata: University of Calcutta, 1989. Print.
Shastri, Shrinivasa Katti, ed. *Rāmāyaṇa of Vālmīki*. Vol. III & VI. Delhi: Parimal Publication, 2008. Print.

Vidyanidhi Bhattacharya, Gurunath, ed. *Amarakoṣa (Nāmalīṅgānuśasana) of amarasiṃha*. Kolkata: Sanskrit Pustak Bhandar, 1408 Bengali era. Print.
Vidyanidhi Bhattacharya, Gurunath, *Raghuvamśa of Kālidāsa*. Kolkata: Sanskrit Pustak Bhandar, 1376 Bengali era. Print.

Acknowledgement:-

1. Dr. Debajyoti Datta, Assistant Professor, Department of Zoology, Acharya B.N. Seal College.
2. Dr. Durga Ghoshal, Associate Professor, Department of English, Hooghly Mohsin College.
3. Dr. Sourabh Mukhopadhyay, Assistant Professor, Department of Physics, Jhargram Raj College.
4. Dr. Tanurima bhowmik, Assistant professor, Department of Chemistry, Jadavpur University.
5. Kartick Ch. Dey, Assistant Professor, Department of Physics, Acharya Prafulla Chandra Roy Govt. College, Siliguri.
6. Priyanka Mukhopadhyay Basu, Assistant Professor, Department of English, Ambigeria Govt. General Degree College, Kharagpur II.
7. Sukanya Das, Assistant Teacher of Geography, Serampur Union Institution.



Conservation of an Atavistic and Unorthodox Feeding Behaviour in a Cosmopolitan Polytopic Genus *Drosophila*

Dipita Bhattacharyya, Debasis Mutsuddi*

Cyto-Genetics Laboratory, Post-Graduate Department of Zoology,
Maulana Azad College, 8 Rafi Ahmed Kidwai Road, Kolkata 700013, India.

Abstract:

Incidences of spontaneous and aggressive larval cannibalism have been observed in wild type (Oregon R) and different mutant strains of D. melanogaster. These cannibalistic larvae were found to feed on conspecific larvae and pupae, even scavenged on the carcasses of parents reared on same culture medium. Extension of observations of predatory cannibalism on other species belonging to the same genus but inhabitants of different zoogeographical realms displayed strictly comparable results indicating conservation of this savage and unorthodox attribute during the process of evolution of this monophyletic polytopic taxon. Besides conspecific consumption, cannibalistic larvae, when supplemented, were also found to feed on freshly killed adults of other species belonging to the same genus or those which has diverged earlier in the evolutionary time scale. These observations though heresy shifted our interest from a cannibalistic attribute to a possible carnivorous, albeit partial, attitude and endorsed the notion that larval predatory cannibalism most likely is an extension of carnivorism. Our subsequent experimental observations provided empirical evidences to apprehend that predatory cannibalistic behaviour of otherwise long-believed non-carnivorous Drosophila larvae has not been evolved as the resultant of rearing them in captivity on artificial nutrients and environment, or forced assortative mating over nine decades, or intra-specific competition for space and limited food resources, but an innate behavioural attribute which is not only genetically predisposed and also evolutionary conserved.

Keywords: *Drosophila*, Larval predatory cannibalism, Partial carnivorism, Innate behavioural attribute, Conserved evolution

Email id: *tapas1955mid@gmail.com, Contact No. +91 9830324278

(Paper received on 02/04/2018; Paper accepted on 15/05/2018; Paper published on 1st July, 2018.)

Introduction

The members of the genus *Drosophila* are colloquially known as “fruit flies”, less frequently as “pomace flies”, “wine flies” and “vinegar flies”, as in nature the flies are conversant to be attracted to the ripe fruits and likely draw their required nourishments from the ripe and decomposed fruits and vegetables. Thus the term “fruit flies” conferred to this genus, unlike the “flesh flies”, is not a misnomer because these cosmopolitan

polytopic genres procure their nourishments from a wide array of fruits and vegetables, and the associated microbes despite an admirable diversity of flora in different demographic regions. Thus the ubiquitous frugivorous and detritivorous habit of fruit flies appears to be evolutionary conserved despite sharing different habitats, distributed nearly all the climatic conditions, occupying almost all the zoogeographical realms, and feeding on a wide variety of taxonomically diverged



plant materials. Furthermore, unlike some other insects, drastic variations in nutritional sources between two distinctly different metamorphic stages were not encountered in this holometabolic dipteran, indicating the surrounding media provide all the nutrients essential for survival and successful completion of life cycle of this genus.

Drosophila larvae are also widely believed to be detritivores, feed almost entirely by ingesting yeast and other microorganisms associated with fermenting fruits and vegetables (Gregg et al 1990). However, under experimental conditions, *D. hydei* larvae were found to be successfully reached adulthood faster on the carcasses of “tree bugs” (Cicada, order Hemiptera) than in laboratory culture (Rypstra and Gregg 1986), and six other *Drosophila* species larvae were also found to reach adulthood via scavenging exclusively on conspecific adult cadavers (Gregg et al. 1990).

Wild type *D. melanogaster* (Oregon R) was introduced in the laboratory by Lancefield on or before 1925 (Lindsley and Grell 1972), and since then successfully cultured in artificial food and environment for more than nine decades. It is therefore logical to apprehend that all the nutrients required for survival and successful completion of metamorphosis of this monophyletic taxon are present adequately in laboratory culture. In this background, the observations of predatory cannibalism in wild type Canton S

(Vijendraverma et al. 2013) and Oregon R (Bhattacharyya 2014, 2015a) *D. melanogaster* larvae in standard laboratory culture opened up a new vista to address some fascinating questions apropos to the adaptive significance of conspecific consumption in these two otherwise vegan polytypic hexapods. In other words, why natural selection favours the larvae to take such an astute decision of embracing such unorthodox feeding behaviour?

An appreciable number of questions, which ultimately led to furthermore queries, compelled us to design experiments to quest the answer of the following perplexing questions. Does the larvae adopt conspecific cannibalistic behaviour to compensate partial protein deficiency than the required optimal level in the culture media? If the depleted protein level indulged the larvae to practice cannibalism, will supplemented exogenous protein-rich source will serve as a potential attractant to the ‘apparent protein deprived larvae’ as an addendum to predatory cannibalism? Is this adaptive behavioural attribute an evolutionary conserved character or has been embraced in recent past in response to arise situation? Does this unorthodox cannibalistic attribute the resultant of depriving the flies from natural nutrients and environment, and forced interbreeding, the most extreme form of assortative mating spanning over nine decades of captivity? Lastly, whether the spontaneous propensity to cannibalism is genetically pre-disposed, variable, and rapidly evolved in response to nutritional stress?



Materials and methods

All the wild type *Drosophila* species and mutant strains of *D. melanogaster* were reared, unless otherwise mentioned, in standard (maize-yeast-agar-jaggery) laboratory culture medium and at $22^{\circ}\pm 1^{\circ}$ C temperature. The wild type species used in the study were *D. melanogaster* (Oregon R), *D. virilis*, and locally distributed *Drosophila* species, collected from three distinctly different demographic regions of our state maintaining appreciable distance. The first one was collected from the Dooars at the Himalayan foothills (Ethelbari Tea Estate, Jalpaiguri district), the second one from the north-eastern fringe of this metropolis (Ultadanga, Kolkata), and the third one from the Gangetic delta, Sundarban region (Canning, South 24 Paraganas district). The five mutant strains of *D. melanogaster* used in our study were w^a , w^e , vg , y^v cv^f and *Cyo/Tft* (Lindsley and Grell 1972).

Live specimens, other than the wild type and mutant strains of *Drosophila*, were either collected or purchased, as were the live yeasts, food colours and the synthetic amino acids (Aminofit). Each experiment was conducted in five vials and repeated at least for three times. Observations were made under a Magnus stereoscopic binocular (Model MS 24) using 2X and 4X objectives. Cytological preparations were observed under a Magnus microscope using 10X and 45X objectives.

Experiments on 'Larval choice preference test' towards exogenous

protein supplements (Three-way – and Four-way assay system) were conducted in plastic petridishes (13 cm diameter) containing either holidic or yeast-deprived culture medium. As per demand of the experiments, three or four wells (2 cm diameter and 1 cm depth) were created within the matrix within which different protein sources were added, barring a single incidence (supplementation of live yeast in three-way assay system), after 'painted' them with different food colours. Among the different supplements, live-yeasts was coloured with 'orange red' (in four-way assay system), freshly injured larvae with 'apple green', freshly killed flies with 'raspberry red', and synthetic amino acids with 'sunset yellow' in order to ascertain the most preferred exogenous protein, followed by others in order of choice, if any, simply by examining the colour of the gut from the otherwise translucent exterior. A thin plastic sheet was used to separate each well with coloured protein sources from the surrounding matrix in order to compel the wandering larvae to consume their preferred protein only from the surface. Moreover it will prevent, at least minimize the chances of diffusion of coloured protein-enriched supplements into the surrounding matrix, thus giving a tampered observation. The whole petridish was covered with a transparent plastic box (16cm x 16 cm x 16 cm). Each experiment was conducted at least for three times.

Photographs were captured by digital cameras (Canon, models A1000S and A800).



Results

Seminal observations

Our seminal observation of larval predatory cannibalism was purely accidental rather than execution of a well-designed research plan. In early 2014, during rigorous monitoring of each culture vial to re-establish mite-free culture, it was first noticed that in a double mutant strain (white ebony) of *D. melanogaster*, some larvae were spontaneously feeding on conspecific larvae and pupae, and even scavenges on the carcasses of parental flies cultured on the same medium (Fig. 1). Initially, considering as heresy, due recognition was not conferred to this grotesque feeding behaviour it actually deserved. But repeated observation of identical unorthodox attribute in this and four other mutant strains, as well as wild type stock compelled us to evaluate the possible significance of conspecific consumption in these long-believed non-carnivorous dipteran larvae.

Cannibalistic behaviour

In this holometabolic insect, the savage larval cannibalistic approach was found to be spontaneous, spanning from first instar to mid third instar stage. In mixed-age high-density cultures, cannibalistic aggression was most pronounced in the first and second instar stages, but their appetite decreased progressively with the increased metamorphic stages. In addition to the observations of Vijendra et al. 2013, where several small size larvae in cluster were found preying large size victims, clustering

predation of same size, reverse size, and even one-to-one encounter, albeit in reduced frequency, have also been recorded (Fig. 2a, b, c). Lastly, In sharp contrast to the observations of the said contemporary workers where young are regularly found to crawl to the wall of the culture bottles leaving the food medium and attacked the stationary or quasi stationary pre-pupal larvae and pupae, we found to occur most incidences of savage and aggressive larval cannibalism on the food surfaces (Figs. 1 and 2); larval predation on pre-pupal larvae and pupae did only occur on the glass wall those were stationed adjacent to the food surface.

During conspecific consumption, the predatory larvae were initially found to approach the victimized counterpart, followed by continuous scrapping of the cuticle of victims with their jaws, until became successful to make a lesion. They then entered into the body of the victims, started consumption of the soft internal body parts, leaving only parts of empty exoskeletons either on the food surface or deep in the culture media. They were also noticed to consume external body parts, particularly wings and eye pigments of their deceased parents.

Does predatory-cannibalism resulted from intra-specific competition?

Now the question why predatory cannibalism, when killing conspecifics for consumption serves to be arguably the ultimate selfish act? Does it the resultant of intra-specific competition for



limited food and space? If the answer of this query is an affirmative one, logic demands more aggressive, vigorous and enhanced incidences of cannibalism in high-density population, and the reverse in low-density one. Experiments initially conducted on three larval populations with variable densities, viz. (i) uncrowded, (ii) crowded, and (iii) overcrowded to test the validity of the predicted apprehension. Surprisingly, larval cannibalistic behaviour found to remain persistent in all these three experimental conditions – which may be accounted as a paradigm that larval cannibalistic attitude, might not be the consequence of intra-specific competitions for limited food-resources and space.

As previous reports have emphasized food limitation to be one of the prime cause of conspecific consumption in two evolutionary diverged groups – insects and arachnids (Wise 2006, Vijendraverma et al. 2013), we in the laboratory earnestly tried the minimize the larval population density drastically by allowing only five gravid females to lay eggs for just fifteen minutes to half an hour in separate vials. The excessive amount of food offered to just a restricted number of larvae once again failed to prevent, even to diminish, the extent of savage and conspecific consumption and once again deceived the idea that limited food resources and space, at least in the present case, cannot be the *de jure* of cannibalism and might be accounted as an innate behavioural attribute.

Whether inadequate quantum of protein in the culture indulged the larvae to cannibalism?

Attention was focused to ascertain whether inadequate quantum of protein in the conventional laboratory culture indulged the larvae to practice cannibalism, as it has already been demonstrated that the absence of holidic medium has profound effect on the lifespan of cultured flies and the natural nesting pattern of the pupae (Sang 1978; McKenzie and Mckechnie 1979, Matthew et al 2014, Narasimha et al. 2015). In this background, larval cannibalistic behaviour was examined in three nutritional variants via altering the amount of yeast in the culture viz. (1) normal culture with prescribed quantity, (ii) doubling the amount, and (iii) yeast deprived medium. The logic was, inadequate quantum of yeast indulged the larvae to embrace cannibalism, the supplement of excess protein should prevent, at least attenuate, the extent of conspecific consumption; in sharp contrast, yeast-starved larvae were expected to display more aggressive and vigorous activity. Surprisingly, the predatory cannibalism remained persistent in all the nutritional variants; in fact somewhat enhanced in cultures with elevated amount, but remained at a basal level in yeast-deprived conditions. These developing yeast-starved larvae were obligatory cannibals as the exclusive source of proteins metabolized in the process of metamorphosis bound to derive from conspecific larvae.



A significant outcome derived as a by-product of nutritional variant experiment was a direct and positive correlation between the quantum of protein in the culture and the physique of the emerged adults as well as metabolic durations. In cultures with enhanced amount of protein, both larvae and pupae were much bigger in size, whereas yeast-deprived larvae were very sluggish, nearly motionless, the pace of development attenuate, and pupation seldom occur at the wall of glass vials, rather preferred to lodge over and closer the food surface (Fig. 3). Moreover, if some of the larvae became fortunate to attend adulthood, the duration of metamorphosis remarkably prolonged (more than 40 days), and relative to their siblings displayed admirable smaller size and appreciable lower body weight. An additional intriguing observation in these yeast-starved adults deserve special mention - exhibited an altered sex-ratio where the number of male progenies are almost twice the number of their sisters. This study thus corroborate well with a previous study (Huey et al. 2004) where the males were shown to tolerate greater nutritional stress than the females.

Does supplementation of exogenous protein may restore the development of yeast-starved quasi-retarded larvae?

The initial outcome of the above-stated nutritional variant experiment appeared to be somewhat intriguing because of noticeable disparities between the quantum of yeast present in the culture vis-à-vis cannibalistic approach and larval development. Enhanced protein

contain though have positive influence on larval physique, cannot prevent or attenuate predatory cannibalism; nevertheless its absence displayed adverse effect on the destined rhythm of metamorphosis and exhibited basal level of conspecific consumption among developmentally quasi-retarded larvae. This apparent paradox demanded proper designing and painstaking execution of relevant experiment for appraisal of the pivotal role the protein played during metamorphosis – the suspected driving force to indulge the larvae to embrace cannibalism. Now if the answer of the addressed question is affirmative, yeast-starved larvae after the stipulated period of normal larval development, is expected to permit the growth-arrested larvae to restore further development at normal pace onwards. In compliance with the argument, different exogenous proteins like live-yeast, freshly killed animals belonging to the same or different genus, even synthetic amino acids in separate yeast-deprived cultures admirably accelerated the pace of development from quasi-retarded stage to normal rhythm. Needless to say, that the duration of attainment of adulthood of such initial protein-starved larvae was relatively longer than their counterparts reared in normal culture, but admirably shorter than those cultured in exclusive yeast-free media.

The above cited experiments coupled with earlier one unequivocally and unerringly demonstrated that in order to execute the destined blue prints of metamorphosis in stipulated duration, the presence of adequate protein in the



culture media is an obligatory prerequisite. The deprivation of depletion of protein indulged the larvae to utilize any available protein source present in the surroundings to compensate the deficiency indicating a survival strategy adapted by the members of this genus. Conspecific consumption is thus a natural, though remained covert for several decades, behavioural attribute which perhaps arose as the resultant of nutritional stress in the immediate environment.

How does the larvae choose a nutritionally more potent exogenous protein over available one in culture?

If the cannibalistic approach is an intrinsic attribute of the larvae, interest is bound to underscore how they recognize conspecifics as potential protein source? After all the ability to seek and detect prey is an essential adaptation for a predator. As *Drosophila* larvae lack optical receptors, the gustatory receptors are the most deserving candidates. It was hypothesized that such situation may be mediated via possible chemical cues released from the victims – thus left with the question what is the cue that attracts the cannibalistic larvae towards the potential victims; and such cue(s), if any, logically demands genetically related members should have identical receptors to response the cues released by the same species in different metamorphic stages.

To resolve the addressed questions, a series of experiments were executed via varying the nature of supplements, keeping all other parameters unaltered.

In each set, wild type *D. melanogaster* flies were discarded after allowing them to breed and lay eggs for a brief period. In moderately-dense population of exclusive first instar larvae, the following exogenous supplements were provided.

In the first set of experiments, freshly killed adults of several mutant strains of *D. melanogaster* were supplemented to separate vials in both pierced and unpierced conditions. In each situation, wild type larvae were found to attack the victims within a couple of minutes (Fig. 4a). *These observations denounced the possibility that larval conspecific consumption to adults is restricted to the same genetic lineage.*

Since by now, it was established that the larvae scavenging even on genetically non-lineage adults, but the cue that serve as an attractant still remained obscure. The sex-specific cues, the pheromones, may be postulated as a potential attractant, but such situation is bound to display gender biasness among the predatory larvae in selecting a potential victim. But when double mutant (white ebony) males and wild type females were supplemented in equal numbers (three each), no gender biasness on deceased adults was noticed. Strictly comparable result was encountered in reciprocal event (Fig. 4b). *The hinting is some other cues serving as attractant that has nothing to do with genetic lineage or gender specificity.*

In the next set, different species belonging to the same genus were



supplemented to separate culture vials. In each of them, *D. melanogaster* were found to be scavenging on the cadavers of *D. virilis* and local *Drosophila* species. *The most plausible conclusion that could be deduced from these experiments is the larval cannibalistic approach towards the adults is not species specific.*

In the last set of experiments in this series, freshly killed species belonging to different unrelated and distantly related evolutionary diverged taxa like house fly (*Musca domestica*, family – Mucidae), flesh fly (*Parasarchophagus ruficornis*, family – Sarchophagidae), grasshopper (*Gesonula punctifrons*, family – Acrididae), honey bee (*Apis* species, family – Apidae), and black ant (*Componotus compressus*, family – Formicidae) were supplemented in separate vials (Fig. 5a, b, c, d, e). In all the vials, the larvae scavenged aggressively and indifferently on the carcasses of wide array of supplements, leaving only the hard exoskeletons by the end of a day or a couple of days (Fig. 5f, g, h, i). Moreover, when instead of freshly killed animals, soft internal body parts of cooked fish (*Labeo rohita*), after repeated washing in distilled water to remove the aroma of the spices, and sliced raw chicken (*Gallus sp*) were supplemented in separate vials, the larvae once again displayed their familiar savage and aggressive feeding behaviour (Fig. 6a,b). The outcome of these experiments thus was unequivocal in shifting our interest from a cannibalistic attitude to a possible, albeit partial, carnivorous attribute and unerringly

allowed us to infer that *with respect to feeding preference of the cannibalistic larvae, there is no lineage, gender or taxonomic biasness, and endorsed the notion that larval conspecific consumption is an extension of carnivorism.*

Moreover, consumption of excess protein during the second stage of metamorphosis is advantageous with respect to adaptive fitness, as in this holometabolic dipteran, degeneration of most larval body parts and formation of adult structures from the imaginal discs demand huge amount of energy during the immediate next stage of metamorphosis that is the pupal stage.

Does the larvae exhibit any preference to particular exogenous protein?

As soon as it was realized that a wide array of exogenous protein supplements may compensate the deficiency in the surroundings and permitted to restore the normal process of development, interest was directed to ascertain whether the larvae have any preference, when given a chance, towards any particular protein? Two sets of experiments, based on the same logic but differ slightly in execution, were conducted to answer the addressed question:

In the first set of experiments, three wells were produced in a petridish filled with standard culture medium (Fig. 7a). Wild type flies were allowed to breed for two days. After the emergence of first instar larvae, three protein sources, viz. live-yeast, freshly injured larvae and freshly killed adults were added to separate



wells. From the very beginning, the larvae were found to be attracted towards the well containing live yeast – the source of protein they have been exploiting over nine decades in the laboratory. The rate of consumption was so vigorous that an appreciably large void was created overnight at the centre of the well (Fig. 7b). Gradually a shift of preference was noticed to the well containing freshly injured larvae, next to freshly killed adults which were the cannibalistic source of supplemented proteins.

In the second set of experiments, the experimental protocol was slightly altered. Yeast-free medium, instead of traditional laboratory culture, was used as substrates based on the logic that protein starved larvae are prone to exhibit a greater affinity to exogenous protein supplements. Secondly, as an addendum to these three supplements, synthetic amino acids were kept on the fourth well (Fig. 7c). Once again, most of the first instar larvae selected yeast as the most preferred exogenous protein source (Fig. 7d), followed by a shift in the preference to the injured larvae in subsequent stages; adult carcasses were found in later instars.

Thus, for majority of the larvae, all the preferred supplements were from live-sources, and the synthetic one appeared to be the least palatable to maximum number of yeast-starved larvae. However, some of the adventuresome larvae do opt for synthetic amino acids and exhibited successful transition to adult stage. Such observations are in

consistent with our previous findings that the synthetic amino acids may rescue protein-deprived larvae from quasi-retarded development and restore the process of metamorphosis in admirable schedule duration thereafter.

Does conspecific consumption an obligatory pre-requisite for metamorphosis?

To ascertain whether conspecific consumption is obligatory for metamorphosis, experiments were conducted in the apprehension of getting a convenient and conclusive answer.

Five hand-picked first instar larvae, using a fine sable hair brush, were transferred singly in five vials containing normal culture medium. From each vial, barring a single incidence, single full-fledged fly, irrespective of sex, emerged in schedule duration. Repetition of this experiment four more times showed comparable results.

In an extension of this work, twenty five first instar larvae, divided equally and placed in five vials containing conventional culture. While three flies were emerged from a single vial, four from another and all five from remaining three vials. Comparable results were encountered when this experiment was repeated for four more times, where the numbers of emerged flies were four to five.

For further endorsement, the numbers of larvae introduced in each vial were increased to thirty. Corollary to the expectation conceived from above two



experiments, the number of emerged flies in each case varied from twenty-seven to thirty. Once again, this experiment was repeated for four more times.

All these experimental observations thus may be accounted as a paradigm that although predatory cannibalism in an innate behavioural attribute, is not mandatory for development, thus may be accounted as “Facultative cannibalism” in this particular dipteran.

Is predatory cannibalism the resultant of rearing in captivity, and a unique property conferred to this particular species of fruit flies?

D. melanogaster has been successfully cultured in captivity over nine decades. The formulated ingredients of laboratory culture thus are capable of propagating efficiently this particular species of fruit flies. Deliberate manipulation of the quantum of various nutrients, especially yeast, in conventional culture under experimental conditions, however, adversely affects the blueprints of programmed metamorphosis (Matthew et al. 2014, Bhattacharyya 2014, 2015a, Narasimha et al. 2015). Similarly, the impacts of captivity, especially if maintained in appreciably long period, in general, are intense and immense. In this background, to evaluate whether captivity, coupled with forced interbreeding which is an extreme form of assortative mating, indulged the larvae to practice cannibalism, especially when conspecific consumption is not

mandatory to support normal process of development.

The answer of few more intriguing problems likely to be resolved from the designed experiments. Does conspecific consumption, whichever may be the driving force, a unique property restricted to this species or a behavioural attribute shared by most, if not all, the members of this monophytic, cosmopolitan and polytopic genus? If the former postulation is more probable, then when and why did the transition from frugivory and detritivory to carnivory, albeit partial, took place? *Per contra*, if it is an atavistic attribute, this unorthodox feeding response expected to be practiced by all the subordinate taxa under this taxon, and must have been originated during the evolution of this species.

In order to ascertain the addressed question, the feeding behaviour of an ancestral species, *D. virilis*, was monitored in identical experimental conditions. Interestingly, with respect to larval predatory cannibalism, both the Nearctic species responded in a strictly identical manner, indicating that the intrinsic predatory cannibalistic attribute is not only genetically pre-disposed but also evolutionary conserved.

However, counter argument may be provided that the incidences of conspecific consumption in both the Nearctic species might be the reflection of convergent evolution for rearing them in captivity for several decades. At this crucial junction, exclusion of suspected



factors as practicable as possible, associated with captivity is most desirable. In the designed experiments, larval feeding behaviour of local *Drosophila* species, introduced in our laboratory just a couple of months ago, was exploited. Once again, conspecific cannibalism among the larvae from oriental realm was encountered in the very same fashion as found in two Nearctic species belonging to *melanogaster* and *virilis* group (Patterson and Stone, 1952). All these observations strongly advocate in favour of an atavistic, intrinsic and conserved behavioural attribute as possible, and most probable, explanation of larval predatory cannibalism. In an extreme situation, flies collected from north-eastern fringe of this metropolis, were also found to be engaged in larval conspecific consumption from the very first generation of captivity which is an ultimate hindrance to accept captive life associated factors, forced assortative mating, and starvation as the prime driving source of cannibalism, rather convey a more meaningful, logical and strong hint towards practicing the very same innate and conserved behaviour even in nature.

Does larval conspecific consumption occur in nature?

For endorsement of the above apprehension, attempts were made to visualize whether predatory cannibalism, in reality, does also occur in nature. As fruit fly larvae are frugivorous and detritivorous, larval feeding behaviour of locally collected *Drosophila* species was

monitored on decomposed fruits in the wild. Observations revealed that, unlike laboratory culture, the incidences of high or moderate-density larval populations on fermented fruits are uncommon in nature. On decomposed bananas, larval conspecific consumption behaviour was not as conspicuous as in laboratory culture, but still found to “wriggle” in groups, and exhibiting both characteristic “aggregation” and “scrapping” behaviour (Fig. 8a, b).

The outcome of all the conducted experiments coupled with those of earlier workers (Rypstra and Gregg 1986, Gregg et al. 1990, Huey et al. 2004, Vijendravarma et al. 2013, Bhattacharyya 2014, 2015a, Ahmed et al. 2015) unerringly demonstrated that the ulterior motive of larval conspecific consumption, though facultative in nature, is ubiquitous for this cosmopolitan polytopic taxon. Predatory cannibalism – an extension of carnivorism – is a paradigm of innate behavioural attribute, had been evolved during the evolution of this monophyletic genus to compensate the depleted quantum of protein in the surroundings and/or to hoard excess energy required for the formation of most adult structures in pupal stage. Lastly, what was once a novel approach now became an orthodoxy that such unorthodox, grotesque feeding behaviour is genetically pre-disposed and evolutionary conserved in this holometabolic dipteran.

Does adult flies may also be carnivorous?



The advent that the otherwise vegan *Drosophila* larvae are ubiquitous in embracing partial carnivorous feeding behaviour tempted to ascertain whether the adult flies have also employed similar survival strategy, as in nature and laboratory both the metamorphic forms feed on very same substrates. Interestingly, in contrast to “partial carnivorism”, under extreme nutritional stress, the larvae of an appreciable number of *Drosophila* species attended adulthood at the expense of exclusive consumption of cadavers of conspecific adults (Gregg et al. 1990) or carcasses of other species (Rypstra and Gregg 1986), exhibiting “total or exclusive cannibalism”. However regarding adults, the idea has been postulated that as the vegan flies are conspicuous by the absence of morphological, physiological and behavioural attributes, it will be unjustified to apprehend the adult flies as predators of any living animals, ‘carnivorous attributes’, if any, thus should only be restricted in scavenging on cadavers (sarcophagy). On the basis of provided arguments, when *D. melanogaster* adult flies were introduced in the vials containing only sliced chicken meat, they supposed to find it as potential source of nutrients and appeared to feed on it (Fig. 8c, d); even females flies were found to oviposit on it. However, whether the flies could survive on exclusive carnivorous diet remained inconclusive as within 2-3 days the stink liberated by the decomposed meat was unbearable, and did not also support the survival of either the flies or eggs/larvae. Similarly when adult flies

were attempted to rear exclusively on quasi-smashed cadavers of mixed age larvae, they also appeared to feed on it but did not survive more than two days. Comparable incidences had also been noticed by Ahmed et al. (2015) where starving flies were found to consume only the pierced carcasses of the third instar larvae, but not the cadavers of intact conspecifics died within 24 hours. Additional support in favour of our notion came from the observations that starving flies do not get measurable benefits from accesses to carcasses (Huey et al. 2004).

Our interpretations concerning larval predatory cannibalism in *Drosophila* differ from those of contemporary workers (Ahmed et al. 2015) on an important aspect. While starvation was emphasized as the prime driving source of larval cannibalistic attribute by them, we noticed spontaneous, savage and aggressive conspecific consumption by a wide array of diverged *Drosophila* species in exclusive non-starving conditions which compelled us to postulate cannibalism as an atavistic, spontaneous, innate and evolutionary conserved behavioural attribute of the larvae. Secondly, we strongly denounce the idea of accepting *Drosophila* adult flies as ‘cannibals’. Mere apparent consumption of pierced dead larvae or sliced raw chicken may at best be accounted as instantaneous compulsion of an otherwise frugivorous and/or detritivorous insect to feed on utmost unconventional diet under extreme nutritional stress, and thus may at best be



attributed as “forced sarcophagy” rather than ‘cannibalism’.

Conclusion

For survival, a highly optimized foraging strategy must have been evolved in each animal group perfectly suitable for that particular environment. From nutritional stand point, the ability of an insect to survive in a habitat, in general, depends on three criteria: they must have the ability to evaluate their nutritional requirements, to access the nutrient supply offered by the environment, and to translate the resulting information into appropriate behavioural response (Ryuda et al. 2008). It has also been demonstrated that the food preference of an insect might have been changed depending upon their physiological and environmental conditions (Slansky and Scriber 1985), and if any, as pointed out by Ryuda et al. (2008), ‘cannot change their food preferences to coordinate energy status of the body with food availabilities, it must be difficult to them to survive the shortage or quality changes of the food’.

Among insects, the members of the genus *Drosophila*, acquired the colloquial nomenclature ‘fruit flies’ from their preference to procure nutrients from ripe/decomposed fruits and vegetables as associated microbes. Arguably considered as one of the most successful genus with respect to their worldwide distribution, numbers of immediate subordinate taxa, and adaptability to wide spectra of environmental conditions, they are still conversant with

their orthodox frugivorous and detritivorous habit. Such ubiquitous feeding behaviour unequivocally apprehend that in nature this holometabolic dipteran in both their metamorphic feeding stages successfully coordinate the energy status of the body vis-à-vis available nutrients in the surroundings. Successful rearing of admirable number of species belonging to this taxon in the laboratory reflecting the fact that the instantaneous transition from natural to artificial food did not have any adverse effect on pomace flies, and the laboratory culture is still apt for successful survival of vinegar or wine flies. In this background, the advent of unorthodox, grotesque cannibalistic attribute among otherwise orthodox vegan larvae may be accounted as a polemic against the long believed non carnivorous feeding habit of the larvae and demands advisement of the situation, which remained a covert rather than conspicuous for near a century. However, it has been demonstrated that under extreme nutritional stress, an appreciable number of *Drosophila* species larvae may exhibit complete carnivorous and cannibalistic feeding attribute (Rypstra and Gregg 1986, Gregg et al. 1990).

Our experimental observations unequivocally and unerringly endorsed the idea that the ubiquitous, spontaneous, savage and unorthodox larval conspecific consumption is facultative in nature, and may be ratified as an extension of carnivorism, an evolutionary conserved atavistic attribute which is genetically predisposed, and in all probable arose to



compensate protein depletion or deprivation in the surroundings before or during the process of evolution in this taxon as survival strategy. Now if the cannibalistic approach is an intrinsic attribute of the larvae, gustatory receptors naturally may be apprehended as the most deserving candidate in recognizing the exogenous proteins. In adult *Drosophila*, gustatory system is found to be scattered over the whole body (Dethier 1976, Stocker 1994, Clyne et al. 1999, 2000) and about 130 chemosensory gene repertoire have been identified (Robertson et al. 2003), which underscores the crucial role the chemosensory stimuli represent in the fly's world (Amrein and Thorn 2005). Gradually, attention was shifted from flies to larvae in identifying the chemosensory genes (Gerber and Stocker 2007). Employing the Gene Search Collections of P-element insertions, Ryuda et al. (2008) were successful in identifying three mutant strains viz. GS 17510, GS 1189 and GS 3183 by virtue of their ability apropos food preference due to impaired olfactory and gustatory systems, among which the influence of GS 1189 which is the mutant form of wild type allele CG 33071, was most conspicuous. Discovery of these mutants thus in compliance with our conceived idea that larval cannibalistic behaviour is innate and genetically pre-disposed.

Our observations also provided ample opportunity to provide support the most probable one between two schools apropos the clustering behaviour of the larvae during predation, as well as the riddle concerning the enormous size of

the larval salivary glands and the giant chromosomes it encompasses. Vijendra Verma et al. (2013) solely emphasized the clustering behaviour as an advantage of smaller larvae to overpower a large victim without being hurt – which they termed “pack hunting”. In contrast, Gregg et al. (1990) advocated the concept of co-operative “external digestion” or “social digestion” to postulate the omnipresent larval clustering behaviour during predation. They provided evidences, despite arguments to the contrary (Ashburner and Berendes 1978, Berendes and Ashburner 1978), that at least three digestive enzymes apparently to be produced by the salivary glands are involved in external digestion of amylose, cellulose and chitin even without coming into direct contact with the substrate. Gregg et al. (1990) advent the idea that the enzymes produced from larval salivary glands ostensibly involved in “social digestion” and the selection pressure compelled it to become massive in size because some of the digestive enzymes they produce are pivotal for co-operative “external digestion” and would therefore need to be synthesized in huge quantum than the digestive tract enzymes to compensate and counteract the effect of dispersion in the external environment.

Appraisal of our observations apropos conspicuous and ubiquitous larval clustering behaviour compelled us to infer that such feeding behaviour is attributable to the hypothesis of “social digestion” or “external digestion” rather than “pack hunting”. The idea of pack



hunting is not tenable to the wilful clustering of the larvae, sometimes the number exceeds hundred, around the supplemented cadavers of a wide array of evolutionary diverged species, and even cooked fish and sliced raw chicken. Therefore the concept of social digestion fits better with our observation than the pack hunting (Bhattacharyya 2015b).

References

- Ahmad M et al (2015) Starvation induced dietary behaviour in *D. melanogaster* larvae and adults. Nature Sci Rep 5:14285; doi 10.1038/srep.14285.
- Amrein H, Thorne N (2005) Gustatory perception and behaviour in *D. melanogaster*. Current Biology 15:R673-R684.
- Ashburner M, Berendes HD (1978) Puffing of polytene chromosomes. In : The Genetics and Biology of *Drosophila*. Academic Press, New York, Vol 3b:345-385.
- Berendes HD, Ashburner M (1978) The salivary glands. In: The Genetics and Biology of *Drosophila*, Academic Press, New York, vol 2b:453-499.
- Bhattacharyya D (2014) Cannibalism and 'partial carnivirism' in *Drosophila* species larvae. Dros Inf Ser 97:67-75.
- Bhattacharyya D (2015a) Further evidence of cannibalism and 'partial carnivirism' in *Drosophila* species larvae. Dros Inf Ser 98:99-103.
- Bhattacharyya D (2015b) 'Pack hunting' or 'social digestion' as a possible cause of larval clustering associated with the evolution of cannibalistic behaviour in *Drosophila* species larvae. Dros Inf Ser 98:107-111.
- Clyne PJ et al (1999) A novel family of diverged seven trans-membrane proteins : candidate odorant receptors in *Drosophila*. Neuron 22:327-338.
- Clyne PJ et al (2000) Candidate taste receptors in *Drosophila*. Science 278:1830-1834.
- Dethier VG (1976) The hungry fly. Harvard University Press, Cambridge, MA.
- Gregg TG et al (1990) Insectivory and social digestion in *Drosophila*. Biochemical Genetics 28, nos. 3/4:197-207.
- Gerber B, Stocker RF (2007) The *Drosophila* larva as a model for studying chemo sensation and chemosensory learning : A review. Chemical senses 32:65-89.
- Huey RB et al (2004) Starvation resistant in *D. melanogaster* testing for a possible 'cannibalism bias. Functional Ecology 18:952-954.
- Lindsley DL, Grell EH (1972) Genetic variations of *D. melanogaster*. Carnegie Institute of Washington Publications No 627.
- Matthew D et al (2014) A holidic medium for *D. melanogaster*. Nature America, vol II, No 1:100-105



Mckenzie J, Mckechnie S (1970) A comparative study of resource utilization in natural populations of *D. melanogaster* and *D. simulans*. *Oecologia* 40:299-309.

Narasimha S et al (2015) Pre-pupal building behaviour in *D.melanogaster* and its evolution under resource and time constrains. *Plos One* 10(2) : e0117280.doi.1371/Journal pone.0117280.

Patterson JI, Stone WS (1952) Evolution in the genus *Drosophila*. MacMillan Press, New York.

Robertson HM et al (2003) Molecular evolution of the insect chemo-receptor gene superfamily in *D. melanogaster*. *Proc. Natl. Acad. Sci. USA* (Suppl 2):14537-14542.

Rypstra AL, Gregg TG (1986) Facultative carnivory in *D. Hydei*. *Dros Inf Ser* 63:116.

Ryuda M et al (2008) A gene involved in the food preference of larval *D. melanogaster*. *Journal of Insect Physiology* 54:1440-1445.

Sang JH (1978) The nutritional requirements of *Drosophila*. In: *The Genetics and Biology of Drosophila*. Academic Press, New York, vol 2a: 159-192.

Slansky F, Scriber JM (1985) Food Consumption and Utilization. In : *Comprehensive Insect Physiology*, Pergamon Press, Oxford, Vol 4:89-163.

Stocker RF (1994) The organization of the chemosensory system in *D. melanogaster* : A review. *Cell Tissue Research* 276:3-26.

Vijendraverma RK et al (2013) Predatory cannibalism in *D, melanogaster* larvae. *Nature Communications* 4: 1789/dol I:10:10381:1-8.

Wise DH (2006) Cannibalism, Food limitation, intra-specific competition, and the regulation of spider populations. *Annu. Rev. Entomol.* 51:441-465.

Legend of Figures

Fig. 1: An appreciable number of larvae in cluster feeding upon conspecific victims: a pupa (a, arrow) and adults (b-c) on the surface of the conventional culture medium

Fig. 2: Cannibalistic aggregation of several smaller larvae hunting a large size larvae (a, encircled), larger predator-smaller victim predation (b), and one-to-one encounter between predator and prey (c)

Fig. 3: Nutritional variant experiments depicting the utmost importance of proteins on *Drosophila* development. Differential rate of development in enhanced yeast medium (extreme left), normal medium (centre), and yeast-deprived medium (extreme right) cultured in the same time. Observe noticeable better physique of the larvae



and pupae in enhanced yeast medium relative to control, and total absence of both metamorphic stages in yeast-deprived medium

Fig. 4: Indiscriminate cannibalism of first instar larvae of freshly killed flies supplemented from various mutant strains (a), and equal number of adult males and females, phenotypically distinguishable (b), denouncing *a priori* argument of any lineage or gender bias in selecting a victim during conspecific consumption

Fig. 5: Photographs depicting empirical evidences of aggressive partial carnivoric behaviour of the wild type larvae feeding on supplemented cadavers of house fly (a,f), flesh flies (b,g), honey bee (d,i), grasshopper (c,h), and black ant (e), maintained in otherwise holidic media

Fig.: 6: In conventional culture media, wild type larvae consuming the soft body parts of cooked fish (a, encircled) and sliced raw chicken meat (b, encircled)

Fig. 7: Larval 'Food choice preference test' performed to ascertain the most preferred exogenous protein supplements of the larvae maintained either in holidic (a-b) or yeast-deprived media (c-d) between three (upper) or four (lower) alternatives. In both the conditions, the first instar larvae showed their initial passion live-yeast; the rate of consumption was so vigorous that a void was created overnight (encircled in b), and the gut of the larva showing yeast coloured with 'orange red' after two hours. 'a' and 'c' (i. killed adults: raspberry red; ii. amino acids: sunset

yellow; iii. live yeast: orange red; iv. injured larvae: apple green;) are initial stages of exogenous protein supplement

Fig. 8: A possible cannibalistic behaviour observed on decomposed bananas by the wild type larvae of local *Drosophila* species in nature (a, encircled), noticeable aggregation and scrapping behaviour of larvae found in natural environment (inset)

Acknowledgements

We are thankful to Professor S. C. Dasgupta, Head, Department of Zoology and Professor Mamata Roy, Principal-In-Office, Maulana Azad College, for providing laboratory facilities. Wild type and mutant strains of *D. melanogaster* were obtained through the kind courtesy of Dr. Syamasri Mukherjee. Thanks are also due to Mr. Rajat Mondol and Mr. Peter Oraon for providing *Drosophila* species from Canning, South 24 paraganas and Ethelbari Tea Estate, Jalpaiguri, respectively. Lastly, we are deeply indebted to Dr. Subhadipa Majumder and Dr. Ankur Bhowal for their generous helps and suggestions.

Fig-1:



Fig-2:



Fig-3:

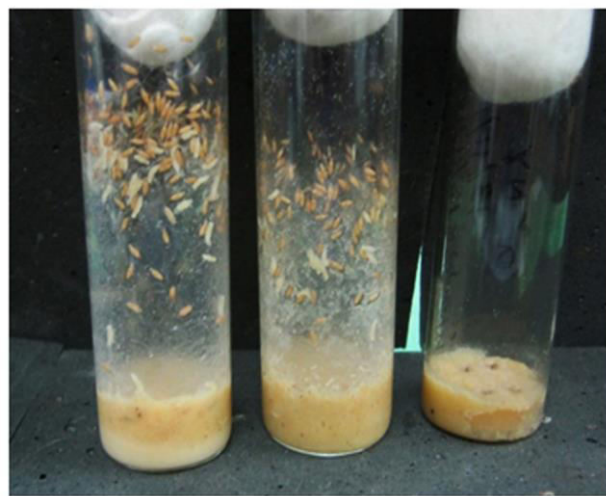


Fig-4:

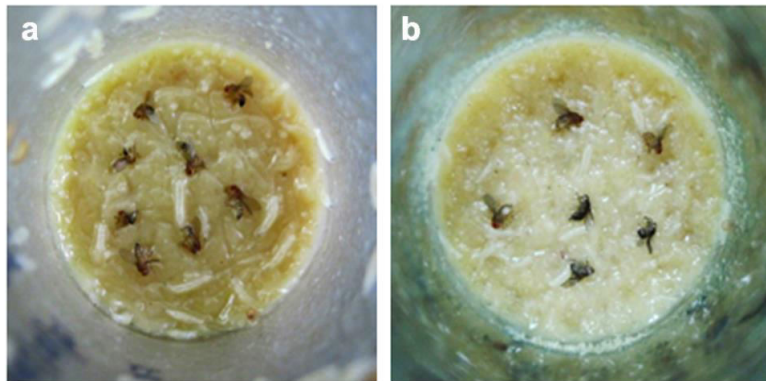


Fig-5:

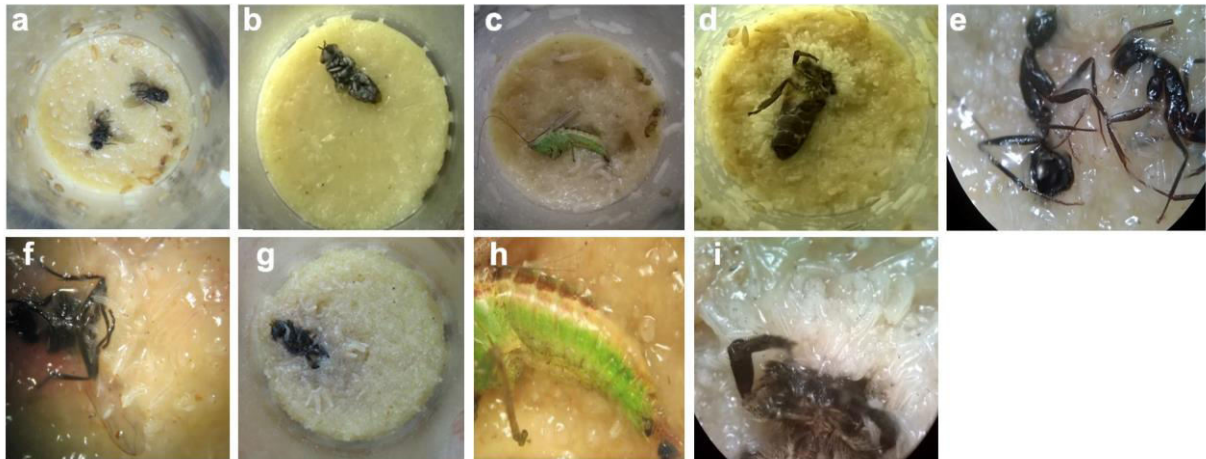


Fig-6:

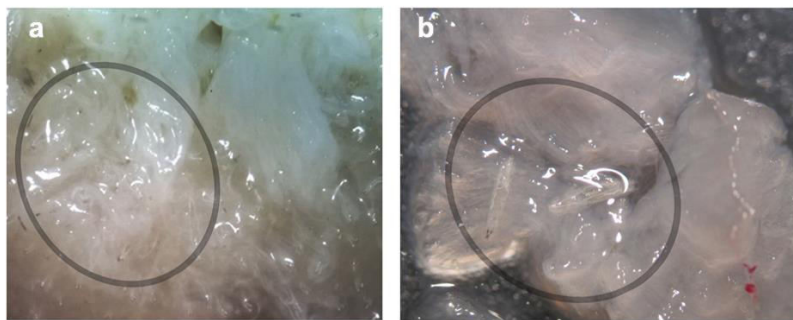


Fig-7:

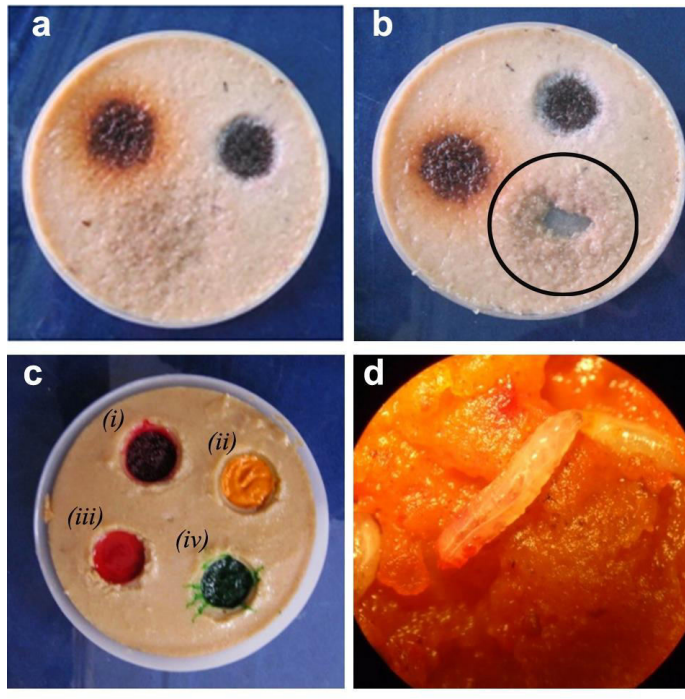
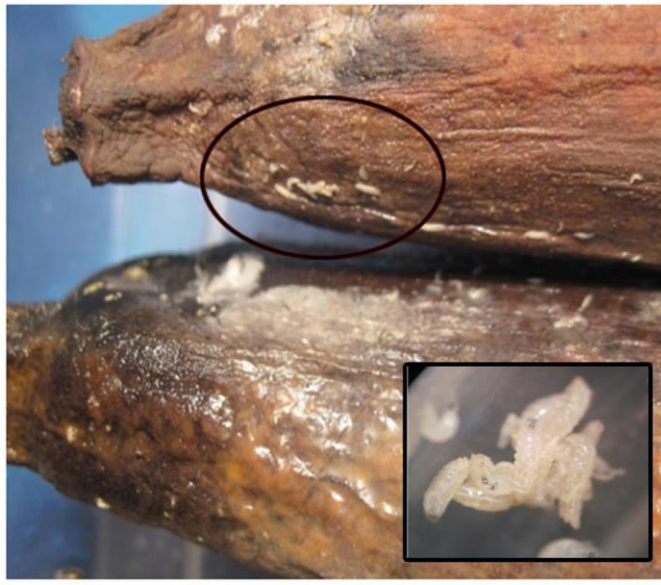


Fig-8:





“Mind-Brain Identity Theory—A Critical Review”

Dipa Goswami

Assistant Professor, Dept. Of Philosophy,
Chandernagore Govt. College, Chandernagore, Hooghly.

Abstract:

The doctrine of Descartes' mind-body dualism is a milestone in philosophy of mind. He categorically distinguished mental from physical states which is a remarkable aspect of mental events. Mind-brain identity theory formulates mind-body dualist problem from a different perspective. U.T Place and J.J.C Smart stated that various expressions of consciousness is nothing but a manifestation of brain process. This identity is not so called logical identity; rather it is a contingent or empirical fact. 'Sensation is identical with brain processes'- this statement is factually true. There are two versions of identity theory; weak and strong. Some critics argued that the electrochemical properties of brain could not be ascribed to mental process as because brain states have specific spacio temporal location which mental events do not have. If we describe mental process in terms of physical one, it becomes an explanation of behaviour only. However mental processes are infinite whereas the function of brain is an infinite one. The proponents of behaviourism have failed to produce a suitable alternative theory against Cartesian Dualism.

Keywords: Mind-Brain, Identity Theory, Behaviourism, Inconsistency, Cartesian Dualism

E-mail: mousumipal2006@gmail.com; Hand Phone: +91 9433262718

(Paper received on 15/05/2018; Paper accepted on 22/05/2018; Paper published on 1st July, 2018.)

Descartes' mind-body dualism highlights a new arena of immortality of soul. The immortality of soul was admitted by ancient Greek philosopher Plato. Most of the schools of Indian Philosophy also admit that the soul continues to exist after the death of the body. Descartes' mentioned soul as mind and regarded that thought is the distinctive feature of mind. According to him "...I however noticing that the principle by which we are nourished is entirely different from the principle by which we think...." In this context, Descartes' observation was that human being possesses a mechanical body, which is observed physically, at the same time man inherits soul which reacts rationally. So the functions or activities of

rational, incorporeal mind are very much different from corporal body. He admitted the ontological existence of mind as a substance (which can exist without the existence of body) and thought as a mode of substance. The properties which belong to body can be explained mechanically as because they occur in physical world. On the contrary, thinking, imagining, sensing etc are modes of rational mind. Those modes could not be explained physically. Those intellectual activities can occur without the interference of physical phenomena. Hence Descartes' admitted in the Second Meditation that the existence of mind does not depend upon body, rather they causally depend upon the absolute substance God. His mind-body dualism



problem reveals the novel idea of mental phenomena in the philosophy of mind and a crucial challenge to materialism. Feelings of pain, sensation of colour is merely a physical phenomena or not, is a pertinent question to the proponents of mind-brain identity theory. In this context, Descartes' emphasised upon the union of mind-body through the process of sensation. Sensation cannot occur without interference of physical activity. Mind operates independently in some specific activities like thought, imagination etc. In spite of fundamental difference between the two attributes thought and extension, he agreed with the opinion that there must be some specific relation between mind and body.

Descartes' mind-body dualism has been criticised by several groups of philosophers. Among them behaviourism and mind-body identity theory are the main rivals of Cartesian dualism. Identity theory argues against Cartesian dualism that mental states and process are identical with physical states and process. When anybody says that he is in special mental condition, e.g. he is mentally depressed, cheerful, angry etc. at that time a specific mechanism occurs in his brain. This specific mechanism is identical with the mental happening. The identity theory does not assume a dualistic approach between two independent substances, mental and physical but an invariable correlation between all sorts of sensations and certain type of neural processes. According to this theory, conscious states are actually identical with them. This identity is like water being identical with H₂O. Identity theory claims that accurate explanation of human behaviour and its

causes must reside in the physical neuroscience.

Identity theorists find their support in purely physical origin of human beings and other animals and apparently physical formation of every human being. An individual starts his life as a genetically programmed organisation of molecules. A person grows from there by the accretion of future molecules whose structure and integration is governed by the information used in the DNA molecules of the cell nucleus. Eventually this process becomes a truly physical one whose behaviour proceeds from its internal activities with the rest of the physical world. Identity theorist seeks his support from the evolutionary theory which supplies the only crucial explanation for the behaviour controlling powers of the brain and the central nervous system. They also prove that all mental phenomena (e.g. reason, emotion and consciousness) are dependent upon brain itself. For example alcohol, narcotics or sensible degeneration of nerve tissues will weaken, disable or destroy individual's capacity for rational thought.

U.T. Place is one of the prominent advocates of this theory. "Is consciousness a brain process" is his renowned work. This paper indicates a set of concepts clustering around the notion of 'consciousness', 'experience', 'sensation', 'imagery' where Ryle's behavioural disposition is not enough and in this processes some sort of mental process is undeniable. This does not mean that they indirectly support dualistic approach in this regard. Mind-body identity theorists do not commit that mental processes are over and above the physical processes.



Their position from both dualistic and behaviouristic approach. Place maintains that consciousness is a brain process. According to this uncompromising materialism, pain, thought and after image are states of the central nervous system.

One important thing is that the identity is not a logical identity between the two. Assuming this identity to be a logical one, some critics have raised objections against this identity. They think that we can depict sensation and other mental imagery without the knowledge of our brain process. And they also say that the two are verified in different ways. There is no self contradiction, if someone says that he has a pain and nothing is going on in his brain. Critics state that consciousness and brain processes are not logically identical.

The advocates of identity theory argue that it is merely a contingent fact that consciousness is a brain process. This identity is a numerical one but not logical. U.T. Place thinks that if one confuses between the two interpretations of “are” or “is”, one of the meaning of “is” is of composition and the other meaning of “is” is of definition. We have got examples in which “is” is to be comprehended as encompassing an additional qualification and nothing else. Place has cited various examples like, ‘A square is an equilateral rectangle’, ‘His table is an old packing case’, etc. Place thinks that the first statement is necessary and is always true. It is a logical identity. But the latter statement is not like that, it describes a contingent fact. The second statement involving “is” of composition. This statement could be verified by observation. When Place said that ‘consciousness is a

brain process’- this “is” is used as a sense of composition. That means sensation or consciousness is identical with brain processes not necessarily, but only contingently. This identity is nothing but a numerical identity.

Place and J.J.C. Smart desired to mean that our ordinary psychological concepts are specified when those concepts are converted to the language of physiology, e.g. only when we assume that water is nothing but H₂ and O₂, where water is specified. Accordingly, sensation is nothing but brain process. Any statement about mental activity is apprehensible if only we could translate it in terms of brain states. Place asserts that this identity is an empirical fact, this is a matter of scientific discovery. He adopts Leibniz’s principle of indiscernible. According to this principle, consciousness could be substituted in place of brain process. At the same time we must remember that this identity is a contingent one. Without this principle we cannot argue against psychophysical identity.

U.T. Place is the proponent of the weak form of mind-brain identity theory, while J.J.C Smart advocated the strong version of this theory. Strong identity theory assumes three conditions jointly which are both necessary and sufficient for the identity. One of the conditions is that the two must exist at the same time and happen at the same interval and the second condition is that both must, at a given time, be found in the same space while the third condition is the presence of the one must be a necessary condition for the presence of the other. Smart asserts a total reduction of mental concepts to physical terms.



Some critics argue that illiterate persons can talk about his after image but he has no knowledge about neurophysiology. Smart maintains that to be ignorant of one part of the identical activity is no guarantee that there is no identity. Lightning is identical with electrical discharge. This identity has been discovered empirically and accordingly Smart points out that an after image has been proved identical with the neurophysiological process by scientific investigation. According to him, 'Mind is brain' - this proposition has its basis on the developing scientific evidence and it is a contingent, rather than a logical one.

Someone may say that this identity cannot be proved because properties of sensations are over and above the brain process. Mental phenomena have different properties from physical phenomena. When individual identifies the morning star with the evening star, then some properties of one can logically entail that of other. Smart answers this objection by saying that he is saying when anyone says that he is perceiving a yellowish orange after-image, this means that 'there is something going on, which is like what is going on'. When I open my eyes, am awake and there is an orange illuminated in sufficient light in front of me, i.e., when I really perceive an orange. Let us consider the phrase 'Topic-neutral or 'quasi-logical'. The meaning of this phrase is how sensations can be brain processes and in spite of that individual gives report about those sensations without the knowledge of brain processes. When we perceive that a doctor is in the room, we may say that 'someone is in the room'. Hence it actually reports that the doctor is in the room

although he has no knowledge about doctors. This means that sensations and brain processes may have properties but when we speak of their identity, we can do so without the reference of those properties. Smart maintains that the experience of having after image is a brain-process. This is the strong version of mind-brain identity theory.

Another version of this theory is physicalism. D.M. Armstrong is the chief proponent of this theory. According to Armstrong's uncompromising materialism, each mental concept can be given a physicalistic explanation. He has taken direct help from the developing scientific theory. Armstrong's proposal is that the mind is actually conceived as an inner principle, it is a principle that is identified in terms of the external behaviour. Armstrong assimilates the inner and outward behaviour. He thinks that man is nothing but a physical mechanism.

But none of these versions of mind-brain identity theory is immune from defects. Though J.J.C. Smart has answered some objections which are raised by traditionalists against this theory. Yet they have to face some crucial objections. The indiscernible law claims that if A is identical with B, then all properties which is possessed by A must be possessed by B. Let us take the sentence 'Morning star is identical with evening star' the property 'being believed by Tom to explode' should be ascribed to both of the identical events. The crucial point is that this is a property which may be called an intentional one and these types of properties are not real properties of the associated things. In spite of that a prima facie objection has been



raised against the case of non-intentional properties. Brain processes occur in the human skull, those are of such and such electrochemical nature. We could not ascribe those to mental process. On the other hand, the mental after images could be yellow or green, but can it be ascribed to a brain state? Critics desire to mean that mean that mental states cannot have spatial location. In fact this point is very crucial. If brain activity can occur spatially and if the mental states are not spatial, then how could they be identical? They refute this objection by the idea of 'Partial location'. The idea is that individual's thought or sensations happen where he befalls to be. Let us take an example. If John feels a pain while he is in the classroom, that is the place where John's experience happens. It is clear that John is having a sensation and his body is being in a certain physical state and located wherever he befalls to be. C.V. Borst in his book *Mind Brain Identity Theory* brought out the limitation of the idea of partial location. He says, "Difficulties arise, however, when considering just how far partial location can be narrowed down. Does the having of pain occur in one part of the room rather than another? Does it move when I shift my position on the chair? It is to be sure, perfectly natural to say that I experience a pain or that a thought occurs to me when I am at a such and such place. But whether this can be utilised in such a way as to remove objections concerning locatibility is still a matter of dispute.

Since Place and Smart remind us that identity is a contingent fact than a logical one, therefore from the traditionalist's point we can talk about mental states without the knowledge of corresponding

mental processes which does not imply that the two are not identical. Generally people talk about genes without having the knowledge of D.N.A. molecules, though it is empirically known that the genes are D.N.A. molecules. This argument can be universalised to cover all of the known intentions predicted. It may be true, for example, that someone believes that the Morning star is likely to explode without its being true that the person believes that the Evening star is likely to explode. But this does not prevent the fact that the morning star is the evening star.

J.J.C Smart asked that is painful sensation merely a brain process? Is it a neuro physiological state? U.T. Place answered this enquiry by giving an example of simple perception; 'we see a green apple'. In this particular example the apple or unripe banana itself is green but the sensation or experience is not. The process of acquiring sense datum is just physiological process of grey matter of brain, nothing else. Smart argues that when man reports that bananas are green, at that time an internal process is going on in our mind. Reporting or talking about immediate experience is not just to describe the actual world but at the same time there is an internal process going on in our mind. Dualists said that this is the distinctive functions of metaphysical mind. Materialists said that internal processes are nothing but a neuro physiological procedure which occurs in brain skulls. P.K. Feyerabend asserted that simple sensation, whether it is well defined or ill defined, it involves complex brain processes. Wittgenstein regarded that thought is a bodily behaviour, not a stuff. He argued that mental process could be

analysed in terms of physiological behaviour. In this regard, he said in his *Philosophical Investigations*, “ the grammar of the expression of sensation on the model of the “object and name”. Smart considered that Wittgenstein’s argument is also applicable in the process and name. Let us take an example ‘I feel a pain’, this examples of pain can be explained by observing ones groans. Wittgenstein agreed with the fact that ‘feeling pain is nothing but a pain behaviour. Just as electrons are not physically observable without the help of microscope. We are not acquainted with electrons because of its microscopic bodies, similarly we are acquainted with pain. Smart regarded Wittgenstein as a behaviourist in disguise. He thought that Wittgenstein’s analysis of mental events is compatible with materialism.

From the admission of mind-body identity theory, a possibility of forming a double-edged conditional statement arises. If there is an occurrence in mind, there is a happening in the brain, and if there is an event in the brain, there is an event in the mind. Hence the occurrences in the brain is a sufficient and necessary condition for the occurrences in the mind. We find a difficulty in this explanation. Obviously thought, the mental event possesses indication to the concept outside the mind. Thought presupposes language or rules and conventions etc. It is necessary that the thought owns ‘surroundings’ in Wittgenstein’s language. Simple brain process can rarely be explained by the surroundings, since brain processes are in the human body. The problem is that the surroundings are totally external while there is no thought which is identified as

‘pure thought’, thought is always thought of something.

When individual says ‘I have a toothache’, it is possible for him to answer these questions comfortably; ‘Why are you crying?’ or ‘Why don’t you eat?’ It is merely a behavioural disposition. On the other hand, the occurrence just reports us about a special toothache. We cannot equally apply these two types of functions to the statement which describes brain process. It has, gradually just an explanatory function without having a reporting function. When someone asks me ‘Why are you crying?’ then I may say in answer to this question ‘a neural process of the type A is going on in my brain’. It is merely an explanation of behaviour and not a report of the state of affairs.

We could not ascribe the same adjective to the mental and physiological processes. Adjectives such as normal, abnormal, sharp or dull may be attributed to the mind. But these adjectives are not applicable to the brain process. This is one of the drawbacks of the mind-brain identity theory. For if mind and brain processes are identical, then the adjectives which are applicable to the mind are also applicable to the brain process;- but this is not the case. This becomes more clear to us when we speak of belief which is true or false, sound or unsound, but those adjectives can never be attributed to brain processes. On the other hand, a brain process is attributed as slow or false whereas mental processes cannot be given such adjectives.

On behalf of identity theorists it may be said that future scientific discoveries may prove that mind and body are identical. So



we have to revise our language in order to apply same adjectives to them. Yet, identity theorist's position is not clear. The adjectives that are ascribed to mental states rely upon contents, whereas brain process does not depend upon contents. After all, their expectations may not be fulfilled because there is no reason why we should revise our language. There are mental disorders like obsession which we cannot explain in terms of brain process. Obsessions are not only the results of the failure of the motor functioning, but also is a mental disorder caused by continuous negative experiences.

Another objection raised against mind-brain identity theory is that the identification of mental states would refer to statements which are actually unintelligible, philosophers have mentioned this error as 'category errors'. Therefore this identification is a matter of complete conceptual confusion. In this regard, we may cite Leibniz's law which states that two items are numerically identical only in case any property had by either one of them is also had by the other; we may show it logically by this equation:

$$(n) (y) (n=y) = (F) \\ (Fn = Fy)$$

We may refute mind-brain identity theory with the help of Leibniz's Law. We find some property which is true of brain events but not of mental states. Brain states and processes must occupy some special location, that may be in the brain as a whole or in some part of it. Identity theory states that mental state is identical with brain state. If this is so, then mental states must have the same spatial location, e.g. person's belief that-the-sun-is-a-star is

located in the temporal lobe of his left cerebral hemisphere. Considering their objections against identity theory, we may say that it is highly suspicious to claim that a certain thought is a certain brain process.

The most crucial point of mind-brain identity theory is that when our brain is damaged through any injury or disease, different types of function like speech, comprehension, memory, movement may be affected. If brain is damaged by any stroke then an adult person is mentally invalid. Obviously it seems that a healthy brain is necessary for normal human activity. Materialism or Physicalism does not merely say that human beings are constituted of flesh, blood and bone and without these, a healthy brain cannot think. Materialistic theory tells us that brain is the organ of thought just as the stomach is the organ of digestion. In this respect, R.T. Herbert says "our brain thinks our thoughts no more nullifies the fact that we think them then to say our stomachs digest our food annuls the fact that we digest it. Medical science proves this fact that thinking requires a healthy brain. Brain do not think for us, we do the thinking, although without healthy brain, thinking is not possible.

Bibliography :

1. Armstrong D.M. - A Materialistic Theory of Mind, Humanities Press, New York 1968
2. Borst C.V. Ed- Mind Brain Identity Theory, McMillan, London, 1970



3. Chappel V.C. - The Philosophy of Mind, Prentice Hall Inc, Englewood Cliffs, New Jersey 10962
4. Carney James. D, The Compatibility of Identity Theory with Dualism, published in MIND, Vol 80, No. 317 pp 136-140, Oxford University Press
5. Federick Coplestone, S. Y. - History of Philosophy, Vol-4, Search Press Ltd. London, 1958.
6. Herbert R.T. - Dualism / Materialism, The Philosophical Quarterly, Vol-48, No.191, April 1998.
7. McKee D.- 'Mind and Matter: monism or dualism?' Theoria to Theory 8, pp 303-315, 1974
8. Shaffer Jerome A.- The Philosophy of Mind, Printice Hall of India, New Delhi, 1968
9. Smart J.J C. - 'Sensation and Brain Process', Philosophical Review, LXVIII, 1959
10. Smart J.J C. - 'Further Remarks o Sensations and Brain Process', Philosophical Review, LXX, 1961
11. Smart. J.J.C. - Materialism, The journal of Philosophy, Vol-60, No.22, pp 651-662, 1963
12. Place U.T.- "The Concept of Heed", published in Essays in Philosophical Psychology, edited by Donald F Gustafson, McMillan, London 1967
13. Place U.T.- ' Is Consciousness a Brain Process', British Journal of Psychology, 47:1956



Estimating the Impact Analysis of India ASEAN FTA on Indian Chemical Industry: A Gravity Model Approach

Dr. Avijit Mandal
Assistant Professor,
Department of Economics,
Maulana Azad College, Kolkata,
8, Rafi Ahmed Kidwai Road,
Kolkata – 700013.

Abstract:

India signed a Free Trade Agreement with ASEAN members on 13th August 2009. This paper analyses the impact of the FTA on Indian chemical industry. Gravity model has been used to analyse the impact. It is found that the FTA has the significant impact on India's imports compared to its exports. Other important conclusion is that tariffs do not play significant role for major part of the products of the chemical industry and for them the agreement has no significance. There has been significant impact on organic chemicals due to this FTA. The maximum increase in India's imports of chemical products will be from Thailand followed by Singapore and Malaysia. The maximum impact on India's exports will be from Indonesia followed by Malaysia and Thailand.

Keywords: Free Trade Agreement, Chemical Products, Tariff Elasticity, ASEAN, Harmonized System Code.

JEL Classification: F13, F15

Email: a_mand@rediffmail.com

(Paper received on 16/05/2018; Paper accepted on 22/05/2018; Paper published on 1st July, 2018.)

1. Introduction

India has signed a free trade agreement with Association of South East Nation (ASEAN) countries on 13th August in 2009. The agreement was implemented from 1st January 2010. The paper here analysed the impact of this agreement on Indian chemical industry. It basically deals with ex ante analysis. Since its conception there have been long debates in the public sphere reaching up to the level of the Indian Parliament regarding the pros and cons of the agreement on the Indian economy. The debates were mostly

centralized on certain commodities like palm oil, rubber, coffee, black tea and pepper. There was widespread apprehension in India that the FTA will drastically increase the import of these goods from the ASEAN countries and this would hurt these industries in India. The debate had its effect on the outcome of the FTA.

Negotiations before the agreement were long and tortuous. More than 15 meetings of the trade negotiations committee were required to reach a



consensus on the tariff-reduction schedule. Eventually, India gave a single set of tariff offers to nine of the ASEAN countries and a separate offer to the Philippines. All ASEAN countries gave separate offers to India except Singapore, with whom India has had zero tariff rates since 2005. Each of these offers consist of individual tariff-reduction schedules on about 9700 tariff lines according to the Harmonized System (HS)8-digit level.

This FTA creates considerable interests in academic filed. Pal and Dasgupta (2008), Okamoto (2006) and Francis (2011) pointed out that production networking among Indian and ASEAN firms is expected to rise after the FTA. Pal and Dasgupta (2009) further point out that the automobile sector will emerge as one of the main beneficiaries while Chandran and Sudarsan (2012) argues that the fishing industry will be benefitted. There will be some adversely affected industry. For example Nagoor and Kumar (2010) concluded that Vietnam will enjoy huge tea market at a very low price. Also Veeramani and Gordhan (2011) pointed out that there will be significant increase in imports of plantation commodities by India from ASEAN members. The possibility of ill effect was analysed from a different perspective by Bhattacharyya and Mandal (2009) who argued that India's

balance of trade will be adversely affected due to the FTA. The welfare consequence of the FTA was also addressed. Nag and Sikdar (2012) showed that there will be welfare improvement for India but the gain will materialize only after the full implementation of the tariff elimination process. Bahattacharya and Mandal (2016) conclude that ex post analysis of India ASEAN FTA leads to welfare improvement up to 2012 but there is deterioration of welfare after 2013.

This paper analyses the impact of India ASEAN FTA on Indian chemical industry in a partial equilibrium framework. The rest of the paper is organized as follows. After some introductory discussion in the next section, section 3 describes the direction of trade in India's chemical industry. Section 4 detailed the methodology part. Section 5 briefly describes the impact on Indo ASEAN trade for chemical industry. Section 6 concludes the paper.

2. Indian Chemical Industry: An Overview

Indian chemical industry is the backbone of industrial and agricultural development of the country. It provides raw materials for several downstream industries such as textiles, papers, paints etc. It is one of the most diversified



sectors. It has both forward as well as the backward linkages with sectors of the economy. It serves as substitutes of natural products and meets constantly growing demand. Chemicals can be broadly subdivided into three sub groups e.g. Basic Chemicals, Speciality Chemicals and Agro Chemicals. Basic chemicals constitute organic and inorganic chemicals, bulk petrochemicals, other chemicals intermediates, plastic resins, synthetic rubber, manmade fibre, printing inks etc. Second type of chemical is speciality chemical which is also known as performance capital. These chemicals are obtained from basic chemicals. Paints, adhesive, electronic chemicals, water management chemicals, industrial cleaners, oilfield chemicals are few examples of speciality chemicals. The third type of chemical is agro chemicals which essentially protect agricultural crops against insects and pests.

The chemical and petrochemical industries play a significant role in meeting some basic human needs and in improving the quality of life. It has become important part of the economy and integral part of everyday life. The chemical industry offers vital inputs, chemical fertilizers and pesticides for food grains. It saves crops from attacks by various pesticides. Chemical industry also contributes by

providing life saving drugs and chemicals required for managing public health care. It also plays a crucial role in housing development.

The chemical products are involved in almost every industrial process and therefore play a significant role in economic and social development. The crude oil refining process uses chemicals for various activities. Apart from providing a variety of drugs for alleviation of human sufferings, the chemical industry provides safe anaesthetic agents and high quality artificial aids including a hip joint made from ultra low molecular weight polyethylene. Other health products include dental fills, contact lenses and dialyses also depend on the Chemicals Industry.

The chemical industry is among the oldest and fastest growing domestic industries in India, contributing substantially towards industrial and economic growth of the nation. The industry in India produces nearly 70,000 types of commercial products over a wide range of categories ranging from cosmetics and toiletries, to plastics and pesticides. The chemical industry in India is a key constituent of Indian economy, accounting for about 2.11 per cent of the GDP. In terms of value and production volume, Indian chemical industry is the 3rd largest



producer in Asia preceded by China and Japan. India is 6th largest producer by output in the world. Indian chemical industry is growing at 11% per annum. Total chemical production in India was 9632 Metric Tons (MT) in 2015 and reached to 9884 MT in 2016.

2.1 Trade Pattern of Indian Chemical Industry

The Chemical Industry converts raw materials like water, salt, crude oil, natural gas, air, metals minerals, etc into other valuable products. It is involved in almost every industrial process and therefore plays a significant role in economic and social development. According to European Chemical Industry Council world chemicals (excluding pharmaceuticals) sales in 2013 are valued at 3156 Euro billion. India ranks 4th in Asia and 7th in world with chemicals sales valued at 72.2 Euro billion in 2013. India's share of world chemicals market sales in 2013 marginally to 2.3% as compared to 2.0% in 2003. In value terms the total sales of chemicals in India increased by 2.7 times as compared to 9.1 times in China in 2013 when compared with 2003. As per UN Comtrade Database for 2015, India ranks 17th in the world exports of chemicals (Chemicals and Petrochemical Statistics at a Glance 2016). India's share

in world exports of chemicals was 2.11% in 2015.

Chemical industry comprises of chapter 28, 29, 30, 31, 32, 33, 34, 35, 36, 37 and 38 of HS code. These products are Inorganic Chemicals, Organic Chemicals, Pharmaceutical Products, Fertilizers, Tanning/Dyeing Extracts, Essential Oils, Soap & Organic Surface Active Agents, Modified Starch, Explosives, Photographic or cinematographic goods and Miscellaneous Chemical Products. There has been considerable rise in exports of chemical products from India in recent years. Table 1 reports India's exports of chemical products. The exports of chemical products has increased from 12539433 thousand USD in 2006 to 33640610 thousand USD in 2016 registering a growth rate of 17% per annum. Highest contribution in chemical exports comes from pharmaceutical sector. It is accounted for 39% in total exports of chemical products from India in 2016. Other significant contributors are organic chemicals (35%), miscellaneous chemical products (9.4%), tanning and dyeing extracts (7.4%) and essential Oils (5%) during the same year 2016. Though the export of fertilizer sector shows very low share (0.3%) in total Indian chemical exports it shows the highest growth rate of exports (64%) per annum over the decade



of 2006 to 2016. During the same decade the other high growing sectors are pharmaceuticals (34%), soap & organic surface active agents (29%), essential oils

(19%) etc. Photographic goods sector is surprisingly showing negative growth rate (-5%) per annum during the same decade.

Table 1: India's Exports of Chemical Products to World in 2016 ('000 USD)

HS 2 Digit Level	Product Description	Exports	Imports
28	Inorganic chemicals	1243860.34	4820826.68
29	Organic chemicals	11252925.67	14767091.02
30	Pharmaceutical Products	13032479.38	1694962.37
31	Fertilisers	87055.81	4588866.67
32	Tanning/Dyeing Extract	2473744.24	1586697.55
33	Essential Oils	1539740.03	676335.88
34	Soap, Organic Surface Active Agents	510203.71	649757.89
35	Albuminoidal Substances and Modified Starches	240803.89	351531.48
36	Explosives; pyrotechnic prod; match	93766.24	9063.14
37	Photographic or cinematographic goods	15624.73	200570.37
38	Miscellaneous chemical products.	3150406.05	4408803.25

Source: WITS Database

Let us turn to the imports figures of Indian chemical sector during the decade from 2006 to 2016 (Table 1). It shows that India is net importer in all categories except four categories, namely, pharmaceutical products, tanning/dyeing extracts, essential oils and explosives. Chemical imports have grown from 14225585 thousand USD in 2006 to 33754506 thousand USD in 2016. It shows a significant growth rate of 14% per annum over the same period. In total chemical imports by India from rest of the world, the maximum share comes from organic chemicals (44%) followed by inorganic chemicals (14%), fertilizers (14%) and miscellaneous chemical

products (13%). Essential oils segment shows the highest growth rate of imports (28%) per annum over the decade from 2006 to 2016. Other major growing sectors are albuminoidal substances & modified starches (24%), miscellaneous chemical products (23%) and pharmaceutical products (21%).

3. Direction of India's Chemical Industry Trade

Now let us have a look at the India's exports markets for chemical sector in the world (table 2). Major destinations of India's exports of chemicals are OECD (Organisation for Economic Co-operation



and Development) countries, North America, East Asia, European Union (EU) and Middle East. India's exports of chemical products reveal that major share

Asia (18%), EU member countries (18%) and Middle East (10%). Now turn to growth rates of India's exports of chemicals to different destinations of the world over the decade from 2006 to 2016.

of chemical exports goes to OECD countries (51%) followed by North America (24%), East

India's export of chemicals to North America is showing the highest growth rate of 38% per annum followed by OECD member countries (21%), Latin America (19%) and Middle East (17%).

Table 2: India's Exports and Imports of Chemicals ('000 USD)

Major Destinations	Exports		Imports	
	2006	2016	2006	2016
All ASEAN	1550246.33	3021589.52	1498862.41	3625678.14
East Asia – Pacific	3264809.92	6021573.43	4704070.03	15335555.23
EU27 Members	2540553.68	6018028.71	2364629.87	5152170.23
Latin America	825453.04	2387752.40	147191.98	459419.07
Middle East - North Africa	1256198.37	3323531.11	2624398.11	6892530.55
North America	1809465.99	8103462.98	2161037.66	3292395.38
All OECD Members	5548538.98	17159819.95	5909210.86	11664488.96

Source: WITS Database

Next we turn into India's imports from rest of the world (table 2). Major chunk of India's chemical imports comes from East Asian countries (45%). Other important countries for India's imports are OECD member countries (35%), Middle East (20%) and EU members (15%). As far as

growth rate of imports is concerned it is observed that India's imports are growing at highest rate (23%) for East Asia (23%). Other major countries India's high growth rates of imports are Latin America (21%), Middle East (16%) and ASEAN member countries (14%).

Table 3: India's Chemical Trade with ASEAN Countries ('000 USD)

Year	Exports	Imports
2006	1550246.33	1498862.41
2007	1590808.42	1860790.97
2008	1951334.56	2253770.83
2009	1740065.48	1894585.49
2010	2279122.10	2757165.60
2011	3077216.39	3604344.51
2012	3543729.44	3608421.37
2013	3778849.97	4064496.58
2014	3338648.84	4403594.47
2015	2917834.75	3874508.25
2016	3021589.52	3625678.14

Source: WITS Database

Let us have look India ASEAN trade in chemical sector. It is reported in table 3. India is having negative balance of trade with ASEAN members as far as chemical trade is concerned. Shares of India's exports to and imports from ASEAN members in India's exports to and imports from rest of the world are 9% and 11% respectively. After the implementation of India ASEAN FTA the growth rate of India's exports and imports in chemical sector with ASEAN countries are same at 3% level. Therefore reduction of tariff due to FTA has a similar impact both in exports and imports.

4. Methodology

Here we use frictionless gravity model for each HS 6-digit code under chemical sector for trade between India and the

ASEAN countries. The estimated equation is then used to simulate the trade impact under the alternative scenario of a Free Trade Agreement (FTA) between the two. We first estimate the gravity equation for India's and the foreign country's imports where the foreign country is a member of the ASEAN. Next the predicted values are computed when the tariff the variable in these equations takes zero values and the predicted values so obtained is compared with the predicted values obtained with actual tariff rates. The time period for our analysis is 1989 to 2009.

Given the above perspective the models can be formally represented as follows. Let us start with the frictionless gravity model:

$$\ln \text{Imp}_{ijt}^{\text{WT}} = \beta_0 + \beta_1 \ln(GDP_{it} * GDP_{jt}) + \beta_2 \ln \text{Tar}_{ijt} + u_{ijt} \quad (1)$$



$$\text{LnImp}^{\text{WT}}_{jit} = \beta_3 + \beta_4^A \text{Ln}(GDP_{it} * GDP_{jt}) + \beta_5^A \text{LnTar}_{jit} + u_{jit} \quad (2)$$

(i = India, j = ASEAN 6)

Where Imp^S_{ijt} is the import of country i (in our case India) from country j (the six ASEAN members considered here) in time period t for different situations: WOT – model without tariff and WT – model with tariff. GDP_{it} and GDP_{jt} are the income levels for country India and ASEAN 6 for time period t respectively, Tar_{ijt} is the tariff imposed by India for imports from country j (ASEAN 6) in time t, Tar_{jit} is the tariff imposed by ASEAN members on India in time t and u_{ijt} is the error term. The effect of the FTA on India’s imports is measured by:

$$\delta_{ijt} = \hat{\text{Imp}}^{\text{WOT}}_{ijt} - \hat{\text{Imp}}^{\text{WT}}_{ijt} \quad (3)$$

Where $\text{Imp}^{\text{WT}}_{ijt}$ is the predicted value when actual tariff rates are used and $\hat{\text{Imp}}^{\text{WOT}}_{ijt}$ is the predicted value when $Tar_{ijt} = 0$.

Similarly, the influence of FTA on India’s export is

$$\delta_{jit} = \hat{\text{Imp}}^{\text{WOT}}_{jit} - \hat{\text{Imp}}^{\text{WT}}_{jit} \quad (4)$$

Note that the gravity model has been used in its frictionless version as all the countries in the ASEAN are very close to each other – though they differ significantly in terms of GDPs – making distance irrelevant as a variable that determines trade flows. The distance variable when computed turns out to be almost similar to the constant term with a correlation greater than 0.9.

Note that the estimates should ideally internalize the fact that the rates of decline in tariff (and hence the terminal year for achieving the zero tariff point) for different products are different. There are also some products for which the zero tariff point will never be reached as they are outside the ambit of the FTA. Pace of reduction of tariffs of a particular industry will depend on the tract in which it is included.

5. Impact on Indo ASEAN Trade for Chemical Industry

5.1 Impact on India’s Imports

In this paper tariff elasticities play an important role for determining the impact of this FTA on trade in chemical products both for India as well as ASEAN member countries. Table 4 gives the details of



average values of the tariff elasticity and intercept term for all the regression analysis conducted at the six digit level of the products of the chemical products. It is important note here that the tariff elasticities are higher for Singapore and Thailand. Therefore, impact of the FTA on India's imports of chemical products from Singapore and Thailand will be higher. Other important feature of the table is that

the intercept terms are higher for all the countries as far as India's imports of chemicals are concerned. Higher intercept terms imply that India's imports of chemicals will be high even if the GDPs and tariffs are zero. It reflects that India's trade of chemicals with ASEAN countries is firm and secure. Therefore, chemical trade between ASEAN and India is tariff insignificant.

Table-4: Tariff Elasticity and Intercepts for Tariff Significant Products (India's Import)

Country	No. of Six Digit Products	Mean Intercept	Standard Deviation (SD) Intercept	Mean Tariff Elasticity	Standard Deviation (SD) Tariff Elasticity	Correlation between Tariff Elasticity & Intercept
Brunei	01	NA	NA	NA	NA	NA
Indonesia	416	72.07	106.64	-4.04	4.63	-0.80
Malaysia	457	86.56	130.37	-4.67	5.55	-0.95
Philippines	161	36.28	NA	-1.92	NA	NA
Singapore	721	239.19	840.21	-8.81	28.16	-0.99
Thailand	460	103.21	124.09	-5.35	3.66	-0.67

Source: Values in the table are calculated by the author from the data available in the UN Comtrade CD Rom

Here in this paper we want to find out the aggregate impact of the FTA on chemical industry. To identify the impact we will first distinguish between the effect on the affected industries vis – a – vis the aggregate effect on overall imports. Table 5 reports the two effects. The second effect is represented in column 2 in table 5. To determine the first effect one has to read this column 2 in conjunction with column

5 of the table. Thus for instance, in Thailand, there will be a 15.9 percent rise in imports of products for which the tariff term is significant, but since these products account for 14.1 percent of total trade the aggregate impact is only about 2.2 percent. It is observed from the table 5 that maximum increase in India's imports of chemical products will be from Thailand followed by Malaysia and Singapore.

**Table 5: India's Import from ASEAN 6 (Analysis of Gravity Model)
(‘000 US\$)**

Country	% increase of predicted Import from Positive Tariff to zero tariff	Actual Import in 2009	Actual Import (Tariff Sig) in 2009	% Share
	Gravity Model		Gravity Model	Gravity Model
Brunei	0.00	0.02	0.00	0.00
Indonesia	5.17	1820.45	19.53	1.07
Malaysia	10.37	2243.71	223.41	9.96
Philippines	5.60	53.15	12.92	24.31
Singapore	6.23	3199.94	648.62	20.27
Thailand	15.88	1305.77	183.72	14.07

Source: Values in the table are calculated by the author from the data available in the UN Comtrade CD Rom Note 1. Actual Import (Tariff Significant)--Actual import in case of products for which tariffs are significant.

2. Actual Import means actual total import of India from ASEAN 6

5.1.1 Product Code Wise Results

Tables 6 gives the details of the product wise results for the imports of chemical products by India from ASEAN members. Here we report the top ten industries for which the value of import is expected to increase significantly. Of the top ten products six products belong to organic chemical. Maximum increase in imports will be observed in the product for art conservation (HS code 380850). There will more than two and half times rise in India's imports of this product from Thailand. Other products of significant rise are Carboxylic acids (HS 291899), Formaldehyde (HS 291211), Esters of salicylic acid & their salts (HS 291823)

and Pigments & preparations (HS 320620). If we look at the entire data set, then the percentage of imports accounted for by intermediate goods whose tariff elasticities are significant is 89 per cent. It leads to the fact that the impact of the FTA will be more on intermediate goods than on final goods. As far as classification of Broad Economic Categories (BEC) is concerned all top 10 products are intermediate processed goods. 6 out of top 10 products are covered under normal track (NT - 1). Remaining products are under sensitive track (ST) for which the tariff reduction will be smaller.

**Table – 6: India’s import of top 10 six digit Chemical Products from ASEAN 6
(Values are in '000 US\$) (Gravity Model)**

Product Code	Product Name	BEC Category	Goods	Actual Increase in Imports	Country	Tracks
380850	Goods specified in Subheading Note 1 to this Ch.	Processed	Intermediate goods	5.40	Thailand	ST
291899	Carboxylic acids with additional oxygen function&their anhydrides/halides/peroxides/peroxyacids;their halogenated/sulphonated/nitrated/nitrosated derivatives(excl. 2918.11-2918.91)	Processed	Intermediate goods	6.42	Singapore	NT-1
291211	Methanal (formaldehyde)	Processed	Intermediate goods	0.15	Singapore	NT-1
291823	Esters of salicylic acid & their salts, other than salicylic acid & its salts/O-acetylsalicylic acid & its salts & esters	Processed	Intermediate goods	0.52	Singapore	ST
320620	Pigments & preparations based on chromium comps.	Processed	Intermediate goods	0.19	Thailand	NT-1
291990	Phosphoric esters&their salts, including lactophosphates; their halogenated, sulphonated, nitrated/nitrosated derivatives(excl. of 2919.10)	Processed	Intermediate goods	0.89	Singapore	NT-1
284150	Chromates&dichromates(excl. of 2841.30); peroxochromates	Processed	Intermediate goods	0.11	Thailand	NT-1
290545	Glycerol other than crude	Processed	Intermediate goods	0.38	Thailand	ST
281111	Hydrogen fluoride (hydrofluoric acid)	Processed	Intermediate goods	2.36	Singapore	NT-1
291531	Ethyl acetate	Processed	Intermediate goods	0.03	Thailand	ST

Source: Values in the table are calculated by the author from the data available in the UN Comtrade CD Rom

5.2 Impact on India’s Exports

Let us turn into impact on India’s exports of chemicals. The average values of the tariff elasticity and the intercept term for all the regressions conducted at the 6 digit level are reported in table 7. Here we notice that the mean tariff elasticity for India’s imports (-5.00) is higher than exports (-3.70). Hence the result of a reduction of tariffs will be

asymmetric: while ASEAN’s access to markets in India will rise to a significant extent, India will get lesser access to their markets due to the FTA. Other important point to note here is that the magnitudes of intercept terms are lower for India’s exports than imports. Therefore, tariffs and GDP play an important role for India’s exports compared to imports.

Table-7: Tariff Elasticity and Intercepts of Tariff Significant Products (India's Exports to ASEAN 6)

Country	No. of Six Digit Products	Mean Intercept	SD Intercept	Mean Tariff Elasticity	SD Tariff Elasticity	Correlation Tariff Elasticity & Intercept
Brunei	15	-2.96	18.31	0.02	0.01	0.19
Indonesia	583	-11.89	141.57	-4.95	4.91	0.44
Malaysia	302	60.65	213.47	-9.30	12.29	-0.76
Philippines	559	-1.26	55.48	-2.78	4.90	0.79
Singapore	NA	NA	NA	NA	NA	NA
Thailand	614	6.88	64.03	-1.37	1.27	-0.33

Source: Values in the table are calculated by the author from the data available in the UN Comtrade CD Rom

As far as India's exports of chemical products are concerned we have to find out the aggregate impact. To do this we have to differentiate between the affected industries in chemical products and the aggregate impact on overall imports of these products. The first effect is observed in column 2 of the table 8. The second effect can be obtained from both columns 2 and 5 of the same table. For

example, in Philippines, there will be 11.2% increase in exports of the tariff significant products. But these products account for only 27.6% of total trade in chemical products. Therefore, aggregate impact is only about 3.1%. It is observed from the table that the maximum impact on India's exports will be to Indonesia followed by Malaysia and Thailand.

Table- 8: India's Export to ASEAN 6 (Analysis of Gravity Model) ('000 US\$)

Country	% increase of predicted Export from positive Tariff to zero tariff	Actual Export in 2009	Actual Export (Tariff Sig) in 2009	% Share
	Gravity Model		Gravity Model	
Brunei	NA	1.04	NA	NA
Indonesia	443.62	1851.17	820.25	44.31
Malaysia	61.71	1539.14	21.71	1.41
Philippines	11.19	556.17	153.68	27.63
Singapore	NA	1438.49	NA	NA
Thailand	12.51	1226.86	116.28	9.48

Source: Values in the table are calculated by the author from the data available in the UN Comtrade CD Rom

Note 1. Actual Export (Tariff Significant)--Actual import in case of products for which tariffs are significant.

2. Actual Export means actual total export of India to ASEAN 6.

5.2.1 Product Code Wise Results

Table 9 reports the top ten industries for which the value of exports is expected to increase significantly. Of the top ten

products 5 products belong to organic chemical. The maximum increase in exports will be for the product Xylene (HS 290242). There will be seven times rise in



India's exports of this product to Indonesia. Other products of significant rise in India's exports are Plates and film (HS 370130), Barbituric acid (HS 370130), Egg albumin (HS 350219) and Paints and varnishes (HS 320810). If we look at the entire data set, then the percentage of imports accounted for by intermediate goods whose tariff elasticities are significant is 89 per cent. Therefore,

the impact of the FTA will be more on intermediate goods than on final goods. As far as BEC classification of goods is concerned all top 10 products are intermediate processed goods except one. 9 out of top 10 products are covered under normal track (NT - 1). Only one product is under exclusion list (EL) for which there will be no reduction of tariff.

Table – 9: India's exports of top 10 six digit Chemical Products from ASEAN 6 (Values are in '000 US\$) (Gravity Model)

Product Code	Product Name	BEC Category	Goods	Actual Increase in Exports	Country	Tracks
290242	mXylene	Processed	Intermediate Goods	82.288	Indonesia	NT-1
370130	Other plates and film, with any side exceeding 255	Processed	Intermediate Goods	1.346	Indonesia	NT-1
293352	(2002-) Malonylurea (barbituric acid) and its salt	Processed	Intermediate Goods	0.681	Indonesia	NT-1
350219	Egg albumin	Mainly for industry	Final Goods	5.542	Malaysia	NT-1
320810	Paints and varnishes	Processed	Intermediate Goods	2.308	Thailand	EL
293331	Pyridine and its salts	Processed	Intermediate Goods	2.046	Indonesia	NT-1
310250	Sodium nitrate	Primary	Intermediate Goods	0.631	Thailand	NT-1
290124	Buta1,3diene and isoprene	Processed	Intermediate Goods	166.260	Indonesia	NT-1
284440	Radioactive elements and isotopes and compounds of	Processed	Intermediate Goods	0.132	Thailand	NT-1
293332	(1996-) Piperidine and its salts	Processed	Intermediate Goods	0.655	Indonesia	NT-1

Source: Values in the table are calculated by the author from the data available in the UN Comtrade CD Rom

6. Concluding Remarks

The objective of the paper is to identify the industries/ set of chemical products that are expected to be adversely as well as favourably affected by the India ASEAN Free Trade Agreement. Adversely affected products are those whose imports have

increased significantly and favourably affected products are those whose exports have increased significantly due to reduction in tariffs in FTA. At the very broad level these industries were identified as the ones that will be adversely affected: Organic chemicals (HS 29), Miscellaneous chemical products (HS 38), Essential oils



and resinoids (HS 33) and Photographic & Cinematographic goods (HS 37). The products which will be favourably affected due to fall in tariffs are Organic chemicals (HS 29), Photographic & cinematographic goods (HS 37), Tanning/Dyeing extracts (HS 32) and Essential oils and resinoids (HS 33). There are also industries at this broad level (2 digit level) for which there will be substantial increase in imports as well as exports. To highlight the products within these industries that will be affected in different ways the analysis was re-conducted at the HS six digit level. Since it is impossible to report all products that will be affected either ways, some of these products are reported here. Adversely affected products are Carboxylic acids (HS 291899), Formaldehyde (HS 291211), Esters of salicylic acid & their salts (HS 291823) and Pigments & preparations (HS 320620). On the other hand favourably affected products are Plates and film (HS 370130), Barbituric acid (HS 370130), Egg albumin (HS 350219) and Paints and varnishes (HS 320810).

The paper highlights the importance of factors other than tariffs that affect the volume of trade across geographical entities. We find several instances that tariff centricity especially in the context of FTAs often imparts a bias in the analysis

of trade flows and trade levels often do not respond to tariff changes.

References

- Bhattacharrya, R. and Mandal, A. (2010): "Estimating the Impact of the Indo-ASEAN Free Trade Agreement on India's Balance of Trade", *Journal of Global Analysis*, 1, 9-25.
- Bhattacharrya, R. and Mandal, A. (2016): "India-ASEAN Free Trade Agreement: An Ex Post Evaluation", *Journal of Policy Modeling*, 38, 340-352.
- Chandran, B. P.S. and Sudarsan, P. K. (2012): "India-ASEAN Free Trade Agreement Implications for Fisheries", *Economic and Political Weekly*, 16, 65-70.
- Francis, S. (2011): "A Sectoral Impact Analysis of the ASEAN-India Free Trade Agreement", *Economic and Political Weekly*, 2, 46-55.
- Nagoor, B. H. and Kumar, C.N. (2010): "Assessing the Impact of the ASEAN-India FTA on the Tea Industry", *Economic and Political Weekly*, 44, 112-116.
- Nag, B and Sikdar, C (2011): Welfare Implication of India-ASEAN FTA: An Analysis using GTAP Model", Working Paper No. EC-11-06, Indian Institute of Foreign Trade, New Delhi.
- Okamoto, Y. (2006): "China and India: Challenges and Opportunities for ASEAN from Japanese Perspectives", *Philippines Review of Economics*, 43.
- Pal, P. and Dasgupta, M. (2008): "Does a Free Trade Agreement with ASEAN Make Sense?", *Economic and Political Weekly*. November 15, 2008, 8-12.



Pal, P. and Dasgupta, M. (2009): “The ASEAN India Free Trade Agreement: An Assessment”, *Economic and Political Weekly*, 38, 11-15.

Veeramani, C and Gordhan, K.S. (2011): “Impact of ASEAN-India Preferential Trade Agreement on Plantation Commodities: A Simulation Analysis”, *Economic and Political Weekly*, 10, 83-92.



Emerging Scenario in Global Learning System

Jhuma Bandyopadhyay

Asst. Professor (Education), Chandernagore College, Hooghly.

Abstract:

Competency-based education to Commitment based teaching and learning is an approach to teaching and learning more often used in learning concrete skills than abstract learning. It differs from other non-related approaches in that the unit of learning is extremely fine grained. Rather than a course or a module every individual skill/learning outcome, known as a competency, is one single unit. Learners work on one competency at a time, which is likely a small component of a larger learning goal. The student is evaluated on the individual competency, and only once they have mastered it do they move on to others. After that, higher or more complex competencies are learned to a degree of mastery and isolated from other topics. Another common component of Competency-based learning is the ability to skip learning modules entirely if the learner can demonstrate they already have mastery. That can be done either through prior learning assessment or formative testing.

Keywords: *Competency-based Education, Commitment-based Education, School Education, Classroom Learning System, Positive Psychology, Emotional Quotient, Emotional Intelligence, Behavioural Psychology.*

Email: jhuma1111@gmail.com

(Paper received on 23/05/2018; Paper accepted on 29/05/2018; Paper published on 1st July, 2018.)

The pace of change is mandating that we produce a faster, smarter, better grade of human being. Current systems are preventing that from happening. Future education system will be unleashed with the advent of a standardized rapid courseware-builder and a single point global learning

system. In this paper, we will focus on the key missing elements that will cause the disruptive next generation education systems to emerge. The primary missing pieces are a standard architecture for an organic courseware module. The solution to these missing pieces will be a participative



courseware-builder that allows the learners to create courses on any conceivable topic. Since inception of the systematic education process as compared to the ancient way of teaching is quite different. Today's learning pace is too advanced but with some difficult shortcomings. Older system was dictative and dominating rather than accessible. It was more like one way. But today's classrooms are crowded with different learning styles. There is one teacher in a classroom and one style of teaching that should match each learner's learning style and that is our focal point to investigate.

The following are key trends that are driving change in the world of education. These trends will eventually define the size, scope, and speed of the emerging new system along with the characteristics needed for a global-scale adoption. Education has traditionally consisted of the two fundamental elements of teaching and learning, with a heavy emphasis on teaching. Throughout history, the transfer of information from the teacher to the learner has been done on a person-to-person basis. A teacher stands in front of learners and imparts the information to

learn. Because this approach requires the teacher to be an expert on every topic that they teach, this is referred to as the "sage on stage" form of education. The education system of the future will undergo a transition from a heavy emphasis on teaching to a heavy emphasis on learning. Experts will create the courseware and the students will learn anytime or anywhere at a pace that is comfortable for them, learning about topics that they are interested in.

A number of new trends have emerged on the Indian education scene and a number of modern ideas are floating around. These ideas promise to transform Indian education. Increasingly, new and mindboggling discoveries are being made which straddle multiple disciplines. Subject areas are increasingly becoming dependent on a multiplicity of fields. Consequently single disciplines are being rendered difficult and require an interdisciplinary aptitude for assimilating and application. This is, however, not achieved with contemporary educational landscape which is steeped in theoretical learning and age old curricula



with a chilling irreverence for experimental-application based education.

An interdisciplinary education equips wide ranging creative and critical thinking augmenting lateral thinking, analytical reasoning, interpersonal ability, communication skills, ethical perspectives, cultural literacy and global perspectives. The greatest skill it endows is an orientation to application of knowledge mostly motivated through hands on work training and real-world experiences. It helps students to be sensitized to socio-economic, political and environment issues building a deeper relationship with the world around. A student learning via this approach not only emerges as a capable professional but also a responsible citizen with wide ranging sensibilities.

As a result of globalization and the current mobility of students in every field, we are living in a period of important and complex changes. Today's world needs teams of competent personnels, with the knowledge and skills required to provide the best possible care and attention for children and

adolescents and for the society: personnels capable of adapting to the setting and circumstances. In this context, Competency-Based Education has emerged, with the aim of achieving greater personal adaptation and development. This educational method, in which the traditional teaching-centred approach has developed into a type of training in which learning is paramount, has been adopted by Continuum. We review the basic principles of Competency-Based Education and how it is applied in Continuum.

In traditional education the central aim of the teaching-learning process is to convey content; the teacher is the centre of the process, the one who possesses and transmits knowledge, and the student plays a passive role, as a mere receiver. With Competency-based Education, in contrast, students are the centre of the teaching-learning process, and the aim is for them to learn how to learn, to solve problems and to adapt to changes in their environment. Its objective is to achieve learning that combines knowledge, skills, attitude and behaviour. These sets of knowledge are



called competencies. This approach is regarded as one of the most important changes in education in the twenty-first century. Its importance lies in promoting the active participation of students in their own learning, making them aware of their progress and development, helping them to manage their knowledge and to acquire the necessary competencies that will make it easier for them to adapt to a changing and unpredictable environment. It also enables training programmes to be developed more flexibly, so that students learn at their own pace, and it emphasizes formative assessment.

In Competency-Based Education, those responsible for training play the role of guides to learning, and to achieve this they must design educational experiences that engage students and make them participate actively. Identifying the competencies needed for practice is an essential component of this approach to teaching. They include those required by the training programme, as well as others that arise in day-to-day practice, as a result of changes in the learning environment or of new

knowledge or advances with application of technology. Any Competency-Based Education programme must be constructed on the basis of knowledge of the competencies required, developing training actions that make use of all the resources available and conducting assessment processes on their performance, to provide feedback and optimize learning.

As we have seen, all available learning opportunities must be utilized. Distance learning, with the aid of new technologies, is an efficient method of achieving this, which can be adapted to the student's needs -- timetable, pace of work, place of residence, financial means, etc. Adoption of the principles of Competency-Based Education has given rise to Continuum. For this purpose we have developed a competence Matrix, which constitutes the teaching structure of Continuum. This Matrix aims to create committed whose mission is to establish relevant criteria for training and practice in learning at an individual level and to assess their efficacy for ensuring the quality of learning and care throughout the world. The Matrix has a hierarchical



structure, with two generic sections: one for basic abilities and behaviour and another in which the various areas of acquired knowledge are deployed. In the latter, specific, successively subordinated contents are developed, and in each one there are subgroups of competencies related to history, science, language, literature and management.

For the purpose of all round Learning development, this Matrix of Can-do will-do is applicable in classroom situation to measure the learners' I.Q. (Intelligence Quotient) at a glance. But in the changing sphere E.Q. or E.I. (Emotional Quotient or Emotional Intelligence) is more acceptable to assess the quality of learning and development. There has long been the pervasive notion that learning can take place only in a classroom. Even though schools use field trips and outdoor experiences to enhance education, the classroom remains the dominant central fixture of today's educational systems. Classrooms are designed to focus attention, close off the rest of the world, and create a controllable environment where learning can take place.

Architects refer to schools as a “place,” and over the years place-makers have attempted to create the ultimate classroom—a place where learning can be optimized and students can excel.

Most educators will argue that the real learning takes place inside the classroom. Even though external activities such as doing homework, reading assignments, or writing papers happen outside the bounds of the school, the primary education interface remains in the classroom. Using classrooms as the primary “touch point” for learning creates many problems. The person or education system that controls the classroom also controls the time when learning can take place, the students who will participate, the lighting, the sounds, the media used, the tools, the pace, the subject matter, and in many cases, the results. However, classroom-centric education is not necessary for learning. Learning takes place from the moment a person wakes up in the morning until they fall asleep at night. In fact, learning continues even while a person is sleeping. We may not be learning about math and science while we watch a movie,

but we learn about the characters in the movie, the plot, the setting, the drama, the resolution of the problem.

The following Diagram is helpful to understand Can-do will-do Matrix on the Learners' front:



Now we can ask a question how to understand Emotional Intelligence. The answer is very precise. Daniel Goleman, the inventor of this theory said that Emotional Intelligence is the ability to perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to

promote emotional and intellectual growth. He talked about five components of Emotional Intelligence which are very effective in individual, social, cultural and national life and it can help to solve every problem as it is variable rather changeable. Such mentioned components are furnished here.

Self-awareness: The ability to recognize and understand personal moods and emotions and drives, as well as their effect on others. Self-awareness includes self-confidence, realistic self-assessment, and a self-deprecating sense of humour. Self-awareness depends on one's ability to monitor one's own emotional state and to correctly identify. **Self-regulation:** The ability to control or redirect disruptive impulses and moods, and the propensity to suspend judgment and to think before acting. It includes trustworthiness and integrity; comfort with ambiguity; and openness to change. **Internal Motivation:** A passion to work for internal reasons that go beyond money and status which are external rewards, such as an inner vision of what is important in life; a joy in doing something,



curiosity in learning, a flow that comes with being immersed in an activity, a propensity to pursue goals with energy and persistence. It includes a strong drive to achieve, optimism even in the face of failure, and to keep commitment. **Empathy:** The ability to understand the emotional make up of other people, a skill in treating people according to their emotional reactions. It includes expertise in building and retaining talent, cross-cultural sensitivity, and render service to society. It is important to note that empathy does not necessarily imply compassion. Empathy can be 'used' for compassionate or cruel behaviour. **Social Skills:** Proficiency in managing relationships and building networks, and an ability to find common ground and building rapport. Social skills include effectiveness in leading change, persuasiveness, and expertise building and leading teams.

So far as the discussion is concerned, the great writers like, Philip G. Zimbardo, Prof. Seligman and Daniel Goleman have tried to explore the human minds and nature psychologically through their various experiments and observations only how to

achieve human happiness. Human beings can be proactive and engaged or, alternatively, passive and alienated, largely as a function of the social conditions in which they develop and function. The findings have led to the postulate of three innate psychological needs -- competence, autonomy, and relatedness--which when satisfied yield enhanced self-motivation and mental health and when thwarted lead to diminished motivation and well-being.

BIBLIOGRAPHY

1. Aggarwal, Y.P., *School Education*, New Delhi: Arya Book Depot, 1991.
2. Ball, Kirstie, 2000, *Interface Value, People Management*, January 6, pp 40-42.
3. Bhattacharya, Dilip Kumar, *Human Resource Management*, Excel Books, New Delhi.



4. Chakraborty, S.K., *Values and Ethics for Organizations: Theory and Practice*, New Delhi: Oxford University Press, 2002.
5. Goleman, D., *Working with Emotional Intelligence*, New York: Bantam Books, 1998.
6. Goleman, D., R.E. Boyatzis and A. McKee, *The New Leaders: Transforming the Art of Leadership into the Science of Results*, London: Little Brown, 2002.
7. Mukhopadhyay, M., *Total Quality Management in Education*, 2nd Edition, Sage Publications, New Delhi.
8. Seligman, M. (1994), *What you can change & what you can't*, New York.
9. Zimbardo, P.G. (1972), *The Stanford Prison Experiment a Simulation Study of the Psychology of Imprisonment*. Philip G. Zimbardo, Inc.



The World of Homosexuals (1977): An Attempt at Appraisal

Sayantana Mitra
Research Scholar,
University of Kalyani.

Abstract:

The World of Homosexuals published in 1976, is a pioneering attempt but it can also be seen as a part of the discursive formation in the West to which the works of such writers as Alfred Kinsey, Kate Millet, Harry Benjamin and Leon Saltzman had already contributed. Self-confessedly “a lay person” writing “for lay people” (Devi vi) on matters concerning homosexuality, Shakuntala Devi’s book has little claim to originality.

Keywords: *Homosexuality, Person, Relationship.*

Email: sayantana34@yahoo.in

(Paper received on 22/05/2018; Paper accepted on 29/05/2018; Paper published on 1st July, 2018.)

In the field of Lesbian and Gay Studies in India, *The World of Homosexuals* published in 1976, is a pioneering attempt but it can also be seen as a part of the discursive formation in the West to which the works of such writers as Alfred Kinsey, Kate Millet, Harry Benjamin and Leon Saltzman had already contributed. Self-confessedly “a lay person” writing “for lay people” (Devi vi) on matters concerning homosexuality, Shakuntala Devi’s book has little claim to originality. She deliberately positions herself as an outsider to the world of homosexuals by disclosing her sexual orientation in the Preface but in her attempt to inculcate a humane attitude to homosexuality in the masses she is helped by her celebrity status which lends an authority to her. Shakuntala Devi’s text is an interesting medley of interviews, essays on different areas concerning homosexuality and extracts from

texts like the Kinsey Report. Thus there is a variety to the registers on display which allows the text to approach an amorphy that is typical of the subject it deals with.

The book begins with an epigraph from Hemingway against prejudice –“Prejudice is a despotic, ignorant, mental slaveholder. It prejudices and pronounces sentences without evidence, judge or jury. We ought to run away from it, for it is a false witness, stupid, dishonest and short-sighted. It separates friends, impedes human progress, befriends bad institutions, obstructs good causes, perpetuates the enslavement of body and mind, and wars against the best interests of mankind” (xi). In the days before the publication of the book *Hemingway’s Genders: Rereading the Hemingway Text* (1994) Hemingway was not perceived to have any relation with queerness but he



could, with his great fame and larger than life public image, be made to speak with prophetic righteousness and unique access to truth against prejudices. This quotation thus normalizes Devi's book by placing it within the narrative promoted by science about itself of fighting against prejudices of all sorts. This long-out-of-print book thus was not an aberration but a serious attempt by somebody who had, at least, imbued the scientific spirit and spoke as an emissary of enlightenment.

The book begins with an interview with an Indian homosexual that aspires to be a case-history. One may question the politics of Shakuntala Devi here in reducing her subject to a case or in making the homosexual a case but it may well be seen as well-intentioned naiveté on her part. Venkata Subramaniam ticks a number of boxes as far as representing the standard Indian male is concerned (keeping in mind the target readership of this book)—he is educated, handsome, belongs to “an orthodox Brahmin family”, middle-class in his origin and is a “senior executive of a well-known company with international collaboration” (1). So in spite of being professionally successful he is firmly rooted and the “deviancy” that he displays is private; in public he upholds the norms and conforms to them from a sense of cynicism that is not far from fatalism. He seems settled in life; his attitude to life has neutralized its capacity to surprise him. He has sorted out his own desires and has kept a secret place reserved for them. He has also complied with the normative demands of society and has decided to marry. He, in his wisdom, thinks that his marriage will be a success too.

Shakuntala Devi is keen to discard her gender at the beginning of the interview to win confidence. “Why is gender so important? Just think of me as a person” (1)—is her stance. It is not quite Butler-like for it does not question the foundations of gender or declare it false but puts it aside for some time with the provision of claiming it at a moment of convenience.

Venkata Subramaniam went to a co-education school and grew up among male friends who fantasized sexually about their female classmates. He could not find any similar passion in himself. He pitied the girls for they were deprived of most of the fun the boys had. This attitude changed in him to a feeling of repugnance for girls which Venkata helpfully pointed out stemmed from a rather conservative upbringing in which women (his own experience painfully concerns his mother) were segregated and treated as “unclean” and “impure” during their menstruation. Venkata Subramaniam discovered his homosexual inclinations early and did not know that his love had a name just like Radha and Sita did not know in the film *Fire* (1996) later on. This is indicative of the extent to which our break with our past was achieved later and this renders validity to the research of Ruth Vanita and Saleem Kidwai who later unearthed several names for same-sex love in different languages and in various Indian cultures. He had his first sexual experience with a boy and it gave him such pleasure that sex became almost a habit for them. The first affair ended in heartbreak for him for his partner was forced to marry and cut off ties with him.



On being asked if he knew what he was getting involved in, an educated man like Venkata Subramaniam says that he came to know only in the later stages. They had started with an innocence that allowed them to find and give pleasure to each other without knowing how many there were like them. He had no deep sense of guilt and the little guilt that he had was attendant upon the knowledge that their private acts were punishable by law. So if he had not been made into a case, if homosexuality had not been constructed as “abhorrent” they or at least he could have lived a happy life. The guilt in him then was a result of shaming, a result of being interpellated in an inferior subject-position in discourse and by the state. Venkata Subramaniam however was unshackled by his guilt—“it made the whole thing more interesting for us”(5). It also did not deter him from getting into very similar relationships after the one with his first lover ended.

The discussion veers to Venkata Subramaniam’s value in the marriage market and Shakuntala Devi receives a shock when she learns that he has consented to marry. Venkata Subramaniam unintentionally launches an attack on the institution of marriage, calling it a commercial arrangement. His position may seem cynical for he accepts as natural the fact that love (he includes physical love too) most often plays no role in marriage and he is not ready to concede that for him to marry is cruel on his partner. His opinion that marriage is a commercial arrangement based on verifiable facts (sexuality not among them) may actually be a betrayal of his uneasy relationship with the dominant and

repressive social norms. As a gay man his existence is fractured. He is forever forced to stay in the closet and accept the closet as natural for his social obligations mean that he has to lead a double life. As the dominant social norms do not allow him to find personal fulfillment and happiness, he resorts to a form of irresponsible subversion, in the guise of acceptance. It is not that the subversion is intentional but it may be an act committed in spite of oneself. Apart from a normalization of cruelty he expresses his hopelessness in—

“In this country, a person has no choice really. Here you just fit into a role and do your duty towards those around you. It’s all laid out for you the moment you’re born. You’re put in a strait-jacket. If you try to wriggle out you land a lot of people into lots of difficulties. There are millions like me who’re married because they have to, and they carry on that way, as I’ll be doing very soon. Fortunately in this country, when a marriage is arranged they take into account all other considerations except the sexuality of the boy and the girl” (9).

But he does not feel depressed and does not think of himself as being oppressed by society. He thinks that because homosexuality is not registered in society a homosexual is accorded immense freedom to live according to their wish. He confidently asserts—“The laws exist only on paper. You rarely hear of anyone being prosecuted on this ground. In fact if they’re going to jail everybody who’s practising homosexuality in this country...What’s the population of this country—about 500 million...what’s one-sixth of 500



million...tell me quickly you're good in Maths. Where would they find place to accommodate so many millions? How would they feed them, in the first place?" (10).

Among other things his interview reveals the large (staggering to the unsuspecting) number of people who might have had covert homosexual liaisons and living perfectly "normal" lives. It does not let the homosexual be stereotyped easily-- Venkata Subramaniam is a straight woman's delight (a fact Shakuntala Devi draws our attention to) and will soon be married. It also betrays Venkata Subramaniam's class position which more than his caste position is going to allow him to be optimistic about life after making a few compromises. It also does not let the reader harbour any notion of proclivities for same-sex love being changeable as Venkata Subramaniam summarily dismisses the notion of his being weaned to another way of life.

After the interview with Venkata Subramaniam Shakuntala Devi tries to define and describe homosexuality in "What is homosexuality?" The voice she adopts is that of rationality that is associated with science but her well-meaning naiveté comes to the fore when she is not on her guard like in the use of the word "normal" in "Such persons use the homosexual outlet only as a convenient substitute, without its interfering with their normal heterosexual capacity or feeling" (12). The positive outcome of her effort is especially evident when she cleverly produces the counterargument to such commonly-held beliefs as homosexuality is a congenital deformity or

mental illness or a form of sexual perversion. She is also ready to admit that "[i]n India for instance, millions of men and women are personally conscious of homosexuality as at least an element in their sexual make-up" (15). Her exposure to books such as "Toward a Christian Understanding of the Homosexual" comes in handy here. After disentangling the figure of the homosexual from stereotypes (effeminate and tomboy, to be precise) she takes the next logical step: she asserts the "ordinariness and commonplaceness of homosexuality" (17). She continues, "The homosexual may be of any age, of either sex, living anywhere, and from any class or occupational section of the population" (17). It is clear that hers is a normalizing mission. But her mission is also to inform—she discusses roles that homosexual couples adopt in sex, the practices they engage in, the presence of sentimental attachment and absence of promiscuity among lesbians in contrast to gays, "homosexual panic" (25) and "latent homosexuality" (26). She is sensitive and sympathetic enough to aver, perhaps for the first time in Indian culture, that—

a) "For a homosexual, self-acceptance, a major part of growing up, is particularly difficult as he faces the additional hurdle of being an outcast in society" (24).

and

b) "All homosexuals share a need. They share a need to come to terms with the burden which the rest of society imposes on them—the handicap of belonging to a minority for which not merely is there no



social acceptance but which is positively disliked and persecuted by the majority. And this gives to a homosexual's life a complexity and a dimension unknown to heterosexuals" (24).

By drawing example from Greek, Roman and Persian history she carefully refutes claims of homosexuality being a sign of degeneracy. She delves into history to find instances of homosexuality in our and other cultures. She refers to *Kamasutra*, Kautilya and *The Mahabharata*. Her discussion of homosexuality in Greek culture is pretty exhaustive and she supports her observations with references to Sappho, Herodotus, Socrates and Plato. Lowes G. Dickinson and J.Z Eglinton provide her with valuable insights into Greek culture and she had to work with the considerable disadvantage of not having K.J Dover at her side. Dover's *Greek Homosexuality* considered by many to be the most authoritative account of the subject was published in 1978. That the book is produced by thorough research becomes clear in chapters like "Homosexuality Through the Ages" where she is able to effortlessly move from Greek and Roman homosexuality to Fascism and from Fascism to scientific research. Her research does not fail to include Gandhi's comments in *Young India* and to prove how rampant it was in pre-independence India in educational institutions she quotes two letters from educationists published in newspapers in the 1930s.

Shakuntala Devi shifts her focus of enquiry regarding homosexuality to religion next. She spends a few lines on Hinduism and her

verdict of Hinduism being friendly towards homosexuality rests on the inclusion of homosexual lovemaking techniques by the sage Vatsayana in *Kamasutra*, who, she argues, would not have been able to deal with homosexuality if it had been prohibited by religion. The rest of the chapter deals with Christianity. She disproves the claims systematically of Christianity being against homosexuality using similar efforts by earlier writers. The final compromise for homosexuality is made by her in the end when she advances her notion of good homosexuals who are not "promiscuous and practice depersonalized sex, enter into mature homosexual relationships with one partner with the intention of fidelity and mutual support" (49). She also asserts with certainty that "The scriptures, most certainly, do not condemn such a relationship. And quite positively in these circumstances such a relationship can be interpreted as fulfilling the positive ideals of the scriptures" (49). She thus establishes a norm for homosexuals or a touchstone by which they should be judged. Such interceptions from a person sympathetic to the cause prove rather disappointing but her sympathy, based as it is on humanism can perhaps go no further. It is very difficult to live completely free from norms or to be absolutely non-judgmental always or to know all the aspects of the protean subject called patriarchy.

In the chapter titled "The Law" Shakuntala Devi actually pre-empts the stance taken by many later activists towards Section 377 of the IPC. She begins by observing that the section itself is a relic of the colonial period, a legacy of Macaulay. Then she throws light



on the attitude of some modern nations towards homosexuality. In further attempt to undermine the authority of Section 377 she quotes at length from the Wolfenden Report and ends by commenting that India is among the few countries not to have adopted the recommendations of the Wolfenden Report which proposes that “homosexual behavior between consenting adults in private should no longer be a criminal offence” (82).

In “Psychiatric Perspectives on Homosexuality” views in favour of depathologization of homosexuality are carefully reproduced by Devi. She starts with the many self-contradictory statements of Freud on homosexuality and the views of writers like Irving Bieber, Charles Socarides, Lawrence Hatterer and Evelyn Hooker. The curability of homosexuality is also discussed by her. Devi, from research conducted or conclusions arrived at by these writers, tries to find the answer presumably for her readers—why does homosexuality occur? The answers can be varying but they must have been assuring for those seeking means to ward off homosexuality—1) “a symptom of various underlying non-sexual problems such as fear of adult responsibility, a need to defy authority, an attempt to cope with hatred for, or extreme competitiveness with members of one’s own sex, or a child’s awareness that his or her parents would have preferred a child of the opposite sex.” (62) 2) “The most common pattern, he reported, involved an over-protective, close-binding mother and a detached, absent or brutal father...if there is a warm, affectionate, good relationship between father and son, homosexuality cannot occur.” (64-65) and 3) “...fear of ‘engulfment’ by the dominant

mother is the key factor preventing the boy from becoming independent and progressing to heterosexuality.” (65) But Shakuntala Devi never forgets to use quotation marks around such terms as “mental illness” and she carefully tabulates the finding of researchers who asserted that no significant difference was found in the psychological behavior of homosexual women. After a lengthy quotation from the Kinsey Report she records the views of those psychologists who look at homosexuality “as a normal variant in the total spectrum of human sexuality” (71) like Evelyn Hooker, June Hopkins, Marvin Siegelman and Thomas Szasz. The Kinsey Report is quoted in even more detail in the chapter that follows “Psychiatric Perspectives on Homosexuality”—“Homosexual-Heterosexual Balance.” The chapter is used to emphasize and iterate how common homosexuality is.

Shakuntala Devi deals with situational homosexuality in “Homosexuality in Prisons”. That homosexuality is always within the realm of possibilities is suggested by what she quotes—“Set one hundred heterosexual men down on a deserted island and within a week, a quarter of this number will become active homosexuals. The percentage would probably rise to as high as fifty per cent within a short period, and if continued over any long period, we would have a completely and exclusively homosexual society” (81). She then presents an adequately researched account of what happens in prisons and educates the readers on the use of terms like “punk” (84), “stud broad” (84), “femme” (84), “penitentiary turnouts” (83) and “actual homosexuals”



(83). She also notes that while lack of heterosexual intercourse was a major reason for male prisoners for having sex with men, the women felt “the feminine need for affection and support” (87) acutely and turned for homosexual relationships.

In “Commercialised Homosexuality” an in-depth study of male prostitution is made. Shakuntala Devi starts with a generalization about homosexuality—“An interesting aspect of homosexuality is that the physical appearance of their partners counts more—particularly amongst men—and beyond a certain age a great many homosexuals find themselves much frustrated because they can no longer obtain desirable new partners by means of their own sexual attractiveness. Therefore there is a natural temptation to buy the favours of young men by presents, patronage or an actual fee” (90). After dealing with the findings of researches conducted on male prostitution by writers like Montgomery Hyde, Jersild, Michael Craft and A.J Reiss she concludes by making a few comments on male prostitution in India. She names Bhindi Bazar and Foras Road areas of Bombay as housing pre-teen boy-prostitutes for catering to a homosexual clientele. This tendency of the book to double up as a manual or guide for homosexuals is nowhere more evident than in the chapter titled “Venereal Diseases”. Detailed information including primary symptoms, stages, method and chances of contracting is provided in the chapter. There is even an entreaty by her to homosexuals --“Hence it is advisable for promiscuous passive homosexuals to report for blood tests every four months as a precaution against concealed infection”

(103)-- which betrays her anxiety to address a silence in public healthcare.

Shakuntala Devi is susceptible to occasional lapses. In discussing paedophilia she writes—“ While this represents a perversion, as it is the acting out of an impulse that few people admit to sharing, it can properly be classed as a double perversion if the assailant chooses a child of his own sex” (114). Is not the homosexual being called doubly perverse because of the gender of the chosen object? And yet in the same chapter (“The Homosexual and the Community”) she shows perceptivity and sympathy—“Most homosexuals feel caught in an insoluble predicament. If they disclose their homosexuality to their parents, they will risk anger and pain, and yet if they hide it, they must drift apart, avoiding any contact that might uncover their essential selves.”() She is aware of the reality of India, a reality she is trying to transform.

“Gay Lib”, the next chapter in the book, begins with an account of the oppression that homosexuals faced till Stonewall. After explaining the necessity for homosexuals to live without stigma, Devi quotes a large excerpt from “a working paper prepared by the Chicago Gay Liberation for the Revolutionary People’s Constitutional Convention, plenary session, held in Philadelphia in September 1970.” The paper could have been handy for an indigenous movement for gay liberation for it would be applicable mutatis mutandis to the situation in India.

In the same spirit of subtle incitement and subversion an interview with a gay couple



who were the first to marry in Canada is inserted next. It is in conducting this interview that Devi makes her own sexual orientation (straight) explicit but this does not blunt the edge of her politics because she is intelligent in choosing her materials and even if she speaks mostly through others she succeeds in emphasizing where her sympathy lies. So following the interview are statements by their representative in legal action, Mrs. April Katz and Mrs. Leslie Silver, Director of the Women's Centre of Winnipeg, both sympathetic to the cause of Chris and Rich, who faced social legal opposition following their marriage. The chapter ends with an interview with Barbara Sachs, "a partowner of a bookshop that sells books and magazines mainly on homosexuality and on homosexual liberation"(140). Devi, in her interview, plays devil's advocate and also, at times, appropriates the standard unsympathetic homophobic voice to make them clarify their stand elaborately. She succeeds in bringing out the socio-political and economic advantages of marriage for homosexuals. The institution of marriage comes under caustic attack as the common assumption of it having its base in love is undermined repeatedly. Just as sex between two persons of the same gender is justified by pointing out that sex between differently-gendered couples is also frequently non-procreative, marriage between same-sex couples is justified by citing the fact that many do not marry to raise a family. In the interview with Chris and Rich Devi's strategic incomprehension pays rich dividend as by asking questions repeatedly she is able to establish that they exist as an

ideal couple with a firmly entrenched relationship of trust and mutual understanding between them. She carefully, by leading them on, supports legalizing same-sex marriage. The problem of replacing heteronormativity with homonormativity in the urge to gain acceptance and respectability is not even a distant spectre in the post-Stonewall environment of combativeness and hope in which the book was written.

"The Indian Homosexual" presents an interview with the second Indian homosexual in the book but this time the person interviewed is not as successful or wily in dealing with society by maintaining a façade as the earlier one. The placement of his interview after the interview with Chris and Rich serves to foreground the harshness of the reality that homosexuals in India faced, a reality against which they could not raise their voice or openly revolt unlike their western counterparts. The interview presents a now familiar tale of discovery, leading a double life from fear of social stigmatization and ostracization, lack of support from family, difficulty in finding acceptability (from others and self) and living with worries about the future. The next interview presented in the same chapter is with Srinivasa Raghavachariar, "a Sanskrit scholar and the priest of a Vaishnavite temple at Shri Rangam" (145). Srinivasa epitomizes tolerance. His interpretation is an echo of Aristophanes's tale in Plato's *Symposium*. It is his belief that in other lives, or in some other life, the individuals who constitute the same-sex pair of this life were differently sexed and were together. Because the union is achieved between souls and



souls have no gender, he finds a simple explanation of homosexuality in the theory of reincarnation. It may be said that he cannot conceive of desire that is not directed towards the opposite sex but in spite of such limitation it is sympathy with deviance that he has reached. He substantiates his explanation by saying that it is God's means of controlling population explosion, rising life-expectancy of humans and possible food shortage in the future. His views produce the idea that if theism is in praising the world as created by God, then homosexuals, who could not exist if God had not so willed, should be accepted by all believers. He is true to his calling and genuine in his faith.

Shakuntala Devi uses the final chapter of her book as a vehicle to voice her opinion directly. With her readers now prepared to accept her views she refrains from quoting other writers for there is no need for their authority now for her. She unequivocally condemns those who tried to cure homosexuals, asserts that homosexuals are not deviants by willfulness but by compulsion, iterates that they are not sinners or wicked people but victims and calls for the law to be changed for homosexual acts between consenting adults. She convincingly argues that a society that was guilt-ridden and that associated shame with all acts of sex barring those needed for procreation (she does not differentiate between shame and guilt), by ostracizing intelligent and sensible human beings and forcing them to live in perpetual shame, guilt and anxiety could not achieve happiness for its members.

Her primary purpose of writing seems to be to dispel myths about homosexuality like the facile connection drawn between effeminacy or tomboyishness with homosexuality. But she herself can be prone to a tendency to generalize or essentialise as in "In males the homo-eroticism usually manifests from the outset as a recognized sexual attraction calling for physical gratification" (21) or "Most lesbians like the majority of heterosexual women, find sex without romance unattractive" (21).

. Shankuntala Devi must be credited for conducting detailed and impressive research on the still fledgling area of gay studies but there are omissions that could have greatly improved the book. She delves into history in search of a past tolerant of homosexuality and mentions the *Kamasutra* and the *Mahabharata* but fails to find queerness in the Puranas. Rekhti poetry, Urdu poetry and the Bhakti movement along with the Sufi tradition do not find a mention in the book. She explores Greek and Roman homosexuality in some detail; observes that in Greek law sodomy with slaves was severely punished, but is largely clueless about the punishment meted out to gays and lesbians in ancient India. She should be commended for producing letters from Indian newspapers on homosexuality and the observations of Mahatma Gandhi on the subject but the major controversy surrounding the short stories of Ugra remains unalluded to. Similarly, in her chapter on Religion, Christianity is dealt with in an exhaustive manner, Hinduism gets perfunctory treatment and no other religion including Islam is mentioned. As she is mostly silent about areas where



material available to her is scanty it is easy to dismiss the book for using mostly western examples to justify a “Western disease”. That possibility would complicate matters further for the target readership of the book is presumably Indian. Only the penultimate chapter (“An Indian Homosexual”) of the book can answer such criticism sufficiently for it triumphantly presents an original justification of homosexuality that hints at a worldview that, according to Rich North, who was earlier interviewed in the book, a henotheistic religion allows.

Ismat Chughtai confessed that while writing her controversial short story *The Quilt* (1944) she knew little about lesbian sexual acts (xii). Shakuntala Devi, with remarkable frankness, addresses this gap by discussing such issues as the comparative superiority of the clitoris to the penis (after Kate Millet), the percentage of orgasm achieved in homosexual union in comparison to heterosexual coitus and the problem of having to take up the active role for gays when they enter marriages of convenience. But it is her acute sensitivity to the stigma associated with the life of a homosexual that

ultimately disarms criticism and makes the reader forget that the Indian in her text is quite frequently subsumed under a queerness that she thinks is global.

References:

1. Comley, Nancy R., and Robert Scholes *Hemingway's Genders: Rereading The Hemingway Text*. New Haven: Yale University Press, 1994. Print.
2. Devi, Shakuntala. *The World of Homosexuals*. New Delhi: Bell Books, 1978. Print.
3. Dover, K.J. *Greek Homosexuality*. London: Bloomsbury, 2016. Print.
4. *Fire*. Dir. Deepa Mehta. Eagle, 1996. DVD.
5. Naqvi, Tahira. Introduction. *A Chughtai Collection*. By Ismat Chughtai. Trans. Tahira Naqvi and Syeda S. Hameed. New Delhi: Women Unlimited, 2003. vii-xx. Print.
6. Vanita, Ruth and Saleem Kidwai, ed. *Same-Sex Love in India: Readings from Literature and History*. Delhi: Macmillan, 2001. Print.



শলৈজানন্দৰে গল্প : নমিনবৰ্গৰে ভনিন স্বৰ

সহকাৰী অধ্যাপক, বাংলা বিভাগ,
ৰায়গঞ্জ বিশ্ববিদ্যালয়, ৰায়গঞ্জ, উত্তৰ দনিাজপুৰ-৭৩৩১৩৪.

(Abstract):

একজন (১৯ ১৯১০ - ২ ১৯৭৬) ...
কয়লাখনৰি খাদানে কৰ্মৰত আদবাসী নমিনবৰ্গীয় জীবনৰে এক ভনিনমাতৰকি স্বৰ। কয়কেৰ্টি পুৰতনিধিসিথানীয়
গল্প বিশ্লেষণৰে মধ্য দয়ি। নমিনবৰ্গীয় জীবন চতেনাৰ কথাশলিপী হসিবে, শলৈজানন্দৰে দৃষ্টিভিঙি পৰ্যালোচনাৰ
ইচ্ছা থেকে বৰ্তমান পুৰবন্ধ পৰকিল্পনা।

শব্দ (Keywords): শলৈজানন্দ, কল্লোল, লোক্যাল কালার, কয়লাখনৰি, নমিনবৰ্গ।

Email : idipakbarman@gmail.com, চলভাষ: ৯৪৭৬২৪৯১৩১.

(Paper received on 26/05/2018; Paper accepted on 29/05/2018; Paper published on 1st July, 2018.)

একজন (১৯ ১৯১০ - ২ ১৯৭৬) ...
একজন (১৯ ১৯১০ - ২ ১৯৭৬) ...

এক ...
এক ...



খামারবাড়ি ঘরোও করে। বউপায় বুঝে নায়েবে টবেকি ফরিয়ি দেনো। কনিতু নায়েবেরে ররিংসা থেকে। টবেকি মুক্তি পলেওে নজি সমাজরে হাত থেকে। তার রহোই নহে। পর পুরুষ কর্তৃক অপহৃত হয়েছে। সুতরাং সবে অপবত্ৰি। শাস্তরি বধিান, গাছে বঁধে। তীর বদিধ করে মৃত্যুদণ্ড। এই নারকীয় মৃত্যু দৃশ্য রচনার আগে লেখক পাঠকরে সামনে তথাকথতি সংস্কৃত সমাজরে আর এক নারকীয় বীভৎসতাক। তুলে ধরনো। নায়েবেরে লোকজন রাতরে অন্ধকারে পাতা-ছাওয়া সাঁওতাল বস্তি খড়-কুটোর মতো জ্বালিয়ে দেয়। এবার তারা ফরে, “বনরে ধারে ধারে সরু পথ ধরয়িা চলতি। আরম্ভ করলি। ... কথায় তাহাদরে পথ চলার শেষে এবং কথায় তাহাদরে রাত্ৰি প্রভাত হইবে, আবার কথায় কথায় নরীপদ্রব জুগলরে ধারে এই স্বাধীন-চতো আত্মবিশ্বাসী অনার্যরে দল কুটীর বাঁধবি, ভগবান জাননে!” এভাবে শ্রুগেি সভ্যতার করাল গ্রাসে, শোষক শ্রুগেির বশিক্ত ছোবলে একটা উপকেষতি, বজিতি শ্রুগেির একটা ভগ্নাংশরে শেষে অসত্ৰিবটুকুও উখাত হয়। য়। জুগলবষেটি বস্তবিসী সাঁওতালদরে ফরে পথচলা— স্থাবর-অস্থাবর যাবতীয় কিছু খুইয়। সভ্যতার পরতস্রোতে জুগল থেকে জুগলান্তরে। একবোর। নরীবগে দৃষ্টিতে শলৈজানন্দরে লখনী-তুলতি। সেই নরীমম সত্ৰ চত্ৰতি হয়ছে। গল্পরে ঘটনাকাল উল্লেখতি হয়না। সত্ৰদ্রষ্টি লেখক আসলে কাহনিকাল এবং ভাবকালরে চলমান শ্রুগেি পীড়নরে ঘৃণ্য রূপটকি। তুলে ধরতে চয়েছেনো।

আজও
সহ
গ-

ঠক
নয়,
শ,
সবই
নয়,
চন
সময়
এক সময়
এই
বশিয়ে এক
ও কথক
আসনই
শলৈজানন্দ নজিওে সকেথা স্বীকার করে লখিছেনে— “আমার গল্পরে সর্বপ্রথম পরমিণ্ডল কয়লার খনি এবং চরত্ৰিরো সব সাঁওতাল কুলীমজুরা”১১ করমসূত্রে এই





Status of Self-Financing Courses in West Bengal

Dr. Sanjit Kr. Das,
Vice-Principal, Bhairab Ganguly College.

Abstract:

This is an empirical study based on secondary data. This paper is a modest attempt to show the status of self-financing courses in West Bengal. We all know that due to the volume of population and lack of opportunity to take education from Government established school, colleges and universities many of us are bound to take education from private institutions and Government now realizing the today's need allow private sector investment in education sector side by side Government allows colleges to conduct self-financing courses in the arena of higher education. Against this backdrop this study is made to explore the status of self-financing courses in West Bengal. It is found that there is large variability in terms of intake capacity, fees structured and qualified teachers across the Universities and Colleges of West Bengal. However, to meet the present demand of higher education the role of self-financing courses in West Bengal is undeniable.

Keywords: Self-financing Courses, Intake Capacity, Higher Education, Fees Structure, West Bengal.

Email: sanjitbgc@gmail.com.

(Paper received on 30/05/2018; Paper accepted on 05/06/2018; Paper published on 1st July, 2018.)

I. Introduction :

It is well known that the education is one of the crucial weapons of a country for her socio-economic development. It goes without saying that expansion of education eradicates the problems of superstition, mal-nutrition, communalism etc. and brings gender equality and eliminates the curse of poverty. Further, development in the area of science and technology improves total factor productivity of a country and under globalised economy many other countries may avail the benefits of technological innovation through technology transfer.

However, in case of developing countries problems are many. Scarcity of funds, high population in terms of numbers, low productivity and unemployment actually hamper growth process. In case of developing countries Government has insufficient funds for expanding education as well as there is an insufficient fund for expenditure on health. Further, the far the country has from her educational attainment the more problems that country will go to face, because absorption of recent development in the field of technology will be sub-optimal. Again, in the field of



finance and arts progress will be insufficient as there is a lack of opportunity. In case of a highly populated country like India, it becomes almost impossible to provide all her citizens education, particularly higher education. In the area of primary and secondary education in case of India there is almost optimal level of facility, but in case of tertiary education there is a lack to absorb the entire student who are willing to take higher education as because lack of institutional facilities coupled by lack of man-power. In case of India expenditure on education as percentage of GDP has fallen over last few years and Government has decided to allow private sector in the arena of education for meeting the growing needs as well as allow to run few courses of higher education in colleges at self-financing mode. However, the mammoth role of education in facilitating social and economic progress has long been recognized. Effective education improves functional as well as analytical ability and thereby opens up opportunities for individuals to achieve greater access to job markets to earn livelihoods and thereby sustainable economic development is achieved. A better educated labour force is essential if we are to meet the labour supply requirements for faster economic growth. Education is not only an instrument of

enhance efficiency but is also an effective tool of creating effective deployable human resources in the system of production of goods and services. In the fast changing world most of the nation's economies are getting transformed into knowledge economy and knowledge has acquired a commodity value. With the process of globalization, education has become a prerequisite for the survival and prosperity of the country's economy. In this situation, higher education has been caught on the horns of dilemma between social responsibilities and market requirements. Higher education now stands for a quality product or services that fulfill the requirements and expectations of the receivers for a specific price. In modern era, higher education involves customized service to meet the demand of different segments of population

Against this backdrop in this paper a modest attempt is made to present a status of self-financing courses in India as well as in West Bengal, one of the major state of India in terms of its historic past, population number and educational attainment. This paper is structured as follows: Section II represents review of literature; while section III represents data and methodology. Section IV includes analysis and findings and finally



section V represents concluding observations.

II. Review of Literature:

The literature in this area is not plenty and it is of recent origin. Some of the important are presented below:

Milton Friedman (1984) in his paper “*The Role of Government in Education*” mentioned that even if the financial burden imposed by an educational requirement could readily be met by the great bulk of the families in a community, it might be both feasible and desirable to require the parents to meet the cost directly. In the context of higher education in United States, **Hoxby (1997)** in his paper “*How the Changing Market Structure of U.S. Higher Education*” explains the structure of fees in the college of US. Hoxby notes that the advent of modern, standardized admission testing and tuition reciprocity agreements was influential forces resulting in market integration and development of national student market to develop competition. The research result that increasingly costly competition among US colleges and universities for most able students increases the quality of learning has been questioned by **Dale and Kreuger (1998)** in their paper named “*Estimating the*

Payoff to Attending a More Selective College: An Application of Selection on Observables and Unobservable **Davies and Elias (2003)** from UK also noted that students dependent on loan as source of financing were more vulnerable to drop out due to increase in tuition fee compared to those whose main support was based on grants. In their paper “*Dropping Out: a Study of Early Leavers from higher education*” they found that student loans and tuition fees were also likely to increase the debt level of students. In the Working Paper 108, captioned “*Indian higher Education reform: From Half-Backed Socialism to Half-Backed Capitalism*”, **Devesh Kapur and Pratap Bhanu Mehta (2004)** examined the political economy of Indian higher education. This paper provides an empirical mapping of Indian higher education and demonstrates that higher education in India is being de facto privatized on a massive scale. But this privatization is not a result of changing ideological commitments of the key actors—the state, the judiciary or India’s propertied classes **Vijender Sharma (2009)** in his Working paper “*Indian Higher Education: Commodification and Foreign Direct Investment*” mentioned that the per student public expenditure in higher education declined in the past one and a half



decade by almost 25% in real terms. The private sector has also expanded in high demand areas, putting an upward pressure on fees. **Ramesh Kumar (2012)** in his paper “*Higher Education and Economic Development in India*” pointed out that the development of human capital is essential for economic development. He opined that education and research in national and international level are ever changing and the impacts of such technical changes are to be assessed for economic growth. **Das, S K (2012)** in his paper “*Self-financing Scheme in Post-graduate Courses of Government Sponsored College- A Case Study*” discussed the desirability and feasibility of funding of post graduate self-financing courses and according to him the colleges in spite of suffering many problems colleges are successfully running those courses. He opined that this type of endeavour by the colleges could play important role in bridging the gap between demand and supply of higher education and high course fees is not a matter of problem in most cases due to the increasing aspiration of the families.

III. Data and Methodology: This study is an empirical study based on secondary data published in various reports, journals etc. For the purpose this study we have

taken data on trends of Government expenditure on education and data have also collected from the different reports representing status of education in India as well as in West Bengal For the purpose of the analysis on the status of self-financing courses in West Bengal across the Universities and their affiliated Colleges data are also collected from the different administrative bodies. So far as methodology is concerned we have used several statistical tools like tabular forms of presentation, mean, co-efficient of variations etc.

IV. Analysis and findings

In this section this study has made a modest attempt to explore the present status of self-financing higher in West Bengal.

IVa. Indian Higher Education Scenario:

Higher education in India is currently the third largest in the world. It is predicted that within the next five years India exceeds U.S.A. and within 15 years will be the largest system of higher education in the world overlapping China. Higher education in India has a complex structure with many contradictions. Higher education in India has recorded an enormous growth since



independence. U.G.C. plays an important role in the growth and development of higher education in India. In the changing scenario private universities has also entered in the field of higher education to fill the demand-supply gap. Private sector continues to grow rapidly specially giving emphasis to the technical and management courses. So many private organizations are in the queue and waiting for legislation which would allow them to enter in the field of higher education. In near future private sector may play an important role for expansion of higher education in India. This is due to the fact that the population of India has been increasing and at the same time Gross Enrolment Ratio (G.E.R.) has also been increasing. The G.E.R. in higher education in 2001-2002 was 8.1%, in 2004-2005 was 10%, in 2009-2010 was 15% and in 2012-2013 that was 21.1. Higher education institutions in India include universities, colleges and other institutions. These institutions can be broadly classified by three attributes: Degree granting power, Legislative origin and Funding. Universities can award degrees in India. Universities can be unitary, with a single or multiple campuses, without any college affiliated to it. Rests of the universities are affiliating type universities. These universities also

offer degrees to their own students as well as the students of the colleges affiliated to them. In terms of legislative origin, there are central universities, state universities and deemed universities. Universities established by the act of parliament are called central universities, by the act of state legislatures are known as state universities and institutions who are granted deemed-to-be universities status by the central universities are known as deemed universities. On the basis of funding, higher education institutions are broadly classified into public institutions and private institutions. Public institutions include both government institutions and aided institutions and their major source of funding are the central and state government. Private unaided institutions sustain on the fees collected from the students. So the government allows the private sector to enter the market to provide quality higher education. In India in the year 1950, there was 20 universities and 500 colleges, In the year 2014 the number of universities was 677 out of which central universities were 45, state universities were 318, private universities were 185 and deemed universities were 129. During the same period number of colleges has been increased from 500 to 37204. The pupil-teacher ratio in higher education in India is



higher than many developing countries. In 2012, the ratio was 24 for India as against 20 for Pakistan, 20 for Brazil, 18 for U.K., 14 for Russia, 13 for U.S.A. and 7 for Germany. Private universities enjoy greater flexibility to prepare course module, admission process and fixing of course fees to meet the cost of running the courses. Private deemed universities have the flexibility of preparing course module and admission process but the fees structure are subject to the approval of the state level committees. Both these types of universities need to recover the capital and revenue expenditure from the fees collected from the students. The colleges affiliated to the state universities offer courses both in general and professional disciplines. There are three types of colleges; Government College, government-aided college and privately managed non-government-aided college. Most of the regular programmes offered by the former two types of colleges are subsidized by the government. These colleges can introduce and offer any program after taking approval from the affiliating university and the government but can charge fees as decided by the government. They are allowed to offer self-financed programmes if they have necessary infrastructure and faculty and can follow the

user-pay principle. So the pricing of self-financing courses in India has two types of patterns, firstly, the government colleges and the aided colleges under the supervision and control of the affiliating universities are allowed to charge fees to recover the revenue expenditure. Secondly, the educational institutes in India are not allowed to make profit by fixing higher fees and only allowed to make reasonable surplus. The reasonable surplus earned by such institutions can only be used for the purpose of education, i.e. for the expansion and augmentation of education and not for any other purpose. The official view is that higher education is a non-profit sector. It is expected that the private participation should be encouraged without commercialization of higher education. However the practices have been quite far away from such policy pronouncements. The resource crunch from the state to fund higher education has created compulsion for the government institutions to run the self financing programs and shift the burden of the cost to the students.

IVb. Self-financing courses: Experience in West Bengal

There are different categories of colleges in West Bengal like government



colleges, non-government colleges under pay packet scheme and private colleges under the administrative mechanism of the Department of Higher Education. They include general degree colleges and professional colleges like Law College, Teachers' training college, Management College and Engineering & Technical College. General Degree College in this state is under two broad categories; Government College and Non-government College. Government colleges are directly controlled by the State Government. The entire expenditure for these colleges is borne by the higher education department. The teaching and non-teaching staff of these colleges is government employees. The non-government degree colleges are also financed by the Department of Higher Education almost entirely.

IVc. Comparative analysis amongst self-financing PG courses in West Bengal

This section deals with the comparative analysis of course fee in different subjects, intake capacity and percentage of Ph. D. among the faculties of the sample colleges and the universities under which they are affiliated across the state of West Bengal.

Fee Structure: University-wise Analysis

The comparative analysis of course fees of different subjects studied under different universities and colleges are presented in appendix table-I . It is noteworthy in this respect that the fees as recorded in the table represent fees taken by different universities as regular course fees and in case of the affiliated colleges the fees represent self-financing course fees. Now, we try to make a comparative analysis between the fees charged on different subjects under regular mode and the fees charged by the colleges under self-financing courses across the different subjects. It is evident from appendix table-I that in case of the University of Calcutta course fee of Microbiology and Biotechnology are found to be highest whereas Bengali, English, Commerce, History, Nutrition, Physiology etc. have registered lower course fee structure. Here the variability (C.V.) of course fees among the subjects is 51.59 per cent that reflects that the variability is very high across the different subjects of regular courses offered by the University. If we analyse the fees structure of the different courses under the colleges affiliated to the University of Calcutta, we find that subjects like Physiology, geography, Computer Sc.,



Microbiology, Electronics have registered higher fee structure and fees in the subjects like Sanskrit, History, and Hindi etc. are on the lower side. Here the variability (C.V.) of course fees among the subjects is 49.08 per cent which means that the variability is very much high across the different subjects of self-financing courses offered by the affiliated colleges. If we compare fees structure of the University of Calcutta with that of the affiliated colleges, we find greater difference in each and every subject. It reveals from appendix table-I that the average course fee of the subjects offered by the university is Rs. 6140 which is largely differ from affiliated colleges of same university as the mean value becomes Rs. 33,420 in this area. The university is offering PG courses with much lower fees as it is being subsidized by the government. Course fees of the subjects offered by the affiliating colleges are much higher than the course fees in the universities and it is remarkable to note that sometimes it is larger than ten to fifteen times compared to regular courses.

If we analyse the fees structure of the Vidyasagar University we find some sort of parity in the fees structure. Fees in the subjects like Physiology, Botany, Zoology, Chemistry, and Physics are on the higher

side and fees in Bengali, English, and History are in the lower side. Here the variability (C.V.) of course fees among the subjects is only 17.31 per cent that reflects that the variability is very low across the different subjects of regular courses offered by the University. If we compare fees structure of the Vidyasagar University with that of the affiliated colleges, we find huge difference in each and every subject. It has been noted from appendix table-I that the average course fee of the subjects offered by the university is Rs. 3,217 which is much higher in the affiliated colleges as the figure reads Rs. 33,827. It is also evident from the table that average course fees of the subjects offered by the affiliating colleges are more than ten times higher than the course fees in the universities. Appendix table-I reveals that in case of the West Bengal State University course fee of Commerce, Mathematics and Geography is on the higher side and course fee of Bengali and History is in the lower side. Here the variability (C.V.) of course fees among the subjects is 14.61 per cent that reflects that the variability is very low across the different subjects of regular courses offered by the University. If we analyse the fees structure of the different courses under the colleges affiliated to the University, we find that subjects like



Geography, Mathematics and English registered higher fee structure and subjects like History, Bengali have registered lower fee structure. Here the variability (C.V.) of course fees among the subjects is 36.14 per cent which means that the variability is higher compare to the fee structure of the University. If we compare fees structure of the West Bengal State University with that of the affiliated colleges, we find that fees are much higher in the colleges than that of the University for well known reasons. It has been found that average fee in the affiliated colleges is Rs. 31,108 and fee whereas in the university the average fee is Rs. 14,250. In case of Kalyani and North Bengal University, only few colleges have been given permission to offer self-financing PG courses. In North Bengal University, the college offers only English and Bengali at the PG level and course fee is much higher in the college than the university. In case of Kalyani University, subjects like Bengali, Sanskrit, Physiology and Hindi are offered at the PG level by the affiliating colleges. It is also noted that fees in the colleges are much higher than that of the university. It also reveals that variability (C.V.) of course fees in the colleges is 33.21 per cent which is much higher than that of the university (22.30). In Kalyani University the average

course fee is Rs. 16162 which is almost two times than the average course fee of affiliated colleges (Rs. 8070). Appendix table-I also reveals that in case of the Burdwan University course fee of Botany and Geography is on the higher side and course fee of Bengali, English and Santali is in the lower side. Here the variability (C.V.) of course fees among the subjects is 36.37 per cent that reflects that the variability is very high across the different subjects in regular courses offered by the University. If we analyse the fees structure of the different courses under the colleges affiliated to the University, we find that subjects like English, Physics, and Botany registered higher fee structure and subjects like History, Bengali have registered lower fee structure. Here the variability (C.V.) of course fees among the subjects is 55.14 per cent which means that the variability is very high across the different subjects offered by the colleges and also it is higher compare to the variability of course fees of the University. It has been found that the average course fee of the subjects offered by the university is Rs. 7386 which less than half of the average course fee of the affiliated colleges as the figure reads Rs. 14916. If we compare fees structure of different subjects offered by the Burdwan



University with that of the affiliated colleges, we find that fees are much higher in the colleges than that of the University. It is interesting to note that if we consider all subjects offered by the colleges in PG Courses at self-financing mode then the average course fee is Rs. 25,877 which is 3.31 times higher than that of the average course fee of the same subjects of all the universities taken together (Rs. 7813). Appendix table-I represents the variability regarding course fees offered by different universities in regular mode across different subjects as well as the variability exists across the subjects studied under different affiliated colleges of different universities.

Fee Structure: Subject-wise Analysis

Appendix table-I explores that PG in Commerce is offered by the affiliated colleges in self-financing mode under Calcutta and West Bengal State University. The average course fee in the colleges affiliated under W.B.S.U. is Rs. 28,000 which is much higher than the course fee of colleges under C.U. (Rs. 18,250). English as a course at the PG level is offered by the affiliated colleges of all the universities in self-financing mode. Here we have found a fee range of Rs. 18,000 to Rs. 32,150 and the average course fee is Rs. 24,360. The fee range in Physics in the colleges affiliated

under V.U. is Rs. 32,400 which is marginally lower than the colleges under C.U. (Rs. 34,350) and marginally higher than the colleges under B.U. (Rs. 21,500) and the average fee is Rs. 29,415. PG in Chemistry is offered by the colleges under Calcutta and Vidyasagar University and fees are much higher in the colleges affiliated under Vidyasagar University (Rs. 42,650) than the colleges under Calcutta University (Rs. 33,550). Bengali as a course at the PG level is offered by the affiliated colleges of all the universities in self-financing mode. Here we have found a fee range of Rs. 15,000 to Rs. 23,500 and the average course fee is Rs. 19,583. There is high variation in the course fee of Geography among the affiliated colleges and we have found a fee range of Rs. 25,000 to Rs. 48,500 and average course fee of Rs. 37,116. There is low variation in the course fee of Zoology among the affiliated colleges and we have found a fee range of Rs. 40,150 to 42,500 and average course fee of Rs. 41,325. The fee range in History in the colleges affiliated under C.U. is Rs. 18,500 which is marginally much lower than the colleges under V.U. (Rs. 26,150) and marginally higher than the colleges under W.B.S.U. (Rs. 18,000) and the average fee is Rs. 20,883. There is very high variation in



course fee of Physiology among the colleges and the fee range is Rs. 24,000 to Rs. 85,000 and the average course fee is Rs. 50,050. There is also a high variation in the course fee of Botany among the affiliated colleges and we have found a fee range of Rs. 23,500 to 41,150 and average course fee of Rs. 32,100. It is interesting to note that the average course fee in regular courses offered by the different universities is Rs. 7,410 and average course fee in self-financing courses offered by the colleges is 25,530 which are 3.45 times than that of the university course fee. If we consider the fee range of different subjects we find courses like Physiology, Microbiology, Biotechnology, Electronics and Geography have higher course fee in the affiliated colleges as well as in the universities. On the other hand subjects like Bengali, History, Sanskrit, Santali etc. have registered with lower fee structure. This study reveals that a significant difference exists between the fee structure of the university and the colleges affiliated under that university across the state of West Bengal. Colleges actually conduct higher education (i.e. PG Level) on self-financing mode. So the fees charged by them markedly higher than that of the fee structure of the universities because universities are always getting several grants

and benefits in terms of money from the government for their up-gradation and qualitative improvement. Interestingly this study explores the fact that in case of several subjects like Computer Science, Electronics, Microbiology, Biotechnology, the number of seats are higher in the affiliated colleges of university of Calcutta than the seat capacity of the university itself. At the same time, the fee structure of these subjects is quite high. In one front it may indicate decentralization of higher education; the other front may indicate its demand. In case of Computer Science and Microbiology the seats of affiliated colleges under W.B.S.U. is also higher than that of the university itself. This may be done for meeting future needs. So we can plausibly say that higher demanded course running under different affiliated colleges in self-financing mode involve higher course fee which satisfy our hypothesis framed earlier. Since Appendix table I depicts that in all cases affiliated colleges charge higher fees in the field of self-financing PG courses affiliated under several universities of West Bengal. We can easily say that there is a heavy expenditure if anyone wants to take higher education in this mode. It goes against our hypothesis that existence of competition will normalize the course fee between the colleges and



universities. It is also obvious from Appendix table 4.A that fees structure of colleges, are more or less same who are conducting PG courses in self-financing mode, affiliated under Calcutta and Burdwan Universities. However, in case of W.B.S.U., V.U. and N.B.U. the fee structures under self-financing mode are very high across the subjects compare to fees taken by the universities for providing same level of education. We all know that majority of the colleges of West Bengal are affiliated under Calcutta and Burdwan University that provide self-financing PG courses.

Intake Capacity: University-wise Analysis

The comparative analysis of intake capacity of different subjects studied under different colleges and affiliating universities are presented in appendix table-II . It has been found from the table that in the University of Calcutta, intake capacity is highest in the Department of Commerce. Among other subjects English, Zoology, Bengali etc have registered with high intake capacity of more than 300. On the other hand subjects like Biotechnology, Microbiology, Electronics, Computer Science, Chemistry, Physiology, Botany etc.

have low intake capacity and for this reason the affiliated colleges are offering those courses through self-financing mode. It has also been found that the variability (C.V.) of intake capacity among the subjects is 124.78 per cent which means that the variability is very high across the different subjects offered by the university. If we consider the appendix table-II we find that intake capacity is high in the subjects like Commerce, Zoology, and Bengali etc. and is very low in Hindi, Microbiology, Physics, Mathematics, Electronics, and Physiology etc. It has also been found that the variability (C.V.) of intake capacity among the subjects is 86.56 per cent which means that the variability is also very high across the different subjects offered by the affiliated colleges but the figure is lower than that of the university. The average intake capacity of the university is 162.53 which are much higher than that of the affiliated colleges (68.35). It has been found from the appendix table-II that in the Vidyasagar University, intake capacity is higher in the subjects like Commerce, English, Bengali, History and Sanskrit and on the other hand subjects like Computer Science, Physics, Chemistry, Zoology, Geography, Physiology, Botany have low intake capacity. Due to the scarcity of seats,



the affiliated colleges are offering those courses through self-financing mode. It has also been found that the variability (C.V.) of intake capacity among the subjects is 36.59 per cent which means that the variability is comparatively low across the different subjects offered by the university. Appendix table-II also shows that intake capacity is high in the subjects like Commerce, Bengali, English, Sanskrit, and History and is very low in Physics, Chemistry, Zoology, Geography, Physiology Botany, and Computer Science. The average intake capacity of the university is 36.59 which are much lower than that of the affiliated colleges (103.94). It has also been found that the variability (C.V.) of intake capacity among the subjects is 103.94 per cent which means that the variability is also very high across the different subjects offered by the affiliated colleges and at the same time it is much higher than that of the university. It reveals from appendix table-II that in the affiliated colleges of West Bengal State University, intake capacity is higher in the subjects like Commerce, English, Bengali and Chemistry and on the other hand subjects like Physics, Zoology, Electronics, Computer Science, Geography, Physiology and Botany have low intake capacity. If we consider the intake capacity

of the West Bengal State University we find intake capacity is high in the subjects like Commerce, Bengali, English and Mathematics and is very low in Physics, Chemistry, Zoology, Microbiology, Electronics, Geography, and Computer Science. It has also been found that the variability (C.V.) of intake capacity among the subjects is 33.95 per cent which means that the variability is comparatively low across the different subjects offered by the university. It has also been found that the variability (C.V.) of intake capacity among the subjects is 57.11 per cent which means that the variability is little high across the different subjects offered by the affiliated colleges and at the same time it is much higher than that of the university. The average intake capacity of the university is 103.94 which are much higher than that of the affiliated colleges (33.95). If we consider the information of the Burdwan University, we find that intake capacity is higher in the subjects like Commerce, English, Bengali, and Mathematics and on the other hand subjects like Geography, Physiology, Botany and Santali have low intake capacity. It has also been found that the variability (C.V.) of intake capacity among the subjects is 58.46 per cent which means that the variability is comparatively high



across the different subjects offered by the university. Appendix table-II also shows that intake capacity is high in the subjects like Commerce, Bengali, English, and History and is very low in Physics, Chemistry, Mathematics, Zoology, Geography, Physiology and Botany. The average intake capacity of the university is 95.09 which are much higher than that of the affiliated colleges (39.82). It has also been found that the variability (C.V.) of intake capacity among the subjects is 63.01 per cent which means that the variability is also very high across the different subjects offered by the affiliated colleges and at the same time it is much higher than that of the university. It is noteworthy in this respect that considering all the courses offered at the post-graduate level, the total intake capacity of the sample colleges is 4460 which is marginally lower than that of the total intake capacity of the universities on those subjects which is 5314. Figure 4.2 represents the variability regarding intake capacity of the students under different universities in regular mode across different subjects as well as the variability exists across the intake capacity under different affiliated colleges of different universities.

Intake Capacity: Subject-wise Analysis

If we go through subject-wise analysis of intake capacity of self-financing PG courses in the affiliating colleges we find that in the four universities total numbers of seats in Commerce are 1106 and average numbers of seats are 277 whereas the affiliating colleges under those universities have total intake capacity of 512 with an average of 128. In PG course in English five universities have an intake capacity of 628 with an average of 126 and the affiliating colleges offers 519 seats with an average of 75.

It reveals from table 4.B we find that in the four universities total numbers of seats in Physics are 244 and average numbers of seats are 61 whereas the affiliating colleges under those universities have total intake capacity of 177 with an average of 44. We found almost same picture in the subject of Chemistry as four universities total numbers of seats in Chemistry are 237 and average numbers of seats are 59 whereas the affiliating colleges under those universities have total intake capacity of 125 with an average of 41 seats. It has been depicted from table 4.B that in Mathematics, three universities have an intake capacity of 232 with an average of 77 and the affiliating colleges' offers 125 seats with an average of 41 seats. It is very



interesting to note that in Bengali all six universities offers PG courses and the total intake capacity is 865 with an average of 144 but the affiliated colleges have an intake capacity of 1143 with an average of 191 which is much higher than that of the universities. We have found the same trend in the subject of Sanskrit where three universities offers PG courses and the total intake capacity is 282 with an average of 94 but the affiliated colleges have an intake capacity of 337 with an average of 112 which is much higher than that of the universities. In Zoology, four universities have an intake capacity of 460 with an average of 115 and the affiliating colleges' offers 299 seats with an average of 75 seats. In Geography, four universities have an intake capacity of 286 with an average of 72 and the affiliating colleges' offers 196 seats with an average of 49 seats. Another interesting observation is that in Microbiology, the intake capacity of two universities is only 33 with an average of 16.5 whereas the affiliating colleges have an intake capacity of 90 with an average of 45 which is much higher than the universities. Almost same trend has been found in Electronics where the intake capacity of two universities is only 50 with an average of 25 whereas the affiliating colleges have an

intake capacity of 60 with an average of 30 which is much higher than the universities. We found almost same picture in the subjects of Computer Science and Physiology. In Computer Science, three universities have an intake capacity of 140 with an average of 47 and the affiliating colleges' offers 129 seats with an average of 43 seats and in Physiology, four universities have an intake capacity of 129 with an average of 32 and the affiliating colleges' offers 108 seats with an average of 27 seats. In Botany three universities have an intake capacity of 176 with an average of 59 and the affiliating colleges' offers 92 seats with an average of 31 seats and in History two universities have an intake capacity of 269 with an average of 135 and the affiliating colleges' offers 214 seats with an average of 107 seats. The following table presents the intake capacity of the universities and its affiliated colleges at the post-graduate level.

Ph. D. among Faculty: University-wise Analysis

The comparative analysis of Ph. D. among faculty of different subjects studied under different universities and affiliated colleges are presented in appendix table III. It is evident from the table that in case of the University of Calcutta, Ph. D. among



faculties are found to be higher in Chemistry, Mathematics, Zoology, Microbiology, Biotechnology, History, Nutrition etc. and lower in the subjects like Bengali, Computer Science, Electronics and Environmental Science. Here the variability (C.V.) of Ph. D. among faculties in the subjects is 30.84 per cent that reflects that the variability is on the lower side across the different subjects of regular courses offered by the University. If we analyse the Ph. D. among faculties of the different courses under the colleges affiliated to the University of Calcutta, we find that subjects like Physiology, Physics, Chemistry and Mathematics have registered high ratio of Ph. D. among faculties and Ph. D. among faculties in the subjects like Bengali, Computer Science, Biotechnology and Commerce. are on the lower side. Here the variability (C.V.) of Ph. D. among faculties is 43.69 per cent which means that the variability is high across the different subjects of self-financing courses offered by the affiliated colleges and it is much higher than that of the university. If we compare average percentage of Ph. D among all the faculties in all the subjects taken together we find the average figure in the Calcutta University is 79.56 which is little bit higher than average per cent of Ph. D among the

faculties of the affiliated colleges offering self-financed PG courses (60.5 per cent). It is evident from the table that in case of the Vidyasagar University, Ph. D. among faculties are found to be higher in Physiology, Chemistry, Mathematics, Zoology, and lower in the subjects like Bengali, History and Botany. Here the variability (C.V.) of Ph. D. among faculties in the subjects is 23.67 per cent that reflects that the variability is on the lower side among the teachers with Ph. D. degree in various subjects in the Vidyasagar University. If we analyse the Ph. D. among faculties of the different courses under the colleges affiliated to the Vidyasagar University, we find that subjects like Physiology, Zoology, Physics, Chemistry and Mathematics have registered high ratio of Ph. D. among faculties and Ph. D. among faculties in the subjects like English, Bengali and History have registered low ratio of Ph. D. among faculties. Here the variability (C.V.) of Ph. D. among faculties is 23.84 per cent which means that the variability is on the lower side but slightly higher than that of the university. If we compare average percentage of Ph. D among all the faculties in all the subjects taken together we find the average figure in the Vidyasagar University is 81.67 which little



bit higher than average per cent of Ph. D among the faculties of the affiliated colleges offering self-financed PG courses (76.56 per cent). It is depicted from appendix table III that Ph. D. among faculties are found to be higher in Bengali, History and Geography and lower in Mathematics, Commerce and English in West Bengal State University. Here the variability (C.V.) of Ph. D. among faculties is 18.16 per cent that reflects that the variability is very low among the teachers with Ph. D. degree in various subjects in the W.B.S.U. If we analyse the Ph. D. among faculties of the different courses under the colleges affiliated to the W.B.S.U., we find that subjects like Geography, English and Mathematics have registered high ratio of Ph. D. among faculties and Ph. D. among faculties in the subjects like Commerce, Bengali and History have registered low ratio of Ph. D. among faculties. Here the variability (C.V.) of Ph. D. among faculties is 16.92 per cent which means that the variability is very low and it is much lower than that of the university. If we compare average percentage of Ph. D among all the faculties in all the subjects taken together we find the average figure in the W.B.S.U. is 81.50 which is little bit higher than average per cent of Ph. D among the faculties of the

affiliated colleges offering self-financed PG courses (76.67 per cent). It reveals from appendix table III that Ph. D. among faculties are found to be higher in Bengali, Botany, Chemistry, and Geography and lower in Zoology, Physics and Chemistry in Burdwan University. Here the variability (C.V.) of Ph. D. among faculties is 40.83 per cent that reflects that the variability is on the higher side among the teachers with Ph. D. degree in various subjects in the Burdwan University. If we analyse the Ph. D. among faculties of the different courses under the colleges affiliated to the BU, we find that subjects like Chemistry, English and Physics have registered high ratio of Ph. D. among faculties and in the subjects like Zoology, Bengali and Geography have registered low ratio of Ph. D. among faculties. Here the variability (C.V.) of Ph. D. among faculties is 59.09 per cent which means that the variability is very high and it is much higher than that of the university. If we compare average percentage of Ph. D among all the faculties in all the subjects taken together we find the average figure in the BU is 81.75 which is much higher than average per cent of Ph. D among the faculties of the affiliated colleges offering self-financed PG courses (76.67 per cent).



Ph. D. among Faculty: Subject-wise Analysis

It reveals from table 4.C that if we go through subject-wise analysis of Ph. D. among faculties of the universities and its affiliating colleges, we find **in Commerce** only 30 per cent faculties have Ph. D. degree in the affiliated colleges whereas 78 per cent of the faculties in the universities have Ph. D. degree in Calcutta University. We find just opposite picture in West Bengal State University where among the faculties of Commerce, 75 per cent of the faculties of the affiliated colleges having Ph. D. degree as compared to 67 per cent among the faculties of the university. If we go through appendix table III we find **in English**, 60 per cent of the faculties of C.U., 86 per cent of the faculties of V.U., 75 per cent faculties of W.B.S.U., 80 per cent of the faculties of N.B.U. and 89 per cent faculties of B.U. have Ph. D. degrees whereas 75 per cent of faculties of the affiliated colleges under C.U., 67 per cent of faculties of the affiliated colleges under V.U., 80 per cent of faculties of the affiliated colleges under W.B.S.U., 50 per cent of faculties of the affiliated colleges under N.B.U. and 62 per cent of faculties of the affiliated colleges under B.U. have Ph. D. degrees. We find **in Physics** 93 per cent faculties have Ph. D. degree in the affiliated

colleges under CU whereas 91 per cent of the faculties in the universities have Ph. D. degree and in Physics 90 per cent faculties have Ph. D. degree in the affiliated colleges under V.U. whereas 67 per cent of the faculties in the universities have Ph. D. degree. We find just opposite picture in B.U., where among the faculties of Physics, 62 per cent of the faculties of the affiliated colleges having Ph. D. degree as compared to 86 per cent among the faculties of the university. If we go through appendix table III we find **in Bengali**, 38 per cent of the faculties of C.U., 100 per cent of the faculties of V.U., 100 per cent faculties of W.B.S.U., 100 per cent of the faculties of N.B.U. and 100 per cent faculties of B.U. have Ph. D. degrees whereas 45 per cent of faculties of the affiliated colleges under C.U., 40 per cent of faculties of the affiliated colleges under V.U., 67 per cent of faculties of the affiliated colleges under W.B.S.U., 58 per cent of faculties of the affiliated colleges under N.B.U. and 36 per cent of faculties of the affiliated colleges under B.U. have Ph. D. degrees. If we go through appendix table III we find **in Chemistry** 83 per cent faculties have Ph. D. degree in the affiliated colleges under C.U. whereas 100 per cent of the faculties in the universities have Ph. D. degree and in Physics 83 per cent faculties



have Ph. D. degree in the affiliated colleges under V.U. whereas 100 per cent of the faculties in the universities have Ph. D. degree. We find just opposite picture in B.U. where among the faculties of Chemistry, 89 per cent of the faculties of the affiliated colleges having Ph. D. degree as compared to 93 per cent among the faculties of the university. If we go through appendix table III we find **in History**, 100 per cent of the faculties of C.U., 43 per cent of the faculties of V.U. and 80 per cent faculties of W.B.S.U. have Ph. D. degrees whereas 62 per cent of faculties of the affiliated colleges under C.U., 62 per cent of faculties of the affiliated colleges under V.U. and 63 per cent of faculties of the affiliated colleges under B.U. have Ph. D. degrees. It is interesting to note that **in Physiology** all the faculties of Calcutta University and Vidyasagar University and faculties of its affiliated colleges have Ph. D. degree. In Kalyani University 100 per cent of the faculties have Ph. D. degree compare to 80 per cent of the faculties of the affiliated colleges. If we go through appendix table III we find **in Mathematics**, 100 per cent of the faculties of C.U., 67 per cent of the faculties of V.U. and 67 per cent faculties of W.B.S.U. have Ph. D. degrees whereas 80 per cent of faculties of the affiliated colleges

under C.U., 80 per cent of faculties of the affiliated colleges under V.U. and 75 per cent of faculties of the affiliated colleges under B.U. have Ph. D. degrees. It reveals from appendix table III that **in Zoology**, 100 per cent of the faculties of C.U., 86 per cent of the faculties of V.U. and 93 per cent faculties of B.U. have Ph. D. degrees whereas 37 per cent of faculties of the affiliated colleges under C.U., 92 per cent of faculties of the affiliated colleges under V.U. and only 20 per cent of faculties of the affiliated colleges under B.U. have Ph. D. degrees. It is interesting to note that **in Geography** all the faculties of West Bengal State University and faculties of its affiliated colleges have Ph. D. degree. In Calcutta University 70 per cent of the faculties have Ph. D. degree compare to 67 per cent of the faculties of the affiliated colleges whereas in Burdwan University 100 per cent of the faculties have Ph. D. degree compare to 50 per cent of the faculties of the affiliated colleges. Figure 4.3 represents the variability regarding percentage of Ph. D. among the faculties of universities and its affiliated colleges across the state of West Bengal.

V. Concluding Observations :



From the above study the following conclusions have emerged:

Variability which is measured in terms of CV is also highly fluctuating across the Universities and Colleges. However, the gap in some cases is even bigger if we take into account the variability of Universities and their affiliated colleges. Fees structure is varying across the Universities as well as at the University levels also. In case of intake capacity of students in self-financing higher education the variability is also high not only across the Universities but also at the college levels also. There is a big gap of variability in case of Universities and their affiliated colleges. Again, in case of Ph.D degree across the universities the variability is high and the same is true for college level also. So, analyses of data both university-wise and college-wise reveal that there exists a greater discrimination amongst the colleges and their affiliated universities regarding course fees of higher education where colleges conduct higher education in self-financing mode. This situation not only exists across the colleges but it also exists across the subjects. It is interesting that barring the University of Calcutta all, other colleges affiliated under different universities have higher variability in the arena of course fee structure than that of

their university where they are affiliated. It has been found from the study that considering all the subjects offered by the colleges in PG Courses at self-financing mode then the average course fee is Rs. 25,877 which is 3.31 times higher than that of the average course fee of the same subjects of all the universities taken together (Rs. 7813). It is highly interesting to see that in case of VU and WBSU the intake capacity of colleges than that of their respective universities is greater. Only in case of CU and BU the situation is reverse. However, barring university of Calcutta all the colleges affiliated under other universities reflects greater variability than that of their respective universities. It is noteworthy in this respect that considering all the courses offered at the post-graduate level, the total intake capacity of the sample colleges is 4460 which is marginally lower than that of the total intake capacity of the universities on those subjects which is 5314. The number of faculties with Ph. D. is markedly higher in all universities across different subjects compare to their affiliated colleges with lesser variability excepting WBSU. So, in those colleges where self-financing courses are going on there is a need to improve the levels of education amongst the faculties.



References

Agarwal, Pawan (2006): "Higher Education in India: Need for a Strategic Paradigm Shift and Framework for Action", ICRIER, New Delhi.

Agarwal, Pawan (2007): Higher Education: From Kothari Commission to Pitroda Commission, *Economic and Political Weekly*, February, 17, 2007.

Alan Wagner (1998) *Costs and financing of tertiary education: OECD trends and new perspectives*. Paper presented in the Training Session. The World Bank, Washington DC. June 22, 1998.

Anandakrishnan, M., 2006, "FDI and False Hopes", *Frontline*, Vol:23 No. :23.

Basant, Rakesh (2008): "Who participates in higher education in India? *An Exploratory Analysis* Paper prepared for the presentation at the Foundation Day Seminar at Observer Research Foundation.

Benot Millot (1997) *Republic of Tunisia Higher Education: Challenges and opportunities*. Human Development Group. Middle East and North Africa Region. The World Bank, Washington DC.

Burton Bollag, "Poland Considers whether Universities Should have the right to Charge Tuition." *The chronicle of Higher Education*, December 5, 1997.

Bhushan, Sudhanshu (2008): Report on Self-financing Courses in Colleges, Department of Higher & Professional Education, New Delhi.

Callender, C & Wikson P (2003): Attitudes to Debt: School Leavers' and Further Education Students' Attitudes to Debt and Their Impact on Participation in Higher Education. London.

Das, S.K. (2012); "*Self financing scheme in post graduate course of Government sponsored college, A Case Study*": *International Journal of Multidisciplinary Management Studies*, Vol-2, Issue-1 January, 2012.

Davies, R and Elias, P (2003): Dropping Out: a Study of Early Leavers from higher education. Research Brief, London.

Dill, David D (2003): Allowing the Market to Rule: The Case of the United States. *Higher Education Quarterly*.

Fredrick L. Golladay, Ilona E. Szemzo (1998) *Higher Education Reform Project: Republic of Hungary*. Staff Appraisal Report. Human Development Unit. Europe and Central Asia Region. Report No. 16536HU. p 5-7.

Friedman Milton "The Role of Government in Education," *Economics and the Public Interest*, ed. Robert A. Solo, copyright © 1955 by the Trustees of Rutgers College in New Jersey. Reprinted by permission of Rutgers University Press.

Gillan, Michael, et al, April 5, 2003, "Australia in India: Commodification and Internationalisation of Higher Education", *Economic and Political Weekly*, pp. 1395 – 1403. 43.

Gundeti Ramesh (2013): "*Indian Higher Education and the Challenges of Sustainability-An Analytical Note*", *International Journal of Social Science &*



Interdisciplinary Research, Vol. 2
September, 2013.

Hoxby, C. M (1997): How the Changing Market Structure of U.S. Higher Education.

Joshi, K.M. and Ahir, K.V.: “*Indian Higher Education: Some Reflections*” International Economics, 2013, Vol-7, No.1(15).

Joshi, M.M., 1998, ‘Higher Education in India: Vision and Action – Country Paper’, Presented at UNESCO World conference on Higher Education in the Twenty-First Century, Paris, Oct 5-9.

Kapoor, D (2008): American Universities in a Global Market, Working Paper, NBER, Univ. of Chicago Press.

Kapoor, D and P B P Mehta (2007): Indian Higher Education: From Half-Baked Socialism to Half-Baked Capitalism, NCAER, Indian Policy Forum.

Kumar, Ramesh (2012): “*Higher Education and Economic Development in India*” International Journal of Scientific Research Engineering & Technology, Vol. I, Issue-5 August, 2012.

Kaul. S (2006): *Higher education in India; Seizing the opportunity*, Working Paper No.180, ICRIER, New Delhi.

Laurence Wolff and Douglas Albrecht (1992) (Ed.) *Higher education reform in Chile, Brazil, and Venezuela: Towards a redefinition of the role of the state*. Human Resources Division, Technical Department. Latin America and the Caribbean Region. The World Bank.

Lauritz B. Holm-Nielsen (1998) *Chile: Higher Education Reform Project*. PAD. The World Bank, Washington DC.

Lynne Heslop (2014): *Understanding India: The Future of Higher Education and Opportunities for International Cooperation*, British Council, February, 2014.

Maureen Woodhall (1996) *Vietnam higher education project: Managing resources and finance of higher education*. Working group 2, Report III. The World Bank, Washington DC.

Maurice X. Boissiere (1996) *Memorandum and recommendation of the President of the IBRD to the Executive Directors on a proposed loan to Romania for a reform of higher education and research project*. The World Bank, Washington DC. No. P6882-RO.

Mishra, S K (2009): On Self-financing of institutions of higher education in India, MPRA Paper, <http://mpra.ub.uni-muenchen.de>

Paulsen, M. B & St. John, E. P (2002): Social Class and College Costs: Examining the financial nexus between college choice and persistence. Journal of Higher Education.

Pennell, H and West, Anne (2005): The Impact of Increased Fees on Participation in Higher Education in England, Higher Education Quarterly, 59, 2, April.

Powar, K. B. and Bhalla, Veena, Spring 2001, “International Providers of Higher Education in India”, International Higher Education, Number.

Radhakrishnan, P., 2006, “Education for Wealth Creation: A New Orientation to



Technical Education”, University News, AIU, Vol. 44, NO. 48, November 27-December 3, New Delhi. 25. WTO, 1995, “General Agreement on Trade in Services” GATS.

Rani. G. P (2001): *Economic Reforms and Financing Higher Education in India*, National Institute of Educational Planning and Administration Report, 2001.

Robert D. D. Blair (1992) *Financial Diversification and Income Generation in African Universities*. World Bank AFTED Technical Note No. 2.

Rolfe, Heather (2003): University Strategy in an Age of Uncertainty: the Effect of Higher Education Funding on Old and New

Universities. Higher Education Quarterly 1st January.

Roychoudhury, Dey (2008): Barriers to Trade in Higher Education services in the Era of Globalization: *Economic and Political Weekly*, Vol XLIII No. 35.

Saint W.S. (1992) *Universities in Africa: Strategies for stabilization and revitalization*. World Bank. Washington DC.

Sharma, Vijender, 2002 “WTO, GATS And Future Of Higher Education In India –II”, *People’s Democracy*, Vol. XXVI, No. 07, February 17.

Sharma, Vijender, 2005 “Commercialisation of Higher Education in India” *Social Scientist*, Vol. 33, No. 9-10, pp. 65-74, September-October.



Appendix Table -I
Comparative Analysis on Average Course Fees (Universities vis-à-vis Sample Colleges
affiliated under the University) Amount in Rs.

Course	CU	Colleges in CU	VU	Colleges in VU	WBSU	Colleges in WBSU	NBU	Colleges in NBU	KU	Colleges in KU	BU	Colleges in BU
Commerce	4588	18250	-	-	16150	28000	-	-	-	-	-	-
English	4588	22500	2495	21150	12350	32150	5432	28000	-	-	5020	18000
Physics	6988	34350	3645	32400	-	-	-	-	-	-	8940	21500
Chemistry	4588	33550	3645	42650	-	-	-	-	-	-	-	-
Mathematics	4588	26500	3245	36150	16150	38500	-	-	-	-	-	-
Zoology	4588	42500	3645	40150	-	-	-	-	-	-	-	-
Geography	4588	37850	-	-	16150	48500	-	-	-	-	11020	25000
Bengali	4588	21500	2495	23500	12350	21500	5432	19500	7170	15000	5020	16500
Urdu	-	-	-	-	-	-	-	-	-	-	-	-
Computer Sc	6988	40850	-	-	-	-	-	-	-	-	-	-
Electronics	6988	41500	-	-	-	-	-	-	-	-	-	-
Microbiology	14188	42500	-	-	-	-	-	-	-	-	-	-
Biotechnology	14188	36500	-	-	-	-	-	-	-	-	-	-
Botany	4588	31650	3645	41150	-	-	-	-	-	-	9300	23500
Physiology	4588	85000	3645	41150	-	-	-	-	10770	24000	-	-
History	4588	18500	2495	26150	12350	18000	-	-	-	-	-	-
Nutrition	4588	22150	-	-	-	-	-	-	-	-	-	-
Santali	-	-	-	-	-	-	-	-	-	-	5020	7500
Sanskrit	4588	12500	-	-	-	-	-	-	7170	13650	-	-
Hindi	-	-	-	-	-	-	-	-	7170	12000	-	-
SD	3168.22	16404.31	556.84	8357.63	2081.35	11242.79	0	6010.41	1800	5367.09	2686.19	8224.4
Mean	6140.94	33420.59	3217.22	33827.78	14250	31108.33	5432	23750	8070	16162.5	7386.67	14916.67
CV	51.59	49.08	17.31	24.71	14.61	36.14	0	25.31	22.30	33.21	36.37	55.14

Source: Compiled from data available from different academic body



Appendix Table -II
Comparative Analysis on Average Intake Capacity (Universities vis-à-vis Colleges
affiliated under the Universities)

Course	CU	Colleges In CU	VU	Colleges In VU	WBS U	Colleges in WBS U	NB U	Colleges	KU	Colleges in KU	BU	Colleges in BU
								In NBU				
Commerce	840	240	101	102	50	100	-	-	-	-	115	70
English	235	70	111	224	46	115	60	40	-	-	176	70
Physics	70	40	60	72	24	40	-	-	-	-	90	25
Chemistry	74	60	60	130	23	105	-	-	-	-	80	25
Mathematics	76	40	-	-	39	60	-	-	-	-	117	25
Zoology	300	141	50	98	24	35	-	-	-	-	86	25
Geography	120	76	70	48	32	50	-	-	-	-	64	22
Bengali	385	160	111	573	40	140	60	100	66	80	203	90
Urdu	-	-	-	-	-	-	-	-	-	-	-	-
Computer Sc	73	75	40	24	27	30	-	-	-	-	-	-
Electronics	27	40	-	-	23	20	-	-	-	-	-	-
Microbiology	15	20	-	-	18	70	-	-	-	-	-	-
Biotechnology	11	35	-	-	-	-	-	-	-	-	-	-
Botany	55	45	60	22	-	-	-	-	-	-	61	25
Physiology	39	20	45	56	-	-	-	-	25	15	20	17
History	158	40	111	174	-	-	-	-	-	-	-	-
Santali	-	-	-	-	-	-	-	-	-	-	34	44
Sanskrit	165	40	101	235	-	-	-	-	16	62	-	-
Hindi	120	20	-	-	-	-	-	-	12	40	-	-
SD	202. 80	59.16	28.0 5	152.27	10.68	39.71	0	42.43	24.7 7	28.09	55.5 9	25.09
Mean	162. 53	68.35	76.6 7	146.5	31.45	69.55	60	70	29.7 5	49.25	95.0 9	39.82
CV	124. 78	86.56	36.5 9	103.94	33.95	57.11	0	60.61	83.2 6	57.03	58.4 6	63.01

Source: Compiled from data available from different academic body



Appendix Table -III
Comparative Analysis on Percentage of Ph. D. among faculty

Course	CU	Colleges in CU	VU	Colleges in VU	WBSU	Colleges in WBSU	NBU	Colleges in NBU	KU	Colleges in KU	BU	Colleges in BU
Commerce	78	30	-	-	67	75	-	-	-	-	-	-
English	60	75	86	67	75	80	80	50	-	-	89	67
Physics	91	93	67	90	-	-	-	-	-	-	86	62
Chemistry	100	83	100	83	-	-	-	-	-	-	93	89
Mathematics	100	80	67	80	67	75	-	-	-	-	-	-
Zoology	100	37	86	92	-	-	-	-	-	-	93	20
Geography	70	67	-	-	100	100	-	-	-	-	100	50
Bengali	38	45	100	40	100	67	100	58	100	67	100	36
Urdu	-	-	-	-	-	-	-	-	-	-	-	-
Computer Sc	41	17	-	-	-	-	-	-	-	-	-	-
Electronics	29	33	-	-	-	-	-	-	-	-	-	-
Microbiology	100	73	-	-	-	-	-	-	-	-	-	-
Biotechnology	90	10	-	-	-	-	-	-	-	-	-	-
Botany	90	79	86	75	-	-	-	-	-	-	93	58
Env. Sc.	55	50	-	-	-	-	-	-	-	-	-	-
Physiology	100	100	100	100	-	-	-	-	100	80	-	-
History	100	62	43	62	80	63	-	-	-	-	-	-
Nutrition	100	80	-	-	-	-	-	-	-	-	-	-
Santali	-	-	-	-	-	-	-	-	-	-	0	0
Sanskrit	90	75	-	-	-	-	-	-	67	50	-	-
Hindi	-	-	-	-	-	-	-	-	50	0	-	-
Mean	79.56	60.5	81.67	76.56	81.5	76.67	90	54	79.25	49.25	81.75	47.75
SD	24.53	26.43	19.33	18.25	15.16	12.97	14.14	5.66	24.94	35.05	33.38	28.22
CV	30.84	43.69	23.67	23.84	18.60	16.92	15.71	10.47	31.48	71.18	40.83	59.09

Source: Compiled from data available from different academic body

স্বামী ববিকোনন্দরে দৃষ্টিতে যুক্তি ও ধর্মের ঈশ্বরঃ একটি পর্যালোচনা

Arun Mahata,

Associate Professor, Department of Philosophy,
Jadavpur University, Kolkata-700032.

Abstract:

প্রাচ্য ও পাশ্চাত্যের দর্শনতন্ত্রের ইতিহাসে ঈশ্বর সম্পর্কিত আলোচনা যখন অতি প্রাচীন, তখনই অতি নবীনও বটে। স্বামী ববিকোনন্দ অদ্বৈতে বদান্ত দর্শনের আলোকে তাঁর ঈশ্বর সম্পর্কিত আলোচনায় মনোনিবেশ করেছেন। তাঁর মতে বশ্বিরে সর্বত্রই একই ঈশ্বরের প্রকাশ। ব্যবহারিক দৃষ্টিতে ভদে থাকলেও পারমাণ্বিক দৃষ্টিতে কোন ভদে নহে।

Keywords: ব্রহ্ম, ঈশ্বর, মানুষ, বশ্বি।

Email Id- arunmahataphilo@yahoo.com, Mobile Number- 9903820394.

(Paper received on 06/06/2018; Paper accepted on 15/06/2018; Paper published on 1st July, 2018.)

স্বামী ববিকোনন্দ তাঁর ধর্ম সমীক্ষা নামক গ্রন্থে যুক্তি ও ধর্ম আলোচনা প্রসঙ্গে যা বলতে চান তা হল এই যে, জড়বজ্রগণগুলি বস্তুর ব্যাখ্যা তাহার প্রকৃতির মধ্যে দিয়েছে, এর মধ্যে কোন অলৌকিক শক্তি বা দৈত্ব দানবাদী টানিয়া আনার কোন দরকার নাই। স্বামী ববিকোনন্দ মনে করেন ধর্মের ক্ষেত্রে এই ধারণার অভাব আছে বলিয়াই ধর্ম গুলি ভাঙিয়া শতধা হইতেছে। মধ্যযুগের পাথরটি যখন নচি নামিয়া যায়, ইহা পাথরের আভ্যন্তর প্রকৃতি হইতে আসিয়াছে, কিন্তু ধর্মের ঈশ্বরের ধরণা ব্যাখ্যা ধর্মগুলি দিতে পারিতেছে না। যখন একটি মত আছে যে ঈশ্বর ব্যক্তি বশ্বি এবং তিনি বশ্বি হইতে সম্পূর্ণ পৃথক সত্তা অর্থাৎ ঈশ্বর একটি অতিপ্রাকৃতিক সত্তা, তাঁর ইচ্ছাতে এই জগত সৃষ্টি হইয়াছে এবং তিনিই এই বশ্বিরে নয়িন্তা, তিনি কুবুগাময়। আবার তার সৃষ্টি জগতে বৈমম্যও রহিয়াছে।

কিন্তু ঈশ্বর সম্পর্কে এই ব্যাখ্যা দার্শনিকগণ সন্তুষ্ট হইতে পারে না। কারণ ঈশ্বরের এইরূপ ব্যাখ্যা বাহির হইতে আসিতেছে, ভতির হইতে নয়। আবার যে সব ধর্ম বশ্বিতরিকিত একজন ঈশ্বরকে আঁকড়াইয়া ছলি, তিনিও খুব বড় জোর একজন মানুষ ছাড়া আর কিছুই নন।

স্বামী ববিকোনন্দ মনে করেন, একমাত্র অদ্বৈতে বদান্ত দর্শনই বলে ব্রহ্মের বা ঈশ্বরের বাহিরে তদতিরিক্ত কোন সত্তা নাই। তিনিই সব, তিনিই বশ্বি, আমরা তাহাকেই দেখি, তাহাকেই অনুভব করি, তাহাতেই আমরা বাঁচিয়া থাকি, তাহার অস্তিত্বই আমাদের অস্তিত্ব। তিনি বস্তুর মূল সত্তা, বস্তুর হৃদয়, প্রাণ স্বরূপ। বশ্বি তিনি যখন নিজেকেই অভিব্যক্ত করেন। তিনি অসীম সচ্চিদানন্দ সাগরের মধ্যে আমরা বাস করিতেছি। তুমি আমি যখন সেই সাগরেরই



ক্সুদ্র অংশ, ক্সুদ্র বিন্দু, ক্সুদ্র প্রনালী, ক্সুদ্র অভিব্যাক্তী বস্তুর দকি দিয়া মানুষে মানুষে, দেবেতাই- মানুষে, মানুষে- প্রাণতি, প্রাণতি-উদ্ভাদি, উদ্ভাদি-পাথরে, কোন পার্থক্য নাই। কারণ সর্বোচ্চ দেবেদুত হইতে আরাম্ভ করিয়া সর্বনমিন ধূলকিণা পর্যন্ত সবই সেই এক সীমাহীন সাগরে অভিব্যাক্তী। তফা□ শুধু প্রকাশের তারতম্য। আমার মধ্যে প্রকাশ খুব কম, তোমার মধ্যে হইতে তাঁর চেয়ে বেশি, কিন্তু উভয়েরে বস্তু সেই একই। তুমি আমি সেই একই অনন্ত অসত্য সাগরে অবস্থতি উহারই দুইটি ক্সুদ্র অংশ, ক্সুদ্র নরিগম পথ বা ক্সুদ্র প্রকাশ মাত্র। কাজেই ঈশ্বরই তোমার স্বরূপ, আমারও স্বরূপ। জন্ম হইতেই তুমি স্বরূপত ঈশ্বর, আমি তাহাই, তুমি হয়তো পবিত্রতার মূর্তি দেবেদুত, আর আমি হয়তো মাহাদুস্কর্তী দানব। তা সত্যবেও সেই সচ্চদিনন্দ সাগরে আমার জন্মগত অধিকার আছে, তোমারও আছে। তুমি আজ হয়তো নিজেকে অনেকে বেশি মাত্রাই অভিব্যক্ত করিয়াছ। অপেক্ষা কর আমি নিজেকে আরও বেশি অভিব্যক্ত করবি। কারণ সবই তো আমার ভীত রহিয়াছে। কোন স্বতন্ত্র ব্যাখ্যার প্রয়োজন নাই, কাহারও কাছে কিছু চাহিতেও হইবে না। সমগ্র বশ্বেরে সমষ্টি হইলেনে স্বয়ং ঈশ্বর।^২

স্বামী ববিকোনন্দ মনে করেন জড়জগতের বস্তু মধ্যও সেই ঈশ্বরেরই সুক্শ্মতর সত্যই সত্য, যাহা স্থূল তাহা দৃশ্যমাত্র। আধুনিক যুক্তির সম্মুখে যদি কোন ধর্মীয় মতবাদ দাঁড়াইতে পারে, তবে তাহা হইল একমাত্র অদ্বৈতবাদ। কারণ এখানে আধুনিক যুক্তির দুইটি দাবী পূরণ হয়, ইহাই সর্বোচ্চ সামান্যীকরণ, এই

সামান্যীকরণ ব্যক্তিত্বেরে উর্দ্ধে, ইহা প্রত্যেকে জীবেরে পক্ষই সাধারণ। যে সামান্যীকরণ সাকার ঈশ্বরে শেষ হয়, তাহা বশ্বজনীন হইতে পারে না, কারণ সাকার ঈশ্বরেরে ধারণা করিতে গেলে প্রথমই তাহাকে সর্বতোভাবে দয়াময় মণ্ডলময় বলিতে হইবে। কিন্তু এই জগত ভাল-মন্দ উভয়েরই মিশ্রণে গঠিত-ইহার কিছুটা ভাল-কছুটা মন্দ। কাজেই সাকার ঈশ্বরে ধারণায় সাকার শয়তানও আসিয়া পড়ে। কাজেই আমাদেরকে সাকার ঈশ্বরেরে ধারণাকে অতিক্রম করিয়া নরিকার ব্রহ্মেরে ধারণাই পোছাইতে হইবে। নরিকার ব্রহ্মেরে মধ্যে সুখ দুঃখ সব লইয়াই বশ্ব রহিয়াছে। কারণ বশ্বই যাহা কিছু বর্তমান, সে সবই ঈশ্বরেরে সেই নরিকার স্বরূপ হইতে আসিয়াছে। অমণ্ডল প্রভৃতি সব কিছুই যাহার উপর আরোপ করিতেছো। আসলে ববিকোনন্দরে মতে ভালো-মন্দ দুই-ই একই জনিসিরে বিভিন্ন দকি, বিভিন্ন প্রকাশ। ভালো ও মন্দ যে দুইটি পৃথক সত্য- এই ভুল ধারণা আদিকাল হইতে রহিয়াছে। ন্যায় ও অন্যায় দুইটি সম্পূর্ণ পৃথক জনিসি, উহার পরস্পরেরে সহতি সম্পর্ক রহিত এই ধারণা, এবং ভালো ও মন্দ দুইটি চরিবচ্ছদ্য, চরিবচ্ছিন্ পদার্থ- এই ধারণা আমাদের এই জগতে বহু দুর্ভগেরে কারণ হইয়াছে। সর্বদায় ভালো বা সর্বদাই খারাপ এমন কোন জনিসি জগতে কহেই কখনো দেখাইয়া দিতে পারবিনো।^৩

স্বামী ববিকোনন্দ মনে করেন, সাকার ঈশ্বরেরে নরিকার ব্রহ্মেরেই সর্বোচ্চ অভিব্যক্তী বলিয়া ব্যাখ্যা করা যায়। তুমি, আমি অতি নমিন্সতরে প্রকাশ, আমরা যত দূর ধারণা করিতে পারি, তাহার সর্বোচ্চ প্রকাশ এই সাকার ঈশ্বর। আবার

তুমি বা আমি সেই সাকার ঈশ্বর হইতে পারি না। অদ্বৈতে বদোনত যখন বলনে, ‘তুমি আমি ব্রহ্ম’ তখন সেই ব্রহ্ম বলতি। সাকার ঈশ্বর বোঝায় না। স্বামী ববিকোনন্দ একটি উদাহরণ সহযোগে বলনে, এক তাল কাদা লইয়া একটি প্রকাণ্ড মাটির হাতী গড়া হইল, আবার সেই কাদার সামান্য অংশ লইয়া ছোট একটি মাটির ইদুরও গড়া হইল। ঐ মাটির ইদুরটি কি কখনই মাটির হাতী হইতে পারিবে? কনিতু দুইটিকে জলরে মধ্যে রাখিয়া দলি। দুইটি কাদা হইয়া যায়। কাদা বা মাটি হিসাবে দুইটি এক, কনিতু হাতী ও ইদুর হিসাবে তাহাদের মধ্যে চরিত্তি পার্থক্য থাকবি। অসীম নরিকার ব্রহ্ম যনে পূর্ববোক্ত উদাহরণরে মাটির মতো। স্বরূপরে দকি দিয়া আমরা ও বশ্বিনয়িন্তা এক, কনিতু তাঁহার অভবিয়ক্তির রূপে মানুস্বরূপে আমরা তাঁহার চরিত্তি দাস, তাঁহার পূজক।^৪

স্বামী ববিকোনন্দ মনে করনে, সচ্চদিনন্দ স্বরূপ ব্রহ্মময় ঈশ্বর কুরুগাময় ও প্রমেময়ও বট। কাজেই তাঁহার কাছে পার্থক্য কিছু চাওয়া পাওয়া নরিবোধরেই সাজে। বরং তাহার কাছে জ্ঞান, ভক্তি, প্রমে ইত্যাদি চাওয়া উচিত। কনিতু আমাদের দুর্বলতা যতদিন থাকবি আমরা আমাদের ধন, বৃত্ত এবং পুত্ররে মতো পার্থক্য চাওয়া পাওয়া গুলি মুরখরে মতো চাহবি- গুণাতীরে বাস করিয়া জলরে জন্ম কুপথগরে মতো, কথিবা হীরকরে খনরি কাছে বসিয়া কাঁচ খণ্ডরে জন্ম মাটি খুঁড়বার মতো। কনিতু যাহারা আধ্যাত্মকিতায় অনকে উন্নত হইয়াছনে তাঁহারা এইসব ছোট খাটো প্রার্থনার ধার ধারনে না, তাঁহারা নিজদেরে জন্ম কিছু চাওয়ার কথা, নিজদেরে কোন প্রয়োজনরে কথা প্রায় ভুলিয়া থাকনে।

‘আমি নই, সখা তুমি’, ‘আমি অতি অকর্ণ্চন’, ‘আমায় কৃপা কর’ – এইরূপ দাস ভাবও নই। ইংরেজি ভাষায় অনুবাদ করা একটি প্রাচীন পারসী কবিতা অনুসরণ করে ববিকোনন্দ বলনে- “আমি আমার প্রিয়তমকে দেখতি আসিয়াছিলাম। আমি দেখি দ্বার বুদ্ধ। দ্বারে করাঘাত করতিই ভীত হইতে কহে বললি, ‘তুমি কে?’ বললি ‘আমি অমুক’। দ্বার খুললি না। দ্বিতীয়বার আসিয়া করাঘাত করলি, একই প্রশ্ন হইল, একই উত্তর দলি। সবে বারও দ্বার খুললি না। তৃতীয়বার আসলাম- একই প্রশ্ন হইল। আমি বললি, ‘প্রিয়তম আমি তুমিই’। তখন দ্বার খুলিয়া গলে। সত্যরে মাধ্যমে নরিকার ব্রহ্ম উপাসনা করতি হই। সত্য কি? আমিই তনি। আমি ‘তুমি’ নই- এই কথা বললি অসত্য বলা হয়। তোমা হইতে আমি পৃথক, এই কথার মতো মথি, ভয়ঙ্কর মথি আর নাই। বশ্বরে সঙ্গে আমি যে এক, তাহা আমার ইন্দ্রিয়রে কাছে স্বতঃসিদ্ধ। আমার চারদিকে যে বায়ু রহিয়াছে, তাদেরে সহতি আমি এক, তাপরে সঙ্গে এক, আলোর সঙ্গে এক, যাঁহাকে বশ্ব বলা হয়, যাঁহাকে অজ্ঞান বশতঃ বশ্ব বলিয়া মনে হয়, সেই সর্বব্যপী বশ্বদেবতার সঙ্গে আমি অনন্তকাল এক, কারণ হৃদয়ে যনি চরিত্তন কর্তা, প্রত্যকেরে হৃদয় অভ্যন্তরে যনি বলনে- ‘আমি আছি, যনি মৃত্যুহীন চরিত্তি জাগ্রত অমর, যাঁহার মহিমার নাশ নাই, যাঁহার শক্তি চরিত্তি অব্যর্থ, তনি এই বশ্ব দেবতা, অপর কহেই নই। তাঁহার সহতি আমি এক’”^৫

স্বামী ববিকোনন্দ মনে করনে, এইরূপ নরিকার ব্রহ্মরে উপাসনায় আমাদের জীবনটা পরবিত্তি হইয়া যায়। আমাদের জীবনে যে শক্তির একান্ত প্রয়োজন, ইহাই



সহে শক্তি, কারণ যাহাকে আমরা পাপ বলি, দুঃখ বলি, তাহার একমাত্র কারণ আছে, আমাদের দুর্বলতাই একমাত্র কারণ। দুর্বলতার সঙ্গে আসে অজ্ঞান, অজ্ঞানের সঙ্গে আসে দুঃখ। নরিকার উপসনা আমাদেরকে শক্তিমান করিয়া তোলে। আমরা যখন দুঃখকে, হীনতার উগ্রতাকে হাঁসিয়া উড়াইয়া দছি। আমরা উপলদ্ধি করিতে পারি-দে ও মনের পরবির্তন হয়, সুখ-দুঃখ, ভাল-মন্দ আসে আবার চলিয়া যায়, দিন ও বসর আবর্তন করিয়া চলিতেছে; জীবন আসে আবার চলিয়া যায়, কিন্তু তাহার মৃত্যু নাই। ‘আমি আছি, আমি আছি’ এই একই সুর চরিত্তন ও অপরবির্তনীয়। তাহারই মধ্য, তাহারাই মাধ্যমে আমরা সব জানি। তাহারই মধ্য, তাহারাই মাধ্যমে আমরা সব কিছু অনুভব করি, চিন্তা করি, বাঁচিয়া থাকি; তাহারই মধ্য, তাহারাই মাধ্যমে আমাদের অস্তিত্ব। আর যবে ‘আমি’ কে আমরা ভুল করিয়া আমরা ছোট ‘আমি’ সীমায়িত ‘আমি’ বলিয়া ভাবি, তাহা শুধু আমার ‘আমি’ নয়, তাহা আমাদেরও ‘আমি’, প্রাণীগণের, দেবতাগণেরও ‘আমি’, হীনতম জীবেরও ‘আমি’। যমেন, সাধুর মধ্যও ঠিক তমেন, ধনীর মধ্যও যা, দরিদ্রের মধ্যও তাই, নর-নারী, মানুষ ও অনান্য প্রাণীর সকলের মধ্য একই বোধ, সর্বনম্ন জীবকোষ হইতে সর্বোচ্চ দেবেদুত প্রর্যন্ত প্রত্যকের মধ্য তনি বাস করিতেছেন, ‘আমি তনি’ সোহহং- সোহহমা। অন্তরে চরিবদিয়ামান এই বাণী যখন আমাদের বোধগম্য হইবে, উহার শক্তি গ্রহন করি, তখন দেখি সমগ্র বশ্বেরে রহস্য প্রকট হইয়া পড়িয়াছে, দেখি প্রকৃতি আমাদের নিকট রহস্যেরে দ্বার খুলিয়া দিয়াছে। জানবার আর কিছু বাকি থাকি না,

আমরা দেখি সমস্ত ধর্ম যবে সত্যেরে সন্ধানেরে রত, সহে সত্যেরে তুলনাই জড়বজ্ঞানেরে সব জ্ঞানই গৌণমাত্র, আমরা সহে সত্যেরে সন্ধান পাইয়াছি, ইহাই একমাত্র সত্যজ্ঞান, যাহা আমাদেরকে বশ্বেরে এই বশ্বজনীন ঈশ্বরেরে সঙ্গে এক করিয়া দেয়।^৬

সর্বশেষে বলা যায়, এইভাবে স্বামী ববিকোনন্দ মনে করেন, ধর্মের ঈশ্বরেরে যুক্তির উপর ভিত্তি করিয়া এইভাবেই দাঁড়াইতে হইবে, এবং যুক্তি দেবতার উপর ভর করিয়া ধর্মেরে যবে ঈশ্বরের দাঁড়াইয়া আছে, জড়বজ্ঞানেরে সাধ্য নাই তাহাকে ভূপাততি করার।

তথ্যসূত্র এবং টীকাঃ-

১. ববিকোনন্দ, স্বামী, বাণী ও রচনা, তৃতীয় খণ্ড, প্রকাশক, মুমুক্শানন্দ, স্বামী, উদ্বোধন কার্যালয়, কলকাতা- ৭০০০০৩, প্রথম সংস্করণ- ২০-০৩-১৯৬৪, অষ্টাদশ পুনর্মুদ্রন, ভাদ্র ১৪১৪, পৃ.৯৯।
২. তবদে, পৃ. ১০২।
৩. তবদে, পৃ. ১০৩।
৪. তবদে, পৃ. ১০৫।
৫. তবদে, পৃ. ১০৭।
৬. তবদে, পৃ. ১০৮।

নরিবাচতি গ্রন্থপঞ্জিঃ-



১. ববিকোনন্দ, স্বামী, বাগী ও রচনা, তৃতীয়
খণ্ড, প্রকাশক, মুমুক্শানন্দ, স্বামী,
উদ্বেোধন কার্যালয়, কলকাতা- ৭০০০০৩,
প্রথম সংস্করণ- ২০-০৩-১৯৬৪, অষ্টাদশ
পুনর্মুদ্রন, ভাদ্র ১৪১৪।

২. ববিকোনন্দ, স্বামী, বাগী ও রচনা, তৃতীয়
খণ্ড, প্রকাশক, বশ্বিনাথানন্দ, স্বামী,
উদ্বেোধন কার্যালয়, ১/উদ্বেোধন লনে,
বাগবাজার, কলকাতা- ৭০০০০৩, প্রথম
প্রকাশ, জুলাই ১৯৭৩, অষ্টম পুনর্মুদ্রন,
বশৈখ ১৪২১।



Portrayal of Ursula as a New Woman by D.H. Lawrence

Priyanka Mukhopadhyay Basu

Department of English,
Jhargram Raj College,
Jhargram, West Bengal 721507.

Abstract:

It has been remained a point of immense interest to explore literary as well as social issues centering the womanhood sketched by the great eighteenth century English novelist and poet D. H. Lawrence. Lawrence, with his own experience and prolific eyes, could create a new womanhood who were ahead of time by upholding feminism against the then tradition. These new women as emerged after tussle with tradition can redefine feminism by virtue of being enlightened than just remaining bound in house hold lives and mindset of working and middle class women. She is one who is inclined to follow her instincts and sexual loyalties rather than the pattern of conventional behaviour. In Lawrence's canvas women are presented as psychologically more complex than their male counter parts. The Rainbow traces the history of three female generations of the Brangwens, a farming family of Derbyshire, namely Lydia Lensky, her daughter Anna and finally Anna's daughter Ursula. Ursula can be identified as the first feminist heroine in English novel. She comes out of the ways of society and normal relationship and knows how to affirm her identity as a woman. Lawrence himself opines that the germ of The Rainbow and Women in Love is woman becoming individual, self responsible and taking their own initiative and finally emerging as the New Woman.

Keywords: Womanhood, Feminism, New Woman, Enlightenment, Emancipation.

Email: priyanka_bs@yahoo.com

(Paper received on 12/06/2018; Paper accepted on 15/06/2018; Paper published on 1st July, 2018.)

1. Introduction: The concept of New Woman

D.H. Lawrence's novels centre around female protagonists. It is striking that most Lawrence's fictions like *The Rainbow*, *Women in Love*, *The Lost Girl*, *The Plumed Serpent*, *Lady Chatterley's Lover* portray the

experience of women who can be termed as "New Woman", compared to their earlier counterparts who had mainly engaged themselves in washing up the dishes and putting children to bed. To some extent the 'New Woman' is one who had successfully broken or try to break the traditionally house



bound lives and mindset of working class and middle class women. She is one who is inclined to follow her instincts and sexual loyalties rather than the pattern of conventional behaviour. According to Gail Cunningham “heroines who refused to conform to the traditional feminine role, challenged accepted ideals of marriage and maternity, chose to work for a living, or who in any way argued the feminist cause, became common place in the works of both major and minor writers and were firmly identified by the readers and reviewers as New Woman”¹. Ursula is the heroine of D.H.Lawrence’s novel *The Rainbow*. The particular novel *The Rainbow* traces the history of three generations of the Brangwens, a farming family of Derbyshire. In all the three generations the main focus is on the females namely Lydia Lensky, her daughter Anna and finally Anna’s daughter Ursula, who are psychologically more complex than their male counterparts. Ursula, who dominates the second part of the novel, is the most life-enhancing character D.H. Lawrence ever created. This paper will present her as the true representative of the modern generation and how she represents the intellectual aspiration of the twentieth century. She desires for self

affirmation as an individual and as a woman. She comes out of the ways of the society and normal relationship and she knows how to affirm her identity as a woman. Lawrence himself believed that the germ of *The Rainbow* and *Women in Love* is women becoming individual, self responsible and taking their own initiative and finally emerging as the ‘New Woman’.

2. Impact of Education Act in framing the New Woman

After the Education Act of 1870, there was a wide spread of education in Britain. Lydia, the first generation of Brangwen family had a governess, while Anna, her daughter, became one of the first pupils of the Nottingham High School for Girls, only the sixth to be founded by the Girl’s Public Day School Trust. But in Ursula’s time it became an established girl’s grammar school leading her to London matriculation, qualification as a teacher and university entrance. “The third generation story”, as Keith Sagar points out, “differs from the first two” on the basis if the alternatives provided to her through education .² Citing from the text “She wanted to read great, beautiful books, and be rich with them; she wanted to see beautiful things, and have the joy of them forever: she



wanted to know big, free people, and there remains always the want she could put no name to”, Sagar proves that Ursula’s “disposition is adventurous, eager, naively optimistic”³. Thus the ‘widening circles’ of the new England reveal greater human potential, the liberation of imagination, art and intellect, and a new personal freedom, especially for women.

3. Ursula’s ‘new’ opinions about love and marriage

Ursula’s education leads her to think independently and untraditionally. She has formed her ‘new’ opinions of love and marriage. Experimenting with love, she has seen that love satisfies it even grants physical satisfaction. But it does not lead anywhere as it is either of the individual or of the body. Hence she does not care about or value love. In fact she has a complex attitude towards love. The readers encounter a confusing emotional moment at the farewell scene when Ursula’s first love Anton Skrebensky is departing from her to attend the duty, to fight in the Boer war. Ursula and Skrebensky were lovers, yet at the time of his departure, “her heart was dead cold”⁴. Nicholas March summarizes her attitude as “ 1. She does not want to

behave like a romantic teenager.2. She behaves like a romantic teenager. 3. She has detached cold heart throughout”⁵. The New Woman is psychologically more complex than her Victorian counterpart. Lawrence has juxtaposed two contradictory emotions while portraying Ursula and this makes her psychologically a complex character. Such complexities are vividly seen in the confused dual nature of Ursula: “In spite of herself her mouth was quivering: she did not want to cry”⁶ and “ she put it (post card from her lover) in her bosom (like a romantic lover). It did not mean much to her really. The second day, she lost it (like a detached soul)”⁷. We understand, along with Marsh that “Ursula’s tears are genuine, but they are not a sign of love. She cries because she no longer loves him”⁸.

She seems hostile to the concept of marriage also. She is aware that she would not marry just for sex and procreation. Mere domestic life does not appeal her. Lawrence has pointed out that she is in revolt against babies and ‘muddled domesticity’. Her education makes her abhor the very idea of having babies: “Ursula felt a load of responsibility upon, caring for half little ones”⁹. She seems to believe what George Drysdale said about marriage: “Marriage is



one of the chief instruments in the degradation of women. It perpetuates the old inveterate error, that it is the province of the female sex to depend upon man for support, and to attend merely to household cares and the rearing of children”¹⁰.

4. The Economically self dependent New Woman

Ursula is portrayed as a rebel and a modern woman. Like modern woman she wishes to be economically self-dependent. So, she is going out of the dictates of family and the Brangwen way of life. The first sign of attempt to liberate herself from conservative moral ethos is her wish to be a school mistress. She wants a practical and utilitarian purpose of formal education she has received in the university and hence she wants to serve the society. Ursula cares for self-dependence socially, economically and culturally. Feminism demands the cultural emancipation of woman. Ursula attempts to do that after she had completed her education.

5. New Alternatives for the New Woman

Ursula is presented as a modern woman. Education and the 'newness' encourage her to explore alternatives that her parents did not have and her grandparents did not need.

She fluctuates from possibility to possibility: first her affair with Anton Skrebensky, then the lesbian relationship with Winifred, the 'male' world of power and dominance in Brinsley Street School, the purely physical life of the five senses with Andrew Schofield, the life of pure mind at Nottingham University. The relationship between Ursula and Winifred is a matter of freedom and bondage and also a matter of ecstasy and shame at the same time. It is a freedom from usual conventional norms of man woman relationship whereas it is a bondage to a compelling sexuality as Ursula and Winifred live in the same room. It brings moments of ecstasy as for the first time Ursula can read the language of passion, but deviation from normalcy is the reason of 'shame', as the novelist himself points out by naming the chapter dealing with their relation as 'Shame'. Ursula feels mentally oppressed and physically opposed in a male dominated society. She wants to get free from such domination. Her rebellion against it is seen where she canes Will, a mischievous student who refuses to be dominated by a female teacher. But freedom alone guarantees nothing. Her freedom from the restraints of the past makes her aware of



the dissatisfaction and is, to some degree, the source of that dissatisfaction.

6. Impact of Experience in framing of a New Woman

Ursula learns a great deal from her experiences also. "Experience may be a teacher, but to Ursula it is more than that- it is the very motive of life, something she hunts out as an end in itself"^{11,12}. Hence she is not like any other ordinary women who slavishly serve their husbands out of love, fear and duty. To her marriage is "more likely to be the end of experience"¹³. Engelberg tries to trace the progressive shades of meaning in the appetite for 'experience' of the three generations: "This voracious appetite for experience is not unique with Ursula: her mother, Anna, possessed it in its barest state, and her grandmother, Lydia, had merely disguised it under her aristocratic pretensions, her foreignness....in Lydia it is partially subdued by convention, only to stir underneath as melancholia and frustration: in Anna it is wild and undirected and self consuming. Only in Ursula does this appetite become truly attached to a conscious being, become, ultimately directed and civilized"¹⁴. Ursula seeks to

fulfill her range of motion by searching for 'knowledge', 'education', and 'experience'. Ursula "undergoes a number of varied experiences in a looser, more public social world. Her life is much more obviously shaped by society, a society she is in conflict with, while the lives of the first two generations of Brangwen are more private, more private, more poetically expressed and more enclosed, away from society, around the grand, central experiences"¹⁵. Hence we notice that society has changed much from the days of her grandmother (Lydia) and mother (Anna). These changes have also affected male-female relationship. So it is obvious that she cannot follow blindly the path of Lydia and Anna by marrying and begetting children. She has to struggle to achieve a life beyond the world of senses and confinements of her community. As a young immature girl she has experienced immature dependence on a man, but she is in search for mature dependence or interdependence in a relation. This leads her to have multiple relations and believe that one man cannot satisfy a woman. Hence she is not committed to anyone person or anything. She has rejected Skrebensky, then Winifred Inger and finally Anton Schofield, who could have been a pleasant husband.



7. Difficulties and Challenges faced by the New Woman

The new dimension of self-awareness, which is framed by education and experience brings new difficulty in human relations. Education and emancipation do not seem to bring fulfillment to the 'new woman' in the novel; not to Winifred Inger who, for all her liberating influence on Ursula, turns out to be a compromised Diana, only half formed, settling for domesticity within a system, both of which she had affected to despise; nor for Maggie Schofield, who has had to divide herself in two in order to succeed in the man's world. Increased self-awareness in Anna and still more in Ursula, make them less ready to abandon self in relationship, and foster a destructive self assertion. In her relationship with Skrebensky, we see at first Ursula uses Skrebensky to get away from home and six years later she uses him to avoid being responsible for her failure in the college. In both cases she is concerned with her 'self' and not on 'love', though in each case she is also attracted to him because he represents something larger and more important than her narrow disappointing world and also because he is physically attractive. The first affair leaves her feeling spiritually cold; the

second makes her feel dead. So as a girl and as a young woman, she eventually wants to escape from Skrebensky. Sagar rightly observes that "Ursula's lover, Skrebensky, fails to give her access to any truer reality because his life lay in the established order of things... his child, in Ursula's womb, can only imprison her within the whole great social fabric"¹⁶. Though "when Ursula becomes aware of her pregnancy she is strongly tempted to lapse from her struggle for self-effectuation and to take the life that was given"¹⁷.

8. The Newness in the New Woman

Ursula's rejection of Anton Skrebensky serves two of Lawrence's purposes: his dislike of aristocratic inheritances and the blundering faith in democracy and progress. Furthermore, this rejection also shows how monstrous the emancipated women can be. Ursula attracts Skrebensky, treats him as a sex object and emasculates him by 'lazy bouts of magic' by moonlight. Unlike other Victorian women characters, Ursula is given the power to attract, seduce, emasculate and destroy. Whereas Dorothea in *Middlemarch* can identify with the roundness of the moon, she is not given the power to control and destroy. Whereas traditional women



characters are given a passive and repressive roles, in Lawrence's novels women emerge as an emancipated power centre living in all erotic expectations, desiring and defeating the traditional centre of male power. Ursula in *The Rainbow* remains a liberated woman quite admirable one, who can experiment with her life and challenge the traditional role assigned to her but in *Women in Love* she is forced into marriage and submission.

9. The final outcome: the ending of *The Rainbow*

Lawrence has repeatedly used the word 'new' in the last pages of the novel to draw our attention to the need for growth in Ursula and her contemporaries. Words like 'new ground', 'new root', 'new knowledge', 'new day', 'new dawn', 'a new liberation', 'new germination' are used by the novelist to emphasize the newness. But such newness does not totally exclude the old or past. Hence we see Ursula reacting emotionally when she hears Skrebensky's marriage. She desperately tries to embrace 'a new creation', "the creation of the living God instead of the old, hard barren form of bygone living."¹⁸ Revolting against the past and accepting the present does not satisfy

Ursula wholly and thus Lawrence makes her "sick with nausea so deep that she perished as she sat"¹⁹.

10. Epilogue

Thus we see through education and freedom Ursula has been able to escape her parents' parochialism, but widening circles have ended to her in bleak disillusionment and isolation. "We see her growing up, trying to discover how the life that is in her wants to be lived, in the complex, rapidly changing world of the twentieth century...in such a world emancipation is a burden, for it leaves one without the bearings in a world whose values never engage with one's deepest needs. She begins to suspect that the world is conspiring to pass off on her as reality a mechanistic sham"²⁰. Hence she becomes alienated and isolated from the whole world and her own world also. When she hears of Skrebensky's marriage and discovers that there is to be no child, she decides to break out of reality 'like a nut from its shell'. And here we are tempted to comment along with Kate Millet that "she is a threat and the author's ambivalence towards her is fascinated combinations of sympathy and dislike-even fear."²¹ Lawrence gives her enough courage to experiment with her life



and the greatest potential for self fulfillment and to succeed in the man's world and to come through a 'new life'. 'Newness' is a threat in Lawrence's novel, especially in the case of Ursula. When Lawrence begins to feel the pressure of woman's emancipation, his masculine uneasiness and masculine vanity prevents Ursula to transcend her politically and socially powerless role. Her journey for the search of self and new world ends in disillusionment and isolation. As John Worthen puts it " each generation's search and fulfillment is that of its marriage- except for the last, where Ursula does not reach the relationship which enables her to come to her fulfillment or her sense of self. She is isolated."²²

11. Conclusion

Lawrence almost ridicules Ursula's ambition when she plans to go to the university. She is a prospective threat to Lawrencian male territory, the woman becoming individual, self-responsible, taking her own initiatives, emancipating a usurping the rights of man. Hence, Ursula's urge to dominate and conquer the man's world outside her domestic circle becomes a dangerous urge, not only an urge for liberation but also destruction which Lawrence detested.

Though Lawrence was writing about women, especially independent women, their aims and ideals, he was not ready to make these 'new women' his heroines. He ends his novels either forcing his heroines to compromise with the situations or making the male dominate the final section with his fate and struggles. In *The Rainbow* Lawrence consigns Ursula to the road of conventionality by making her collapse and forcing her into marriage in the sequence novel *Women in Love*.

" Lawrence causes her to fail her examination, go down in the feet without her coveted B.A and her life as a contended housewife."- so said Kate Millet in *Sexual Politics*.²³

References

1. Cunningham, Gail. *The New Woman and the Victorian Novel*. Macmillan Press Ltd: London, 1978, Introduction, p3.
2. Sagar, Keith. *The Art of D.H.Lawrence*. Cambridge University Press, 1966, ' The Perfect Medium' , p55.
3. ibid



4. Lawrence, D.H. *The Rainbow* (Text). Radha Publishing House: Calcutta, 1992, p294.
5. Marsh, Nicholas. *D.H.Lawrence: The Novels*. Macmillan Press: Hamshire and London, 2000, 'Impulse and Emotion in D.H.Lawrence', p47
6. Lawrence, D.H. *The Rainbow* (Text). Radha Publishing House: Calcutta, 1992, p294.
7. Lawrence, D.H. *The Rainbow* (Text). Radha Publishing House: Calcutta, 1992, p295.
8. Marsh, Nicholas. *D.H.Lawrence: The Novels*. Macmillan Press: Hamshire and London, 2000, 'Impulse and Emotion in D.H.Lawrence', p48.
9. Lawrence, D.H. *The Rainbow* (Text). Radha Publishing House: Calcutta, 1992, p244
10. Drysdale, George. *The Elements of Science, or Physical, Sexual and Natural Religion*. London, 1861, p355. (As quoted by Gail Cunningham, p5)
11. Andrews, W.T. ed. *Critics on D.H.Lawrence*. George Allen and Unwin Ltd: Great Britain, 1971.
12. Engelberg, Edward. *Espace from the Circles of Experience: D.H.Lawrence's The Rainbow as a Modern Bildungroman*, p70.
13. Lawrence, D.H. *Women in Love* (Text). Rupa Classics: New Delhi, 2000, p1.
14. Engelberg, Edward. *Espace from the Circles of Experience: D.H.Lawrence's The Rainbow as a Modern Bildungroman*, p70-71.
15. Messenger, Nigel. *How to Study a D.H.Lawrence Novel*. Macmillan Education U.K, 1989. 'The Rainbow', p55.
16. Sagar, Keith. *D.H.Lawrence : Life Into Art* Penguin Books, 1985, 'New Heaven and Earth: The Genesis of The Rainbow', p140.
17. *ibid*
18. Lawrence, D.H. *The Rainbow* (Text). Radha Publishing House: Calcutta, 1992, p437
19. Lawrence, D.H. *The Rainbow* (Text). Radha Publishing House: Calcutta, 1992, p438.
20. Sagar, Keith. *D.H.Lawrence : Life Into Art* Penguin Books, 1985, 'New



- Heaven and Earth: The Genesis of The Rainbow',p139.
21. Millet, Kate. *Sexual Politics*. Urbana: University of Illinois Press, 2000,p259.
22. Worthen, John. *D.H.Lawrence and the Idea of the Novel*. Macmillan, 1979,p73.
23. Millet, Kate. *Sexual Politics*. Urbana: University of Illinois Press, 2000,p262.



Volume: 1/Issue: 13/July 2018-ISSN: 2278 8670

International Journal of Integrated Research and Development

ISSN: 2278-8670

Editor-in-Chief: Barin Kumar Pramanik

Managing Editor: Biswajit Maiti

PEER REVIEW BOARD:

President: Sudhir Chakraborty Sahitya Academy Awarded Eminent Bengali Scholar.

Vice-President: Prabir Kumar Das Retd. WBSSES, Former Member Secretary, Higher Education Council, Govt. of W.B.

Honorable Members: From Abroad

- 1. Andrew Nicholson** Professor, Department of Asian American Studies, Stoney Brook University, USA, 11794.
- 2. Hans Harder** Professor of Modern South Asian Languages and Literatures (Modern Indology). Haidelberg, Head of the Department of Modern South Asian Languages and Literatures, Heldelberg University, Germany.
- 3. Madhab Prasad Pokhrel** Professor, Department of Linguistics, Tribhuvan University, Nepal.
- 4. Niaz Ahmed Khan** Chair Professor, Department of Development Studies, University of Dhaka, Bangladesh.
- 5. Toni Guerra** Teacher, Autonomous University of Mexico, University of Guadalajara, Jalisco; Chief Executive Officer and Founder Director of Exagono (Independent Fine Arts Workshop); Member of the Modern Art, Center of Guadalajara, Jalisco, Mexico.



From India

6. Mohd. Shahid Hussain Professor, Centre for Indian Languages, SLL & CS, Jawaharlal Nehru University (Urdu & Persian), Academy Awarded Scholar, New Delhi.
7. Nandalal Chakraborty Associate Professor, Political Science, Presidency University, Eminent Scholar and writer about Netaji.
8. Goutam Kumar Chatterjee President, Abhinavagupta Academy, Department of Journalism and Mass Communication, Banaras Hindu University and Film maker of Theory of Aesthetics, U.P.
9. Rampratap Sinha Associate Professor in WBES, Department of Economics, Government College of Engineering and Leather Technology, W.B.
10. S. K. Mollay IFS, Divisional Forest Conservator, North Division, Siliguri, W.B.
11. Pankaj Kumar Roy Associate Professor & H.O.D of Commerce, New Alipur College, W.B.
12. Raghunath Ghosh Honorary Director, ASC and Retired Professor & Head, Dept. of Philosophy, North Bengal University, W.B.
13. Madhusudan Mondal Retired Scientist and Additional Director, Botanical Survey of India, W.B.
14. Debabrata Chowdhry Textile Engineer (Manchester), MBA (PE, Chartered Engineer FIE (I) FII Prod., FCA & FIV, General Secretary: INDIAN SOCIETY OF ENGINEERS, Kolkata, W.B.
15. Sibsankar Pal Associate Professor & H.O.D of Bengali, Govt. General Degree College at Tehatta, W.B.
16. Debabrata Das Associate Professor & H.O.D of Botany, Govt. General Degree College at Lalgah, W.B.



BOARD OF ASSOCIATE EDITORS:

SOCIAL SCIENCE, LANGUAGE, LITERATURE AND ARTS

1. Tapas Kumar Pal Associate Professor & H.O.D of Economics, Darjeeling Gov. College, W.B.
2. Preetam Ghoshal Associate Professor, Department of Philosophy, Jadavpur University, W.B.
3. Arun Mahata Associate Professor, Department of Philosophy, Jadavpur University, W.B.
4. Biswajit Roychoudhury Assistant Professor of Geography, Vidyasagar College, Kolkata, W.B.
5. Sanjit Kumar Das Vice-Principal, Bhairab Ganguly College, Kolkata, W.B.
6. Surajit Sengupta Assistant Professor, Department of Commerce, Bhairab Ganguly College, W.B.
7. Aditi Parta Assistant Professor, Department of Philosophy, Hooghly Mohsin College, W.B.
8. Suparna Sengupta Assistant Professor, Department of Sanskrit, Hooghly Mohsin College, W.B.
9. Sanghamitra Mukherjee Assistant Professor, Department of Sanskrit, Ramkrishna Sarada Mission Vivekananda Vidya Mission, W.B.
10. Tanwi Mukhoadhyay Assistant Professor, Department of Bengali, Bethune College, W.B.

SCIENCE AND TECHNOLOGY

11. Phalguni Gupta Associate Professor, Department of Physics, Dinabandhu Andrews College, Kolkata, W.B.
12. Swapan Kumar Ghosh Associate Professor, Department of Physics, Durgapur Govt. College, W.B.



13. Partha Sarathi Singha Officer-in-Charge, Govt. General Degree College,
Kharagur-II, W.B.
14. Pampi Ghosh Assistant Professor, Department of Botany, Seva
Bharati Mahavidyalaya , W.B.

EDITORIAL BOARD:

1. Asin Md. Ansari Assistant Professor, Department of History,
Gorubathan Govt. College, Kalimpong, W.B.
2. Arpana Kalden Assistant Professor, Department of History,
Gorubathan Govt. College, Kalimpong, W.B.
3. Varun Kumar Roy Assistant Professor, Department of History, University
of North Bengal, Darjeeing, W.B.
4. Pratit Tamang Assistant Professor, Department of Political Science,
Gorubathan Govt. College, Kalimpong, W.B.
5. Ujjal Das Assistant Professor, Department of English,
Gorubathan Govt. College, Kalimpong, W.B.
6. Sumana Bandyopadhyay CWTT (Govt. Approved), Deptt. Of Commerce,
Bhairab Ganguly College, W.B.
7. Sandipan Talukdar Assistant Professor, Department of Zoology,
Gorubathan Govt. College, Kalimpong, W.B.
8. Rabin Ghosh Assistant Professor, Department of Bengali,
Gorubathan Govt. College, Kalimpong, W.B.
9. Subhra Kanti Mandal Assistant Professor, Department of Chemistry,
Gorubathan Govt. College, Kalimpong, W.B.
10. Raju Subba Assistant Professor, Department of Chemistry,
Gorubathan Govt. College, Kalimpong, W.B.



Volume: 1/Issue: 13/July 2018-ISSN: 2278 8670

- 11. Rajendra Mistri** Assistant Professor, Department of Economics,
Gorubathan Govt. College, Kalimpong, W.B.
- 12. Sangeeta Yonzon** Assistant Professor, Department of Economics, Govt.
General Degree College at Mominpur, Kolkata, W.B.
- 10. Dipa Goswami** Assistant Professor, Department of Philosophy,
Chandernagore Govt. College, Chandernagore,
Hooghly, W.B.
- 11. Madhumita Chatterjee** Assistant Professor, Department of Philosophy, Barasat
Govt. College, 24 Parganas (North), W.B.



PREFACE

With this issue we have entered into the glorious seventh year of the publication of our journal. I specially thank to all the members of the journal society and especially to Dr. Sibsankar Pal our former editor-in-chief for their hard working, also the toil and trouble they have taken for uplifting the quality of our journal.

Our motto from the very beginning was to publish high quality research papers and articles and we are successfully trying our level best to achieve our goal. Our journal has been appreciated and recognized all over the world which is a great achievement to us. Apart from research papers and articles we also try to recognize paintings of different renowned artists from India and abroad by placing their painting on the front cover page of our journal. In this issue we have placed the painting of Anna Rosa Pelayo of Amaitée entitled 'Mistral'.

Anna Rosa Pelao is a renowned artist. She was born in Guadalajara Jalisco on the 30th of March of 1960. Graduated from the School of Architecture of the Autonomus University of Guadalajara (UAG) (1978-1982). She holds a diploma on Visual Arts Appreciation endorsed by the INBA. She has taken specialised courses to contribute to her formation and learn new pictorial and sculptural techniques. She is an architect by formation and a plastic artist by passion. Restless and curious, rather than a seeker she finds answers that guide her through diverse paths, adding complementary topics that give sense to her life and lead her to the path of self knowledge and internal life. She studies what can be felt rather than seen, she transits since years ago through the path of meditation and different disciplines to connect and interpret the internal world. To translate the symbols and her dreamlike word in shapes and colors. She imparted classes in the school of architecture for 5 years. Besides teaching, her work experience was in construction companies where she developed design projects.

"The painting of Anna Rosa Pelayo - Amatee - depicts soul immersion and vital force, her compositions impregnated with primitive sap evoke a pictorial ontology. With her, you are in front of an artist of nomadic existence open to multiple drifts. In her proposal, poetry and painting converge in their quality of language conveyors of an aesthetic and emotional experience, whose nature situates the landscape of life and the soul given over to the exploration of the last substrate that links both artistic manifestations: the most recondite depths of being."

She has participated, both nationally and internationally, in diverse individual and collective expositions, in cities such as Guadalajara, Mexico City, Puebla, Veracruz, Guaymas, New York, Milan, Madrid, Cordoba and Malaga. She has also participated in numerous charitable auctions.

Her work has been chosen for the first international biennial of San Luis Potosi and the biennial of Milan. She holds the International prize tribute to Tiziano in Venice. Italy and the International prize Raffaello in Bologna, Italy.

Our special thanks goes to Dr. Sibsankar Pal for arranging this painting from the artist. We also thank the artist Anna Rosa Pelayo for her contribution.



Unless and until there is good research work it is hard to get good paper for publication. For good research work good research environment is required. For that reason good research instigate is essential. Our focus is also to get a research institute of our own in future where we can provide better research environment for the scholars. We have already initiated our motivation towards our target and I am sure that our journal will do much better in future.

Thank you.

**Dr. Barin Kumar Pramanik,
Editor-in-Chief.**



EDITORIAL-1

It is obviously very great honour to me that I have been given the responsibility of editor-in-chief of this journal from this issue i.e. July, 2018. I thank all the members of the journal society for this and assure that I will try my level best to shoulder the responsibility that you have given to me. I am the third editor-in-chief of this journal. First editor-in-chief was Dr. Ram Pratap Sinha from the year 2012 to 2014 and then the second editor-in-chief was Dr. Sibsankar Pal from 2014 to December, 2017. I have been attached with this journal from the very beginning as managing editor. I welcome our new managing editor Dr. Biswajit Maiti, Associate Professor and H.O.D, Department of Physics, Govt. General Degree College at Kharagpur-II. From the very day of its starting we all have worked jointly to uplift the quality of this journal. The journal has become national to international and now it is UGC recommended.

Recently we had attended a seminar on biodiversity conservation at Seva Bharati Mahavidyalaya at Jhargram, West Bengal funded by bio-diversity board of West Bengal. It was a memorable day we had many fruitful discussions on that day. In this context I would like to add some of my views regarding bio-diversity and its conservation.

In the year 1992 the UN Convention on Biological Diversity (CBD) which was the first international environmental agreement negotiated in Nairobi, Kenya. In the same year the Global Environment Facility (GEF) for funding biodiversity conservation in developing countries was launched. Yet after 26 years biological population and diversity continue to decline both on land and in the oceans. The main reasons are chronic underfunding of global biodiversity conservation; and the failure to control habitat conservation, resource over exploitation, species invasion and other drivers of biodiversity loss. Recently in the year 2015 Paris Climate Change Agreement took place where it has been targeted for conserving half of the terrestrial realm for biodiversity by 2050. In other words to conserve at least 50% of the terrestrial, inland water, coastal and marine habitats by 2050. Now the question is how such a deal might be implemented to overcome the funding problem in biodiversity protection.

As with any public good, biodiversity conservation suffers from a free-riding problem, in which governments have an incentive to provide less than the optimal level of funding in the hope that the others (private players) will cover the costs. This is especially pertinent when the benefits of such payments accrue to other countries. In particular, global funding to support conservation effort in developing countries, which host most biodiversity, is woefully inadequate to prevent habitat loss and overexploitation. The global benefits of biodiversity conservation are much greater than the benefits accruing to developing countries. Left on their own, the latter countries will preserve insufficient biodiversity. Existing international institutions and funding mechanisms, including the CBD and GEF, have boosted conservation efforts but failed to deliver enough funding to where it is most needed. As a result, global conservation falls short of what is required to attain safe biodiversity levels. As in Paris agreement, all countries should declare their own national targets, policies and timelines, subject to 5-year review, for attaining the overall target. For wealthier countries, these targets and timelines should also include financial and technological commitments to assist conservation in developing countries through the GEF,



other international bodies, or bilateral pledges.

A global agreement for biodiversity would engage government and industry, and hopefully other non-state actors in a manner unparalleled in the history of conservation. In addition, the current global biodiversity crisis is in large part due to the lack of international commitment and funding over the past 25 years. A global agreement for biodiversity would also overcome these shortcomings. Ensuring safe levels of global biodiversity will require the corporations that can benefit financially from conservation to joint efforts in order to avoid continued irreversible loss of biodiversity.

**Dr. Barin Kumar Pramanik,
Editor-in-Chief.**



EDITORIAL-2

In the present society, our family structures are incredibly different from the one what we found a decade or two ago. There is no dominant family structure – joint family is the thing of past and even nuclear family is dissolving to individuality. Individuals have much more freedom of choice of life in regard to lifestyle, social and cultural settlement, sexual preferences and personal relationship. It has its reflection on the society at large which is fragmented into small groups mainly based on race, religion, occupation, income level and some other common interests. The gap between concerned groups is widening day by day mainly due to economical inequalities, political, educational and occupational differences. Added to this, technological advances of internet, email and electronic communication have been changing the pattern of work and leisure and one's life becomes less predictable. It breaks the barrier of time and space and has its effect on psychological or behavioural pattern of an individual. Individuality dominates over society and man becomes more self contended.

Though people are telling about global village or global society one can clearly see that unpredictability, uncertainty, risk consciousness and loss of rationality looms large on our life. It has "multitude of interconnected fatal consequences–social disintegration, breakdown of democracy, more rapid and extensive deterioration of the environment, spread of new diseases, increasing poverty and alienation": the civil war in a number of Afro-Asean countries along with wide spread migration to the European countries and the plight of humanity is the concern of the day.

Higher educational institutions, non-governmental and philanthropic organizations and civic societies should play a greater role in influencing public policy making with a view towards humanitarian and developmental efforts across boundaries for all race and religion. Then only present day social and economic instability may be addressed for the good of humanity. Intercultural communication or cultural diffusion of ideas, religions, science, technologies and languages through the writings of the scholars, thinkers and the readers might pave the way for social equality, environmental protection, economic stabilization and restoration of civilization in true sense. We through IJIRD are publishing articles in all spheres of life and study to dream of a world where humanity is above all and everybody lives in harmony with peace and pride.

**Dr. Biswajit Maiti,
Managing Editor.**



INDEX

1. A Critical Analysis on the Disparities in Health Care Infrastructures in Birbhum District of West Bengal
Biswajit Roy Chowdhury & Dr.Uttam Mukhopadhyay 1 – 08
2. f'jq;k' J flhaÑkã-N AeãhaÑe
AdÉjL øhj-mn -hlj
09 – 12
3. Performance Analysis of Five Selected Commercial Banks in India
Surajit Sengupta & Sumana Bandyopadhyay Chatterjee 13 – 34
4. Relevance of plant ecology as reflected in *MANUSAMHITĀ*
Dr. Bhaskar Jha 35 – 38
5. a;l-LnĀl paÉjNĒq B-¼cime J h%œu Lw-NĒp
Evfm Ljφ"
39 – 42
6. Three-Fold Typology towards Religious Harmony: A Critical Analysis
Iti Chattopadhyay 43 – 48
7. haÑjje pj;-Sl °eçal p-Qae;u djÑ
pjjpãã-æp; Mjaæe
49 – 54
8. 'Who Am I'? -Some Reflections from Sri Aurobindo's Philosophy
Dr. Aditi Patra Nee Ray 55 – 64
9. Terrorism – Its Different Dimensions and an Alternative Approach for Survival
Madhumita Chatterjee 65 – 72
10. Fight of Imagination
Suparna Sen Gupta 73 – 80
11. Conservation of an Atavistic and Unorthodox Feeding Behaviour in a Cosmopolitan Polytopic Genus *Drosophila*
Dipita Bhattacharyya & Debasis Mutsuddi 81 – 100
12. Mind-Brain Identity Theory—A Critical Review
Dipa Goswami 101 – 108
13. Estimating the Impact Analysis of India ASEAN FTA



Volume: 1/Issue: 13/July 2018-ISSN: 2278 8670

- on Indian Chemical Industry: A Gravity Model Approach Dr. Avijit Mandal 109 – 118
14. Emerging Scenario in Global Learning System Jhuma Bandyopadhyay 119 – 126
15. The World of Homosexuals (1977): An Attempt at Appraisal Sayantan Mitra 127 – 136
16. শমৈজানন্দরে গল্প : নম্বিনবর্গরে ভন্বিন স্বর □□□□□□□□□□
□□□□□ 137 – 144
17. Status of Self-Financing Courses in West Bengal Dr. Sanjit Kr. Das 145 – 170
18. □□□□□ □□□□□□□□□□□□ □□□□□□ □□□□□ □□□□□ □□□□□ □□□□
□□□□□□□□□□ Arun Mahata 171 – 174
19. Portrayal of Ursula as a New Woman by D.H. Lawrence Priyanka Mukhopadhyay Basu 175 – 184