ISSN 0973-3914

RESEARCH JOURNAL OF SOCIAL AND LIFE SCIENCES

HALF YEARLY, BILINGUAL (English/Hindi)

A REGISTERED REVIEWED/REFEREED RESEARCH JOURNAL
Indexed & Listed at: Ulrich's International Periodicals Directory©, ProQuest, U.S.A (Title Id: 715205)

VOL-XXX-XXXI ENGLISH EDITION YEAR-15 DEC. 2019 - MARCH-2020

PEER-REVIEWED RESEARCH JOURNAL
UGC JOURNAL NO.(OLD) 40942
IMPACT FACTOR 3.928

JOURNAL OF
Centre for Research Studies
Rewa-486001 (M.P.) India
Registered under M.P. Society Registration Act, 1973, Reg. No. 1802,Year-1997
www.researchjournal.in

RNI NO. MP BIL 01034/12/1/2005-TC ISSN 0973-3914

Research Journal of Social and Life Sciences

Peer-Reviewed Research Journal
UGC Journal No. (Old) 40942, Impact Factor 3.928
Indexed & Listed at: Ulrich's Periodicals Directory ©, ProQuest U.S.A. Title Id: 715205

Volume- XXX-XXXI English Edition Year- 15 Dec. 2019- March, 2020

Journal of Center for Research Studies
Rewa (M.P.) India
Registered under M.P. Society Registration Act, 1973, Reg.No. 1802, Year, 1997
www.researchjournal.in

Subject Experts/ Advisory Board

1. ***Dr. Pratibha J Mishra***
Professor, Department of Social Work, Guru Ghasidas University,
Bilaspur (C.G.) pjmldn@gmail.com

2. ***Dr. B. K. Sharma***
Associate Professor, Department of Pathology, Bundelkhand Medical College,
Sagar (Madhya Pradesh) bk_drsharma@rediffmail.com

3. ***Dr. N. Sundaram***
Professor, School of Social Sciences, VIT University,
Vellore- 632014 (Tamilnadu) nsundaram@vit.ac.in

4. ***Dr. Chandrashekar. E.***
Associate Professor, Department of Sociology (ACEEFO), Kuvempu
University, Shankaraghatta-577451, District- Shimoga, Karnataka.
chandrue22@yahoo.co.in

5. ***Dr. B.C.M. Patnaik***
Associate Professor, School of Management, KIIT University, Bhubaneswar
(Odisha) bcmpatnaik@gmail.com

6. ***Dr. Yogambar Singh Farswan***
Department of History & Archeology, H. N. Bahuguna Garhwal University,
Srinagar, Garhwal -246174 Uttarakhand farwanys@yahoo.co.in

7. ***Dr. Vijay Agarwal***
Professor, A.P.S. University, Rewa (M.P.) apsvka57@gmail.com

8. ***Dr. Urmila Sharma***
Professor, Government Girls P.G. College, Rewa (M.P.).
urmilabks@gmail.com

9. ***Dr. P. Malyadri***
Principal, Government College Patancheru, Hyderabad-502 319 (A.P)
drpm16@gmail.com

10. ***Prof. Safiqur Rahman***
Assistant Professor, Department of Geography, Guwahati College
Bamunimaidam, Guwahati-21. safiq.rahman@rediffmail.com

11. ***Dr. M. Razaullah Khan***
M. Razaullah Khan, Associate Professor, Maulana Azad College
Aurangabad.drrazaullahkhan@gmail.com

12. ***Padmegowda. A. T.***
Assistant Professor, Dept. of Economics, Sahyadri Arts & Commerce College,
Shimoga SHIMOGA- Karnataka. padmegowda1965@gmail.com

Guide Lines

- **General:** English and Hindi Editions of Research Journal are published separately. Hence Research Papers can be sent in Hindi or English.
- **Manuscript of research paper:** It must be original and typed in double space on the one side of paper (A-4) and have a sufficient margin. Script should be checked before submission as there is no provision of sending proof. It must include Abstract, Keywords, Introduction, Methods, Analysis Results and References. Hindi manuscripts must be in Devlys 010 or Kruti Dev 010 font, font size 14 and in double spacing. All the manuscripts should be in two copies and in Email also. Manuscripts should be in Microsoft word program. Authors are solely responsible for the factual accuracy of their contribution.
- **References :** References must be listed cited inside the paper and alphabetically in the order- Surname, Name, Year in bracket, Title, Name of book, Publisher, Place and Page number in the end of research paper as under- Shukla Akhilesh (2018) Criminology, Gayatri Publications, Rewa : Page 12.
- **Review System:** Every research paper will be reviewed by two members

of peer review committee. The criteria used for acceptance of research papers are contemporary relevance, contribution to knowledge, clear and logical analysis, fairly good English or Hindi and sound methodology of research papers. The Editor reserves the right to reject any manuscript as unsuitable in topic, style or form without requesting external review.

Single Copy Rs. 500

Membership fee

Term	For Individual	For Institutional
Two years	Rs. 2500	Rs. 3000
Five years	Rs. 5000	Rs. 6000

Mode of payment-

- The amount may be deposited in the account number 30016445112 of GAYATRI PUBLICATIONS, SBI Rewa City Branch (IFS Code: SBIN 0004667, MICR Code 486002003). In this case please add Rs. 75 as bank charge. Please inform on Mobile (7974781746) after depositing money.

Publisher- Gayatri Publications
Rewa (M.P.)

Laser Composing- Arvind Vyas
Rewa (M.P.)

Editorial Office

186/1, Vindhya Vihar Colony
Rewa- 486001 (M.P.)
Mob- 7898086013
E-mail- researchjournal97@gmail.com
researchjournal.journal@gmail.com
www.researchjournal.in

Editorial

The corona virus-borne epidemic has shaken the entire world and the administration, it also shows our administrative weaknesses and health-related administrativeweakness as well as awareness in public. These weaknesses have also alerted us to the future global crisis and now the global community is preparing to deal with the problems ahead by grappling with this crisis. Corona virus pandemic (2019-20) as a new type of virus infection occurred in mid-December of 2019 in Wuhan city of central China. Suddenly, it was observed that mass of people are having pneumonia and the reason behind pneumonia type of symptoms are not known. Many people sell fish in the Wuhan Sea Food Market and also trade living animals.

Now the question is arising whether globalization is going to change the definition of globalization in the upcoming future, whether the present form of globalization will lose its original form in the future, whether the ongoing will remain the same as was before the outbreak of Corona Just like what is predicted, a new strategy and discussion can be seen in the global economy about China. The severe crisis of Kovid-19 also questioned the role of global institutions like World Health Organization (WHO and United Nation Security Council (UNSC) The way the WHO recently ignored Taiwan as a nation in order to make suggestions globally has become a direct example of WHOis under pressure from China. State Health Organization statements and It seems from the manifested that this much-established organization formed in 1948 is trying to save China from being exposed to the world today. Dr. Tedros Adhanom Ghebreyesusis playing under the of China. Such incidents were further strengthened when China stopped the UN Security Council discussion on a global pandemic such as the Kovid-19, raising questions about the seriousness of this prestigious global body. China, which interferes with India's decisions on the strength of its veto power in the UN Security Council, is not ready for a global discussion on Kovid-19 today. It is also a failure of the United Nations that due to the epidemic the lives of millions of people all over the world are in danger. Due to its rules on such a serious issue, today this institution, formed in the name of human welfare, is not even able to get it discussed.

The virus has changed the outlook of the world and society itself. Officials and employees of the government department have been getting 100 per cent salary allowance during lockdown. Some international companies have given 80 per cent salary to their employees, some have paid up to 50 per cent. And those who were daily labors were forced to leave by the companies during lockdown. From 1500 up to 2000 kilometers on foot, these workers started walking towards their house.

Now the serious question arises that what will be the condition of future societies. How will the governments and societies cope with the epidemic like Corona? This epidemic has caused great damage globally and mainly on small industries related people. Despite this loss, Today, need is that the government should take steps towards the human economy as well.

The role of the common man is also very important in controlling such epidemics. We should follow the guidelines issued from time to time to prevent the virus. Because we should be concerned about the safety of ourselves, the safety of our family and the safety of society. If there is less interaction between the people then surely governments will also get help in controlling this epidemic. Governments are forced to open a lockdown. Because if the lockdown is not opened, economic activity will come to a standstill and production will not happen, then things will not sell and jobs will decline. We need an antivirus economy or the economy should be such that it does not have a very bad effect on the economy and also does not have a very bad impact on the general public. Let us start the production of those things which are most important to us and which we can prepare in our country. With this, our industry will grow. One of the benefits of this is also in protecting the environment. We need to pay more attention to the production of the health care sector and it should also make us a part of the economy. The corona virus has taught us that what is necessary for us and what we should do is very important for every individual society and government to think in this direction.

Professor Akhilesh Shukla
Editor

Professor Braj Gopal
Cheif Editor

CONTENTS

UGC Journal No. (Old) 40942,
Peer-Reviewed Research Journal
Impact Factor 3.928, ISSN 0973-3914
Vol.- XXX-XXXI, Year- 15, Dec. 2019- March 2020

Expanding Activities of Police in 21st Centaury

*** Akhilesh Shukla**

Abstract- *Police, Civil Service and Military are a part of coercive apparatus of any state. Modern state is different from the medieval state in terms of making laws which can control the activities of these forces. A democratic state is a constitutional state. Constitutional laws guide the actions of each organ. To keep a check on the misuse of power by any organ of the state, there is a balance of powers. Executive, judiciary and legislature are three organs of the state which balance each other to bring unity of purpose. If any organ goes outside the laws of the state, it can come under the scrutiny of law by another organ. It regulates the relationship between each organ and citizen. If a citizen feels that he or she is discriminated by any organ of the state, he can resort to judicial review of the state action. Check and counter check help to keep the functioning of the state within the rule of law.*

Key Words- Police - Population Ratio (PPR), Police - Area Ratio, Police, Civil Service

Demography is the statistical study of populations, especially human beings. Ata glance, it analyzes living population, i.e., changes over time and space in response to birth, migration, aging, death, etc.Its analysis covers complete society or groups defined by criteria such as education, nationality, religion and ethnicity, etc. Demographic studies also analyze the relationships between economic, social, cultural and biological processes influencing the population. The total population of India, as on 01.10.2018, as provided by the Registrar General of India and the Census Commissioner of India is 130.6 crore, approx., comprising 67.7 crore males and 62.9 crore females. Among the States, Uttar Pradesh, with a population of more than 22.68 crore, holds the distinction of being the most populous state in the country, followed by Maharashtra, with a population of 12.37 crore. Among the Union Territories, Delhi, with a population of more than 2.28 crore, holds the distinction of being the most populous UT in the country, followed by Chandigarh, with a population of 0.19 crore.[1]

Police – Population Ratio (PPR) (Per Lakh of Population)- Police per lakh Population Ratio (PPR) against sanctioned total Police (Civil + DAR +

* **Professor, P.G. Department of Sociology & Social Work, Government T.R.S. Autonomous College Rewa- 486001 (M.P.), NAAC Grade A, Institute for Excellence in Higher Education (College with Potential for Excellence Status Conferred by UGC)**

Armed) during the year 2018 is 198.65 as compared to 192.95 in the previous year. The highest ratio is 1,314.84 in Manipur**.**

Police – Area Ratio (PAR) (Per 100 Sq. Kms. of Area)-Police per 100 Sq. Kms. of Area Ratio (PAR) against sanctioned total Police (Civil + DAR + Armed) during the year 2018 is 78.95 as compared to 78.45 in the previous year. The highest ratio is 7,719.30 in Chandigarh.

The status of approved and actual police force in India in the year 2019 is presented in the table below.[2]

Police force: - Population and Area ratio in India

(AS ON 01.01.2019)

SL. No.	States/ UTs	Civil Police Per Lakh of Population		District Armed Reserve Police Per Lakh of Population		Armed Police Per Lakh of Population		Total Police Per Lakh of Population	
		S	A	S	A	S	A	S	A
1.	Andhra Pradesh	-	-	-	-	-	-	-	-
2.	Arunachal Pradesh	568.72	409.79	138.62	124.54	371.46	327.35	1,078.80	861.68
3.	Assam	71.06	58.74	36.30	25.52	129.04	110.48	236.39	194.74
4.	Bihar	5.27	5.51	2.35	2.18	7.34	6.36	131.65	81.08
5.	Chhattisgarh	177.88	144.51	-	-	103.85	90.41	281.74	234.92
6.	Goa	327.59	275.99	-	-	140.05	87.92	467.64	363.91
7.	Gujarat	91.08	72.90	35.31	28.66	43.13	30.06	169.51	131.62
8.	Haryana	193.54	150.59	-	-	32.60	13.20	226.14	163.80
9.	Himachal Pradesh	157.13	145.84	11.49	11.34	89.65	73.75	258.28	230.93
10.	Jammu & Kashmir	426.99	390.61	-	-	278.19	266.01	705.17	656.62
11.	Jharkhand	52.17	39.67	117.21	98.48	51.39	43.00	220.76	181.14
12.	Karnataka	100.98	85.92	65.52	43.45	15.84	10.27	182.34	139.64
13.	Kerala	107.72	98.85	18.74	15.64	27.02	20.58	153.49	135.08
14.	Madhya Pradesh	119.23	91.28	-	-	39.78	34.84	159.01	126.12
15.	Maharashtra	164.73	145.36	14.42	13.74	16.24	13.32	195.39	172.42
16.	**Manipur**	**667.88**	**511.12**	-	-	**646.96**	**512.62**	**1,314.84**	**1,023.74**
17.	Meghalaya	197.82	206.60	88.31	81.89	275.43	238.50	561.57	526.99
18.	Mizoram	377.91	297.62	-	-	638.31	473.60	1,016.22	771.22
19.	Nagaland	230.61	240.83	523.98	541.53	523.98	541.53	1,278.56	1,323.90
20.	Odisha	71.97	62.03	24.10	23.06	58.92	52.00	155.00	137.08
21.	Punjab	233.72	214.92	-	-	64.14	58.97	297.85	273.89
22.	Rajasthan	122.01	107.35	-	-	23.64	20.88	145.65	128.23
23.	Sikkim	372.74	366.87	-	-	589.46	398.95	962.20	765.81
24.	Tamil Nadu	126.94	89.69	28.68	46.67	21.96	20.52	177.58	156.89
25.	Telangana	-	-	-	-	-	-	-	-
26.	Tripura	218.78	169.59	110.66	83.89	428.04	338.12	757.48	591.60
27.	Uttar Pradesh	123.65	87.41	-	-	59.10	42.43	182.75	129.84
28.	Uttarakhand	97.80	101.15	59.20	52.65	55.58	51.96	212.58	205.76
29.	West Bengal	100.35	60.83	24.02	16.76	33.86	23.06	158.23	100.65
30.	A & N Islands	562.20	554.47	125.60	67.18	173.02	161.86	860.82	783.51
31.	Chandigarh	337.57	293.77	57.86	57.86	46.56	42.54	441.99	394.17
32.	D & N Haveli	76.79	70.93	-	-	-	-	76.79	70.93
33.	Daman & Diu	150.27	104.08	-	-	-	-	150.27	104.08
34.	Delhi	361.24	322.59	-	-	40.40	36.37	401.64	358.96
35.	Lakshadweep	382.14	311.90	-	-	-	-	382.14	311.90
36.	Puducherry	143.31	107.89	44.67	30.96	54.79	49.29	242.76	188.14
	All India	**126.39**	**99.78**	**24.29**	**20.33**	**47.96**	**38.11**	**198.65**	**158.22**

Population Per Police Person (PPP)- Population Per Police Person against sanctioned total Police (Civil + DAR + Armed) during the year 2018 is 503.40 as compared to 518.27 in the previous year. The highest ratio is 1,302.26 in Dadra & Nagar Haveli.

Area Per Police person (APP) (in Sq. Kms)- Area Per Police Person (in Sq. Kms) against sanctioned total Police (Civil + DAR + Armed) during the year 2018 is 1.27, same as the previous year. The highest ratio is 5.75 in Arunachal Pradesh.

Transport Per 100 Police personel (TPP)- Transport per 100 Police Personnel against sanctioned total Police (Civil + DAR+ Armed) during the year 2018 is 7.89 as compared to 8.10 in previous year. The highest ratio is 35.83 in Lakshadweep.

States/UTs-wise Police Person Per Lakh Population (PPR), States/UTs-wise Population Per
Police Person (PPP), States/UTs-wise Area in Sq. Kms. Per Police Person (APR) & States/UTs-wise

Transport Resources Per 100 Police Personnel (TPP) are shown at the end of this section.

A policeman on duty at a public place can both burnish and tarnish the image of the entire force, so the police should develop a cordial Police – Area Ratio with the public. Besides their official duties, policemen should involve themselves in social activities like blood-donation, de-addiction camps, police-public meetings and sports activities, with the help of non-government organizations. Transparency in the functioning of the police is essential to win the faith of the public. Night patrolling could be much more helpful in yielding good results as, on the one hand, it brewed confidence among the public and, on the other hand, developed sources in order to get valuable information to curb crime. Indian government should teach Public Relations to Police Officers. Immediate change of Police Act is also necessary. A democratic state has to respect the human rights of each citizen and social class and groups. The state has enough space for the movement of each social group. Each group is allowed to protest against the state actions in a peaceful manner. Laws of the state are supposed to protect the rights of a citizen and social group. Democratic state is a limited state vis a vis a citizen and social group. Each social group, be it dominant or subaltern, is protected by the state. A state is basically a limited state except in an unusual situation in a nation's life, such as emergency because of war or internal trouble. The state has laws to restrict the rights of a citizen. In such circumstances the police, civil servants and military have immense powers. These three forces are part of an Administrative State. Moreover they are a permanent part of the executive whereas the political executive is a temporary one. Though they are the subject of control by the political executive, the action of each force can come under scrutiny by the judiciary. In this unit, the relation of each of these forces with the judiciary and legislature, is being analysed.

Police is a part of the ancient Indian history. The Mauryan empire did have a police force. During the Moghul period, the Kotwali system monitored the activities of citizens. The British rule created a modern policy by creating a Police Act of 1861. The colonial state allowed the operation of police in a legal manner. They could investigate the criminal case as per the law of the time. The colonial state created a legal framework which limited the police action. Though they served the interests of the colonial masters, at the same time, the laws of the state gave them autonomy. Even the British citizens came under their control to some extent if they committed crimes which were listed by the Police Act. It is wrong to presume that the Police Act served the interests of colonial masters only. This Act is serving the needs of the Post Independent Indian State. Some of the provisions have been amended, but in essence, the Act has been kept intact. Though the National Police Commission (NPC) has suggested for a new Police Act, the democratic government has not yet felt the necessity of scrapping the old Act.[3]

The activities of police have got expanded with the changes introduced by the modern society of India. The Indian society is no more an agricultural society though majority of people live in the villages. But in terms of contribution to the national income, the share of agriculture has declined drastically. The contributions of industry and service sector have increased. This transition to an industrial and modern society has brought certain changes in the society. A transitional society has some peculiar problems which need to be tackled by the police. The Indian society is getting urbanised at a faster rate which creates some problems for the police. The problems of the industrial and urban society are different in nature from the rural society. The rural society has changed because of the social changes introduced by the green revolution and political democracy. The caste hierarchy has undergone a radical change. Land reforms such as the abolition of Zamindari system has changed the face of the rural society by removing the hereditary social leaders. It has led to a sharp competition among various caste groups for sharing the social power. The changing balance of social forces in rural society gets reflected in politics.[4] The democratic politics has brought some changes in the society. Electoral system has strengthened the democratic character of the society. This has led to sharp competition for political power among the social groups and classes of people. The entry of political parties into rural politics has strengthened the competition after leading to violence. Police intervention is sought in such a political situation, for tackling the criminal elements and gangsterism.

The Challenges before the Police Force are-

- violent agitations by linguistic groups to redraw the political map of India, strengthening linguistic nationalism.
- the tribal groups of the Central India and North Eastern India have organised themselves on ethnic lines.
- movement for land distribution very often leads to violence between the

rich and the poor in rural India.

- agitations organised by the political parties to protest the displacement of people due to major environmental projects by the government or by a private party.
- terrorism and militant movements.
- growth of religious fundamentalism leading to violent conflicts.
- caste clashes between the upper and the lower castes on such issues as access to common property or self respect movement.
- violent conflicts between the rural rich and landless labour on the issues of wages.
- violent conflicts between the upper caste and lower caste in towns on the question of reservation of jobs on caste lines.
- while social legislations are made by the state, the responsibility to execute those laws is given to the police. The tackling of crimes against children and women are a major responsibility of the present police.
- introduction of IT has brought in cyber crimes which need to be tackled by the police.
- the growth of underworld in metropolis has created problems for the police.

India is a federal state and the powers are distributed between the Centre and the States. The police administration comes under the purview of the state government. The problems affecting the state need special attention of the police administration. Very often, unable to handle such a situation, they depend on the Central government for help to maintain the public order. The Central government has Central Reserve Police Force and Border Security Force to aid the state governments. These central forces have specific duties but at the same time, they aid the state governments in the case of law and order situation. There are three groups of states that need special central help: (i) states like Jammu & Kashmir which have terrorist problems, need the assistance of the central police force. (ii) The other group of states is infested with Naxalism which also demand the central help for tackling the situation. (iii) The third group of states where a large-scale communal problem can cause an alarming situation necessitating the intervention of central forces. The central government has created a Rapid Action Force (RAF) within the Central Reserve Police Force. The RAF is an emergency force that is normally airlifted to trouble spots so that quick action can be initiated to contain an explosive situation. Often the central police help in maintaining law and order during the elections times to the State Assemblies and Parliament. The Election Commission has a close interaction with the Home Ministry to call for the central forces to conduct free and fair elections. As there are some areas which are declared as disturbed, the state police try to handle the situation with the cooperation of the central forces. In a competitive political system, there is a large number of political leaders whose life is threatened by the terrorists and need protection by the state. The State has created a Special Security Force drawing from both BSF and CRPF to take care of the

VIP movement.

The use of police in India has been frequent and extensive. Very often their non partisan behaviour is questioned. The police is used by a political party or a coalition of parties against their political opponents. Often the police is accused of showing their communal bias while controlling the riot. Majority of them allegedly have caste and class bias and this has led to a negative public perception of the police administration. Various surveys conducted by some independent organizations found that the public do not consider the police as a friendly organ of the state. This perception affects the investigation of crimes. Criticism of the police by the executive, legislature and citizens is very common.

Democracy demands that the police needs to respect the citizens. They have to be helpful to them whenever they come to the police station for filing any complaint.[5] This is the age of citizen friendly police administration. But there are many complaints against the police that an ordinary citizen may not be able to file FIR without offering a bribe to the police officer at the Police Station. The investigating officers use the force in dealing with crime suspects. The public often view the police with suspicion. To quote David Bayley, "the survey results demonstrate forcefully what many close observers of police-public relations in India have long thought namely that the Indian public is deeply suspicious of the activities of the police. A considerable proportion except the police to be rude, brutal, corrupt, sometimes in collusion with criminals and very frequently dealing unevenly with their clients." (The Police and Political Development in India, p. 203) This opinion is supported by the NPC report that the Commission expressed its anxiety over the poor state of police- public relations. (Vol. 5, p. 48) The police administration needs to be citizen friendly for bringing back its credibility before the public. In a democracy, the public evaluates the performance of each service. The police administration needs to reform its organization by which the police officer are aware of the citizen's charter and they provide quick and honest services to them. Credibility in democracy will be the biggest asset of the police. Improving police behavior is one of the biggest challenges, as mistrust of the police is deeply imbedded in many levels of Indian society. Most of the time, CHRI, citizens do not want to reach out to the police even in times of crisis. The CHRI conducted a survey of police personnel attitudes and the perception of the Indian public in Tamil Nadu, Rajasthan and Assam to assess the impact of the UNDP training. Staff was amazed to see that the doors were literally slammed in their faces in Assam. People did not want to talk about the police at all, and upon some probing, the CHRI found that, among the many reasons for this fear, were claims that there were incidents of people who had walked by a police station had been abducted by the police for ransom. Presently, the CHRI has started a campaign under the slogan, "Police reforms too urgent to neglect, too important to delay" for its India-based programs. Dr. Mukerjee (a member of CHRI) did point out that, in spite of such incidents, the situation of police behavior in India is not so dire. She credits the government

with several spirited initiatives to reform the police system at certain points of time. During the emergency of 1971, Prime Minister Gandhi took forceful measures to consolidate her power, curtailing freedom of speech and expression and arresting numerous voices of dissent. When the Janata Party defeated her in ensuing elections, they instituted the Shah Commission, which looked at the malpractices of the previous government, including the behavior of the police forces during the State of Emergency. The new government set up the National Police Commission (NPC) in 1977, headed by Shri Dharamvira to comprehensively review the working of the police system in India and to suggest new reforms to make it accountable to citizens. The NPC produced a series of eight comprehensive reports on this subject and made several recommendations regarding police welfare, training and public relations. However, when Indira Gandhi returned to power in 1981, she disbanded the National Police Commission and allegedly disposed of all the reports. The major recommendations from the disbanded National Police Commission that the Commonwealth Human **Rights Initiative is advocating with the present government are:**

- that a Chief of Police of a State is to be assured of a fixed tenure of office so as to encourage functional independence. It has been commonplace in India for transfers and postings of officers to be used as a kind of reward and punishment, as a result of which, many chiefs of police have had allegiances to political parties;
- that there be no external interference in police work;
- that a Security Commission should be established in each State;
- that the Police Chief be selected by an independent expert committee; and
- that the Police Act of 1861 be replaced by new legislation.

However, over the last few years, some State governments and police departments have started to draft new legislations for the police, but these fall short in areas like accountability, transparency, superintendence and control over the police and people's participation. The prominent amongst these are the Madhya Pradesh Police Bill, the Andhra Pradesh Bill, Rajasthan, Himachal Pradesh, Assam, Punjab and last week the Minister of State for Home Affairs mentioned that a committee has been set up by the federal Government to draft a Police Act. However, no one is aware of the details which again leads to legislations with out public participation in the process.

In spite of these political setbacks, though, the prospects for police reform on the judicial front have been quite promising. The Supreme Court has been very proactive with regard to bringing about police reforms. The Supreme Court has passed several positive judgments in this regard:

- Havala case: concerning money laundering to foreign accounts: the Central Bureau of Investigation (CBI) (a national police body equivalent to the RCMP) had levelled the charge that politicians were involved in such money laundering and that investigations into these activities were being influenced. The Court

CBI should have complete superintendent control over its functions; this case was extremely important in being the first judgement where superintendence and control over police has been indicated.

• D.K. Basu judgment: a seminal judgment of ten points that addressed the rights of citizens when they come into contact with the police. The guidelines for arrest and detention should be accessible to all citizens, ie. be posted and visible in every police station. However, this really doesn't happen unless and until there is direct advocacy with officers and chiefs. After the 1996 civil writ petition, the Supreme Court asked the Government to look into whether the ten-year-old recommendations of the National Police Commission could be implemented or not. So the Government constituted yet another Commission. This committee was headed by a retired police chief, Mr. J.F. Ribeiro. After a one-year delay during which there were problems over who would chair the committee, it traveled the country seeking citizens' input and concluded that any recommendations made by the State Security Commission should be non-binding. It was clear that these and other findings of the Committee would clearly result in a dilution of the NPC recommendations. The recommendations made by the Committee were criticized and soon the government instituted another committee in 2000, called the Padmanabhaiah committee. While agreeing with the suggestion of its predecessor that the State Security Commission recommendations should be non-statutory, the new committee stated that community policing should be adopted as a philosophy within the Indian police organization.The Union Home Ministry of India setting up a National Police University that will offer graduate, post graduate and PhD courses to civilians and serving police officers in a range of subjects and pertinent issues like forensic science, biological warfare, criminal psychology, public relations, human rights, insurgency, communal tension and man management.

==========

References :

1. Registrar General of India and the Census Commissioner of India.
2. Data on Police Organization, (As on January 01, 2019) Bureau of Police Research and Development, Ministry of Home Affairs, Govt. of India, New Delhi, Page 21
3. Dr. S. Akhilesh, Organisation and Administration, Gayatri Publication, Rewa, 2003.
4. Dr. S. Akhilesh, Criminology, Gayatri Publication, Rewa, 2003.
5. Dr. S.Akhilesh, Human Rights and Police, Gayatri Publication, Rewa, 2011.

UGC Journal No. (Old) 40942,
Peer-Reviewed Research Journal
Impact Factor 3.928, ISSN 0973-3914
Vol.- XXX-XXXI, Year- 15, Dec. 2019- March 2020

Strategies towards the Annihilation of Urban Poverty in India: The Governmental Schemes

*** Diganta Kr. Phukan**

Abstract- *Urban poverty is one of the major issues in many countries all over the world. Especially, it is a challenge for the developing countries. In India too, it is an important phenomenon of almost all the urban spheres. Therefore, the Government of India has launched a number of schemes and executing through different agencies as the strategy of poverty eradication programme in the urban agglomerations. However, it is seen that due to different causes these are not properly effective in most of the urban agglomerations.*

Key Words- Urban agglomerations, slum, poverty, poverty alleviation strategies

Introduction: In many countries throughout the world urban poverty is one of the major issues which is most prominent in the developing countries. In fact, it is the negative consequence of urbanization process that leads to various problems and stand as one of the hurdles in the process of development of the urban areas in particular and the Nation in general. Therefore, the study on urban poverty is one of the key study areas for the social scientists.

It is urban poverty which might be emerged due to several causes. Dandekar and Rath(1971) stated that the urban poor are only an overflow of rural poor into the urban areas. By depicting the causes of migration of poor rural people to the urban areas, Rao and Rao(1984) noted that majority of the slum dwellers leave their villages due to lack of employment opportunities. In regards to causes of urban poverty, Jha and Sarangi(2011) pointed that there are three causes of urban poverty in India i.e. improper training, slow job growth and failure of PDS system. Similarly, lack of income or assets**,** lacks of education, infrastructure, natural calamity and lack of awareness etc. are also to be the causes of urban poverty.

With the poor section of the urban areas, number of vulnerabilities are to be existed, (i) housing vulnerability that includes, lack of tenure, poor quality shelter, and no access to individual water connection/toilets, unhealthy and unsanitary living conditions, (ii) economic vulnerability that includes irregular/ casual employment, low paid work, lack of access to credit or reasonable terms,

* **Assistant Professor in Sociology, Jorhat College(amal.), Jorhat**

low ownership of productive assets, and legal constraints to self employment, (iii) social vulnerability that signifies low education, lack of skills, low social capital/caste status, and inadequate access to food security programmes, lack of access to health services and exclusion from local institutions and (iv) personal vulnerability that identifies inclination to violence of women, children and elderly, disabled and destitute, belonging to low castes and minority groups, lack of information, lack of access to justice etc.

In Indian urban spheres, too, it is one of the vital problems that lead to several other consequences. According to Human Development Report, 1994 about 30.00 per cent of the India's urban population live in poverty with minimum livelihood opportunities. They are poor in economy, accessories, power etc. and live in congested and unsanitary locations. In such situations, they are under several problems such as environmental and social pollutions, severe health hazards, shortage of houses and other basic amenities, deprived of education, anti-social activities etc. Therefore, many governmental programmes have been implemented towards various dimensions of the urban poverty to eradicate the problem. The government policies on urban poverty have followed in the paths like to enhance productive employment and income for the poor, to direct towards improving the general health and welfare services, to improve the infrastructure and built environment of poor neighborhood etc. In aiming such improvements the programmes and schemes have been launched. This paper aims to present some of the major schemes that have been adopted by the Government of India and to overview about the effectiveness of those steps.

The Urban Poverty Alleviation Programmes Adopted by the Government of India:

Government of India has been taking strategies to overcome the issue of poverty in the all spheres of the Country in general. Some strategies have been also made by the Government in different times to eradicate the problem of poverty in the urban agglomerations. Following is a brief presentation of some of the major schemes.

Urban Community Development Programme i.e. UCDP was launched in 1958 as one of the strategies to solve the problem of the urban areas in general and the depressed areas of the urban spheres in particular. It was first started in Delhi then Ahmedabad in 1960 and in 1965 in Baroda. The first and second were launched with the help of the Ford Foundation whereas the third was assisted by the America Friends Committee. Through the UCD Programme financial aids are provided for sanitation, public health, education, and recreation etc.

In most of the world's urban spheres, the phenomenon of slum is standing as a challenge that causes various problems. As mentioned by Bhushan(1992) a slum is residential area which gets inhabited primarily by poor, often demoralized families and characterized by sub-standard, unsanitary conditions, overcrowding and usually social disorganization. (Bhushan 1992: 284). Thus, a slum means an

area where poor people are living in a sub-standard condition with the lacks of infrastructure facilities and some time social disorganization is originated.

As stated by Doniwal (2009), over 90 per cent of slum dwellers today are in developing world. South Asia has the largest share, followed by Eastern Asia, sub-Saharan Africa and Latin America. China and India together have 37 per cent of the world's slums. In sub-Saharan Africa, urbanization has become virtually synonymous with slum growth; 72 per cent of the region's urban population lives under slum conditions, compared to 56 per cent in South Asia. The slum population of sub-Saharan Africa almost doubled in 15 years, reaching nearly 200 million in 2005. (Doniwal 2009: 146)

In India slums stand as a vital problem for the cities in particular and for the Nation in general which is known differently in different cities such as *Ahatas* in Kanpur, *Basties* in Delhi, *Chawls* in Mumbai, *Cheries* in Chennai, *Kolegeri* in Bangalore, *Bustees* in Kolkota etc. Day-by-day the number of slum and number of slum dwellers are increasing in the country's urban areas. According to *Census of India, 2001* in India total population of the slum areas was 4,25,78,150 where 2,26,97,218 were male and 1,98,80,932 were female. In Assam in 2001, it was 82,289 where 43,472 were male and 38,817 were female lived in slum areas. It is estimated that both in national and state level the total slum population has been increasing.

To improvement of the environmental situation of the slums in general a programme was launched by the Indian Government in 1972. It was 'Environmental Improvement of Urban Slums' that stresses on water supply, drainage, sewerage, community latrines and bathrooms, street lightening, However, according to MHUPA, Annual Report, 2012-13, the State Governments have not been provided adequate funds for this scheme for which improvements and upgradation under this scheme is not taken up widely. Since, in spite of an importance given to the slum dwellers under this 'Environmental Improvement of Urban Slums' (EIUS), hundreds of slum dwellers deprived of measures under this scheme, therefore, Government of India has newly introduced a scheme i.e. 'National Slum Development Programme' as an additional scheme which was launched in 1996. The focal aims of this scheme were – to provide physical amenities like water, drainage, community bath, community latrines, sewerage, street light etc., provision of community centres to be used for pre-school education, non-formal education, adult education, recreational activities, etc., community primary health care centres with supports from NGOs, philanthropic associations etc. Besides, it was given importance to utilize more than 10% of the total grant in any urban agglomeration in new construction and upgradation of the houses of the urban poor.

The MHUPA – Annual Report 2012-13 reported that about 4.58 crores of slum dwellers have been benefited through this scheme in entire the Country. However, due to lack of proper importance, institutional weakness, improper study, limited budget allocation according to the slum population it was not executed as

expected.

The women and the children of the slums are the most vulnerable and neglected section of the urban areas for whom the 'Urban Basic Services Programme' was implemented by the Department of Urban Development, initiated in Delhi as per Ministry of Urban Development in May, 1985. The main aims of this programme are to improve the quality of life of these sections, especially, (i) to reduce substantially morbidity and mortality rates of children, (ii) to develop potential of children through improved access of learning opportunities and other basic services, (iii) to enhance the awareness and ability of the urban low-income community to meet its own needs particularly those of children and women, (iv) to enhance capacity building efforts.

In the urban areas of the Country 5 crore people were below poverty line during 1984-85 in which the proportion of Scheduled Castes and Scheduled Tribes population, amongst the population below poverty line in urban areas was also significant. To provide employment opportunity to the weaker section in the urban areas and to give encouragement to the unemployed youths to start self-employment by setting up micro-enterprises in the urban areas, the centrally sponsored scheme 'Nehru Rojgar Yojana' was introduced from 1989-90 in the urban areas of the country. Under the scheme of 'Nehru RojgarYojana' families in urban areas who have annual income of less than.Rs.9,950 were allowed for the benefit of the scheme. In implementing the scheme there were five component plans included viz., 1) Support for setting up micro-enterprises, 2) Housing and Shelter upgradation, 3) Training for Self-employment, 4) Training relating to construction activities and 5) Urban wage employment.

To eradicate the urban poverty and to improve the quality of life of the urban poor an integrated programme was launched in November, 1995. It is the PMIUPEP i.e. Prime Ministers Integrated Urban Poverty Eradication Programme. In this scheme an amount of Rupees 800 crores was approved by the Govt. upto 2000. The objectives of the scheme were effective achievement of social sector goals, community empowerment, employment generation and environmental improvement. The programme was applicable to 345 Class-II towns having 50,000 to 99,999 population and 79 specially identified district headquarters and hill areas. However, it was observed that the NRY, UBSP and the PMIUPEP were launched at different times having overlapping features. The PMIUPEP incorporated within itself, all the components of UBSP as also the self-employment, physical infrastructure creation component and the shelter upgradation components of NRY. Besides, the PMIUPEP applied only to Class-II urban agglomerations whereas NRY applied to all towns and the UBSP applied to selected towns only.

The 'Swarna Jayanti Shahari Rozgar Yojana'(SJSRY) is another scheme launched on 01.12.1997 by the government of India towards the urban unemployed or under employed. This centrally sponsored scheme is applicable to all urban centers with expenditure to be shared in ratio 75:25 between the

Centre and State/UT. The scheme subsumed the earlier three urban poverty alleviation programmes, namely Urban Basic Services for Poor(UBSP), Nehru Rozgar Yojana(NRY) and Prime Minister's Integrated Urban Poverty Eradication Programme(PMIUPEP). However, this scheme too couldn't reach in expected goal. Therefore, some studies were carried out for evaluation of this scheme. In this line, an independent evaluation of 'Swarna Jayanti Shahari Rozgar Yojana'(SJSRY) was carried out by the Ministry of Housing & Urban Poverty Alleviation in 2006 to access the impact of the scheme. The finding was made after receiving responses from the State Governments, Urban Local Bodies and other stakeholders to some revisions of guidelines of implementation of the SJSRY scheme. With new these new guidelines it has been re-implemented from the year 2009-2010. Some major changes have been executed through the revised 'Swarna Jayanti Shahari Rojgar Yojana'(SJSRY).

The programme is having some components or sub-schemes, viz., (i) Urban Self-Employment Programme, (ii)Urban Wage Employment Programme, (iii)Urban Women Self-Employment Programme(UWSP), (iv)Skill Training for Employment Promotion amongst Urban Poor, (v)Urban Community Development Network. Under the 'Urban Self-employment Programme'(USEP) it has been a focus on the providing assistance to individual urban poor beneficiaries for setting up gainful self-employment ventures, infrastructure component for setting up of micro-business Centres, housing facilities, special employment provision of 3% for differently-abled persons etc.

The next component i.e. 'Urban Women Self-help Programme' (UWSP) aims at providing assistance to urban poor women for setting up gainful group enterprise with SHG-Bank linkage. Another component, i.e. 'Skill Training for Employment Promotion amongst Urban Poor', also known as STEP-UP focuses on the people below poverty of the urban agglomerations. It provides assistance for skill formation of the urban poor to enhance their capacity to undertake self-employment as well as better salaried employment opportunity. It also gives importance 30% women beneficiaries and 3% beneficiaries of differently-abled. Besides, STs and SCs are also given importance in providing opportunity under this scheme. It is tried to provide training to the urban poor for different services, business and manufacturing activities etc. so that they can enhance their ability to get opportunity in such sectors.

Afterward, through the another component i.e. Urban Wage Employment Programme(UWEP) it is tried to provide employment to the beneficiaries living below poverty line within the jurisdiction of Urban Local Bodies(ULB) by utilizing their labour for construction of socially and economically useful public assets such as community centres, storm water drains, roads, night shelters, kitchen sheds in primary schools under Mid-day Meal Scheme etc. and other public requirements like parks, solid waste management facilities etc. It may be mentioned here this scheme is applicable to the towns or cities with population up to 5 lakhs as per the 1991 Census. It provides opportunities for wage

employment, especially for the unskilled and semi-skilled people. The fifth component under the 'Swarna Jayanti Shahari Rozgar Yojana'(SJSRY) is 'Urban Community Development Network'(UCDN) is a scheme that supports and promotes community organizations such as Neighborhood Groups, Neighborhood Committees and Community Development Societies.

The 'Swarna Jayanti Shahari Rozgar Yojana' (SJSRY), that had been implementing since 1997 afterward restructured as 'Deendayal Antyodaya Yojana - National Urban Livelihoods Mission' (NULM) since 24th September, 2013. The NULM has been under implementation w.e.f. September 24, 2013 in all district headquarters (irrespective of population) and all the cities with population of 1 lakh or more to reduce poverty and vulnerability of the urban poor households. Through this scheme it has been tried to provide gainful self-employment and skilled wage employment opportunities that may results a significant improvement in the livelihoods of the poor. The mission aims at providing shelter equipped with essential services to the urban homeless. Besides, the Mission also gives importance to the livelihood concerns of the urban street vendors by facilitating access to suitable spaces, social security and skills.

The 'National Policy on Urban Street Vendors' was launched in 2004. It is to be said that street vendors are one of the integral parts of urban economies around the world, offering easy access to a wide range of goods and services in public spaces. They sell all from fresh vegetables to prepared foods, from consumer electronics to auto repairs to haircuts, from building materials to garments and crafts etc.

Street vending as a profession has been in existence India since time immemorial. However, their number has increased manifold in the recent years. According to one study Mumbai has the largest number of street vendors numbering around 250,000, while Delhi has around 200,000. Calcutta has more than 150,000 street vendors and Ahmedabad has around 100,000. Women constitute a large number of street vendors in almost every city. Some studies estimate that street vendors constitute approximately 2% of the population of a metropolis. The total number of street vendors in the country is estimated at around 1 crore. Urban vending is not only a source of employment but provides 'affordable' services to the majority of urban population. (http://muepa.nic.in/policies/index2.htm)

India is one of the countries to have a National Policy on Urban Street Vendors that adopted in 2004. The focal objective of the scheme is to promote a supportive environment for street vendors to earn their livelihoods as well as ensure absence of congestion and maintenance of hygiene in public spaces and streets. It also aims to provide facilities for proper use of identified space, to promote self-compliance amongst street vendors, to promote, if necessary, organizations of street vendors e.g. Unions / Co-operatives/ Associations and other forms of organization, to facilitate their empowerment, to take measures for promoting a better future for child vendors by making appropriate interventions

for their rehabilitation and schooling, to facilitate social security measure like pension, insurance, etc. Later on, in 2009 the Ministry of Housing and Urban Poverty Alleviation revised this National Policy on Urban Street Vendors(2004). The revised policy aims at nurturing a pleasant environment for the urban street vendors to carry out their activities without their harassment from any section and also aims find recognition at national, state and local levels for their contribution for alleviation of poverty in cities and towns.

Jawaharlal Nehru National Urban Renewal Mission (JNNURM) was a huge city-modernization scheme launched on 3rd December, 2005 by the Government of India under Ministry of Urban Development. Named after Jawaharlal Nehru, the first Prime Minister of India, the scheme was inaugurated by Prime Minister Sjt. Manmohan Singh. Through this scheme it was tried to improve the quality of life of all sections including the poor people and infrastructure in the cities. It was launched in 2005 for a seven-year period to encourage cities to initiate steps for bringing improvements in their civic service levels. The government had extended the tenure of the mission for two years, i.e., from April 2012 to March 31, 2014. It was a huge mission that relates primarily to develop the urban conglomerates focusing to the Indian cities. It also aims to create 'economically productive, efficient, equitable and responsive Cities' by a strategy of upgrading the social and economic infrastructure.

Indian Government launched a scheme on 02.06.2011 aims to promote the housing condition of the slum dwellers as well as a slum-free India. It is 'Rajiv Awas Yojana'(RAY) through which it is expected to cover about 250 towns across the entire country by the end of 12th Plan in 2017. The aims of this scheme are to improving and provisioning of housing, basic civic infrastructure and social amenities in intervened slums, to enabling reforms to address some of the causes leading to creation of slums, facilitating a supportive environment for expanding institutional credit linkages for the urban poor, institutionalizing mechanisms for prevention of slums including creation of affordable housing, strengthening institutional and human resource capacities at the Municipal, City and State levels, empowering community by ensuring their participation at every stage of decision making through strengthening and nurturing Slum Dwellers' Association/Federations.

After the closure of the JNNRUM the AMRUT was introduced in country. **The AMRUT i.e. 'Atal Mission for Rejuvenation and Urban Transformation' started in** 2015. For transforming urban spheres including the level of livelihood of poor section it has been implemented. In this regard, in the first phase 500 major towns have been selected on the basis of population, tourism interest, hill states/terrain etc. which include 13 towns settled near the main rivers with more than 75,000 population but less than 1 lakh, 10 major towns from hill states, islands and tourist destinations. Through this scheme the **initiatives have been adopted for** promoting water supply, sewerage management, storm water drains to avoid flooding, environment friendly public

transport services, green spaces, recreation centres for children. It focuses on building infrastructure to improve the quality of life such as constructing storm water drainage, green spaces, recreational centres, etc. It also ensures direct link to basic amenities such as water supply, sewerage management, and environmental friendly public transport services. Besides, two major schemes launched in 2015, the **HRIDAY i.e. 'National Heritage City Development and Augmentation Yojana', and the 'Smart City Mission' cover more or less the urban poor.**

Effectiveness of the Urban Poverty Alleviation Strategies:

A numbers of poverty alleviation measures have been adopted in India in different times especially after independence to abolish the poverty in all spheres of society. For the urban poor too, a number of schemes he been executed by the Governments in different times. Though such endeavours are effective to some extent, however, still the expected goal yet to be found. In this regard we may draw few words from some of the studies regarding the effectiveness of the urban poverty alleviation strategies. Some of them also suggest for proper effectiveness of those schemes. Following is a brief discussion in this regard.

Sen (2000) was of the view that the impact of these programmes and strategies on the incidence of urban poverty has not been encouraging. The limitations of programmes are: (i) inadequate financial resources to ULB's for poverty alleviation in proportion to the magnitude of the problem; (ii) lack of guarantee to get institutional finance; (iii) lack effective coordination among implementing agencies; (iv) lack of a coherent policy framework; (v) failure to build partnership with ill-equipped municipal bodies; (vi) political interference; (vii) poor loan recovery etc.

Ajamuddin (2006) in his book on "Poverty in Urban Areas" focused his analysis on the slums in Class-I Cities in Orissa revealed that socio-economic status of the urban poor is not satisfactory. Their income does not match with their expenditure and most of the programmes run by different agencies have some effects in reducing poverty. A comprehensive environmental programme is needed to reduce environmental degradation in and around the slums. The most useful ways to eradicate the urban poverty are to providing physical and infrastructural facilities in one hand and to increase income level of the slum dwellers on the other.

Doniwal(2009) stated that policies or strategies aimed at alleviating urban poverty have to address its three components: poverty of money, poverty of access and poverty of power. To improve poverty of money he stressed on investigating the knowledge-based economy which could be promoted through e-literacy, scholarship fund, community-based health service etc. those might be effective in protecting the poor from economic downturns, illness or death in the family. Regarding the improvement of accesses, he suggested providing them housing and other basic requirement facilities and in alleviating the poverty of power, he stated that several non-governmental organizations have made

valuable attempts and their efforts might be fruitful. He was also of the view that in utilizing all such measures may be failure often due to lack in operational and financial management.

Though several programmes of poverty alleviation have been initiated by government but effectiveness on poverty could not be ensured. The schemes had certain limitations, which ultimately resulted in poor results or failure. For example, the 'Environment Improvement of Urban Slums' (EIUS) launched in 1972 provided physical infrastructure and could not cover social services like health, education, community development, etc. The scheme could not help in preventing growth of new slums. (www.rcueslucknow.org/.../UrbanPoverty AlleviationPaper5-03-08.pdf*)*.

Datta Dey(2011) focused her attention on promoting integrated strategies for urban poor with a focus on basic services, shelter and livelihoods. She synthesizes the condition of the urban poor in eleven cities in India and suggests the broad approaches that need to be considered while poverty alleviation strategies at the cities. Jha and Sarangi(2011) mention that improper training, slow job growth, failure of PDS system etc. are the principal causes of urban poverty which may create several problems. To eradicate such problems though the Indian Governments have taken the steps like JNRY, PMRY,UBSP etc. but due to some lacks the effort is far from the goal. Urban Local Bodies (ULB) to implement urban programmes has become a priority challenge. In this regard, Swach(2011) reveals that the capabilities, skills, and capacities of the ULBs in the fields of urban planning, financial resources, local community participation and delivery of urban services can be enhanced if they work with the private sector and NGOs. Phukan(2014) in his study on environmental degradation and measures to reduce it in some slum areas of the Jorhat City, Assam has stated that the housing, water facility and sanitation system in the slums are poor for which the slum dwellers have to face various problems, even such pathetic condition harms many dwellers outside the slums. In fact the ecology of the Jorhat City is being greatly affected by such poor amenities where the governmental efforts are not effective. Therefore, there is a great need of a special slum improvement programme in all the slums of the Jorhat City.

In this regard, we may also point out some of the reasons behind the issue. These are problems faced in identification of the beneficiaries, lack of human resources for effective implementation of the schemes at the Central, State, District, City and Community level, limited capacity of existing training institutions, lack of trainers, lack of proper methods in providing opportunities, limited financial allotment according to the population, misuse of allotted fund, political interference, less awareness of the poor towards those opportunities etc.

In Assam too, according to the *Census of India, 2011, Provisional Population Totals* there are 214 governmentally recognized towns of different categories along with many unrecognized urban spheres where a wide section of people are under poverty. *The Economic Survey of Assam, 2011-12* reported

that 21.80 per cent of total urban dwellers of Assam is below poverty line which signifies that the strategies utilized by the various agencies are far from the achievement of the goal. In Assam too, some drawbacks, lacks are behind in executing those schemes for which a good percentage of people are still under poverty.

Conclusion: The Government of India through different agencies has been implementing a number of schemes towards the poor section of the urban spheres. A huge amount has been estimated under each and every scheme and thereby allotted to the urban agglomerations following up of governmentally pre-determined rules and regulations. However, it is seen that due to a number of causes most of the schemes are not properly run. Therefore, all those concerns have to execute the steps in proper system to provide the opportunities of the schemes to this vulnerable section of all urban spheres so that they can go way forward.

==========

References :

1. Ajamuddin K.(2006) Poverty in Urban Area, Adhyayan Publishers and Distributors, Delhi
2. Bhushan B.(1992) Dictionary of Sociology, Anmol Publications, New Delhi: Page 284
3. Census of India, 2011, Provisional population Totals, Director of Census Operations, Assam
4. Dandekar, V.M. and Rath, N.(1971) Poverty India, Indian School of Political Economy, Bombay: Page 18-25
5. Datta Dey P.(2011) "Addressing the Crisis of the Urban Poor through Citywide Poverty Reduction Strategy Approach", Urban India, Vol.31(January-June): Page 83-102
6. Doniwal H.K.(2009) Urban Geography, GNOSIS, Delhi: Page 166-172
7. Economic Survey of Assam,2011-12, Directorate of Economics and Statistics, Assam
8. http://muepa.nic.in/policies/index2.htm
9. Jha D.K. and Sarangi D.S.(2011) "Poverty-Causes and Control- A Study", Research Journal of Arts, Management and Social Sciences, Vol.V(03): Page 119-123
10. Phukan D.K.(2014) "Levels of Some Basic Amenities in the Slums and Their Impacts on Ecology: A Case Study of Jorhat City, Assam", International Journal of Science and Research, Vol.3(1): Page 71-73
11. Rao R.K., Rao M.S.A.(1984) Cities and Slum, A Study of Squatter Settlement in the City of Vijayawada, Concept Publications, New Delhi : Page 46
12. Sen A.K. (2000): **"**Role of Urban Local Bodies in Poverty Alleviation Programmes", Shelter, Vol. 3 (2), April.
13. Statistical Handbook of Assam, 2012, Directorate of Economics and Statistics, Assam
14. Swach R.(2011) 'Capacity Building of Urban Local Bodies for Urban Development: Some Emerging Area for NGOs Intervention', Urban India, Vol.31(January-June), Page 15-33

15. ”Urban Poverty Alleviation Programmes”, *mhupa.gov.in/pdf/annual-reports/1993-1994/English/5.pdf*

16. ‘Urban Poverty Alleviation Programmes in India: An Overview’, *www.rcueslucknow.org/.../*

UGC Journal No. (Old) 40942,
Peer-Reviewed Research Journal
Impact Factor 3.928, ISSN 0973-3914
Vol.- XXX-XXXI, Year- 15, Dec. 2019- March 2020

Status of Education in Baiga of Dindori District: Challenges and Way Forwards

* Vishal Nayak
** Shashank Shekhar Thakur

Abstract- *Every child in India is entitled to get free and compulsory education under the constitutional provisions and formal education institutions are striving to educate children without any discrimination. Primitive tribes like Baiga are among the most vulnerable and have their informal way of learning and grooming, which helps them to survive in the forest area. Formal education is a way to mainstream them with the development. The paper is based on the PhD research work in Baiga Chak of Didnori district and seeking impact of formal education on change in the perceptions of Baiga and ability to learnt eight indigenous and ancestor's skills along with formal education system. Findings indicates that formal education has been introduced in 2nd and 3rd generation back and 2/3rd of the Baiga was aware on the education schemes. Highest awareness was found on mid-day meal programme, followed by uniform and books. Results indicates that there is a significant change in the liking and disliking of a due to formal education, but it does not have any significant contribution in changing the practise related to rituals and customs. The main reason is that more than half of the Baiga families perceived that formal education is not helpful in the development to Baigas.*

Key Words- Tribal Education, Schooling, Rural Development, Primitive Tribes

1. Background : Article 21 of the Constitution of India assures the right to live with human dignity, free from exploitation. The Right of Children to Free and Compulsory Education Act or Right to Education Act (RTE) was passed by the parliament on 4 August 2009 and from 1st April 2010 education has become a fundamental right of every child in India. A child in India is entitled to get free and compulsory education. In order to bring these provisions to reality, a safe and conducive atmosphere is to be created at places mainly in schools, where education is imparted to children in order to develop them as responsible citizens.

* Ph.D. Research Scholar, Department of Sociology and Social Work, Barkatullah University, Bhopal (M.P.)
** Associate Professor, Department of Sociology and Social Work, Barkatullah University, Bhopal (M.P.)

Separate toilets for girls and boys as well as availability of water are essential for basic human rights that enhance this atmosphere.

The Schedule to the RTE Act, 2009 has specified norms and standards for a school. These norms and standards are related to student-teacher ratio, school building, minimum number of working days/instructional hours in an academic year, minimum number of working hours per week for the teacher, teaching learning material, library, play material, games and sports equipment. Prior to August 2014, i.e. launching of SwachhVidyalayaAbhiyan by Ministry of Human Resource Development, Government of India, (MHRD-GoI) in the State of Madhya Pradesh 33,201 schools lacked WASH facilities.

Table-1: Profile of School in Rural Madhya Pradesh

Category of Schools	Total Schools (No)	Schools in Rural areas (No)	Rural Schools (%)
Primary only	90401	83613	92%
Primary with Upper Primary	15902	8105	51%
Primary with UP and Sec. and Hr. Sec.	3047	818	27%
Upper Primary only	31048	28406	91%
UP with Sec. and Hr. Sec.	200	81	41%
Primary with UP and Sec.	2187	809	37%
UP with Sec.	59	32	54%
Secondary only	4388	3902	89%
Sec. with Hr. Sec.	4106	2681	65%
Hr. Sec. Only	3	1	33%
Total	151341	128448	82.33%

Based on the data gathered from Unified District Information System for Education (U-DISE) for the year 2013 Madhya Pradesh has 151341 schools in the state. Total enrolment of the students in the schools are 1.83 crore, out of which half of the students have been enrolled in primary schools' level only, followed by 27% in middle schools (see table-8). On an average, 121 students have been enrolled in each school.

2. Methodology:

The paper is mainly based on the primary survey of author conducted during the PhD research work in 10 Gram Panchayat of Baiga Chuck located in Dindori district. Under the research, 300 Baiga households were interviewed on different development aspects and tried to understand impact of rural development on socio-cultural changes. The field observations were also considered to triangulate the responses of sample households.

With the help of interview scheduled, information was gathered on the awareness level of Baiga in respect of education schemes and status of benefits availed by them. Paper will present primary analysis on access of education by the Baiga in Baiga chuck and seek whether education is helpful in mainstreaming of the Baiga community.

3. Result and Discussions:

In Bajag, Samnapur and Karanjiya blocks of Dindori district, there are 232, 254 and 250 number of school available respectively. Out of these schools, 19 schools are up to Higher Secondary level and 30 Schools are up to High

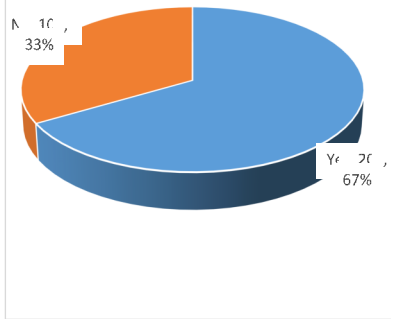
School level. The number of primary school in these three blocks is almost two-third of the total schools followed by middle schools.

Apart from these schools, there are hostels and Ashramshalas in this tribal regions. The purpose of tribal hostels is to provide free residential facilities to the tribal student so that they can access better education. Similarly, there are Ashramshala (residential schools) in the district, which are specifically design for the tribal children.

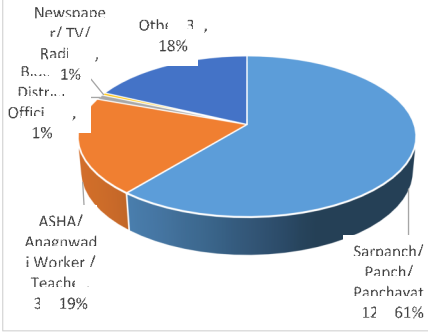
3.1 Awareness level on Education Scheme

There are various education schemes and programme initiated by government, such as scholarships, free education, books, uniforms, hostel facilities, skill training etc. In fact, for the development of Baiga government has formed a "Baiga Development Authority", which runs several other programmes in these area to main stream the Baiga tribe with the development. In a way, education is one of the focus of the BDA in the state. About two-third of the sample Baigas stated that they are aware of education schemes of government. Panchayat is the main source of the information to the Baiga community – about 61% Baiga families have received information through Sarpanch and Panch, followed by ASHA, Anaganwadi worker and Teachers. Other than these, neighbours, relatives and social workers of the NGOs was also a main source of information to the Baiga community. However, the efforts of Govt. officials and means of communication found negligible.

Graph 3.1: Awareness of Baiga on Education Schemes in the region



Graph 3.2: Responses on Source of Information for Education Scheme



Those how were aware on the education schemes they were probed to understand the awareness level as well as tried to understand whether they were able to avail the benefit. The most important institution that can help tribal to get higher education is tribal hostels and Ashramshalas. It is heartening that three out of five Baiga families were aware on the scheme of tribal hostel and Ashramshalas. However, only one family has stated that they have been able to get the benefit of this institution. Under the tribal sub-plan and plan of Baiga

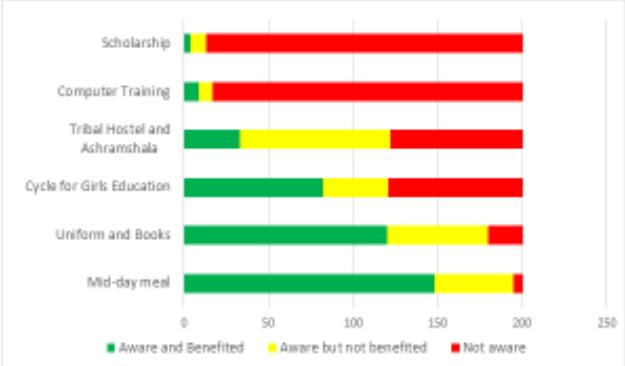
Development Authorities, priorities were given to scholarship support, so that young Baigas can avail education facilities.

The most popular scheme which most of the Baiga were found aware was mid-day meal programme in the scheme. Traditionally adult member of a Baiga family went to the forest in the morning and spend his maximum time their only. Often, Baiga children stay back at home with their siblings. In such a conditions, mid-day meal served in the school becomes more attractive purpose to attend the school. About 74 percent families stated that they have been able to get the benefit of mid-daymeal scheme. The second most popular scheme which Baigas were aware of, is free distribution of uniform and books to the school going children every year. I have seen many Baiga children during the field work who were wearing these school uniforms. I had a word with these children and their parents as well and an undesirable fact was observed that in many cases children have only school uniform as their basic clothes at home, parents have not been able to provide any other dresses to them. The reason could be the cultural dressing sense or it may be because of poor economic conditions of the family. Though, uniform in the school is the sign of discipline and unity, it is also serving a basic need of a child in the context of Baiga Chak.

3.2 Status of Benefit of Education Scheme:

Other than these basic services, school education department and tribal development department are also running specific schemes to encourage the children for higher education. The important scheme is providing scholarships to the tribal children and bicycle to the tribal Girls so that children can access schools, which are located at distant locations. It is surprising that the level of awareness is very poor in terms of scholarship programme. Negligible percent of Baiga families were found aware on the scholarship scheme and its benefits. As per the responses of sample respondents, only two families were able to recall that their children have received scholarship.

Graph 3.3: Access to the Benefits of the Education Scheme



At the same time, the scheme of providing bicycle to the girls found popular among the Baiga community. Analysis revealed that three out of five Baiga families were aware of the scheme and every two families out of five have been able to get the benefit of the scheme. In view of the development, the use

of computer may help educated Baiga youth in securing their jobs. Government runs various skill development schemeand computer training for the tribal youth, but it was found that the awareness of the computer training scheme in the sample Baiga families was not adequate.

Table-1: Status of Awareness and Benefits from Education Schemes

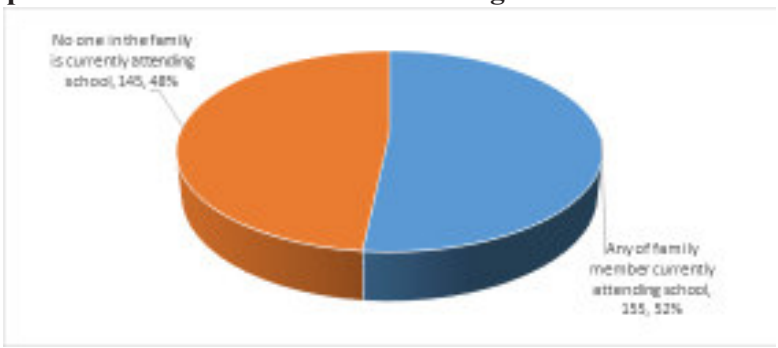
	Aware (Benefited)		Aware (no benefit)		Unaware	
	HH	%	HH	%	HH	%
Mid-day meal	148	74	47	23.5	5	2.5
Uniform and Books	120	60	60	30	20	10
Cycle for Girls Education	82	41	39	19.5	79	39.5
Tribal Hostel and Ashramshala	33	16.5	89	44.5	78	39
Computer Training	9	4.5	8	4	183	91.5
Scholarship	4	2	9	4.5	187	93.5
Any other education scheme	0	0	7	3.5	193	96.5

According to official reports, the Education Division of the Ministry of Tribal Affairs, in coordination with the Ministry of Human Resources Development and the State Governments/UT Administrations, brought out various schemes with the objective of enhancing access to education in tribal areas by building hostels for ST students. Only 14% families have said that any of their family membershas attended the tribal Ashramshala.

3.3 Access to Education for Baiga

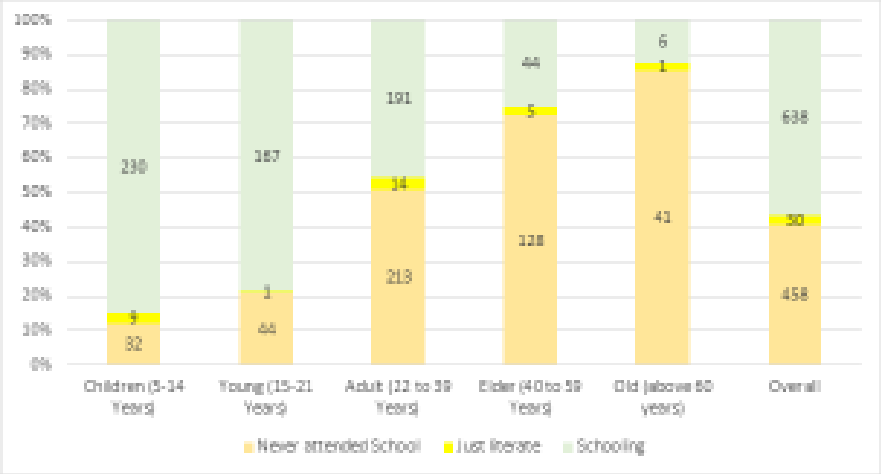
In this analysis, about half of the sample households responded that they have a connection with the formal education in the present scenario. In contrast, some members of the families are currently attending the formal school. About 48.3% families stated that none of their family members is currently going to school. Among those families where no one is currently attending school, there are still some children who are of the school going age and are still not going to school. Further it was analysed that children in the age group of 15-21 are mostly not going to school in these families.

Graph 3.4: Current status of School Going Children in the Families



On probing, it has come to know that they were attending the school earlier and after primary education they have dropped out from the school. The reasons mainly are the disliking of formal education and lack of availability of higher school near to the settlements.

Graph 3.5: Age Group wise Status of Schooling among Baiga

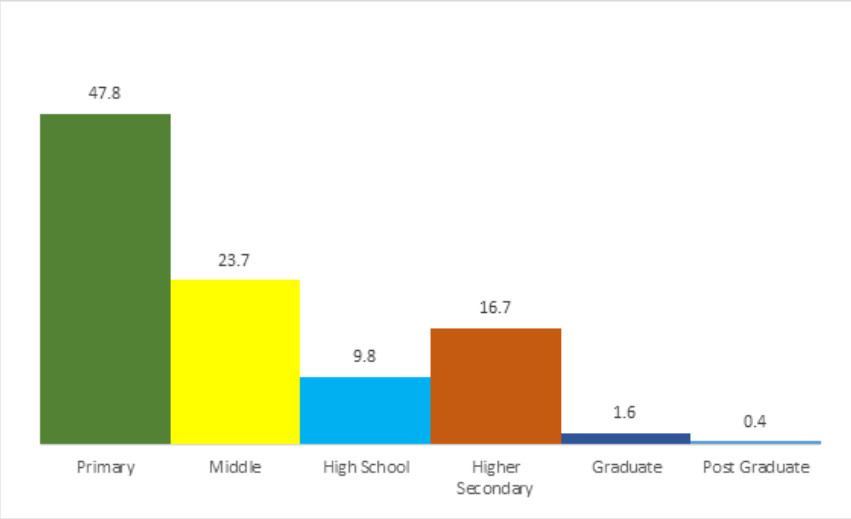


At the same time, analysis of profile of family members revealed and education status indicates that young generation (85%) are more inclined towards formal education as compared to the old age groups (6%). There are 1126 family members among excluding children under 5 years of age in the sample Baiga families. The age group wise analysis reveals that 85 percent children are attending schools, similarly 79 percent young/adolescent children are attending formal education. The graph indicates that percentage of people who never attended formal education is low in the age group of 5-21 years as compared to the age group of 40 to 60 years and above. Only 13 percent Baiga who's age is more than 60 years have attended formal education. In case of elder population of Baiga 72 percent never attended any formal education. At the same time, there are significant number of children who are in the age group of attending school are out of school, which is a serious concern.

3.4 Highest Education level of Baiga Families

On the recall basis sample Baiga families responded on the highest level of education in their family. In other words, the most educated family member since they have been to Baiga Chak. The analysis revealed that nearly half (47.76%) of the Baiga families stated that the most educated family member in their family have completed primary school. Another one-fourth Baiga families have been able to complete education level up to elementary or high school, 23.67% and 9.80% respectively. There are 16.75% families where Baigas have been able to complete the higher secondary school (10+2). At the same time, only five families were identified where Baigas have been able to complete the graduation or post-graduation from the nearby collage.

Graph 3.6: Highest Education Level of Baiga Families



The analysis on the highest level of education of the Baiga families indicates that efforts are not adequate enough. With these levels of education, it is difficult to get in mainstream of the development. In fact, this will not help them to get any job opportunity in the present employment system. In the discussions, it was prevalent that the higher schools are not adequately available with in the village boundary or in the periphery which is accessible to the children. In terms of accessibility of educational institutes, it is important to understand the settlement pattern of the habitation in the Baiga Chak, where often one village boundary might have many habitations - some might be on the top of the mountains, some might be in the deep valley of these mountains or some may be in the forest area and all these habitations are accessible through walk only. Often population of these habitations varies between 15-30 households. General rule of the government for the education institutes is based on the population of the students in a particular boundary, which is not appropriate looking to the remoteness of the villages in Baiga Chak.

Nevertheless, those who have been able to succeed in getting minimum standard of education stated that due to lack of timely communication or information they were not able to crack any job opportunity. Mostly information of opening of jobs comes very late – sometime after the jobs get filled.

4. Conclusion :

Knowledge is power and proper education help tribal community in mainstreaming themselves with the development world. Biaga community of Baiga chak are primitive and inhabitant in the remotest area in the vicinity of the forest. Baiga development authority has implemented various area specific educational schemes, one of the scholarship to the Baiga students but it seems that the awareness is very poor in terms of scholarship programme. In fact, negligible percent of Baiga families were able to get benefits of scholarship

scheme. similarly, only 14% families have said that any of their family membershas attended the tribal Ashramshala. The reasons mainly are the disliking of formal education and lack of availability of higher school near to the settlements.

Formal education has been introduced in the Baiga Chak, but still 40% of the Baigas have never attended school. Analysis also revealed that the highest education level for a Baiga family was primary level i.e. 5th Class. Rarely Baigas are able to complete their higher education as graduate and above. In such a condition the aspect of mainstreaming the Baiga community through enhancing level of education might be questionable. There is need of mapping the drop out students in Baiga Chak.

The settlement of Baigasis still situated at distant location, therefore, access of higher schools is the main challengefor Baigas. This issue can be addressed through increasing number of higher education institutes beyond the general definitions or residential school can be established where they get skill enhancement trainings as well.

==========

References :

1 Bose N. K., (1971) *Tribal Life in India*. New Delhi: National Book Trust.

4 Elwin Verrier, "The Baiga" Gyan Publishing House, 2007.

2 Gangwar, M., and Bose, P. (2012), "A Sociological Study of the Livelihoods of the Baigas in Baiga-Chak Belt of Dindori, India." The Peoples of the World Foundation

3 Munn P., (2000) "Can Schools Make Scotland A More Inclusive Society?" *Scottish Affairs*, 33, pp. 116-131.

4 Russell R. V., (Assisted by Rai Bahadur Hira Lal) (1916) *The Tribes and Castes of the Central Provinces of India*. London: Macmillan and Co. Limited.

5 Verrier E., (1939) *The Baiga*. London: John Murray.

6 Verrier E., (1943) *The Aboriginals*. New Delhi: Oxford University Press.

7 VisheshPichadiJanjatisarvekshanPrativedan – Baiga, Published by Tribal Research & Development Institute, Shyamala Hills, Bhopal

UGC Journal No. (Old) 40942,
Peer-Reviewed Research Journal
Impact Factor 3.928, ISSN 0973-3914
Vol.- XXX-XXXI, Year- 15, Dec. 2019- March 2020

Devadasi System – Yesterday and Today

* **Hemlata Sanguri**

Abstract- *"The Devadasi system has a significant place in the history of India. In earlier times the Devadasi held an honoured position in the society as 'Nitya Sumangali' or one who will never be a widow and hence be always auspicious, even the sacred thread which was tied around the bride's neck was prepared by the Devadasi. But as the years passed and the system which had initially started off as a purely religious practice soon came to be synonymous with prostitution. People refused to be associated with them and slowly they started being treated as outcastes. The Devadasi system has a significant place in the history of India. Since ancient times till the advent of British period the system was a part of Indian society. Which integrated religion, custom and tradition. It was a system which has been created by the religious representatives and rich people to fulfill their 'sexual desire' with legal sanctions. In the 19th century, the term 'Devadasi' has been reanalysed. The root cause and its implications have been defined by various scholars, social reformers and historians. Today the system of Devadasi might be disappearing outwardly but covertly the system still thrives and day by day is taking a new shape."*

Key Words- **Devadasi - God's female servant**
String of the tali -wedding lock
Akhand Saudhagyavati - To be immune from widowhood.
Nitya Sumangali - Always auspicious

The term 'Devadasi' literally means servants of God and perhaps originally denoted a class of women who gave themselves to a life of religious service and austerity. Most of ancient literature do not shed any light on the term 'Devadasi' but only mention temple dancing girls. The sources reveal that dedicating girls to Hindu temples must have started in the post vedic era. The idea of dedicating girls must have emerged out of love towards God. The puranas support this view. The aspect of them being an object of sexual pleasure must have been added in the later phase of time. As Punekar points that "the significance of dedicating a woman, the object of sexual pleasures, to a temple, was to after such pleasure to the presiding deity of the temple to invoke his blessings. Hence a dedicated girl is considered to be the bride of the God of the

* **Assistant Professor, Sociology Department, D.B.S. College, Kanpur**

temple and therefore she is barred from marrying.[1]

Devadasi in Different Regions-

The Devadasi system existed all over India, but was known differently in different regions, exhibiting certain unique features. For instances they were known as Bhavinis in Goa and Bhagtan or Bhagtani in Marwar. They were also known as Maharis in Kerala. Natis in Assam, Murali in Maharashtra, Basevi or Devils in Andhra Pradesh and Jogatis or Basavis in the state of Karnataka.

The Institution of Devadasis in North India:-

The Devadasi system could not emerge as an institution in the North. This may be due to the Mohemmedan rule which destablized temple administration and sacred complexes were frequently attacked by alien plunders. Mohemmedan puritans like Aurangzeb treated this instution and other Hindu cults with contempt.[2]

The Institution of Devadasis in Eastern Parts of India-

The Jagannath temple of Puri too followed the custom of dedication of girls to the Lord and even today there were as few Devadasis there. The Devadasis of Puri are called both 'Ganika' as well as 'Vesya'. Some of them speak of themselves as 'earthly apsaras' the 'apsaras' being the lovely women dancers and singers who adorn the court of the king of Gods, Indra.[3]

In Assam too, the custom was popular among the Saivite temples. Singh says that in Assam a Devadasi was dedicated to the temple for the sole purpose of dancing at the time of the arti (offering made to God) twice a day and no other association is made with the profession as in the case of South India.

The Devadasi Cult in South India-

In South India, Devadasis were a common feature in almost all major brahmanical temples, particularly the saivite ones. It was a matter of prestige for the temples to employ Devadasis in a good number. The famous Rajrajeshwar temple, Thanjavur, as mentioned earlier had 400 Devadasis and the temple of Palakot had 500 Devadasis during the reign of Velanandu Cholas.[5]

In the South the development of the institution was not uniform. Sources make it clear that the dasis were concetrated in some select pockets. On the basis of inscriptions it can be said that the institution was more popular in Chingelpet, North Arcot, South Arcot, Thanjavur, Tirunelvali and Tiruchirapalli district of moden Tamilnadu, Krishna, Gunter and Nellore regions of Andhra Pradesh and Dharwar and Kolar in Karnataka.[6]

Basavis of Karnataka-

The term 'Basavi' is the female gender of Basava-the bull. However the term literally means the 'she-bull' and carries with it the impart of 'procreator'. Basavis in Karnataka also are the women forced by their parents or the community into temple service.[7]

In the North of Karnataka there have been three more institutions that are similar to as well as different from the institution of Devadasis. These are:

(i) Jogatis - The main difference between a Jogin or Jogati and a Devadasi lies in the fact that the Devadasi custom is not confined to any particular caste,

whereas Jogins generally come from the weaker and oppressed sections of society.[8]

(ii) Patradavaru- The term literally means role players. When number of dedicated girls was large, the women in the temple service could not be engaged all the day nor they could be paid for their maintenance. In such cases Devadasis were allowed private practices when not engaged in temple service. Some of them took to stage acting. These women came to be known as Patradavaru.

(iii) Veshis- The term is a corrupt form of the word 'veshya' a prostitute. The term was also used to refer to the women dedicated to God, usually God Hanuman, in the same manner as a Devadasi was dedicated. But after dedication she was allowed to live with anybody from her own caste or a higher caste, but who promised her maintenance. A veshi was commonly found in the Dharwar district of Karnataka.[9]

The Devadasi Institution in Central India-

The earliest reference to the dancing girls of temples in Central India is made by Chinese traveller Chan-JU-Kwa in his work 'Chu-Fan-Chi'. Explaining about Gujarat he talks about, 'Four thousand Buddhist temple buildings in which live over 20,000 dancing girls who sing twice daily while offering flowers."[10]

Mareus Fuller, a Christian missionary during 1898 travelled in Konkan and Goa. She notices 'a' class of women called Bhavins. According to her, these women were "in the service of the idols in the temple of Lord Mangesh in Goa. Some of these women are presented to the Gods in infancy by their parents."[11]

The Bhavins or Bhavinis are also known as 'Devli' an attendant of an idol, or as 'naikin' - mistress, procuress. The recruitment of Bhavinis was hereditary. Interestingly enough, these women came from the households of the chiefs of the communities in which the system had been in existence.[12] The fact is corroborated by a manograph entitled 'Bhavins and Devlis' prepared by the Ethnographic survey of Bombay during 1909.

Muralis of Maharashtra-

Khandoba is a deity whose main temple is at Jejuri in the 'Poona district. Another place of worship is Pali in the Satara district. 'Muralis' are girls dedicated to God Khandoba in their infancy by their parents. When she becomes of marriageable age, she is formally married to Khandoba and becomes his nominal wife. Kunbis, Mahars, Mang and other low castes make 'Muralis' of their daughters.[13]

In the Deccan besides girls dedicated to God Khandoba as 'Murali' boys (vaghyas) are also dedicated and are brought up as temple servants and medicants. This God Khandoba is worshipped at Dussehra (a Hindu festival) in association with Ekavira, who is definitely a fertility Goddess worshipped during Dasshera in Maratha households.[14]

Origin-

Originally, devadasis were celibate all their life. Reference to dancing

girls in temples is found in Kalidasa's 'Meghadhoot'. It is said that dancing girls were present at the time of worship in the Mahakal Temple of Ujjain. Some scholars are of the opinion that probably the custom of dedicating girls to temples becomes quite common in the 6th century CE, as most of the puranas containing reference to it have been written during this period. Several Puranas recommended that arrangements should be made to enlist the services of singing girls for worship at temples. By the end of 10th century, the total number of devadasis in many temples was in direct proportion to the wealth and prestige of the temple. During the medieval period, they were regarded as a part of the normal establishment of temples; they occulted a rank next only to priests and their number often reached high proportions. For example, there were 400 devadasis attached to the temples at Tanjore and Travancore.

The popularity of devadasis seems to have reached its pinnacle around 10th and 11th century AD. The rise and fall in the status of devadasis can be seen to be running parallel to the rise and fall of Hindu temples. Invaders from West Asia attained their first victory in India at the beginning of the second millennium CE. The destruction of temples by invaders started from the north western borders of the country and spread through the whole of the country. Thereafter the status of the temples fall very quickly in North India and slowly in South India. As the temples became poorer and lost their patron kings, and in some cases were destroyed, the devadasis were forced into a life of poverty, misery, and in some cases, prostitution.[15]

The Chola empire encouraged the devadasis system. Men and women were dedicated to temple service. They developed the system of music and dance employed during temple festivals. The rise of Chola empire in the 6th century AD coincided with the decline of Buddhism and Jainism in South India. According to certain researchers, former Buddhist nuns were forced to perform temple service as atonement for their previous heretic views. Similarly queens and princess of defeated kings were forced to join the temple service to earse their identify. Inscriptions reveal that the 400 dancers, their gurus and orchestras were maintained by the Brihadees varas temple, Thanjavur, Nattuvanars were the male accompanists of the devadasi during her performance. They conducted the music orchestra while the devadasi performed her service.

Unlike other parts of India, the devadasis of the Jagannath temple complex in the Eastern State of Orissa have never practiced prostitution, and have been expected to maintain celibate from the time they became devadasis. Devadasis is a name given to a group of women who danced in the temple premises. The word devadasi or Mahari means "those great women who can control natural human impulses, their five senses and can submit themselves completely to God vachaspati." Mahari means Mohan nari that is, the woman belonging to God.

The beginning the decline of the Mahari tradition started with the Muslim invasion of Orissa in the 14th century. They were exploited and for the first time the Purdah system appeared ostensibly to guard the women folk. The gradual

degradation of the devadasi tradition, which has started since the attack of Sultan Shah in 1360 AD continued. This was because the social, cultural and political scene was changing rapidly and women, in general, were losing their independence and power.

In the state of Karnatka in the region of South India the devadasi system was followed for over 10 centuries. Chief among them was the Yellamma Cult. The stories to indicate that in the state of Karnataka devadasis originated from Brahmin women who were thrown out of their homes by their husbands.

There are many stories about the origin of the yellamma cult. The most prevalent one says that Renuka was the daughter of a Brahmin, married to sage Jamadagini and was the mother of five sons. She used to bring water from the river Malaprabha for the sage's worship and rituals. One day while she was at the river, she saw a group of youths engaged themselves in water sports and forgot to return home in time which made Jamadagini to suspect her chastity. He ordered his sons one by one to punish their mother but four of them refused on one pretext or the other. The sage cursed them to become eunuchs and got her beheaded by his fifth son, Parashuram. To everybody's astonishment, Renuka's head multiplied by tens and hundreds and moved to different regions. This miracle made her four enuch sons and others to become her followers, and worship her head.

According to another version, after parashuram beheaded his mother, he felt guilty and attached the head of lower caste women named yellamma to Renuka's body. Thus a lower caste woman achieved the higher status of being a Brahmin's wife. Following the tradition a number of young girls of lower caste started to be dedicated to the goddess Yellamma.[16]

Towards the end of the 19th century, there was a spurt of social movements in India. Nationalism and search for national identity led to social movements relating to devadasis. These movements can be classified into two categories: Reformists/Abolitionists and Revivalists.

(i) Reformists and Abolitionists- Reformists and Abolitionists considered the Devadasi a social evil, being prostitutes. The first anti-Nautch and anti-dedication movement was launched in 1882. This main aim was to do away with this system. Reform lobbyists were drawn mainly from missionaries, doctors, journalists and social workers. They urged the abolition of all ceremonies and procedures by which young girls dedicated themselves as Devadasis of Hindu Shrines. They organized seminars and conferences to create a public opinion against the Devadasi system. The social reform movements, spearheaded by Ram Mohan Roy, Periyar, Ishwar Chandra Vidyasagar, Govind Ranade, Dhondo Keshav Karve and other prominent social thinkers questioned the practices of devadasi system and pleaded for its abolition.

(ii) Revivalists- The Hindu revival movement received strong support from the Theosophical society of India, whose anti-official stance and strong interest in Indian home rule bound them with the revival of dance and music. The

revivalists tried to present the idealistic view of the institution of devadasis. According to their view, it was the modal of the ancient temple dancer as pure, sacred, and chaste women, as they were originally. They stressed that the dance of devadasi was of form of 'Natya Yoga" to enhance an individual's spiritual plane. They believed that Devadasi women kept classical dance forms life Bharatnatyam and odisee alive for centuries.[17]

Legal Framework:-

Various laws have been enacted in the past to stop the menace of Devadasi System.

- It was first our lawed in 1924 under the British rule.
- Bombay Devadasi Protection Act 1934.
- Madras Devadasi (Prevention of Dedication) Act of 1947
- Karnataka Devadasi (Prohibition of Dedication) Act, 1988.
- Maharashtra Devadasi (Abolition of Dedication) Act, 2006.

  Immoral Traffic (Prevention) Act 1956 also makes prostitution in or the vicinity of public places an offence.

Supreme Court Stance-

In Februrary 2016, Supreme Court has taken a stern stance in condemning the illegal practice of dedicating young girls as devadasis. It has described the practice as an evil done to women by subjecting them to sexual exploitation and prostitution. The issue was brought to the court's attentions by Kerala based NGO, S.L. Foundation, which balanced the laid back approach of the state authorities and the police forces of Karnataka, Andhra Pradesh, Maharashtra and Tamil Nadu to the problem.

Further, the Supreme Court has directed all states and Union Territories, especially Karnataka, Maharashtra, Andhra Pradesh, to strictly enforce the directives to check such as unethical practice. Earlier in February 2014, Supreme Court directed the Chief Secretary of Karnataka to prevent the girls being forced to become devadasis in a temple function at Uttarang Mala Durga temple in Karnataka.

Past Verdicts-

The Supreme Court in the case of Vishal Jeet/ VS Union of India 1990 echoed the same sentiments and has observed that desired results have not been achieved in checking the Devadasi system inspite of the stringent and rehabilitative provisions of law under various acts.[18]

Social Status-

In past, devadasi enjoyed great respect as they were married to the deities. They were as temple care-takers and performed rituals, dancing and music in the honour of the deity. They were considered auspicious and committed to a life without marriage. A Devadasi was believed to be immune from widowhood and was called 'akhanda saubhagyavati'. Since she was wedded to a divine deity, she was supposed to become of the especially welcome guests at weddings, and was regarded as bearer of fortune. At weddings, people would get a string

of the tali (wedding lock) prepared by her and she threaded an it a few beads from her own necklace. The presence of a devadasi on any religious occasion in the house of an upper castes member was regarded as sacred and she was treated with due respect and was presented with gifts.[19]

Over time, the tradition started deteriorating, particularly during medieval sultanate, mughal and British periods. With the destruction of large number of temples and loss of patronage, their status in the society degraded leading to their exploitation. Many Devadasi became mistresses of the local royal or noblemen. The children born of such union would be dedicated to the temples. The daughters born from such unions would be dedicated to the temple while the sons would be trained as musicians. This led to the religious prostitution in temples of India which continues till date.

Nevertheless, despite its honourable past, the devadasi system became a vehicle for institutionalized sexual exploitation of the poorest segments of Indian society.

Extent of Problem-

The Devadasi system is prevelent only in few states, however, the problem is considered to be a national one. This is for two main reasons. Firstly, though the geographical concentration of the system is limited, the trafficking of girls from other parts of India to make of the Devadasi are taken to Mumbai/Kolkata or other cities to work in brothels. Continuing practice of dedicated Dalits as Devadasi is also a matter of consideration. A report commissioned by the National Commission for Women (NCW) in India reveals the shocking reality of how thousands of Dalit women continue to be forced into the Devadasi system in several states of India. Estimates suggest that girls dedicated to temples in the Maharashtra Karnataka border area number over 2,50,000 and are all from the Dalit community of untouchables. More than half of the Devadasi become prostitutes.

Why the Devadasi System is still practiced?

The Devadasi system continues to survive because of a complex cocktail of religious pressures, economic necessity and social beliefs.

Religious beliefs-

There still people who believe that when they dedicate young girl to deity, the deity will be happy and bless their family.

Social Pressure-

Today, most of the Devadasi belong to lower classes of the society. Some families believe that offering their daughter will improve their social status and view it as a way to rise in the rigid caste system.

Poor Enforcement of law-

It is contended that state governments are not strictly enforcing the laws which checks the Devadasi system. Further the funds allotted for the rehabilitation of girls have not been utilized properly.

Conclusion-

Today women are stepping out of their homes and taking up careers. One more development is the emergence of women's movement wherein women have started raising their voice against inequality and a society bound by patriarchal values and traditions. But the hardship and the discrimination shared by Devadasi is unknown even today. In conclusion the system, through started in ancient India, has modern roots natural disaster, poverty and illiteracy- which make it more stronger. Unless the authorities and researchers looks at these angles, it is very difficult to eradicate the system.

==========

References :

1. S.D. Punekar and Kamala Rao, A study of prostitutes in Bombay, Allied Publishers Pvt. Ltd. Bombay, 1962 P.3.
2. Jogan Shankar, Devadasi Cult: A Sociological Analysis, Ashish Publishing House, New Delhi 1990, P.16.
3. F.A. Margin, Wives of the God King; The rituals of the Devadasi of Puri, Oxford University Press, New Delhi 1985, P.10.
4. A.K. Singh, Devadasi System in Ancient India; A study of temple dancing girls of South India, H.K. Publishers and Distributers, New Delhi, 1990 P.19.
5. Singh Ibid P.13
6. Singh Ibid P.13
7. B.R. Patil "The Devadasis", The Indian journal of Social Work, Vol. 35, No. 4 (1974-75) (TISS Bombay)
8. V. Chandra Mowli, "Jogin" Girl child labour studies, Sterling Publishing Pvt. Ltd., New Delhi 1992, P.5.
9. Patil Ibid No. 21, P.38
10. Jogan Shankar, No. 16, P. 44
11. Jogan Shankar, P.49
12. Patil Ibid No. 21, P. 380
13. Jogan Shankar, No. 16. P. 50
14. Kakolia Chakraborty- Origin and Growth of Devadasi Profession Deep & Deep Publication Pvt. Ltd., New Delhi P. 26.
15. Zoya Zaidi, Devadasi System in Indian Temples, https/masessaynotosexism-wordpress.com
16. Ibid
17. Ibid
18. Devadasi system: Historical Background and Supreme Court stance; G.K. today, httpswwwgktoday.in
19. Zoya Zaidi - Ibid.

UGC Journal No. (Old) 40942,
Peer-Reviewed Research Journal
Impact Factor 3.928, ISSN 0973-3914
Vol.- XXX-XXXI, Year- 15, Dec. 2019- March 2020

Nawada District : Structure of Working Scheduled Castes Population and Level of Poverty

*** Kumari Arti Patel**

Abstract- *Nawada a district of Bihar state, is mostly an agrarian district with backward agriculture, which can not provide employment for whole year to all those who live exclusively on agriculture for earning their livelihood. The concomitances of a backward agriculture manifest itself in multi-dimensionally viz. high level of poverty, unemployment no capital formation, lower production etc. owing to which working population are being scattered into various jobs to earn their livelihood. Nearly one-fourth population of Nawada District comprises of SC people and to know their working structure and level of poverty has been designed as problems of this paper.*

Key Words- Dilapidation, Prosperous agriculture, agroalied sector , Unprecedentedly, fragmented, ameliorative, eradication, chronic poverty, Illustration, backward economy, Indigenous.

In a region the structure of working people and level of poverty in generally depend upon growth of the economy. A region which provides prosperous agriculture or developing industries the employment opportunities are higher, the level of poverty is found often low and *vise-versa*.

Nawada district is out and out an agrarian region with a backward agriculture depending people mostly on agriculture and other activities for earning their livelihood. A backward agriculture, fully in grip of dilapidation can not generate employment, enough production and income to its people who, therefore, do subsistent agriculture. All these factors, combined together, make the level of poverty high in the region. Employment is generally created in unorganized sectors where wages are lower and social securities are rarely available.

Globalization and market openness have given an another severe jolt to the Nawada agrarian economy. Under the open market the developed countries agro-produced goods that appear in Nawada district market creates severe competition in domestic market of the district and indigenous products generally fail to compete with foreign goods and services coming to Indian market.

Nawada district agriculture produces mostly paddy, wheat and some other coarse grains, but required infrastructure— from irrigation to marketing, is very

* **Research Scholar, Department of Geography, Magadh University, Bodh-Gaya**

scarce, and producers do not get even remunerative prices of their products. Hence production per hectare is extremely low, wages are not subsistence wages, employment generation is in stand still position and the worse, the district suffers from, is lack of other employment avenues. The engaged agriculture labour comes from SC people, a collective who has no other means of subsistence except hiring their labour for earning their livelihoods. Agricultural growth in the district is either stagnant or in negative direction and agro-allied sector has been appeared to have failed to compete globally with foreign goods. Under the trade regime of WTO's under the Trade Related Intellectual Property Rights which permitted goods and services to be traded freely but imposes heavy restriction on the free trade of knowledge and technology applied to producing all these traded goods and services. In all these conditions the structure of working people and their level of poverty are unprecedentedly high and fragmented.

This above depicted condition of Nawada district complete its growth process and developmental scene in a negative direction.

Objective of the Study:

Objectively, this paper seeks to explain the factors responsible to create such negative trend of development, the ill-impacts of global events that have moulded the economy in anti-people direction etc.

Secondly, to think upon ameliorative suggestion to correct the economy, viable enough to create employment, increase production and production to ensure remunerative prices to peasants and subsistence wages to workers employed therein.

Since agriculture, the basic prop of production in Nawada districts often fails to provide full year employment the structure of working labour among whom there are SC and ST people in majority, searches alternative jobs in lean month. This action of working people does not allow them to continue their structural uniformity. They generally switch over one jobs to another in a year.

The objective of this paper is to probe into all such problems to bring on fore the solution and ameliorative suggestions for eradication of the obstructions those conditions to bring such difficulties.

Review of Literatures:

A comprehensive study, touching all aspects of Nawada district, is rarely found today, specially of the period when Bihar was divided into two states—Bihar and Jharkhand. Some of the documentary data compilation is available in certain government (state and central) reports and study by committees, organized time to time. Of them one important is the Census of India with its population report, Economic Survey of the Central and State governments published annually. But the main deficiencies of all these Reports are their mere compilation of data without their analysis. But their merits are inherent in their originalities and primary character that ca be analyzed at time of drafting books or other literary works.

Apart from government data and information there are available some

Ph.D. research thesis related to SC and ST class people presented to Magadh University, Bodh Gaya. Of them one is entitled : *A Geographical study of Scheduled Castes in Bihar*. However the entire frame from chapterization to projection of facts and their analysis and are of ritual types but one novel fact the research has included in its ambit is "Scheduled Castes population and Naxalism a new phenomenal growth emerged as a strategy to fight for their liberation from there traditional chronic poverty. But the political aspects of this problem and the manner of government dealing with it have not been explained in real context of the issue.

A second one that can be said to have been a micro one is entitled as : *"Socio-Economic Changes of the Scheduled Castes Population in Magadh Division, Bihar : A Geographical Study*" submitted to Magadh University by Kamlesh Prasad Roy, 2010[1]. The scholar has made efforts to make analysis multi-dimensionally so the chapterization has to become lengthy and falling short of fact illustration. But the attempt, made therein, is appreciable nevertheless certain lacunae in evaluation.

Nazir Khan's[2] Ph. D. work in 2010 along with other writings conducted traditionally consequently have failed to bring on for required objectives.

All these literatures, available, have devoted to general descriptive study of Nawada people, the only document which has dealt with the subject is the Census of India 2011 and all others, written, have quoted it in their writings.

Hypothesis :

The structural composition of working people in a region, big or small, generally depends upon the growth level of their region. A region whose economy is developed provides employment and income to its workers' through out the year and structure composition of working people remain without being distinction. But in a backward economy without having occasion to provide employment for full year the working people shift from one jobs to other. This is the main factor that decides that the paper is an illustration : how the structural composition of the working men in Nawada district, a weak economy, presents a different condition whereby the structural changes in working people necessarily appears.

The article has attempted to explain reasons and firms that bring change in structure of working people in Nawada district.

Illustration of Facts :

A cursory look upon the SC workers of their structure in Nawada district marks three components jointly framing the structure of SC workers viz. level of SC caste poverty, level of economic development of the district and general avenue of employment. Since Nawada district is an economically backward regions with lean employment, low wages and poor productivity of land, in that condition structure of working people has assigned a definite shape corresponding to the existing condition of the District.

The structure of SC working people is no exception of the socio-economic condition.

SC Population in Nawada District :

In the total population of Nawada District the SC population has been calculated as given in the table below compared with Bihar's in percentage and numerical.

Table No. 1

SC population in Nawada District *vis-a-vis* Bihar

Nawada District			Bihar	
Gender	**Total**	**Percentage**	**Total**	**Percentage**
Person	565112	25.47	16567325	15.91
Male	290050	25.34	8606253	15.86
Female	275062	25.60	7961072	15.98

Source : *2011 Census Report*.

The SC population in Nawada district is higher than the average percentage of Bihar. The table shows that Nawada District has greater density of population than average percentage of Bihar nearly one fourth of the total population of Nawada district, SC population, but in case of total Bihar this average percentage is only 16.

Structure of SC and ST Working People in Nawada district:

According to 2011 Census Report (decadal census) the total SC and ST population of Nawada district, institutional and homeless, combined together, recorded as SC 565112 and ST 2045 and their spatial division between rural and urban was recorded as SC 540032 and ST 1878 rural and SC 25080 and ST 167 urban. Their sex wise division was SC and male 290050 of which 27,705 rural and 12999 urban while the total urban male ST male population was 997 of which 916 were rural and 81 urban. The share of ST female population in total was 1045 of which 96 was rural and 86 urban[3].

Of all those aforesaid population the total numerical strength of SC population was 2,34,982 of which 2,26,626 were rural and 8356 were urban workers.

In ST collective the total workers were 921 of which 875 were rural and 46 urban. Their sexual divisio9n between male and female were SC 1,41,409 male of which 83,156 rural and 4,158 urban, where as ST 499 male of which 466 female share in workers SC 93573 of which 90934 rural and 2639 urban where as ST 499 males of which 466 rural and 33 urban. The female share in workers SC 93,573 of which 90939 rural and 2039 urban, workers as ST female 422 of which 409 rural and 13 urban[4]. Their division between main and Marginal were as given in the table given below :

Table No. 2

Division of SC and ST workers (Main and Marginal)

Main				Marginal		
Caste	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**
SC	1929912	87314	42598	105070	54075	50975
ST	438	270	16	1483	220	—

Source : Census of India, 2011.

Of SC main worker 12,254 were rural and 5658 were urban. Of them 87314 were male of which 87312 were rural and of which 83156 were rural and 4158 were urban.

The female main worker (SC) numbered 42598 of which 41048 were rural and 1500 were urban of total marginal SC workers 105070, 102372, were rural and 271559 were urban. Of 50975 SC female marginal worker 49836, were rural.

The spatial distribution of SC and ST main and marginal worker in Nawada District are dominantly rural. There area-wise distribution among cultivators, agricultural workers, household industries worker and other worker have been compiled in table given below:

Table No. 3.
SC Main workers as cultivators

	Total	**Rural**	**Urban**
Persons	13587(10.45)	13471(99.14)	116 (0.85)
Male	9947 (73.20)	9845 (98.97)	102 (10.25)
Female	3640 (26.79)	3626 (99.61)	14 (0.38)
SC Marginal workers (Cultivators)			
Persons	6400 (6.35)	6353 (99.26)	47 (0.73)
Male	2750 (42.96)	2714 (98.69)	36 (1.30)
Female	3650 (57.03)	3639 (99.69)	11 (0.30)
ST main worker cultivators			
Persons	20 (4.56)	19 (95.00)	1 (5.00)
Male	19 (95.00)	18 (94.73)	1 (5.26)
Female	1 (5.00)	1 (100.00)	-(0.00)
ST agricultural Labourers in marginal workers			
Persons	26 (5.38)	26 (100.00)	-
Male	14 (53.84)	14 (100.00)	-
Female	12 (46.15)	12 (100.00)	-

Note : Figures in parentheses are percentage of total and self-calculated.

The total SC main workers in Nawada District are 129912 and SC total Marginal workers are 105070. In SC total main workers the share of cultivation is 10.45 percent and of them male workers are 73.20 percent and females are 20.79 percent. Of the total cultivator 99.14 percent are rural and 85 percent are urban. Of total male cultivation 99.61 percent are rural and 10.25 and 10.25 percentage male.

From amongst SC marginal workers 105070 or total 6.35 percent are cultivators and of them 42.96 percent are male and 57.63 percent are female. Their spatial division is : 99.26 percent are rural and 0.73 urban. Of male marginal workers and female marginal workers 98.69 percent male and 99.69 percent female cultivators are rural and 1.30 percent male and 0.30 percent are female cultivators are urban. Among SC male and female cultivators the share of rural cultivators are extremely high.

SC Main Workers as Cultivator in Nawada District :

The table cited blow, shows the structure of agricultural labourer from SC and ST collectives.

Table No. 4
SC agricultural Labourers in Main Workers'

	Total	**Rural**	**Urban**
Persons	96499(74.28)	93951(97.35)	2548 (2.64)
Male	63377(65.67)	61669(97.30)	1708 (2.69)
Female	33122(34.32)	32282(94.46)	840 (2.53)
SC agricultural Labourers in marginal workers			
Persons	82596(78.59)	81091(98.17)	1505 (1.82)
Male	42856(51.88)	42014(98.03)	842 (1.96)
Female	39740(48.11)	39077(98.39)	663 (1.66)
ST agricultural Workers in main workers			
Persons	323 (73.74)	317 (98.14)	6 (1.85)
Male	187 (57.89)	182 (97.32)	5 (2.67)
Female	136 (42.10)	135 (99.26)	1 (0.73)
ST agricultural Labourers in marginal workers			
Persons	374 (77.43)	374 (100.00)	-
Male	176 (47.05)	176 (100.00)	-
Female	198 (52.94)	198 (100.00)	-

Note : Figures in parentheses are percentages of total and self calculated.

Here, the table cited above shows that of the total SC main workers 74.28 percent are rural agricultural workers of which 97.35 percent are rural and 2.64 percent are urban. Their sex-wise division is 65.67 percent are male and 34.32 percent are female and their spatial division is 97.30 percent male and 94.46 percent female agricultural labourers are rural and 2.69 percent male and 49.11 percent female agricultural labourers are 2.69 percent male and 2.53 percent female agricultural labour are urban.

Of total SC marginal workers 78.59 percent are agricultural workers and of them 98.17 percent are rural and 1.82 percent urban. Their sex-wise division is 51.88 percent male and 48.11 percent female. Their spatial division is that 98.03 percent male and 98.38 percent female are agricultural workers and rural and 1.96 percent male and 1.66 percent female are urban agricultural workers.

Another area which affects the structural composition of main and marginal SC workers is house hold industries. The table given below explains their division in household industries.

Table No. 5
SC main workers in Household Industries Nawada District
SC Main Workers in Household industries

	Total	**Rural**	**Urban**
Persons	3664 (2.82)	3260 (88.97)	404 (11.02)
Male	2169 (59.19)	1894 (87.32)	275 (12.67)
Female	1495 (40.80)	1366 (91.37)	129 (8.62)
SC marginal workers in household industry			
Persons	3575 (3.40)	3302 (92.36)	273 (7.63)
Male	1414 (39.55)	1306 (92.36)	108 (7.63)
Female	2161 (60.44)	1996 (92.36)	165 (7.63)
ST main workers in household Industry			
Persons	18 (4.10)	17 (94.44)	1 (5.55)
Male	15 (83.33)	14 (93.33)	1 (7.14)
Female	3 (16.66)	3 (100.00)	— —
ST marginal workers in household industry			
Persons	12 (2.48)	11 (91.66)	-
Male	7 (58.33)	6 (85.71)	-
Female	5 (41.66)	5 (100.00)	-

Note : Figures in parentheses are percentages of total and self calculated.

Conclusion :

The entire analysis of the factors that have decided structure of working people in Nawada district are mainly agricultural and household industries. The spatial division is pro-rural and sex-wise division is pro-agricultural which are indications of de-industrialization of the economy and far from modernization. Nawada District economy is yet a backward agro-economy and its structure of working people corresponds to that agriculture, stagnancy in employment generation, low productive, no capital formation etc. and to that sequel level of poverty is high.

==========

References :

1. Kamlesh Prasad Roy : *Socio-Economic Change of the Scheduled Castes Population in Magadh Division Bihar : A Geographical Study*, Ph. D. Thesis 2010, Submitted to Magadh University, Bodh-gaya.
2. Nazir Khan, *A Geographical Study of Population and environment of Nawada District,* Bihar, Ph.D. Thesis, Submitted to Magadh University, Bodh-Gaya, 2014.
3. Census of India, 2011. *District Census Handbook Nawada*.

UGC Journal No. (Old) 40942,
Peer-Reviewed Research Journal
Impact Factor 3.928, ISSN 0973-3914
Vol.- XXX-XXXI, Year- 15, Dec. 2019- March 2020

Different Policies and Schemes of Government for Road Development

* Sushama Deshmukh

Abstract- *Policies or plans are systematic way of doing work for future to achieve desired goals Government makes some plans or policies in advance to initiate any kind of work. Without planning it is impossible to achieve target or implement any policies in a perfect manner. Government has certain plans for some development in various sectors. Government wants to achieve some target. , Government of India since independence considered road development as a crucial and important factor for growth and overall development. Government of India since independence made various plans and implemented many road development policies. In this paper focus on the various road development plan in India.*

The role of the road development plans in the overall development of an economy of country is also studied along with the importance of road development in the socio-economic development of a country. The Nagpur plan (1943-63) which is said to be the foundation of the road development in India is given special focus. Other important twenty year plans like Bombay Plan (1961-81). Lucknow plan (1981-2001) and new vision plan (2001-2021) are also important for road development.

Key Words- Plans, Development, Target

Government has certain plans for some development in various sectors. Government wants to achieve some target , Government of India since independence considered road development as a crucial and importantfactor for growth and overall development. Government of India since independence made various plans and implemented many road development policies. In this paper focus on the various road development plan in India.

Objective of Study: To study the role of central Govt. in road network development.

Road Development Plans in India:

In 1928, the Jayakar Committee recommended that since the 11 provincial governments and the local bodies were unable to look after all the roads and therefore, the central government should look after allthe important roads of national importance. In 1934, a semi-official technicalbody known as Indian

* Associate Professor, Head, Department of Commerce Mahila Mahavidyalay, Amravati

Roads Congress (IRC) was established by the central government as per recommendation of the Jayakar committee. This body was formed of national importance for controlling standardization, specifications and recommendations regarding design and construction of roads and bridges, for ta2enty year road development plans by the central government are,

1. Nagpur Plan
2. Bombay Plan
3. Lacknow Plan
4. New vision Plan 2021.

1. Nagpur Plan (Road Development Plan 1943-61):

This is the first development plan in India which is made for the next twenty year in 1943. This is known as Nagpur Plan. Mr. Jayakar was the chief of that committee whichwas appointed for the implement of this plan so it is call as Jayakar Committee. This plan set the foundation of the development of roads in India. The major contribution of this plan is the classification of roads into National Highways, State highways and village roads and outlining the norms required for this category. Target of 16 kms. Of road to be built in per 100 sqkm. Was set for next 20 years in this plan. Although the plan was set for twenty years that is up to 1963 but the target was completed in 11961. So the target of building the roads in this scheme was achieved 2 years before the due date.

The first twenty years road network plan was prepared I the meeting of the Chief Engineers from the various parts of the country as the Nagpur, in1943, which is also known asthe Nagpur road plan. It was first ever major planning which contributed a lot for the development of the roads in the country. It classified the Indian roads according to their location and purpose, and also is laid down a target for a density of road network. Of 16 km per 100 sq.km in the country at the end of the 20 years road network in the year 19163 After the starting of the 5 years plans in the year 1951, the first two 5 years plan also contributed to the target set by the first 20 years plan of the Nagpur so the density of 16 km per 100 sq.km. Was achieved in the year 1961, 2 years earlier to the target year.

2. Bombay Plan (Road Development Plan 1961-81):

This is the second twenty year road development plan in India. Although the target of building roads in Nagpur plan was achieved two years before the due date, there was a need of building roads according to the changing needs of the people and with the help of new technology. India was in the growing stage at that time so it was accepted that any village should not be more than one mile away from the road in developed agricultural area, three miles from any road in semi developed area and five miles from road in underdeveloped and uncultivable area. Road density target of 32 km of road per 100 sq.km area was fixed in nest twenty year or 1981.

As the earlier target was achieved before the planned year, so a need to set a new target arises and another 20 years road plan was laid down at the meeting of the various authorities from different states at Bombay, . The road

density target was doubled this time.

Bombay Road Congress 1961

The length of roads envisaged under the Nagpur plan was achieved by the end of it, but the road system was deficient in many respects. The changed economic, industrial and agricultural condition in the country warranted a review of the Nagpur Plan. Accordingly a 20 years plan was drafted by the Road wing of Government of India, which is properly known as the Bombay Plan. The highlights of the plan were:

a) It was the second 20m year Road Plan (1961-81)
b) The total road length targeted to construct was about 10 lakhs.
c) Rural Roads were given specirfi9c attention. Scientific methods of construction were proposed for the rural roads. The necessary technical advice to the Panchayats should be given by State PWD's.
d) They suggested that the length of the road should be increased so as to give a road density of 32 kms/100 sq.km.
e) The construction of 1600 kms of expressways was also then included in the plan.

3. Luknow Plan (Road Development plan 1981-2001) : In this plan, all relevant factors are

1) The urgent need of roads in undeveloped, hilly, tribal and backward areas by building roads with administrative, market areas.
2) Security concerns must be addressed of main roads.
3) Roads according to the future needs.
4) To increase fuel economy by improving the quality of roads.
5) Requirement for services should be considered, for exampleof bicycle, cycle-rickshaws and bullock cart service road provision must be made for them while designing roads. Overall target of 27 lakhs kms of road. Road density target of 82 kms of road per 100 sq.km was set for 2001.

Lucknow road congress 1984:

This plan has been prepared keeping in view the growth pattern envisaged in various fields by the turn of the century. Some of the salient features of this plan are as given below:

1. This was the third 20 years road plan (1981-2001). It is also call Lucknow road plan.
2. It aimed at constructing a road length of 12 lakhs kilometres by the year 1981 resulting in a road density of 82 kms/100 sq.km.
3. The plan has set the target length of NH to be completed by the end of seventh, eighth and ninth five year plan periods.
4. It aims at improving the transportation facilities in villages, towns, etc. Such that no part of country is farther than 50 km. away from NH.
5. One of the goals contained in the plan was that expressways should be constructed on major traffic corridors to provide speedy travel.
6. Energy conservation, environmental quality of roads and road safety

measures were also given due importance in this plan.

4. Road Development Plan (New Vision Plan 2001-21) :

This is the first 20 years plan of the twenty first century. Concerns taken up by this vision are,

1. Needs for road infrastructure which includes increase in road funds.
2. Financing of roads Developmentor participation should be encouraged to take Road Development by giving some special attention. To increase the capacity of main highways by increasing lanes.
3. Strengthening or pavement to commercial vehicles.
4. Construction of village roads must be given boost and
5. Maintenance of roads.

Road Safety, energy efficiency and social and environmental implications are given special attention. To develop rural roads network emphasize was laid on proper distance. Target for main roads was specified but that of rural roads was not set.

Conclusion:

The role of the road development plans in the overall development of an economy of country is also studied along with the importance of road development in the socio-economic development of a country.

The Nagpur plan (1943-63) which is said to be the foundation of the road development in India is given special focus. Other important twenty year plans like Bombay Plan (1961-81). Lucknow plan (1981-2001) andnew vision plan (2001-2021) are alsoimportant for road development.

==========

References :

1. Mahajan V.S.- Planning , development and economic policy in India ,Kalyanipublication, Delhi,pp(250-54)
2. Mishra & Chaudhary (2011) Transport sector in India- Kalyani Publication, New Delhi.
3. Report of Indian road development committee4 (Jayakar Committee, 1928) on road development in India.
4. Committee on transport policy and coordination, planning commission, Government of India (1966)
5. Report of the national transport policy committee, planning commission, government of India (1980).
6. Report of the planning group on road transport, planning commission, government of India (1987).
7. India infrastructure report, Ministry of Finance, government of India (1996).
8. Report of working group on roads for eleventh five year plan (2006) Government of India, planning commission, New Delhi.
9. IRC Highways Research Board (2010) General report on Road Research work done in *India during 2008-09*
10. Report of working group of central road sector (2011) for the twelfth five year plan (2012-17), Govt. of India, Ministry of road transport and highways.

UGC Journal No. (Old) 40942,
Peer-Reviewed Research Journal
Impact Factor 3.928, ISSN 0973-3914
Vol.- XXX-XXXI, Year- 15, Dec. 2019- March 2020

A study on financial performance analysis with reference to TNSC bank, Cuddalore distract

* V.Anbuselvan
** M.S. John Xavier

Abstract- *Finance is very essential for smooth running of business. Financial performance analysis is the process of identifying the financial strength and weaknesses the firm by proper establishing the relationship between the items of balance sheet and profit and loss account. The Cooperative Banks functioning in Tamil Nadu are fulfilling the credit requirements of the farmers, weavers, rural artisans, consumers of urban area. These institutions are known as Cooperative Credit Institutions. Credit institutions functioning under short-term credit structure are of three-tier in nature. At the grass root level, the Primary Agricultural Coop. Banks (PACBs) functioning at village level. The study is conducted to know the deviation which happened in the financial performance so that the positive aspects will be improved and the adverse situation will be disappeared. The current assets of the concern have been decreased so the bank needs to take steps to meet the short term obligations. Finance is the lifeblood which plays a vital role in the organization and a vital factor for the development of the business. Financial performance analysis is used to know the performance of the concern. It is used to know the position of the company. The existing performance of the concern is found to be good the current assets and cash of bank is in increasing trend whereas the steps be taken to continue it.*

Key Words- Financial performance, Cooperative Banks, Banking

Introduction:

Meaning of Finance:

Finance is the life blood and nerve center of a business, just as circulation of blood is essential in the human body for maintaining life.

Finance is very essential for smooth running of business. Right from the very beginning i.e., conceiving an idea to business, finance is needed to promote or establish the business, acquire fixed assets, make investigations such as market

* I.A.S.
** Head of department and Associate professor, Depatment of Corporate Secretaryship, Presidency College (autonomous), Kamarajar Salai, Chepauk, Triplicane, Chennai, Tamil Nadu 600005.

surveys etc., develop product, keep men and machines at work, encourage management to make progress and create values.

Definition:

Financial performance analysis is the process of identifying the financial strengths and weaknesses of the firm by properly establishing the relationship between the items of balance sheet and profit and loss account. It also helps in short-term and long term forecasting and growth can be identified with the help of financial performance analysis.

Areas of financial performance analysis:

Financial analysts often assess the firm's production and productivity performance (total business performance) profitability performance, liquidity performance, working capital performance fixed assets performance fund flow performance and social performance various financial ratios analysis includes.

- working capital analysis
- financial structure analysis
- Activity analysis
- profitability analysis

Company Profile:

Mission:

The Mission of the Bank is to mobilize resources, provide banking products and other professionalized services to the people, strengthen the affiliates, provide vibrant leadership to the co-operative banking system, achieve sustained growth and ultimately to attain prime position in the banking industry**.**

Growth of TNSC:

The Cooperative Banks functioning in Tamil Nadu are fulfilling the credit requirements of the farmers, weavers, rural artisans, consumers of urban area. These institutions are known as Cooperative Credit Institutions. Credit institutions functioning under short-term credit structure are of three-tier in nature. At the grass root level, the Primary Agricultural Coop. Banks (PACBs) functioning at village level. At the district level, the Central Coop. Banks (CCBs) functioning with the headquarters at district capital and their branches in various places of the districts concerned. At the apex level, the Tamil Nadu State Apex Coop bank Ltd. functioning at Cuddalore which co- ordinates the entire.

TNSC Bank is a Schedule Coop. Bank and has been listed under the Second Schedule of RBI Act. TNSC Bank is a member of the Deposit Insurance and Credit Guarantee Corporation (DICGC) and is an insured coop. bank as per DICGC Act. TNSC Bank has got the privilege of having its share capital by the Government of Tamil Nadu. TNSC Bank has been under close supervision and monitoring of the higher financing agencies, viz., RBI, NABARD. Periodical inspection and supervision are done by NABARD as per RBI guidelines. Government of Tamil Nadu is reviewing the performance of the Bank periodically. Eminent Co-operators have contributed for the growth and development of the TNSC BANK.

Need for The Study:

There is a need to make the study on changes happened in overall performance of the concern so that positive or negative changes can be known. It is also to known the profitability, short term solvency or liquidity and turnover position of the TNSC APEX CO-OPERATIVE BANK the growing trend projection to be analyzed will be helpful to make the prediction about profitability and growth prospects. It focuses as the basis for planning operation and as means of the control over financial position of the business and efficient use of assets.

Objectives of The Study:

Primary objectives:

- To study and analyze the financial performance of the TNSC APEX CO-OPERATIVE BANK

Secondary objectives:

- To analyze the financial stability and overall performance of the TNSC BANK
- To interpret the profitability turnover and liquidity or short term solvency position of TNSC BANK
- To determine the growing trends of the TNSC bank with the help of trend analysis
- To study the working capital position of TNSC BANK
- To provide suggestions for improving the overall performance of the bank

Scope of the Study:

The study is conducted to know the deviation which happened in the financial performance so that the positive aspects will be improved and the adverse situation will be disappeared. The profitability turnover and short term solvency or liquidity position of the concern should be maintained so that the reputation cannot get affected. By updating about changes between past & present performance and prompt decision can be taken. Such decision is used to boost the performance of the concern which result is achieving the goals of the organization.

Research methodology:

Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. In this study the various step that are generally adopted by a researcher in studying his research problem along with the logic behind them.

- The researcher used analytical type of research to analyze the past data based on which certain future decision can be made.

Financial Tools Used For the Study

- Ratios analysis
- Trend analysis
- Comparative balance sheet

Limitations of the Study

- Due to inadequate time of research it is not possible to analyse all the aspects to the study.
- The quantitative aspects have been taken into account for the study whereas qualitative aspects haven't considered.
- Authorities were relevant to reveal information.

Data Analysis

Table 1: table showing current ratio of TNSC bank for the financial year 2012-2013 to 2016-2017

Particulars	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
Current assets	3213.29	3008.09	2929.33	5006.89	5769.85
Current liabilities	1434.07	1598.29	1834.84	1559.39	2061.13
Current ratio	224.06	188.26	159.65	321.08	279.93

Interpretation:

From the above table it is founded that the current liabilities are increased than liabilities the highest percentage is 279.93 in the year 2016-2017 and lowest percentage is 159.65 in the year 2014-2015the current year percentage is 279.93.

Table 2: Table showing proprietory ratio of TNSC bank for the financial year 2012-2013 to 2016-2017

Particulars	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
Shareholders fund	6448.35	6514.69	7200.48	7194.16	7159.78
Total tangible assets	9560.42	5856.91	2506.62	2059.28	2451.76
Proprietary ratio	67.44	111.19	287.25	349.35	292.02

Interpretation:

From the above table it is founded that the tangible assets are increased than the share holders fund the highest percentage is 349.35 in the year 2015-2016 and lowest percentage is 67.44 in the year 2012-2013 the current year percentage is 292.02

Table 3 : Table showing working capital turnover ratio of TNSC bank for the financial year 2012-2013 to 2016-2017

Particulars	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
Current assets	3213.29	3008.09	2929.33	5006.89	5769.85
Current liabilities	1434.07	1598.29	1834.84	1559.39	2061.13
Working capital turnover	1779.22	1409.8	1094.49	3447.5	3708.72

Interpretation:

From the above table current liabilities are increased than the current assets the highest percentage is 3708.72 in the year 2016-2017 and the lowest percentage is 1094.49 in the year 2014-2015 the current year percentage is 3708.72.

Table 4 : Table showing trend percentage for cash of TNSC bank for the financial year 2012-2013 to 2016- 2017

Particulars	2012	2013	2014	2015	2016
Cash	956.04	585.69	250.6	352.23	245.17
Trend %	100	61.26	42.78	36.84	69.60

Interpretation :

From the above that the trend percentage shows variable changes for cash the highest percentage is 69.60 in the year 2016 and lowest percentage is 36.84 in the year 2015 and the current year percentage is 69.60.

Table 5 : Table showing trend percentage for current assets of TNSC bank for the financial year 2012-2013 to 2016-2017

Particulars	2012	2013	2014	2015	2016
Current assets	3213.29	3008.09	2929.33	5006.89	5769.85
Trend %	100	93.64	97.35	170.92	115.23

Interpretation:

From the above that the trend percentage shows variable changes for cash the highest percentage is 115.23 in the year 2016 and lowest percentage is 93.35 in the year 2014 and the current year percentage is 69.60.

Table 6 : Table showing trend percentage for current liabilities of TNSC bank for the financial year 2012- 2013 to 2016-2017

Particulars	2012	2013	2014	2015	2016
Current liabilities	1434.07	1598.29	1834.84	1559.39	2061.13
Trend %	100	111.45	114.80	84.98	132.17

Interpretation :

From the above that the trend percentage shows variable changes for cash the highest percentage is 132.17 in the year 2016 and lowest percentage is 84.98 in the year 2014 and the current year percentage is 132.17.

Suggestion:

- The current assets of the concern have been decreased so the bank needs to take steps to meet the short term obligations.
- The bond buyers generally purchase debenture based on belief that the bond issuer is unlikely to default on the repayment
- The bank needs to increase the working capital to meet the short term obligations.
- A smaller goodwill to assets ratio will indicate that a large portion of a firm's total assets is comprised of tangible assets.
- The bank needs to maintain proper receivables.

Conclusion:

Finance is the lifeblood which plays a vital role in the organization and a vital factor for the development of the business. Financial performance analysis is used to know the performance of the concern. It is used to know the position of the company.

The existing performance of the concern is found to be good the current assets and cash of bank is in increasing trend whereas the steps be taken to continue it. Further in order to improve and enhance the future growth various suggestions have been magnanimously put forth in this study. Hence steps should be taken in order to increase the current assets and liabilities to meet the short term obligations. The performance should be continued and improvement to be made in order to attain the objectives of the concern which pave the way to have the result in attaining the competitive advantage.

==========

References :

1. Boldeanu, D.M. and Gheorghe, M.M. (2007) Performance indicators in multidimensional analysis. Journal of
2. Accounting and Management Information Systems, Supplement/2007, pg, pp.733-747.
3. Brigham, E, F. and Houston, J, F. (2004) Fundamentals of financial management. Mason, ohio: Thomson/South-Western.
4. Boldeanu, D.M. and Gheorghe, M.M. (2007) Performance indicators in multidimensional analysis. Journal of
5. Accounting and Management Information Systems, Supplement/2007, pg, pp.733-747.
6. Brigham, E, F. and Houston, J, F. (2004) Fundamentals of financial management. Mason, ohio: Thomson/South-Western.
7. Brigham, E, F. and Houston, J, F. (2004) Fundamentals of financial management. Mason, ohio: Thomson/SouthWestern.
8. Dyson,J.R. (2004) Accounting for non-accounting students. Harlow [u.a]: Financial Times Prentice Hall.
9. McGuire, J.B., Sundgren, A. and Schneeweis, T. (1988) Corporate social responsibility and firm financial performance. Academy of management Journal, 31(4), pp.854-872.
10. Samer, M. (2016). The Impact of The Effectiveness of Accounting Information Systems on Operational Performance in Public Listed Industrial Companies in Jordan. Journal of Social Sciences, 5(3), 263-276.
11. Fiori, G., Di'Donato, F., & Izzo, M. (2009). Corporate social responsibility and firms' performance: An analysis on Italian listed companies. Dunedin: New Zealand.
12. Rani, N., Yadav, S. S., and Jain, P. K. (2015). Financial performance analysis of mergers and acquisitions: evidence from India. International Journal of Commerce and Management, 25(4): 402-423.
13. Joash, G. O., and Njangiru, M. J. (2015). The effect of mergers and acquisitions on financial performance of banks (a survey of commercial banks in Kenya). International Journal of Innovative Research and Development, 4(8): 101-113.

WEBSITES

1. http://www.investopedia.com/terms/e/comparative-statement.asp
2. http://www.slideshare.net/MohdAadil/analysis-of-financial-statements-12201127
3. http://www.tnscbank.com
4. http://www.answers.com/topic/comparative-statement

UGC Journal No. (Old) 40942,
Peer-Reviewed Research Journal
Impact Factor 3.928, ISSN 0973-3914
Vol.- XXX-XXXI, Year- 15, Dec. 2019- March 2020

A Description of Public Expenditure on Agriculture and Output Growth

* Rishi Kant Chaudhary
** K. Padmawati

Abstract- *Agriculture generates only 18 percent of the gross domestic product but sustains 600 million people almost half of India's population. Nearly 69%, or 833 million Indians, most of them poor live in rural areas. These numbers highlight the importance of this sector in terms of policymaking and expenditure decision. since the first five-year plan agricultural sector had to rely heavily on government finance. last few years economist questioning the government weak budget push to the rural sector and persistence agricultural crisis demonstrate the poor performance of the government to handle the crisis. This paper looks at the trend of government expenditure on agriculture in five years between the period 2014-15 to 2018-19. Paper also examines the pattern of agricultural output growth in the same period.*

Key Words- Agriculture, Expenditure, Agricultural output.

Introduction:

In most developing economies agriculture is the core sector, provide the livelihood of a significant proportion of the population. Recent years the agrarian crisis deepens and government fails to address the problem of farmers. Identifying the root-causes of farmers distress is challenging for policymakers. Chand et al (2015), who suggests that "growth in farm income after 2011–12 has plummeted to around 1%, and this is an important reason for the sudden rise in agrarian distress inrecent years." The income of farmers directly associated with the price of their output, in India and minimum support price (MSP) remained very controversial in the last many years and one can say its affected the level of income of farmers.

In contemporary literature, growing agriculture and allied sector help the overall growth of the economy and poverty alleviation in developing economies. However, due to inadequate attention and budgetary support is given to the agricultural sector, this sector has been underproductive and unviable as an occupation of millions of people. In India, the per capita gross domestic product

* Ph.D. Scholar (Economics) at PT RSU Raipur (C.G.)
** (Corresponding Author) SeniorAssistant Professor of Economics, Govt. VYTPG College, Durg (C.G.)

(GDP) of workers in agriculture comprises only about one-fifth of those in the non-agricultural occupation and it continues declining (Bhalla, 2007). Since 2004-05, the agriculture is seen improvised but much of recent growth has been spurred by price growth rather than productivity induced (Chand and Shinoj 2012, Birthal et al 2014).

Now the primary problems as we saw in our agriculture sector is the productivity and level of income of farmers. For enhancing productivity in agriculture much research suggested an increase in investment in infrastructure needed. Enhance investment in the rural public good help agriculture growth and output productivity. In agriculture, expenditure on infrastructure and R&D is the most desirable way to increasing firm productivity (Fan et al. 2007). In this paper, we examine the trend of public expenditure on the agricultural sector.

Fiscal Situation and GDP growth in recent years

Farm distress increasing in recent years very rapid manner and before going to examine the pattern of expenditure on this sector we first look at the indicators of fiscal movement and performance of our overall GDP numbers.

Table-1

Year / Indicators	2014-15*	2015-16*	2016-17*	2017-18*	2018-19**	2019-20***
Revenue Receipts	1101472	1195025	1374203	1435233	1729682	1962761
Capital Receipts	562201	595748	600991	706740	727553	823588
Fiscal deficit	510725 (4.1)	532791 (3.9)	535618 (3.5)	591062 (3.5)	634398 (3.4)	703760 (3.3)

Source- Union Budget of India (Various years)

Figures in crore

Revenue receipts -Tax revenue (Net to centre) + Non tax revenue

Capital receipts - Recovery of loans + Other receipts + Borrowing and other liabilities

* Actual

**Revised estimate

***Budget estimate

In 2014-15, the total revenue receipt of the government of India was 11.01 lakh crore and its reached the 17.29 lakh crore in 2018-19, the total increase is revenue receipts is 57.08% in five years. On another side, the government slightly reduced the fiscal deficit year over year but at the time of distress rural economy, the policy of reducing fiscal deficit raise the question against the macroeconomic policy of the government. The Fiscal Responsibility and Budget Management (FRBM) Act was enacted in 2003 which set targets for the government to reduce fiscal deficits. In May 2016, the government set up a committee under NK Singh to review the FRBM Act,the committee recommended that the government should target a fiscal deficit of 3 percent of the GDP in years up to March 31, 2020, cut it to 2.8 percent in 2020-21 and to 2.5 percent by 2023. In Budget 2017, Finance Minister Arun Jaitley deferred the fiscal deficit target of 3% of the GDP and chose a target of 3.2%, citing the NK Singh committee report.

Now on GDP number, after demonetization and tax reform, the growth rate declined in the last two years. Recently CSO published the 2019-20 first-quarter GDP data and its growth rate is 5%. The GDP performance reveals the slowdown in our economy and if the government will not manage the next upcoming quarter's performance then India will be trapped in a severe economic crisis.

Table-2

Year / Indicators	2014-15	2015-16	2016-17	2017-18	2018-19*
GDP (at constant market price)	10536984	11381002	12298327	13179857	14077586
GDP Growth Rate	7.5%	8.0%	8.2%	7.2%	6.8%
Food Grain Production (Million tonnes)	252.0	251.6	275.1	285.0	283.4**

Source- CSO

*Provisional estimate

**Third advanced estimate

At the same five-year period, the production of the food grain increased in a very inconsistent manner. Last year from 2017-18 to 2018-19 the production of food grain grows negatively, although India's farms are producing enough food grain for its people. India produced 252 million tonnes by 2015-'16, and by 2017-'18, food grain output is likely to reach 285 million tonnes, according to the fourth advance estimates of crop production, released in August 2018. India's food grain requirement for 2025 should be 300 million tonnes according to a March 2017 report from Delhi-headquartered think tank PRS Legislative Research.

Despite these high levels of production, agricultural yield – the quantity of a crop produced on a unit of land – in India is lower than many other countries. India is the second-largest producer of paddy in the world after China, but even though India's paddy yield increased 2.5 times over 56 years to 2017, its yield (3.8 tonnes/ha) was almost 18% lower than China's in 2017. Brazil (6.2 tonnes/ha) and the USA (8.4 tonnes/ha) too had higher yields.

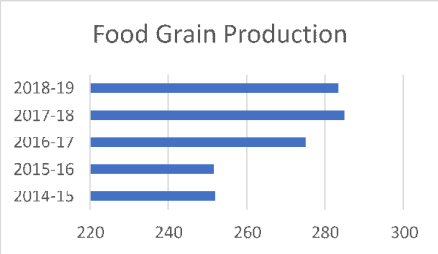


Figure 1.

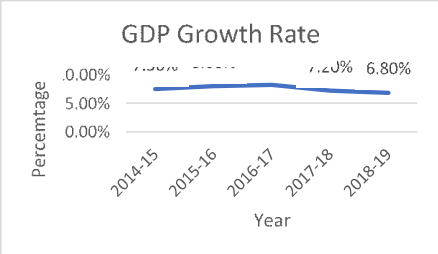


Figure 2.

Trends of public expenditure on agriculture

For many developing countries, agriculture is the largest sector in terms of its sharein GDP and employment. In India, it is the largest sector which

provided a livelihood to the people. More importantly, the majority of the world's poor live inrural areas and depend upon agriculture for their livelihood. Agriculture is thereforecritical both for economic development and poverty reduction. It follows that indeveloping countries spending on agriculture is one of the most important governmentinstruments for promoting economic growth and alleviating poverty in rural areas(Fan and Saurkar, 2006).There have been many studies of the relationship between government expenditureand economic growth. Some of these studies have looked specifically at the linkbetween government spending and agricultural growth and poverty reduction (Elias1985; Fan, Hazell, and Thorat 2000). These studies show positive growth and poverty reductioneffects from public spending in agriculture. Yet, in the majority of developing countries aid andpublic expenditure to agriculture is stagnant or declining. To study the expenditure pattern onagriculture we split the expenditure into three departments, one is the expenditure on thedepartment of agriculture, cooperation and farmers welfare and second is the department ofagricultural research and education and third is a department of Animal Husbandry, Dairying,and Fisheries.It is worthy to note that till July 2019 Department of Animal Husbandry,Dairying and Fisheries comes under The Ministry of Agriculture and Farmers but is now created as a new department and renamed as a Department of Animal Husbandry, Dairying & Fisheries (DADF) the area comes under the department of agriculture & farmers welfare.Agriculture is a state subject and the Union Budget allocation under the Ministry is largely focused on subsidies and transfers to states for centrally sponsored schemes.

Table-3. Allocation across department (Rs. In crore)

Year / Department	2014-15*	2015-16*	2016-17*	2017-18*	2018-19**	2019-20***
Agriculture & Co-operation	19255.10	15296.04	36912.48	37396.72	67800	130485.21
Agricultural Research and Education	4840.01	5386.26	5792.25	6942.92	7952.73	8078.76
Animal Husbandry, Dairying, and Fisheries	1822.10	1410.12	1857.98	2022.10	3273.01	3737
Total	25,917.21	22,092.42	44562.71	46,361.74	79025.74	1,42,300.97

Source: Expenditure Budget, Union Budget of India (Various years)

* Actual

**Revised estimate

***Budget estimate

Above table detailed the expenditure on the agricultural sector since 2014-15 by the central government. The Ministry has been allocated Rs 1,38,564 crore in 2019-20. Allocation to the Ministry accounts for 5% of the central government's budget. This allocation is 82.9% higher than the revised estimate for 2018-19. This increase is due to the allocation of Rs 75,000 crore to PM-KISAN (income support scheme for farmers), which was announced in the 2019-20 interim budget. The scheme (being implemented from December 2018) also received an allocation of Rs 20,000 crore for the year 2018-19. In this case, if we compare the growth in agriculture expenditure on the last five years

then we have seen a high jump due to PM-KISAN scheme. The allocation of agricultural research and education in 2015-16 government reduced the amount compared to the preceding year. although budget allocation agriculture research and education from 2014-15 to 2019-20 its show 66.91% jump and numbers look quite impressive but expert say that Agricultural R&D is the main source of innovation, which is needed to sustain agricultural productivity growth in the long-term and more R&D needed. Expenditure on Animal Husbandry, Dairying, and Fisheries was frozen from 2014-15 to 2016-17 and the percentage increase was only 1.96% during this period but in 2018-19 government pushed the expenditure and expenditure has increased from Rs. 1822.10 crore in 2014-15 to Rs.3737 (BE) crore during 2019-20.

Table-4. Growth rate of Expenditure on agriculture

Year/ Department	2015-16	2016-17	2017-18	2018-19	2019-20
Agriculture &Cooperation	-20.56%	141.32%	1.31%	81.30%	92.46%
Agriculture Research & Education	11.29%	7.54%	19.87%	14.54%	1.58%
Animal Husbandry, Dairying & Fisheries	-22.61	31.76%	8.83%	61.86%	14.18
Total Expenditure on agriculture	14.76	101.76	4.04	70.45	80.07

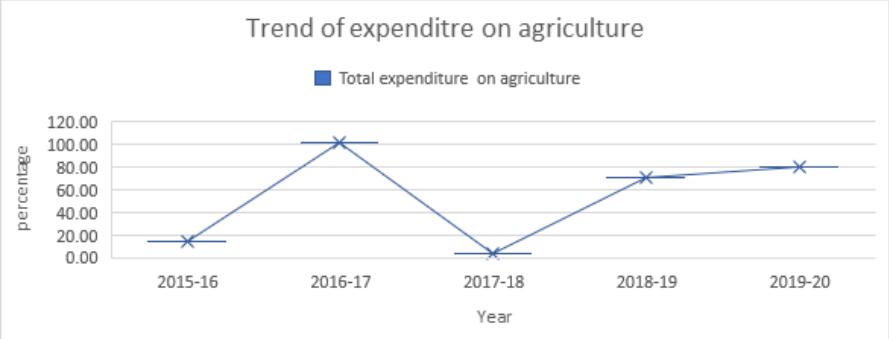


Figure 3.

Growth of GVA in agriculture and allied sector

The agriculture sector in India typically goes through cyclical movement in terms of its growth. The Gross Value Added (GVA) in agriculture improved from a negative 0.2 percent in 2014-15 to 6.3 percent in 2016-17 only to decelerate to 2.9 percent in 2018-19. While the crops, livestock and forestry sector showed fluctuating growth rates over the period from 2014-15 to 2017-18, the fisheries sector has shown rapid growth from 4.9 percent in 2012-13 to 11.9 percent in 2017-18.

Table 5

Growth of GVA in Agriculture & Allied Sectors at 2011-12 prices

Item	2014-15	2015-16*	2016-17**	2017-18***	2018-19****
Agriculture & Allied Sectors	7.2	8.0	7.9	6.9	6.6

Source: Central Statistics Office, Ministry of Statistics & Programme Implementation (MoSPI)

Note-* Third Revised Estimate, **Second Revised Estimate, *** First Revised Estimate ****As per the press note on Provisional Estimates of Annual National Income 2018-19 and Quarterly Estimates of Gross Domestic Product for the Fourth Quarter (Q4) of 2018-19 released by CSO on 31st May 2019

Conclusion:

In this paper, we study the trends of Central government budget numbers and its allocation on agriculture & allied sector, we also study the GVA growth of agriculture and allied sector and food grain production in India last five years. The main problem with the current economic scenario of India is falling overall GDP numbers, for this government needs to take big reforms to stabilize the GDP growth. Second, the fiscal policy of the Indian government looks very rigid in reaching the FRBM act target, the current situation required to increase the expenditure and loosen up the fiscal deficit target. Allocation to agriculture is seemed very inconsistent in staring years of NDA government but later its increase the amount allocated significantly, the jump in allocation due to PM-KISAN Scheme. The scheme is followed the principle of basic income by nature but many studiesfound that the concept of basic income is effective for poverty elimination but we must make sure that the guaranteed income should be implemented in a rational way otherwise its leads to more voluntary unemployment and its consequence at the macro level will be negative for economic development.Agriculture research is neglectedin NDA Ist term and must be prioritized in the budget. In food grain production India performing satisfactorily but, agricultural yield – the quantity of a crop produced on a unit of land in India is lower than many other countries. It's meant the productivity in agriculture needed to increase and for raising productivity the development of agricultural and rural infrastructure is necessary and finally,it all depends on the government to increase the investment in infrastructure.

==========

References :

1. Bhalla, G. S (2007): Indian Agriculture since Independence, National Book Trust, New Delhi.
2. Birthal, P.S.; Pramod Kumar Joshi, Digvijay S. Negi and Shaily Agarwal (2014), *Changing Sources ofGrowth in Indian Agriculture*, Discussion Paper 01325, International Food Policy ResearchInstitute, Washington, D.C., U.S.A.
3. Chand, R. and P. Shinoj (2012), "Temporal and Spatial Variations in Agricultural Growth and ItsDeterminants", *Economic and Political Weekly*, Vol.47, Nos.26a&27, June 30, pp.55–64.
4. Fan, S., A. Gulati, and S. Thorat (2007), *Investment, Subsidies, and Pro-poor Growth in Rural India*,Discussion Paper 00716, International Food Policy Research Institute, Washington, D.C., U.S.A.

UGC Journal No. (Old) 40942,
Peer-Reviewed Research Journal
Impact Factor 3.928, ISSN 0973-3914
Vol.- XXX-XXXI, Year- 15, Dec. 2019- March 2020

Corona and Its Impact on Indian Economy

* Rita Ghosh Guin

Abstract- *The power to bring the global economy down the ladder of growth is CORONA virus which is a large family of viruses that causes illness. No economy is immune to the fast spreading pandemic. The world economy is at a static halt. The educational system worldwide has paralyzed due to COVID - 19. Cinema hall, movie theater have been closed, festivals have been cancelled or postponed, film releases have been moved to future dates, the global box office collection dropped by billions of dollars. Several major sporting events were cancelled or postponed. Eating out is banned therefore has also impacted the restaurant business. It has significant impact on aviation industry due to the resulting travel restrictions as well as slumps in demands amongst travelers. In response to COVID - 19 the stock market took a bearish mode and the BSE sensex fell about 2950 points and nifty by about 868 points in a single day on 12th march 2020 and more than that on 24th march 2020 BSE sensex fell 4277 points and nifty 1234 point. During this market crash on 12th investors lost about 8 lakh crore in this single day fall and more than that on 24th this loss increased to 11 lakh crore or in short in 36 trading session investors lost about 46 lakh crore amid corona virus scare. Because of fear what remains open is being shunned in fact today MATHUSIAN theory of population is proving itself correct that is "population if not controlled by human being then nature will take care of it".*

Key Words- Global economy, CORONA, Family

Since India is integrated into the global economy there will be some impact on the economy including economic slowdown, trade, supply chain disruptions, commodities and logistics. The poor will have to bear the highest cost to protect themselves against the virus. We have more than 100 million micro finance accounts. About 75% of workers make a living by hawking vegetables on street corners or embroider saris sold in malls or by working casually for others or at their family firms or farms. The world's largest micro finance industry will be at a risk because prolonged lock downs will impair their ability to repay loans of 2.1 trillion rupees. Banks will have to suffer due to rise in nonperforming assets (NPA). A zero revenue situation will definitely have impact on the ability to

* Professor, Department of Economics, Government P. G. College Maihar (M.P.)

service loans if the shut down on travels and malls continue.

Business in India is now facing the brunt of brutal virus – COVIDI-19. Due to negative business sentiments MSMES are finding it difficult to pay interest and installment to the banks. The first brunt of the severe travel, assembly and activity curbs imposed by the government will be faced by the sectors like tourism, aviation, hospitality and trade. It could render 3.8 crore people jobless which is around 70% of the total workforce in the tourism and hospitality sector. The tourism business activity of India, which is estimated at US$ 28 million in foreign exchange, will be at economic risk throughout the year. The forced social distancing is going to hit metropolises like Mumbai, New Delhi, Bangalore, Chennai, Kolkata and tourism centers like Goa and HimachalPradesh etc. COVID-19 losses will be the most in the informal sectors such as tour operators, Drivers, guides, billing, customer service operations and micro retailers) of India, which accounts for 94% of the total employment in the country and contributes about 45% of output. Despite the COVID-19 hiring in e-commerce and e-logistics sector is bound to grow because many people prefer to buy items through e-commerce sites as the physical retail has taken a back seat due to social distancing

The trade impact of corona virus pandemics is estimated to be about US$348 million for India. The trade impact is estimated to be the most for chemical sector at US$ 129 million textiles and apparel at US$ 64 million, automotive sector at US$ 34 million, electric machinery at US$12 million, lather products at US$ 13 million, metal and metal products at US$ 27 million and wood products and furniture at US$ 15 million. Due to the recent travel restrictions service exports are under additional pressure. China is India's third largest export partner and accounts for around 5% share. It mainly exports organic chemicals, plastic, fish products, cotton and ores etc.The sectors which are largely impacted by the outbreak of corona virus in China are shipping, pharmaceuticals, automobiles, mobile, electronics and textiles etc. These industries may face supply chain issues and prices may go up by 10%. The pandemic is impacting critical inputs for Indian industry which may adversely impact small businesses and some jobs.

In order to maintain effective and uninterrupted supply chain across the country. The government in fact the Reserve Bank of India should give short term corona cash loans at reduced rates to domestic small scale industries and traders to boost the production. India's dependence on China for import is huge for example India imports 45% of its electronics goods from China. Around one third of machinery and two fifth of organic chemicals that India imports from the world comes from China. For automotive parts and fertilizers China accounts for 25% of India's import. About 65% – 70% of active pharmaceuticals ingredients and around 90% of mobile phones are imported from China.

Many Indian automakers import about 10% of their raw materials from China. Production across all segments namely electronic vehicles (EV's),

Commercial vehicles (CV's), Three wheelers (3W's) and two wheelers (2W's) will be critically hampered due to the disruptions in the availability of spare parts.

The pharmaceutical sector if India currently imports 80% of active pharmaceutical ingredients (API's), essential raw materials required for the manufacture of medicines from China.

China's Share in Total Imports to India

Sr. No.	Sectors	Percentage
1	Organic Chemicals	37%
2	Inorganic Chemicals	13%
3	Medicinal and pharma products	36%
4	Dyes	28%

Source: https// commerce.gov.in

The supply constraints like production and logistical delays due to the spread of pandemic have doubled the cost of API's such as paracetamol, which is used to manufacture the counter medicine called CROCIN. On the other hand there is a decline in the worth of inventory of API's that are needed for treating cases of corona virus in India. At the same time India is the world's biggest exporter of generic drugs. Since Indian government has taken precautionary measures of restricting the export of certain drugs this would lead to a major global supply chain problem for the pharmaceutical sector. On 19th March 2020 the Indian government has banned the export of ventilators, surgical/disposable masks and textile raw material out of the country.

COVID-19 is expected to exert downward pressure in inflation due to slow down in demand and production activities, a sharp fall in the global price of crude oil, and price decrease in other major commodities such as energy, base metal and fertilizers. It is expected that CPI inflation to remain in the range of 5.6% - 6.7%.

Lastly the government has announced complete lockdown for twenty one days. Complete lockdown entails zero production of goods and services i.e. around rupees 50,000 crore of real GDP. Hence 21 days shut down costs rupees 10.5 lakh crore or approximately 5% of GDP. Again once the shut down ends there will only be a gradual comeback. With aviation grinding to a halt and millions of people working from home, emissions of carbon monoxide mainly due to cars and trucks have fallen.

The need of the hour is a temporary income transfer scheme to help the poor survive during the pandemic. In order to make sure that banks keep lending to small, medium and large enterprises, despite of large NPA's the government has to offer partial guarantees and incentives so that banks are willing to take the credit risk.

To end in the words of the European Public Health Alliance "Once the crisis is over policy makers should speed up measures to get dirty vehicles off

our roads. Science tells us that epidemics like COVID-19 will occur with increasing frequency, so cleaning up the streets are a basic investment for a healthier.

==========

References :

1. https:// economictimes.com
2. https://economic times.indiatimes.com
3. https://www.businesstoday.in
4. https://www.thehindubusinessline.com
5. Various articles published in the newspaper and Internet

UGC Journal No. (Old) 40942,
Peer-Reviewed Research Journal
Impact Factor 3.928, ISSN 0973-3914
Vol.- XXX-XXXI, Year- 15, Dec. 2019- March 2020

Corporate Social Responsibility: A provision in New Company Act, 2013

* Anu Kumari

Abstract- *Corporate social responsibility means that responsibility of corporate towards socity. It is a business approach that contributes to sustainable development by delivering economic, social and environmental benefits for all. This new companies Act 2013 has introduced several new provisions which change the face of Indian corporate business. The concept of CSR is based on the relation of give and take. Companies take resources in the form of raw materials, human resources etc from the society, and in form of corporate social responsibility corporate are giving something back to the society. Ministry of corporate Affairs notified section 135 and schedule VII of the companies Act as well as the provision of the companies (corporate social responsibility policy) rules, 2014 (CSR Rules) which has come into effect from 01 April 2014.*

Key Words- CSR, Corporate, Company

Evolutions of corporate social responsibility are divided in four phases:-

1. Applicability :- section 135 of the companies Act provides the threshold limit for applicability of the corporate social responsibility to a company i.e.

(a) Net worth of the company to the company to be RS.500 crore or more.

(b) Turnover of the company to be Rs. 1000 crore or more

(c) Net profit of the company to be Rs. 5 crore or more.

Further as per the corporate social responsibility Rules, the provisions of CSR are not only applicable to Indian companies, but also applicable to branch and project offices of a foreign company in India.

2. CSR committee and policy: each and every qualifying company requires spending of at least 2% of its average net profit for the immediately preceding three financial years on corporate social responsibility activities further, the qualifying company will be required to constitute a committee (CSR committee) of the Board of Directors (Board consisting of three or more directors. The CSR committee shall formulate and recommend to the board, a policy which shall indicate the activities to be undertaken (CSR policy) recommend the amount of expenditure to be incurred on the activities referred and monitor the CSR

* Research Scholar, Department of commerce & Business Management, Veer Kunwar Singh university, Ara (Bihar)

policy of the company. The Board shall take into account the recommendations made by the CSR policy of the company

3. Net profit: As per Rule 2(f) of the companies (CSR policy) Rules, 2014, 'Net profit' means the net profit of a company as per its financial statement prepared in accordance with the applicable provision of the Act, but shall not include the following namely:

I) Any profit arising from any overseas branch or branches of the company, whether operated as a separate company or otherwise; and

II) Any dividend receive from other companies in India, which are covered under and complying; with the provisions of section 135 of the Act;

Provided that net profit in respect of a financial year for which the relevant financial statements were prepared in accordance with the provisions of the companies Act, 1956,(1 of 1956) shall not be required to be re-calculated in accordance with the provisions of the Act.

Provided further that in case of a foreign company covered under these rules, net profit means the net profit of such company as per profit and loss account prepared in terms of clause (a) of sub-section (1) of section 381 read with section 198 of the Act.

4. Turnover: As per section 2(91), 'Turnover' means the aggregate value of the realizations of amount made from the sale, supply or distribution of goods or on account of services rendered, or both, by the company during a financial year.

• Net worth: As per section 2(57), 'NW'= (Paid up share capital + All reserves created out of profits + securities premium account)-(Accumulated losses + Deferred Expenditure and miscellaneous Expenditure not written off)

The term CSR has been defined under the CSR rules which includes but is not limited to:-

• Projects or programs relating to activities specified in the schedule;

• projects or programs relating to activities undertaken by the Board in pursuance of recommendations of the CSR committee as per the declared CSR policy subject to the condition that such policy covers subjects enumerated in the schedule.

The aforesaid definition of 'net profit' as per the financial statement prepared in accordance with the applicable provision of the act:

If we refer the provision of the companies Act, 2013, it is clear that section 198 heading of which is 'calculation of profits' is the only provision which we need to consider for interpretation of the expression 'net profit'.

However, section 198 starts with 'In computing the net profits of a company in any financial year for the purpose of section 197'. Created ambiguity whether section 198 can be referred for the purpose of interpreting the expression 'net profit' provided in section 135(1) and such inclusion of 'reference to section 197', reflected that the intention of law maker may net be so.

Activities under CSR : The activities that can be done by the company to

achieve its CSR obligations include eradicating extreme hunger and poverty, promotion of education, promoting gender equality and empowering women, reducing child mortality and improving maternal health, combating human immunodeficiency virus, acquired immune deficiency syndrome, Malaria and other diseases, ensuring environmental sustainability, employment enhancing vocational skills, social business projects, contribution to the Prime Minister's National Relief fund or any other fund set up by the central government or the state government for socio-economic development and relief and funds for the welfare of scheduled castes, the scheduled tribes, other backward classes, minorities and women and such other matters as may be prescribed.

Under the companies Act, preference should be given to local areas and the areas where the company operates. Company may also choose to associated with 2 or more companies for fulfilling the CSR activities provided that they are able to report individually. The CSR committee shall also prepare the CSR policy in which it includes the projects and puogammes which is to be undertaken, prepare a list of projects and programmes which a company plans to undertaken during the implementation year and also focus on integrating business models with social and environmental priorities and process in order to create share value.

The company can also make the annual report of CSR activities in which they mention the average net profit prescribed CSR expenditure but it the company is unable to spend the minimum required expenditure the company has to give the reasons in the Board report for Non compliance so that there are no penal provisions are attracted by it.

Introduction:

Corporate Social Responsibility (CSR) earlier applied as corporate philanthropy and has been in practice in India since ages. However, philanthropy in globalised and modern India does not solve the purpose in quantity and quality. Clause 135 of company Act 2013 created huge hue and cry among the business community in India. As per clause 135 of the companies Act 2013, every company with an annual turnover of 1000 crore INR ($ 161 million) and more, or a net worth of 500 crore INR ($80 million and more, or a net profit as low as five crore INR ($800,000) and more have to spend at least 2% of their average net profit over the previous three years on CSR activities. With the introduction of new company Act 2013, India become the first country in the world to have legislation for compulsory CSR spending. If any of the mentioned financial strength criteria are met, the CSR provision and related rules will be applicable to the company. These companies are required to form a CSR committee consisting of its directors. This committee oversees the entire CSR activities of the company.

The term corporate social responsibility or CSR has been defined as under, but is not limited to:

- Projects or programs with reference to activities that are specified in the

schedule; or

- Projects or programs related to activities undertaken by the board in pursuance of recommendations of the CSR committee according to the declared CSR policy subject explained in the schedule.

Corporate Social Responsibility is required for all companies, private limited company, and limited company.

The board of directors of a company plays a significant role in CSR activities of the company. The role of board is as follows:-

- Approval of the CSR policy.
- Ensuring its implementation.
- Disclosure of the contents of CSR policies related to its report.
- Placing the same on company's website.
- Ensuring that statutory specified amount is spend by the company with reference to CSR activities.
- It's significant to note that there is no penalty if the particular amount is not spent on CSR activities. In such case, the brand's report must identify the reason for such sort spending.

All qualifying company required to have a CSR committee are required to spend at least 2% of its average net profit for the directly preceding 3 financial years on CSR activities. The qualifying company shall be necessitated to comprise a committee (CSR committee) of the board of directors (board) comprising 3 or more directors. The CSR committee will prepare and recommend to the board a policy which will specify the activities to be under taken (CSR policy); advocate the amount of expenditure to be incurred on the activities refereed and monitor the CSR policy related to the company. The brand will take into account the recommendations made by the CSR committee and support the CSR policy of the company.

The following activities can be performed by a company to accomplish its CSR obligations:-

- Eradicating extreme hunger and poverty .
- Promotion of education.
- Promoting gender equality and empowering women.\
- Reducing child mortality.
- Improving maternal health.
- Combating human immunodeficiency virus, acquired, immune deficiency syndrome, malaria and other diseases.
- Ensuring environmental sustainability.
- Employment enhancing vocational skills, social business projects.
- Contribution to the Prime Minister's national relief fund or any other fund set up by the central government or the state. Governments for socio-economic development and
- Relief and founds for the well fair of the scheduled casts, the scheduled tribes, other backward classes, minorities and women and such other

matters as may be prescribed.

Under the terms of companies act, preference must be given by companies in its CSR activities to local areas and the areas where the company operates. The CSR committee will also prepared the CSR policy in which it includes the projects and programs which is to be under taken, organize a list of projects and programmer which a company plans to embark on during the execution year and also focus on integrating business models with social and environmental priorities and process for the reason of creating share value. The company can in addition make the annual report of CSR activity in which they declared the average net profit for the 3 financial year and also approved CSR expenditure but it the company is not capable to expend the minimum required expenditure the company has to provide the reason in the board report for non-compliance so that there are no related panel provisions.

Review of literature:

- **Moir(2001), the article of windsor 2001,** examined the future of corporate social responsibility or the relationship between business and society in long run. The researcher tried to find out that weather the organization and society will come closer to each other in future or not and the changing state of CSR. With the help of history or past moment of CSR, caroll's model analysis and in global context, the researcher found three-up-and-coming alternatives of CSR, i.e. global corporate citizenship, conception of responsibility, stakeholder management practices.
- **Nigel Sarbutts(2003),** expressed the way of doing CSR by small and medium sized companies. The research depicted that a structured approach to managing corporate reputation and profit maximization of SME"s through CSR. The community activities of small and medium sized companies are best on their cost & benefit analysis. Small Corporation always struggle for more reputation and reduction of risk. In such a condition, CSR comes as hope for these companies. SMEs lack resources compared to large companies hence CSR activities are more implemented in large forms SME"s can decreased their risk and manage CSR in such a way that they by imparting much information, proper utilization of resources, they can do better for businesses.
- **Proter and Cramer(2006)** there is a lack of success with the company's efforts related to CSR in improving business results. Better link of CSR with key business source allows employers to recognize that is can be a source of: opportunities, innovation and competitive advantage. CSR is related to the incorporation of reason able policies in corporate strategy, culture and daily decision making, consecutively to meet the needs of stakeholders. This is related to the creation of company strategy and successful brands.
- **Samuel O.I doure (2007),**with their study of twenty companies in U.K., propounded that the U.K. companies has now become ethical in the content of social responsibility as companies disclose its CSR with a view of public benefits, government request and issue information to stakeholders because the companies

think that stakeholders of twenty first century are better educated than past.

- **Vaaland, Heide (2008),** paper based on a case study methodology. The paper purpose was to handle the CSR critical incident and utilize this experience in enforcing the CSR activities. The study concluded that CSR should be managed by handling unexpected incidents, long term reduction of gap between stakeholder and their expectation and company performance and finally maintaining relationship with society through interplay between actor, resources and activities.
- **Shah, Bhaskar (2010),** has taken a case study of public sector undertaking i.e., Bharat petroleum corporation Ltd. in their research work. The research has discussed that there is a broad relationship between the organization and society. Organization has its existence only with the society. Organization used the resources /inputs of the society like material and human etc. In reverse, the organization provides services to the society. From the case study of the BPCL, it was found that company has taken a lot of initiatives in order to serve the society.
- **The Economic Times (11 Jan 2013),** news highlighted about the company Dell's strategy of motivating its employees in initializing employees are the power that forced the company to do more for the society. Companies with its employees are busy in social responsibility activities in the areas of education, environment and employees welfare. Beside Dell Company, the news also discussed about other companies like Maruti and Godrej that these companies also provide induction training to its employees for preparing them for community services. Maruti Company run a program namede-parivartan for a group of employees to make them aware about community problem and their solution.

Objectives:

- To study the CSR practices in India.
- To study the clause 135 of company Act 2013 on CSR.
- To compare various CSR concern among the business executives.

Methodology:

This research paper is based on conceptual study of reviews, published materials, journals, Articles etc. and also internet for latest updates.

CSR Practices in India:

India is the first country in the world to make corporate social responsibility (CSR) mandatory; following an amendment to the company act, 2013, in April 2014.Businesses can invest their profits in areas such as education, poverty, gender equality, and hunger.

The amendment notified in the schedule VII of the companies act advocates that those companies with a met worth of US$73 million (Rs. 4.96 billion) or more, or an annual turnover of US$ 146 million (Rs.4.92 billion) or more, or a net profit of US$ 732,645 (Rs, 50 million) or more during a financial year, shall earmark 2 % of average net profits of three years towards CSR.

In the draft companies Bill, 2009 the CSR clause was voluntary, though it

was mandatory for companies to disclose their CSR spending to shareholders. It is also mandatory that company boards should have at least one female member.

CSR Practices examples:

- **Tata Group:-**

The Tata-Group conglomerate in India carries out various CSR projects, most of which are community improvement and poverty alleviation Programmers. Through self-help groups, it is engaged in women empowerment activities, income generation, rural community development, and other social welfare programs. In the field of education, the Tata Group provides scholarship and endowments for numerous institutions.

The group also engages in healthcare projects such as facilitation of child education, immunization and creation of awareness of AIDS. Other areas include economic empowerment through agriculture programs, environment protection, providing sport scholarships, and infrastructure development such as hospitals, research centers, educational institutions, sports academy and cultural centers.

- **Ultra teach cement:**

Ultra teach cement, India's biggest cement company is involved in social work across 407 villages in the country aiming to create sustainability and self-reliance. Its CSR activities focus on healthcare and family welfare programs education, infrastructure, environment, social welfare, and sustainable livelihood.

The company has organized medical camps, immunization programs, sanitization programs, school enrollment, plantation drives, water conservation programs, industrial training, and organic farming programs.

- **Mahindra & Mahindra:**

India automobile manufacturer Mahindra & Mahindra (M&M) established the K.C. Mahindra education trust in 1954, followed by Mahindra foundation in 1969 with the purpose of promoting education. The company primarily focuses on education programs to assist economically and socially disadvantaged communities. CSR programs invest in scholarships and grants, livelihood training, healthcare for remote areas, water conservation, and disaster relief programs. M&M runs programs such as Nanhi Kali focusing on girl education, Mahindra pride schools for industrial training, and lifeline express for healthcare service in remote areas.

- **ITC Group:**

ITC group, a conglomerate with business interests across hotels, FMCG, agriculture IT, and packaging sectors has been focusing on creating sustainable livelihood and environment protection programs. The company has been able to generate sustainable livelihood opportunities for six million people through its CSR activities. Their e-choupal program, which aims to connect rural farmers through the internet for procuring agriculture products, covers 40,000 villages and over four million farmers. It's social and farm forestry program assists farmers in converting wasteland to pulpwood plantations. Social empowerment

programs through micro-enterprises or loans have created sustainable livelihoods for over 40,000 rural women.

Clause 135 of Company Act 2013 on CSR

Applicability: Every company having

- Net worth of 500 crore or more
- Turnover of 1000 crore of more
- Net profit of 5 crore or more

During any financial year shall constitute a CSR committee of the board.

Committee members:

Three or more directors, out of which at least one director, out of which at least one director shall be an independent director. So, minimum directors should be three and at least on director should be independent director.

Functions of CSR committee:

- Formulate and recommend to the board, a CSR policy which shall indicate the activities to be undertaken by the company.
- Recommend the amount of expenditure to be incurred on the activities
- Monitor the CSR policy of the company from time-to-time.

Responsibility of Board of Directors (BOD)

- The Board of the company after taking into account the recommendations made by the CSR committee, approve the CSR policy for the company and disclose contents of such policy in its report and also place it on the company's website, if any, in such manner as may be prescribed and ensure that the activities as are included in CSR policy of the company are undertaken by the company.
- The Board of the company shall ensure that the company spends in every financial year, at least 2% of the average net profits of the company made during the three immediately preceding financial years, in pursuance of its CSR policy.

Activities may be included by the company in their CSR policy:-

- Eradicating extreme hunger and poverty
- Promotion of education
- promoting gender equality and empowering women
- Reducing child mortality and improving maternal health
- Combating HIV, AIDS, Malaria and other diseases
- Ensuring environmental sustainability
- Employment enhancing vocational skill
- Social business projects
- Contribution to the Prime Minister's National relief fund or any other fund set up by the Central Government or the State Government for socio-economic development and relief and relief and funds for the welfare of the scheduled castes, the scheduled tribes, other backward classes, minorities and women;
- Such other matters as may be prescribed.

At present, There is no mandatory requirement on companies to spend

any part of their profit on CSR activities the MCA has issued "Guidelines on social, environmental & economic Responsibilities of business," for voluntary adoption by companies. In addition, the SEBI has mandated top-100 listed entities, based on market capitalization at BSE and NSE to include business responsibility report in their Annual report.

Comparison of various CSR concern among the business executives

- **IBM**

Citizen IBM embodies the company's dedication to corporate citizenship. IBM supports a wide range of efforts for education, disaster relief, diversity, economic development, global health, and more. Their approach to corporate citizenship aligns with that of their business- "applied technology, continuous transformation, and sustainable change."

- **CISCO**

Cisco's CSR programs make use of the company's technology and resource to aid underserved communities with education, healthcare, economic empowerment, and disaster relief.

They have set a goal to impact 1 billion people by 2025 positively.

- **LinkedIn**

LinkedIn's nonprofit initiative, LinkedIn for good, works with various organizations to connect underserved communities to economic opportunity. They partner with young training organizations, veterans career services, refugee resources networks, and mo

- **Dell**

Dell has implemented the 2020 legacy of Good plan as their commitment to "Drive human progress" through environmental sustainability, addressing community challenges, global supply chain responsibility hiring diversity, and ultimately, a dedication to putting more back than they take out.

The net positive project goal is, by 2020 to contribute 10 times the good that it takes to create and use their technology.

Senior executive of these companies know that social responsibility requires not just words on paper, but taking action.

Their goals may differ and their activities may change over time, but these initiatives demonstrate the commitment each organization has to its local and global community and that the organization "walks the walks," not just "talks the talks."

Conclusion:

The great thinkers like Friedman, Hansman, or Mercey, who would ridicule the idea of Mandatory CSR spending and reporting. We need to understand that we live in globalized world as the revenue from business increase along with the prospect for the further business opportunities, care should be taken to complement them with overall improvement of human development index (Arup et al. 2013).

If a product or services which earlier was only available in the developed nations is now easily available in India then similarly the quality of life of Indian

should tends to be at par with that of people of developed nations.

Since, the concept of mandatory CSR spending has been criticized by the business community, India is such huge country having 1-21 billion populations and perceived as country of poor people despite of having maximum millionaires & billionaires. Hence we need to fill the gap between poor and rich in our country. This cannot be solved by government alone. If we look at comparative figure with USA on CSR spending against low of its GDP in comparison to USA.

GDP & CSR in 2006 (comparative between India & USA)

Country	GDP in US $	CSR expenditure in % age	Value in US $	Population in Million
India	916251738112	0.6%	5497510429	1122
USA	13163899650048	2.0%	263277993001	299

Hence, it is the right time that corporate should take the concept of mandatory CSR (However unusual it may be seem to be) positively in their stride and start visualizing the India of 2050 net only in the form of revenue and economic point of view but in the more holistic way.

==========

References :

1. **Anupam singh and Dr. Priyanka verma (2014),***CSR @ 2%: A new model of corporate social responsibility in India*, International journal of Academic research in business and social sciences, vol-4 pp. 455-464
2. **Moir, l. (2001),***what do we mean by corporate social responsibility?* , corporate governance, 1(2), 16-22
3. **Sarbutts, N. (2003),***can SMES "do" CSR? A practitioner's view of the ways small-and medium– sized enterprise are able to mange reputation through corporate social responsibility.* Journal of communication management, 7 (4), 340-347
4. **Porter, M.E, & Kramer, M.R. (2006),***The link between competitive advantage and corporate social responsibility*. Harvard business review, 11.
5. **Idowu, S.O. & Papasolomou, I.(2007).***Are the corporate social responsibility matters based on good intentions or false pretences? An empirical study of the motivations behind the issuing of* CSR report by UK companies. Corporate Governance, 4 (2), 136-147
6. **Vaaland, T.I, Heide, M. , & Gronhaug, K. (2008).***Corporate social responsibility: investing theory and research in the marketing context*. European Journal of Marketing, 42 (9/10), 927-953
7. **Shah, S., & Bhaskar, A.S. (2010) ,***Corporate Social Responsibility in an Indian public sector organization a case study of Bharat petroleum corporation Ltd.* journal of Human values, 16(2), 143-156
1. www.indiafilings.com
2. www.india-briefing.com
3. www.linkedin.com

UGC Journal No. (Old) 40942,
Peer-Reviewed Research Journal
Impact Factor 3.928, ISSN 0973-3914
Vol.- XXX-XXXI, Year- 15, Dec. 2019- March 2020

The Role of Reserve Bank of India in Indian Economy

*** Kalpana Verma**

Abstract- *Reserve Bank of India was established in 1935, under the Reserve Bank of India ACT,1934 with the objective as started in the preamble of the RBI Act to regulate the issue of bank notes and for keeping of reserve with a view to securing monetary stability in India and generally to operate the currency and credit systemof the country to its advantage. . Since its inception the Reserve Bank of India had played an important role in the economic development and monetary stability in the country. This paper is an attempt explore into the role, functions, and contribution of RBI in Indian Economy.*

Key Words- Indian Economy, Securing monetary, Economic development

Introduction:

The Reserve Bank of India (RBI) was established in the year 1935 in accordance with the Reserve Bank of India Act, 1934. The Reserve Bank of India is the central Bank of India entrusted with the multidimensional role. It performs important monetary functions from issue of currency note to maintenance o f monetary stability in the country. Initially the Reserve Bank of India was a private share holder's company which was nationalized in 1949.45 governed by the Central Board of Directors appointed by the Government of India. Since its inception the Reserve Bank of India had played an important role in the economic development and monetary stability in the country. Evolution of RBI the Royal Commission on Indian Currency and Finance appointed on August 25, 1925 has suggested the establishment of the Central Bank in India, later the Indian Central Banking Enquiry Committee, 1931 stressed the establishment of the Central Bank in India. The Reserve of Bank was established on April 1, 1935 under the Reserve Bank of India Act, 1934.The main object of Reserve o f India is, "to regulate the issue of Bank notes and the keeping of reserves with a view to securing monetary stability in India and generally to operate the currency any credit system of the country to its advantage" The Reserve Bank of India was established as a private share holder's bank. The Central office of Reserve Bank of India was initially located in Calcutta which

* **Assistant Professor, Department of Commerce, Government Girls College, Ajmer, Rajasthan**

was later shifted to Bombay. The Reserve Bank of India issued first of its currency notes in January 1938 in de nomination of Rs.5 and Rs.10 and later in the same year denomination of Rs.100, Rs.1000 and Rs.10000 were issued Post Independence The Reserve Bank of India was nationalized in the year 1949 through the Reserve Bank (Transfer of Public Ownership) Act, 1948 and all shares were transferred to Central Government. The Reserve bank of India is constituted for the management of currency and for carrying the business of banking in accordance with provisions of the Act. It is a body corporate having perpetual succession, common seal and can be sued or sue in its name. The general supervision and direction of the affairs of the Reserve Bank is entrusted with Central Board of Directors.

Organization And Management:

The general affairs and business of the bank is managed by the Central Board of Directors having 20 members. The members include the following:-

- A governor and not more than four Deputy Governors to be appointed by the Central Government;
- Four director to be nominated by the Central Government, one each from the four Local Boards;
- Ten director to be nominated by the Central Government;
- One government official to be nominated by the Central Government.

Apart from Central Board of Director, four Local Boards are constituted representing each area specified in the first schedule to the Act. Local Boards advices the Central Boards on various matters referred to it. They also perform the function delegated to them by the Central Boards. However, the final control lies with the Central Boards.

The organizational structure of RBI can be depicted with the help of following chart:

In order to perform various functions, the bank has been divided and sub divided into 20 department and three training establishment at the central office of the bank. The internal organization structureof the bank has undergone various changes in tune with the changes in global and Indian financial market. The increased volume and variety of Banks activities has led to the

expansion of the bank from time to time.

Objectives and Research Methodology:

Objectives of study:

1. To explore the evolution of Reserve Bank of India (RBI).
2. To analyze the role and functions of RBI.
3. To assess the Monetary Control Methods of RBI.

Research Methodology:

It is always important to be critical of the information presented in sources, especially since the material might have been gathered to address a different problem area. Moreover, many secondary sources do not clearly describe issues such as the purpose of a study, how the data has been gathered, analyzed and interpreted making it difficult for the researcher to assess their usefulness. In order to address this problem I have tried to triangulate the secondary data by using numerous independent sources.

The information about the problem is collected from the Research Journals, Trade Magazines, Annual Reports of Banks and the Internet. For evaluating „Role, Functions and Monetary Control Methods of RBI , we have focused on as recent material as possible. In order to get access to the latest developments in this area we have used a number of articles published in academic journals and trade magazines. We have also used secondary information from Internet based discussion forums.

Functions of RBI

Traditional Functions of RBI:

Traditional functions are those functions which every central bank of each nation performs all over the world. Basically these functions are in line with the objectives with which the bank is set up. It includes fundamental functions of the Central Bank. They comprise the following tasks.

Issue of Currency Notes:

The RBI has the sole right or authority or monopoly of issuing currency notes except one rupee note and coins of smaller denomination. These currency notes are legal tender issued by the RBI. Currently it is in denominations of Rs. 2, 5, 10, 20, 50, 100, 500, and 1,000. The RBI has powers not only to issue and withdraw but even to exchange these currency notes for other denominations. It issues these notes against the security of gold bullion, foreign securities, rupee coins, exchange bills and promissory notes and government of India bonds.

Banker to other Banks:

The RBI being an apex monitory institution has obligatory powers to guide, help and direct other commercial banks in the country. The RBI can control the volumes of banks reserves and allow other banks to create credit in that proportion. Every commercial bank has to maintain a part of their reserves with its parent's viz. the RBI. Similarly in need or in urgency these banks approach the RBI for fund. Thus it is called as the lender of the last resort.

Banker to the Government:

The RBI being the apex monitory body has to work as an agent of the central and state governments. It performs various banking function such as to accept deposits, taxes and make payments on behalf of the government. It works as a representative of the government even at the international level. It maintains government accounts, provides financial advice to the government. It manages government public debts and maintains foreign exchange reserves on behalf of the government. It provides overdraft facility to the government when it faces financial crunch.

Exchange Rate Management:

It is an essential function of the RBI. In order to maintain stability in the external value of rupee, it has to prepare domestic policies in that direction. Also it needs to prepare and implement the foreign exchange rate policy which will help in attaining the exchange rate stability. In order to maintain the exchange rate stability it has to bring demand and supply of the foreign currency (U.S Dollar) close to each other.

Credit Control Function:

Commercial bank in the country creates credit according to the demand in the economy. But if this credit creation is unchecked or unregulated then it leads the economy into inflationary cycles. On the other credit creation is below the required limit then it harms the growth of the economy. As a central bank of the nation the RBI has to look for growth with price stability. Thus it regulates the credit creation capacity of commercial banks by using various credit control tools.

Supervisory Function:

The RBI has been endowed with vast powers for supervising the banking system in the country. It has powers to issue license for setting up new banks, to open new branches, to decide minimum reserves, to inspect functioning of commercial banks in India and abroad, and to guide and direct the commercial banks in India. It can have periodical inspections an audit of the commercial banks in India.

Developmental / Promotional Functions of RBI:

Developmental / Promotional Functions of RBI Along with the routine traditional functions, central banks especially in the developing country like India have to perform numerous functions. These functions are country specific functions and can change according to the requirements of that country.

The RBI has been performing as a promoter of the financial system since its inception. Some of the major development functions of the RBI are maintained below.

Development of the Financial System:

The financial system comprises the financial institutions, financial markets and financial instruments. The sound and efficient financial system is a precondition of the rapid economic development of the nation. The RBI has encouraged establishment of main banking and non-banking institutions to cater

to the credit requirements of diverse sectors of the economy.

Development of Agriculture :

In an agrarian economy like ours, the RBI has to provide special attention for the credit need of agriculture and allied activities. It has successfully rendered service in this direction by increasing the flow of credit to this sector. It has earlier the Agriculture Refinance and Development Corporation (ARDC) to look after the credit, National Bank for Agriculture and Rural Development (NABARD) and Regional Rural Banks (RRBs).

Provision of Industrial Finance :

Rapid industrial growth is the key to faster economic development. In this regard, the adequate and timely availability of credit to small, medium and large industry is very significant. In this regard the RBI has always been instrumental in setting up special financial institutions such as ICICI Ltd. IDBI, SIDBI and EXIM BANK etc.

Provisions of Training :

The RBI has always tried to provide essential training to the staff of the banking industry. The RBI has set up the bankers' training colleges at several places. National Institute of Bank Management i.e. NIBM, Bankers Staff College i.e. BSC and College of Agriculture Banking i.e. CAB are few to mention.

Collection of Data :

Being the apex monetary authority of the country, the RBI collects process and disseminates statistical data on several topics. It includes interest rate, inflation, savings and investments etc. This data proves to be quite useful for researchers and policy makers.

Publication of the Reports :

The Reserve Bank has its separate publication division. This division collects and publishes data on several sectors of the economy. The reports and bulletins are regularly published by the RBI. It includes RBI weekly reports, RBI Annual Report, Report on Trend and Progress of Commercial Banks India., etc. This information is made available to the public also at cheaper rates.

Promotion of Banking Habits :

As an apex organization, the RBI always tries to promote the banking habits in the country. It institutionalizes savings and takes measures for an expansion of the banking network. It has set up many institutions such as the Deposit Insurance Corporation-1962, UTI-1964, IDBI-1964, NABARD-1982, NHB-1988, etc. These organizations develop and promote banking habits among the people. During economic reforms it has taken many initiatives for encouraging and promoting banking in India.

Promotion of Export through Refinance :

The RBI always tries to encourage the facilities for providing finance for foreign trade especially exports from India. The Export-Import Bank of India (EXIM Bank India) and the Export Credit Guarantee Corporation of India (ECGC) are supported by refinancing their lending for export purpose.

Supervisory Functions of RBI

The reserve bank also performs many supervisory functions. It has authority to regulate and administer the entire banking and financial system. Some of its supervisory functions are given below.

Granting license to banks:

The RBI grants license to banks for carrying its business. License is also given for opening extension counters, new branches, even to close down existing branches.

Bank Inspection:

The RBI grants license to banks working as per the directives and in a prudent manner without undue risk. In addition to this it can ask for periodical information from banks on various components of assets and liabilities.

Control over NBFIs:

The Non-Bank Financial Institutions are not influenced by the working of a monitory policy. However RBI has a right to issue directives to the NBFIs from time to time regarding their functioning. Through periodic inspection, it can control the NBFIs.

Implementation of the Deposit Insurance Scheme:

The RBI has set up the Deposit Insurance Guarantee Corporation in order to protect the deposits of small depositors. All bank deposits below Rs. One lakh are insured with this corporation. The RBI work to implement the Deposit Insurance Scheme in case of a bank failure.

Reserve Bank of India's Credit Policy :

The Reserve Bank of India has a credit policy which aims at pursuing higher growth with price stability. Higher economic growth means to produce more quantity of goods and services in different sectors of an economy; Price stability however does not mean no-change in the general price level but to control the inflation. The credit policy aims at increasing finance for the agriculture and industrial activities. When credit policy is implemented, the role of other commercial banks is very important. Commercial banks flow of credit to different sectors of the economy depends on the actual cost of credit and arability of funds in the economy.

Monetary Policy of the RBI:

RBI works as the monetary authority of India and there by operates the monetary policy. Reserve Bank of India announces Monetary Policy every year in the Month of April. This is followed by three quarterly Reviews in July, October and January. But, RBI at its discretion can announce the measures at any point of time. The Annual Monetary Policy is made up of two parts viz.

Part A: macro-economic and monetary developments.

Part B: Actions taken and fresh policy measures. Monetary policy of the RBI deals with almost all other vital topics such as financial stability, financial markets, interest rates, credit delivery, regulatory norms, financial inclusion and institutional developments etc.

Objectives of the monetary policy:

Monetary policy refers to an umbrella of operations used for the control of money supply in the economy with broad objective to maintain economic and financial stability; and ensure adequate financial resources for the purpose of development. These objectives of the monetary policy in India have gone through a process of gradual evolution and can be further expanded to maintaining price stability, adequate flow of credit to productive sectors, promotion of productive investments & trade, promotion of exports and economic growth. The following are the principal objectives of monetary policy.

Full Employment:

Full employment has been ranked among the foremost objectives of monetary policy. It is an important goal not only because unemployment leads to wastage of potential output, but also because of the loss of social standing and self-respect.

Price Stability:

One of the policy objectives of monetary policy is to stabilize the price level. Both economists and laymen favor this policy because fluctuations in prices bring uncertainty and instability to the economy.

Economic Growth:

One of the most important objectives of monetary policy in recent years has been the rapid economic growth of an economy. Economic growth is defined as "the process whereby the real per capita income of a country increases over a long period of time."

Balance of Payments:

Another objective of monetary policy since the 1950s has been to maintain equilibrium in the balance of payments.

Instruments of Monetary Policy:

The instruments of monetary policy are tools or devise which are used by the monetary authority in order to attain some predetermined objectives. There are two types of instruments of the monetary policy as shown below.

Quantitative And Qualitative credit control:

The main objective of quantitative credit is t control is to have a control over the total quantity of credit in the country. For quantitative credit control, the RBI employs bank rate, cash reserve ratio, statuary liquidity ratio and open market operators. Whereas, rationing of credit, moral suasion variation in margin requirements, publicity etc, are used as qualitative credit control methods.

Quantitative Measures: The quantitative measures of credit control are as follows:

Bank Rate Policy:

The bank rate is the Official interest rate at which RBI rediscounts the approved bills held by commercial banks. For controlling the credit, inflation and money supply, RBI will increase the Bank Rate.

Open Market Operations:

Open Market Operations refer to direct sales and purchase of securities and bills in the open market by Reserve bank of India. The aim is to control volume of credit.

Cash Reserve Ratio:

Cash reserve ratio refers to that portion of total deposits in commercial Bank which it has to keep with RBI as cash reserves.

Statutory Liquidity Ratio:

SLR refers to that portion of deposits with the banks which it has to keep with itself as liquid assets(Gold, approved govt. securities etc.) If RBI wishes to control credit and discourage credit it would increase CRR & SLR.

Qualitative Measures:

Qualitative measures are used by the RBI for selective purposes. Some of them are

Margin requirements:

This refers to difference between the securities offered and amount borrowed by the banks.

Consumer Credit Regulation:

This refers to issuing rules regarding down payments and maximum maturities of installment credit for purchase of goods.

RBI Guidelines:RBI issues oral, written statements, appeals, guidelines, warnings etc. to the banks.

Rationing of credit: The RBI controls the Credit granted / allocated by commercial banks.

Moral Suasion: Psychological means and informal means of selective credit control.

Direct Action:

This step is taken by the RBI against banks that don't fulfill conditions and requirements. RBI may refuse to rediscount their papers or may give excess credits or charge a penal rate of interest over and above the Bank rate, for credit demanded beyond a limit.

Conclusion:

The Reserve Bank of India was established with a view to fostering the banking business and not for impeding the growth of such business. The powers vested in it under Section 22 are not one invested with a mere officer of the Bank. The standards for the exercise of the power have been laid down in Section 22 itself. The Reserve Bank is a non-political body concerned with the finances of the country. When a power is given to such a body under a statute which prescribes the regulations of a Banking Company, it can be assumed that such power would be exercised so that genuine: banking concerns could be allowed to function as a bank, while institutions masquerading as banks or those run on unsound lines or which would affect the interests of the public could be weeded out.

The Reserve Bank's developmental role includes ensuring credit to productive

sectors of the economy, creating institutions to build financial infrastructure, and expanding access to affordable financial services. It also plays an active role in encouraging efficient customer service throughout the banking industry, as well as extension of banking service to all, through the thrust on financial inclusion. RBI works as the monetary authority of India and there by operates the monetary policy. Reserve Bank of India announces Monetary Policy every year in the Month of April. This is followed by three quarterly Reviews in July, October and January. But, RBI at its discretion can announce the measures at any point of time. The Annual Monetary Policy is made up of two parts viz. Part A: macroeconomic and monetary developments; Part B: Actions taken and fresh policy measures. Monetary policy of the RBI deals with almost all other vital topics such as financial stability, financial markets, interest rates, credit delivery, regulatory norms, financial inclusion and institutional developments etc.

These are various selective instruments of the monetary policy. However the success of these tools is limited by the availability of alternative sources of credit in economy, working of the Non-Banking Financial Institutions (NBFIs), profit motive of commercial banks and undemocratic nature off these tools. But a right mix of both the general and selective tools of monetary policy can give the desired results.

==========

References :

- **Books:**

1. Dr. V.K.Vashisth, Dr. H. R. Swami and Dr. B.P, Gupta (Banking And Finance)
2. M.Y. Khan (Indian Financial System)
3. Shashi K. Gupta, Dr. Nisha Agarwal and Dr. Neeti Gupta (Financial Institutions and Markets)
4. Prof. Indra Vardhan Trivedi, Dr. Rakesh Dashora and Dr Ashok Nagar (Indian Banking Systems)

- **Webliography:**

1. WWW.ripulication.com
2. WWW.rbi.org.in

UGC Journal No. (Old) 40942,
Peer-Reviewed Research Journal
Impact Factor 3.928, ISSN 0973-3914
Vol.- XXX-XXXI, Year- 15, Dec. 2019- March 2020

Importance of Road Transport in the Development of Indian Economy

* Sushama Deshmukh
** Shrikant Narharirao Deshmukh

Abstract- *Economic development is the most important factor for any country because no country can progress without proper development of its economy. The road transport mode in India has come to occupy a vital position in the overall transport system in India. Over the past few decades, the share of road transport in overall traffic flow has been continually increasing with a substantial shift from rail; to road being observed. This mode is currently estimated to have a share of about 80% in passenger transport and 60% in freight transport. Despite such an impressive growth, it is increasingly being recognized that there is a wide gap between the demand for, and the supply of road transport services, both from a qualitative as well as quantitative perspective. As agricultural and industrial development is very essential for the economic development of a country, it is also important to have better transport and communication system in the country. Sufficient and effective transport and communication system is the base of modern and developed economy, because as blood vessels are important for a human body so are the transport and communication system in the economy of a country. The development of transport and communication helps to increase the speed of economic development because all the sectors depend upon it. Road transport is vital to Indian economy. It enables the country's transportation sector contribute 4.7 percent of India's GDP in comparison to railway that contribute 1 percent in 2009-10. Road transport has gained an importance over the year despite significant barriers and inefficiencies in the interstate freight and passenger movement compared to railways and air. The government of India consider road network as critical to the country's development, social integration and security needs.*

Key Words- Economic development, Progress, Economy

India is a developing country and hence roads are of great importance for a country like India. Following are the important factors found in the research which makes roads an important mode of transport in India. Roads play a very

* Associate Professor, Head, Department of Commerce Mahila Mahavidyalay, Amravati
** Assistant Professor, Z.P. Junior College Dharni

important role in the transportation of goods and passengers for short and medium distances. It is comparatively easy and cheap to construct and maintain roads. Road transport system establishes easy contact between farms, fields, factories and markets and provides door to door service. Roads can negotiate high gradients and sharp turns which railways cannot do. As such, roads can be constructed in hilly areas also. Roads act as great feeders to railways. Without good and sufficient roads, railways cannot collect sufficient produce to make their operation possible. Road transport is more flexible than the railway transport. Buses and trucks may be stopped anywhere and at any time on the road for loading and unloading passengers and goods whereas trains stop only at particular stations. Perishable commodities like vegetables, fruits and milk are transported more easily and quickly by roads man by railways. Due to above-mentioned advantages, the road transport has become very popular and its share is constantly increasing in comparison to other modes of transport. India now has one of the biggest road networks in the world. Road transport is playing an important role in the development of Indian economy.

Introduction:

Economic development is the most important factor for any country because no country can progress without proper development of its economy. The road transport mode in India has come to occupy a vital position in the overall transport system in India. Over the past few decades, the share of road transport in overall traffic flow has been continually increasing with a substantial shift from rail; to road being observed. This mode is currently estimated to have a share of about 80% in passenger transport and 60% in freight transport. Despite such an impressive growth, it is increasingly being recognized that there is a wide gap between the demand for, and the supply of road transport services, both from a qualitative as well as quantitative perspective. As agricultural and industrial development is very essential for the economic development of a country, it is also important to have better transport and communication system in the country. Sufficient and effective transport and communication system is the base of modern and developed economy, because as blood vessels are important for a human body so are the transport and communication system in the economy of a country. The development of transport and communication helps to increase the speed of economic development because all the sectors depend upon it. Road transport is vital to Indian economy. It enables the country's transportation sector contribute 4.7 percent of India's GDP in comparison to railway that contribute 1 percent in 2009-10. Road transport has gained an importance over the year despite significant barriers and inefficiencies in the interstate freight and passenger movement compared to railways and air. The government of India consider road network as critical to the country's development, social integration and security needs.

Objectives:

1) To study the relation between transportation and economic development

in India.

2) To study the importance of road transport in the development of economy.
3) To study the role of roads and road transport in the development of Indian economy.

Hypothesis:-

1) Transportation and economic development are closely related and they are interdependent for the economic and infrastructural development.
2) Road development has greatly affected the economic development in India in comparison to other modes of transport.
3) Indian economy heavily depends upon roads because other modes of transport like railways, airways and waterways are costly and difficult to reach and every part of the country.

Transportation and Economic Development:

Economy and transport can't be separated from each other. Without a good and developed transport system no economy can progress. The study of transport and economy has been done in detailed. Transport is a key necessity for specialization allowing production and consumption of products to occur at different locations. Transport has throughout history been a spur to expansion; better transport allows more trade and a greater spread of people. Economic growth has always been dependent on increasing the capacity and rationality of transport. But the infrastructure and operation of transport has a great impact on the land and is the largest drainer of energy, making transport sustainability a major issue. Due to the way modern cities and communities are planned and operated, a physical distinction between home and work is usually created, forcing people to transport themselves to places of work, study, or leisure, as well as to temporarily relocate for other daily activities. Passenger transport is also the essence of tourism, a major part of recreational transport. Commerce requires the transport of people to conduct business, either to allow face- to-face communication for important decisions or to move specialists from their regular place of work to sites where they are needed. It is found in the research that transport plays an important role in economic development. Transportation developments that have taken place since the beginning of the industrial revolution have been linked to growing economic opportunities. At each stage of human societal development, a particular transport mode has been developed or adapted. However, it has been observed that throughout history that no single transport has been solely responsible for economic growth. Instead, modes have been linked with the direction and the geographical setting in which growth was taking place. For instance, major flows of international migration that occurred since the 18th century were linked with the expansion of international and continental transport systems. Transport has played a catalytic role in these migrations, transforming the economic and social geography of many nations. Concomitantly, transportation has been a tool of territorial control and exploitation, particularly during the colonial era where resource-based transport systems supported the

extraction of commodities in the developing world. While some regions benefit from the development of transport systems, others are often marginalized by a set of conditions in which inadequate transportation play a role. Transport by itself is not a sufficient condition for development. However the lack of transport infrastructures can be seen as a constraining factor on development. Investment in transport infrastructures is thus seen as a tool of regional development, particularly in developing countries and for the road sector. The relationship between transportation and economic development is thus difficult to formally establish and has been debated for many years. The complexity lies in the variety of possible impacts: Timing of the development varies as the impacts of transportation can either be precede, occur during or take place after economic development. The lag, concomitant and lead impacts make it difficult to separate the specific contributions of transport to development, therefore. Each case study appears to be specific to a set of timing circumstances that are difficult to replicate elsewhere. Types of impacts vary considerably. The spectrum of impacts ranges from the positive through the permissive to the negative. In some cases transportation impacts can promote, in others they may hinder economic development in a region.

Importance of Roads and Road Transport:

In the study of importance of road transport it is found in the research that the transport system helps in expanding the market for goods and by doing so, it aids reaping the benefit of division of labour and thereby large-scale production. It is essential for the movement of raw materials, fuel, machinery etc., to the places of production. The more extensive and continuous the production in any sector, the greater will be the need for transport facilities. India has an extensive road network and provides amenity to millions of people every day, thus road transport is one of the important ingredients for the social and economic development of the country. India has the third largest road network in the world stretching 3.32 million kilometres in length. According to the World Bank, national highways in India constitute a length of close to 70,748 km, which is a mere two percent of the road network, but carry about 40 percent of the total road traffic in India. The significance of transportation is relative to the economy and the population of a country; India being the world's second fastest growing economy and being the second largest populated, transportation plays a crucial role in its economic development and sustainable growth. In the transportation sector, road transport has emerged as a dominant segment with a share of 4.8 percent in India's Gross Domestic Product (GDP) in 2008-09.

Following points are found important in the study of the road development and importance of roads and road transport in progress of an economy.

1. Road Transport contributes in growth of industries whose product requires quick marketing. Perishable products, such as fish and green vegetables are carried to various consumers quickly even in distant markets through transport.

2. Road Transport helps in increase in the demand for goods. Through transport newer customers in newer places can be easily contacted and products can be introduced to them. Today markets have become national or international only because of transport.
3. Road Transport ensures evenly distribution of commodities into the hands of the consumers throughout the period of consumption.
4. Road Transport increases competition, which in turn, reduces pries. Prices are also reduced because of the facilities offered by transport for large-scale production. Advantage of large-scale production is possible only due to transport networks.
5. Road Transport increases mobility of labour and capital. It makes people of one place migrate to other places in search of jobs. Even capital, machineries and equipment's are imported from foreign countries through transport alone.

Conclusion:

India is a developing country and hence roads are of great importance for a country like India. Following are the important factors found in the research which makes roads an important mode of transport in India. Roads play a very important role in the transportation of goods and passengers for short and medium distances. It is comparatively easy and cheap to construct and maintain roads. Road transport system establishes easy contact between farms, fields, factories and markets and provides door to door service. Roads can negotiate high gradients and sharp turns which railways cannot do. As such, roads can be constructed in hilly areas also. Roads act as great feeders to railways. Without good and sufficient roads, railways cannot collect sufficient produce to make their operation possible. Road transport is more flexible than the railway transport. Buses and trucks may be stopped anywhere and at any time on the road for loading and unloading passengers and goods whereas trains stop only at particular stations. Perishable commodities like vegetables, fruits and milk are transported more easily and quickly by roads man by railways. Due to above-mentioned advantages, the road transport has become very popular and its share is constantly increasing in comparison to other modes of transport. India now has one of the biggest road networks in the world. Road transport is playing an important role in the development of Indian economy.

==========

References :

1. Indian economy (2007), Pratiyogita Darpan
2. StiramanS. (1998) Road transport development in India- current science Vol. 75.
3. Tripathi Shruti 2013, Road Transport, Infrastructure and Economic Growth in India-Journal of Infrastructure Development SAGE Publication, Delhi.
4. Mehata Udai 2009, Research Study of the Road Transport Sector of India, Govt. of, India.
5. Gangopadhyay and U.K. Guru Vittal 2014- Central Road Research Institute, New Delhi, National Labs, Research highlights.

UGC Journal No. (Old) 40942,
Peer-Reviewed Research Journal
Impact Factor 3.928, ISSN 0973-3914
Vol.- XXX-XXXI, Year- 15, Dec. 2019- March 2020

Investigation of anxiety, depression and stress among professional female students at University level

* ReenaWalia

Abstract- *Stress, anxiety and depression for academics among university students are a cause of concern. Reports of research surveys on university student's shows there will be 10 to 20 % of students suffering from psychological problems like stress, anxiety & depression (Narasappa, 2013). The purpose of the study is to examine the current status of depression, anxiety and stress of different professional students. A group of female students of 180 (N=60 each) from medical, engineering and physical education profession, of 18-25 years with mean and SD of 21.20+2.35 were selected randomly. Depression Anxiety and Stress Scale (DASS) by Lovibond (1995) questionnaire was used as an instrument.Descriptive statistics such as mean and standard deviation and comparative statistical technique (one way ANOVA) and Post HOC test LSD were used and level of significance was set at 0.05, where the mean and SD for the three groups, medical, engineering and physical education for depression are 11.23+7.23, 9.50+9.62 and 14.97+7.21; for anxiety are 11.77+6.05, 10.35+8.3 and 16.62+6.84 and for Stress 14.05+6.13, 10.15+8.4 and 16.8+6.47 respectively.F-value is significant as the calculated f values 7.14 for depression, 12.77 for anxiety and 13.39 for stress were found to be greater than the tabulated f value = 3.04 with 2, 177 df at 0.05 level of significance. Post HOC testanalysisreveals a significant difference in depression among physical education and engineering students and among physical education and medical students. Further, there is significant difference in anxiety among physical education and engineering students and among physical education and medical students. Lastly, there is significant difference in stress among physical education, engineering and medical students. As, Aerobic exercise training has antidepressant and anxiolytic effects and protects against harmful consequences of stress Peter Salmon (2001). These results may be own due to, physical education students involves mostly in sports activities.*

Key Words- Depression, Anxiety and Stress

Introduction: Depression is a state of low mood and aversion to activity that can affect a person's thoughts, behavior, feelings and sense of well-being (Sandra

* Assistant Professor, RPDT Govt .Degree College, Talbehat, Lalitpur, U.P

Salmans, 1997). Like all other emotions, anxiety has both a trait component and a state component. The trait component is like a personality disposition, whereas the state component is a situation-specific response. It is a feeling of fear, worry, and uneasiness, usually generalized and unfocused as an overreaction to a situation that is only subjectively seen as menacing (Spielberger, 1971). Selye in 1983 has defined stress as the "Nonspecific response of the body to any demand made upon it."

The Stanford Survey found psychological distress to be extremely common among the students. 1 out of 3 described them as anxious or tense. As far as depression is concerned, 1 in 5 described them as "tired without any apparent reason". 43 percent said sometimes felt "so depressed it is hard for them to get going" and 16 percent reported feeling that life is not worth living (Martinez &Fabiano, 1992).

Taking into considerations of several articles published on the psychological distress of college students, one can safely conclude that 20 to 25 percentage of student population worldwide suffering from psychological distress. Stress is any situation that evokes negative thoughts and feelings in a person. Stressful events can be appraised by individual as "Challenging" or "threatening" (Lazarus, 1966). Beck and Young (1978) reports, at any given time 25% of student population reports of symptoms of depression due to following reasons:

1. Stresses from the increased difficulty of college work
2. Isolation and loneliness
3. Problems with studying and grades frequently trigger depression.
4. Break up of intimate relationship.

Methodology:

Selection of Subjects:

To serve the purpose of the investigation, 60 female students each from Medical, Engineering and Physical Education profession, of 18-25 age groups were selected randomly. Subjects were selected from the students of MPCT College, AMITY University and LNIPE, Gwalior.

Administration of Questionnaire:

To measure the negative emotional states of depression, anxiety and stress Depression Anxiety and Stress Scale (DASS) was implemented. The DASS is a 42-item questionnaire which includes three self-report scales designed to measure the negative emotional states of depression, anxiety and stress. Each of the three scales contains 14 items, divided into subscales of 2-5 items with similar content. Respondents are asked to use 4-point severity/frequency scales to rate the extent to which they have experienced each state over the past week. The questionnaire was administered individually by the research scholar to all the subjects. All the subjects had answered the questionnaire separately, without consulting others. The subjects were exhorted to give their frank and true opinion and the research scholar had assured the respondents that the information given by them would be kept confidential and utilized for the research

purpose only.

Statistical Technique:

The statistical technique applied in order to examine the hypotheses of the study were, descriptive statistics such as mean and standard deviation and comparative statistics of analysis of variance (One way ANOVA) and LSD as POSTHOC test. SPSS 20 was also used.

Results:

In order to compare or to see the differences between different professional'sdepression, anxiety and stress, statistical technique (one way ANOVA) and Post HOC test LSD were employed and level of significance was set at 0.05.

Table 1
Descriptive Statistics for Depression, Anxiety and Stress of Different Professionals Groups

Professional Groups	N	Mean	Std. Deviation	Std. Error
Depression Physical Education	60	14.97	7.21	0.93
Engineering	60	9.50	9.62	1.24
Medical	60	11.23	7.23	0.93
Total	**180**	**11.90**	**8.37**	**0.62**
Anxiety Physical Education	60	16.62	6.84	0.88
Engineering	60	10.35	8.30	1.07
Medical	60	11.77	6.05	0.78
Total	**180**	**12.91**	**7.58**	**0.56**
Stress Physical Education	60	16.80	6.47	0.84
Engineering	60	10.15	8.40	1.09
Medical	60	14.05	6.13	0.79
Total	180	13.67	7.55	0.56

Table 1 shows the scores of Mean and S.D. of different professional groups of depression, anxiety and stress of professional students at collegiate level. The Mean & S.D of physical education, engineering and medical students of depression are 14.97±7.21; 9.50±9.62; 11.23±7.23 respectively. The Mean & S.D of Physical Education, Engineering and Medical students of anxiety are 16.62±6.84; 10.35±8.30; 11.77±6.05 respectively. The Mean & S.D of Physical Education, Engineering and Medical students of stress are 16.80±6.47; 10.15±8.40; 14.05±6.13 respectively.

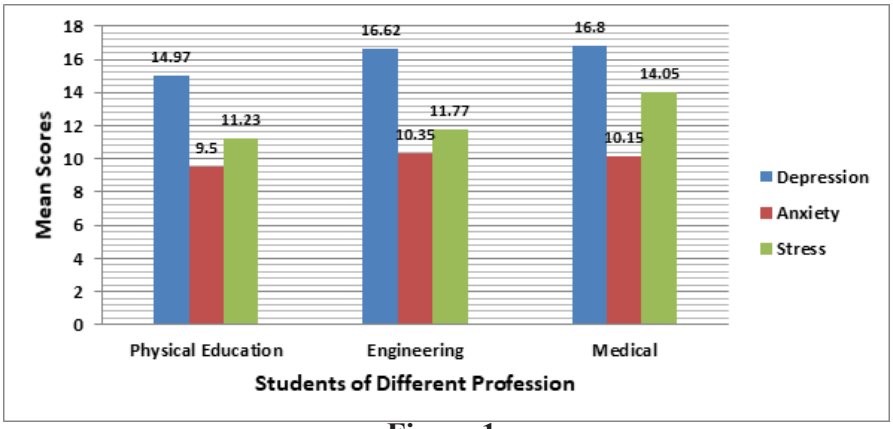


Figure 1:
Mean Comparison of Depression, Anxiety and Stress of Different Professionals

Table 2:
Comparative Statistics of Depression for Professional Students at University Level

	Sum of Squares	df	Mean Square	F	Sig. (p-value)
Depression Between Groups	936.53	2.00	468.27	7.14	0.00*
Within Groups	11611.67	177.00	65.60		
Total	**12548.20**	**179.00**			
Anxiety Between Groups	1296.01	2.00	648.01	12.77	0.00*
Within Groups	8984.57	177.00	50.76		
Total	**10280.58**	**179.00**			
Stress Between Groups	1339.90	2.00	669.95	13.39	0.00*
Within Groups	8856.10	177.00	50.03		
Total	**10196.00**	**179.00**			

*** Significant at 0.05 level**

Table no. 2 shows that the F-value is significant as the calculated f values i.e. 7.14 for depression, 12.77 for anxiety and 13.39 for stress of professional students at university level were found to be greater than the tabulated f value = 3.04 with 2, 177 df at 0.05 level of significance.

Since F-value is significant, post hoc test needs to be applied for comparing means of groups. SPSS output shown in Table 3 provides such comparison.

Table 3
Multiple Comparisons table of Post HOC test (LSD) of Depression, Anxiety and Stress forProfessional Students at University Level

Types of Groups (I)	Types of Groups (J)	Mean Difference (I-J)	Std. Error	Sig. (p-value)
Depression Physical Education	Engineering	5.47	1.48	0.00*
Engineering	Medical	1.73	1.48	0.24
Medical	Physical Education	3.73	1.48	0.01*
Anxiety Physical Education	Engineering	6.27	1.30	0.00*
Engineering	Medical	1.42	1.30	0.28
Medical	Physical Education	4.85	1.30	0.00*
Stress Physical Education	Engineering	6.65	1.29	0.00*
Engineering	Medical	3.90	1.29	0.00*
Medical	Physical Education	2.75	1.29	0.03*

***Significant at 0.05 level**

It can be seen that for depression the difference between Physical Education and Engineering students is significant as the mean difference for this is 5.47 which is greater than critical difference that is 1.724. Similarly, the difference between Physical Education and Medical students is also significant as the mean difference for this is 3.73 which is also less than critical difference that is 1.724. However, there is no significant difference between the means of the Medical and Engineering students.

Similarly, for anxiety the difference between Physical Education and Engineering students is significant as the mean difference for this is 6.27 which is greater than critical difference that is 1.525. Similarly, the difference between Physical Education and Medical students is also significant as the mean difference for this is 4.85 which is also less than critical difference that is 1.525. However, there is no difference between the means of the Medical and Engineering students.

Lastly, for stress the difference between Physical Education and Engineering students is significant as the mean difference for this is 6.65 which is greater than critical difference that is 1.514. Similarly the difference between Physical Education and medical, and Medical and Engineering students are also significant as the mean difference for these are 2.75 and 3.90 respectively which is also greater than critical difference that is 1.514.

Discussion and Findings

On the basis of the results of the study, the hypothesis stated that there would be significant difference in Depression, Anxiety and Stress in different professions at university level. The hypothesis established was found to be true in most of the negative psychological emotions, hence it can be concluded that students of different professions at university level has different level of

Depression, Anxiety and Stress.

Additionally it was found that there is difference in depression among Physical Education and Engineering students also among Physical Education and Medical students but there is no difference between the Medical and Engineering students. Similarly there is difference in anxiety among Physical Education and Engineering also among Physical Education and Medical students. However, there is no difference between the Medical and Engineering students. This may be own due to, Physical Education students involves mostly in sports activities in comparison to Medical and Engineering students and they have less for mental recovery.

Further it was found that there is difference in stress among Physical Education, Engineering and Medical students. And it may be because of the tasks they face in day to day life as well as in their professional life

==========

References :

1. Kumaraswamy, N., (2013). Academic Stress, Anxiety and Depression among College Students- A Brief Review, *International Review of Social Sciences and Humanities* Volume 5, Issue 1 (December 2012), p.p. 135-143.
2. Lovibond, S. H., &Lovibond, P.F., (1995). Manual for the Depression Anxiety Stress Scales.(2nd Ed.). Sydney: Psychology Foundation.
3. Verma, J. P., (2011). *Statistical methods for sports and physical education.* Tata McGraw-Hill Education Private Limited, New Delhi.
4. Salmon, P., (2001). Effects of Physical Exercise on Anxiety, Depression, and Sensitivity to Stress: A Unifying Theory,*Clinical Psychology Review*Volume 21, Issue 1, (February 2001), p.p. 33- 61.
5. Salmans, S., (1997). Depression: Questions You Have – Answers You Need. *People's Medical Society*, 1997.ISBN 978-1-882606-14-6.
6. Selye, H., (1976). Stress Without Distress. Bruxellesmédical. 56. 205-10. 10.1007/978-1-4684-2238-2_9.
7. Martinez, A. M., &Fabiano, P., (1990) Stanford students health needs assessment 1990, Student Health Center, (1992), Stanford University Report of Stanford CA: Cowell.
8. Lazarus, R. S., (1966). Psychological Stress and the Coping Process.NewYork: McGraw- Hill.
9. Beck, A.T., & Young, J.E., (1978). College blues, Psychology Today, Volume 12, Issue 4 (1978), p.p. 80-82.
10. Daniel, E., et.al (2007), Prevalence and Correlates of Depression, Anxiety, and Suicidality among University Students, *American Journal of Orthopsychiatry* Volume 77, Issue 4, October 2007, p.p. 534–542.
11. Dyrbye, L.N., et.al (2006), Articles Reporting on Depression, Anxiety and Burnout among U.S. and Canadian Medical Students, *Academic Medicine: Well-Being of Students* Volume 81, Issue 4, April 2006, p.p. 354-373.
12. Jadoon, N., et.al (2010), Anxiety and Depression among Medical Students: A Cross-Sectional Study,*Journal of the Pakistan Medical Association* (Impact Factor: 0.4). 08/2010; 60(8): p.p. 699-702.
13. Mejía, O.L., & McCarthy, C.J., (2010), Acculturative Stress, Depression, and Anxiety in Migrant Farm Work College Students of Mexican Heritage,

International Journal of Stress Management Vol. 17(1), Feb 2010, p.p. 1-20.

14. Misra, R., &Mckean, M., (2000), College Students' Academic Stress and its Relation to their Anxiety, Time Management, and Leisure Satisfaction, *American Journal of Health Studies* Volume 16, Issue 1.

15. OeiTian, P.S., et.al (2013), Depression Anxiety Stress Scale 21 (DASS-21) Across Cultures, *International Journal of Psychology* Volume 48, Issue 6 (2013).

UGC Journal No. (Old) 40942,
Peer-Reviewed Research Journal
Impact Factor 3.928, ISSN 0973-3914
Vol.- XXX-XXXI, Year- 15, Dec. 2019- March 2020

Relationship of selected linear kinematic variable with the performance of Snatch in weight lifting

* **Hukum Singh**

Abstract- *The world of games and sports has crossed many milestones as a result of different types of research and variety of scientific advancement in general and their application in the field of sports in particular. In the modern scientific age athletes are being trained by highly sophisticated means for better achievement in their concerned sports and they are being exposed to the exercise and training methods which have proved beneficial for achieving higher standard. In the recent years, greater stress has been laid on quality rather than the quantity of training. The coaches and teachers of physical education want their athlete to extract maximum achievement from their training procedures without causing too much strain on them. The purpose of the study was to see the relationship of selected linear kinematic variable with the performance of snatch in weight lifting.*

The subjects for this study were 5 male weight lifters who represented Lakshmibai National University of Physical Education, Gwalior in All India Inter-University Championship were selected. To determine the, relationship of selected linear kinematic variable with the performance of snatch in weight lifting, pearson's product moment correlation was used. The results have shown the value of co-efficient of correlation of selected linear kinematic variable at moment initial stance were, height of center of gravity (0.167) whereas tabulated value of (n-2) i.e. (5-2) = 3 at.05 level of significance is 0.87. the value of co-efficient of correlation of selected linear kinematic variable at moment squat snatch were, height of center of gravity (0.910) whereas tabulated value of (n-2) i.e.(5-2) = 3 at .05 level of significance is 0.87. The results have exhibited that the obtained value of coefficient of correlation in case of the height of center of gravity has shown the significant relationship with the performance of snatch technique in weight lifting during moment squat snatch and In case of the height of center of gravity during moment initial snatch results have shown the insignificant relationship.

Key Words- Center of Gravity, Initial Stance and Squat Snatch

Introduction: The world of games and sports has crossed many milestones as a result of different types of research and variety of scientific advancement in

* **Assistant Professor of Physical Education, D.R.A., Government., P.G. College, Bisauli, Budaun, (U.P.)**

general and their application in the field of sports in particular. In the modern scientific age athletes are being trained by highly sophisticated means for better achievement in their concerned sports and they are being exposed to the exercise and training methods which have proved beneficial for achieving higher standard. In the recent years, greater stress has been laid on quality rather than the quantity of training. The coaches and teachers of physical education want their athlete to extract maximum achievement from their training procedures without causing too much strain on them. (Rustom N. sadri, 1990)

The role that sports biomechanics widely understood in the sports community and the demand for service increasing, researchers in sports biomechanics will have to consider carefully how much time they can devote to the provision of scientific services without impairing their performance as scholar researchers. To avoid the problems inherent in this situation, it may necessary to develop programs of study for the training of technicians in sports biomechanics; technicians who can provide the kind of services sought by sporting bodies. (James G. Hay, 1984)

Purpose: The purpose of the study was to see relationship of selected linear kinematic variables with the performance of the snatch technique in weight lifting

Procedure: Five male all India inter-university participants in weight lifting of 18 to 25 years of age, who had participated for Lakshmibai National University of Physical education Gwalior, were selected as subjects for this study.

Criterion measures: The criterion measures for the study were:-

1. The performance of each subject in the snatch technique.
2. They performed the technique in controlled conditions.
3. The performance was recorded according to the weight lifted by the subjects in the trials and it will be recorded in kg. In the presence of experts.

Procedure for Location of Center of Gravity:

The center of gravity each body segment and the whole body was determined by segmentation method as suggested by James G. Hay.

Statistical technique:

The relationship of selected linear kinematic variables with the performance of the snatch technique in weight lifting was calculated by using Pearson's product moment correlation and for testing the hypothesis the level of significance was set at .05.

Results:

The score of independent linear kinematic variable and were correlated with performance of subjects in weight lifting. In order to ascertain the relationship of linear kinematic variable height of center of gravity at the moment initial stance and moment squat snatch. the pearson's product moment correlation was calculated and coefficient of correlation was presented in table no. 1.

TABLE 1
RELATIONSHIP OF LINEAR KINEMATIC VARIABLE **WITH PERFORMANCE OF SNATCH TECHNIQUE IN WEIGHT LIFTING**

Sr. No.	Variable	Coefficient of correlation
1.	Height of center of gravity at moment Initial Stance	0.167

***significant at .05 level**

Table 1 reveal that the value of co-efficient of correlation of selected linear kinematic variable at moment stance were: height of center of gravity at moment initial stance (0.167) whereas tabulated value of (n-2) i.e. (5-2) = 3 at .05 level of significance is 0.87.

TABLE 2
RELATIONSHIP OF LINEAR KINEMATIC VARIABLE **WITH PERFORMANCE OF SNATCH TECHNIQUE IN WEIGHT LIFTING**

Sr. No.	Variable	Coefficient of correlation
1.	Height of center of gravity at moment Squat snatch	0.910*

***significant at .05 level**

Table 2 reveal that the value of co-efficient of correlation of selected linear kinematic variable at moment squat snatch were: height of center of gravity at moment squat snatch (0.910), whereas tabulated value of (n-2) i.e. (5-2) = 3 at .05 level of significance is 0.87.

Discussion of findings :

As shown by the table one linear kinematic variable does not showed a positive relationship at the selected level of 0.05. this means that while doing snatch in weight lifting, starting position of a lifter was not determined his performance, it was his own strength ability which decide the performance to the scholar understanding weight lifters while executing the lift should have proper stance and grip, so that they have good control over the barbell and able to execute lift effectively. linear kinematic variables height of center of gravity at moment initial stance did not show significant relationship.

As shown by the table 2 height of center of gravity at moment squat snatch showed positive relationship at the selected level of 0.05. This means that while doing squat snatch the center of gravity played an important role. A lifter should aware about the position of center of gravity so that he can balance himself during lifting. After the weight has been lifted, must be maintain in the final motion less position, arms and legs extended, the feet on the same leg thus

height of center of gravity of body should be proper so that lifter could be able to execute lift effectively. The lower the height of center of gravity have advantage to the lifter because lifting weight against the gravity and at more height was difficult so if lifter, in squat snatch position after gliding with high pull quickly go for squat than he had advantage his height of center of gravity would be low and he had to lift the weight to less height.

==========

References :

1. Sadri. Rustom N., Effect of Block Spacing on Acceleration Related to the Leg Length of a Sprinter, (Unpublished Master's Thesis, Jiwaji University, April 1990)
2. Hay James G., "Sports Biomechanics; A Status Report," Journal of sports Sciences 2 (1984)
3. Newton, John, John Arononcher and Dee Abramson, "An Expensive Timing Method for Cinematography", Research Quarterly 42:2 (May 1971)
4. Hay James G. and J Gavin Reid. The Anatomical and Mechanical Bases of Human Motion (Englewood Cliffs, N.J. Prentice Hall Inc., 1982)

UGC Journal No. (Old) 40942,
Peer-Reviewed Research Journal
Impact Factor 3.928, ISSN 0973-3914
Vol.- XXX-XXXI, Year- 15, Dec. 2019- March 2020

A Comparative Study on Hemoglobin between the basketball and Kabaddi Player's of U.L.D. Mahila College

* **Mayuri C. Patel**

Abstract- *The Statement of the Problem is,A Comparative Study of U. L. D. Mahila College Players Measure Hemoglobin.There will be found significant difference between mean scores of scores players of hemoglobin of basketball group and kabaddigroup.To compare the hemoglobin of basketball players and kabaddi players.The present study was limited for u. l. d. Mahila College, Gondal.Further, it was made limited for players of basketball and Kabaddi.The present study was limited for players of 18 to 29 age groups.The present study was limited for player's academic year 2019/2020.The present study was limited only for female players. The 20 female players of basketball and 20 female players of kabaddi players. a sample of total 40 female players of basketball and kabaddi were included in the sample of the present study. Subjects were selected by using systematic random sampling. Significant difference was not found between scores of basketball group and kabaddi group in hemoglobin. So the research hypothesis was rejected.It was concluded that was no difference seen between basketball group and kabaddi group in hemoglobin. Both the group was similar in hemoglobin.*

Key Words- Scores, Female, Hemoglobin

Introduction: Our body is the best formation of nature. The body is a living machine. The science of knowing the function of organs of the body is called Physiology. Physiology provides information about how, when and why the organs of the body work. The knowledge of physiology helps us to keep good health. There is hemoglobin in red blood cells. Millions of hemoglobin particles are found in each red cell. Hemoglobin is made of iron, alkali and nitrogen elements. Starting of producing hemoglobin is done in red blood cells prepared in red bone marrow. Hemoglobin is produced with the help of first category of (organic) proteins, alkalis and vitamins. The ratio of hemoglobin particle and iron alkali is 1:4. Each particle of hemoglobin carries four cells of oxygen in the body. Hemoglobin absorbs oxygen from lungs. As a result, a red colored oxy-hemoglobin is prepared. When the blood circulates in cell-webs, oxygen and hemoglobin are separated. Oxygen is absorbed in cell-webs. Hemoglobin absorbs

* Rajkot

carbon dioxide within it and prepares carboxyl hemoglobin. Red cells bring carbon dioxide from lungs and exhales out of the body.

Statement of the Problem: The Statement of the Problem is,

"A Comparative Study on Hemoglobin between the basketball and Kabaddi Player's of U. L. D. Mahila College"

Objectives of the Study: Following were the objectives of the study.

1. To measure hemoglobin of basketball players.
2. To measure hemoglobin ofkabaddi players.
3. To compare the hemoglobin of basketball players and kabaddi players.

Hypotheses:

Considering objectives of the present study, following research hypotheses were formulated in the present study.

1. There will be found significant difference between mean scores of scores players of hemoglobin of basketball group and kabaddi group.

Delimitations of the Study: Following delimitations were decided for the present study.

(1) The present study was limited for u. l. d. Mahila College, Gondal.
(2) Further, it was made limited for players of basketball and Kabaddi.
(3) The present study was limited for players of 18 to 29 age groups.
(4) The present study was limited for player'sacademic year 2019/2020.
(5) The present study was limited only for female players.

Research Limitations: Following research limitations were decided for the present study.

(1) Sex differences of subjects were not taken into consideration.
(2) Nutritional and food related aspects were not taken into consideration in the present study.
(3) Individual differences among subjects were not taken into consideration.
(4) Hereditary aspects of subjects were not taken into consideration.

Importance of the Study: The present study will be useful in the following ways.

(1) The present study will be useful to understand research outline to future researchers.
(2) The results of the present study will provide useful and important background in medical field.
(3) The present study will play important role for coaches and teachers of Physical Education to select players according to sports and games.
(4) The results of the present study will provide information about percentage of hemoglobin in players.

Selection of Subjects:

Population means the whole mass, from which the sample is selected. Smt u. l. d. Mahila College, Gondal were included in the population of the present study. The 20 female players of basketball and 20female players of kabaddiPlayers.A sample of total 40 female players of basketball and kabaddi

were included in the sample of the present study. Subjects were selected by using systematic random sampling.

Research Tools:

Data is needed to test hypotheses or to get answers of questions in any study. The investigator collects data from subjects of sample during the research work. For this purpose, a suitable tool is used. If any research tool is available according to the objectives of the study, it is used but if it is not available, the needed tool is to be constructed

Following research tools were used to collect data in the present study. (1)A fully automated Hematological Analysis Machine for measurement of hemoglobin. (**Tools:** Injection, disposable syringe, needle, cuff, spirit scrubs, E.T.D.A. tube, cotton, marker pen, table, chair.)

Data Collection:

The data was collected from subjects considering objectives of the present study. The director ofu. l. d. mahila college basketball and kabaddi players was contacted. Then, blood samples of selected players were collected and tested by expert of the Government authorized Pathology Laboratory. The whole outline of research process was explained to subjects selected for the sample of the present study, so that they would cooperate to complete the research. Scores on blood test for hemoglobin made by experts were also recorded.

Results and Interpretation:

No.	Group	N	Mean	Mean Diff.	SD	T-Value	Significance level
01	basketball	20	12.58	0.11	1.31	0.32	Not Significant
02	kabaddi	20	12.69		0.96		

Finding:

Significant difference was not found between scores of basketball group and kabaddi group in hemoglobin. So the research hypothesis was rejected.

Conclusion:

It was concluded that, there was no difference seen between basketball group and kabaddi group in hemoglobin. Both the group was similar in hemoglobin.

==========

References :

1. Harkishandas Gandhi and et al (1990), Human Physiology, Obstetrics and Child Bringing up, Ahmedabad : DhavalPrakashan, P. 1
2. Pradymn R. Bhatt (1999), Physiology: Health & Sports Science, 2ne Ed., and Ahmedabad:ParshwaPrakashan, P. 1, 2
3. C. Neiman David, Fitness and Sports Medicine, My Field Publishing Co., 1280, Villa Street, Mountain View, California, 1995, P. 71

UGC Journal No. (Old) 40942,
Peer-Reviewed Research Journal
Impact Factor 3.928, ISSN 0973-3914
Vol.- XXX-XXXI, Year- 15, Dec. 2019- March 2020

Effect of Two Types of Resistance Training on Selected Anthropometric Variables on Female Athletes

*** Nibu R. Krishna**

Abstract- *The purpose of the study was to investigate the effect of Free weight & Machine training on selected Anthropometric Variables. Sixty female Students in the age group of 18-24 years studying in LNIPE, Gwalior were randomly selected as subjects for the study. All the subjects were divided randomly into one experimental group and a control group and each group have 30 female subjects. The Free weight & Machine group was trained with modern free weight & machine training programme prepared by the investigator himself whereas control group did not participate in any training program for 12 weeks except their daily routine. Data collected was analyzed using the analysis of co-variance (ANCOVA) at 0.05 level of significance and showed significant change in selected Anthropometric Variables. The results of the study showed that Free Weight & Machine Training produced significant improvement in Anthropometric Variables.*

Key Words- Free weight & Machine training, Anthropometric Variables

Introduction: One cannot retain that aliveness, which makes life really worthwhile, unless one continues the use of the muscles at reasonably regular periods throughout life.There is only one way to get strong and that is through exercise - real exercise. One cannot become alive in every sense without developing the muscles of the body In order to get the desired results from exercise, it is necessary to have resistance of one kind or another to the action of muscles. The resistance thus offered may be through apparatus, own body-weight or by muscles of another individual. The important thing is resistance and the amount of strength that one develops will be in proportion to the amount of resistance that one habitually overcome in the exercise. Since ancient times, people in India believed that the human body is indeed an instrument of dharma Hence the body is to be properly nourished, and maintained. In medieval India people gave as much importance to physical exercise as to literary education.

Weight training is a common type of strength training for developing the strength and size of skeletal muscles. It uses the force of gravity in the form of weighted bars, dumbbells or weight stacks to oppose the force generated by

* **Assistant Professor, LNIPE Gwalior (M.P)**

muscle through concentric or eccentric contraction. Weight training uses a variety of specialized equipment to target specific muscle groups and types of movement .But now-a-days, weight training exercises are done to strengthen the muscles. When, the knowledge of the muscle being used is essential, so that one group of muscles will not be overdeveloped and other will not be underdeveloped.Now-a-days specific training has been playing a predominant role with emergence of different methods having sustained scientific knowledge for outstanding achievements in various levels of competition. This study investigates the effect of resistance training on selected Anthropometric Variables of students of the physical educationist .

Method:

Sixty female Students of L.N.I.P.E. Gwalior, Madhya Pradesh were randomly selected as subjects for this study. The age of subjects ranging from 18-24 years, according to the institute records. The subjects were divided into two groups, each groups consisting of 30 female subjects. The Free Weight & Machine group was chosen to perform modern exercises like isotonic (weight training) and isometric exercises whereas control group did not participate in any exercise program of the study except their daily routine activity program. Measurements of Anthropometric Variables were taken at the beginning and after the experimental period of twelve weeks.

Result:

To find out the significant difference of two types of training program on Anthropometric variables, the analysis of co-variance (ANCOVA) ,f-ratio was employed at 0.05 level of significance. The result pertaining to the analysis of co-variance done for two experimental groups and control group of Upper Arm Girth performance are presented in Table -1.

Table -1

Analysis of Covariance for the Experimental Groups and Control Group of Upper Arm Girth

Source of Variance	d.f.	SS	MSS	F value	Remarks
Training	2	16.34	3.17	63.84	(P<0.05)
Error	86	11.01	0.128		

* Significant at 0.05 level of significance, Tabulated value of (2,86) is 3.11

SS = Sum square due to error, MSS= Mean Sum of square, F= F-ratio value

From Table-1 it is evident that the adjusted F-ratio value is 63.84 which was found greater than tabulated F-ratio value (3.11) significant at 0.05 level. It indicates that mean score of Upper Arm Girth of subjects belonging to experimental groups and control group differ significantly. Thus the null hypothesis (H_0) that the adjusted mean scores of Upper Arm Girth of subject belonging to experimental groups and control group differ significantly by considering pre Upper Arm Girth as covariate so null hypothesis is rejected. As the F-ratio was found significant in the case of upper arm girth, the significant difference (LSD)

post-hoc test was applied to test the significant difference between paired means on anthropometric variables has been presented in table 2.

Table -2

Paired adjusted final means and differences between means among the experimental group and control group of upper arm girth

Group Means		Mean Difference	Critical differen at 5% l
Free-weight & Machine group	Control group		
23.62		0.170*	0.154
	21.40	0.954*	
	21.40	10.368*	

* significant at 0.05 level of significance

It is evident from Table-2 that mean differences of control group and experimental groups were found to be significant whereas free weight & machine group was also found statistically significant at 0.05 level. It reveals from above table that free weight & machine group training programme was more effective because mean value (23.62) of free weight & machine group was higher than mean value.

The result pertaining to the analysis of co-variance done for experimental group and control group of Lower Arm Girth performance are presented in Table -3.

Table -3

Analysis of covariance for the experimental groups and the control group of forearm girth

Source of Variance	d.f.	SS	MSS	F value	Remarks
Training	2	67.240	33.62	27.89	(P<0.05)
Error	86	103.69	1.21		

* Significant at 0.05 level of significance, Tabulated value of (2,86) is 3.11

SS = Sum square due to error, MSS = Mean Sum of square, F = F-ratio value

From Table-3 it is evident that the adjusted F-ratio value is 27.89 which was found greater than tabulated F-ratio value (3.11) significant at 0.05 level. It indicates that mean score of Forearm Girth of subjects belonging to experimental groups and control group differ significantly. Thus the null hypothesis (H_0) that the adjusted mean scores of Fore Arm Girth of subject belonging to experimental groups and control group differ significantly by considering pre Forearm Girth as covariate so null hypothesis is rejected. As the F-ratio was found significant in the case of Fore arm girth, the significant difference (LSD) post-hoc test was applied to test the significant difference between paired means on selected Anthropometric variables has been presented in table 4.

Table -4
Paired Adjusted Final Means and Differences between Means among the Experimental Groups and Control Group of Forearm Girth

Group Means			Mean Difference	Critical difference at 5% level
	Freeweight& Machine group	Control group		
	22.32		1.196*	0.47
		21.03	0.959*	
	22.32	21.03	2.154*	

* significant at 0.05 level of significance

It is evident from Table-4 that mean differences of control group and experimental groups were found to be significant whereas free weight & machine group was found statistically significant at 0.05 level. It reveals from above table that free weight & machine group training programme was more effective (22.32) of free weight & machine group was higher than mean value

Findings:

The purpose of the study was to investigate the effect of Free weight & Machine training on selected Anthropometric variables of physical education female students. The finding of the study showed that there was a significant difference in selected Anthropometric variables between free weight & machine group and control group at 0.05 level of significance. It is evident that in the case of anthropometric variables i.e. Upper Arm Girth and Fore Arm Girth improved after twelve weeks of training programme. Experimental group Free weight & machine group had significant difference with control group Free weight & machine group training programme was more effective because mean value of Free weight & machine group was found to be higher in case of Upper Arm Girth and Fore Arm Girth agents control group .

Conclusion:

It may be attributed due to the fact that free weight & machine training exercises such as Biceps curl, Triceps curl, Barbell curl, Preacher curl, Hammer curl, Triceps press down, Concentration Curl, Forearm curl and Reverse curl are probably more scientific and systematic In addition to the above mentioned facts, weight training exercises always have more increasing poundage, repetitions and sets. With the increased poundage and repetition the muscle hypertrophy takes place and which in turns increases the girths.

Finding of this study is congruent with the findings of the study conducted by Ross Thomas Sanders (1985).

Results of this study are also congruent with findings of the study conducted by BrutriceSabol (1963).

==========

References :

1. www.functionalhandstrength.com/indian_physical_culture.html , retrieved

December 11,2013.JyotsnaKamat, "Education in Karnataka through the ages".
2. Internet:www.kamat.com/database/books/kareducation/physical_education.htm, retrieved November 25, 2013.
3. Brett & Kate Mckay, "An introduction to Indian club training". March 18, 2012.
4. Internet:www.artofmanliness.com/2012/03/18/an-introduction-to-indian-club-training , retrieved January 7, 2014.
5. Jason Menoutis, " Physical Education". Internet: www.peandhealth.com/Weight_Training.html , retrieved January 7, 2014.
6. Majumdar, D.C. Encyclopedia of Indian Physical Culture. Baroda, Shree Ram Vijay Printing Press, 1950.
7 Daniel A. Arnhem. Modern Principles of Athletic Training, Santaclara: Mosby College Publishing 1985.6thed) P.75.
8. Ross Thomas Sanders, "The Effects of Programme of Progressive Resistance Exercise on Strength, Muscle Girth and Body Composition of College Women", Dissertation Abstracts International (1985).
9. Beatrice Sabol, "A study of relationship among Anthropometric, Strength and Performance Measures of College Women Bowlers", Completed Research in Health, Physical Education and Recreation 5(1963).

UGC Journal No. (Old) 40942,
Peer-Reviewed Research Journal
Impact Factor 3.928, ISSN 0973-3914
Vol.- XXX-XXXI, Year- 15, Dec. 2019- March 2020

Effectiveness of Innovative Micro-Teaching Strategy for Teacher Educator

* Nisha C. Raninga

Abstract- *In the twenty first century, to compete with the challenges of modern world, teacher education should also come out with its traditional way of teaching learning process. Micro lessons are great opportunities to present sample "snapshots" of what/how you teach and to get some feedback from colleagues about how it was received. It's a chance to try teaching strategies that the teacher may not use regularly. It's a good, safe time to experiment with something new and get feedback on technique. Micro Teaching is the basic skills for teaching in the class. Here is a strategy about micro teaching which is the different from that traditional one. In it there are 30 students in each group having two observers' means teachers. They will observe the student teacher according to the 10 different sub skills of main skill. These micro teaching skills are only four in number. These four skills include all the effective sub skills for micro teaching. Researcher has completed one research on this new micro teaching strategy and pointed out some conclusions.*

Key Words- Micro-teaching, Pre-service English teachers, Teacher certification examinations, Adapting.

1.0 Introduction: In the twenty first century, to compete with the challenges of modern world, teacher education should also come out with its traditional way of teaching learning process.

Innovation is necessary in every field. Without new ideas and thoughts no one can get quality work. In education, to get quality education and to enhance the quality of education innovations are necessary. Teacher should follow innovative methods and techniques to bring the quality in education. To bring the quality in teacher education, it requires innovative new methods, strategies also. In the present research, researcher has given one innovative strategy for effective micro teaching. Micro lessons are great opportunities to present sample "snapshots" of what/how you teach and to get some feedback from colleagues about how it was received. It's a chance to try teaching strategies that the teacher may not use regularly. It's a good, safe time to experiment with something new and get feedback on technique. Micro Teaching is the basic skills for teaching

* Assistant Professor, Smt. J. J. Kundaliya Graduate Teachers' College, Rajkot

in the class. Here is a strategy about micro teaching which is the different from that traditional one. In it there are 30 students in each group having two observers' means teachers. They will observe the student teacher according to the 10 different sub skills of main skill. These micro teaching skills are only four in number. These four skills include all the effective sub skills for micro teaching. Researcher has completed one research on this new micro teaching strategy and pointed out some conclusions.

2.0 Objectives of the Study:

1. To apply the new programme of micro-teaching.
2. To find out the effectiveness of new micro-teaching programme in teacher training college.
3. To suggest the remedies for better implementation of the new micro teaching program in future.

3.0 Hypothesis:

1. There is no significant difference in old and new micro teaching programme.

4.0 Methodology:

Researcher has opted to use Survey and experimental research method for carrying out the research work.

5.0 Sample:

Random samples of 30 B.Ed. student teachers of Smt.J.J.Kundaliya Graduate Teachers' College, Rajkot were taken for the study.

6.0 Tool: Innovative Micro-Teaching Programme

The new micro-teaching programme will be like as follows.

- there are only four micro-teaching skills included in this programme.
  (1) Introduction of the lesson.
  (2) Explanation.
  (3) Activity based teaching.
  (4) Evaluation.
- Each group will contain 20 students and having two observers.
- There are 20 different observation criterions for micro-skills, such willcontain 20 criterion for observation.
- Each micro-skill will be of 10 minutes.
- For the observation, checklist of 10 points will be there.
- Teacher should provide all the information about this micro-teaching programme to the students. It is very necessary to build up the confidence of the B.Ed. traineess.

Observation points: Observer: 1**) Teacher 2) Teacher**

1)	Voice audible	11)	Activities (proper)
2)	Pitch pattern – stress, intonation	12)	Accuracy
3)	Student active participation	13)	Stimulus variation
4)	Linking words	14)	Reinforcement
5)	Questioning	15)	Correct writing

6) Body language
7) Black board writing
8) Equal chance to all students
9) Speaking ability
10) Evaluation
16) Use of audio-visual aids
17) Examples related to lesson
18) Fluency in Explanation
19) Planning of lesson
20) Conclusion

So the present research paper is on to find the effectiveness of new micro-teaching programme

7.0 Research Procedure: Following steps were undertaken for the study. The experimental research method was used for this study. Two equal groupscontained ten students in each groups. One was controlled group and another wasexperimental group. The present micro-teaching programme used for controlledgroup and new micro-teaching programme used for experimental group and thedata from checklist duly filled by teachers were analysed by determining thepercentage of criterion for each micro skill.

Group	Method	N	Mean	S. D.	T
Control	Present Micro-teaching programme	30	6.50	4.72	4.18 Significant at 0.01 level
Experiment	New Micro-teaching programme	30	9.50	6.70	

From the table, it was found that the 't' value 4.18 was significant at 0.01 level So, the null hypothesis was rejected. It means that there was asignificant difference in the mean of micro-teaching programme of old and new. Inother words, the new micro-teaching programme is more effective than the present micro-teaching programme.

8.0 Major Findings:

1. B.Ed. trainees take the more interest in new micro-teaching programme.
2. B.Ed. trainees concentrates on each micro-skill with equal weight age and every criterion is more important in each and every skill.
3. New micro-teaching programme is more effective than present one.
4. The new-micro-teaching programme includes all the teaching sub-skill ineach and every micro-skill. So B.Ed. trainees concentrate of every minute sub-skilleach time.
5. Two teachers observe the micro-lesson so team teaching is here.

9.0 Conclusions:

Micro lessons are great opportunities to present sample "snapshots" of what/how you teach and to get some feedback from colleagues about how it was received. It's a chance to try teaching strategies that the teacher may not use regularly. It's a good, safe time to experiment with something new and get feedback on technique.The new micro-teaching programme is more effective than the present micro-teaching programme.In sum, micro-teaching provides a powerful and constructive setting for the development of such specific teaching skills, which are required in the Teacher Certification Testing.

==========

References :

1. Allen, D. and K. Ryan, 1969. Micro-teaching; reading, massachusetts. Addison: Wesley Publishing Company.
2. Bell, N.D., 2007. Micro-teaching: What is going on there? Journal of Linguistics and Education, 18: 24-40.
3. Benton-Kupper, J., 2001. The microteaching experience: Student perspectives. Education, 121, : 830-835.
4. Best, John W. and Khan, James V. (2002), 'Research in Education', 7th Edition,New Delhi: Prentice Hall of India Pvt. Ltd.
5. Khan, Mohd. Sharif (1990), 'Educational Research', New Delhi: AshishPublishing House.
6. Mohanty J. (2003), 'Teacher Education', New Delhi: Deep and Deep Publications.

UGC Journal No. (Old) 40942,
Peer-Reviewed Research Journal
Impact Factor 3.928, ISSN 0973-3914
Vol.- XXX-XXXI, Year- 15, Dec. 2019- March 2020

Arnold's Contribution In literature

*** Pooja Kumari**

Abstract- *Arnold is sometimes called the third great Victorian poet, along with Alfred, Lord Tennyson and Robert Browning. Arnold was keenly aware of his place in poetry. In an 1969 latter to his mother, he wrote: "My poems represent, on the whole, the main movement of mind of the last quarter of a century, and thus they will probably have their day as people become conscious to themselves of what that movement of mind is, and interested in the literary productions which reflect it. It might be fairly urged that I have less poetical sentiment than Tennyson and less intellectual vigour and abundance than Browning; yet because I have perhaps more of a fusion of the two than either of them, and have more regularly applied that fusion to the main line of modern development, I am likely enough to have my turn as they have had theirs. "Stefan Collini regards this as "an exceptionally frank, but not unjust, selfassessment." "Arnold's Poetry continues to have scholarly attention lavished upon it, in part because it seems to furnish such striking evidence for several central aspects of the intellectual history of the nineteenth century, especially the corrosion of 'faith' by 'Doubt'. No poet, presumably, would wish to be summoned by later ages merely as an historical witness, but the sheer intellectual grasp of Arnold's verse renders it peculiarly liable to this treatment". Harold Bloom echoes Arnold's self-reference in his introduction (as series editor) to the Modern Critical Views volume on Arnold: "Arnold got into his poetry what Tennyson and Browning scarcely needed (but absorbed anyway), the main march of mind of his time." Of his poetry, Bloom says, "Whatever his achievement as a critic of literature, society, or religion, his work as a poet may not merit the reputation it has continued to hold in the twentieth century. Arnold is at his best, a very good but highly derivative poet….As with Tennyson, Hopkins, and Rosetti, Arnold's dominant precursor was Ketas, but this is an unhappy puzzle, since Arnold (unlike the others) professed not to admire Keats greatly, while writing his own elegiac poems in a diction, meter, imagistic procedure,, that are embarrassingly close to Keats". Sir Edmund Chambers noted, however, that "in a comparison between the best works of Matthew Arnold and that of his six greatest contemporaries…. the proportion of work which endures is greater in the case of Matthew Arnold than in any one of them." Chambers judges Arnold's poetic vision by "its simplicity, lucidity, and straightforwardness;*

* **LNMU Darbhanga**

Key Words- Matthew Arnold, Victorian Poetry, Criticism

Introduction: The foremost important of British poets and spirited critic of the great Victorian era – Mathew Arnold (1822 – 1888), born in London, was the "first modern critic" and could be called "the critic's critic", being a champion not only of great poetry, but of literary criticism itself. He was the son of Thomas Arnold, the famous headmaster of Rugby school, who was celebrated in the novel Tom Browan's school days. His mother, Mary Penrose Arnold was the daughter of an Anglican clergyman.

Arnold attended the Reverend John Buckland's preparatory school, further, he studied at Rugby school and Belliol college, Oxford, after completing his graduation at Oxford, he returned to the Rugby school and worked as a teacher of classics. By the help of Lord

Lansdowne, Arnold gained the inspectorships of school in 1851, and this position provided him with a major of financial security and enabled him to marry Fanny lucy Wightman; the daughter of judge.

Arnold's first book of poetry, the strayed Reviler and other poems, was published anonymously in 1849. This was followed by Empedocles on Etna (1852) and poems (1853), which published his Reputation as a poet. In 1857, Arnold was appointed as "Professor of poetry" at Oxford and served this position for two consecutive terms of five years. He was the first professor to deliver lectures in English instant of Latin.

Arnolds carrier as a literary critic began in the late sixties. The purpose of literary criticism, in his view, was " to know the best that is known and thought in the world and by in its tern making his known, to create a current of true and fresh ideas" and he has influenced a whole school of critics such as T.S Eliot, F.R Leavis, and Allen tat. He was the founder of the sociological school of criticism and through. His touchstone method introduced scientific objectivity to critical evolution by providing compression and analysis as the two primary tools of criticism.

Subject Matter:

When it comes to Victorian critics, Matthew Arnold is unsurpassed. He is most widely known as a literary critic. However, his literary criticism is closely associated with society and life in general. He was the first critic to declare that people could be consoled, healed and changed by reading literature.

After Aristotle, Arnold was the only one who laid rules about on criticism. His input towards English criticism was phenomenal. He had several fine qualities as a critic and at the same time, certain disadvantages as a critic.

After the romantic period, which was known as the period of confusion in criticism Arnold again forced authority, He was a stern and grave critic who put down certain ideologies of criticism and educated others how to criticize. Matthew

Arnold perceived the critic quite different from any other before him. According to him, criticism did not come from the branch of philosophy. It was not even a craft; it was a form of art, the art of judgement. he says that a critic should belong to no party whether intellectual, religious or political, he should learn to think objectively, he should demonstrate that this is better than that. Criticism ought to be a 'dissemination of ideas, an unprejudiced and impartial effort to study and spread the best that is known and thought in the world', is what Matthew Arnold says in his essay – the function of Criticism as the Present Time (1864). He writes that when assessing a particular work, the goal is 'to see the object as in itself it really is'. Psychological, historical and sociological backgrounds are immaterial. This attitude was very influential and particularly noteworthy with later critics. In his pursuit for the best, a critic Arnold believed that it should not only restrict or limit himself to the literature works of his own country but should draw significantly on foreign literature and ideas to a large extent because the spreading of ideas should be an objective venture.

Arnold says criticism is nothing if it is not related to life. Life is the main thing. So, his criticism of literature, society, politics, and religion all tends towards being a criticism of life. So does his poetic activity. Thus, criticism with Arnold denotes a comprehensive activity which embraces all the departments of life. He himself defines criticism as "the endeavor, in all branches of knowledge, theology, philosophy, history, art, science, to see the object as in itself it really is. The critic's part in this procedure necessitates that he disinterestedly identifies the greatness in writing and use his critical powers to communicate this greatness to the common man. Arnold makes an effort to demonstrate that criticism in and of itself has several significant functions and should be observed as an art form that is as high and important as any creative art form.

Conclusion:

Finally, I can say that Arnold's contribution to literature can't be under estimated. He is no doubt a matchless critic or critic's critic, noted especially for his classical attacks on the contemporary tastes and manners of the "Barbarians' (the aristocracy), the 'Philistines' (common people) and the "populace". He is milestone along with Tennyson and Browning.

==========

References :

1. F.L. Lucas: Ten Victonan Poets
2. G.K.Chesterson; The Victonan Age in Literature.
3. Gill, Richard; Palgrave Macmillan, England, 2006.
4. Leonel Trilling; Matthew Arnold.
5. OiverEtton; Tennyson and Matthew Arnold.

UGC Journal No. (Old) 40942,
Peer-Reviewed Research Journal
Impact Factor 3.928, ISSN 0973-3914
Vol.- XXX-XXXI, Year- 15, Dec. 2019- March 2020

Blue Green Algae and Peroxidase Activity in Paddy Plants

* Anup Kumar Mishra

Abstract- *The blue green algae as a biofertilizer is a very effective tool in improving the soil quality by fulfilling the plant nutrient requirements.Biofertilizers do not contain any such chemical which is harmful to living soil. Biofertilizers such as rhizobium, Azotobacter, and blue green algae have been in use since long time.The blue green algae are one of the major components of the nitrogen fixing biomass in crop plant and provides a potential source of nitrogen fixation. The Paddy (Oryza sativa, L.var. SAKET) plants were taken in experiment. These plants were raised in soil-pot culture conditions. The different Supply levels of blue green algae, nil (control), 50, 100, 150, 200 and 250g bga/kg soil were applied to plants. The peroxidise activity,increased with the increase in bga supply level upto 150g bga/kg soil in tops of 30 days old plants and 250g bga/kg soil level in 90 days old paddy plants.Beyond 150g bga/kg soil level level in tops of 30 days old paddy plants,decrease in peroxidise activity was observed with increase in bga supply level upto 250g bga/kg soil level. As compared to control,at each level of bga supply the increase in peroxidise activity was found to be highly significant (P=0.01) in tops of both 30 and 90 days old plants.However 250g bga/kg soil level over control showed significant (P = 0.05) increase in peroxidise activity in tops of 30 days old paddy plants.*

Key Words- Paddy, bga, BNF, controlled condition, FM, peroxidase

Introduction: The human civilization started agriculture practices in an organized manner around 8000 B.C. Very soon, they learned that the same land cannot support the growth of endlessly and this led them to think about ways to improve the fertility of soil. The earliest records indicate that Romans and Aryans had many manuals for farmers to improve the cultivation of crops. For instance, Columella's treatise *Husbandry* written about 60 A.D. Contains descriptions of several agricultural practices which were in use in the Roman Empire for many generations. In 18th century farming practices such as those of 'Jethro Tull' and the Norfolk 'four- course' system developed in Holland by years of experience based on crop rotations.

The nitrogen's chemical fixation was known only several years after our

* Assistant Professor, Department of Botany, D.A.V. (PG) College, Dehradun,Uttarakhand

understanding of the implications of biological nitrogen fixation. Fritz Haber, a Germen chemist, successfully synthesized nitrogen and hydrogen into ammonia during the early years of the World War I. No discovery leading to soil fertility has ever equalled that of Haber. Infact, the Haber-Bosch Process of ammonia synthesis requiring temperature up to 800^0F, a catalyst, and high pressure above atmospheric pressure has remained, till today, the sole method for the production of nitrogenous fertilizers in the world. Strangely, this very combination of nitrogen and hydrogen could also be accomplished by nitrogen - fixing microorganisms in soil and within the nodular tissues of certain plants at ordinary pressures and temperature mediated by an enzyme 'nitrogenase'.

The human population, food production and fertilizer consumption have increased gradually. To guarantee enough food for all, either the population growth has to be stemmed or more fertilizer has to be found to meet the ever increasing demand for protein. The demand for chemically fixed nitrogen is bound to be on the increase and the nitrogen gap is widening up. Such a gap would be difficult to bridge in the wake of the energy crisis. Furthermore, in the area of chemical fixation, no major break-through is yet visible to minimize the energy requirements of the conventional Haber–Bosch process for the production of ammonia.

The use of latest innovations in agriculture arena has resulted in significant increase in productivity. There is a however, a growing concern about the adverse effects of indiscriminate use of chemical fertilizers on soil productivity and environmental quality. Blue green algae offer an economically attractive and ecologically sound alternative to chemical fertilizer for realizing the ultimate goal of increased productivity, especially in rice cultivation.

The blue green algae have inhabited much of the surface of the earth for billions of years and today they are responsible for a significant amount of biological nitrogen fixation (BNF).The tropic independence of blue green algae made them suitable for use as biofertilizers. Blue green algae are widely distributed organisms all over the world and can be found in extreme habitats, from hot springs to arctic regions. Among the ecosystems in which they can be found, wet soils provide an ideal environment for blue green algae to grow.

Blue green algae represent a small taxonomic group of photosynthetic prokaryotes which some of them are able to nitrogen fixation and also possess a tremendous potential for producing a wide range of secondary metabolities. Blue green algae have drawn much attention as prospective and rich sources of biologically active constituents and have been identified as one of the most promising groups of organisms capable of producing bioactive compounds (fish & codd 1994, schlegel et al…1999). De (1939) attributed the natural fertility of flooded rice field soil and its maintenance to the process of biological nitrogen fixation by blue green algae.

The biofertilizers contains beneficial microorganisms Which improve plant growth and protect plants from pests and diseases (El-yazeid et al, 2007). The

role of soil microorganisms in sustainable development of agriculture has been reviewed (Lee and Pankhurst, 1992, Wani et.al.1995). Biofertilizers are important components of integrated nutrients management. These potential biological fertilizers would play key role in productivity and sustainability of soil and also protect the environment as eco-friendly and cost effective inputs for the farmers. They are cost effective, eco-friendly and renewable source of plant nutrients to supplement chemical fertilizers in sustainable agricultural system.

In developing countries like India where there is immediate need to rely increasingly organic fertilization of soil these bio-fertilizer play a role in minimising dependence on inorganic nitrogenous fertilizers. The bio-fertilizers, otherwise called microbial inoculants are preparations containing live or latent cells of efficient strains of nitrogen fixing micro-organisms used for seed or soil application. The main objective of applying inoculants is to increase the number of such microorganisms in soils or rhizosphere and consequently improve the extent of micro-biologically fixed nitrogen to plant growth. Application of bio-fertilizers in combination with organic nitrogenous fertilizers has a key role to play in the economic management of nitrogen needs of crops.

In India, considerable progress has been made in the development of blue green algae based bio-fertilizer technology. It has also been demonstrated that this technology can be a powerful means of enriching the soil fertility and improving rice crop yields.

Material and Method:

Experimental plants were raised in soil culture under pot culture conditions in the laboratory. Plants were raised in 8" clay flower pots with a central drainage hole. The inner surface of the pots along with top 3" of outer rim was lined with acid washed polythene provided with a central hole superimposed on the drainage hole of the pot. Normal water was used during culture work. All the plants were raised in the soil, 1.5 cm deep holes were made with glass rod of 3mm diameter and seeds were put in these holes, carefully, covered loosely with soil of the same pot. After the seeds emergence, plants were thinned to a uniform number in each pot. Subsequent thinning was done whenever needed.

For the experiment, there were six pots. The pots were arranged in 3 blocks A, B and C. In each block there were two pots, one pot was meant for control treatment and other one with BGA treatment. In each block the treatments were completely randomized. The experimental pots were arranged in north- south direction and were kept raised from the ground at a height of one feet avoiding any surface contact of the drainage holes with the ground to eliminate any contamination.

For studies, the Paddy (Oryza sativa, L.var. SAKET) plants were raised in soil pot culture. Soil samples were collected in a clean polythene bags after surface scrapping and brought to the laboratory. Calculated amounts of normal water were applied daily to pots to provide as for as possible uniform soil moisture conditions. Sampling was generally started at 8:30A.M. and completed in an

hour. All samples were drawn at the same time and placed in the shade. The 3 blocks a, b and c was sampled at the same time.

Soil was separately mixed with required amount of blue green algae. There after it was air dried thoroughly grounded and mixed. For through mixing required amount of BGA were mixed with small amounts of soil, divided and mixed again and again. Then these amended soils were mixed with bigger amounts of soil similarly, and finally these soils were mixed with bigger lots of calculated soils required for experiments. Soil mixing was done on separate clean chart to avoid any contaminations. Mixed soils were filled in pots.

Peroxidase was assayed in crude tissue extras of fresh samples finally chopped, chilled and grounded with acid washed sand in a chilled pestle and mortar in 0.0067 M phosphate buffer pH – 7 in the proportion of one gram leaf material to 10ml of the buffer. Grinding was carried out in an ice-bath .The crude extracts were strained through clean two fold muslin, and peroxidase was assayed in crude extracts within three hours of the preparation of extracts during which period the extracts were stored in a refrigerator where they were not found to undergo appreciable loss in the activity of the enzyme.

For the assay of peroxidise slightly modified method of Luck (1968) was used. Suitable aliquots of crude tissue extracts were taken in test tubes containing 2.8 ml of 0.0067 M phosphate buffer of pH – 7,to which one ml of 100 vol.Hydrogen peroxide diluted 3×10^{-3} M and one ml of 1% p-phenylaminediamine were added.The reaction carried out at 30 C for 5 minutes after which it was stopped with $2N - H_2SO_4$ .After centrifugation at 3500 rpm for 10 minutes, optical density of samples was measured at 485 nm. in Toshniwal CL-10-spectral calorimeter.For every sample a blank was run simultaneously with H_2SO_4 before adding the tissue extract.

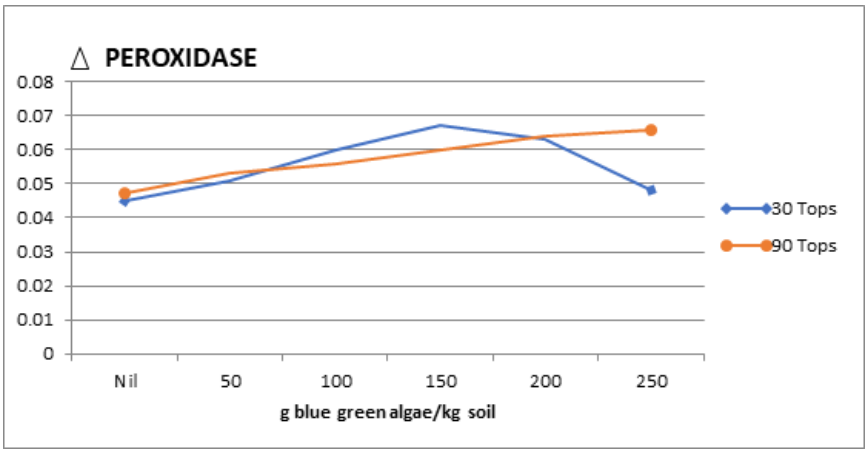
Result: Highly significant(P=0.01) increase in peroxidase activity at 100 g bga/kg soil over 50 plants,at 200 g bga/kg soil over 150 g bga/kg soil level and 250 g bga/kg soil over 200 g bga/kg soil in tops of 90 days old plants was observed.The decrease in peroxidise activity in tops of 30 days old plants at 200 g bga/kg soil over 150 g bga/kg soil and 250 g bga/kg soil over 200 g bga/kg soil supply level was found to be highly significant(P=0.01).

Maximum peroxidase activity at 150 g bga/kg soil level in tops of 30 days old plants and 250 g bga/kg soil supply level in tops of 90 days old plants was observed.

Effect of the blue green algae as biofertilizers on peroxidise activity of Paddy (Oryza sativa, L.var. SAKET) plants

Plant		g blue green algae/kg soil					
Age (days)	Part	Nil	50	100	150	200	250
Δ O.D.peroxidase							
30	Tops	0.045	0.051	0.060	0.067	0.063	0.048
90	Tops	0.047	0.053	0.056	0.060	0.064	0.066

Effect of blue green algae as biofertilizers on peroxidise activity of Paddy (Oryza sativa, L.var. SAKET) plants



Discussion:

Nineteen seventies was the decade that witnessed the escalating petroleum crisis, thereby enormously increasing the organic fertilizer prices. To mitigate the problem, biologist came out with biological substitutes to organic fertilizers – the so called 'BIOFERTILIZERS'

In 1977 Verghese stated that the demand for chemically fixed nitrogen is bound to be on increase and the nitrogen gap is likely to double in India by 1984, which would be difficult to bridge in the wake of the energy crisis.

Blue green algae dominate a wide range of diverse environments characterized by extremes of temperature, desiccation, pH, salinity, light intensity and nutrients (Whitton, 2000). Many blue algae tolerate high levels of ultraviolet irradiation (Sinha et al, 1999), permitting them to survive at the soil surface.

In conformity with the results of the present study, Rai et. al., (2000) reported that blue green algae are good colonizers of the nitrogen poor soils, and that through their nitrogen input into the environment they may help to create habitats suitable for other species. Many blue green algae have the capacity to manufacture nitrogenase. Because the enzyme complex is anaerobic, significant fixation by unicellular, colonial and some filamentous species occurs only in the absence of air. Therefore, only heterocystous species are valuable as biofertilizers. Blue green algae i.e. biofertilizers have several advantages over chemical fertilizers. They are non- polluting, inexpensive, utilize renewable resources.In addition to their ability of using free available solar energy, atmospheric nitrogen and water. Besides supplying N_2 to crops, they also supply other nutrients such as vitamins and growth substances (Wagner, 1997). Anabaena and Nostoc have been recorded among the common nitrogen fixing blue green algae in rice fields.

The use of blue green algae as nitrogen based biofertilizers is reported in many rice growing countries of the world. This was because of the increased

cost of chemical fertilizers, that cause soil and water pollution, changes soil structure and produce microflora. In comparison, blue green algae is a cheap source of N, which does not cause pollution. It improves the organic matter status and water holding capacity. Venkataraman (1981) reported that open air soil culture is simple, less expensive and easily adaptable by farmers. As mentioned earlier, blue green algae had minimum growth requirements of sunlight, simple inorganic nutrients and moisture.

In agreement with the present results were the findings of Jacq and Roger (1977), Roger and Kulasooriya (1980) and Omar (2001) who reported blue green algal cultures or extracts enhanced germination, promoted growth of roots and shoots and increased protein content of the grain. The effect of nitrogen fixing blue green algae that were isolated from saline soils on growth and yield of rice grown in the green house and field were studied by Anonda et al. (1990). Under green house conditions, the N_2 content in straw, grain yield and protein content of rice were significantly increased.

The current study was preformed to assess the effect of nitrogen fixing blue green algae to improve the natural poor sandy soil. The data presented revealed the beneficial use of blue green algae in comparison with the controlled (untreated soil) without any consideration to other treatments employed in this study. The aim of the present study was to design a soil system supported with microalgae and other soil conditioners that change the physical and chemical properties of that system in order to improve the surrounding environment of crop plants. It is evident from the present results that the inoculation of the different microalgal species to the investigated soil caused a significant enhancement of both physical and chemical properties of soil.

The adaptation of organic manure as compared to nitrogen fertilizer would be very less expensive, besides being quite safer as compared to the chemical fertilizers.

To conclude, blue green algae as bio-fertilizers may prove efficient tool for boosting green revolution and to overcome food shortage all over the world.

==========

References :

1. Adhikary, S.P. (1999) : Potentiality of Blue Green Algae biofertilizer containing local isolates on the growth of two different rice varieties . Proc . Nat. Symp. Warango f. Supplied by the British library. The world's Knowledge.
2. Anonda, A.P. , Amaret, P, Kinoshita, S. (ed.) and Bhumiratana, A. (1990) : Role of N_2 fixing Blue Green Algae in saline soils of Thailand.
3. Comer, C.L. and Zscheile, F.P. (1942): Analysis of plant extracts for chlorophyll a and b by a photoelectric spectrophotometric method. Plant physiol. 17 : 198-209.
4. De P.K. (1939) : The role of blue green algae in nitrogen fixation in rice fields. Proceeding of Research Society of London 127:121-139.
5. El-yazeid A.A. , Abou-Aly H.A. , Mady M.A. and Moussa S.A.M. 2007 : Enhancing growth, productivity and quality of squash plants using phosphate dissolving microorganisms (bio phosphor) combined with boron foliar spray.

Res. J.Agri. Biol. Sci.3(4): 274-286.

6. Fish, S.A. & Codd, G.A. 1994: Bioactive compound production by thermophilic and thermotolerant blue green algae. World Journal of Microbiology and technology 10 : 338-347.
7. Foggi, G.E. (1939): Nitrogen fixation , pp. 161-170. In physiology and biochemistry of algae, Ed. R. A. Lewin, Academic press, N.Y.
8. Ghosh T.K. and Saha K.C.(1997) : Effects of inoculation of blue green algae on nitrogen status and nutrition of rice (Oryza sativa L.) in an Entisol amended with chemical and organic sources of nitrogen. Biol Fertil Soils 24: 123-128.
9. Goyal, S.K.(1982): BGA and rice cultivation . Nat Sym. on biological nitrogen fixation feb 25-27, 1982 programmes and Abstracts , pp. 41-42.
10. Huspesh Institutes of Hydrobiology (1971) : cultivation of study rice seedling using N_2- fixing BGA . Acta Botanica sinica, 9 (2): 132 -137.
11. Jacq, A.and Roger, P.A. (1977): Decrease of losses due to Sulphate reducing processes in the spermosphere of rice by presoaking seeds in a culture of blue green algae. Cahiers Orstom Biol., 12:101
12. Kannaiyan , S. (1942) : In Training and multiplication and use of Azolla biofertilizer for rice production. Tamil Nadu Agric. Univ. Coimbatore , T.N.P. 35.
13. Kannaiyan ,S. , Govindrajan, K; Lewin, H.D. and Venkataraman., G.S. (1982): influence of blue green algal application on rice crop. Madras Agri. Journal 69 (1) : 1-5.
14. Kaushik , B.D.(1995): Blue green algae for improvement in rice production. Seminar on Natural Resources Management , HAU. Hisar, Dec.11-13.
15. Lee K.E. and Pankhurst C.E. 1992 : Soil organisms and sustainable productivity. Australian J. Soil Res. 30: 855-92.
16. Luck,H.(1968) : Peroxidase in "Method of Enzymatic analysis" H.U.Bergmeyer,Academic Press Inc.New York . pp. 895-97.
17. Mandal B., Vlek P.L.G., and Mandal L.N.(1999): Beneficial effects of blue- green Algae and Azolla, excluding supplying nitrogen , on wetland rice fields : A review. Biol.Fertil. Soils 28:329-342.
18. Mohan , N.; Yadav, L.P.; Singh , V.P.and Dwivedi , D.K.(1987) : Influence of biofertilizer and GA application on growth , Ascorbic Acid and Chlorophyll content of Tomoto plants. 57th annual session, National Acad.sci., Abstract No.14, P.5.
19. Omar, H.H. (2001): Nitrogen -fixing abilities of some blue green algae in sandy loam soil and exudate efficiency on rice grain germination. Bull.Fac. Sci. Assiut Univ. 30 (1-

a. D):111-121.

20. Petering,H.G.;Wolnen,W. and Hibbard,R.D.(1940):Determination of chlorophyll and carotene in plant tissue.*Ind.Eng.Chem.Anal.Ed*.**12**:148-151.
21. Raju, M.S. (1980): Biofertilizer Science Reporter. June 1980 406-424.
22. Rai, A.N. (1990): CRC Hand Book of Symbiotic Blue Green Algae. CRC Press, Boca Raton .
23. Rai, A.N. Sodeback, E. and Bergman, B (2000): Blue Green Algal plant Symbiosis. New phytologist.147:449-481.
24. Roger, P.A. and Kulasooriya , S.A.(1980) : Blue Green Algae and rice. International Rice Institute , Los Banos, Philippines . Pp 113.
25. Roger P.A.(1991): Reconsidering the utilization of blue green algae in wetland rice Cultivation. In S. K. Dutta and C. Sloger (eds.) , Biological N_2 fixation

Associated with rice production (pp.119-141).New Delhi , India : Oxford & IBH Pub.

26. Rokhzadi A., Asgharzadeh A., Darrish F., Nourmohammadi G. and Majidi E. 2008: Influence of plant growth promoting rhizobacteria on dry matter accumlation and yield of chick pea (cicer arietimum L.) under field condition. Am-Euras.J.Agric. Environ .Sci 3(2):253-257.
27. Saha, K.C. and Mandal, L.N.(1980) :Agrochemical studies on the effect of inoculation of N-fixing blue green algae oion and alluvial soil treated with P and Mo on the yield of rice and changes in the N content of the sol. Plant and soil 57 :23-30 .
28. Schlegel, I., Doan, N.T., De Chazol, N.& Smit,G.D.1999: Antibiotic activity of new blue green algal isolates from Australia and Asia against green algae and blue green algae . Journal of Applied Phycology 10:471-479.
29. Singh, R.N.(1961): Role of blue green algae in nitrogen economy of India. Indian Council Agric. Res.,New Delhi. India .
30. Sinha, R.P. Klisch, M., Vaishampayn, A. and Hader, D.P. (1999): Biochemical and Spectroscopic characterization of the Blue green algal Lyngbya sp.in- habiting mango (Mangifera indica) trees: Presence of an ultraviolet absorbing pigment, Scytonemin. Acta protozool . 38: 291-298.
31. Stewart, W.D.P. (1970): Algal fixation of Atmospheric nitrogen. plant and soil , 32: 555-588.
32. Stewart, W.D.P. (1971): Physiological Studies on nitrogen fixing blue green algae, Plant and soil 377- 391.
33. Stewart , W.D.P.(1974): Blue green algae pp. 202-287. In biology of Nitrogen fixation ,Ed. A. quispel, North Holland Publishing Co. Amsterdam.
34. Subba Rao, N.S.(1976 a): Field response of legumes in India to inoculation and fertilizers application pp. 225-268.In symbiotic N_2 fixation in plants Ed P S Nutman Cambridge Univ. Press, London .
35. Subba Rao, N.S.(1976 b): Is Nitrogen Deficient ? In a treatise on Denitrogen fixation ,pp-1-32 Eds. R.W.F. Handy and A.H. Gibson , Wiley inter science , USA.
36. Subba Rao, N.S.(1977): Soil Microorganisms and plant growth Oxford and IBH publishing Co New Delhi .
37. Subba Rao, N.S.(1979): Chemically and biologically fixed Potential and prospects pp 1-7. In Recent Advances in Biological Nitrogen fixation Ed N. S. Subba Rao Oxford and IBH Publishing Co, New Delhi .
38. Subramanayam R. Sahey , M.N.(1964): Observation of Nitrogen fixation by some blue green algae and remarks on its potentialities in rice culture. Proc. Indian Acad. Sci. 60 B:145-154.
39. Thind H.S. and Rowell D(1999): The fate of algal nitrogen in a flooded soil system . Nutrient Cycling in Agroecosystems 55:89.94.
40. Tirol A.C. Roger P.A., and Watanabe I.(1982): Fate of nitrogen from blue green algae in a flooded rice soil. Soil Sci. Plant Nutr. 28: 559-569.
41. Vaishampayan, A., Sinha , R.P. , Hader ,D.P. , Dey T., Gupta , A. K., Bhan, U and Rao, A.L. (2001): Blue green algal biofertilizers in rice agriculture. Botanical Review , 67(4) : 453 – 516 .
42. Venkataraman ,G .S. 1972: Algal Biofertlizers and Rice cultivation Today And Tommorrow printers and publishers , New Delhi.
43. Venkataraman, G.S.(1981): All India-co-ordinated project on algae. Annual report (1980-81). Division of Microbiology, Indian Agricultural Research Institute ,

New Delhi ,India .

44. Wagner,G.M. (1997) Azolla: A review of its biology and utilization. The Botanical Review. 63(1) : 1-26

45. Whitton B.A. and Roger P.A.(1989): Use of blue green algae and Azolla in rice culture . In R. Campbell and R.M. Macdonald (eds.) Microbial incoulation of crop plants, Volume 25 (pp. 89-100) . IRL Press at Oxford University Press .

46. Verghese, M.C.(1977): Issue of Facing the World Fertilizer Industry. Proceedings of the FAI – IFDC Fertilizer Seminar 1977, Trends in Consumption and Production. The Fertilizer Association of India,New Delhi PS-1/1-41.

47. Whitton, B.A. (2000): Soils and rice fields. Pp.233-255 in B.A. Whitton and M.Pottts (eds.): The ecology of blue green algae : Their diversity in time and Space. Kluwer Academic, Netherlands.

UGC Journal No. (Old) 40942,
Peer-Reviewed Research Journal
Impact Factor 3.928, ISSN 0973-3914
Vol.- XXX-XXXI, Year- 15, Dec. 2019- March 2020

Lung cancer detection and classification Using deep learning

*** Kalaivani N, ** Krittika A, **** Keerthana M**

*******Mira R, *****Mythili Harishma S**

Abstract- *Lung diseases are the disorders that affect the lungs, which assists in the inhalation process.Lung cancer is one of the common causes of death among people throughout the world. Early detection of lung cancer can increase the chance of survival among people.The overall survival rate for lung cancer patients increases from 14 to 49 % if the disease is detected in time. Although Computed Tomography (CT) is more efficient than X-ray. Generally, it requires multiple imaging methods to complement each other to obtain a comprehensive diagnosis. In this work, a deep neural network is modeled to identify lung cancer from CT images has been proposed. A densely connected convolutional neural network(DenseNet) and adaptive boosting algorithm is used to classify the lung as normal or malignant. A dataset of 201 lung images is used in which 85% of the images are used for training and 15% of the images are used for testing and classification. Experimental results show that the proposed method has achieved an accuracy of 90.85%.*

Key Words- DenseNet, Computer Tomography (CT), Image Processing, Deep Learning, Convolution Neural Networks (CNN)

I. Introduction: Lung cancer has become one of the most common causes of death in the world[1].It is one of the most malignant tumors to human health.Its mortality rate ranks first among malignant tumor deaths and is the number one killer of cancer deaths among men and women[2],[3].There are about 1.8 million new cases of lung cancer per year (13% of all tumors) , 1.6 million deaths

* Assistant Professor, Electronics and communication Engineering, Department Sri krishna College of Engineering and Technology
** UG Student, Electronics and communication Engineering, Department Sri krishna College of Engineering and Technology
*** UG Student, Electronics and communication Engineering, Department Sri krishna College of Engineering and Technology
**** UG Student, Electronics and communication Engineering, Department Sri krishna College of Engineering and Technology
***** UG Student, Electronics and communication Engineering, Department Sri krishna College of Engineering and Technology

(19.4% of all tumors) in the world[4].Lung cancer is a growth of abnormal cells multiplying and growing into a tumor.The mortality rate of lung cancer is the highest among all other types of cancer.An estimated 85 percent of lung cancer cases in males and 75 percent in femalesare caused by cigarette smoking.Lung cancer is one of the most dreadful disease in the developing countries and its mortality rate is 19.4%.Lung cancer is one of the most serious tumors in the world, with the smallest survival rate after the diagnosis, with a gradual increase in the number of deaths every year.Survival from lung cancer is directly proportional to its growth at its detection time. But people have a higher chance of survival it can be detected in the early stages.Cancer cells are carried away from the lungs in blood, or lymph fluid that surrounds lung tissue.Lymph flows through lymphatic vessels, which drain into lymph nodes located in the lungs and in the centre chest.Lung cancer is one of the most killer diseases in the developing countries and the detection of the cancer at the early stage is a challenge.Analysis and cure of lung disease have been one of the greatest difficulties faced by humans over the most recent couple of decades.Early identification of tumor would facilitate in surviving a huge number of lives over the globe consistently.This paper presents an approach which utilizes a Convolutional Neural Network (CNN) to classify the tumors found in lung as malignant or benign.The accuracy obtained by means of CNN is 81%, which is more efficient when compared to accuracy obtained by the traditional neural network system.

II. EXISTING SYSTEM:

A system to detect lung cancer nodule using fuzzy interference system and active contour model was proposed by Roy and Sirohi[7] .This system uses gray level transformation for image contrast enhancement.Image binarization is donebefore segmentation and resulted image is segmented using active contour model. Cancer classification is performed using fuzzy inference method. Features like area, mean, entropy, correlation, major axis length, minor axis length are extracted to train the classifier. Overall, accuracy of the system is 94.12%. Counting its limitation it does not classify the cancer as benign or malignant which is future scope of this proposed model. Ignatious and Joseph [8] developed a system using watershed segmentation. In pre processing it uses Gabor filter to enhance the image quality.It compares the accuracy with neural fuzzy model and region growing method. Accuracy of the proposed is 89.1% which is comparatively higher than the model with segmentation using neural fuzzy model and region growing method.

The advantage of this model is that it uses marker controlled watershed segmentation which solves over segmentation problem. As a disadvantage it does not classify the cancer as benign or malignant and accuracy is high but still not satisfactory. In image processing it uses Gabor filter to enrich the image and uses marker controlled watershed method for segmentation and detects the cancer nodule. It shows the comparison with other previously proposed models

and highlights its accuracy 89.1% which is higher than the others. Even the system is current best solution, it has some limitations. Only few features has been extracted for cancer nodules.No preprocessing like noise removal, image smoothing which can probably assists in increasing the detection of nodules accurately has been implemented .No classification as benign or malignant of extracted cancer has been performed.Proposed Model Changes on current best solution have been made and new model has been proposed. Instead of Gabor Filter, Median filter and Gaussian filter have been implemented in pre processing stage.

After pre processing the processed image is segmented using watershed segmentation. This gives the image with cancer nodules marked. In addition to features like area, perimeter and eccentricity, features like Centroid, Diameter andpixel Mean Intensity have been extracted in feature extraction stage for the detected cancer nodules. The best model ends after the detection of cancer nodule, it's feature extraction and calculation of accuracy. But, its classification as normal or abnormal has not been implemented.

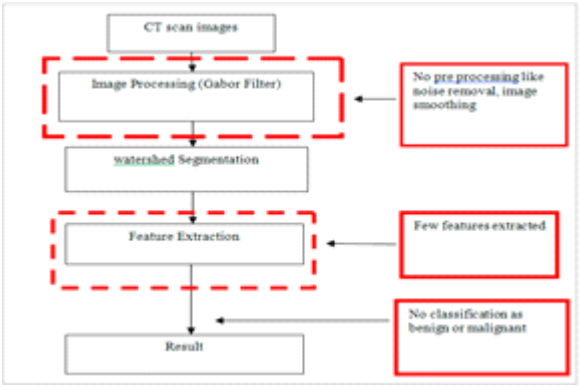


Fig.1 EXISTING MODEL

Extracted features are used as training features and trained model is created. Then, unknown detected cancer nodule is classified using the trained model. Image Pre processing median filter is used on gray scale image of CT scan images. Some noises are embedded on CT Images at the time of image acquisition process which aids in wrong detection of nodules.

III. PROPOSED SYSTEM

Convolutional neural networks is proposed to reduce the number of parameters and adapt the network architecture to vision tasks. Convolutional neural networks are composed of a set of layers which are grouped based on their functionalities. The architecture of a ConvNet is similar to that of the connectivity pattern of Neurons in the Human Brain that was inspired by the organization of the Visual Cortex. Individual neurons in the brain responds to stimuli only in a restricted region of the visual field known as the Receptive

Field. A collection of such fields overlaps to cover the entire visual area.There are four layered concepts in Convolutional Neural Networks: Convolution layer, ReLu layer, Pooling layer and Fully Connected layer.

Data augmentation is the method of increasing the amount and diversity of data. We collect new data, rather we transform the already present data.

Data augmentation is an integral process in deep learning, as in deep learning we need large amounts of data and in some cases it is not feasible to collect thousands or millions of images, so data augmentation comes to the rescue. It helps us to increase the size of the dataset and introduce variability in the dataset. In addition to this webpage is created to store the database of patients. Where the patients can login to their page at any time for the future references. Hospital locality servers details can also be inferred easily.

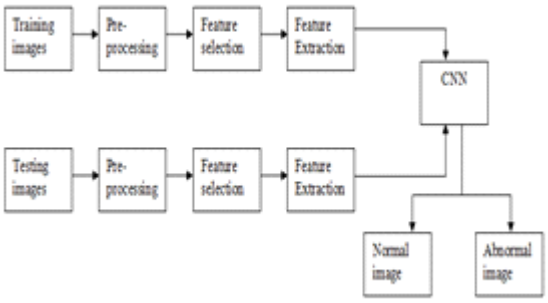


Fig.2 PROPOSED MODEL

IV. WORKING

The project working is divided into two parts, ie training and testing parts. A sample of 201 images are used where 171 images are used for training and the remaining 30 images are used for testing. In training part, images are first pre-processed, where resizing, noise and blur removal of images are done by using histogram equalization due to which non-linear images are stretched and pixel values are redistributed. The small image received is made visible for human eyes using data augmentation which prevents overfitting and biasing. Feature selection is done to select images based on colour, size that are given where the image is been converted from spatial domain to frequency domain. The LH and HL frequencies of the images are opted from feature extraction.

In testing part, images are first pre-processed, where resizing and blur removal of images are done by using histogram equalization due to which non-linear images are stretched and pixel values are redistributed. The small image received is made visible for human eyes using data augmentation which prevents overfitting and biasing. Feature selection is done to select images based on colour, size that are given where the image is been converted from spatial domain to frequency domain. The LH and HL frequencies of the images are opted

from feature extraction.

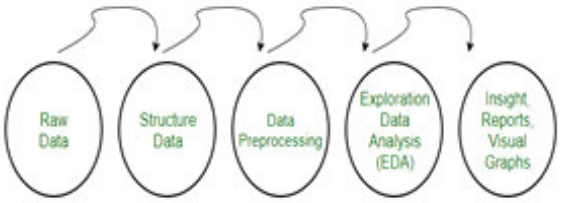


Fig.3 DATA PROCESSING

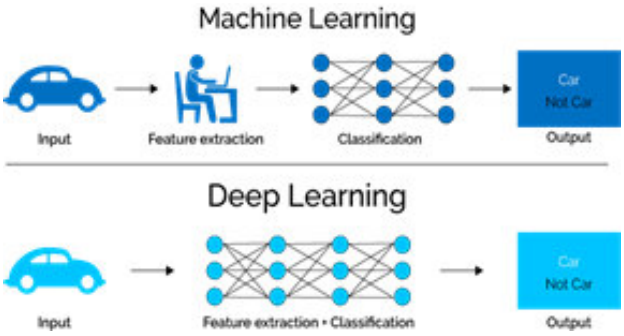


Fig.4 FEATURE EXTRACTION

The results obtained from training and testing part are fed into in CNN layers where the images are classified and the output is obtained. The algorithm used for classification is ADABOOST (Adaptive Boosting), where accuracy calculation is of the images is done based on the sample weights of the images.

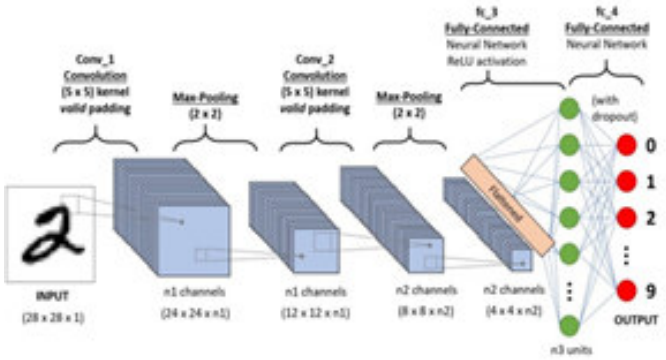


Fig.5 CNN ARCHITECTURE

CONVOLUTIONAL LAYER

The convolutional layer is the first and fore most layer and is the core building block of a CNN. The layer's parameters consist of a set of filters which is meant as kernels. Which have a small receptive field, extends throughout the full depth of the input volume. During the forward process, each and every

filter is convoluted across the width and height of the input volume. The result is by computing the dot product between the entries of the filter and the input which produces a 2-dimensional activation map of that filter. As a result, the network filters and activates when it detects some specific type of feature at some spatial position in the input.

ReLu LAYER

In a neural network, the activation function is been mainly used and is responsible for transforming the summed weighted input. These inputs are obtained from the node into the activation of the node or output for that input. Then the output obtained from ReLu layer is passed on to the next Pooling layer.

POOLING LAYER

Convolutional layer is followed by Pooling layers which is particularly preceded by ReLu layer. Approach followed by pooling layer is the down sampling feature which is mapped by summarizing the presence of features in patches. There are two common pooling methods they are average(optimized) pooling and max pooling that summarize the average presence of a feature.

FULLY CONNECTED LAYER

Fully connected layer is the most essential layer component of Convolutional Neural Networks (CNNs). Which has been successful in recognized for classifying images for computer vision. The CNN process includes convolution layer and pooling layer, where breaking down the image into features happens, and these images can be analyzed independently. By passing these images to fully connected layer it drives the final classification decisional output.

ADABOOST ALGORITHM

AdaBoost algorithm is the best usage of algorithm in deep learning . Each instance of the images in the training dataset is weighted.

· The initial weight is set to be: weight(x(i)) = 1/n

Where x(i) represents i'th training instance and n represents number of training instances. To have a clear view a weak classifier is prepared on the training data using the weighted samples, which supports only the binary classification problems. For each input individual decisions are created . For example +1.0 or -1.0 value is been outputted for the first or second class value. In case for any misclassification, misclassification rate is been calculated for the trained model.

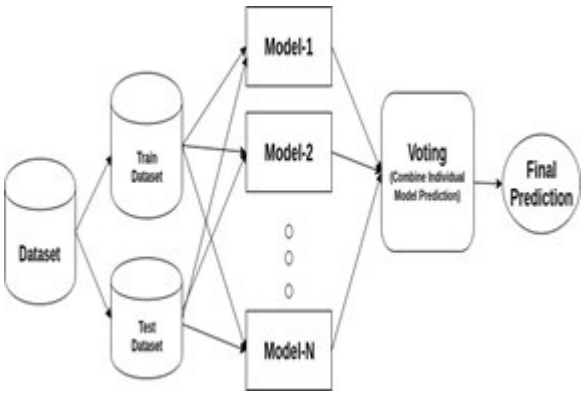


Fig.6 ADABOOST ALORITHM

· Formula to calculate misclassification: error = (correct – N) / N

Where the presence of misclassification rate determines the error. While non error output i.e the correct output denotes the number of training instance predicted by the model, thus N represents the total number of training instances.

XAMPP WEB SERVER

XAMPP is an open-source and cross-platform web server stack package. XAMPP was mainly developed for Apache HTTP Server, scripts written in the PHP etc,. XAMPP is used as web server in most cases, thus it is designated as the local test server to a live server . XAMPP's ease of deployment where installations are quick and simple on an operating system by a developer. Which has the advantage of common add-in applications.

Thus the web page consist of home page which included the hospital login and user login. Patients can login to the portal using their patient id at any time to have their results.

IV. RESULTS AND EVALUATION

Total number of images taken is about 201, among which 171 images are been trained and the remaining 30 images are tested accordingly. The trained images are then moved on to the classification part where each image is classified as either normal or malignant. Output of each image is been displayed with its accuracy as either normal or malignant. The formula to calculate accuracy is as follows:

$$\text{Accuracy} : \frac{TP}{TP+FP}$$

TP – True Positive

FP – False Positive

Output of each image has its own true positive(TP),true negative(TN), false positive(FP) and false negative(FN).

S.No.	PARAMETERS	ACCURACY
01	Trained images	171
02	Tested images	30
03	True Positive	5
04	True Negative	20
05	False Positive	4
06	False Negative	1
07	Accuracy	90.85%

Thus by this approach the output is obtained using deep learning. Which includes detection and classification of the images. Finally the overall accuracy obtained is about 90.85%. This is obtained at an accurate ratio. The contents are then stored to the web server which contains hospital and admin users.

Dataset Image Number	Accuracy of each image
15	99.8%
30	96.41%
22	78.92%
01	99.89%
10	98.17%
24	99.90%
19	59.56%
21	99.76%
16	98.84%
03	74.93%
02	93.23%
Overall accuracy	**90.85%**

Accuracy of 11 images are calculated, in order to predict the overall accuracy the average of all the individual accuracy's of each image is been taken. Thus the overall accuracy obtained the average of accuracy of individual images are obtained as 90.85%.

V. Conclusion:

The main advantage of deep learning over other machine learning algorithms is its capacity to execute feature engineering on it own. This scans the data to search for features which correlates and combine them to enable faster learning. It takes advantage of spatial coherence in the input. The training and testing of images are done where images are pre-processed and feature selection and feature extraction of images are done. Once training and testing part is done successfully, the CNN algorithm classifies the input lung image either as normal or abnormal and the output will be displayed. Hence, a Deep CNN network is used for the classification of lung images for the detection of cancer.

==========

References :

1. R. L. Siegel, K. D. Miller, and A. Jemal, ''Cancer statistics, 2017,'' Cancer J. Clin., vol. 67, no. 1, pp. 7–30, Jan. 2017.
2. R. L. Siegel, K. D. Miller, and S. A. Fedewa, ''Colorectal cancer statistics,'' Cancer J. Clin., vol. 68, no. 1, pp. 7–30, 2018.
3. J. Lortet-Tieulent, I. Soerjomataram, J. Ferlay, M. Rutherford, E. Weiderpass, and F. Bray, ''International trends in lung cancer incidence by histological subtype: Adenocarcinoma stabilizing in men but still increasing in women,'' Lung Cancer, vol. 84, no. 1, pp. 13–22, Apr. 2014.
4. A. Wang, H. Wang, Y. Liu, M. Zhao, H. Zhang, Z. Lu, Y. Fang, X. Chen, and G. Liu, ''The prognostic value of PD–L1 expression for non-small cell lung cancer patients: A meta-analysis,'' Eur. J. Surgical Oncol., vol. 41, no. 4, pp. 450–456, Apr. 2015.
5. R. L. Siegel, K. D. Miller, and A. Jemal, ''Cancer statistics, 2015,'' CA, Cancer J. Clin., vol. 60, no. 5, pp. 277–300, 2010.
6. P. Naresh and R. Shettar, ''Image processing and classifification techniques for early detection of lung cancer for preventive health care: A survey,'' Int.J. Recent Trends Eng. Technol., vol. 11, no. 1, p. 595, 2014.
7. D. Sharma and G. Jindal, ''Computer aided diagnosis system for detection of lung cancer in CT scan images,'' Int. J. Comput. Elect. Eng., vol. 3, no. 5, pp. 714–718, Sep. 2011.
8. D. Bhatnagar, A. K. Tiwari, V. Vijayarajan, and A. Krishnamoorthy, ''Classification of normal and abnormal images of lung cancer,'' IOP Conf. Ser., Mater. Sci. Eng., vol. 263, Nov. 2017, Art. no. 042100.
9. X. D. Teng, ''World Health Organization classifification of tumours, pathology and genetics of tumours of the lung,'' Zhonghua Bing LI Xue Za Zhi/Chin. J.Pathol., vol. 34, no. 8, p. 544, 2005.
10. T. Yoshiya, T. Mimae, and Y. Tsutani, ''Prognostic role of subtype classification in small-sized pathologic N0 invasive lung adenocarcinoma,'' Ann.Thoracic Surg., vol. 102, no. 5, pp. 1668–1673, 2016.

UGC Journal No. (Old) 40942,
Peer-Reviewed Research Journal
Impact Factor 3.928, ISSN 0973-3914
Vol.- XXX-XXXI, Year- 15, Dec. 2019- March 2020

Emotional Intelligence of adolescents and adults perusing Vedic and non Vedic literature

*** Surabhi Misra**
**** Laxmi Dubey**

Abstract- *Briefly defining, Vedas (meaning knowledge) are the oldest hindu sacred texts written in India about 2500 years ago. To a large extent, the knowledge of vedic literature has its psychological significance too. It helps the individual to understand his uniqueness of personality, realize the power of self actualization and discriminate between spiritual and material self. Emotional intelligence is the capacity to be aware of, and handle one's emotions judicious ly in different situations. Two groups perusing Vedic and non Vedic literature were chosen for study, each group comprising of a sample of 50 (25 adolescents and 25 adults) from colleges persuing vediv / non vedic studies.Emotional intelligence tool constructed by Anukool Hyde & Sanjay Dhar containing 34 items was administered. The present study was an effort to find out whether the group persuing vedic literature exhibited higher level of emotional intelligence or vice versa, Also it was observed whether the age group of adolescents or that of the adults displayed higher EI level.*

Key Words- Emotional intelligence Vedic / Non Vedic literature.

Introduction :

The entire behaviour of the individual is governed by his emotions Many a times environmental situations, psychological factors and the neurochemical reactions originating within the mind blend together and results in varied behavioural outcomes.

In this process, to present oneself effectively in his thoughts and actions, it is very important to be intelligent emotionally (Gayatri N. Meenakshio K 2014)

Since ages, from plato to Goleman and Boyatzis, several biologists, psychologists and neurologists have worked and are still working to study the concept of emotional intelligence and its relationship with ones balance between behaviour and success.

Goleman (1998) states emotional intelligence as the ability to identify and manage ones emotions and also that of others. It is characterized as the trait of

* Associate Professor, Juhari Devi Girl's P.G. College, Kanpur (U.P.)
** Research Scholar, Juhari Devi Girl's P.G. College, Kanpur (U.P.)

an individual which enhances self awareness, self confidence, self control commitedness etc. Morecover, it helps in initiating, influencing and accepting change, overcoming challenges and diffusing conflicts.

Mayor and Solovey (2004) discussed E.I. as the aplitude of comprehending and articulating the emotions, adapting it to the thought reasaning, taking discussions judiciously, showing responsible behaviour by balancing between rational state and emotional state.

Further Salovey and Mayer (1990) defined the E.I. as a form of social interest that involves the ability to monitor ones own as well as the feelings of others, to discriminate among and to use the ability to guide ones thinking and actions.

Who defines the period of adolescence as the transitional phase of growth and development between childhood and adulthood age ranging Between 10 to 19 years . it is a stage when in numerous physical and biochemical changes take palce in body resulting in emotional instability and mood swings at timea. If dealt judiciously it may successfully lead to positive cognitive growth.

Adulthood is the period in humans where one has attained full physical and intellectual maturity starting from 20 years. This stage is believed to be more stable than adolescence , People belorging to this age are considered to be more and emotionally intelligent. They can deal more effectively with stressors, bounce back from adversities, are more empathelic and deal with situations mindfully.

Role of Vedas and study of vedic literature

Vedas are considered the earliest literary record of Indo-Aryan civilization and the most sacred scriptures of India Gopiraj H, and Sharma R, (2011) About 2500 years ago in satyug Vedas are written by Vyas.

The vedic age commenced Hinduism the word "Veda" is derived from the root "Vid" which signifies to know Vedas are said to be "Shrute" (what in heard) and not human composition.

They are transmitted in various sakhas.

Vedas and the study of vedic literature instructs how to accomplish virtue of heart. It also signifies care knowledge and viveka or consciousness of mind more over it talks about unique human virtures such as self steem self actualization, self management of stress and other advertisities of mind, self awareness and perseverance. **(Sharma,R,2012)**

Psychological aspect of Vedas

Rigveda – Which is the oldest and comprises of countless number of hymns in praise of various deities.

It removes negativities of mind and helps one embrace noble/sacred thoughts and actions. It also helps in developing positive psyche and insight to overcome adversities of life.

Yajurveda – Branch which deals with performing yogyas, chanting of mantras and other acts of charity.

It talks about self sacrifice philanthropic attitude, offering and inculcating and practising detachment.

Samveda – This branch of Vedas deals with melodies and chants, the classical Indian music and dance tradition considers the chants and melodies of samveda as one of its roots.

It deals with devotion and positivity of mind thought performing arts. It is also a from of catharsis to detoxify the mind from negative thoughts it helps one blend the mind, body and soul with nature.

Atharvaveda – This branch of veda meaning knowledge literally explains itself as the procedure for every day life.

It occupies the unique position among the four Vedas. While the other 3 vedas deal with matters of the others world the gods, the nature and super natural. This branch seeks to solve problems of common man (Kluemper,D.H. 2008).

The corpus of vedic sanskrit text includes the samhitas, the Brahmanas the Aranyakas, Mukhya Upanishads.

Whereas Vedas contain religious chants and stories originally passed from generation to generation – Bhagwat Gita on the other hand is a famous section in the Vedas containing a sermon by lord Krishna.

The two are similar in the way they speak of religion and different in the way they are authored.

Essence of Bhagwat Gita is that it talks about characteristics of a karma yogi and ends up in attaining salvation.

It preaches and educates the individual about contentment, compassion for giveness, dutifulness equanimity of mind self realization and actualization,

Study of vedic literature mainly focuses on Pravitti Marg (Path of action)

It covers various disciplines of knowledge i.e. physics, chemistry, botany, economics, music, psychology etc.

Its teachings helps one get rid of impurities and negativities of mind and soul. It embraces all that is noble and sacred and teachers. how to face Joy and sorrow with equal serenity.

However the adversities of the vedic age was that the person was designated with a post according to the knowledge he/she possessed and the work he performed and not by birth but perhaps after yajurveda subsequently when religion took over idealism by the time of Upanishads and manusmriti the caste system based on birth took over,Because of its stringent system Hinduism was for from practical serenity and too difficult which gave birth to Jainism and Buddhism as the middle path.

The main embodiment of all the Vedas and its literature is the teaching of supreme self. The word "Atman" is interpreted as the main essence of man as his highest self "A" means removal and "TMA" denotes darkness. Thus "Atman" is one which removes darkness and brings shining.

A comparison of western and India model reveals that E.I. in Indian

context focuses on higher level of self. "Atma" bodh (aligning self from external world). Emotional intelligence factor is deeply embedded in the psychology of India based on the teaching of ancient Indian literature (Boyatzis, R.R. leonard, D. Rhea,K. And wheeler, J. 1996).

The present study is an attempt to assess the level of emotional intelligence in adolescent and adults persuing vedic literature and comparing with group which does not persue the same.

Obgectives :

1) To compute the difference level of emotional intelligence of adolescents persuing vedic and non vedic literature.
2) To assess the difference level of emotional intelligence of adults persuing vedic and non vedic literature .
3) To assess the correlation between adolescents and adults persuing vedic literature.
4) To find the correlation between adolescents and adults persuing non vedic literature.

Hypothesis :

1) There will be significant difference in the level of emotional intelligence between adolescents persuing vedic and non vedic literature.
2) There will be significant difference in the level of emotional intelligence between adults persuing vedic and non vedic literature.
3) Adolescent and adults persuing vedic literature will be correlated on the basic of emotional intelligence.
4) Adolescent and adults persuing non vedic literature will be correlation on the basic of emotional intelligence.

Variables :

Independence variable : Adolescent and adults persuing vedic and non vedic literature.

Dependence variable : Emotional intelligence.

Control Variable : Age

Adolescent (12-20 years)

Adults (21-30 years)

Socio Economic status (upper and middle class)

Sample Selection

The sample of present study comprises of 25 adolescents and 25 adults persuing vedic literature and 25 adolescents and adults persuing non vedic literature the sample was chosen from the following areas.

Tools

Emotional intelligences scale constructed by Anukool Hyde, Sanyot and Upinder Dhar, test consisted of 34 items which targeted on 5 important elements emotional intelligence (self awareness, self regulation, motivation, empathy social skills.)

Research Design: Between group design has been used in the study

Results:

Table 1

Sr. No.	SAMPLE	N	M	SD	T
1	ADOLESCENTS PERSUING VEDIC LITERATURE	25	168.76	6.13	
2	ADOLESCENTS PERSUING NON VEDIC LITERATURE	25	155.68	8.66	** 4.58

**** SIGNIFICANT AT 0.01 LEVEL OF SIGNIFICANCE**

Table 2

Sr. No.	SAMPLE	N	M	SD	T
1	ADULTS PERSUING VEDIC LITERATURE VEDIC LITERATURE	25	168.32	4.26	
2	ADULTS PERSUING NON VEDIC LITERATURE	25	155.32	13.62	** 5.74

**** SIGNIFICANT AT 0.01 LEVEL OF SIGNIFICANCE**

Correlation Table 3

Sr. No.	Sample	r	Interpretation
1	ADOLESCENTS PERSUING VEDIC LITERATURE	0.26	Low positive correlation between the groups
2	ADULTS PERSUING VEDIC LITERATURE		

Correlation Table 4

Sr. No.	Sample	r	Interpretation
1	ADOLESCENTS PERSUING NON VEDIC LITERATURE	0.24	Low positive correlation between the groups
2	ADULTS PERSUING NON VEDIC LITERATURE		

Low positive correlation between the groups of adolescents and adults persuing vedic literature and also both the sample (adolescents adults) persuing non vedic literature shows that the effect of the study persued i.e. (vedic / non vedic) dees not bring about much stronger correlation effects found is due to age and maturation level attained.

DISCUSSION & INTERPRETATION

- T test applied to asses the difference between the E.I. of adolescents studying vedic literature and those studying non vedic literature displayed the value of 168.76(vedic group) and the value of 155.68(non vedic group) respectively.
- T value of 4.58 showed significant difference at 0.01 level.
- As adolescence is the age of impulsiveness and many biochemical changes take place which may outrage one's emotions at times, the interaction and connectivity with Vedic literature lowers the sympathetic and activates the para sympathetic nervous system, thus bringing calmness to mind and action and serenity of thoughts.
- T test applied on both groups adults (vedic group) and adults (non Vedic group) showed the value of 168.32 and 155.33 respectively. T value 5.74 was again found to be significant at 0.01 level.
- Adults are seen to be more stable emotionally and more well versed with

adversities of life. Moreover adults pursuing Vedic literature learn and practice equanimity of mind and acts towards attaining salvation.

- This is the reason they are found to score higher in EI as compared to adults of non Vedic groups

Conclusion :

Table 1 and table 2 show that the hypothesis 1 and 2 has been approved as significant difference has been found among the groups of adolescents and adults persuing vedic and non vedic literature respectively.

However 3/4 were not found to be correlated highly. Which exhibits that whether persuing vedic or non vedic literature hardly share any correlational effect on both the homogenouse groups (adolescents and adults)

Despite the above mentional results the researches strongly prove that the vedic literature studied and brought to practice in thoughts and actions, increases self awareness and perseverance. On the other hand it removes negatives of mind, detoxifies thoughts and streamlines actions.

Vedic literature, Studies and brought to practice in thought and actions develops unique human virtues, increases self awareness and perseverance. On the other hand it removes negativities of mind detoxifies thought and streamlines actions.

==========

References :

1. Boyatzis, R.E. Leonard, D. Rhea, K and Wheeler, J, (1996) competencies can be developed but not in the way we thought, capability7, 2 (2) 24-41.
2. Kluemper, D.H. (2008) Trait, Emotional Intelligence, the impact of care self evaluation and social desirability, personality and Individual difference, 44, 1402-1412.
3. Gayantri, n and Meenakshi, K (2012) Emotional Intelligence throught the Bhagwat Gita interverntion, Journal of research studies on Psychology. 1(2).
4. Gayantri, n and Meenakshi, K (2014) Emotional Intelligence throught the Bhagwat Gita for conflict resolutaion, middle east journal of scientific research, 22 (10) 1470-1474.
5. Goleman, D (1998) working with emotional intelligence, Bantam./
6. Gropiraj, H. And Sharma, R. (2011) emotional intelligence in vedic and modera perspectives. emotional intelligence and Leadership, 23,38.
7. Mayer, D.J. Solovey, & Caruso, D.R. (2004) emotional intelligence, Theory finding and implications.
8. Sharma, R., (2012) Measuring Social and emotional intelligence compentencies in the Indian contest. Cross Culttural Management; An International journal 19(1) 30-47.
9. Upadhyaya, Kashi Nath (1998) Early Buddhism and Bhagwat Gita , "A Kavleidoscope of Perception" by Prabudhha Bharat, Oct 2008.

UGC Journal No. (Old) 40942,
Peer-Reviewed Research Journal
Impact Factor 3.928, ISSN 0973-3914
Vol.- XXX-XXXI, Year- 15, Dec. 2019- March 2020

Environmental pollution and waste management

* Deepti Yadav

Abstract- *This paper will discuss the problem of environmental pollution and waste management. Everything that surrounds us is directly or indirectly connected to the environment. Not only the man, but also other living beings as well as the nature (volcanic eruptions, earthquakes) have effects on environmental pollution. Environmental pollution is present from the very beginning of life, but today it is a serious problem that threatens the survival of mankind. During the preparation of life, but today it is a serious problem that threatens the survival of mankind. During the preparation of scientific research, we noticed a problem: "what is the influence of waste management on the environment?"Today, every person living on planet Earth is worried about environmental pollution because the consequences faced every day, through the air we breathe, the food and water we consume, through pollution and radiation we are exposed to. Also, the consequences of environmental problems are manifested through the lack of natural resources, extinction of plant and animal species, as well as the problems in the global ecosystems and biochemical processes. Based on the research problem we can hypothesize: Yes, waste management has a great impact on the environment. Key words: environment, waste management, environmental pollution, recycling, ecology, natural resources and ecosystems.*

Key Words- Environmental pollution, Waste management

Introduction:

The man, along with all other living beings from the beginning of its existence is closely linked with the entire inanimate and living nature that surrounds it. This interaction is the basis of the whole modern right of environmental protection. Through his own development, the man developed his interest in the way and manner that would harmonize with the nature that surrounds it, to ensure the conditions necessary for their survival. With each new discovery (ranging from tools for age and wheel all the way to modern computer technology) man makes bigger part of the eternal desire to reconcile nature and its needs. Contemporary urban, industrial, economic and technological development has provided great benefits to man, but the industrial air and water pollution, uncontrolled deforestation and their conversion into agricultural land, destruction of the ozone layer and

* Noida Gautambudhnagar

global warming of the planet followed by climatic changes, the accumulation of various wastes, including radioactive as well as the eradication of certain plant and animal species, are just some of the negative consequences of human activities, which, however, seriously endangering his own survival. At present time, the protection of the environment is of great importance in the prevention and elimination of these contradictions. The right to protect the environment today should be seen as a unique supranational (international), national and local unit. Therefore, in order for the normative framework to succeed, actions must be taken at the universal, national, regional and local levels. Today we can say that we live in a world of waste, because of population growth and production increasing amounts of waste that makes landfill are becoming more numerous and increasingly degrade the environment.Every day a huge amount of waste, equally as in the villages and in agricultural areas is produced. Every year, about 10 million tons of oil products reaches rivers and oceans and has more than 500 billion tons of industrial waste. Industrial facilities and transport throw into the atmosphere about a billion tons of aerosols and at ash. At the landfill waste is collected for years. In the wild landfill reaches upto 70% of total waste. The biochemical processes of decomposition of waste adversely affect the environment. As for municipal waste that contaminates the soil and plants, air, groundwater and surface water on them in huge quantities reproduce rats, mice and insects, which contributes to the spread of infection. This new situation poses a threat to human health, for both present and future generations. This imposes the problem of protecting the environment through waste management. The composition of waste is very different and includes municipal solid waste industrial, and agricultural, medical, electronic and other wastes of mixed composition. A particular problem is hazardous waste (chemical, biological and nuclear) with a strong polluting effect and the many negative consequences for human health and the environment. In the early 90s of the 20th century in developing countries, there are 100 - 330kg of solid waste per capita in the European Union, the number was 414, and in North America 720kg. The global problem of all countries of the world is that there is an increase of waste, both in the amount of waste produced, as well as the amount of waste per person. The big problem is that this waste is not processed; instead it is deposited in the landfills that are huge. and located in the vicinity of cities and represent a dangerous pollutants to air, water and land.

Environmental pollution:

The result of deteriorating environmental situation in various countries and regions where environmental pollution is the most intense climate is warming, ozone layer is depleting, desertification adopted by the UN organization, "pollution are exogenous chemical substances encountered on a suitable place, at the appropriate time and in inadequate quantities."1 According to the analysis (taken in early 20th century), it is concluded that the most polluted spheres are atmosphere and hydrosphere. Even the state of cosmic space around our planet raises serious

concerns. In order to define the concept of environment we must consider the basic ecological unit that has its own laws, which is characterized by complex factors of animate and inanimate nature. This unit is called an ecosystem. The man as a conscious being has a great influence on the environment. According to the methodology of the World Health Organization, there are 26 risk factors to health, some dating from the environment that are considered to cause many diseases in the population perspective of environmental effects of pollution are usually described in terms of which we have population of children aged 0 to 19 years. The impact of economic and other activities on the environment may be different in character: direct (immediate) and indirect synergy. From the perspective environmental effects of pollution are usually described in terms of which we have already pointed out: degradation, devastation, endangering the environment, in different time periods. It is possible to perceive the effects of pollution in air, water, soil, wildlife, human health, and so on. We can speak of long-termed and short termed effects of pollution. It can be very important to understand the concept of the working environment, if it is connected with the concept of environmental protection in the context of discussions on environmental management. This can be done for many reasons. First, because of the connection of the working environment as part of the environment, there are connections and processes related to the operation and are of importance to the issue of the environment. There are several provisions in the law on safety and health at work and other regulations governing this area, which are directly relevant to the understanding of the relationship between the working environment and the environment. It is necessary to know not only the notion of working environment but also to bear but in mind the definition of a number of other terms such as "hazardous materials", "danger", "dangerous phenomenon", "risk", "risk assessment", and so on. According to this law work environment defines the working environment in which the work is performed under specific operating conditions in the workplace, working procedures and relationships in the work process. Unfavourable changes in the environment caused by human activities causing a change in the inflow of energy radiation levels physio-chemical and microbiological composition of environmental pollution can be defined. The harmful effect of pollution their effect is manifested in the anatomical and morphological structure, metabolism, growth process, at all levels of cellular organization, from the molecular to the cellular level, through individual and population to biocenosis and ecosystems.

Waste Management:

In the MiddleAges, food waste was dumped on the streets, so the rodents and insects transmitted many infectious diseases and dangerous epidemics. Today, because of inadequate treatment of waste could be a higher number of infectious diseases. The general interest of society in our country, governed by the Law on Waste Management is the management of waste. The objective of this law is to provide and ensure the conditions for waste management in a way that

does not endanger human health and the environment. Law relating to waste management is based on the following principles:

1. The principle of optimal choice of options for the environment
2. The principle of proximity and regional approach to waste management
3. The principle of hierarchical waste management
4. The principle of accountability
5. The 'Polluter Pays' Principle. Prevention of waste, reuse of waste and recycling, separation of recyclable materials from the waste and the use waste as an energy resource development processes and methods of waste disposal, remediation of unregulated dumps, and developing awareness of waste management involves waste management. The concept of waste management refers to the activities of collecting, transporting, sorting, recycling, disposal, tracking and monitoring of waste. The biggest problem is the collection of waste for recycling, i.e., waste sorting, because some parts of the process must be performed manually, which increases the cost of recycling. But there are problems with the categorization of garbage, so let's say PET bottles are not the same category of waste as PVC containers and cannot be recycled together. As the best solution for the protection of the environment from waste, would be not to use products or packaging that is biodegradable and does not release toxins into the atmosphere. As a consumer, you can choose the product you are buying. Products with excess packaging not only pollute the environment, packaging is included in the price you pay, and the placing of 30 grams in a package which can hold 60 grams of leads to visual misleading. Japan introduced legislation on recycling in 1997 and currently there are 44 categories of waste. Every resident of Japan has received a 27-page instruction on the procedure for sorting their waste. There are categories describe to you in detail, so if you have a lipstick that you spent, he throws himself into the category of combustion, but after you remove it from the packaging and plastics dumped into the category of 'small plastic and metal. Japan is a country-specific because with 127 million people on average, 336 people live in an area of 1 km2. Logically Japan has to take care of as little use of land for the purpose of disposal. In the world's major cities, there are 3.5 kg of waste per capita a day. With increased population and living standards, the waste also increases. According to the Basel Convention, the world annually produces about 4oo.ooo.ooo tons of hazardous waste. Military waste and radiochemical industry, which uses various raw materials and products that have hazardous properties especially present .The production of hazardous waste can occurring combat, destruction of chemical plants in NHB accidents (transport, storage, accidents, natural disasters, natural disasters) and so on. The harmful and dangerous contaminants working environment includes the physical (solid waste, dust, noise, vibrations), chemical (aerosols, gases, vapours, fumes, dust, waste), radiation (ionizing, UV, oils, infrared, radar, laser, ultrasound, x-ray) and biological (viruses, bacteria, fungi, parasites, insects, rodents). Anthropogenic substances go into the environment in different ways. Wastewater

is discharged into surface and underground waterways and basins. Solid waste is stored in special landfills buried and deposited in abandoned mines. Agriculture uses fertilizers and pesticides (about 70,000 different harmful and hazardous substances, and the list is supplemented annually with new 900-1000 terms). Synthesized new compounds that are not found in the working environment and living organisms are able to decompose (PVC materials). It is estimated that close to 40 million plastic bottles and bags, large number of lost and discarded fishing nets, nylon and other float on seas and oceans.

Disposal of solid waste in landfills:

Landfills are sites for solid waste disposal there are several types of landfills depending on the manner in which the waste is thrown and protection measures aimed at preventing air pollution and pollution of groundwater. Atmosphere and hydrosphere are contaminated because of garbage disposal in open areas without protective measures. In order to prevent the contact of materials from solid waste with atmospheric air, sanitary landfills are built. Today, waste is disposed in the bowels of the Earth, which represents an alternative to landfill sites. In this way the air pollution is avoided and undesirable propagation of animals. This method of waste disposal has its disadvantages:

1. If you make a wrong selection of underground landfill, it can contaminate groundwater.
2. When waste is buried and located in the middle of the country, there is no oxygen and its decomposition. Biogas is formed, which consists of various hydrocarbons, mostly methane. Biogas is spread horizontally and can reach the basements of buildings and in contact with open it can ignite and explode.
3. When waste is decomposed, its volume decreases, and this causes sagging area, so that in these places we cannot make buildings and other facilities.

Strategies for building and controlling landfills: During the construction of landfill, there are three strategies:

1. The waste is stored on land that has the required properties and the ability of self purification, in order to avoid the spread of harmful substances into the surrounding environment. In this case, land is the only barrier to the polluting substance. Therefore, land should be chosen appropriately to meet specific biological and chemical criteria (e.g., clay, grain size distribution). 2. Strategy of limiting i.e. limiting the maximum infiltration of pollutants from the landfill to land on one of the following. Landfill covering material that is impervious to water, in order to minimize the penetration of atmospheric and surface water and pollution of soil in that way, by placing insulating layer in the bottom of landfill in order to prevent the penetration of water lipstick that you spent, he throws himself into the category of combustion, but after you remove it from the packaging and plastics dumped into the category of 'small plastic and metal. Japan is a country-specific, because with 127 million people on average, 336 people live in an area of 1 km2. Logically Japan has to take care of as little use of In the world's major

cities, there are 3.5 kg of waste per capita a day. With increased population and living standards, the waste also increases. According to the Basel Convention, the world annually produces about 4oo.ooo.ooo tons of hazardous waste. Military waste and radiochemical industry, which uses various raw materials and products that re-use of materials,: to reduce the need for primary raw materials, reduce the pollution of water and soil. Industrial waste is divided into:- Scrap, waste wood,- waste plastics and other materials, - industrial waste.

Ecologically beneficial and comprehensive technologies that reduce the amount of the primary production are developing. Non-waste technology should provide: - Development and production of new products, taking into account the possibility of re-use; - processing of production and everyday waste into new products; - The use of closed systems of industrial water supply.

Hazardous waste management:

As defined by the united state agency for environmental protection hazardous waste is any waste that is flammable, corrosive, reactive or toxic. Hazardous waste today can be found at every turn. Studies have shown that the main source of this type of waste is:

Chemical industry, with about 60% of the total industrial hazardous waste;

- Metal industry, with about 20%;
- Military industry;
- Pharmaceutical industry;
- Clinical centres; - household an
- Small businesses.

Hazardous medical and veterinary waste:

The waste that is created in the health and veterinary institutions, regardless of its composition and origin, is a medical-veterinary waste. This is a heterogeneous mixture of municipal garbage, infectious and laboratory waste, packaging, medicines and other pharmaceutical and chemical waste. Hazardous medical waste, which accounts for 14% of the total amount of medical waste, consists of the following groups of waste:

1. Infectious waste- from microbiology laboratory equipment, supplies and accessories that came into contact with the blood or infectious patients used in surgical procedures, waste with haemodialysis, gloves, trash infected experimental animals.
2. Sharp Objects, needles, syringes, scalpels and other objects that can cause a sting or cut. 3. Gross, of black and grey parts of the human body (tissues, organs removed during surgery), experimental animals, and anatomical parts of animals.
4. Pharmaceutical Industrial waste drugs and chemicals that have been returned to the departments from where they are taken or expired.
5. Chemical waste- discarded solid, liquid or gaseous chemicals that are used in medical or experimental procedures, cleaning or disinfecting.

6. Radioactive of black and grey contaminated materials, equipment, solutions, corpses experimental animals.

7. Content of heavy metals from the waste present compounds of mercury, lead, arsenic, as well asthermometers, devices for measuring blood pressure.

The institutions of veterinary medicine waste is generated in the following facilities:

- veterinary clinics,
- research laboratories of the institute,
- veterinary,
- veterinary clinics,
- numerous farms for breeding herds and flocks

Biodegradation:

A great potential for the processing of organic components of municipal waste has biodegradation or composting. "Processing of one ton of organic waste may give 500 m3 of biogas, containing up to 70% of methane and carbon-dioxide due to the thermal capacity of up to 24,000 KJ / m3. It is vital for the presence of bacteria and other components of biota. Bacteria in quantity and diversity greatly exceed other groups of microorganisms, bacteria performs the process of nitrogen fixation which biological activity and soil fertility depend on a significant portion of municipal solid waste consists of food scraps. They have a high density and humidity". In order to solve the problem of waste introduces the technique of biodegradation is introduced. In medium-sized cities and rural areas, biodegradation can be realized, especially on smaller farms and greenhouses. The final product of the degradation of the organic fertilizer, biogas (energy) and water that can be used in corporate and household advantage of biodegradation is ecological purity. Widely used method of biodegradation in economic practice in many countries for energy purposes and obtaining high-quality organic fertilizer, as well as reducing land surface, face processing of municipal solid waste in order to protect arable land and biodiversity.

Technology biodegradation of organic waste:

Thanks to micro-organisms that are an inseparable component of ecological systems of the biosphere and their enormous activity released vast amounts of oxygen, which provides life on Earth. "Over the centuries, biodegradation of organic waste under the action of microbestook place. Today, men have learned to manage this process, synthesizing specific group of microorganism . In order to perform microbiological degradation of vegetable and animal waste, it is necessary to know the chemical structure of its parts. This structure varies depending on the composition of food products from which the waste is produced. The main 'suppliers' of organic food waste are processing industry, agricultural producers, as well as some institutions. "The remains of food and industrial waste of plant or animal origin are exploited in the following manner:

- Solid waste from other municipal and industrial must be disposed of in the landfill;

Use organic waste as a fertilizer on agricultural land; • bury the carcasses of domestic animals;

- discharge of industrial waste into the sewer system of the city;
- disposal of waste in illegal dumps. Municipal waste whose share in the total volume of solid waste is quite high, should be, trough the method of processing, burning or pressing and its disposal in landfills of solid waste, which is not justified either environmentally or economically.

There are always environmentally and economically effective methods of waste treatment. The solution of these problems is the introduction of biodegradation technology. Biodegradation is widely applied in the economic practices of European countries. Many West European farms meet their needs for energy and organic fertilizers by using this method. In Norway and Canada, a method of biodegradation of organic waste in individual households as well as in industry is widespread. In China is also widespread. Method of biodegradation is economically effective, it can be concluded. Its application makes a profit by selling fertilizer, which is a valuable product.

Recycling:

Re-use of materials and its separation from waste is called recycling. This involves the collection, separation, processing and manufacture of new products from the used items or materials. Everything that can be reused and not thrown away is recycling. Without the introduction of recycling in daily school life it is impossible to imagine an integrated waste management system. There are recycling centres in the world who exploit material from old things to make new, but there are no such centres in our country. There are few centres such as Paper service where they can take the old paper in exchange for coins. There are not any centres for recycling glass and hundreds of glass bottles are thrown every year. "Through recycling following strategic objectives are achieved:

- Saving raw resources (all materials are sourced from nature and have them in limited quantities).
- Energy saving (no energy loss in the primary processes, as well as in transport and processes which follow, and additional energy is obtained by burning materials that are not recycled)
- Environmental protection (waste materials degrade, and the recycling protects the environment).
- Creation of new jobs (processes in the recycling of materials include investment knowledge and work, which creates the need for jobs)".

Materials for recycling: "In terms of the Return of exploitation, materials can be:

- Recyclable (can be used to recapture the production process after recycling),
- Non-recyclable (can not be returned to the production process and are used to obtain energy-burning or in an environmentally safe manner warehouse in landfills)

- Hazardous (materials that are harmful to humans and the environment), - Harmless (materials that are not harmful to humans and the environment).

By the way of returning the material in the process of re-use, recycling can be:

- Primary (recycling which after proper preparation materials used to obtain the same product). - Secondary (recycling, in which recyclable materials are conventionally processed using new technologies to the maximum possible efficiency)

Recycling of plastic waste:

Plastic waste is very difficult to decompose If you are re-using packaging waste contributes to reducing the amount of waste and environmental pollution, saving raw materials and energy. The big problem is caused by unlimited use of plastic products and dumping their remains. There are many ways to recycle plastics, although essentially it all boils down to the same operation. The technological process is composed of seven stages:

1. Waste collection, 2
2. Identification and selection,
3. Milling,
4. Rinse,
5. Spinning,
6. Material drying and
7. Storage

The household plastic waste is put in the same basket with other waste and creates another problem. In order to solve this problem containers depending on the type (glass, paper, plastic)are introduced. In most EU countries, this method of collecting and sorting is already greatly in practice in the first decade of 21st century in the United States about 30 million tons of plastic waste is collected. Due to the problem of disposal of this waste, re-use becomes ever more important. Every year Americans use 86 kg of plastic of which 27 kg is packaging. Germany recycles about 800 tons of plastic, which represents 80% of the annual volume of plastic waste. UK recycles about 200 tons of plastic which is very small compared to the total amount. Since 2000, the processing of plastic waste has increased, with one piece of plastic back to landfill it is a residue that cannot be processed. Great attention is paid to creating plastics that will be able to break down under the action of microorganisms. These are the so-called biodegradable plastics. Not all plastic products can be replaced with biodegradable plastic''. We do not process the plastic waste in an adequate way, although we have great potential. It is the processing of waste of known composition and origin. Capacities that perform processing are also very modes.

Car-battery Recycling:

"Huge amounts of unselected waste are deposited at the landfills. Old batteries are disposed of during the year in landfills without any preparation area. This lead to significant soil contamination with lead, acids and other inorganic substances from the battery". 11 In order to recycle old batteries it is necessary

to pre-allocate and recycle certain components and safely dispose of the waste that occurs as a residue after recycling. The technology of remaking old batteries is not particularly popular although it has great economic justification and significant impact on the environment. Because of the difficulty of old batteries from wild landfills, which are numerous, settling all kinds of waste material. It is very difficult to make a selection very small number of companies are doing this. Statistics show that we cast away ¼ of the total number of batteries. One of the most important raw from re-cycled batteries is lead.

Recycling of vehicles at the end of life:

"The car is a product of high complexity. Parts of the car are made of different materials but the most dominant is cast iron and steel. Approximately 80% of the weight of the car. can be recycled in the current recycling plants The process of recycling the car is complex because of the variety of materials that are part of the car. Glass, which is 3% of the weight of the car, is not processed in factories for the manufacture of glass, because of its complex chemical composition, but chipped used in construction as a concrete additive. Fluids in cars (fuel, various types of oil and coolant) constitute 2% of the weight of the car. These fluids in the process of recycling the car significantly complicate the process itself, because of its chemical composition and its toxicity. Rubber, which makes 5% of the total weight of the car, goes further to industrial processing and has found application for obtaining different products(flooring, protective , fencing, addition to asphalt). A major threat to the environment are batteries of old cars, then switch on the basis of living and different types of filters. The parts of the car should be treated separately and with great care. "Right now two technologies of recycling the cars are applied, which differ in the way of sorting the materials that make up the car. The first technology is based on optical separation, while other technology uses multiple methods (mulching, gravitational and special methods of separation)".

Waste Management Strategy:

"The collection, transport, storage and treatment of waste carry a number of risks to safety and health of employees in the waste industry". The system activities and activities which include the prevention of waste by reducing packaging materials, waste reduction, developing a habit of sorting waste in the population represents waste management. "Waste Management Strategy provides us with the following activities:

- The introduction of formal legal mechanisms, such as the acquisition of knowledge in the field of waste management.
- Acquisition and improvement of education and training of persons who manage waste - Establishment of a national body responsible for the development of educational programs and trainings in the field of waste management

There are ways to intensify the use of waste, to improve the quality of the processed raw materials and the number of participants in the recycling process which leads to greater environmental protection. Most countries accept the

strategy of the European Union relating to: - Research and development of new technologies for recycling, - optimization of the system of collecting and sorting waste, - reduction of external costs of re-use of waste, - computerized systems of waste management, - exchange and sale of scrap material.

Conclusion:

The environment is changing through development of the industrial revolution and the beginning of the use of fossil fuels. people are thinking about this problem more and more, because it should not allow the industry to continue to develop and harm the environment. This way of thinking has led to the emergence of the concept of sustainable development. This concept implies the continued development of the industry in a way that has minimal environmental impact. To change the quality of the ecosystem brings harmful effects of pollutants present in the environment and thus to increase the potential negative impacts on human health in several ways. The survival of man and nature are brought into question trough this industrial mode of production that was supposed to make the man the master of nature. Pollution of the basic elements of the environment (air, water and land) reached alarming results. Landscapes and spaces that are beyond the reach of human activities still exist. People recognized and legally protected such natural goods. The life and working life of the man carried out in the urban areas and industrial zones, and only rare moments of rest in an oasis of pure nature. Some types of waste represent a major potential threat to the environment and human health. The company did not immediately and fully understand this danger. In many countries there are still no regulations on waste management. The amount of hazardous waste has increased dramatically in the last period due to different types of pesticides that are applied in agriculture and industrial waste containing toxic and cancer organic substances. Worsening situation of global environmental - global warming, ozone layer depletion acidification of the environment with the occurrence of acid rain and its consequences of global environmental problems: deforestation ,soil degradation, loss of biodiversity and stocks of clean drinking water- is the result of deteriorating environmental situation in different countries and regions where environmental pollution is most intense. Reducing environmental pollution is an important goal of sustainable waste management. Recycling is one of the useful methods aimed at maximum utilization of energy and raw materials from waste. Most countries are opting for recycling because in addition to eliminating waste they see economic solutions. Recycling keeps raw materials and energy. From discarded and useless products obtained raw materials that would be in a different situation should draw from natural resources. The growth of population and production of larger quantities of waste to landfill seems to become increasingly numerous and increasingly degrade the environment. Landfills cover large areas of arable land, grow in uncontrolled dumps with high risk of miraculous situation and require huge costs of eliminating them. In order to reduce the amount of generated waste it is necessary to improve waste management strategies starting from

minimizing waste at source, via rebooting the use of secondary raw materials, recycling and disposal too.

==========

References :

1. Bjelajac Z. Ecological policy of EU and its criminallegal draft, MP4, 2011.
2. Heleta M. System management projecting of environmental, University Singidunum, Beograd 2010.
3. Jovanovic L. Ecomanagement in function of environment protection in towns. Ecological movement of Novi Sad, Novi Sad 1999.
4. Jovanovic L. Ecomanagement in function of environment protection in towns. Ecological movement of Novi Sad, Novi Sad 1999.
5. Jovanovic L. Recycling as an important part of sustainable developmentISO14000, Aranðelovac 2000.
6. Jovanovic L. Recycling as an important part of su- stainable development ISO14000, Aranðelovac 2000.
7. Kolomeiceva-Jovanovic L. Chemistry and environment - tal protection, Belgrade 2010,
8. Rajovic G. “Environmental awareness as a basis for sustainable development of rural areas of Montenegro”, Ecologica, scientific and professional society for Environmental Protection of Serbia , No. 49, Belgrade, 2007 9. Todiæ D. Environmental management conditions of globalization, Megatrend University, Belgrade, 2008.

RNI No MP BIL 01034 / 12 / 1 / 2005 - TC
REGISTRAR OF NEWS PAPERS IN INDIA, GOVT. OF INDIA

JOURNAL OF
Centre for Research Studies
Rewa-486001 (M.P.) India
Registered under M.P. Society Registration Act,
1973, Reg. No. 1802,Year-1997
www.researchjournal.in

Editor : Prof. Braj Gopal, Printed and Published by Dr. Gayatri Shukla on behalf of Gayatri Publications, 41/42 Raghuwans Sadan, Bichhiya, Rewa, 486001 (MP) and Printed at Yuvraj Press, Ghoghar, Raniganj, Rewa 486001 (MP)