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Physical and Human Dimensions of Environment, Climate Change, and Sustainable Development

Chief Editor

Dr. R. V. Bhole

'Ravichandram' Survey No-101/1, Plot
No-23, Mundada Nagar, Jalgaon (M.S.)
425102

Guest Editor

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Application of Geoinformatics In The Estimation of Denudation–A Case Study of Modhale Watershed, Dist Nashik

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Abstract:

GIS and high-resolution remote sensing data, its analysis is useful for the development of models that can enhance the policy framing of sustainable watershed management. Attempts have been made to illustrate the role of Geoinformatics in the estimation of denudation rate and morphometric properties of the watershed. The area selected for this study is a Modhale watershed which is administratively located in the Igatpuri tehsil of Nashik district, Maharashtra and covers 16.03 Km² geographical area. In the estimation of denudation of watershed, the SOI toposheet no 47 E/9 surveyed in the year 1974 is used as a base map. Using the digitization of contours of same toposheet, the DEM prepared in the GIS software. This is considered as a base year (1972) for the estimation of denudation rate. Another grid i.e. ASTER DEM remote sensing data (2011) of 30m resolution is used for two different time grid operations. Both the grids standardized for the same arc spacing i.e. 0.3 arc second. ASTER grid, 2011 of the study area subtracted from the Toposheet grid, 1974. Cut and fill volume techniques of DEM grid helps to find out erosion and deposition areas. The output grid reopen in the software to find out erosion and deposition areas of the watershed. The denudation map of the study area shows that, very high proportion of the land surface of the watershed is under erosion which is about 60.97 % & the area under no change or deposition is comprises 39.02% land of the watershed..

Keywords: DEM, Geoinformatics, Denudation, Toposheet, Watershed

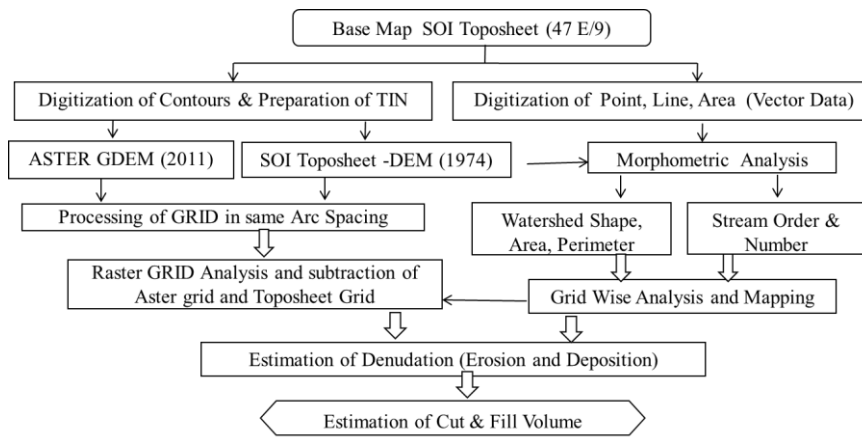
Introduction:-

GIS and spatial data operations are an operative tools to create planning, monitoring and exchange of information between different agencies in village level rural development administrations (Pawar, 2018) GIS and high-resolution remote sensing data, its analysis is useful for the development of models that can enhance (Prasannakumar and Geeta, 2011) the policy framing of sustainable watershed management. Digital Elevation Model (DEM) is very significant and precise the accuracy of estimation of geomorphic parameters of watersheds or drainage basin. (Szypuła, 2017) DEM is effectively used to refer to the digital demonstration of a land surface. (A. Balasubramanian, 2017) DEM is a very easy method to show the digital form of drainage basin or watershed or any other landforms. The drainage basin is considered a basic geomorphic unit for most of the planning purposes. Therefore it becomes necessary and essential to get acquainted with the different characteristics of a drainage basin. The study of the spatial information about landforms, surface erosion, and deposition (Denudation) is imperative for the sustainable development of land resources on a watershed basis. In the present study the Geoinformatics techniques have been effectively used in characterization and precise mapping of estimation of denudation on a micro-scale. Raster calculation and grid operations tools in GIS software are very effective and give accurate results within short periods. Cut and fill volume techniques of DEM grid helps to find out erosion and deposition areas. (Gaikwad et al 2012)

Objectives And Methodology

1. The major objectives of this study are outlined below
2. To emphasize the use and significance of GIS and remote sensing in the estimation of denudation.
3. To estimate the denudation using ASTER DEM and SOI toposheet grid operations and identify the high erosion risk zones using
4. To fulfill the above mention objective the methodology adopted for the present study is shown in fig no 1.

Fig. 1 Methodology chart of the present study



Study Area:-

The fifth-order micro watershed namely the Modhale watershed of the lower Vaitarna dam catchment is selected for the present case study. Administratively study area is part of Igatpuri Tahsil of 73°35'23" E to 73°38'04" E longitude. The total geographical area of the Module watershed is 16.03 Sq. Km. The perimeter is 18.05 Km with a highly elongated shape. The maximum height is 893 m and the minimum height is 576.1 m. (Ref fig. 2) Basic linear and aerial properties of the Modhale watershed are calculated using GIS techniques and shown in table no 1.

Fig. 2 Location of Modhale watershed

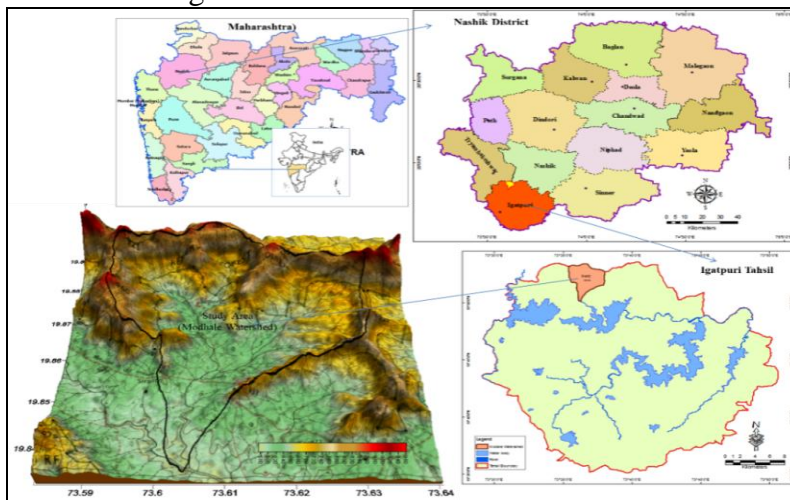


Table No: 1 Modhale Watershed : Linear and Aerial Properties

Sr. No.	Stream Order	Stream Number	Stream Length (Km)	Stream Length Ratio	Drainage Density (Km/Sq km)	Drainage Frequency	Texture Ratio	Area under Stream Order (Sq. Km.)	Bifurcation Ratio	Form Factor	Elongation Ratio	Circularity Ratio
1	1	101	15.92	-	1.98	12.58	6.92	10.98	3.48	0.34	0.7	0.79
2	2	29	4.7	0.93	0.58	3.6	1.99	10.38	3.62	Smaller	Elongated	Circular
3	3	8	1.87	0.69	0.24	1.01	0.55	8.57	4.00			
4	4	2	1.6	0.29	0.14	0.17	0.14	13.89	2.00			
5	5	1	0.88	0.91	0.06	0.07	0.06	16.03	1.00	0.34	0.70	0.79
Average				0.71	0.60	3.49	1.93	11.97	2.82	0.34	0.70	0.79

Analysis And Result:

In an exercise of estimation of denudation of the entire Modhale watershed an attempt has been made to digitize toposheets no. 47 E/9 on 1:50,000 scale & producing a TIN and DEM model of the year of its publication i.e. 1974 which has been considered as a base year for the denudation estimation. (Table no 2, Fig No. 2 and Fig No. 3) Remote Sensing data that is ASTER GDEM of 30m resolution (Fig. No. 4) of the study area is used to calculate the difference of grid. A raster grid operation in GIS software has been performed & two different time scale grids are thus considered for this exercise. Both the grids standardized for the same arc spacing & subtraction from ASTER DEM of the study area have been achieved. It can be deduced from the map of denudation of study area that, a very high proportion of the area is under erosion which is measured about 9.77 Km²(60.97%) & either there is no change or deposition took place is admeasured to about 6.26 Km²(39.02%) of the entire watershed area. (Fig. No. 4) Overlay analysis of denudation map with other morphometric components of the watershed indicates that, there is considerable correspondence with the erosional land surfaces. Whereas the deposition surfaces of the study area indicates the agriculture land use surface.

Table No- 2 Dataset for DEM Grid		
Particulars	GDEM	Toposheet
Data source	ASTER	47 E/9
Agency	METI/ERSDAC/NASA/USGS	SOI
Data Release	2011 (ver.2)	1977
Data Survey year	2000-2010 (ver.2)	1972-74
Scale	1 arcsec (30 m)	1:50000

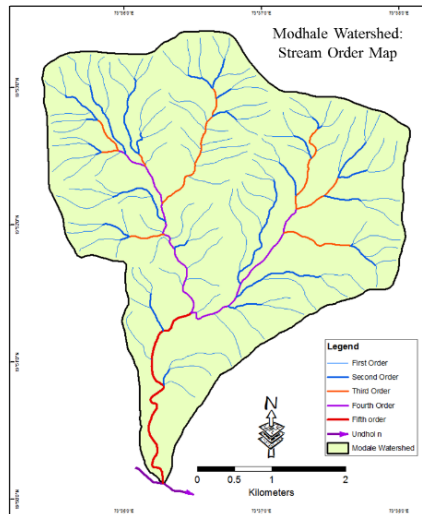
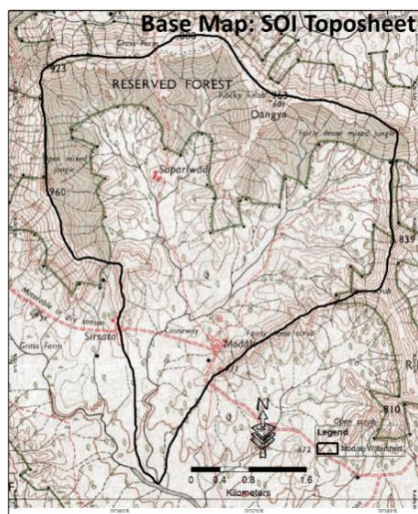


Fig. 2. SOI Toposheet of Modhale Watershed

Fig. 3 Stream order map

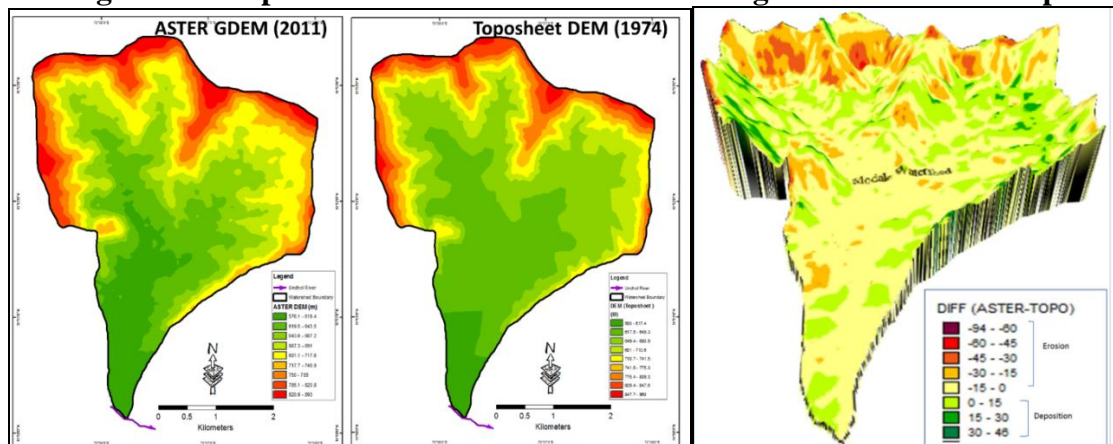


Fig. 4 Modhale watershed a)ASTER DEM, b)Toposheet DEM and c)Denudation map

Table: 3 Modhale watershed : rea under erosion and deposition class (1977-2011)					
Denudation (1977-2011)	Range (M)	Area			Volume
		Km ²	%	Total	
Erosion	>60	0.01	0.06	9.77 (60.97%)	Cut : 88069047 cubic meters
	45 to 60	0.02	0.11		
	30 to 45	0.31	1.96		
	15 to 30	1.47	9.18		
	0 to 15	7.96	49.66		
Deposition or No Change	0 to 15	5.03	31.39	6.26 (39.02%)	Fill: 59562642 cubic meters
	15 to 30	1.13	7.03		
	30 to 45	0.10	0.60		
Total area		16.03	100	16.03	

Conclusions:

Geoinformatics techniques are very effective tools to estimate the denudation of micro watersheds. Grid operations using DEM of a different period are easily apply for the estimation of erosion-prone surfaces of the watershed is useful to get primary level information about the overall watershed condition. It can be deduced from the denudation of the study area that, a very high proportion of the area is under erosion which is measured to be about 60.97%, and need to undertake conservation measures instantly. Morphometric properties of the Modhale watershed shows a close relationship with denudation map and plays a significant role in imposing utilization of land resources in the study area.

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A Study of Quality of The Institutional Organization Process of Secondary School in Jalgaon.

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Introduction

Organizational structure is something that it is best decided upon internally, through a process of critical thinking and discussion by members of the group. organization implies the arrangement, inter-relationship and Order of the people, materials, procedure, knowledge and work to be done. "Organization is the framework of Management", says F.E.L. Brech. because it sets out and distribution of the total responsibility into relevant sections or group for a more effective performance". organization is concerned with clear division of work allocated duties, responsibilities and accountability and defining power at each position in the organization. the following aspect or to be considered for the quality organization.

1. Identifying and grouping of work and activity.
2. Assessing the activities to the appropriate departments, section and individual.
3. definition responsibility.
4. Providing responsibility, delegation, accountability.
5. Ensuring coordination and communication.
6. provision of facility and equipment
7. Establishing structure structural relationship.

following aspects are included for the study.

management practice pertaining to organizing human being in to teams, clubs committee, college staff, organizing materials into building, furniture, equipment library, laboratory, computer laboratory, educational technology laboratory, organization of curricular and cocurricular activities.

Objectives of the study

- 1.To study the quality of the institutional organization process in the secondary schools of the Jalgaon.
2. To find out if there are any differences in the quality of institutional organization process between the various types of secondary schools in Jalgaon.
 - a) aided and unaided secondary school
 - b) English medium and Marathi medium secondary school

Hypothesis

1. There is no significant differences in the quality of the institutional organization process between aided and unaided secondary school in Jalgaon.
2. There is no significant differences in the quality of the institutional organization process between English medium and Marathi medium secondary schools in Jalgaon.

Methodology

The aim of the present study is to study the institutional process of the different types of secondary schools and to compare the quality of institutional organizations. The topic is in the descriptive nature the data is gathered by the opinions of the educational managers in this way the present research is qualitative. however, the data is transformed in to quantity and hypothesis is formulated in the beginning and it is tested with the help of the data collected and generalization is made at the end.in this since the present research is quantitative. hence theresearcher has used quantitative and qualitative approach to study the problem of this research. descriptive survey method used by researcher. the study is conducted in the secondary school in Jalgaon. The researcher has use stratified random sampling techniques. Questionnairedeveloped by researcher for the research.

Table no.1Analysis of the Institutional Organizational Process of Secondary Schools in Jalgaon.

Types of secondary schools	Total (N)	Mean	S.D.	Not satisfactory			satisfactory			Good		
				Rang	No.	%	Rang	No.	%	Rang	N o.	%
Aided	17	50.41	6.62	Below 37.18	00	00	37.19 to 63.62	26	96 . 29	Above 63.63	1	3. 70

Unaided	17	48.72	4.33	Below 40.06	5	3.52	40.07 to 57.38	130	91.54	Above 57.39	7	4.93
English Medium	16	50	7	Below 36	00	0	37 to 64	11	10	Above 65	00	00
Marathi Medium	15	49.78	7.16	Below 35.45	3	1.89	53.46 to 64.09	151	95.6	Above 64.10	4	2.53

Table No.2

Types of School	Number (N)	Mean	Median	Mode	S.D.	Skewness	Kurtosis
Aided	17	50.41	50	47	6.62	0.58	0.602
Unaided	17	48.72	47	46	4.33	0.03	0.196
English Medium	16	50	54	54	7	-0.15	0.289
Marathi Medium	15	49.78	50	55	7.16	-0.04	0.524

The above interpretation of the descriptive analysis of the data indicates that the data collected for studying the quality management of organizational process is near normal.

Table no.3

Types of school	N	Mean	S.D.	Table 't' At 0.05	Calculated 't'	Result
Aided	17	50.41	6.62	1.960	4.22	Significant at 0.05 level
Unaided	17	48.72	4.33			

Df=34-2=32

As per table no.3 interpretation is that, there are no significant differences in the quality of the institutional organization process between aided and unaided secondary school in Jalgaon is rejected.

Table no.4

Types of school	N	Mean	S.D.	Table 't' At 0.05	Calculated 't'	Result
English Medium	16	50	7	1.960	0921	Not significant At 0.05 level
Marathi Medium	15	49.78	7.16			

Df=31-2=29

As per table no.4 interpretation is that, there are no significant differences in the quality of the institutional organization process between English medium and Marathi medium secondary schools in Jalgaon is accepted.

Conclusions

All the respondents from Aided, Unaided, English and Marathi medium secondary schools of Jalgaon opine that the quality of the organization process is satisfactory. very few of the response from above types of school opine that the quality of organization process is not satisfactory. the reason for the satisfactory organization, as according to the respond as under: The infrastructures like different types of laboratories, ICT, library, science lab, playground, reading room, ladies room, building, drinking water, toilet, first aid box etc. are not available as per norms. The staff is appointed as per government norms. Other than aided schools teachers and other staff are not paid not paid as per government rule. And work load also heavy.

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Violence Against Women In India

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Abstract :

The world Health Organization (WHO's) latest report on Violence against Women that was released in June, 2013 indicates that in some regions of the world over 35 % of women suffer from partner violence with these staggering numbers, it is a very real possibility that every one of us knows a women is facing of has faced domestic violence. Women's are homemaker, custodian of social, cultural and fundamental values of the society, and permanent change is often best achieved through them. Full community development is impossible without their understanding, cooperation and effective participation. Considering all these, women deserve better treatment but opposite are usually the case. Wife battery affects the physical and psychological well-being of the abused woman and even that of their children. It is on this premises that this paper discuss the meaning of domestic violence, child sex ratio, situation of violence against women in India, Law and Indian Penal Code, Protection of women against Domestic Violence Act (PWDVA), Effects of Domestic Violence against Women and conclusion.

KEYWORDS : Domestic violence, women, physical wife.

"Woman is the companion of man, gifted with equal mental capacity."

- Mahatma Gandhi

Introduction :

In our society, many women are violently treatment by their intimate partners while they suffer in silence. Women and girls of all ages, races, cultures religions and education level can experience violence. Violence against women and girls is a major health and human right issue. At least one in five of the world's female population has been physically or sexually abused by a man or men sometime in their life. Many, including pregnant women and young girls, are subject to serve, sustained or repeated attacks. World wide, it has been estimated that violence against women is more serious a cause of death and incapacity among women of reproductive age as cancer, and a greater cause of ill-health than traffic accidents and malaria combined. The abuse of women is effectively condoned in almost every society of the world. Prosecution and conviction of men who beat or rape women or girls is rare when compared to numbers of assaults. Violence therefore operates as a means to maintain and reinforce women's subordination.

United Nations' Definition Of Violence Against Women :

The declaration on the Elimination of Violence Against Women, adopted by the United Nations General Assembly in 1993, defines violence against women as "any act of gender-based violence that result on, or is likely to result in, physical, sexual, or psychological harm or suffering to women including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or private life." It encompasses, but is not limited to, "Physical, sexual and psychological violence occurring in the family, including battering, sexual abuse of female children in the household, dowry related violence, marital rape, female genital mutilation and other traditional practice harmful to women, non-spousal violence and violence related to exploitation; physical, sexual and psychological violence occurring within the general community; including rape, sexual abuse sexual harassment and intimidation at work, in education institution and elsewhere, trafficking in women and force prostitution and physical, sexual and psychological violence perpetrated or condoned by the state wherever it occurs.

Ban Ki-moon United Nation Secretary at 57th session of Commission on the states of women New York 5th March, 2013.

"When women and girls enjoy all their right and freedoms, we will be closer to realizing our entire goal for sustainable development and an equitable, prosperous society"

The Statistical Of Child Sex Ratio (Census 2011)

According to the census Report 2011 by Register General & census Commission, India's statistic of child sex ratio is.

1. Sex ratio is a tool to determine gender equity of the population.
2. Sex ratio, in India, is defined as the number females per 1000 males in the population.
3. Historically sex ratio in India as remained favorable to males.

4. Wheres, Intentionally, sex ratio is defined as an number by males per 100 females.
5. At all India Level, sex ratio has shown an increase in both rural and urban areas Rural Areas from 945 in 2001 to 947 in 2011. Urban Areas- from 900 in 2001 to 926 in 2011.

Crime Against Women In India:

The recent public outcry following a brutal gang of a woman in India's national capital was a watershed moment in the world's largest democracy. It generated widespread public and political support for strengthening legal provisions to punish sex offenders on 13 September 2013, a New Delhi judge sentenced four men to death for the brutal gang rape of a 23 year old physiotherapy student. She died due to sever injuries suffered during the attack. The barbaric nature of the crime appealed the country and brought worldwide attention to what print media now calls the Rape crisis of India. Nationwide protests forced lawmakers to refer this case to fast track court, and the judgment was pronounced in less than a year. The perpetrators were sentenced to the gallows; a punishment reserved in Indian law for the rarest of rare instances of inhuman crime. The law concerning violence against women was amended by the parliament. The numbers of violent crimes is India especially those against women including rape that are reported in official statistical are increasing with each passing year. This violence thrives within a milieu of steady economic growth, and increasing inequality between the rich and poor in India society. In 2012, the crime against women reported by official statistic increased by 24.7 % compared to those reported in 2008. Ranging from the so called eve teasing and outright sexual harassment on the street or work place, to harassment for dowry, molestation in public transport vehicles, and the often reported rape, these crimes against women reflect the vulnerability and deep rooted problems related to the position of women in Indian society. Out of 28 states, 10 states reported more than 10,000 cases of crime against women in 2011 putting states with both high and low HDI (Human Development Index) and literacy rates in the list probably an indication that education and economic growth alone do not influence occurrence of these crimes and pointing towards socio-political and cultural factors. This can be further observed in National Crime Records Bureau (NCRB) statistics which show that cruelty by husband or his relatives (46.8%) and dowry related crimes (7.1%) accounts for more than half of the crimes against women. According to the NCRB, 24, 923 cases of rape were reported in 2012, amounting to one rape every 22 minutes. A continuous increase in the reported cases of rape has been observed in the period from 2009 to 2012 with more the 3% increase in the number of cases reported in 2012 over 2011. Nearly, 12.5 % (3,125) of the total victims of rape were girls younger than 14 years, 23.9 % (5,957) were in the 18-30 age group and 12.8% (3,187) victims were in the 30-50 age group. These statistics do not capture the actual numbers. While gross under reporting could be one reason for this, the other reason is that crimes such as gang rapes, stalking and acid attacks on women were not included in official statistics of crime against women until the law was amended on 3rd February, 2013.

Crimes against women under the Indian Penal Code are as follows :

1. Rape (sec. 376 IPC)
2. Kidnapping and Abduction for different purposes (sec. 363-373 IPC)
3. Homicide for Dowry, Dowry Deaths or their attempts (sec. 302/304B IPC)
4. Torture /cruelty –both physical and mental (sec. 498 A IPC)
5. Molestation (sec. 354 IPC)
6. Sexual Harassment /Eve-Teasing (Sec. 509 or 294 IPC)
7. Importation of girls up to 21 years of age (sec. 366 B IPC)

Protection of Women From Domestic:

Violence Act, 2005 – domestic violence not only violates the human right but also violates one interm of economic, health, mental and social perspective. In a patriarchal setup, domestic violence is often downplayed and internalised as “Natural” and shushed about. The protection of women from Domestic Violence Act, 2005 (PWDVA) addresses these unspoken and usually unmentioned issues. Passed by the parliament in August 2005, the act came into force from October 26, 2006. PWDVA provides a legal recourse to women (wives and live in partners). Facing domestic violence be it physical, mental, sexual, emotional or economical. The calls for appointment of protection officers, service providers, medical facility In – charge and Shelter Homes. The offender in guilty is liable to a fine or Rs. 20,000/- and a Jali sentence up to one year. Aggrieved women may file an FIR (First Information Report) in the nearest police station or file a DIR (Domestic Incidence

Report) under the PWDV Act a part from under 498 A of IPC. Magistrates may also be approached directly to file DIR. Immediate monetary reliefs is to be provided to the victim by the government. Violation or non-compliance with the order of court is a criminal offence under the PWDVA-2005. In such cases, the women can complain to the magistrate or the police or the appointed protection officer. The abuser can be arrested following such a complaint, and necessary action would be taken against him.

Conclusion:

Violence has a profound effect on women. Beginning before birth, with sex selective abortions or at birth when female babies may be killed by parents who are desperate for a son, it continues to affect women throughout their lives. Each year, millions of girls undergo female genital mutilation. Female children are more likely than their brothers to be raped or sexually assaulted by family members, by those in positions of trust or power or by strangers. Sometimes, when a unmarried women or adolescent is raped, she may be forced to marry her attacker, or may be imprisoned for committing a "criminal" act. Those women who become pregnant before marriage may be beaten, ostracized or murdered by family members, even if the pregnancy is the result of a rape. After marriage, in-law, may assault, rape or kill them. When women become pregnant, grow old, or suffer from mental or physical disability, they are more vulnerable to attack. Women who are away from home are also subject to violent assault some times. Thus women face the violence across the life span.

Recommendations :

1. Comprehensive and extensive premarital counseling should be given to intending couples on how to manage their marital relationship.
2. There should be public enlightenment through the mass media on the negative effects of domestic violence against women, especially wife battery.
3. Religious leaders too should vigorously teach against marital violence in their places of worship.
4. Youths should be encouraged and taught to detest and not imitate brutish treatment of wives around them.
5. Punishment given to grievously offending husbands should be publicized, so that it can serve as deterrence to others.

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Satisfaction Level of Pilgrimage Tourist Gaoudagaon in Akkalkot Taluka

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Abstract:

The word "tourism" is derived from the 'tour' meaning a 'Journey' in which one returns to the starting point (Parbati Nandi and Prmangshu, 1999). It is an economic as well as industrial activity through individuals, firms, corporations, organizations and associations. The heritage tourism is a leisure trip with the primary purpose of visiting historic, cultural, natural, recreational and scenic attraction to learn more about the past in an enjoyable way (PHMC, 2001). For the present study primary and secondary data has been applied. For the assessment of tourist satisfaction level sample survey method is used. For that purpose 12 important factors were selected which influence the level of satisfaction. For the collection of tourist views regarding facilities 12 factors questionnaire was prepared and filled up by tourists. About 110 tourists at the time of national holiday in 2012 were asked to mention their views about the facilities by stating excellent, good, satisfactory and unsatisfactory. The indicator wise level of satisfaction is calculated and tabulated. The psychological views of tourists, regarding available facilities at destination are calculated with the help of satisfaction index.

Key Words: Tourism, Tourists, Heritage, Satisfaction Level, Plant facility.

Introduction:

In tourism industry different types of people come together at destination and contact with travel agents residents, entrepreneurs and other local and regional administrators. Tourism is an economic as well as an industrial activity in which many individuals, firms, corporations, organizations and associations are involved. India has a fantastically rich & varied in tourist potential to deserve a substantially greater tourist inflow than so-called other foreign tourist paradise which have least of almost everything to offer but which somehow manage to get more tourist. The tourists-both domestic and foreign-all contribute to develop the economy of the area, to provide employment for the people and afford opportunities to assimilate the best in many and diverse cultures. It is quite necessary to keep co-ordination between them, such relationship depends on the behavior of these people and the facilities are provided to them at the destination. Here the tourist and residents of the destination can play a major role in this regards, because mostly these two parties frequently come into contact

Aims and Objectives:

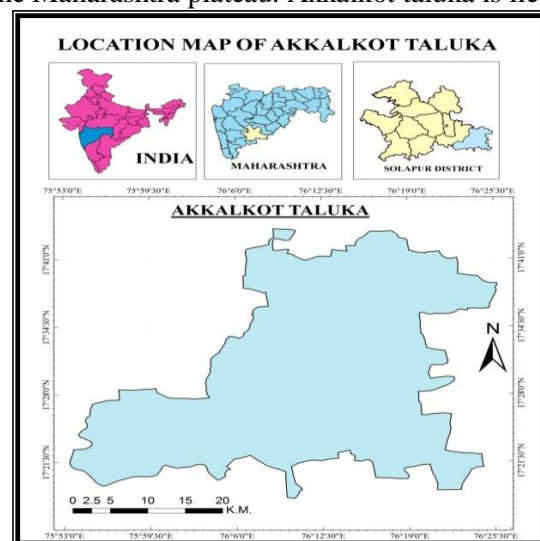
In the present work an attempt has been made to study the satisfaction level of tourists who visited to study region. The major objectives are as follows..

To study of existing facilities regarding tourism development and satisfaction level of tourists.

Study Region:

Akkalkot taluka is situated in southern part of the Maharashtra plateau. Akkalkot taluka is lies between $17^{\circ}17'54''$ to $17^{\circ}44'3''$ north latitude & $75^{\circ}53'42''$ to $76^{\circ}25'43''$ East longitude. According to area the Akkalkot tehsils as a 6th rank with 1401Sq. Km. & contains 138 villages. According to the 2011 Census the population of Akkalkot is 37,745 persons. Akkalkot tehsil occupies the southeast corner of the district and is bordered by Osmanabad District to the north, Karnataka's Gulbarga and Bijapur districts to the southeast and south respectively and South Solapur Taluka to the west.

Akkalkot tehsil is occupied by the Bori, Harana and Seena river basin. The tehsil headquarters is located at Akkalkot, which is also the largest city in the tehsil and a religious center of the area. The annual average rainfall in Akkalkot is 584 MM. Bori, a seasonal sub-tributary of river Bhima flows at a distance of 6 km. from the town. The entire town is divided into 21 wards.



Database and Methodology:

For the present study primary and secondary data has been applied. A physical survey of Goudgaon village is taken. A sample survey has conducted on tourist population with a purposefully designed questionnaire at various source sites to assess tourist requirements. A questionnaire is developed for the tourists to seek information about the tourist facilities and requirement regarding the destinations. The data collected through primary source both formulated in tabulation and converted into percentage. The views of tourists were converted into numerical values and give a weighted for levels e.g 4 for excellent, 3 for good, 2 for satisfactory and 1 for unsatisfactory. It is mathematically expressed as-

$$Sli = \frac{\sum Mi \cdot Ni}{N}$$

Whereas: Sli =Satisfaction Index for ‘i’th factor

- Mi=numerical values for particular level of satisfaction for the ‘I’th factor.
- Ni= number of respondents deriving the particular levels of satisfaction for the ‘I’th factor
- N= total number of respondents for that factors for all level of satisfaction

Discussion of Topic:

About 110 tourists at the time of Saturday in 2012 were asked to mention their views about the facilities by stating excellent, good, satisfactory and unsatisfactory. The indicator wise level of satisfaction is calculated and tabulated. Numerical values of level of satisfaction for particular indicators shown in table no.01. Satisfaction is psychological outcome emerging through experience, whereas service quality is concerned with attributes of service itself. The key services in tourism are transportation, tourists guide, lodging and boarding, food services, disposal of waste materials etc. So the tourist’s views and their opinions on the quality of services are sought. The table no.1.1 shows the standards of services in above categories as tourists.

Table No. 1.1, Level of Satisfaction

Sr. No	Particulars	Excellent	Good	Satis- factory	Not Satis- factory	Total
	Tour Guide	06	15	80	09	110
	Accommodation Facility	11	20	73	06	110
	Food Quality	20	08	82	-	110
	Transport Facility	12	05	92	01	110
	Shopping Facility	13	22	71	04	110
	Sanitation Facility	10	35	60	05	110
	Parking	11	20	72	07	110
	Cleanness	20	15	65	10	110
	Behaviors of Businessman	05	10	73	22	110
	Behaviors of Tourist	06	22	82	-	110
	Behaviors of Local People	12	09	89	-	110
	Disposal of waste Material	09	05	61	35	110
	Average	10	14	69	07	110

Source: Based on Field work (2014)

Factor wise level of satisfaction

For the level of satisfaction, here an attempt is made to assess the same by adopting certain statistical methods. For this 12 important factors which influence the level of satisfaction. Factor wise level of satisfaction of the tourists is assessed by collecting the information given by them. The table no. 1.1 reveals the category wise distribution of tourists views regarding facilities provided to tourists in Gaoudgaon. For these 12 factors average of each category is calculated which gives the view of tourists about the facilities in Gaoudgaon. The category wise percentage reveals that the facilities provided in Gaoudgaon are noted excellent (10%), good(15.4%), satisfactory(69%) and unsatisfactory(7%). Therefore the level of satisfaction of the tourist is very high. About only 7 % tourist told that facilities are not satisfactory at the time of survey. According to above table shows that most of the tourist have satisfied on the pilgrimage tourist center.

Conclusion:-

The psychological views of tourists, regarding available facilities at destination are calculated with the help of satisfaction index. The most of tourist are satisfied with temple trustee for providing facility regarding parking, food, transport etc.

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Avian Diversity in Bhuigaon and TussKhadi, Palghar, Maharashtra, India

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Abstract

Global climate change crisis calls for an immediate attention to identify and conserve wild and biodiverse spaces and also carry out habitat restoration while reducing carbon emissions. Given the need of the hour, it becomes extremely important to push for assigning protection of such sites while also prioritising the sites. This is where, avian diversity could act as an effective indicator of habitat quality and diversity. We conducted an assessment of two sites – Bhuigaon and TussKhadi, in Palghar district, Mumbai, Maharashtra for their avian diversity. In eight months, from July, 2017 to February, 2018, we had 16,853 bird sightings of 194 species belonging to 51 families across both the sites. While Palghar district is growing in its infrastructure, sites in the region that harbour rich biodiversity needs immediate identification of protection status and conservation attention. These sites will not only be important for its diversity, but the ultimate goal of protecting carbon sinks from getting released through urbanisation will also be achieved and so will India's promise of sustainable development to the world.

Introduction

Increasing scientific evidences have asserted and cautioned about the irreversible nature of the threats associated with global warming (Goldstein et al. 2020). A 1.5 °C rise in global temperature above the pre-industrial levels is said to have extreme consequences to the Earth system that would ultimately impact the entire mankind. Intergovernmental Panel on Climate Change (IPCC) have estimated that in order to stay under the 1.5 °C bar, carbon dioxide emissions would have to reach a net zero three decades from now, 2050 (World Meteorological Organization 2018). However, given the present emission rates, this carbon budget would likely get spent within a decade, in eight years. While it is the need of the hour to reduce carbon footprints and emission, natural climate solutions such as conservation, management and restoration of existing carbon reserves, in the forests and the oceans, are also seen as effective mitigation measures (Turner 2018). Busch *et al.* 2019 in their study explored the natural climate solution of tropical forest restoration in carbon removal and found that it was an effective low-cost measure that shouldn't be discredited. Although, witnessing a complete restoration is unlikely due to the pervasive shifts in the ecosystem dynamics as a result of the ongoing climate change (McDowell et al. 2020), it is still worth the effort and money that aids in carbon removal (Busch et al. 2019). While conserving the remaining wild spaces and restoring the degraded becomes extremely important, this too has been difficult due to increasing urbanisation resulting in habitat loss and degradation and subsequent carbon release. This further has a cascading effects on the species inhabiting these spaces as reported in numerous studies (Sailo et al. 2019, Schulte & Niemi 1998). Birds are one of the taxa that are sensitive to such habitat alteration making them a good study taxon to determine habitat quality and functional extent of habitat change on ecology of the system (Morrison 1986, Shankar Raman et al. 1998). Multiple studies have reported a decrease in the diversity and simplification of avifaunal community in the system due to increased human-induced threats and disturbances (Gaston & Blackburn 1997, Gaston et al. 2003, Soni et al. 2019, Varkey et al. 2015). Thus, exploring patterns of bird community diversity and assembly can help inform habitat productivity and extent of threat, thus, aiding prioritisation for conservation and mitigation (Callaghan et al.

2017, Ghadigaonka et al. 2015). Mumbai, one of the metropolitan cities in India witnesses high degree of urbanisation. The outskirts of the city that have wild spaces that act as carbon sink are further experiencing habitat loss and degradation (Khan et al. 2016, Sinnarkar et al. 2013). From the 332 bird species that have been reported from Mumbai as of February 2021 (eBird India), many reports come from such areas, Palghar district being one of them. Since past few years, Palghar district has seen a lot of urbanisation, and subsequent population immigration resulting in habitat loss (Chawan & Salvankar 2020). This has led to an increase in the number of diversity reports coming from this area with the hope that this could aid in assigning a protection status to the last remaining habitats in the metropolis (Lad & Patil 2015, Khan et al. 2016, Sinnarkar et al. 2013, Surendra & Dhar 2017). This study is one such attempt to identify the conservation importance value of the region.

Methodology

Study Site

The present study was conducted in two sites: Bhuigaon near Vasai and Tusskhadi near Virar, in Palghar district, situated along the western coast of Mumbai. Sampling was done along the trail of 3-4 km at both these sites that started at the main village junctions and led till the Vasai, Virar sea coast respectively. Along both the trails a wide diversity of habitats are observed ranging from marshy, riparian forests, shrubland and intertidal shorelines at the respective locations. Furthermore, human presence in both the study sites have diversified the habitat matrix by land-use practices of agriculture, aquaculture of Barramundi (*Lates calcrifer*) and White legged shrimp (*Penaeus vanname*). However, human settlements and the subsequent infrastructural development is becoming increasingly visible in the two sites due to intensive habitat conversion, vehicular traffic and other disturbances such as large-scale fishing.

Method & Materials

For the study, belt transect method across the entire 3-4km stretch from the respective village junction to the coastline was done. Point-count method was employed along the shore lines. The identity and abundances of the birds was recorded. Data was collected every alternate week at the two study sites across a period of 8 months (July 2017- February 2018). Olympus (10*50x) binoculars for close observation of the birds was used. CANON 1200D – 55-250mm lens; CANON 70D – 70-300mm lens was used for taking pictures for identification purposes. "Birds of Indian Subcontinent (Grimmett & Inskipp 2011) was used for species identification. An Android application called "Vasai bird App" was used for on-field species identification.

Analysis

All the data cleaning, analysis and visualisations were done using Microsoft Excel, 2010 and R-Studio (Version 1.2.5).

Results

A total of 16,853 individual sightings of 194 bird species belonging to 51 families were recorded during the entire study period in both the sites. Maximum species, 21 species, observed belonged to Family Scolopacidae followed by 12 species each from Family Muscicapidae, Accipitridae and Ardeidae, while 14 families had just 1 representative species recorded (**Figure 1 for site-wise species richness across 51 families**).

Out of the 16853 encounters, 6763 individuals belonging to 155 species from 46 families were recorded in Bhuigaon and 10090 individuals belonging to 154 species from 48 families were recorded in Tusskhadi. Across the two sites, 115 out of 194 species were common whereas 40 species were unique to Bhuigaon and 39 species to Tusskhadi. Monthly figures of species richness and abundance in the entire study duration suggested an increase during the post-monsoon season from October-December in both the study sites

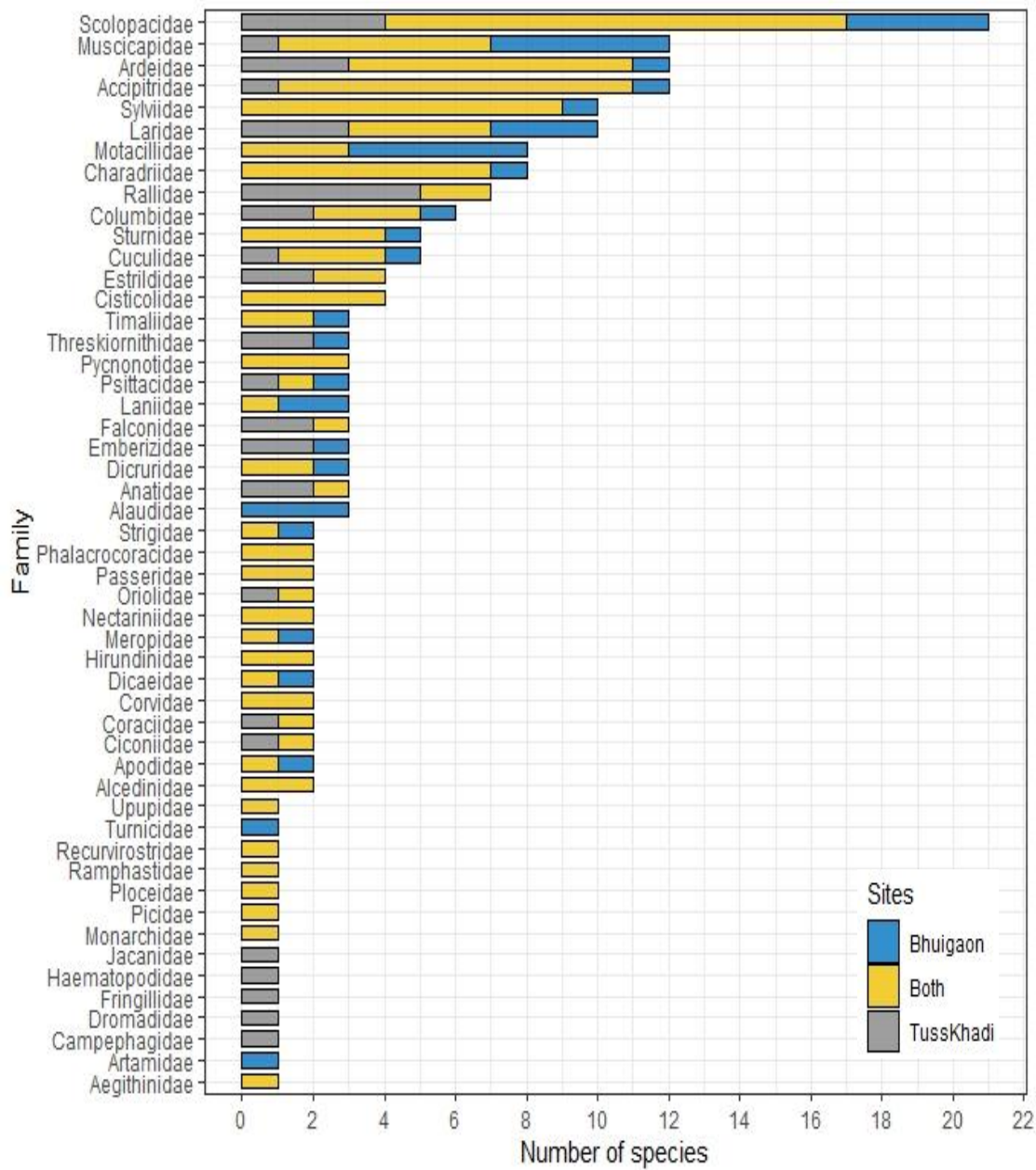


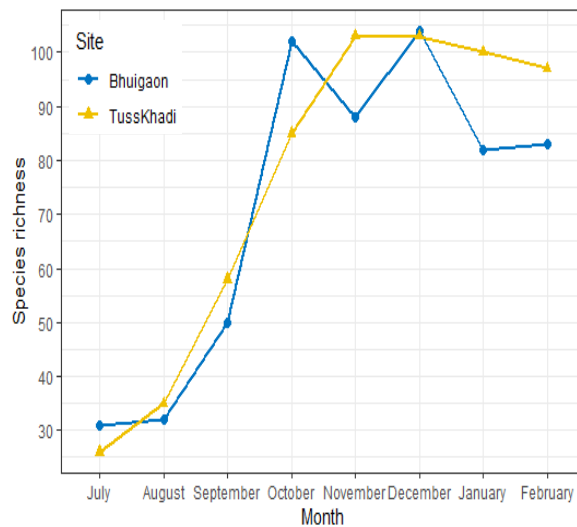
Figure 1: Number of Species across each Family in the two sites

(Legend indicate the study sites where species were recorded. Bhuigaon: species unique to Bhuigaon; TussKhadi: species unique to TussKhadi; Both: species common across the two sites)

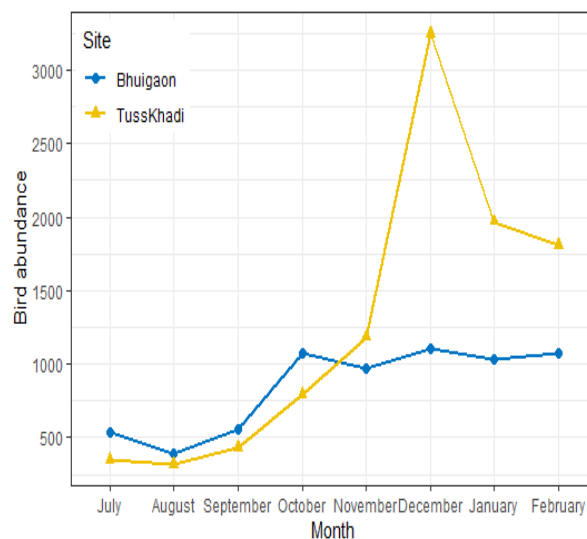
(Figure 2 (a) for month-wise species richness and Figure 2(b) for month-wise species abundance in the two study sites).

Among the 194 species observed, about 11 species as per the IUCN Red List are categorized as “endangered”, “vulnerable” or “near threatened. Few of these are Great knot (*Calidris tenuirostris*), Greater spotted eagle (*Clanga clanga*), Indian spotted eagle (*Clanga hastata*),

Eurasian curlew (*Numenius arquata*), Alexandrine parakeet (*Psittacula eupatria*) and Eurasian oystercatcher (*Haematopus ostralegus*).



(b) Monthly variation in Species richness across the two sites



(a) Monthly variation in bird abundance across the

Figure 2: Monthly variation in Species richness and bird abundance across the two sites

Apart from this species level identification, there were 130 more individuals recorded across 41 detections where identification of individual bird species could not be done. Although, among these 130 individuals, identification of 114 birds till their family level was done. This included 3 individuals from Dicaeidae, 4 from Muscicapidae, 18 from Alaudidae, 6 individuals from Accipitridae, 2 from Scolopacidae, 62 from Laridae and 19 individuals from Sylviidae across the two study sites.

Conclusions & Recommendations

Among the 332 bird species that have been reported from Mumbai (eBird India as of February, 2021), around 60%, i.e., 194 species were observed in the two study locations across a period of 8 months. Apart from just the number of species, even the bird abundance, was extremely high, with 16853 observations across 30 sampling occasions in the two sites

during the entire study duration. This results in an average of around 562 individual birds per sampling occasion.

Given the high diversity in both the study sites, especially of the waders and the shorebirds, these sites call for immediate conservation attention. Although some human land-uses might have benefited occurrence and abundance of some species, promoting further development will only increase human disturbances resulting in habitat loss and degradation leading to local extinction and loss of many species.

This short study has been useful in getting a baseline information on avian diversity for Bhuigaon and TusssKhadithat could prove to be extremely significant for future research and conservation and policy related work in the landscape.

Acknowledgement

The authors are thankful to the Principal and entire Zoology department of SIES College of Arts, Science and Commerce, Sion for their constant support and motivation for taking up field research activities. Finally, to our friends who accompanied us on multiple occasions on field and their encouragement and our families who were our backbones throughout.

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Isolation of Rhizosphere and fungal endophytes from *Premna serratifolia* and its anti-bacterial effect.

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Abstract: The rhizosphere and endophytic fungi play a major role in influencing the growth of plants. They produce growth enhancing substances like auxins and various other metabolites which include antibacterial compounds and bioactive substances. In the study of the medicinal plants *Premna serratifolia*, from the fungi *Cladorrhinium* sp. showed a significant antibacterial activity on *Staphylococcus aureus*, *Escherichia coli* and *Klebsiella pneumoniae*. The fungal culture *Gliocladium deliquescens* also showed antibacterial activity on *Staphylococcus aureus*

Introduction

The study of endophytes in the tropics has received greater attention in recent years (Rodrigues and Petrini, 1997) because of increasing fungal knowledge by local mycologists and the higher number of plant species compared to temperate regions. Tropical endophytes have been actively studied since 2000 to explore these diverse groups of endophytes with great biodiversity.

According to Dreg Fuss and Chapela (1994) there are may be one million species of endophytic fungi in various medicinal plants. They form inconspicuous infections within tissues of healthy plants for all or nearly all their life cycle (Limsuwan *et al.*, 2009)

The plant *Premna serratifolia* is a small tree/ shrub like in the family Lamiaceae. It flowers and produce fruits during May potentially used in Ayurveda, Siddha and Unani system of medicines. It is anti bacterial, an external application for piles and tumours, cold, fever, rheumatitis and many more. Based on their potential medicinal property the study was basically to understand the fungi in the rhizosphere and as an endophyte to exhibit such anti-bacterial property.

Rational of the study: The isolation and study rhizosphere and endophytic fungi having the similar property antibacterial property. like that of the plant *Premna serratifolia*

Objectives:

1. To isolate and screen for the rhizospheric and endophytic fungi from roots of medicinal plant *Premna serratifolia*
2. To investigate the anti-bacterial effect of endophytic fungi on medical pathogens *E.coli* and *Staphylococcus aureus*.

Materials and Methods:

1.1. Sampling site: The rhizosphere soil and the roots of medicinal plants of *Premna serratifolia* from Dhanvantri Vana is located at JnanaBharathi, Department of forestry, Government of Karnataka, Bengaluru, Karnataka, India.

Locality	Latitude	Longitude	Habitat/ Forest type
Dhanvantri Vana, Bengaluru	77.498159° W	12.942061° S	Cultivated

1.2 Isolation of the Rhizosphere and endophytic fungi: The collected soil and root samples from *Premna serratifolia*. The soil sample was serially diluted and subjected to Pour plate technique to isolate Rhizosphere fungi. The root was washed and cut into small bits and subjected to surface sterilization. It was disinfected with 75% alcohol for 1 minute followed by immersion in 5% of sodium hypochlorite for 8 minutes. The sterilized root bits were again immersed in 75% alcohol for 30 seconds and then rinsed in sterile distilled water to remove the traces of sterilants on root bits. Finally the root bits were blot dried on sterile blotting paper a modified method. (Guo *et al.*, 2008; Wang *et al.*, 2008; Samaga *et al.*, 2014)

The processed root bits were placed on sterilized Potato Dextrose Agar (PDA) medium containing streptomycin and incubated at 28°C for 21 days and observed for the growth of fungus.

1.3 Identification of fungal isolates :The isolated fungal colonies were sub cultured in Potato Dextrose Agar slants and identified for their colony characters and the morphological characters using lactophenol cotton blue.

1.4 Study of endophytic fungi for anti bacterial activity.

(a) Turbidity method: The bacterial strains gram positive *Staphylococcus aureus* (NCIM 5345) and gram negative *Escherichia coli* (NCIM 2068) were cultured in nutrient broth for 48 hours. The 1ml of sterile nutrient broth was taken and added with the 1ml of crude fungal broth with 100 µl of bacterial culture. The tubes were then incubated at 37°C for 48 hrs. The tubes were observed for the presence or absence of turbidity. The absence of turbidity indicates that the fungal broth is effective in inhibiting growth of bacteria.

(b) Agar-Plate technique:A plate of nutrient agar medium was inoculated with the test organism by spread plate technique for uniform growth of bacterial lawn. Circular sterile paper discs soaked in fungal extract is placed on the agar medium. The fungal broth extracted with ethyl acetate and dissolved in DMSO was used for the study of antibacterial property. The plates were then incubated at 37°C for 36-48 hours and observed for the zone of inhibition. The control used was an antibiotic Ciprofloxacin was used to compare the zone of inhibition of test results. The diameter of the inhibition zone around the discs is measured in millimeter (mm). Agar disc diffusion method was followed by the method given by (Kirby-Bauer 1996)

2. Results and Data analysis

2.1 Rhizosphere and Endophytic fungi isolated from *Premna serratifolia*

In total four fungi *Gliocladium deliquescens*, *Mycelia sterilia*, *Trichoderma viridae* and *Cladosporium herbarum* were isolated from rhizosphere while three fungi *Cladorrhinium* sp. *Gliocladium deliquescens* and *Mycelia sterilia* were isolated as endophytes from *Premna serratifolia*.

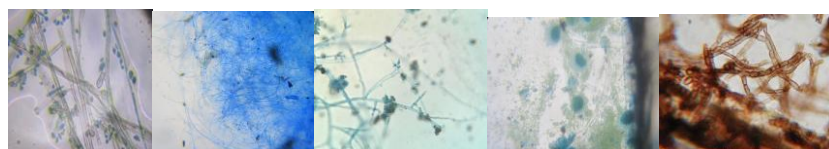
Two types of rhizosphere fungi *Trichoderma viridae* and *Cladosporium herbarum* were found to be 40 % of the population of total fungi isolated while the only endophyte fungi *Cladorrhinium* sp. was 20 %. Two isolates *Gliocladium deliquescens* and *Mycelia sterilia* were common both as rhizospheric and endophytic were 40% of the total population of the isolates.

Table .2.1 Fungal isolates from plant roots of *Premna serratifolia*

SI No	Fungal isolates	Rhizosphere fungi	Endophytic fungi
1	<i>Cladorrhinium</i> sp.	-	+
2	<i>Gliocladium deliquescens</i>	+	+
3	<i>Mycelia sterilia</i>	+	+
4	<i>Trichoderma viridae</i>	+	-
5	<i>Cladosporium herbarum</i>	+	-



Premna serratifolia Fungal isolates



C. herbarum *Mycelia sterilia* *Trichoderma viridae* *Gliocladium deliquescens* *Cladorrhinium sp.*

Fig. 1.2 Fungal isolates from plant roots of *Premna serratifolia* sampled at Dhanavantri vana

2.2 Study of Endophytic fungi for Antibacterial activity:

In the plant, *Premna serratifolia* the fungal isolates did not show inhibition of all the three bacteria, *Escherichia coli*, *Klebsiella pneumonia* and *Staphylococcus aureus*.

The study of Turbidity method was done for the fungal isolates from the plant *Premna serratifolia* – *Gliocladium deliquescens*, the predominant fungus showed antibacterial property against gram positive bacteria *Staphylococcus aureus*, while *Mycelia sterilia* inhibited all the three bacteria *S. aureus*, *E. coli* and *K. pneumoniae*. The fungus *Cladorrhinium sp.* a specific endophyte showed inhibition against all the three bacteria *S. aureus*, *E. coli* and *K. pneumoniae*.

Table: 2.2 Study of fungal endophytic extract as an anti-bacterial property.

Sl No	Name of the Plant	Name of the Fungi	Zone of inhibition (mm)		
			<i>E. coli</i>	<i>Staph. aureus</i>	<i>K. pneumoniae</i>
1	<i>Premna serratifolia</i>	<i>Cladorrhinium sp.</i>	4.00	6.00	2.00
2		<i>Gliocladium deliquescens</i>	0.00	4.00	0.00
3	Ciproflaxacin 5µl (1mg/ml)	Standard	20.00	21.00	13.00

Conclusions:

Endophytes are a specific group of fungi that live within their host plants without causing any symptom of disease (Petrini, 1991; Carroll, 1988). The fungal endophytes are a resource unexplored which produce various metabolites which can be antibacterial in nature and provide greater potential in studies of medical, agricultural and industrial exploitation (Tan & Zou, 2001). The present study of the effect of crude broth from the fungi *Cladorrhinium sp.* showed a significant antibacterial activity on *Staphylococcus aureus*, *Escherichia coli* and *Klebsiella pneumoniae*. The fungal culture *Gliocladium deliquescens* also showed antibacterial activity on *Staphylococcus aureus*.

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Women Empowerment In Rural Development

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Abstract:

Development is a positive change in the physical quality of life. Development of a nation begins from its below sections. Rural India is the lowest body in the Governance of India. Rural Development is one of the policies to achieve the development of the nation. As women constitute half of the population, their issues need to be solved. Discrimination against women, violence and lack of opportunities are essential issues to be worked on for Rural Development. Women Empowerment is a crucial aspect of rural development. If rural women are empowered, they could participate in politics and decision-making policies of the community. Women Empowerment would be able to bring a positive change in society to improve the quality of life. Therefore, Women Empowerment is essential for Rural Development. The research paper will be throwing light on aspects of Women Empowerment and discussing various issues regarding this.

Keywords: *Women Empowerment, Rural Development, Marginalization, Equality, Rights and quality of life*

Development is a positive change in the physical quality of life. This positive change encompasses social and economic aspects. It is an improvement, in the quality of life through better health, sanitization, education, housing and social welfare. The basic elements of development are- Removal of inequality and poverty, increase in material welfare of the people, increase in social well-being, an equitable distribution of the gains of development among different groups of people, an enhancement in technology and the capacity to produce a wider range of good and services, active participation in decision making policies and availability of equal opportunities. All of these things harp on the idea that development implies growth with justice. Rural development is a very crucial aspect of the development plan in South-Asian countries. Poverty and low quality of life are characteristics of these countries. As more than half of its population belongs to rural life, strategies have to employ to cope with the local problems. The primary goal of Rural Development is to give everyone a quality of life. As development implies growth with justice, women's issues need to be solved. Active participation of women will work as a political move in Rural Development. This political movement will be revolutionary for women to fight against gender-based discrimination and gain natural rights. Women's role in politics in India is always in question. Women do not have any knowledge regarding their human rights. The democratization of education for all women will be helpful in nation-building. It will make them aware of their rights. Therefore, Women Empowerment is essential in nation-building and rural development. Women's empowerment in India is dependent on various factors, which include geographical location, social life, economic status, caste and age. There are several policies implemented at different levels to tackle these issues. However, there are gaps between policies formed and actual practice at the local level. Patriarchy governs the community in India. Patriarchal notions indoctrinated in the minds of society oppress women and make them voiceless. This marginalization eradicates women's agency to express and exclude them from the aspects of social life that they live.

The impact of patriarchal structures can be seen in urban and rural India. Women Empowerment is less visible in rural India as compared to urban India. Rural women face inequality at higher rates in all spheres of life. Women's education will be remarkable in changing this picture. Education plays a vital role regarding awareness towards women empowerment. When both boys and girls grow up with mutual respect and understanding of their capabilities and roles in society, women are more likely to find their rightful place within the family and the community. But the democratization of education does not reach rural India effectively. Rural education does not preach and promote equality but harp on the idea that women are inferior. Therefore, awareness regarding women's rights is equally important with the empowerment of women. The Government of India had adopted the National Policy for Empowerment of Women on 20th March 2001, intending to bring about the advancement and empowerment of women and to eradicate all forms of discrimination against women. Women Empowerment plays a vital role in the development of a nation. The Development of any community starts from the below. Rural Development is a must for the

Development of the Country. Women Empowerment is, therefore, important in Rural Development. Empowerment is related to power. In the initial stages, the Indian government made policies for women's issues in the context of women and children. Women are considered inferior in patriarchal societies of South Asian countries. The constituent assembly, after independence, decided to give women an equal position by law. The analysis of five years plans of India throws light on the negligence of women's issues. To make reach women empowerment to the least sections will be needed towards change in the women's situation. Women are not only the beneficiary of reformation but also the conductors of it. Therefore, their realities and special needs should be taken into account while making policies. Earning of a woman in the house is spent on the fundamental needs of a family, but the property right is not given to her. It is the economic exploitation of women, where they cannot earn money for themselves and cannot claim right on the property. Women Empowerment will not only change the lives of women but make women able to change society. Women would able to assert themselves and claim their rights through Women Empowerment.

The question of equality needs attention from all spheres. Women of India are divided into religion and castes. This division is not natural. Even Gender-based discrimination is not natural. Women are considered inferior to men and given lower status. Women's opinions have no value in the patriarchal society. Women cannot be part of the decision making in a family. If awareness regarding women empowerment reaches to the villages, women could be able to assert themselves. It will be a positive change because women could be a part of the decision making in a family. Women's participation will prove helpful for the development of a family. This participation will improve the quality of life of the community. Women Empowerment will make women aware of their dependence on others. Women in villages work in both skilled and unskilled professions but are perceived as non-generative of incomes. Women's works on farms are not part of the economy of the village. It makes women marginalized. As their work is unrecognized, they are not given importance in socio-economical activities and not paid for it. Their voices are silenced. Women empowerment is important because women are key agents in the development of any community. Women empowerment will make women aware of their rights and strengths. Awareness of rights and strengths will make women able to be skilled in their profession. It will make them self-reliant and their work will be recognized. Women Empowerment, in Rural Development, is a crucial aspect to establish a society based on equality. If women are given representation in decision-making policies, other women will get an agency to convey their problems through them. Women's silences will merge into their assertion of their identities. Women will come together to discuss their issues and to find solutions to them. Common problems of women in a community could get way out from it through discussions. Women empowerment would be able to cultivate fraternity among women. Fraternity among women will be able to establish a society that demands equal rights for women.

Women empowerment works on women education. Different strategies will be employed to stop dropping out of girl children from schools. Women Empowerment will make men aware of the importance of the role of women in society. Women Empowerment will be able to provide opportunities to make women aware of their skills and use them for their development. Women will participate in different skill-based programs arranged by the government and start their businesses. Women Empowerment works at different levels providing women securities and comfort to live a quality of life. This security and comfort will be reflected in the rural development graph. Women Empowerment regarding health and sanitization is most important because it will help increase the quality of life of people. Health and sanitization are connected. Without sanitization, health is almost impossible. Health and sanitization of the community are in the hands of women. As women do household chores, awareness regarding it should reach them. Therefore, Women Empowerment should encompass sanitization. Women constitute half of the population. The issue of the political empowerment of women is very crucial and has attracted attention from all spheres. Participation of women in politics and public life is low in statistics and reality. There is a gap between the political activities of men and women except voting. Participation of women at the higher level is lower in comparison to the lower level of the governance structure. The Constitution of India provided one-third of reservations for women in Panchayat Raj institutions. This provision became revolutionary because it increased the number of women participating in politics. Women participation in Panchayat Raj should be studied critically. Critical analysis of women participation in Panchayat Raj shows that women in politics in Panchayat Raj are faces. Men work behind the scenes in the politics of

Panchayat Raj. Women don't go on the field works and don't take decisions. Women sign the papers and silently accept decisions taken by the man. Political empowerment is essential to make women aware of their rights. When a woman would be able to make decisions for herself and the population, she is representing, will be the real empowerment of women. To enhance the participation of women in mainstream development would mean to provide greater opportunities and accessibility for them to manage their resources and to be self-reliant. Empowerment for women in India requires an approach that addresses the diversity of social structures that are related to women's lives in rural areas. Women's rights are not articulated in other movements against discrimination therefore, there is discrimination at every level. Empowerment is not related to providing equal opportunities to women but to make them able to encounter those opportunities. Empowerment is to identify the social realities of multiple layers of discrimination. Rural development is incomplete without women empowerment. Security and comfort of women are fundamental issues in a quality of life. If quality of life of women is not improved, picture of the Rural Development will be the same. Therefore, women empowerment is essential to achieve Rural Development.

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A Comparative Study of Agility of Tribal and Non-Tribal Students

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Abstract : The aims was A Comparative Study of Agility of Tribal and Non-Tribal Students. In this research study, students from tribal and non-tribal areas studying in secondary schools of Sabarkantha district were selected as subject matter. In this research study, a total of 200 tribal and 100 non-tribal brothers in the age group of 12 to 16 years were selected as subject matter. Criterion Measurement Agility through Shuttle run. Agility of students from tribal area and non-tribal area, validity was checked at level 0.05 by applying 't' test on the marks obtained by the physical aptitude test. There was significant difference in the agility of the tribal and non-tribal boys. It can be said that the agility of both the groups was not found similar.

Introduction:

There are five main factors of physical fitness. Four of these factors or basic elements such as force, speed, endurance, and flexibility The fifth factor is "kinetic harmony". Power of motion before 1978 Co-ordinative Ability Agility Was called. The scientist Blume, based on his scientific findings in 1978, presented to the field that agility is a combination of several (7 types) kinetic forces and since then the term kinetic has become prevalent and prevalent among the five kinetic factors. Primarily, kinetic energy is the power under the control and regulation of the central nervous system.

Momentum is an integral part of action regulation and is closely related to the psychological regulation process.

Thus, it is also difficult to define kinetic energy as an easily incomprehensible force. Still 'Zimmerman' (Zimmerman-1983) Hartz (Hartz-1985) And Meinel and Schnabel (1987), etc., specifically explain the power of motion.

Today the basic need of a person is to accept physical education along with bread, clothes and building. With the expanding horizons of science and the development of the electronics sector, today's people are living a very simple, sedentary and lazy life. That is why people's bodies become pale and weak. The importance of physical education and sport has greatly increased as the daily work of men contributes to their health and fitness.

"Agility, balance, speed, force, reaction time and speed are the components of skill. Excellent physical fitness is very important for higher health.

Good physical fitness helps a person to enjoy his leisure time, to do his work effectively and skillfully, to live an effective life and to deal with unforeseen calamities. It is the foundation of inspirational and creative activity.

If a person's goal is to achieve physical fitness then he has no choice but to exercise regularly.

Aims of the Study :

The aims was A Comparative Study of Agility of Tribal and Non-Tribal Students.

Selection of the Subject :

In this research study, students from tribal and non-tribal areas studying in secondary schools of Sabarkantha district were selected as subject matter. In this research study, a total of 200 tribal and 100 non-tribal brothers in the age group of 12 to 16 years were selected as subject matter.

Criterion Measurement :

Sr.	Variable	Test	Standard of Measurement
1	Agility	Shuttle run	TIME

Statistical Process :

Agility of students from tribal area and non-tribal area, validity was checked at level 0.05 by applying 't' test on the marks obtained by the physical aptitude test.

Result of the Study :

Table-1

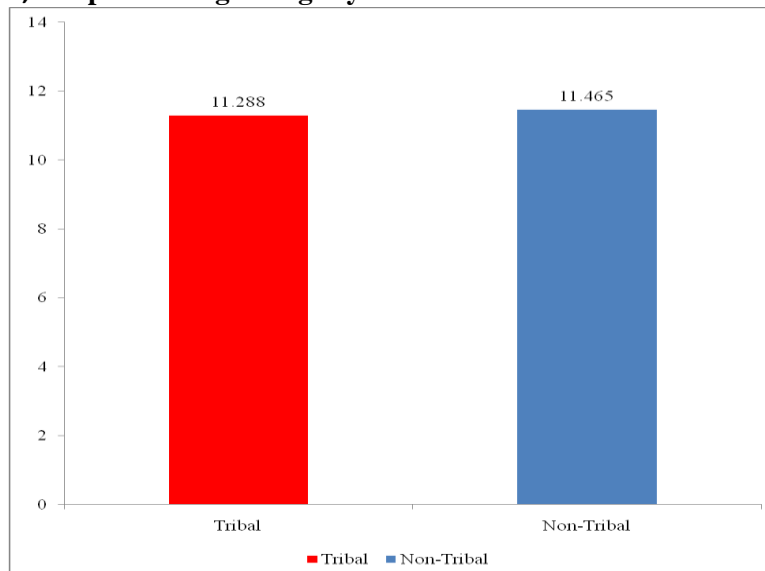
Mean, standard deviation, mean difference and 't' value of agility of tribal and non-tribal boys

Group	Mean	Number	SDD	MD	't' Ratio
Tribal	11.288	100	0.521	0.177	2.028*
Non-Tribal	11.465	100	0.671		

$t',^{0.05} (198) = 1.972$

It can be seen in Table-8 that the mean value of agility test of tribal boys is 11.288 and non-tribal boys is 11.465. The standard deviation of tribal boys is 0.521 and non-tribal boys is 0.671. The mean difference is 0.177 and the calculated 't' value is 2.028, which is significant at 0.05 level.

Graph-1, Graph showing the agility of tribal and non-tribal brothers



Conclusion :

There was significant difference in the agility of the tribal and non-tribal boys. It can be said that the agility of both the groups was not found similar.

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Tourism In Hill Areas - A Case Study Of Nilgiris District, Tamilnadu, India

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Abstract

The scenic beauty is the important criteria in the hills. The scenic quality of the landscape generally reckons to increase with relative relief, altitude and slope. The Nilgiris district in Tamilnadu is one of the popular tourist destination with abundant natural resources and scenic beauty which the tourist enjoys.

The main aim of the paper is to study about Tourism in the Nilgiris district and suggesting conservative measures for the development of the tourism industry. The best conservative measure for this reserve is to educate the local people and the tourists about the importance of this reserve. The next measure is conducting campaign in the form of short films where the tourists gather in large number. Animation films can be created and displayed about Nilgiris and shown to the public and children to save biodiversity. The very best practice is **Responsible Tourism** where people are educated to use the resources without spoiling our environment.

Introduction

Tourism is one of the fast growing industries in the world. Tourism can be called as a group of industries because this industry is dependent on various other industries also. . The location, climate, landscape, environment and the physical features are all the important geographical aspects in Tourism.

The weather which the tourists enjoy in the beach and hill resorts, the beauty of the waterfalls, the ripples of the water in the lakes, the sceneries, the snow capped mountains, the tropical, evergreen, deciduous forests, the amazing wildlife are all the geographical base for tourism. The scenic beauty is the important criteria in the hills. The scenic quality of the landscape generally reckons to increase with relative relief, altitude and slope. The Nilgiris district in Tamilnadu is one of the popular tourist destination with abundant natural resources which the tourist enjoys.

Aim Of The Paper

The main aim of the paper is to study about Tourism in the Nilgiris district and suggesting conservative measures for the development of the tourism industry.

Methodology

The necessary data for this paper is mainly secondary sources collected from books, news papers, magazines and also from internet. The maps are prepared using GIS Software.

Tourism In Nilgiris

The Nilgiris are an important tourist centre in South India, and attract a large number of tourists. The Nilgiri Biosphere Reserve has some national parks and wildlife sanctuaries and abundance of natural beauty and sceneries. It is the place for nature lovers.

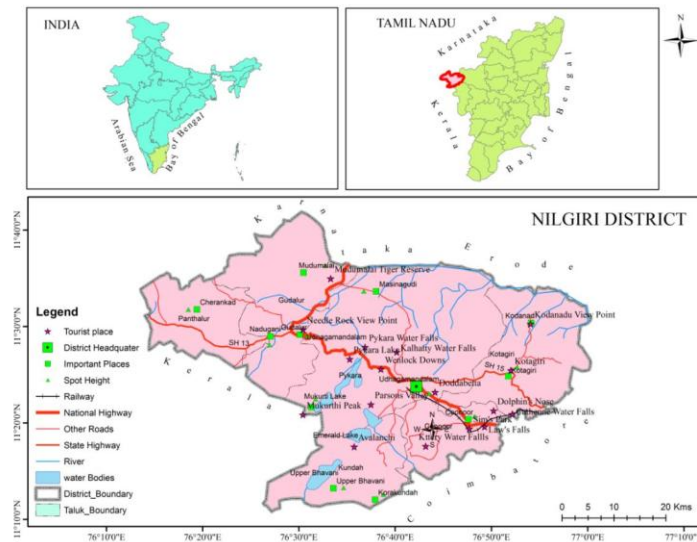
Eco tourism relies largely on biodiversity and has developed into one of the massive money spinning industry. Many people are interested in this eco tourism mainly because of the wild life and land scape. And Nilgiris is one of the hot spot for tourism.

The main tourist attractions in the Nilgiris district include Nilgiri mountain railway, Pykara lake, heritage train, Sims park, Upper bhavani lake, Doddabetta peak, Avalanche lake, Dolphins nose, Mudumalai national park, Kodanad view point, Rose garden, tea factory, lambs rock, Ooty lake.

Tourist flow in the Nilgiris District

YEAR	TOURIST ARRIVALS
2019	15562903
2018	16910551

Source: Tamilnadu Tourism Development Corporation



Study Area

Conservative Measures For The Reserve

- ❖ The best conservative measure for this reserve is to educate the local people and the tourists about the importance of this reserve.
- ❖ The next measure is conducting campaign in the form of short films where the tourists gather in large number
- ❖ During the last years National Biodiversity Authority (NBA) with the support of Ministry of Environmental and forests had initiated a number of special projects and programmes to effectively implement the biological diversity act rules.
- ❖ With the support of Ministry of Environmental and forests, National Biodiversity Authority (NBA) is currently implementing the first direct access of Global Environment facility (GEF) to prepare the revised National Biodiversity Action Plan (NBAP).
- ❖ National Biodiversity Authority (NBA) initiated the **Pledge for life**, campaign during 2012 targeting school and college children to take a pledge to save our biodiversity.
- ❖ Animation films can be created and displayed about Nilgiris and shown to the public and children to save biodiversity.
- ❖ The very best practice is **Responsible Tourism** where people are educated to use the resources without spoiling our environment.

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Importance Of Financial Inclusion In Rural Development

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Abstract

Finance is the life blood of the economy as every sector requires sufficient finance and the basic requirement to uplift the rural India is to provide adequate finance as there cannot be rural development unless sufficient funds are available. India is the 7th largest economy of globe and moving towards becoming a developed economy and in order to ensure this rural India has an important role to play. There is a need of bridging the gap between urban India and rural India as they differ in many ways such as literacy, employment, level of income, employment, poverty, standard of living and in various other ways. The government has the responsibility of bridging this gap and financial inclusion is the most effective way of ensuring rural development. Financial inclusion is an effort to make financial products and services accessible and affordable to all individual irrespective of level of income and all businesses irrespective of size. And it is an important step towards inclusive growth because it ensures that everyone participates in the financial sector and utilises the services to improve their lives which in turn helps in overall development of the underprivileged population. There is a need of effective financial inclusion to uplift the poor and backward population by providing financial products and services hence this paper is an attempt to understand the importance of financial inclusion in rural development and also the initiatives taken by authorities to ensure financial inclusion.

Key words: Finance, Economy, Growth, Rural.

Introduction

India is moving towards development at a greater acceleration and contribution of every sector is the need of the hour and growth of rural India is very important in this regard. Banking is the most important sector of the economy as it takes care of all the monetary requirement of the economy and ensures the proper flow of money in every sector of the economy. Banks are having a wide network in urban India and same cannot be said about rural India as majority of these citizens lacks financial literacy and also easy access to the facilities for banking products and services. This has created a big gap between the rural India and Urban India and in order to bridge this gap the authorities has a major role to play and financial inclusion is a tool of ensuring the same.

Financial inclusion is all about providing financial products and services to every individual and business of the economy at an affordable cost. It is also defined as availability and equality of opportunities to access appropriate, affordable and timely financial products such as banking, equity, loans, and insurance products.

The concept of financial inclusion evolved with the introduction of cooperative movement in India during 1904. It had witnessed greater importance after Indian independence as first five year plan focussed on development of primary sector. Later it had momentum in 1969 when 14 major commercial banks were nationalised and lead bank scheme was introduced during mid of 1970's. With the introduction of new economy policy and first and second generation banking reforms the banking sector became stronger and stronger. The banking of urban India had gone from strength to strength and recently the government has taken more and more measures to ensure the same in rural India.

Objectives

- 1) To understand financial inclusion in Indian context.
- 2) To know the importance of financial inclusion in rural development.
- 3) To overview the initiatives under financial inclusion.

Scope

The study covers only the aspects of understanding the financial inclusion and various initiatives adopted by authorities for ensuring growth of citizens of rural and below poverty line through financial inclusion.

Methodology

The study is theoretical and conceptual in nature where efforts are made to understand the importance of financial inclusion and the ways of ensuring same. The paper is based on secondary data obtained from sources such as news papers, articles, and research papers.

Initiatives

1. **Pradhan Mantri Suraksha Bima Yojana:** It is a government-backed [accident insurance](#) scheme in [India](#). It was originally mentioned in the [2015 Budget speech](#) by Finance Minister Late [Arun Jaitley](#) in February 2015. It was formally launched by Prime Minister [Narendra Modi](#) on 8 May in [Kolkata](#). It is available to people (Indian Resident or NRI) between 18 and 70 years of age with bank accounts. It has annual premium of Rs 12 and the amount is automatically debited from the account. This insurance scheme can have one year cover from 1 June to 31 May and would be offered through banks and administered through public sector general insurance companies. In case of unexpected death or full disability, the payment to the nominee will be Rs 2 lakh and in case of partial Permanent disability Rs 1 lakh. Full disability has been defined as loss of use in both eyes, hands or feet. Partial Permanent disability has been defined as loss of use in one eye, hand or foot. Further, death due to suicide, alcohol, drug abuse, etc. are not covered.
2. **Pradhan Mantri Jeevan Jyothi Bima Yojana:** It is a government-backed [Life insurance](#) scheme in [India](#). It was originally mentioned in the [2015 Budget speech](#) by Finance Minister Late [Arun Jaitley](#) in February 2015. It was formally launched by Prime Minister [Narendra Modi](#) on 9 May in [Kolkata](#). It is available to people between 18 and 50 years of age with bank accounts. It has an annual premium of Rs 330. The amount will be automatically debited from the account. In case of death due to any cause, the payment to the nominee will be Rs 2 lakh.
3. **Atal Pension Yojana:** This is a pension scheme mainly aimed at the unorganized sector such as maids, gardeners, delivery boys, etc. This scheme replaced the previous Swavalamban Yojana which wasn't accepted well by the people. The goal of the scheme is to ensure that no Indian citizen has to worry about any illness, accidents or diseases in old age, giving a sense of security. Private sector employees or employees working with such an organization that does not provide them pension benefit can also apply for the scheme. There is an option of getting a fixed pension of Rs 1000, Rs 2000, Rs 3000, Rs 4000, or Rs 5000 on attaining an age of 60. The pension will be determined based on the individual's age and the contribution amount. The contributor's spouse can claim the pension upon the contributor's death and upon the death of both the contributor and his/her spouse, the nominee will be given the accumulated corpus. However, if the contributor dies before completing 60 years of age, the spouse is also given an option to either exit the scheme and claim the corpus or continue the scheme for the balance period.
4. **Pradhana Mantri Jan Dhan Yojana:** It is a [financial inclusion](#) program of the [Government of India](#) open to Indian citizens (minors of age 10 and older can also open an account with a guardian to manage it), that aims to expand affordable access to financial services such as bank accounts, remittances, credit, insurance and pensions. This [financial inclusion](#) campaign was launched by the [Prime Minister of India Narendra Modi](#) on 28 August 2014.
5. **Sukanya Samridhi Yojana:** It is a [Government of India](#) backed saving scheme targeted at the parents of girl children. The scheme encourages parents to build a fund for the future education and marriage expenses for their female child. The scheme was launched by Prime Minister [Narendra Modi](#) on 22 January 2015 as a part of the [Beti Bachao, Beti Padhao](#) campaign. The account can be opened at any [India Post](#) office or branch of authorised commercial banks.

Ways for ensuring rural development

- Promoting savings and insurance habits among the rural India through campaigns, awareness and training programs.
- Need of reaching to rural population through NGO's and Self help groups by allowing them to educate rural population through direct visits.
- Providing various awareness programs on usage of technology in banking products and services.

- Productive utilisation of resources of rural India to enhance employment opportunities. It will help in diversification of production activity with a view of finding alternative means of sustaining living other than crop-cultivation.
- Women empowerment is the need of the hour as rural population doesn't much focus on educating and providing employment for the women.

Conclusion

India has witnessed a very fast growth from last two decades and to ensure and accelerate the growth and development in future is an important responsibility of authorities. Though urban India is transforming and always trying to match with the global standards by ensuring development in every sector such as retail, Information technology, education, banking, tourism and other sectors. But same cannot be said about rural India as it is far beyond the urban India in every aspects but the authorities are very cautious about this and always planning to introduce and implement schemes which would uplift the rural India and address the issues in education, infrastructure, banking, women empowerment and etc. If the authorities continue to focus more on rural India and try to uplift it, rural India will definitely play its part in overall growth and development of the economy.

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Satisfaction Index of Hemalkasa Tourist Center in Gadchiroli District of Maharashtra State

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Abstract

Tourism is a process that has been going on since ancient times. There are different types of tourism such as cultural, religious, natural, historical, political, recreational etc. Each tourist destination has its own unique features and attractions. After visiting a tourist spot, a person understands the local significance of the place and also increases the knowledge. Hemalkasa is a famous center in Maharashtra state and located in Gadchiroli district. This center is mainly included in cultural tourist centers. Present paper has attempts the study of Hemalkasa center with the help of satisfaction index.

Keywords

Hemalkasa, tourist, satisfaction index, satisfaction level

Introduction

Hemalkasa village is totally tribal region and the tribals of Gadchiroli district were mired in many old customs and traditions. The late Baba Amte started the Lok Biradari Project in 1973 at Hemalkasa to get them out of it and develop them. Through this project, the integrated development work of Madia and Gond tribes has been going on continuously for a long time. His son Dr. Prakash Baba Amte and his wife Dr. Manda Prakash Amte are responsible for this project. Under this project, new farming methods are taught to the tribal who are not known to them and also Uttarayan is working for the tribal to provide health facilities to the tribal as well as for the welfare of orphans and protection of wildlife. The paper presented is based on a discussion of the Tourist Satisfaction Index at Hemalkasa.

Objectives

- To calculate and analysis the satisfaction index of Hemalkasa
- To study the factors of tourism development in Hemalkasa tourist center

Data Source & Methodology

Present paper is based on the primary source of data. Questionnaire was filled out from a total of 100 tourists visiting Hemalkasa to get the tourist satisfaction index. The questionnaire covered a total of six components of tourism management, accommodation, travel, meals, Tourist system, local public and other arrangements. A Tourists were asked to rate them according to the availability of these components. The best arrangement was divided into 8 to 10 marks, 5 to 7 marks for good arrangement and 1 to 4 marks for satisfactory arrangement. On the basis of this merit, the Satisfaction Index of Tourists was drawn by the following formula.

$$S_{li} = (M_i \times N_i) \div N$$

S_{li} – Satisfaction index of Tourist

M_i – Number of tourists according to the marks

N_i – Average satisfaction marks

N – Total number of tourists

The values of satisfaction index is shown in table and presented on the graph.

Study Region

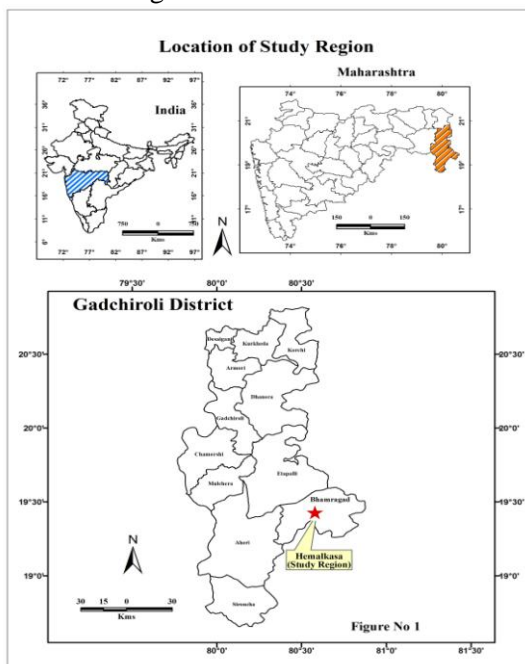
Study region i.e. Hemalkasa is located in Gadchiroli district of Maharashtra state. Gadchiroli district is situated at east boundary part of Maharashtra state. The southern boundary of Gadchiroli district connected to Andhra Pradesh and eastern boundary is connected o Chhattisgarh state.

Hemalkasa is geographically located at 19⁰ 25' 17'' north latitude and 80⁰ 33' 30'' east longitudes. The average height of the region is near about 245 meter above mean sea level. Total population of the Hemalkasa is 1393 and out of them 756 is male and 637 are females according to the census 2011.

How to Reach Hemalkasa

Hemalkasa is located in Bhamragad tahsil in Gadchiroli district and 160 km ahead from district head quarter also only 4 km away from tahsil head quarter Bhamragad. Maharashtra

Governments S.T. buses are available to reach Hemalkasa from Bhamragad also Private transport (Tourist Cars) are available from Bhamragad.



Accommodation Facility

The accommodation and meal facility is available in Hemalkasa also Government Rest house in Bhamragad provide accommodation facility. Also Private lodges are available in Bhamragad tahsil.

Attraction of Hemalkasa

Late Baba Amte's immortal Dr. Prakash Baba Amte and his wife Dr. Mandakini Amte have dedicated their lives for the people of the tribal community here and Dr. Prakash Amte and his wife serve in hospitals, schools and animal husbandry centers as well as orphanages. The Animal Husbandry Center here shows a wide variety of animals living in one place. This place has become famous for tourism in recent times. Dr. Prakash Amte and his wife, who worked on the project, have been honored with the Magese award for community leadership in 2008 for their social work.

Satisfaction Index of Tourists

Satisfaction index gives the overall opinion about tourist center. Satisfaction index is calculated as mentioned in methodology. Table no 1 shows the average level of satisfaction of tourists according to the management.

Table No 1, Average Satisfaction of Tourists in Hemalkasa (Mi)

Factors of Management	Number of tourists giving points according to management factor		
	Best	Good	Satisfactory
Accommodation	76	19	5
Travel	69	23	8
Meal	81	12	7
Tourist system	93	7	0
Local Public	96	4	0
Other Arrangement	78	19	3

Source – Field Survey

Table 1 show that most of the tourists have given best marks to the tourism system at Hemalkasa. Most of the tourists say that the Tourist system system and the cooperation of the locals are best. The transportation system is said to be better with fewer tourists as Hemalkasa is far away and many people find the journey boring.

The tourism system in Hemalkasa is found to be given good and good qualities by the tourists. The number of tourists who say it is satisfactory was found to be low. While no one called the Tourist system system and cooperation of the local people satisfactory, everyone seemed to call it good and best.

Table No 2, Average Satisfaction Marks in Hemalkasa (Ni)

Factors of Management	Average Satisfaction Marks		
	Best	Good	Satisfactory
Accommodation	8.04	7.05	3.80
Travel	8.16	5.96	3.63
Meal	9.04	6.83	3.86
Tourist system	9.08	6.86	0.00
Local Public	9.03	8.00	0.00
Other Arrangement	8.03	5.89	2.67

Source – Field Survey

Table No 2 shows that tourists have given more than 8 marks to all the components of the tourism system at Hemalkasa. Accommodation, travel arrangements and other arrangements have slightly lower scores, suggesting that this arrangement should be even better.

Total of 76 tourists from Hemalkasa called the accommodation best and these 76 tourists rated it between 8 and 10. The total number of best points given by the tourists to the accommodation system was 611. Therefore, the average of the marks given by these 76 tourists is $(611/76) = 8.04$ (Table No. 2). Thus, after calculating the average satisfaction level of all the three levels, the satisfaction index was calculated by the Satisfaction Index formula.

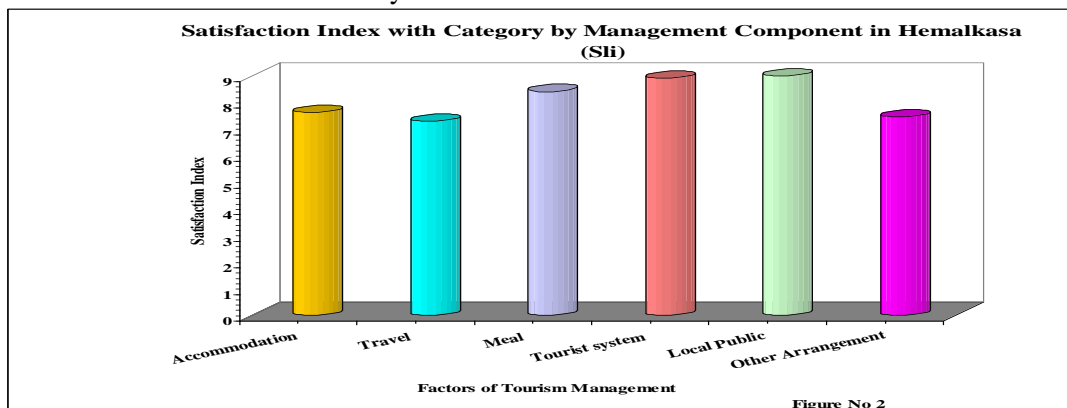
E.g. Satisfaction Index of Accommodation Facility =
 $[(76 \times 8.04) \div 100] + [(19 \times 7.05) \div 100] + [(5 \times 3.80) \div 100] = 7.64$

That is, the accommodation satisfaction index was found to be 7.64. Similarly, the satisfaction index of all the components was calculated and they were graded. The Tourist Satisfaction Index and its category are shown in Table 3.

Table No 3
Satisfaction Index with Category by Management Component in Hemalkasa (Sli)

Factors of Management	Satisfaction Index	Grade
Accommodation	7.62	4
Travel	7.29	6
Meal	8.41	3
Tourist system	8.92	2
Local Public	8.99	1
Other Arrangement	7.46	5

Source – Field Survey



The Hemalkasa has the highest level of local co-operation. After that, the tourist system was found to be more popular among the tourists. The food available at Hemalkasa is the third most preferred and the accommodation is the fourth most preferred. Other arrangements at Hemalkasa were found to be the fifth most preferred, while the travel arrangements were found to be the last preferred.

The rankings of the Satisfaction Index show that remote tourists can be reached at Hemalkasa sooner and other small facilities should be added.

Conclusions and Suggestions

Hemalkasa is a tourist destination that cultivates human culture and explains the true meaning of life. Even living in a small village is a great example of how progress can be made. Tourists come from far and wide to visit Hemalaksha. However, the place does not seem to have received as much publicity as it should. The region is forested and remote, with no direct rail access. You have to come here by road from Nagpur or Chandrapur railway station. Many tourists do not like to travel too much so the travel system was found to have less marks of satisfaction than other arrangements. It is necessary to take school trips in Gadchiroli district as well as college trips in Maharashtra. Only then will the new generation know about it and learn a lot. It is also important to visit and promote such tourist destinations once a year just like any other tourist destination. This will help to make similar progress in other areas as well Hemalkasa. Tourist attraction can be further enhanced by enhancing the quality of accommodation in the region as well as developing other small recreational facilities. Places like Hemalaksa should be known to all. Visiting this tourist spot is more beneficial for the visiting tourists as there is a lot to learn from this area.

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Advent and Spread of Sufism in South India-A Study of Pre Bahamani period.

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Introduction.

Karnataka is one of the most important southern states of India. It has gained prominence politically, socio-economically, philosophically and in several other fields of Indian History. It is a meeting place of many Socio-religious philosophies and a melting point helping to achieve the synthesis of the teaching of many religious reformers.

Sufism is a cult characterized as a phenomenon of expressing love towards the almighty on the one hand and on the other hand spreading the message of truth. The Sufi doctrines and practices brought into India have a long and chequered history. It is a mystic dimension of Islam which, formally originated in the Middle East between ninth and tenth centuries AD.

It is a Mystic order of religious practice in which people search for truth, knowledge and closeness (attachment) to Allah through meditation and prayer. The Sufis first arrived in India towards the close of the eleventh century. In course of time they became the ambassadors of cultural integrity and social harmony in India. They brought with them, the religious fervor, devotion and piety.

They also brought with them the strict discipleship with spiritual leaders in those lands to where they went. They had a long experience in travelling, fasting and pilgrimages to the shrines of Saints and to Holy Mecca. The origin of the word Sufism can be traced from many roots. The lexicon root of the word is traced to "Safa" which in Arabic means "purity" or "cleanliness". Another origin of 'Sufi' refers to wool, the simple cloth worn by early ascetics following a simple and strict way of life through religious beliefs. It was said that the development of Sufism was highly influenced by various mystic philosophies of Judaism, Christianity and Hinduism.

Scope of the Study.

Thematically present study covers the rise, spread and impact of Sufism in India in General and South India in Particular. Chronologically it covers the period from 11th – 14th Century AD.

Objectives of the Study.

The chief objectives of the study are;

1. To analyse the rise and spread of Sufism.
2. To study the spread and teachings of Sufis saints.
3. To bring to light various orders of the Sufis in Karnataka.
4. To bring to light various orders of the Sufis in Karnataka before Bahmanis.
5. To analyse the Impact of teachings of Sufi Saints on Society and Religion in south India.

Hypotheses of the Study.

The chief Hypothesis formulated for the present study were;

1. Sufism came to rise due to the disenchantment among some Muslim Ulama (scholars) and dis-integration of the Caliphate after the death of Hazrat Ali.
2. The political scenario in Northern India (Medieval Period) was in favor of the spread of Sufism in India.
3. With the expedition of Muslims in South India and the advent of Arab Traders, Sufism also spread to South India and Karnataka.
4. The Sufi saints played an important role in the Indian Contemporary Society.
5. Through their preaching, they brought several religious, social and political changes in the lives of people and the rulers.
6. Therefore Sufism had a great impact in Contemporary India.

Research Method.

The material for the present study comprised both primary and secondary sources. Material was collected from libraries in the form of manuscripts, monographs, Ph.D theses and Historical research works of experts on Sufism, Dargahs of Sufi saints and so on.

Emergence of Sufism.

The rise of Sufism can be associated with the disenchantment among some Muslim Ulama (scholars) and dis-integration of the Caliphate after the death of Hazrat Ali the fourth Caliph- the period that witnessed intense power struggle, bloodshed and empowerment of the ruling class when many Ulama were also killed in process. Due to these tragic and anarchic incidents, the situations were completely shocked. Some scholars who were inspired by the Prophet and the early Caliph began to follow the habit of meditation and spirituality with the purpose of having a direct experience of God. They embraced poverty and started leading a life full of piety and love for fellow human kinds.¹

In the beginning, Sufism did not exist in a properly organized form, but, at the same, the early Sufis made contributions (8th, 9th and 10th Centuries) to the development of Sufi thought. The earliest known Sufi was Hassan of Basra who had a fear of Allah and very of not commit any sin or mistake in his life. He represented a tendency towards other world liners, piety and asceticism and considered hunger and poverty as a symbols of righteousness. Al Hashim Sufi of Kufah is regarded as the first mystic to have used the nomenclature 'Sufi'. He believed that inner transformation (of heart) was the essence of Sufism. Ibrahim Adham was the king of Balkh who gave up his throne and all worldly possessions and became an ascetic.²

India became the hospitable home for a large number of Sufis that rose in the world of mystic Islam. The arrival of Shaikh Mu' in-ud-Din in India just before the Sultanate period heralded the beginning of a new era in the religious ethos of the country.³ During the Sultanate period of three hundred years, Sufism spread to every nook and corner of the country.

Spread of the Sufis into India.

The advent and early spread of Islam to India was strongly influenced by the Arab traders along Indian Ocean who were responsible to the arrival of Sufi Saints to Western and Eastern Coast of Indian sub-continent. The political changes in the Caliphate Empire paved the way for the vast migration of the Sufis in the Mainland of South India and Ceylon. The political situation of North India was also in favour of the spread of Sufism in these regions.

The Sufi Shaikhs (evolved at the spiritual level) came to occupy a pride of place in the society; most of them were patronized by the kings. Because of their powerful spiritual attainments, noble deeds and liberal outlook, they left an indelible imprint on the socio-religious set-up (milieu) of India.

Early Sufis and their orders in India.

Khawaja Muinud-din (born in about 1142 A.D at Sistine), the founder of Chishti order in India, is regarded as the early Sufi-Saint of North India. The Sufi mystic traditions became more visible during the Delhi Sultanate.⁴ The saintly figures and mythical stories made inspiration on Hindu Communities also. The medieval North Indian Society was highly influenced by the Cosmopolitan Culture of Baghdad and Persia. The Ghaznavi and Ghorid Courts accelerated Sufi-intellectualism in India in 13th century and the Sufi brotherhood got firmly consolidated in Northern India.⁵

The political scenario in Northern India was in favour of the spread of Sufism in India. After the Mongol invasion of Baghdad, the Sufi Saints chose India as their safe abode and destination for settlement. The court of Delhi Sultanate was accommodated with Persian intellectuals.⁶

Sufism became the main component in all mediums. The Sufis acted as advisers to Sultans, a bridge between the commoners and rulers. But most of the practicing Sufis rarely had political aspirations.⁷

Among the religious elite of Medieval India, Ulamas and the Sufi Mystics or Fakirs had tolerated with non-Islamic traditions. They had mingled with poor people and spread their faith through community services. There were a number of Sufi Saints who had led a very popular and disciplined life in North India. Sufi Saint Shaikh Nizamud-din-Auliya (AD 1238-1325) had stressed love as a means of realizing God. It implied the love of humanity.⁸

Amir Khushro, the noted scholar and the royal poet of Delhi Sultanate, accepted the mission and became the disciple of the Sufi Nizamudin Awliya. He was responsible for the Mass conversion of the people to Islam. He founded the Chisti-Nizami order and saw the reign of seven rulers of Delhi Sultanate. There were 70 branches of Sufi orders. The famous Sufi saints of

Suhrawardi order were Shaikh Sadrudin Arif, Amir Husain and Ruknuddin. Saint Ruknuddin was highly respected by the Delhi Sultans, from Alauddin Khilji to Muhammad-bin-Tughlaq. This order spread to Tiruchirappalli and Andhra Pradesh in South India.⁹

Another order Naqshbandiyya, became an influential factor in Indo- Muslim life and for two centuries it was the Principal spiritual order in India. Khwaja Baqi Billa was an influential Sufi personality and protested the state policies of Mughal emperor Akbar.¹⁰ The four different Sufi orders were highly responsible for the spread of Islam in North India.

Sufism in South India

The Hindu rulers of India supported Arab traders and provided them with all facilities and treated them like other subjects. These early missionaries and their progress enabled the spread of Sufism all over Tamil country.¹¹ Many new Sufi centers emerged in coastal regions as well as central parts of Tamil country.

Dargahs became prominent tombs of Saints. The disciples of early pioneer Sufis were responsible to spread of Sufi movement in the neighboring states. They became the ambassadors of Sufism and social integrity.

The advent of Sufi saints in South India might have been from the very inception of Islam in the beginning of the 7th century A.D. Trade and commerce carried out by the Arabs paved out a way for Islam and later for Sufism to enter Karnataka. Sufism first entered the Western Coast along with the Arab merchants who have been mentioned in inscriptions as *Tajjikas*.¹² The earliest reference to Sufi saints in Karnataka can be traced back to 1301 A.D. **Hazrat Sayyid Shah Hisamud-din-Teighbarana** was the first saint to come to Gulbarga. At present his tomb is located in the fort near Jagath talab in Gulbarga.¹³ Another reference is to **Nurulla Qadiri** during the Vijayanagar period (1336 A.D. to 1565 A.D.) his tomb is at Kadi Ramapuram in Hospet of Bellary.¹⁴

Karnataka was ruled by many Muslim dynasties. Fourteenth century, happens to be a period that gave space for the first Muslim dynasty in North Karnataka, to thrive i.e., The Bahamanis (1347 A.D. to 1538 A.D.), and later the Adil Shahis (1489-1686 A.D.) After them, North Karnataka was under the rule of Nawabs of Savanur, the Mughals, the Barid Shahis of Bidar and the Nizams of Hyderabad. The southern part of Karnataka was under the reign of Haider Ali and his son Tippu Sultan (1761 A.D. to 1799 A.D.). During the reign of these Muslim rulers, the Sufis found an amicable geographical and cultural abode in Karnataka for Sufi flourishing and popularity. The kings and queens of Karnataka like the common people promoted Sufism. The Sufi saints who came from North India as well as from Persia, Arabia and Baghdad settled here because of its amiability and great concern of the people. There were different types of Sufis living in Karnataka, like the landed elites, warriors, reformists, literates and *dervishes*. Sufism has been variedly ordered and institutionalized. It has the practice of taking the pupil into the order (*Silsilah*) and the concept of *peer* (master) and *peerzada* (pupil). In India, there prevailed six orders and in Karnataka, four orders, namely Christi, Qadiri, Sattariya and Suhrawardi thrived.¹⁵

Impact of Sufism.

- Development of Literature and Poems.
- Stressed the importance of 'fana' or annihilation in seeking God and believed in Unity of Existence was the ultimate truth.
- Active role in politics and religion of India.
- Princess Jehanara of Mughal dynasty was a notable female Sufi Saint of Qadiriya Order and authored two Sufi Manuals. Munis al Aswah or the confidence of spirits and an incomplete biography of her spiritual mentor Mulla Shah.
- The Sub-continent Sufi orders embraced local traditions from ascetics belonging to other religions. Inter religious dialogues were held.
- The situation of Indian Sufism has been historically summarized by Evelyn Underhill as follows the Muhammadan Mysticism appearing in the 8th century AD with the beautiful figure of Rabia, the Muslim female Saint (AD 717- 831) and continued by the Martyr Al-Hallay, attains literary expression in the eleventh century by Ghayali (AD 1055-1111) and has its classic period in the thirteenth century in the work of mystic poets Atlar (AD 1140-1234) Saadi (AD 1184- 263) and Jalaludeen Rumi (AD 1207-1273). Its tradition is continued in the 14th century by the rather

erotic mysticism of Hafiz (AD 1300-1388) and his successors and in the 15th century by the poet Jami (AD 1414-1492).¹⁶

Conclusion

The most remarkable feature of the medieval and contemporary period of Indian History was the emergence of various schools of thoughts. Sufism played a twin role spreading love towards the almighty and spreading the message of truth. The Sufi saints played an important role in the Indian Contemporary Society. The Arabian trade influenced them to settle in the coastal parts of India. Due to their preaching and professions, there were many religious, social and political changes that took place. Therefore Sufism had a great impact in Contemporary India.

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Potential Of Ecotourism In Mayong Area Of Morigaon District Of Assam, India

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Abstract:

Tourism is playing a pivotal role in socio-economic progresses of community. Ecotourism being a branch of tourism incorporates the component of visitor management and activities in order to avoid and minimize any negative impacts, such as pollution, habitat destruction etc. with active participation of the local community participation. Many places in Assam have immense potentialities for development of ecotourism spots and among them Mayong area of Morigaon district, Assam, India which is located between 26° 05' N and 26° 20' N latitudes and 91° 95' E and 92° 15' E longitudes is bestowed with several features which can make it an excellent place of ecotourism. Therefore a study was made to provide a sustainable theoretical ecotourism framework concerning the Mayong area of Morigaon district of Assam, India and to develop a multidimensional picture of ecotourism possibilities as a spatial sustainable livelihood development option with community participation. The primary data for the study was obtained through structured household questionnaires covering 10 villages which were then correlated with the secondary data for interpretation. The factors like economic conditions, educational level, knowledge and aptitude in relation to some of the factors associated with the ecotourism concept among the local community people are studied and it was found that the young generation of the respondents are more interested for development of ecotourism site while there is a mixed response towards it in respect of education level. Majority of the respondents believes that with the development of eco-tourism there will be increased job opportunity, increased sanitary and waste disposal facilities, but showed doubt about the economic benefits. On the negative side they believe that there will be increased generation of garbage, prices of commodities will become dearer, and there may be increased threat to local culture and tradition. However, the immense potentiality of the Mayong area of Morigaon district to be developed as a sustainable site of eco-tourism spot cannot be denied.

Preface:

Tourism is playing a pivotal role in socio-economic progresses of community. Tourism contributes 5% to the worldwide Gross Domestic Product (GDP) and is responsible for different flows and functions between different sectors (UNWTO 2011). Ecotourism being a branch of tourism is environment friendly dealing with the living parts of natural environments and focuses on socially responsible travel to destinations where the natural flora, fauna and the cultural heritage are the main attractions. Although there is no consensus for coining a universal definition of ecotourism, however, the emerging definition of Ecotourism considered by the World Tourism Organization is 'Nature-based tourism that involves education and interpretation of the natural environment and is managed to be ecologically sustainable' (Commonwealth Department of Tourism.1994). However, to achieve harmony between the nature, the resource base and visitors, different practical tools are to be evaluated before implementation of ecotourism to its true perspective (Wight 1998).

According to Goodwin (1996) the fundamental difference between general tourism and ecotourism is that, ecotourism contribute to the conservation and can bring participation and income opportunities to the local community. Ecotourism incorporates the component of visitor management and activities in order to avoid and minimize any negative impacts, such as pollution, habitat destruction etc. Local community participation is mandatory in order to build sustainable tourism and the community should actively participate into the management and planning processes (Scheyvens 2002).

Brief introduction to the Study Area:

Many places in Assam have immense potentialities for development of ecotourism and Mayong area of Morigaon district, Assam, India is no exception. Mayong is bestowed with several features which can make it an excellent place of ecotourism. The landforms of Mayong circle and its adjoining areas are unique as it harbours many natural components like forests, water bodies including rivers, hills, plains, swamp lands and is home land of the culturally rich Tiwa tribe. The locality is also endowed with beautiful natural landscape, historical monuments, ancient temples, shrines and a rich heritage of traditional cultural practices. These can be judiciously exploited to have an attractive rural eco-tourism spot for intended tourists and for the benefit of local communities as well as for exchange/ exposure of tourists to the traditional folk practices, culture, rural games, ethnic foods, dresses of the communities of the locality.

Mayong area of Morigaon district is endowed with several entities which may be exploited to be components of tourist interest. The Pabitora Wildlife Sanctuary housing the one-horned rhinoceros, a variety of resident and migratory birds, wild pigs and buffaloes is the centre of attraction. The sanctuary is said to be overpopulated housing more than 100 one horned rhinoceros. The sanctuary is becoming a favourable tourism site witnessing tourist flow of more than 15000 per annum which also includes a sizeable number of foreign tourist. Besides Pabitora, the Siva Kunda, a beautiful natural water fall located in Amsoi Hills, centuries old religious shrines like the Panchatirtha (Mayong Baha Ganesha Temple, Mayong-Burha Burhi Shiva temple, Mayong-Hatimuria Ganesh Temple, Chanaka Ganesha Temple and Burha-Mayong Ganesha and Shiva temples); Pancha-Devi-Tirtha (Kechaikhaiti at Raja Mayong, Bhagavati at Mayong Hatimuriya, Burhiai shrine at the hill of Choraihagi, Aimath or Kali-Shrine at Hiloi Khunda and the Kamakhya Devi Shrine at Mayong hill), the age old Satras (Kalshila Satra and Sildubi Satra) may be explored to be developed as places of religious tourism attraction.

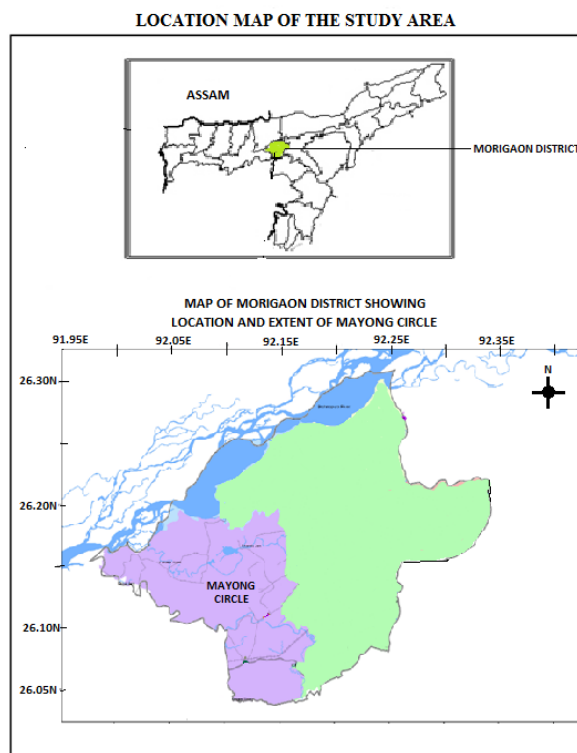
The Mayong area also has many stone sculptures and inscriptions of archeological interest. Notable among them are stone inscription of Raja Mayong which is considered as the longest stone inscription discovered in Assam, Charurbhuj Lord Ganesha idol inscribed in a natural rock Raja Mayong, stone sculpture of Lord Ganesha in sitting posture with an iron plough and lotus shaped carving of stone in Chanaka along with stone sculpture of Lord Shiva Parvati in *adirasha* posture and numerous ruined images of *nartakis*, the Royal pond of Gobhali, the traditional Tiwa royal stone seats at Silchang, stone steps of Sita Jakhala, huge century old peepol tree in Rangadariya shrine, the three hillocks believed to be Shiva, Parvati and their girl child Putuly having stone sculptures of the "Pandavas" located at Burha-Burhi and the giant tortoise shaped rock of Kachashila and the Shiv temple built in 9th century and the Deosal near Jagiraod are also sites of tourist interest. Besides the Largest Dry Fish Market of Asia at Jagiraod may also be developed as a site of tourist interest.

Mayong is the place of habitat of the Tiwa tribe. The tribe celebrates many ethnic festivals. The traditional Jonbeel Mela where ancient barter system is still practiced is also celebrated by the tribe. Notable among them are the Tiwa Bihu, Committee Bhaona (Raakh Mohutsav) at Charaibahi, Gosain Ulua Mela and Bangia Mela at Dondua, Barat Festival at Tetelia, Sagrasal at Jagiraod, Garbhagriha Utsav and Pancha Gosain Mela at Mayong. Mayong is known as the seat of Black Magic, history and legends associated with it can also become a component of tourist interest.

Considering the potential and proximity of heritage sites, wild life habitats, natural water bodies / landscapes which may be developed as tourist destinations, the Mayong area of Morigaon district had been selected as the study area.

Location and extent of the study area:

Morigaon district is situated in the Central Brahmaputra valley of Assam between 26° 00' N and 26° 40' N latitudes and 91° 59' E and 92° 35' E longitudes. It occupies 1, 91,100 hectares of area. It is bounded on the east by Nagaon district, on the west by Kamrup district, on the north by Darrang district and south by Karbi Anglong district. The topography of the district is almost flat plain mixed with isolated hillocks.



The normal rainfall in the district is 2000 mm. The average minimum and maximum temperatures range from 8°C (in January) to 35.3°C (during July/August). Mayong area of the district shares similar physiographic and climatic features as the Morigaon district. The proximity of the circle to the River Brahmaputra makes it prone to perennial flooding. The winter season is thus is best for activities related to tourism.

Aim & Objectives:

The primary aim of this study is to provide a sustainable theoretical ecotourism framework concerning the Mayong area of Morigaon district of Assam and to develop a multidimensional picture of ecotourism possibilities as a spatial sustainable livelihood development option with community participation. It is believed that this paper will provide a framework for a sustainable approach for future sustainability studies on ecotourism in this region. As developing an eco-friendly destination is a complex activity, therefore all the aspects of ecotourism could not be addressed within the limited scope of this paper.

Methodology & Data Source

The primary data for the study was obtained through structured household questionnaires covering 10 villages. From each village 10 respondents are selected at random. Personal interview with the village elders was also held. The results are tabulated and correlated with the secondary data for interpretation.

Results and discussion:

India is facing tourism problems like environmental pollution and tourist pressures causing substantial damages to its natural treasures (Garg, 1981), wildlife (Batta, 2001), historic sites and cultural relics (Seth, 1985). For achieving sustainable development in tourism sector Tisdell and Roy (1999) advocated adoption of Gandhian planning with its emphasis on small-scale developments at the village level in harmony with the natural environment.

As it is important to consider a number of different modes and factors of ecotourism while planning and managing ecotourism such as the types of natural settings, the extent of direct contact and involvement with the natural environment, the reliance on mechanized means of transport and supporting infrastructure, the type of visitor satisfaction and experience realised etc. Therefore achievement of sustainable ecotourism faces many challenges like competition in the market between the small scale local operators with limited resources and the multinational companies, level of expectations of tourists in terms of services and commodities, ability to adjust to the growing tourist inflows and many more.

In the limited scope of this study, the factors like economic conditions, educational level, knowledge and aptitude in some of the factors associated with the ecotourism concept among the local community people could be covered.

All the surveyed villages have a mix of tribal and nontribal communities residing in harmony. The survey is exclusively made in households belonging to Tiwa tribe. All the surveyed villages have facilities for education but still 35% of the respondents are found to be illiterate. The following table depicts some of the interest and aptitude towards development eco-tourism in relation to socioeconomic variables of the respondents.

Table-I: Support level and aptitude towards development of ecotourism in Mayong in relation to Socio-economic variables

Sr. No	Socio-Economic Variable	Variables/ Support level	Support level and aptitude towards development of ecotourism in Mayong				
			High	Medium	Low	No idea	Do not support
1	Age Group	Low (Up to 30 yrs)	15	7	3	2	5
		Medium (31-59 Yrs)	19	10	13	10	2
		High (50 yrs or above)	1	1	1	5	6
		Total	35	18	17	17	13
2	Education level	Illiterate	4	5	3	8	15
		Primary	4	3	2	9	3
		High School	7	8	3	4	1
		HSLC or above	8	4	3	3	3
		Total	23	20	11	24	22
3	Annual Family income	Low (up to Rs. 18000/)	5	10	6	22	12
		Medium (Rs. 18000-36000)	2	3	3	12	8
		High (above Rs. 36000)	6	2	4	2	3
		Total	13	15	13	36	23

Source: Primary data collected by the author in Sept/2020

The table also shows that the young generation of the respondents is more interested to development of ecotourism site while there is a mixed response towards it in respect of education level. Mixed response is also observable in respect of different level of annual income.

Table-II: KAP levels of the respondents towards variables

Parameter	Strongly agree	Agree	May be	Disagree	Do not know
Rural Tourism has potential for job creation for unemployed	60	8	7	5	20
Incomes of villagers will be enhanced	20	15	35	9	21
Villages will be benefited in terms of communication and other infrastructure facilities	25	30	22	8	15
Prices of commodities will increased	75	10	5	2	8
Eco-tourism will contribute to "Swacha Bharat" concept	12	26	24	23	15
Development of Tourism will be beneficial for preservation and promotion of uniqueness of local tribal culture	19	21	22	21	17
There will be threat to local culture and heritage due to aggression of external economic forces and traders	46	34	9	3	8
Tourism will become disturbing to the age old traditions and cultures of the local tribe and villagers	15	16	22	34	13
There will be increased threat for incidence of alcoholism, drug abuse and thefts	46	23	13	12	6
Garbage and vehicular pollution will be increased	51	26	5	2	16
There will be increased opportunity for the local people to develop themselves into entrepreneurs.	12	15	19	22	32
Local community will become skilled to handle customer service and to market their product.	9	29	22	3	37
Eco-tourism venture will raise the self-esteem of the local community	7	21	31	15	26

Source: Primary data collected by the author in Sept/2020

From the above it is seen that majority of respondents believes that with the development of eco-tourism there will be increased job opportunity, the places may have increased number of waste disposal facilities including bio toilets, but showed doubt about the economic benefits. On the negative side they believe that there will be increased generation of garbage, prices of commodities will become dearer, and there may be increased threat to local culture and tradition. Therefore the development of Mayong as a site of eco-tourism will have to be planned considering all the aspects so that the interest of the local community is not compromised, no external pressure on their age old traditions and believes are preserved and the community is benefited both in economic and in cultural front.

Conclusion:

North East India is rich in ecotourism resources but is lacking in infrastructure and a strategic outlook. There is immense potential for the Mayong area of Morigaon district to be developed as a site of eco-tourism as it is endowed with wildlife sanctuaries, temples, archeological monuments and stone inscriptions/ carving and beautiful landscapes. Ecotourism has the potential to enable local people to gain economically and there will be

increased response to the need of conservation and awareness both for the local flora and fauna and for the local cultural heritages. It is also imperative that ecotourism must ensure that nature tourists contribute to the maintenance of biodiversity and local heritage. It is also important to ensure Maintenance of the of heritage buildings so that they can be preserved for the future generations and participation of Local people in conservation, promotion and sustainable development.

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Population Health

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Abstract

Our Health and Care needs are changing our lifestyles are increasing our risk of preventable diseases and are affecting our well being. Population health is relatively new term, with no agreement about whether it refers to a concept of health. Population health involve many terms such as risk factors, outcomes, disparities, determinants. They may be used imprecisely, Particularly across different disciplines such as medicine, sociology, epidemiology, economics etc. A Population health frame work, and a population health approach to policy. Population health is more than just taking in aggregate terms or about identifying vulnerable or at risk subpopulation. A Population Health perspective is fundamentally concerned with the social nature of health influences. The social structures that shape health experiences transcend the characteristics or actions of any one individual. A Population health prospective also attention to the resource allocation issues involved in linking determinants to outcomes.

Key words- Population Health, Public Health, Population Health Services(PHs)

Introduction

Human health is at risk as the denser the population the easier airborne diseases can spread. The increase in population has led to issues like urban crowding and environmental changes, that have resulted in the emergence of many infections diseases, Focusing on the health of entire population in crucially important to the advancement of both Medical care and research. It serves to improve clinical treatment of specific groups by promoting better patient outcome and lower cost for delivering services. The scope and emphasis of a public health program are necessarily influenced by the changing characteristic of the population it serves. The rate of population growth affects long-range planning of Community Health and Medical facilities. Among the various characteristic of recent population traineds, again of the population is one of the most fundamental in its bearing on National Health.

Objective Of Research Article

- 1) To study the definition of population health
- 2) To know the interactions between population and health.
- 3) To study the population Health Services.

Research Methodology

The research paper is totally based on secondary data. Some Books Journals, internet site are used for collecting data related to the study.

Definition And Concept Of Population Health

The group health community Foundation has recently stated that "some observers see population help as a terms that highlights the influential role of social and economic forces in combination with biological and environmental factors that shape the health of entire population. The concept of population health first come about in 2003 when Divid kindig and Grag stoddart defined it as "the health outcome of a group of individual including the distribution of such outcome within the group" while some complaint the definition of focuses strictly on the measurement of health outcomes without explaining or acknowledging the role that Healthcare providers must take to impact those outcomes. Population health is defined as "the health outcomes of a group of individuals including the distribution of such outcomes within the groups" this groups are of then geographical population such a Nation's or communities, but can also be other group such as employees ethnic group, Disabled persons, prisoners or any other define group. The health outcomes of such groups are of relevance to policy makers in both the public and private sectors. A population health respective also requires attention to resources allocation issues involved in linking determents to outcomes. Part of the study of population health involves the estimation of the cross sect oral cost-effectiveness of different types of and combination of investment for producing health. Because improvement in population health requires the attention and action of multiple actors, the field of population health need to pay careful attention to the knowledge transfer and academic-practice partnership that are required for positive change to occur.

Interactions Between Health And Population

Health status influences all of components of population change. It directly affects levels of mortality and morbidity. Repaid Population growth and density is correlated with infection such as tuberculosis and social Pathology such as schizophrenia. The relation between health and partiality is complex. A high rate of population increase may contribute to health problem of increasing the need for basic necessities of life. Specially food. The relationship between health and fertility is complex since the absence of family planning improved health decrease mortality and morbidity and increase fertile life span. It is probably more efficient in personnel facilities and transportations to combine maternal and Child Health and Family planning services. Human health is at risk as the denser the population, the easier airborne diseases can speared. The increase in population has lead to issue like Urban crowding and environmental changes that have resulted in the emergence of many infection diseases.

Population Health Service In India

PHSI is headquartered In Hyderabad with Pan India operations. Established in 1999 with objective of providing increasing access to high quality and affordable sexual and reproductive health care products and services. PHSI is a not-for-profit non-governmental organization affilated to marie stopes. International U.K. The prime objective PHSI is to provide the high quality family planning and reproductive health care services to community specially emphasizing on under served and vulnerable groups.

The Role Of Public Health

Public Health the seat of approaches to improving health used by health departments and their community based and academic partners play a major role in population health and has the power to influence the health and well-being of large group in the population. Modern history is replied with examples of how public health initiatives have improved the health of entire populations. Simply having better living conditions Safer work environments and access to clean air and water led two major improvements in the health of our country at the turn of the last century, more recent examples include led abatement programs smoking cessation efforts and Water fluoridation.

Conclusion

Improving population health requires the active involvement of a wide range of stockholders including government, providers, insurers, academia employers and unions the media, philanthropy, political leaders, community organization and other. All stakeholder have a role in making population health a Priority in focus in on health disparities and in adopting a "health-in-all-policies" mind set to inform all decision-making-working together we can transform the environment you live and work in to make our default choices the healthy ones.

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Role of Library Professionals In Promoting E- Information Literacy

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Abstract

In the present Digital age of information explosion, information and communication technology (ICT) is progressively replacing the old methods of information collection, storage and retrieval and the usage of ICT application and E- Resources become more in academic library system over digital library and internet a teacher can share his knowledge with peers in the subject, a researcher can collect Information on his area of study from anywhere in the world and a student can clarify his doubts which may not be possible in the classroom educational institutions in under developed countries can access the latest information available in developed countries can access the latest through internet without any time delay. The paper attempts to discards the impact of ICT on library and their services in academic libraries in digital age.

KEY WORDS :- ICT, E-resources, Academic Library.

Introduction

In modern era the role of libraries and librarians have changed. Due to impact of ICT. ICT has changed traditional role of library services. Libraries are providing e-resources to the users. ICT has brought tremendous changes in library services. ICT is a set of technologies which is users for create, store and disseminate information. ICT is providing e-resources and housekeeping operation of library. Various library services are now given by library and information centre by using information communication technology.

Recent Trends Of Ict In Lis

- Computer technology
- RFID technology
- E-Journals / E-Books
- Digital technology
- Web 2.0
- Barcode technology
- Web – OPAC
- Library 2.0
- E- mail
- Storage Device
- Multimedia

ICT tools are useful for better library services to the students, teachers and researchers. The library services includes.

- Catalogue
- Reference Service
- Acquisition
- Circulation
- E-resources

Rfid System

Radio frequency identification system facilitates self check in and checkout and ensures security. RFID is the latest technology used in modern library's theft detection system. RFID based system moved beyond security to become tracking system which combines security with more efficient tracking of materials throughout the library. RFID is a combination as radio frequency based technology and microchips technology. The largest used in RFID system can replace both EM or RF theft detection target and barcodes RFID is necessary in modernization of libraries.

Sms Alert Service

Library can provide SMS alert service to their users. Users will get text message wherever they issue or return book to library. They will also get advance reminder regarding the due date of already issued book to user.

E-mail Service

Library can send e-mail to the faculty about the recent arrivals of the books and journals in library E-mails also send to the students about their library account password, reminders regarding the due dates of and intimation regarding reservation of books.

Digital Signage-Library can arrange LED screen to educate users about the location of the library materials. Library section, recent arrivals of the books, different services provided by the library.

Face Book- Face book is an effective tools for interacting users. Library can make were about recent activities of library by using face book.

Whatsapp- What's app is also useful for interaction with users to circulate new arrival and other recent activities.

E-Book / E-Journals- E-book / E-journals can be down locale by using ICT technologies and read like a paper page. E-book having advantages like 24 hrs availability text search multimedia.

Document Delivery -Libraries use document delivery services from other libraries and commercial organization

Digital Library And Archives-The major benefit of digital library is to 24hrs availability, remote access etc.

Reference Service-Tools such as E-mail, subject gateways, FAQ's and ask me are use for reference enquiries.

Information Literacy - The library will use ICT to enhance information literacy programmed. There are much online information devoted to reading and other relevant.

Problems Faced by Libraries While Implementing ICT

- Lack of ICT infrastructure
- Inadequate Library collection
- Lack of financial support
- Lack of leadership qualities
- Lack of skilled manpower
- Copyright and licensing
- Lack of co-ordination and co-oration among staff and two different libraries.
- Changes in hardware and software and other technologies gadgets.
- User behavior
- Inadequate library staff.
- Lack of training to library staff.

Advantages of Using ICT Based Library Services

1. Avoid duplication of work
2. Space Saving
3. Remote access
4. Enhance visibility of research work
5. Platform form further collaboration for researcher
6. No physical and geographical boundaries.
7. Round the clock availability
8. Values added services.

Conclusion

Information and communication technology play an important role in library and information field. Library and information centre can provide various value added services to its user by wing ICT. This technology useful for library automation, information services to users, but however there are some obstacles to implement ICT in library, so librarians and top management must think over it that how library can overcome to this obstacles.

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Drought Disaster and its Effect on Agriculture of Karnataka

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Introduction:

Most of the natural disasters are directly related to the climate of India, cause massive losses of Indian life and property. **Droughts**, flash floods, cyclones, avalanches, landslides brought on by torrential rains and snowstorms pose the greatest threats. A disaster can be defined as any occurrence that causes damage, ecological disruption, loss of human life, deterioration of health and health services on a scale, sufficient to warrant an extraordinary response from outside the affected community or area (WHO). A natural disaster is a major adverse event resulting from natural processes of the Earth. A natural disaster can cause loss of life or property damage and typically leaves some economic damage in its wake, the severity of which depends on the affected population's resilience or ability to recover and also on the infrastructure available. An adverse event will not rise to the level of a disaster if it occurs in an area without vulnerable population. Natural hazards or Disaster are classified in to four categories. They are: (i) Climate Related Hazards: **Drought**, Flood, Cloudburst, Hailstorm, Lightning, Coastal Erosion, Storm Surge and Cyclone. (ii) Geological Hazards: Earthquake, Landslide and Tsunami. (iii) Hydrological Hazards: Groundwater Depletion and Aquifer Salinity. (iv) Biological Hazards: Plant and Insect Attack Human: Plague, Bird Flu, etc. Among the natural disasters drought is a temporary aberration unlike aridity, which is a permanent feature of climate. It is a normal, recurrent feature of climate and occurs in all climatic regimes and is usually characterized in terms of its spatial extension, intensity and duration. Conditions of drought appear when the rainfall is deficient in relation to the statistical multi-year average for a region, over an extended period of a season or year or even more (Manual for drought management, 2009). There are three types of droughts: (i) **Meteorological drought** is when the actual rainfall is much less than the climatologically mean of the area. The country as a whole may have a normal monsoon, but different meteorological districts and sub-divisions can have below normal rainfall. The rainfall categories for smaller areas are defined by their deviation from a meteorological area's normal rainfall. (ii) **Hydrological drought** results from the depletion of surface water causing very low stream flow and drying of lakes, rivers and reservoirs and (iii) **Agricultural drought** resulting from depletion of soil moisture resulting in acute crop stress and fall in agricultural productivity. India has been severely affected by droughts over the past years claiming millions of lives. The agriculture in India is totally dependent on rains, which when is not adequate results in poor yielding of crops. This is particularly true of major drought-prone regions such as southern and eastern Maharashtra, northern Karnataka, Andhra Pradesh, Orissa, Gujarat and Rajasthan. In India there is also a history of droughts leading to famines. During the major drought of 2000-2001, a total of eight states had fallen short of crops. Government policies and preventions play the most significant role in coping up with these environmental disasters.

In the most general sense, drought originates from a deficiency of precipitation over an extended period of time, resulting in a water shortage for some activity, group or environmental sector. Whatever the definition, it is clear that drought cannot be viewed solely as a physical phenomenon. Drought is a perennial feature in some parts of the Karnataka state. In fact drought is a significant environmental problem too as it is caused by rainfall less than the average of the year and no/ less rainfall extending over a long period of time. Experts in the field are of the conviction that drought can no more be considered a natural disaster. Rather it is manmade. If only the requisite awareness were to be generated among the people as to the need to save rainwater, droughts can be mitigated. Agricultural activities can be sustained throughout the year with the available rainfall in Karnataka state. In the year 2010-11 and 2014-16, there had been acute water scarcity and severe drought for the State of Karnataka due to failure of North East monsoon.

Study Area:

Karnataka covers an area of 1, 91,976 sq km and comprises humid, sub-humid, semi-arid and arid climatological regions. The population of the State is 6.11 crores, out of which 66% are rural based and dependent on agriculture. Two thirds of the geographical area falls under semi-arid to arid

conditions. Nearly 76% of the sown area is under rain fed agriculture and is vulnerable to the vagaries of the monsoon. Karnataka state, with its unique geophysical setting and socio-economic conditions is highly vulnerable to disasters. The state is prone to disasters due to number of factors, both natural and human induced, including adverse geo-climatic conditions, topographic features, environmental degradation, population growth, urbanization, industrialization, flawed development practices, etc. As far as the geographic dimensions of the Karnataka state is concerned, the five distinctive regions of the state i.e. Western Ghats, the northern dry plains, the southern humid hilly region and the coastal zone have their own specific problems. While on one hand the Western Ghats region is prone to disasters like landslides, the northern plain is affected by droughts and southern plains is affected by floods almost every year, while the coastal zone is susceptible to cyclones and storms. If we analyze the layers of vulnerability statistically, in 2014, out of 30 districts 23 of them are disaster prone. Almost 58.60 per cent of the geographical area is prone to droughts of moderate to very high intensity (68 per cent of the cultivable area is vulnerable to drought), over 12 per cent of land is prone to floods and river erosion. The 350 kms long coastline is prone to cyclones and tsunamis.

An Overview Of Drought In Karnataka:

On account of its multilayered vulnerability, the state has witnessed an increase in the frequency and intensity of disasters in the past resulting in widespread devastation. This inference is drawn only on the basis of disasters which have been reported. Many of the disasters, particularly in remote areas, go unreported because local administration lack the technical and human resources for community-level disaster monitoring and are not able to fully identify or map potential local hazards or develop the appropriate disaster management plans. Losses from low-intensity, but more extensive disaster events continue to affect housing, local infrastructure, and large numbers of people. These disasters at the local level are so frequent that many communities accept them as an integral part of their existence with varying degrees of success, learn to live with them. The Karnataka has experienced drought during the years 2001, 2002, 2003 and 2004 consecutively. During the year 2005, state was under heavy floods. During 2006, it experienced both flood and drought situations. During 2007, it repeatedly faced floods 4 times. For the years 2008 and 2009, there were both drought and flood in the State. During the year 2011 the monsoon started in time and all parts of the State, except Karavali and Malnad regions, experienced moderate rain during September 2011. After four years severe drought occurred in most of part of Karnataka state in 2014, after that Govt of Karnataka has awakened to implement some important mitigation measures and prepared the action plan.

Recently Occurred 2014 - Drought Scenario:

During May-2014, the state as a whole recorded, 71.7 mm rainfall as against its normal rainfall of 85.2 mm, with departure from normal being (-) 16%. Out of 176 taluks in the State, 79 recorded deficit / scanty rainfall. The onset of monsoon over the southern part of State was on June 2nd and was on time. The progress of the monsoon trend was normal and covered most part of the State by June 10th, except parts of Bidar, Gulbarga, Yadgir and Raichur districts. Monsoon covered the entire state by June 15th. During June-2014 the State as a whole received actual rainfall of 200 mm as against its normal rainfall of 183 mm with (+) 10 % departure from normal. The interior parts of Karnataka received below normal rainfall but the rainfall was normal to excess in the districts of Malnad and coastal regions. During June rainfall was deficit in 58 talukas. During July, the state as a whole recorded 234 mm rainfall as against its normal rainfall of 266 mm with departure from normal being (-) 12 %. The districts of Chitradurga, Davanagere, Chamarajanagara, Mysore, Belgaum, Haveri, Dharwad, Hassan and Chikmangalur recorded deficit rainfall. However, during the month 72 talukas recorded deficit /scanty rainfall. The coastal, Malnad and South interior Karnataka regions recorded below normal rainfall. During August, the State received 230 mm rain as against normal rainfall of 196 mm with departure from normal of 17%. The rainfall was deficit during the month in the districts of Chitradurga and Bellary. The discussion indicates that the rainfall was more or less normal from May-August, 2014. About 18 districts were fully affected and 14 Taluks in other 5 districts were declared drought affected areas. The Government sanctioned a sum of Rs. 162.69 crores for providing drinking water supply besides Rs. 35 crores from Calamity Relief Fund (CRF) for road works in the districts of Gulbarga, Raichur, Koppala and Vijayapur. Scarcity of drinking water continued to be felt in 19 districts since 1996 to till date. The Government sanctioned a sum of Rs.111.79 crores from CRF to combat

drinking water scarcity. In the year 2011 scarcity of drinking water continued in 15 districts. The Government sanctioned a sum of Rs.126.44 crores from CRF to combat drinking water scarcity. In the year 2014, a sum of Rs.350 crores was sanctioned by the Government from CRF to meet the expenditure in connection with the drought situation which prevailed in 17 northern districts for providing sinking bore-wells, flushing of bore-wells, providing ring wells, construction of open wells, replacement of motor and for transportation of water.

During September, the State witnessed scanty rainfall in 17 districts of interior Karnataka with departure from normal up to (-) 81%. The coastal and Malnad region received excess rainfall during the month. South interior Karnataka recorded only 44 mm rain during the month as against the normal rainfall of 134 mm. The North interior Karnataka region received 57 mm rainfall as against normal rainfall of 152 mm. September 2011 rainfall was the second worst event in South Interior Karnataka since 1971 and in North Interior Karnataka, third worst event since 1971. Failure of Monsoon during September 2014 caused late season drought of rare severity. The dry spell in interior Karnataka during September 2014 continued to October 2014 in 13 districts of 77 taluks recorded deficit rainfall during the period October 1-14, 2014. Though the cumulative rainfall departure from normal for the State as a whole during June 1-14, 2014 was (-) 4% from normal, failure of monsoon during September and October resulted in late season drought.

The dry spell during the crop growth period causes agricultural drought. Agricultural drought occurs when soil moisture and rainfall are inadequate during the crop growing period causing extreme moisture stress and wilting. It thus arises from variable susceptibility of crops during different stages of crop development, from emergence to maturity. It is defined as a period of 4 consecutive weeks with a rainfall deficiency of more than 50 % of the long term average from mid-May to mid-October.

Drought Monitoring:

Karnataka has established institutional mechanism to monitor the drought indicators by setting up Drought Monitoring Cell way back in 1988. GPRS enabled Telemetric rain gauges have been installed and operational in all the 747 hoblies (villages) and 770 Gram Panchayats. GPRS enabled weather stations have been installed at 135 sites. Karnataka State Natural Disaster Monitoring Centre has taken a lead in monitoring the recurring drought situation on a scientific basis. The centre has made operational for various programmes on knowledge management and decision support system.

Moisture Adequacy Index:

Karnataka State Natural Disaster Monitoring Centre (KSNDMC) has developed moisture adequacy index based on rainfall, potential evapo-transpiration, actual evapo-transpiration, soil moisture condition, available water capacity of the soil and using soil water budgeting. Moisture adequacy index are classified into severe moisture stress (MAI < 25%), moderate moisture stress (MAI - 25.1 to 50%), agriculturally favorable (MAI - 50.1 to 75%) and Humid region (MAI >75%). As end of September 2014, 27% of the geographical area in the State was under moderate/severe moisture stress covering interior regions of the state. This indicator has assessed the moisture stress experienced by agriculture/ horticulture crops.

Normalized Difference Vegetation Index:

Assessment of agricultural drought and crop condition was carried out during Kharif 2014 by the State in association with National Remote Sensing Centre, Government of India. The report at the end of September has indicated drought condition prevailing in 20 districts of the Karnataka. It is also to be noted that out of 22 districts in the country under "Moderate drought", Karnataka had 11 districts under the category, which accounts to 50% of the total area in the country. Similarly out of the 49 districts in the country under "Mild drought", Karnataka has 11 districts falling under the said category constituting 22% of the total area of the country. Hence NDVI indicator had identified the drought situation in the State. Along with the above mentioned indicators, deficit rain, dry spell, moisture stress pattern were also vital indicators of drought.

Declaration Of Drought:

As per the recommendations of Cabinet Sub Committee in 2004, area with a continuous dry spell for more than 4 weeks period may be considered for declaring as drought affected. For declaring drought the following parameters were considered.

- Continuous dry spell of 4 weeks or more.

- Percentage departure of rain (-) 20% or more.

South West Monsoon drives the Kharif agricultural activities in the state of Karnataka. Generally September -30, 2014 is the normal withdrawal of South West Monsoon in the state. Taking into consideration the drought indicators, deficit rain, dry spell/moisture stress prevailed in 70 taluks of the state and thus they were declared as drought affected on October 4 2011 and 14 taluks were declared as drought affected on October 7. The situation was again reviewed on October 15 and 6 more taluks were declared as drought affected. With no respite in the situation, 9 more taluks were declared as drought affected on November 8. Thus in all 99 taluks were declared as drought affected in the State.

Impact Assessment:

The severe drought condition adversely affected not only agriculture, but other sectors like horticulture, livestock, etc. The summary of loss due to Drought during 2011, as per the memorandum submitted by Government of Karnataka, is presented in the below Table No:2:

Follow Up Action Taken:

The Government of Karnataka has been reviewing periodically the seasonal conditions of agriculture crops at State / district levels. Agriculture Department was conducting periodic review of status of agriculture. Department was also in constant touch with taluk and District officials through weekly video conference to review the crop conditions. Contingent action plan was prepared by scientists of agriculture university and was executed in the affected districts. Nodal-officers were appointed in all the districts to review the seasonal crop conditions. "Bho-Chetana" scheme was extended to all the districts during the year. The scheme focuses on retaining / increasing soil fertility and micro nutrients of agriculture land and increase crop production. About 23 lakh farmers were covered under this scheme in the whole state. Seeds and fertilizer requirements in the districts were monitored constantly. Steps were taken to distribute seeds at subsidized rates for alternate crops. Close watch on Crop cutting experiments and special attention was paid to ensure none of the experiments will lapse. Micro and Macro irrigation programmes continued to cover more land under irrigation for less utilization of ground water. Scientists from university of agriculture, horticulture and fisheries were closely monitoring the seasonal conditions and advising farmers to improve crop conditions.

TableNo:2 : Loss due to Drought and Claimed from Govt. of Karnataka State – 2014.

Sl. No.	Item	Estimated loss	Relief claimed as per CRF Norms (in crores)
1	Agriculture Crop loss	4245.84	202.54
2	Horticulture Crop loss	299.00	13.94
3	Animal Husbandry		39.92
	a. Opening of Goshalas		23.92
	b. Purchase of Fodder mini kits		4.20
	c. Purchase of Fodder Banks		7.60
	d. Nutrient supply and Vety care		4.20
4	RDPR Dept		122.04
	a. Revival of PWS		24.42
	b. Revival of MWS		24.52
	c. Retrieval / hydro fracturing of bore-wells		18.23
	d. Drilling of new bore-wells		18.24
	e. Transportation of water		36.63
5	Additional funds under MGNREGS		4.80
6	Additional funds under Health Sector		10.00
7	Additional funds under Power Sector		330.00
	Grand Total	4544.84	723.24

Source: Memorandum, Government of Karnataka.

The villages, which were facing / likely to face shortage of drinking water, were identified and contingent action plan was prepared and implemented to tackle the issue. This mainly included - constant monitoring for effective implementation of on-going drinking water schemes, quick

implementation of works approved during 2011, and repair and rejuvenation works, emergency supply of drinking water through tankers, purchase of more motor-pumps, extension of pipelines, effective implementation of flushing, deepening and hydro-fracturing works, functioning of control rooms at taluk level, drilling of bore-wells, steps to ensure effective supply of clean drinking water through tankers, etc. The MGNREGS is one of the flagship programmes being implemented in all the districts of Karnataka. For the livelihood of rural people, who are poorest among the poor, are required to be provided employment in order to avoid migration. In order to combat the drought situation effectively, all the implementing officers were instructed to gear up the administrative machinery for providing employment to the people, by implementing the employment generation works, especially in the drought affected taluks. Further, circulars and guidelines have been issued to set-up goshalas, fodder banks, veterinary care centers, funds were released to the districts to purchase fodder mini kits to grow adequate green fodder in the affected areas. Health packages, including necessary medicines, vaccination, etc. were supplied to the affected districts for health-care of the cattle.

Conclusion:

Karnataka State Government will formulate an action plan on the lines of National Action Plan on Climate Change in which solar energy will get due significance. In National action plan 8 national missions were mentioned to mitigate climate change. They are National Solar Mission, National Mission for Enhanced Energy Efficiency, National Mission on Sustainable Habitat, National Water Mission, National Mission for Sustaining the Himalayan Ecosystem, National Mission for a "Green India", National Mission for Sustainable Agriculture and National Mission on Strategic Knowledge for Climate Change (Prime minister's council on climate change-2010). If the same missions persuaded in the state action plan, then it may achieve great success. It is strongly felt that a comprehensive vulnerability assessment of the various natural hazards of Karnataka needs to be undertaken. It must integrate the climate change considerations into all the developmental activities happening in the region.

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Water & Sanitation–A Case study (with reference Ambajogai city)

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Research Student

Water is life. It is not belongs to anyone person. It is natural culture. We use water too much so, we don't get pure water in summer. Nowadays climate is going to change every time. Sometimes raining, Sometimes too much warmly, Sometimes too much cold.

Keywords :-- Water is common uses commodity ,Water is Merchandise commodity

Consumption is the ecological sustainability of life. Water is common commodity because it is the base of environmental life. it's continue& equal distribution depend on every person's co- operation. Water management uses common water resources & maximum. Society is using property of common water. Water is very important in human life & also sanitation. Take some clean water & soap to wash mouth in the morning & evening so the ward off illness. Don't touch the fresh water because the germs spreading in the water & out the water so, the water keeps safe from different diseases & germs. Solar light becomes safe water. 22 March 2010 for the whole year. In a parting event, Gesipijima General Secretary Ban – ki-moon should be doing the same in his association with the entire nation. According to his nation address for entire nation but right now that water is life & on this too, we are still alive of this resources, who connects government & mature beings is also the same. We alive some weeks without food but we didn't alive some days without water. A person as much as drinking water his life more than healthy. Water's many uses like cooking, drinking, washing etc. Specially keep the water clean & pure otherwise to create many diseases cause to impure water. Water polluted because many particles resolved in it. If the water included many germs & bacteria made the water poison. The water is resolved chemicals & metals the water is not remain like drinking water.

Objectives :--

This paper examines the associations between women's decision making about water & sanitation. It adoption of better water & Sanitation infrastructure. It also examines various measures that can be adopted to water & Sanitation better facility to give Ambajogai's people.

Hypothesis :--

- 1) To study about water & Sanitation
- 2) To study about the problems of water & Sanitation
- 3) To study about entire situation of water & Sanitation

Methodology :-----

Researcher use descriptive design & qualitative method. Researcher is also use Random sampling method & also Research is going to case study. Some few researcher give their opinion about water& Sanitation with reference Ambajogai.

To obtain for the study face to face interview & group discussion three persons were conducted from Randomly selected three persons different ages & teaching back ground.

Data collection :--

Primary data :-

Primary data is the first foundation on which the analysis of the present study is based for collecting primary data. This data collection through the Questionnaire.

Secondary data :--

Secondary data collected from environmental books, magazines, Internet Wikipedia, reference books. I use qualitative & descriptive.

Answerer's opinion :----

Gadeker mam :-

Water is life. We use the water in limited. Everyone alert the water is not polluted. We are very lucky only our planet the water is available on. We didn't sink Lord Ganpati's statue in the sea or river. Don't throw other garbage or dead bodies ash in the because river is resources of drinking water it is polluted. Water is necessary for us. We didn't alive without water. Our responsibility is take care of water from many diseases. We plan first water management than sanitation. Water is more important in our life even the part of life so, it is called 'Am rut'. water & Sanitation is two part of one coin both are supplements each other. If our river is sanitation we get pure & clean water. We want clean

the places of our home & out side we haven't any option without water. The water must have cleaned inner & outer part of body. When we get up early in the morning first drink lot of water because the bad germs died in. If our hand or glass already dirty the water is polluted. Yes the sunlight is safe our drinking water. When sun rays come in the house water pot keep in sunlight. When drinking a lot of water we feel very healthy & fresh because chemicals & waste particles out of body throw the urine. We started the sanitation club in Ambajogai school colleges. First we must have the hygiene & also water bell started because the students drinking water time to time. If we didn't send everyone for drinking water so they ignore it. Ambajogai Aquaguardwater is best for health because the water is filtered in it. Somewhere Aqua water seller is not carefully fill up the water in the jars. Polluted water impact on our body, kidneys. Many diseases created in our body from it Ambajogai pipeline break everywhere like Rajiv Gandhi chaur. Nager palika never pay attention towards the problem so Ambajogai drink polluted water & fall down ill. If the dam build on van river so, Ambajogai shall be safe from drinking water. Every summer season come they anxiety because only Kadwanti lake is not sufficient for supply drinking water the whole city. So, as early as build the dam on van river.

Prajakta Deshmukh :-

Water is life. If water is not available on the earth the nature is not alive. Water is must have important if water is not we are not. We feel lack of drinking water still the last year Water storage is very must because the people bringing water very long place. Our water depended on water so, the water keep clean & sanitation. If we drink the polluted water so, we fall sick. Sunlight comes in our house the water pot keep in sunlight our water is pure. We drink the water more & more we become healthy it means good effects our body. We started the sanitation club in Ambajogai school colleges therefore clarity is available there. It is made every one's habit. Water bell must have start because the students drinking more & more water & become healthy. If we didn't start the plan so, they ignore it. Both are things are started in school & colleges. Ambajogai Aquaguard water is safe healthy & pure but someone seller when fill up the jar not carefully & they play civics life. The jar's water is filtered so, didn't any effect of our body. If we drinking polluted water to create many diseases like pitas problem, Kidney stone, skin diseases, unhealthy life Coloara diseases etc. Ambajogai Nagar palika not pay attention people's problem. They didn't repair breaking pipeline not carefully behavior of wastage water If Ambajogai Nagar palika build the dam on van river Ambajogai's people not remain anxiety of drinking water.

Munde sir :-

Water is 'Amrut' because it gives everyone's life. Water management is must have for us. Water is the resources of sanitation. We are not alive without water. It is everything for us. Water is our necessity without it not alive our nature & "Jal hai to kal hai". Water is the main resource of sanitation if water is available sanitation is also available. Pure water drinking is our culture. The host come in our home first we welcome from water. Our hand is dirty & also glass is dirty. The water becomes polluted sunlight make our water safe. It comes in our house we keep water pot in the sunlight. We drink more & more water we becomes healthy & shining skin. Toxic acid comes out from urine. Ambajogai school colleges started sanitation club. Students wash the hands every time & keep sanitation after sometime it makes the habits of student. Water bell also started in the school & colleges students drink the water time to time. They didn't forget it whenever the bell is ringing the students remember it we drink the water. Ambajogai Aqua water is pure & clean but someone water supplier fill up the jar very carelessly they play civics life. We drink polluted water its effected our Kidney, stomach, lunges, skin etc. Ambajogai Nagar palika didn't pay attention people's problem. They didn't repair breaking pipeline not carefully behavior of wastage water If Ambajogai Nagar palika build the dam on van river Ambajogai's people not remain anxiety of drinking water.

Conclusion :-

Water & Sanitation is our culture. Safe & Clean water is too much necessary for us & as much as sanitation. Everyone need pure water so we spend less water. Pure water is remaining in the world only 2%. In the case of 70% drinking water use in the farm. We use remaining water drinking, washing. If we will alive so, save the water & sanitation. The water boiling temperature 68 degree C. on the peak of Mount Everest as well as 100 degree C. temperature in the bottom of ocean.

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Rural Development In Maharashtra **Kadam Ganesh Pundlikrao¹ Prof Dr.VaijayantaN. Patil²**

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Abstract:

Rural Development is a process of Improving the quality of life and economic well-being of people living in rural areas. Rural Development has traditionally centered on the exploitation of the land intensive natural resources such as agriculture and forestry. Mahatma Gandhi was said, 'Go rural areas' because of Original India live in Rural areas, if you want to know culture of India then you go firstly in rural area and watch situation. Education, entrepreneurship, physical infrastructure and social infrastructure all play an important role in developing rural regions. Rural development is also characterized by its emphasis on locally produced economic development strategies. In rural area/region farming is a very big deal or business. 70 % people from any rural area are working in farm. In early situation New comer farmer change the style of farming. Lot of new knowledge and lot of good ideas help to developing the farm and also develop the economic condition. New ideas come from technologies and science. In science new crop, seeds, fertilizers etc. come in new form and in the technologies Tractors, Seed making machines, Cultivators, drop irrigation, Sprinklers, Crop Protectors etc. it's very useful to develop the farming, develop the rural areas and develop the economic condition. Most of the farmers getting new machine, new seed, new ideas of farming and new technologies use and develop own or develop nation.

Main Word's: Rural, Development.

Introduction:

Rural Development is process of improving the quality of life and economic well-being of people living in relatively isolated and sparsely populated area. All this means that farming communities have to be provided with various means which will help them to increase the productivity of grains, vegetables and fruits. Rural development generally refers to the process of improving the quality of life and economic well-being of people living on isolated areas. Rural development is generally used to denote the actions and initiatives taken to improve the standard living in non-urban areas.

'As a decisive factor in shaping our world and it will define relations among and determine the ecological nature of the planet, yet today development is in crisis. First there is crisis of complexity; second, we have realized that development has no single definition. No single strategy has been immune from failure. There is no certain path to success.'

-Mr. Boutros Ghail (Secretary Gen Of U.N.)

There is no universally Accepted definition of rural development. Various scholars defined of variously. As a concept, it cannot overall development of rural areas with a view to improve the quality of life. Rural people as a phenomenon, it is the result of various physical, technological, economical, socio-cultural and institutional factors. As a discipline, it is multi-disciplinary in nature representing an intersection of agriculture, social, behavioral and management of science.

Rural Development as improving standard of the mass of the low income population residing in rural areas and making the process if their development, self-sustaining, running of life with family in daily routine and with the lot of problems. In rural areas current supply, water supply, school availability, lack of facilities and schemes etc. problems are found in rural areas but their no one says about it. Nobody speak loudly from this side because of no one leader come from this side in politics. That's why urban development and rural development is two different developments in every situation and different in every syllabus. Mahatma Gandhi was said in pre independent, Move Rural areas/ Go rural areas, Because original India, Main culture, Beauty of nature available in rural areas, regions. In rural areas no competition between two farmers for selling in grains, no fights in same villagers for developing or other factors. Lot of people live in very small areas with silent situation. Humanity

available in large quantity in rural areas. Lot of people live in silent and with big deals of cultural humanity. People help them equally in any soft or hard situation. In sad condition no body go long from another people and in good, blessing situation no body lot of close with other people.

Even today's, India live in villages. Now globalization, privatization situation in whole world. In the era of globalization, entrepreneurship development in the rural context is a challenge. People in rural areas suffering from lot of problems, lot of bad conditions, suffering with unemployment, poor infrastructure facilities which may be solved with the development of the rural entrepreneurs. There is a potent factor of the economic development like as business, industry, agriculture but these rural entrepreneurs are suffering with various problems like fear or risk, lack of finance, illiteracy and competition from the urban entrepreneurs. India's economy is agriculture based and 70% of Indian population live in rural areas. These areas do not have adequate infrastructure such as roads, electricity and communication which are not most essential and consider as basic needs. In very different situation on world villagers lives in lots of problems, there is no schools, roads, electricity, communication, hospital, government offices, factories, malls, kirana shops, value of every things is differences etc. In the age of information, where knowledge and education play dominated role for the growth and economy. India stands for behind because of the fact that receiving these basic tools of development and all other country supply these things on lot of numbers in very small prize, then other nations will front in every situation from India.

Rural development means an action plan for the economic and social upliftment of rural areas. Development means the improvement of quality of life's, change from unemployed or illiteracy to literate or employable movement in economic growth, doing something new from old, facility availability from state government, Schools, Hospitals, NGOs, Roads, Electricity, Water supply etc. In India rural development agencies are available-

- A) International Institute of Rural reconstruction,
- B) Technical center for Agriculture and rural corporation. ACP-EU(CTA)
- C) USDA Rural development
- D) European network for rural development.

Rural development actions are interred to further the social and economic development of rural communities. Rural development programs were historical top-down approaches from local or regional authorities, regional development agencies, NGOs, National governments or International development organization. In Maharashtra special for rural development in mantralays, separate minister for doing work with large number of staff. Under rural development scheme every minister and every officer do the harassment of money in that minister levels and office level making huge money for own in this department. That's why in now days no roads good, no hospitals availability, no current supply, no water supply, no good infrastructure and other things in rural area.

Rural Development usually related to the method of enhancing the quality of life and financial well-being of an individual specifically living in populated and remote areas. Where people are living in lot of problem facing, lot of issues in human life, undeveloped area. People also known the good condition, good knowledge of living but cannot live with proper and developing mind because of economically, socially condition is very poor. Many people know the very well which condition in other side, area but can't anything for other same problematic people. Traditionally rural development is centered on the misuse of land- intensive natural resources such as forestry and this is the second source of living. Lot of people making own employ on forestry but nowadays no one come and taking no that things which depend on forestry service and available in this side. Today rural development still remains the core of the overall development of the country. Rural development is a complete term that concentrate on the action taken for the development of rural areas improve the village economy. Villagers are demanding more focus on education, women empowerment, Public health and sanitation, Infrastructure development (Electricity, Irrigation), Facility for agriculture extension and

research, Employment Opportunity. For overall the economic expansion of the nation every person will be develop, not only majority areas developed and economy developed then few cities and areas are developed but not nation developed then first of all you want to education for all and basic needs complete from the government side then al people approach to government and then start the economic development of nation. Rural development is pretended to be noticeable importance in the country today than in the olden days in the process of the evaluation of the nation. In olden days'corporate's, MLA's, MLC's, MP's, choose in very small package of money but in nowadays huge money want to choose member from any election. Then this chosen member any election waste and invest the huge of money in starting position and often chosen in multiple by the investment money building for own and family.

Rural development and panchayat raj development of Maharashtra can provided the lot of services and scheme for who live in rural areas, but that facilities and scheme getting other person who have not leave in rural area, only recommend from any rolling party leaders. Original candidate behind that candidate who have recommended only name as rural development but original condition is very different. This situation and this form of Maharashtra is very dangerousfor tomorrow.

Thanking You!

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Development Of Human Resource and Management

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Abstract:

Libraries and Information centers are coming under the group of service sector. Like other service sectors e.g. banking service, insurance service, health service etc., it is also a type of service but these are profit making organizations and library and information centers are social organizations rather than profit making. To provide any type of service, an organization is required and for successfully running the organization, quality persons are required. Here two aspects are there, one is management itself and other is human resource development. Recent advancements in the management and human resources of Library and Information center includes total quality management. New trends like HR Audit and HR research are also useful for studying strength, weakness, opportunities and threat analysis, which we call as SWOT analysis. If the management is sound in all aspects and the peoples in the organization are skilled, then only it is possible to achieve the goals of the organization. So human resource is a vital part now-a-days in the library management. Knowledge Management is a completely new concept and method of management. Knowledge is power data>information>knowledge>wisdom. Hence knowledge management is needed in libraries to improve library services, records, information create knowledge and enables users to give chance to learn by providing users friendly approach in all the activities This paper discusses about the introduction knowledge management, knowledge management, key tasks for knowledge management to be successful essentials of knowledge management, successful knowledge management, etc.

Introduction:

Edward Flippo defines HRD as- "Human Resource (Personnel) Management is Planning, Organizing, Directing, Controlling of procurement, development, compensation, integration, maintenance and separation of human resources to the end that individual, organizational and social objectives are accomplished". In other words, HIR management covers all such functions of management like Planning Organizing, Directing, Controlling, Staffing Reporting and Budgeting with respect to manpower. Management is nothing but getting work done by and through the people to achieve the organization's goal. Management deals with the utilization of five resources like Men, Machine, Methods, Materials, and Money. To utilize these resources effectively, management requires skilled human resources. The formal definition of Human Resource Management is that it is a function performed in the organization to facilitate the most effective use of employees to achieve organizational and individual goals. Without proper human resource, other resources are not utilized properly. Thus management is a wide term and human resource is the important part of the whole process of management. To achieve Ranganathan's third and fourth law of library science, quality human resources are vital

Objectives:

The objectives of any Human Resource Development Programmed are to build human Competencies to create an environmental climate and improve employee satisfaction with work. Even in the computerized environment also it is true that the organization has to build trained and skilled manpower. User satisfaction is the main objective of any library and information Centre. To supply right information at right time to for the right person requires skilled manpower in the library.

HRD is necessary for any type of organization for-

1. Survival and Stability, 2. Growth and Development 3. Change and Diversification 4. Providing Highest Quality in Products and Services 5. Obtain goodwill and reputation through customer satisfaction

Human Resource Management is a wide concept and covers following aspects

1. Human Resource Planning 2. Recruitment and Selection Process 3. Employee Training and Development 4. Performance Appraisal

Scope of HRD involves not only estimating manpower resources for the present and future activities of the organization but also prepare the staff, both professional and supporting staff to meet all the requirements of the future, actual and anticipated needs. Human Resource management covers all such aspects related to manpower of the organization such as Human Relations, Human Needs, Motivation, Employee Morale, Communication, Leadership, Solving Grievances etc. Motivation is

invisible force that ignites the mind and sets your heart with feeling of zeal and zest and propels you into action. Motivation is every body's problem. Teacher want to motivate students, parent want to motivate their children. Motivation brings positive change in the actions and work force. Motivation is willingness to do something better than otherwise done. There must be communication between employer and employee to understand the problems of each other.

HR Planning for Libraries and Information Centers

Most of the information institutions are operating as constituent part of various institutional complexes like R & D establishments, Universities, Government Departments and others and therefore are largely conditioned and controlled by personnel policies and plans of the parent organizations. In this situation, the HR plan should be such that it should keep users and their information needs at the Centre, building up collections and stock relevant and appropriate to user needs, with facilities for access and availability and well-conceived user services.

The steps in the HR Plan should include the following-

1. Estimating personnel needs for present and future
2. Establishing result oriented recruitment and selection procedure
3. Progressive policies for Personnel Development
4. Keeping customer satisfaction as a primary objective, ensuring quality to products and services
5. Evaluating results at periodic intervals to improve efficiency

Key Tasks For Knowledge Management To Be Success:

Based all the above summary the following tasks will be pursued by national Centre for restacks libraries in order to work to words the vision of the service indicated earlier of this strategy

1. Standardize and unify all existing library catalogues.
2. Offer library enquiry service via the web
3. Work towards merged funding management opportunities at directorate level taking into consideration work for confederation development.
4. Involvement of users in the development of the service.
5. Clearly identify service levels standards.
6. Offer a consistent standard services to all researches and staffs and their communities. Improve information awareness alerting services.

Essential Of Knowledge Management:

1. Customer's knowledge: The most vital knowledge in most organization
2. Knowledge Assets:- Measuring and managing your intellectual capital
3. Knowledge in process:- Applying the best know how while performing core tasks.
4. Knowledge in relationship :- Deep personal knowledge that underpins successful collaboration
5. Knowledge in products and Services :- Smarter solution customized to users needs.
6. Knowledge in people:- Nurturing and harnessing brainpower your most precious asset.
7. Organizational Memory:- Drawing on lessons from the past or elsewhere in the organization.

Successful Knowledge Management Process:

1. Knowledge Leadership :- A compelling vision actively promoted by senior management.
2. Clear Business benefits:- Tracking success and developing measures.
3. A Knowledge sharing cultural :- Teams that verb across boundaries.
4. Systematic process :- Including mapping and information resource management.

Recent Trends in HR Management:

Some new trends in HR Management are -

1. Total Quality Management
2. HR Audit
3. HR Research

1. Total Quality Management - t is new trend in HR management and is an outcome of management thought. Scientific management thought deals with production and Participative management deals with employer participation in management and making decisions. Prof. Ishakawa, blended the advantages of the two systems, avoiding their disadvantages. This is the beginning of TQM.

Total Quality is everything the organization does in the eyes of its customers which will determine its market goodwill. It is Quality in total and not only restricted to quality of production. As far as library and information centers are concerned, the total quality refers to everything that is done for satisfaction of user needs which are visiting the library i.e. due to TQM it is possible to provide right

information at right time to right user. TOM in Library and information Science Two types of efforts have been developed to improve quality in library and information systems and services. 1) Evaluation studies 2) Value added models. Evaluation studies examines existing library and information products and services to evolve standards of performances measuring yardsticks to testing efficiency of information retrieval systems, databases and networks. Value added models evolved methods for improving quality of information from its stage of data to information and to knowledge. At every stage value is added which will help to make decisions and other similar purposes.

Benefits of TQM -

1. Work itself becomes more interesting through greater involvement of employees.
2. There is increase in general productivity.
3. Lower absenteeism due to job satisfaction and interest.
4. Greater team spirit and low grievances.

2. HR- Audit - A new trend in HRD. It is well practiced in Western Countries, Human Resource Audit refers to an examination and evaluation of policies, practices and procedures to determine the effectiveness and efficiency of HRD and to verify whether objectives, procedures, policies have been followed and expected results achieved. The audit also makes suggestions for future improvement. The benefits of HR audit are-

1. It enables to review HR Policies in light of result of audit.
2. Identifies the contribution of library and information Centre staff to the parent Organization.
3. Reduces human resource costs through more effective personnel procedures
4. Improves the professional image of the organization.

3. HR Research - Research of the Human Resource provides an understanding or practices, policies that are successful and those which are not, what changes are necessary and in what area of HR management.

Objectives:

1. To evaluate present practices, conditions and activities.
2. To predicate future events and conditions.
3. To evaluate and review linkages between organizational strategies and HR strategies.
4. To modify the existing HR practices and replace with new practices.

New Trends and Indian Scenario:

The above trends are well practiced in Western Countries. In India, we are now shifting from industrial to an information based economy. There will be far more aggressive participants in the production, processing, dissemination of information than ever before. There is a huge competition in every field. To cope up with these existing challenges, these new trends are useful.

Conclusion:

Of all the resources available, HR is most vital and crucial one. It constitutes the strategic methodology to utilize manpower prudently and efficiently to achieve the desired goals of the organization. The basic approach of HRD is to perceive the organization in its totality. It seeks to attempt fullest development of human resources and fullest possible development of objectives of the organization. TQM, HR Audit and HR research are some of the trends coming in human resource management for improving the whole services of the library and information centers. Not only services will be improved but the goodwill in the society will also increase due to these aspects. In the fast changing context of Library and Information systems and services, a new brand of informational professionals will be necessary with variety of new skills and knowledge. HRD programmers are necessary to motivate information personnel to give their best.

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The Role of Language Laboratory in developing Basic Skills of the Language

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Introduction

English Language has got worldly recognition as a language which is spoken globally. As we know, because of globalization, there has been great demand of good communication skills. In today's world, for a successful career in any field, a person must possess good communication skills. Good communication skills are regarded as stepping stone in one's successful career. Any professional field demands good communication skills nowadays. The English language has got indispensable place in the lives of people who desire to reach their careers anywhere in the world. In rural area, students do not get much exposure to English language. So, though they are good at in their exams, but in their real life, they do not use correct English with correct pronunciation. Communication involves one's ability to listen to others carefully and respond with correct words and pronunciation. For that, one needs to get exposure to the correct pronunciation of the English word. In other words, they need to have command over basic skills of language. They are: Listening, speaking, reading and writing. In this regard, language laboratory plays vital role in developing basic skills of the language.

What is a language lab?

The language laboratory is an audio or audio-visual installation used as an aid in modern language teaching. They can be found, amongst other places, in schools, universities, and academies. Perhaps the first lab was at the University of Grenoble in 1908. In the 1950s until the 1990s, they were tape-based systems using reel to reel or (latterly) cassette. Current installations are generally multimedia PCs. The original language labs are now very outdated. They allowed a teacher to listen to and manage student audio via a hard-wired analogue tape deck based systems with 'sound booths' in fixed locations. (Wikipedia)

The Importance of Language Lab:

The development in technology and the rise of social networking has added values to teaching and learning, and Language Laboratory is the product of this technological development. It is said that English spellings are not pronounced as they are written. In rural area many students' knowledge of English came from books. They hardly get exposure to correct English. So, many students, most of the times, may not understand pronunciation of the teacher or may face difficulty in getting correct meaning. So, for learning better spoken skills, Pronunciation plays vital role in language learning. It is need of the hour for any learner who wishes to work at global place to have a good command of the language for communication purposes, with clarity and accuracy being vital for effective and efficient communication.

Brooks in his book, *Language and Language Learning: Theory and Practice* comments, "The language lab can be effective in learning in terms of the repetition. The machine can repeat in an identical fashion, what was said before and it can do without any irritation or without any fatigue. " The language laboratory is very useful for assessing students' speech. It provides students with the technical tools to get the best samples of pronunciation of the language. The electronic devices used in the laboratory will stimulate the eyes and ears of the learner to acquire the language quickly and easily. The language laboratory offers broadcasting, television programmes, web-assisted materials and videotaped off-air recordings in the target language. In short, a learner can get the experience of having interaction with native speakers through the laboratory. Hence, the language laboratory has become the need of the hour in any language learning process for communication. (D. David Wilson and Dr. V. Thayalan)

Language teaching today uses different kinds of technological tools to improve the classroom teaching. The use of language laboratory not only involves participants at a time but also makes them independent to come to a possible answer. So, the laboratory not only gives exposure to listening skills but also focus on speaking skills to. Because, in language laboratory, the learners can listen to them and learn new words or expressions used by the speakers. The learners can also use the recording facility to record their own speech and listen to them.

The Role of the Language Lab:

Traditional classrooms were teacher centred and used to give importance to rote learning. In other words, it focused only on grammatical competence and ignored communicative competence. So, it is the need of the hour to give learners to exploit language more than the teacher.

The learners hardly get an opportunity to speak and listen to English outside the classroom. So, the language lab is the place where they can listen and speak with correct pronunciation or can come to know how the correct pronunciation is. In the language lab the learners can do conversation, can record their conversation which cannot be possible in the regular classroom. Teacher can give the learners tasks. For example, paired activities involving one student describing his or her daily routine to another student can be better accomplished in the language laboratory than in the classroom. After the activity of the learners, the teacher can play daily routine clip from which the learners can understand and can come to know their mistakes and can correct them. Another task is of Telephone conversations. In this task, the teacher can give them different situations to speak to one another or ask them to record their conversations and can compare with the language lab software conversations for better improvement. The language laboratory can be used to develop reading skills as it provides readymade material in the form of books and digital format too. The learners can be asked to do silent reading and loud reading. Not only this, they can be asked to write on given topic. The laboratory provided various situational topics; those can be used to develop writing skills of the learners.

Conclusion

To sum up I would say that the language laboratory is a very useful tool for practice and improves listening skills and speaking skills. It gives a facility which lets the learners to listen to correct use of sounds, vowels from which they can learn correct pronunciation. And, one more thing, the language laboratory is most of the time learner centred, learners do not need a teacher all the time.

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A View On Digital Marketing

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Introduction

Digital Marketing is an umbrella term for the concentrated, visible and reciprocal advertising of merchandise or offerings the use of virtual technology to attain and convert leads into clients. The Digital Marketing has surfaced as the essential direction of movement of enterprise homes and they're striving for every unmarried innovation which may be likely delivered with inside the present day enterprise in order to maximize the sales of enterprise house. Digital Marketing may be described as "An try as a cyclic exercise carried out through a commercial enterprise which entails the evaluation of desires of customers, that's escorted along a fabricate method as consistent with the examine wishes of clients from public, which besides extends domain to the prospect pricing and have a look at approximately the handy location wherein manufactured from a provider can be reserved for trade, but the terminal division of the process of this exercise is ready tracking the launched satisfaction after intake of the bought product or a provider and the obligatory component on this cyclic exercise is every component consist of use of present day communicate gadgets from records and communicate era to be had until date". The potentiality of digital marketing concede geophysical barriers to evanesce making all consumers and businesses on earth possible customers and purveyors. It is studies for its potentiality to empower business to speak and form a transaction anywhere and anytime.

Digital Marketing

The Digital Marketing enterprise has delivered numerous virtual advertising channels which enables entrepreneurs goal the proper target market and appeal to them toward the services or products being merchandised. Digital marketing is that the act of fostering and selling products and services by clouting online marketing manoeuvre like social public marketing, search marketing, and e-marketing. Digital Marketing is habitually mentioned as Online Marketing, Internet Marketing, and Web Marketing. It is that this growth in virtual advertising that necessitates the want for a brand to create a strong on-line presence and undertaking an photograph in tandem with the platform getting used in addition to their imaginative and visionary and task. Consequently, it's a far critical to capture now no longer simply what virtual advertising can provide your logo or commercial enterprise however additionally the scope of numerous virtual advertising channels and the way great you may make use of those channels of ostensible commercializing. For a virtual commercializing marketing drive to be rock strong and carry out in reckoning to contemplate, it's miles pivotal with a impetus to realize the virtual advertising channels through which your brand or commercial enterprise wishes to be marketed; for now no longer each channel or virtual advertising platform is applicable for corporations and types throughout industries and markets.

Channels

Email Marketing

Email advertising and marketing, because the call suggests, is a virtual advertising and marketing channel that is used to marketplace manufacturers and organizations thru emails. While e mail advertising and marketing runs the threat of emails stepping into the Spam folder, it's far nevertheless a effective way of growing visibility of your logo or business. Email advertising and marketing is used now no longer simply as a way of logo awareness, however additionally to generate leads, spotlight product offers, ship out newsletters, and so on.

Search Engine Marketing

Search Engine Marketing or SEM covers the floor search engine marketing ignores, paid visitors from search engines like google like google and yahoo. With SEM you buy commercial area that looks on a user's SERP. The maximum not unusual place paid seek platform is Google AdWords. Next, is Bing Ads. The seek engine fees a marketer a predetermined quantity to show an commercial in quite a number of locations on a SERP generated from precise key phrases or phrases. One instance of SEM is pay-per-click marketing and marketing or PPC. PPC refers to a virtual advertising approach in which search engines like google like google and yahoo fee a employer every time their commercial is clicked. Social media systems started out adopting PPC marketing and marketing in latest months. These advertisements display up with inside the news

feeds of a employer's goal audience. This machine is a awesome instance of ways the specific forms of virtual advertising bleed into every different to shape a entire virtual advertising strategy. In this instance, SEM overlaps with social media advertising.

Affiliate Marketing

Affiliate advertising and marketing refers back to the technique of deciding to buy conversions. Think of it like hiring a income individual for your product or service. That associate earns a commission. You decide the price for associate advertising and marketing. You handiest pay for conversions. This method there's no in advance price to associate advertising and marketing. Many bloggers or e-trade web sites use associate advertising and marketing. When you select to apply associate advertising and marketing make sure that each one of your phrases and limitations are discussed beforehand. The associate represents your brand, so that you need them to hold your brand's message near to them. Think approximately the types of phrases you need the associate to apply. Of course, you want to make the deal work for the associate, too.

Influencer Marketing

Influencer advertising and marketing is the various more moderen kinds of virtual advertising and marketing. Influencer advertising and marketing makes use of human beings with an full-size on-line attain taken into consideration professionals via way of means of your goal marketplace to power visitors and sales. Influencer advertising and marketing is famous on social media channels like Instagram and Snap chat. Companies hire Instagramers with big followings to sell their emblem via way of means of posting one or greater pix with the product.

Companies now interact in Instagram or Snap chat "takeovers" wherein the employed have an effect on controls the company's social media platform for a given quantity of time, most customarily a day. These social media takeovers power the influencer's following on your social media channels increasing your new fans and unique views. Always make certain to do your studies on an influencer earlier than you make a decision to do enterprise with them. You would possibly need to confirm their Google analytics and make certain their following proves valid and now no longer complete of faux accounts.

Social Media Marketing

One of the maximum famous varieties of virtual advertising and marketing is social media advertising and marketing. The upward push of Face book, Twitter, LinkedIn, Instagram, YouTube and lots of different structures has created a burgeoning market where organizations can hook up with audiences. As new structures have regarded and evolved, every gives unique blessings manufacturers can use to attain one-of-a-kind markets. B2B organizations can gain from the usage of LinkedIn, while B2C organizations can pick out from a number of structures, relying on their target target market possibilities and the types of content material they are able to produce.

PPC (Pay Per Click)

Search, additionally called PPC, is the control of paid advertisements withinside the seek effects of a seek engine. These paid advertisements are commonly placed above, or to the proper of the 'organic' seek effects and may be pretty value effective. Paying in keeping with click on manner you simplest pay while a potential consumer clicks in your ad. You can manage your value through placing a day by day budget.

Online Advertising

Online marketing and marketing differs from PPC in which you are marketing and marketing on different peoples' websites. For instance, you can also additionally need to shop for banner area on a particular internet site, and you will pay the internet site proprietor both primarily based totally on the wide variety of impressions, or the wide variety of clicks the ad receives.

IMPORTANCE

- You can without difficulty plan a successful on line advertising strategy inside your price range through the use of virtual advertising that gives an cheaper method in evaluation to different marketing and marketing channels such as radio, TV and more. A well-deliberate and well-managed virtual advertising campaign can attain a large target target market at a decrease value than the conventional advertising methods.
- Reach several potentialities via way of means of switching to a virtual advertising campaign inside a small investment. Be observed in which your audiences are seeking out you. You will note long time outcomes via way of means of the use of virtual advertising.

- Digital advertising offers you a risk to create attractive campaigns the usage of different forms of media. These campaigns can cross viral on social platforms, passing on from one individual to another, subsequently gaining social currency.
- Brand constructing is what each commercial enterprise attempts to perform and virtual marketing facilitates broaden your logo through selling it on numerous platforms, the extra viral your logo goes, the extra popularity your logo will earn with inside the eyes of search engines like google like google and yahoo in addition to users.

CONCLUSION

The essential motive of statistics series become to observe the significance of virtual advertising with inside the new era. What are the diverse troubles confronted with the aid of using the Digital advertising. It additionally confirmed how the position of virtual advertising helped in improvement of India. "The position of implicit or virtual advertising play expository stance in enterprise for development. Because it's have much less time and much less quantity do marketing and marketing thru world. And additionally if any adjustments befell in product we must alternate without problems and it create greater consciousness in place of conventional advertising .So it play essential element in product consciousness (i.e. in particular in New product introducing).In this virtual advertising we must use so many kinds tools .so we lot of selections in virtual advertising.

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Share Repurchase in India: An Accounting Stance

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Introduction

Recently, the Securities and Exchange Board of India (SEBI) denied permission for large size share buyback offers of a couple of major companies on the basis of ratio of the aggregate of post-buyback debts owed by the companies (at consolidated level) after buy-back would be more than twice their paid-up capital and free reserves. Buy-back process enables a company to purchase its shares from its shareholders, generally at a minimum of the prevailing market price, thereby reducing its outstanding shares in the market, which increases the effective percentage of shareholding for the remaining shareholders. A buy-back process involves an offer to the shareholders to tender a portion of their shares within a certain time frame and at a specified price. Share buy-back is considered to be a tax-efficient mean of distributing the company's resources amongst the shareholders. Share buy backs by listed companies are exempt from buy-back tax (BBT) and there is no capital gains tax in the hands of, even large, shareholders in case shares are held for more than 1 year and the buy-back is routed through a stock exchange where Securities Transaction Tax has been paid. On the other hand, unlisted companies have to pay BBT on the "net amount distributed" (i.e., after reducing the amount received by the company for the issue of such shares), while the amount received is exempt in hands of the shareholders. Given that SEBI has denied permission to recent share buy-back schemes, this article takes a closer look at the regulatory and accounting compliances around share buy-backs.

Requirements of Companies Act, 2013

Companies Act requires the share buy-back to be funded from free reserves, securities premium, proceeds from any shares or other specified securities (not of the kind to be bought back). The buy-back should not exceed 25% of the aggregate of the paid-up capital and free reserves held by the company, subject to authorization by a special resolution in the general meeting. In case of equity shares, the reference to 25% should be construed with respect to its total paid-up equity capital in that financial year. In case the buy-back does not exceed 10% of the total paid-up equity capital and free reserves of the company, there is no requirement of a special resolution in the general meeting; authorization by a board resolution will suffice. The buy-back needs to be authorized by the articles of association. After buy-back, the debt-equity ratio of the company should not be more than 2:1. No offer of buy-back should be made by a company within a period of one year from the date of the closure of the preceding offer of buy-back. The buy-back should be completed within a period of one year from the date of passing of the special resolution or board resolution, as the case may be. Section 68(7) of the Companies Act, 2013 specifies that a company should extinguish and physically destroy shares bought back within 7 days of completion of the buy-back.

Securities and Exchange Board of India (Buy-Back of Securities) Regulations, 2018

Repealing the Securities and Exchange Board of India (Buy-Back of Securities) Regulations, 1998, SEBI notified new Securities and Exchange Board of India (Buy-Back of Securities) Regulations, 2018 in September 2018. The 2018 Regulations have been brought in to simplify the language, remove inconsistencies and update the references to the new Companies Act, 2013 which came into force in April 2014. For example, the explanation for 'free reserves' is added in line with Companies Act, 2013 as a part of the 2018 Regulations. Separate provisions are framed explaining the disclosures, filing requirements and timelines for public announcement for buy-back through tender offer, buy-back through stock exchange and buy-back through book building. As per the new

regulations, buyback period is defined as the time between date of authorisation for buyback by a company's board of directors and the date on which the payment is made to shareholders who have accepted the offer. One of the key changes is that a company authorised to do the buyback of shares, will have to make a public announcement within two working days from the date of declaration of results of the postal ballot for special resolution/board of directors. A company can undertake buyback of shares out of its free reserves and securities premium account, among others. However, buybacks cannot be made out of the proceeds of an earlier issue of the same kind of shares or same kind of other specified securities. Free reserves include securities premium account. Every buy-back must be completed within a period of one year from the date of passing of the special resolution at general meeting, or the resolution passed by the board of directors of the company, as the case may be.

Ind AS Accounting

Since all most of the listed companies (other than banks and smaller NBFCs) are now Ind AS-compliant, Ind AS, we look at the Ind AS accounting aspects of share buy-back. Ind AS 32 Financial Instruments: Presentation contains certain requirements dealing with transactions with equity share holders. Ind AS 32 paragraph AG 36 states the following: An entity's own equity instruments are not recognised as a financial asset regardless of the reason for which they are reacquired. Paragraph 33 requires an entity that reacquires its own equity instruments to deduct those equity instruments from equity. However, when an entity holds its own equity on behalf of others, eg a financial institution holding its own equity on behalf of a client, there is an agency relationship and as a result those holdings are not included in the entity's balance sheet. Para AG 36 to Ind-AS 32 requires an entity's own equity instruments not to be recognized as a financial asset regardless of the reason for which they are reacquired. An entity that reacquires its own equity instruments needs to deduct those equity instruments from equity. However, when an entity holds its own equity on behalf of others, e.g., a bank holding its own equity on behalf of a client who has pledged it to the bank, there is an agency relationship and as a result those holdings are not included in the bank's balance sheet.

Accounting for transaction costs incidental to share buyback scheme

A company also incurs various incidental costs for the purpose of share buy-back schemes. Ind AS 32 paragraph 37 states the following: An entity typically incurs various costs in issuing or acquiring its own equity instruments. Those costs might include registration and other regulatory fees, amounts paid to legal, accounting and other professional advisers, printing costs and stamp duties. The transaction costs of an equity transaction are accounted for as a deduction from equity (net of any related income tax benefit) to the extent they are incremental costs directly attributable to the equity transaction that otherwise would have been avoided. The costs of an equity transaction that is abandoned are recognised as an expense. Incremental directly attributable costs incurred in successfully buying back an entity's own equity instruments may include transaction costs, regulatory fees, amounts paid to regulatory, legal, accounting and other professional advisers, printing costs, stamp duties and so on. The amount of transaction costs accounted for as a deduction from equity in the period is disclosed in line with the requirements of Ind AS 1 Presentation of Financial Statements. Ind AS 32 does not specify where in equity the transaction costs should be recognised and this may depend on local legal requirements. In practice companies have been charging these costs either directly to securities premium account (since it is one of the permissible utilization under section 52) or to retained earnings. Transaction costs that are incremental and directly attributable to the share buy-back i.e. they would have been avoided if the share buy back scheme would not have been there.

How a Share Repurchase Affects Financial Statements

A share repurchase has an obvious effect on a company's income statement, as it reduces outstanding shares, but share repurchases can also affect other financial statements. On the balance sheet, a share repurchase would reduce the company's cash holdings—and consequently its total asset base—by the amount of cash expended in the buyback. The buyback will simultaneously shrink shareholders' equity on the liabilities side by the same amount. As a result, performance metrics such as return on assets (ROA) and return on equity (ROE) typically improve subsequent to a share buyback. Companies generally specify the amount spent on share repurchases in their quarterly earnings reports. You also may get the amount spent on share buybacks from the statement of cash flows in the financing activities section, and from the statement of changes in equity or statement of retained earnings.

Conclusion

When companies pursue share buyback, they will essentially reduce the assets on their balance sheets and increase their return on assets. In the current environment of fast – changing regulations, it is essential a company carefully evaluates the regulatory requirements. Essentially the overall difference will be to treat expenses related to such buy back and Treasury shares related accounting provisions which talks about not only to cancel these shares but to sale/ purchase and realize some gain as well over own shares. Hence as and when it is allowed to trade in own shares then one has to look at these provisions only for an accounting perspective.

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Gender Discrimination in Early America as Portrayed in Toni Morrison's Novel *A Mercy* Prashant U. Gambhire

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Abstract

Toni Morrison is the first African-American woman who won the Nobel Prize for literature. Morrison has always been yelling and fighting on the miserable position of the black people, especially the black women. Her ninth novel *A Mercy* (2008) transcends the race and sex, and puts concern on all the people under the slavery system. Under the oppression of slavery, people suffer not only physical affliction but also spiritual torture. People under slavery are discriminated by the society not only based on their skin color but also on gender. Toni Morrison, by setting her present novel in 1680 and 1690s that is the early America or also known as "New World", highlighted the fact that women regardless of their race and class were the most suffers than their male counter selves. Discrimination based on gender is so deeply rooted in all societies, in all times and at various regions. Though the novel is written from a black feminist perspective, it offers a thoughtful meditation on the complexity and pain of black womanhood and motherhood under slavery. The present research paper attempts to unearth societal prejudices against women in early America as depicted in Toni Morrison's novel *A Mercy*.

Key words: - Gender, Patriarchy, Race, Colonization, New World, etc.

Toni Morrison's novel *A Mercy* is a celebrated body of work exploring the African American experiences of slavery and freedom. It is regarded as one of the "best books of 2008" by the New York Times critics. One of the scholars Jennifer McKeown (2008) in her review of the novel talks about what women were suffering in the slavery, and said that "all women in this world are at the mercy of the men in their lives; without them, these women are as good as lost" (p. 2). Toni Morrison rightly states that "To be a female in slavery is to be an open wound that cannot heal. Even if scars form, the festering is ever below" (p. 155). The term 'gender' is broadly defined as 'what is feminine and what is masculine in identity and behavior'. According to M.H. Abrams (1999), "The prevailing concepts of gender—were largely, if not entirely, cultural constructs that were generated by the pervasive patriarchal biases of our civilization" (p. 89). So the gender discrimination reflects the biased and prejudiced attitude of one gender toward opposite sex. This paper attempts to study how men dominate and humiliate women even in early America when the race was not so much important. The novel is set in American of 17th century when people of different colors live both in physical and spiritual enslavement. The place of the novel is the farm of Jacob Vaark where Native American, black child, orphan and indentured servants are united that has little to do with skin color. Jacob Vaark is an Anglo-Dutch trader by profession as well as a lender and a farmer. The story is told in the young slave girl Florens' tone with flashbacks and time-shifts. Florens was abandoned by her mother when she was eight years. Florens was sold to Jacob Vaark who is a different landholder from D'Ortega, a trader, who abuses the slaves. Florens' mother begs Jacob to take her daughter away because the girl is in danger of falling into worse hands. As a slave, her mother has no ability to protect her adolescent daughter. As soon as Florens' mother sees Jacob, she recognizes the difference of Jacob from her owner. She chooses to offer her daughter to the stranger farmer, Jacob. However, Florens takes her mother's action as abandonment. The scene that her mother chooses her little brother and gives up her lingers in her mind again and again. In her dreams, what she saw first is always that her mother has her little brother in arm. Though in the dreams her mother wants to tell her something, she looks away from her mother and refuses to hear her mother's explanation. Another woman character is Rebekka who is not an African or Native American. She was born in England, where she has lived with her devotedly religious but cold and unloving

parents. In England, Rebekka has begun a training program to become a domestic servant, but dropped out because the head of the program is sexually harassing her. Rebekka's father has sent her to marry Jacob in order to relieve him of the burden of paying for her upkeep. Jacob has paid for Rebekah's passage and has married her, straight off the ship that has brought her across the ocean. Rebekah's father is a British citizen, he has sent her to the New World just to get rid of her because he does not love her and he faces some financial problems. In fact, Rebekah is always curious about everything and is eager to ask questions to know more. Her father never likes that. He offers her to an unknown man to take her away. The bargain goes on the following way:

Already sixteen, she knew her father would have shipped her off to anyone who would book her passage and relieve him of feeding her. A waterman, he was privy to all sorts of news from colleagues, and when a crewman passed along an inquiry from a first mate—a search for a healthy, chaste wife willing to travel abroad—he was quick to offer his eldest girl. The stubborn one, the one with too many questions and a rebellious mouth. Rebekka's mother objected to the "sale"—she called it that because the prospective groom had stressed "reimbursement" for clothing, expenses and a few supplies—not for love or need of her daughter, but because the husband-to be was a heathen living among savages (pp. 69-70).

Rebekka's migration involves a six-week transatlantic passage on board. Rebekka's journey highlight the degrading and dehumanizing treatment of lower-class European women in the seventeenth century, Rebekka is traumatized by the memory of the water, the constricted space, the darkness and unhygienic conditions on her voyage to America. Throughout the journey, she is forced to defecate in front of strangers. Of course, Rebekka is not an African captive and the *Angelus* is not a slave ship transporting human cargo from Africa to the Americas. At the same time, the novel *A Mercy* never allows to forget the essential differences in the experiences of poor white female migrants and enslaved people of African descent. Rebekka has not been brutally kidnapped and put in chains. Unlike enslaved individuals violently taken to an unknown location, Rebekka knows, however vaguely, the destination of her journey. Her future is not that of a slave reduced to an object but that of a slave mistress. The fate of other women is unknown, but degrading and inhuman certainly. As

"Rebekka recalled how each of them, including the ten-year-old, lifted her little finger and angled it out. Remembered also how ocean slap exaggerated the silence. Perhaps they were blotting out, as she was, what they fled and what might await them. Wretched as was the space they crouched in, it was nevertheless blank where a past did not haunt nor a future beckon. Women of and for men, in those few moments they were neither." (pp. 80-81)

When Rebekka suffers from smallpox, the young black woman Florens embarks on a dangerous journey to find a free black man simply called the Blacksmith, who knows how to cure Rebekka's illness. At nightfall, Florens comes into a small Puritan village. The scene is set in 1690 when anti-black laws had already been passed. It is also the period of witchcraft accusations in New England. The Puritan villagers in *A Mercy* are described as being full of fear, hate, distrust and prejudice. They accuse Jane, a white girl suffering from a squint, of being a demon, primarily because of Jane's physical handicap. When the Puritans discover Florens, however, they no longer focus on Jane but turn on the black woman. Based on their social status as free white individuals, the villagers judge from a position of supposed moral and racial superiority and identify Florens as a dangerous being. In the Puritans' view, it is Florens's skin color, her blackness, which makes her the devil's servant. However, a letter written by Rebekka provides information on Florens and her journey. Afraid to touch her, the Puritans order Florens to take off all her clothes and start to examine her feet, teeth and private parts. Based on racial prejudice and ignorance, the

Puritans regard Florens as an object, a thing, examining her “across distances without recognition” (p. 186).

The scene in the Puritan village evokes the slave market, i.e., the fate of future generations of African Americans treated as chattel in a racist nation. It anticipates a society in which the concepts of slavery and race are closely intertwined and blackness is equated with inferiority. While Florens manages to escape from the Puritans with Jane’s help, she will never forget the racialized gaze of her white interrogators, the eyes of the villagers which “stare and decide if [her] navel is in the right place if [her] knees bend backward like the forelegs of a dog” (p. 109). Reduced to a thing, she begins to believe in her supposed inferiority, to feel like “a thing apart” (p. 109).

A Mercy not only explores the complexity of black-white relations in early North America but also addresses intra-black tensions, conflicts and violence through Florens. Instead of foregrounding the healing power of love between a black woman and a black man, Morrison constructs Florens’s reunion with the Blacksmith as a nightmare. Florens filled with jealousy, attacks Malaik, an orphan adopted by her lover. Without listening to her story, the Blacksmith pushes Florens away, hits her and accuses her of being “a slave by choice” (p. 135). Thus, Morrison shows that black female captives not only suffered from the same forms of white violence as their fellow male slaves; they were also subjected to (sexual) abuse by black men. The gender discrimination is so deeply rooted that the women of any race, class and also within the race were of secondary position. They were always exploited and abused in a male dominated world which becomes a universal phenomenon until a large awareness and struggle is carried for equality in all spheres of life in the modern times.

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Concept of Sustainable Development and Judicial Response in India.

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Abstract: -

Sustainable development is the development that meets the needs of the present without compromising the ability of the future generations to meet their own needs. Development involves a progressive transformation of economy and society. sustainable development does not imply absolute limits to growth and it is not a new name of environmental protection but it's a new concept of economic growth. it is a process of change, in which economic and fiscal policies, trade and foreign policies all aim to induce development paths that are economically, socially and ecologically sustainable.

This paper tries to discuss the concept of sustainable development and the provisions of Indian legislation which are in relevance of the concept of sustainable development.

Key words: - Sustainable Development, Environmental Protection, Ecological sustainability.

Introduction: -The term sustainable development was used at the time of Cocoyoc Declaration on Environment and development in the early 1970s. Since then, it has become the trademark of international organizations dedicated to achieving environmentally benign or beneficial development. Sustainable development means an integration of developmental and environmental imperatives. To be sustainable, development must possess both economic and ecological sustainability. The environment and development are means not ends in themselves. The idea of sustainable development is that for the benefit of future generations, present generations should be modest in their exploitation of natural resources. The whole concept is based on the idea that natural resources are not the fruits of labour of present generations that's why the resources can only be exploited with adequate consideration of the rights of future generations. In India like any other developing country, there has been environmental degradation due to over exploitation of resources, industrialization, urbanization and population explosion. India has always been in the forefront of taking all steps for the protection and improvement of the environment and aiming at sustainable development. since man is the creator and moulder of his environment his conduct can be regulated by the instrument of Law.

Concept of sustainable Development

The term sustainable development was used at the time of Cocoyoc Declaration on Environment and Development in the early 1970. The concept of sustainable development further received impetus in the Stockholm Declaration on Human Environment resulting from the United Nation Conference on Human Environment in 1972. Principle first of the declaration provides that man has the fundamental right to freedom, equality and adequate conditions of life in an environment of quality that permits a life of dignity and wellbeing and he bears the responsibility to protect and improve the environment for present and future generations. The concept of sustainable development received further boost in the world conservation strategy which was prepared in 1980 with support of United Nations Environment Program and world wild Fund.

The Brundtland Report

The term sustainable Development was brought into common use by the world commission on Environment and Development (the Brundtland Commission). The Brundtland Report has given a very comprehensive definition of sustainable development that, Sustainable development is development that meets the needs of present without compromising the ability of the future generations to meet their own needs. The concept of sustainable development contains within it two key concepts first is the concept of needs. In particular the essential needs of the world's poor to which overriding priority should be given and second is the idea of limitations imposed by the state of technology and social organizations on the environments ability to meet present and future needs. sustainable development is a new concept of economic growth. It is a process of change. in which economic and fiscal policies, trade and foreign policies, energy, agricultural and industrial policies all aim to induce development paths that are economically, socially and ecologically sustainable. The United Nations conference on Environmental and development was held in June 1992 popularly known as Earth Summit this conference put the world on the path of sustainable development. Which aim at meeting the needs of the present without compromising the ability of future generations to meet their own needs. In principle 8 of the declaration, it is provided that in order to achieve sustainable development and a

higher quality of life for all people state should reduce and eliminate the unsustainable patterns of production and consumption.

Salient principles of sustainable development

Some of the salient principles of "sustainable development "as culled from Brundtland Report and other international documents are as under.

- 1) Intergenerational Equity
- 2) Use and conservation of natural resources
- 3) Environmental protection
- 4)The Precautionary Principle
- 5) The Polluter pays Principle
- 6) Obligation to assist and co-operate
- 7) Eradication of poverty
- 8) Financial assistance to developing countries

Intergenerational Equity

The central theme of the theory of Intergenerational Equity is the right of every generation of human beings to benefit from the cultural and natural inheritance of the past generations as well as obligation to preserve such heritage for future generations. Intergenerational Equity requires conserving the diversity and quality of biological resources, and of renewable resources such as forest.

Use and conservation of natural resources

In order to meet the needs on sustainable basis, it is absolutely necessary to use the Earth's natural resources carefully and the natural resource base must be conserved and enhanced.it is part of our moral obligation to other living beings and future generations. The resources must be conserved and enhanced. It is part of our moral obligation to other living creatures and future generations.

Environmental protection

The protection of the environment is an essential part of sustainable development. Without adequate environment protection development is undermined.

The Precautionary Principle

The main purpose of the precautionary principle is to ensure that a substance or activity posing a threat to the environment is prevented from adversely affecting the environment. The words substance and activities imply the substances and activities introduced as a result of human intervention.

In Vellore citizens welfare forum v. Union of India, (1995) 5 SCC 647

this case is popularly known as Tamil Nadu Tanneries case. The Supreme court expressed the view that the precautionary principle and the polluter pays principles are essential features of sustainable development and they have been accepted as part of the law of land. The court had no hesitation in holding that the precautionary and the polluter pays principle are part of environmental law of the country.

The Polluter pays principle

The polluter pays principle as interpreted by the supreme court of India means that the absolute liability for harm to environment extends not only to compensate the victims of pollution but also the cost of restoring the environmental degradation. Thus, it includes environmental cost as well as direct cost to people or property.

Obligation to assist and co-operate

The environmental problem is not the problem of an individual or that of the country but it is a global problem and it can be tackled only with the assistance and cooperation of all. Principle 27 of the Rio declaration expects the people and the states to cooperate in good faith and in the spirit of partnership in the further development of the international law in the field of sustainable development.

Eradication of poverty

The sustainable development has to address the problem of the large number of people who live in absolute poverty and who cannot satisfy even their basic needs. The Brundtland Report has rightly pointed out that poverty reduces people's capacity to use resources in the sustainable manner and hence it intensifies the pressure on the environment.

Financial Assistance to developing countries

Developing countries face poverty as the worst pollutant. The people in the developing countries strain their natural resources and over exploit them to meet their basic needs. The developing countries do not have the financial resources and modern technology to follow the path pf development which is

sustainable. The financial assistance and transfer of technology from the developed nations to the developing nations is necessary if we want to achieve the sustainable development. **Sustainable Development and Judicial response in India**. In India, like any other developing country there has been environmental degradation due to over exploitation of natural resources industrialization and urbanization and population explosion. On the wake of the 21st century it is neither feasible nor practicable to have negative approach to the development process of the country but that does not mean, without any consideration for the environment. **R.L & E Kendra, Deharadun v. State of U.P AIR 1985 S.C.652** Popularly known as **Doon Valley case** was the first case of its kind in the country involving issues relating to environment and ecological balance. In this case mining which denuded the Massoorie Hills of trees and forest cover and accelerated soil erosion resulting in landslides and blockage of underground water channels which fed many rivers and springs in the river valley. The court ordered the closure of number of limestone quarries. The court observed that this would undoubtedly cause hardship to the people, but it is a price that has to be paid for protecting and safeguarding the right of the people to live in healthy environment with minimal disturbance of ecological balance. **Kinkri Devi v. State AIR 1988 H.P 4a** public interest litigation was filed in which it was alleged that the unscientific and uncontrolled quarrying of the limestone has caused damage to the Shivalik hill and posing danger to the ecology, environment and inhabitants of the area. The Himachal Pradesh High court relied on the Doon Valley case and pointed out that if the just balance is not maintained between environment and development by proper tapping of natural resource, there will be violation of articles 14, 21, 48-A and 51-A(g) of the constitution. **A.R.C Cement Ltd v. State of U.P 1993 supp. (1) SCC 57** in this case supreme court did not permitted the cement factory to run in the Doon Valley area where the mining operation had been stopped. **M.C Mehata v. Union of India (1992) 3 SCC 256** the Supreme Court of issued directions for stopping mechanical stone crushing activities in and around Delhi, Faridabad and Ballabhgarh complexes. However, keeping in view, the sustainable development, directions were also issued for allotment of sites in the new crushing zone set up at village Pali in the state of Haryana.

Conclusion

The process of Sustainable Development must be participatory in order to be successful and sustainable. The argument, which connotes the systems theory, is premised on the notion that Sustainable Development cannot happen through the efforts of only one person or organization but it is a collective responsibility all, which requires the participation of all people of the state. Sustainable Development is built on the principle of participation, which requires positive attitudes of the people so that meaningful progress can be achieved with responsibility and accountability for stability.

The ultimate aim of Sustainable Development is to achieve a balance among environmental, economic and social sustainability, by making these the pillars on which Sustainable Development rest. Sustainability of society can be said to depend on the availability of proper health systems, peace and respect for human rights, decent work, gender equality, quality education and rule of law. Sustainability of economy, on the other hand, depends on adoption of appropriate production, distribution and consumption while sustainability of the environment is driven by proper physical planning and land use as well as conservation of ecology or biodiversity.

All people must be aware and acknowledge that their survival and the survival of the future generation depend on responsible behaviour of consumption of all-natural resources and environment protection and progressive social values.

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Benefits of Yoga

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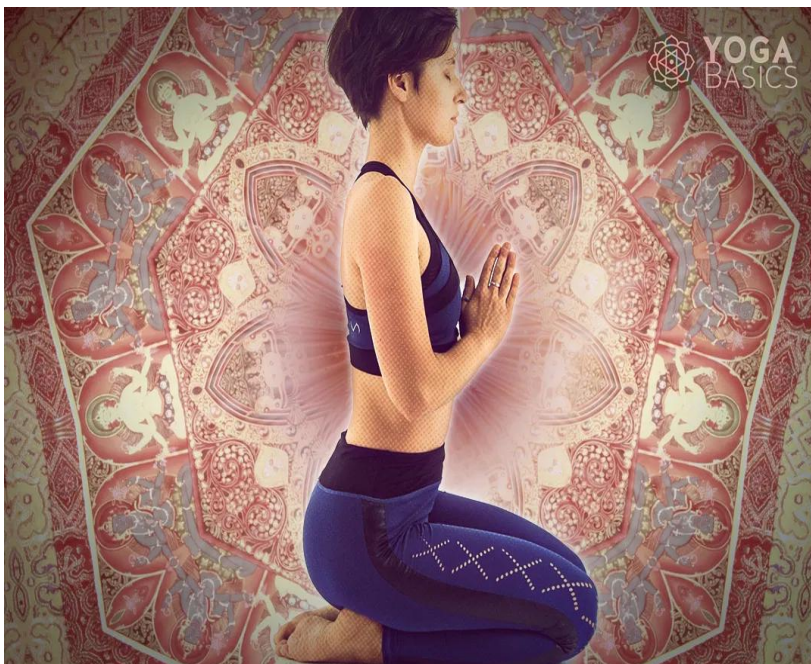
History of Yoga :

Yoga's history has many places of obscurity and uncertainty due to its oral transmission of sacred texts and the secretive nature of its teachings. The early writings on yoga were transcribed on fragile palm leaves that were easily damaged, destroyed or lost. The development of yoga can be traced back to over 5,000 years ago, but some researchers think that yoga may be up to 10,000 years old. Yoga's long rich history can be divided into four main periods of innovation, practice and development.

Pre-Classical Yoga The beginnings of Yoga were developed by the Indus-Sarasvati civilization in Northern India over 5,000 years ago. The word yoga was first mentioned in the oldest sacred texts, the Rig Veda. The Vedas were a collection of texts containing songs, mantras and rituals to be used by Brahmins, the Vedic priests. Yoga was slowly refined and developed by the Brahmins and Rishis (mystic seers) who documented their practices and beliefs in the Upanishads, a huge work containing over 200 scriptures. The most renowned of the Yogic scriptures is the Bhagavad-Gîtâ, composed around 500 B.C.E. The Upanishads took the idea of ritual sacrifice from the Vedas and internalized it, teaching the sacrifice of the ego through self-knowledge, action (karma yoga) and wisdom (jnana yoga).

Classical Yoga: In the pre-classical stage, yoga was a mishmash of various ideas, beliefs and techniques that often conflicted and contradicted each other. The Classical period is defined by Patanjali's Yoga-Sûtras, the first systematic presentation of yoga. Written some time in the second century, this text describes the path of Raja Yoga, often called "classical yoga". Patanjali organized the practice of yoga into an "eight limbed path" containing the steps and stages towards obtaining Samadhi or enlightenment. Patanjali is often considered the father of yoga and his Yoga-Sûtras still strongly influence most styles of modern yoga.

Post-Classical Yoga: A few centuries after Patanjali, yoga masters created a system of practices designed to rejuvenate the body and prolong life. They rejected the teachings of the ancient Vedas and embraced the physical body as the means to achieve enlightenment. They developed Tantra Yoga, with radical techniques to cleanse the body and mind to break the knots that bind us to our physical existence. This exploration of these physical-spiritual connections and body centered practices led to the creation of what we primarily think of yoga in the West: Hatha Yoga.



Modern Period : In the late 1800s and early 1900s, yoga masters began to travel to the West, attracting attention and followers. This began at the 1893 Parliament of Religions in Chicago, when Swami Vivekananda wowed the attendees with his lectures on yoga and the universality of the world's religions. In the 1920s and 30s, Hatha Yoga was strongly promoted in India with the work of T. Krishnamacharya, Swami Sivananda and other yogis practicing Hatha Yoga. Krishnamacharya opened the first Hatha Yoga school in Mysore in 1924 and in 1936 Sivananda founded the Divine

Life Society on the banks of the holy Ganges River. Krishnamacharya produced three students that

would continue his legacy and increase the popularity of Hatha Yoga: B.K.S. Iyengar, T.K.V. Desikachar and Pattabhi Jois. Sivananda was a prolific author, writing over 200 books on yoga, and established nine ashrams and numerous yoga centers located around the world.

The importation of yoga to the West still continued at a trickle until Indra Devi opened her yoga studio in Hollywood in 1947. Since then, many more western and Indian teachers have become pioneers, popularizing hatha yoga and gaining millions of followers. Hatha Yoga now has many different schools or styles, all emphasizing the many different aspects of the practice

Tantra Yoga : Tantra Yoga is a relatively modern revamping of the ancient Vedic and yogic spiritual practices. The Tantrics developed innovative yet unorthodox techniques for allowing one to experience the reality of the true Self—the oneness of the entire cosmos. Instead of expanding and focusing one's awareness outwards, Tantra saw the value of the body as a tool to explore and delight in. Previously, yoga techniques were focused on the renunciation of the physical body and a conscious effort to detach from the suffering encountered in the body. Tantra instead discovered the value in the awareness and delight in the body's inner world of energy. Understanding the techniques and goals of tantra yoga is important as hatha yoga originated from this system of yoga, and tantra provides a context for the individual practices and techniques of modern yoga.

What is Tantra Yoga?

The contextual meaning of the word Tantra has changed over time when used in different yogic texts. Originally Tantra was used to mean “weave or loom,” and later was used to define “technique, device, or method.” A more current and relevant definition comes from the Kamika-Tantra.

Tantra Yoga Techniques : The energetic focus of Tantra yoga originates from the worship of Shiva and Shakti—the dynamic and static principles of the universe. The energy of Shakti (dynamic, creative, feminine) and Shiva (static, destructive, masculine) are seen as a continual play that manifests in a multitude of forms. In Tantra Yoga, the subtle bodies of energy and spirit are developed to create a bridge from the physical to the Divine. The development of energy is focused on the purification and cultivation of prana and the activation of kundalini. The physical body is used to activate energy through the practices of asana, pranayama, mudra, and shatkarma. Thus, the Tantra yogis developed the yoga postures (asana) and breathing exercises (pranayama) that are most commonly used today in Hatha Yoga. Mudras include hand gestures and an intense fusion of asana, pranayama, and bandha. Shatkarma (often referred to as kriya) are esoteric exercises and techniques to purify the body and cleanse the energy pathways.

Conclusion : Yoga Is a way of life. It should be made a mass movement to enhance the health and wellness of the people. A Tantra Yoga helps one to become a worthy citizen.

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Abundance Of Cladocerons In Nal Damyanti Sagar, District- Amravati(M.S.)- India Awate P. J.

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Abstract:

Cladocerons play an important role in the presence or absence of certain fish species and determines the population densities of zooplanktons. Zooplanktons play a significant role in transferring energy in aquatic ecosystem as primary consumers and can be used as indicators of trophic phase of a water body. Cladocerons are sufficiently large in size and can be identified easily so far the assessment of water pollution is concern. Rotifers (27.90%) and cladocera (16.76%); dominated the zooplanktons population and were followed by copepod (15.49%); protozoan (15.06%); ostracods (13.28%); worms and larvae (11.52%) Abundance in zooplanktons was in the order of Rotifer > Cladocera > Copepoda > Protozoa > Ostracoda > Worms & Larvae. Cladoceron were represented by fourteen species. Holopedium showed their dominance over all the cladocerons and their maximum number were reported at station I, III and IV. Similarly polyphemus were recorded highest at station II and III.

Key words :- Zooplankton, Cladocera, Mesotrophic, Nal Damyanti Sagar.

Introduction

Zooplanktons are attracted the attention of several workers throughout the world, as they occupy a central position in the food web of aquatic ecosystem. Availability of resources and competition would primarily determine the balance of individual species within the food web, which in turns influences the variety and proportions of the different organisms, with important implications for the over all functioning of the system, Shah and Pandit (2013). Zooplanktons are also been used as biological indicators of eutrophication, Chakraorty et.al.(1997). Berlgis and Guido (2003), made good contribution on zooplankton studies with special reference to eutrophication process of fresh water pond. Influence of physico-chemical parameter with fluctuation of zooplanktons are of great importance and basically essential for fish culture. Zooplanktons play an integral role and serve as bioindicators and it is wel suited tool for understanding water pollution status Contreas et.al,(2007). Islam (2007) in a pond of Rajshahi University, has investigated the effect of abiotic parameters and variations of zooplankton population. The zooplankton provide a direct link between primary producers and higher trophic level. Nearly all fishes depend on zooplankton at same phase of life or entire lives, Madin et.al,(2001). Cladoceron is natural group of organism which act as a key element in the fresh water food webs, Hessen et. al,(2003). Water fleas are important components of the fauna of fresh water and are particularly significant in the food web of stagnant water ecosystem, Forro, et.al,(2008). There fore the present study is under taken to evaluate population dynamics of cladocerons and the hydro biological status of Nal Damyanti Sagar.

Material And Method

Nal Damyanti Sagar is an earthen reservoir with the height 36 M and 7Km long spread area occupying the border of Amravati and Wardha district. It is a perennial dam situated 56 Km away from the district place Amravati (MS). The dam is constructed for the purpose of irrigation and drinking water supply. The Upper Wardha project is also known as 'Nal Damyanti Sagar'. It is at 780-03'-27"E longitude and 210-16'-18" N latitude. The catchment area is 4302 Sq.Km. and located at 306 MSL. To study physico-chemical and biological properties of water representative water samples were collected from five stations. Water samples were collected monthly in two liter polythene bottles between 7:00 to 9:00 AM. Abiotic components were analysed in laboratory condition and zooplanktons for identification were fix in 4% formaline,added with 5 drops of glycerine and 5% sucrose(retain eggs in their brood chamber). The method used for the estimation of physico-chemical parameters and identification of zooplankton as given by APHA(1989), Edmondson(1959) and Great lake water life photo gallery.

RESULT AND DISCUSSION

Nal Damyanti Sagar exhibited heavy bulk of cladocerons next to number of rotifers all through the period of investigation. The observed zooplanktons belongs to group protozoan, rotifer, cladoceron, copepod, ostracod and worms&larvae. Rotifers(27.95%) and Cladocerons (16.61%)

are dominant species. Which is followed by Copepods (15.51%), Protozoans (15.09%), Ostracods (13.30%) and Worms and Larvae (11.54%). Abundance of zooplankton was in order of Rotifera > Cladocera > Copepoda > Protozoa > Ostracoda > Worms & Larvae (Table-1). Amongst the cladocera Holopedium showed their dominance over all the cladocerons and their maximum number were reported at stations I,III and IV. Similarly polyphemus were recorded to be the second highest at station II and III. Station wise abundance and their annual range and mean of cladocera was in the order of station III > station I > station II > station IV > station V (Table-2). Fourteen species of cladocerons were identified and their variation in the abundance of cladocera at different sampling stations are shown in Table -3. The seasonal variation and their abundance succession was in the order summer > winter > monsoon. Among the cladocera observe ceriodaphnia, diaphanosoma, leydigia, moinodaphnia were the pollution indicator species but quantity was very meager. During study period positive correlation is observed between cladocerons and water temperature and with turbidity. Nasar and Dattamunshi (1974) observed negative correlation with these parameters. on the other hand Saunders et.al,(1999) suggested that temperature modulates the duration of egg development and this together with availability of food, can control the abundance of cladocera in winter. Similarly, most of the species observed reported to occur in alkaline water and were known to tolerate a certain range of pH variation. The present study agrees with the findings of Roff(2002); Harshman and Zera (2006) and Bell (2008). From the result shown in present study it is concluded that status of water body is mesotrophic. Pollution indicator planktons are less in number confirms that the water is safe for drinking. The large zooplankton community present in the water body forms a very good food chain as it serve as food for the fish and hence fishery activities can be accelerated and many more migratory birds can be visited in future.

Table - 1 : Numerical abundance of zooplanktons (org/l) at different stations of Nal Damyanti Sagar during 2008-2009

Sr.No.	Zooplankton	Stations					Total	%
		I	II	III	IV	V		
1	Protozoa	8542	5670	9205	7437	8468	39322	15.09
2	Rotifera	14801	13917	14654	15316	14138	72826	27.95
3	Cladocera	9646	9204	10383	7878	6185	43296	16.61
4	Copepoda	8026	9205	6480	9205	7511	40427	15.51
5	Ostracoda	8247	8395	6185	5913	5913	34653	13.30
6	Worms & Larvae	5766	6775	4345	7585	5596	30067	11.54
Total Zooplankton		55028	53166	51252	53334	47811	260591	100

Table-2: Annual range and mean values \pm s.e. of cladocerons(org/l) from different sampling stations of Nal Damyanti Sagar during 2008-2009.

S.No.	Sampling stations	Range		Mean	\pm S.E.
		Minimum	Maximum		
1	Station -1	295	957	689	69
2	Station -2	368	884	657	51
3	Station -3	295	1178	742	87
4	Station -4	221	958	563	73
5	Station -5	147	736	442	54

Table- 3: Variation in the abundance of cladocerans at different stations of Nal Damyanti Sagar during 2008-2009.						
Sr.no.	Zoo planktons	Stations				
		I	II	III	IV	V
1	Acantholeberis	+	+	+	+	-
2	Bosmina	++	+	+	+	-
3	Ceriodaphnia □	+	-	-	-	+
4	Chydorus	+	+	+++	+	+
5	Daphnia	+++	++	+	++	-
6	Diaphanosoma □	-	-	+	-	+
7	Disparalona	+	+	++	++	+
8	Graptoleberis	+	-	+	+	+
9	Holopedium	+++	++	+++	+	+
10	Leydigia □	+	+	-	+	+
11	Moinodaphnia □	-	+	-	-	+
12	Polyphemus	++	+++	+++	+	+
13	Sida crystallina	++	+++	+	+++	++
14	Simocephalus	+	++	++	++	+
(+)Denotes 500 org/l , (-) Denotes Absent, (□) Pollution indicator species						

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Geospatial Approach for Quantitative Drainage Morphometric Analysis of Sina River Basin

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Abstract:

Morphometric analysis using Geographical Information System and Remote Sensing technique has emerged as a powerful tool in recent year. Morphometric analysis includes the aspects such as linear, aerial and relief aspects of the river basin. In the present investigation various morphometric parameters of the Sina River basin are determined and computed. Sina River is tributary of Bhima River. It is flowing through Ahmednagar, Beed, Osmanabad and Solapur district of Maharashtra state. The total length of Man river is 338 km and it covers 12369 Sq.Km area. The drainage map of Sina River is extracted from Cartosat-1 Dem data and cross checked with SOI toposheets. Strahler (1964) stream ordering technique has been used in this study. The stream length, mean stream length, stream length ratio, bifurcation ratios, mean bifurcation ratio, relief ratio, drainage density, stream frequency, form factor, circulatory ratio and elongation ratio are estimated using the mathematical formula. These studies are extremely useful for planning rainwater harvesting and watershed management.

Keywords : stream order, Pour points, structural antecedents, stream segments

Introduction

Remote sensing has the capacity of getting brief perspective of extensive and remote zones and it is very useful in analysing the morphometry of the any drainage system. Remote sensing and GIS techniques have developed as an effective tool for the watershed development programmes. Morphometric is the measurement and mathematical evaluation of earth's surface, form and the dimension of the landforms. The morphometric analysis of the drainage basin and channel network plays a significant role in comprehension of the geo-hydrological nature of drainage basin and expresses the prevailing climate, geological setting, geomorphology and structural antecedents of the catchment area. The morphometric characteristics of various basins have been studied by various scientists using conventional methods (Horton, 1945; Smith, 1950; Strahler, 1964). The morphometric parameters have been used in various studies of geomorphology and surface water hydrology, such as flood characteristics, sediment yield and evolution of basin morphology. The drainage characteristics of Sina river basin have been examined with reference to linear, aerial and relief aspects.

Study Area

Sian River is flowing through Ahmednagar, Beed, Osmanabad and Solapur district of Maharashtra state. It is a seasonal river and it Left bank tributary of Bhima River. The watershed of Sina River lies in between 17°22'46" North to 19°15'38" North latitude and 74°29'48" East to 76°04'39" East longitude. It originated near Ahmednagar City. It has two chief sources one Jamgao and second is Jeur. It enters the Solapur district near Aljapur village in Karmala tahsils and falls into the Bhima near Kudal about 25 km. south of Solapur, on the Maharashtra-Karnataka boundary. The river Sina is about 100-200 meters broad and has steep banks. The bed is generally sandy but occasionally rocky. While upstream of Mohol, the river flows through a narrow valley, downstream it opens out widely to merge into the broad valley of Bhima. The total length of Man river is 338 km and it's cathment area is 12369 Sq.Km.

Methodology and Data Source

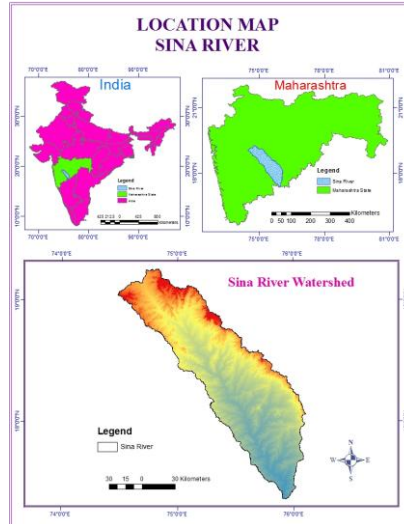
The study is based on secondary data. The drainage map of Sina River is extracted from Cartosat-1 Dem data and cross checked with SOI toposheets (1:50000 scale) No 47J/13, 47J/14, 47J/15, 47J/16, 47O/9, 47O/10, 47O/11, 47O/12, 47O/13, 47O/14, 47O/15, 47O/16, 47N/11, 47N/12, 47N/13, 47N/14, 47N/15, 47N/16. The ArcGIS software has been used to analysis the stream order of drainage basin. The order was given to each stream by following Strahler (1964) stream ordering technique. Pour points are selected to delineate the watershed boundary from the main river joining points. The stream order, stream length, mean stream length, stream length ratio, bifurcation ratios, mean bifurcation ratio, relief ratio, drainage density, stream frequency, form factor, circulatory ratio and elongation ratio are estimated using the mathematical formula with the Cartosat-1 DEM satellite images.

Results and Discussion

The drainage characteristics of Sina river basin have been examined with reference to linear, aerial and relief aspects.

A. Linear Aspect of Sina River Basin

The study of linear properties of drainage network is one dimension aspect of basin which is correlated to the composition and scale of the channel system.



The linear aspect of stream order, stream number, bifurcation ratio, stream length, etc. are analysed of Sina river basin.

Table No- 1: Stream Number, Stream Length, Bifurcation Ratio of Sina River

Stream order	Number of stream	Bifurcation ratio	Total length of stream [km]	Mean stream length	Mean stream length ratio	Log Nu	Log Lu
1	3378	5.40	4745.57	1.40	2.70	3.52	3.67
2	625	4.28	2370.80	3.79	2.26	2.79	3.37
3	146	4.86	1255.54	8.59	2.01	2.16	3.09
4	30	5	520.49	17.34	2.11	1.47	2.71
5	6	6	218.34	36.69	2.56	0.77	2.33
6	1	1	94.06	94.06	1.54	0	1.97
7	1		145.60	145.60		0	2.16
Total	4187		9350.43	2.23			

Source: Compiled By Researcher

- Stream Order (U):** There are four different system of ordering streams that are available Gravelius (1914), Horton (1945), Strahler (1952) and Schideggar (1970). Strahler's system, which is a slightly modified of Hortons system, has been followed because of its simplicity. According to Strahler's method, the Sina river's total streams are 4187 linked with 1st to 7th order. (Table No-1& Fig.No-2)
- Stream Length (Lu):** Stream length is the total length of stream segment of each of the consecutive order in the basin tends approximates a direct geometric series in which the first term is the average length of the first order. Stream length of the basin indicates surface runoff characteristics. Streams of relatively smaller lengths are characteristics of area with greater slopes.

The total stream length of Sina river basin has various orders computed with the help of SOI toposheets and Arc GIS software. The total stream length in Sina river basin is 9350.43 km. The length of stream segments is maximum for first order stream and it decreases as the stream order increases. If there is any deviation from its general behavior indicates that the terrain is characterized by high relief/moderately steep slopes, underlain by varying lithology and probable uplift across the basin.

3. Stream Number (Nu): The total number of order –wise stream segments is known as stream number. Horton’s (1945) law stream number states that the number of stream segments of each order from an inverse geometric sequence with an order number. The selected drainage basins have been ordered according to the Strahler’s stream ordering system.

The total numbers of streams are 4187, out of which 3378 are first orders, 625 are second orders, 146 are third orders, 30 are fourth orders, where 6 are fifth orders, and 1 is six and seventh order. (Table No-1) The stream have been formed in dendritic drainage pattern. The number of stream segments are decrease as the stream order increase.

4. Bifurcation Ratio (Rb): Bifurcation ratio is related to the branching pattern of a drainage network and is defined as the ratio between the total numbers of stream segment of one order to that of the next higher order in a drainage basin (Schumn, 1956).

The bifurcation ratio ranges in between 1 to 6. The high value of the ratio indicates a lower degree of drainage integration and vice-versa. (Table No-1) The irregularities of bifurcation ratio depend on the geological and the lithological development of the drainage basin. The lower value of the bifurcation ratio reveals that the basin has suffered less structural disturbances and the higher values of the bifurcation ratio indicate strong structural control on the drainage pattern. The average value of bifurcation is 3.79 and values of the bifurcation ratio of different order ranges from 1 to 5.33 (Table 1), which is a higher value that indicates the basin has been characterised by the influences of underlying structures and lithology.

5. Mean Stream Length (RL): Mean stream length (RL) is a characteristic properly related to the drainage network components and its associated basin surfaces (Strahler, 1964). This has been calculated by dividing the total stream length of order (u) by the number of streams of segments in the order.

The RL values for the Sina river basin range from 1.40 to 145.60 km with a mean RL value of 2.23 km. (Table No-2) It is noted that RL value of any stream order is greater than that of the lower order and less than that of its next higher order in the basin. The RL values differ with respect to different basins, as it is directly proportional to the size and topography of the basin. It is indicated that the RL is a characteristic property related to the size of drainage network and its associated surfaces. Mean stream length (km) of Sina river basin based on stream order is shown in the Table No-2.

Table No-2 : Linear Morphometric Aspect of **Sina** River

Sr	Morphometric Parameters	Symbol / Formula	Calculated Value	Reference
1	Stream Order (U)	Hierarchical Rank	1 st to 7 th	Strahler (1964)
2	Stream Length (Lu)	Length of the stream	9350.43 km	Horton (1945)
3	Stream Number (Nu)			
4	Bifurcation Ratio (Rb)	$Rb = Nu / (Nu + 1)$	3.79 (Average)	Schumm (1956)
5	Mean Stream Length (RL)	$RL = Lu / Nu$	2.23	Strahler (1964)

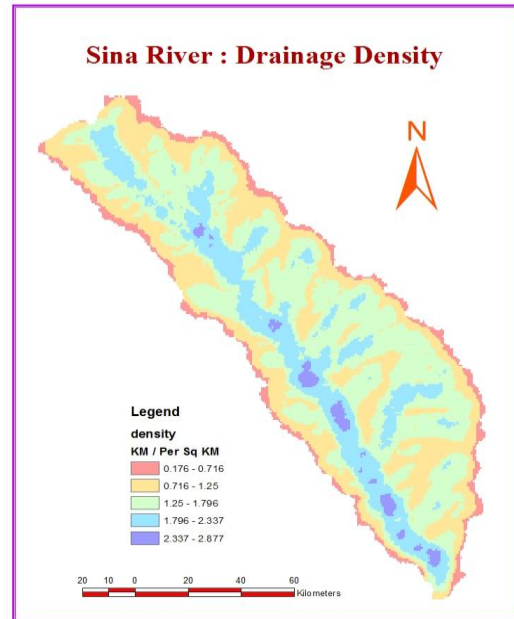
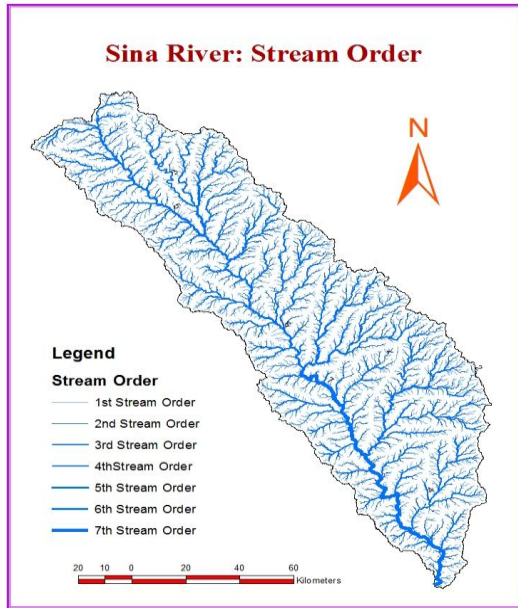
Source: Compiled By Researcher

B. Areal Aspect of Sina River Basin

The areal aspect is the two dimensional properties of a basin. Areal properties of drainage network are a significant Morphometric attribute in drainage basin analysis. The aerial aspects of the drainage basin such as drainage density (Dd), stream frequency (Fs), texture ratio (Dt), elongation ratio (Re), circularity ratio (Rc) and form factor ratio (Rf) are calculated and results have been given in Table No-3.

1. **Basin Area :** Basin area is the direct outcome of the drainage development in a particular basin. The perimeter of Sina river basin is 808 km and area about 12369 Sq.Km. which indicates that rainwater will reach the main channel more rapidly where the water has much further to travel.

2. **Drainage Density (Dd)** : Drainage density has long been recognised as topographic characteristic of fundamental significance. It is considered to be an important index; it expresses as the ratio of the total sum of all channel segments within a basin to the basin



area i.e., the length of streams per unit of drainage density. It is a dimension inverse of length (Horton, 1932). The overall drainage density of the Sina river basin is 0.46 km/sq.km which indicate that the Sina river basin drainage density is extremely coarse drainage density. (Table No-3)

Table No-3: Areal Morphometric Aspect of **Sina** River

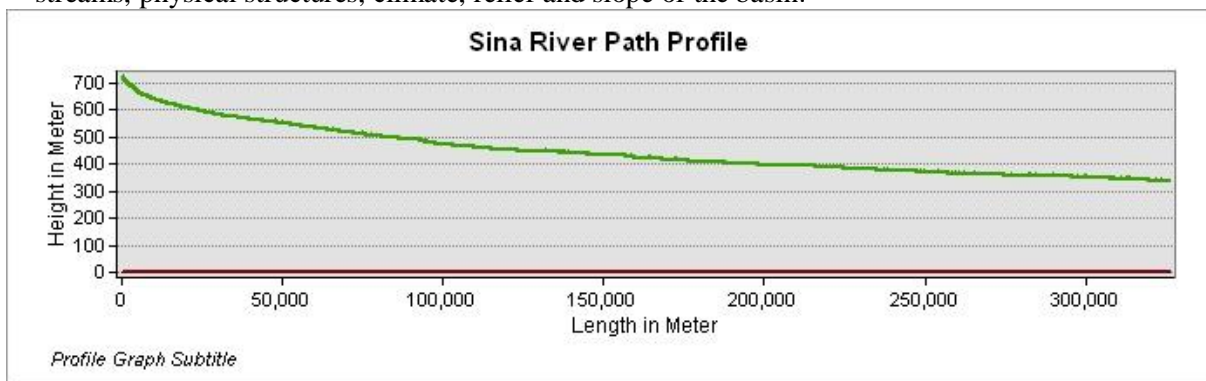
Sr	Morphometric Parameter	Formula/ Symbol	Calculated Value	Reference
1	Area (sq.km)	A	12369 Sq.Km	ArcGIS Tool
2	Perimeter (km)	P	808 km	ArcGIS Tool
3	Drainage Density (Dd)	$Dd = Lu/A$	0.75	Horton (1945)
4	Stream Frequency (Fs)	$Fs = Nu/A$	0.33	Horton (1945)
5	Drainage Texture (Dt)	$Dt = Dd \times Fs$	0.24	Smith (1950)
6	Texture Ratio (Rt)	$Rt = Nu/P$	5.18	Schumm (1956)
7	Length of Basin (Lb)	km	338 km	ArcGIS Tool
8	Elongation Ratio (Re)	$Re = 2 \sqrt{\frac{A}{\pi}} / Lb$	0.16	Schumm (1956)
9	Circulatory Ratio (Rc)	$Rc = 4\pi A/P^2$	0.23	Strahler (1964)
10	Form Factor Ratio (Rf)	$Rf = A/Lb^2$	0.108	Horton (1945)

Source: Compiled By Researcher

3. **Stream Frequency (Fs)** : Stream frequency (Fs) is the total number of stream segments of all orders per unit area (Horton 1932). Reddy et al. (2004) stated that low values of stream frequency Fs indicate presence of a permeable subsurface material and low relief. The channel segment numbers for unit areas are difficult to be enumerated but an attempt has been made to count stream frequency of Sina River basin. The stream frequency value of the Sina River basin is 0.108 km/ km². Stream frequency mainly depends on the lithology of the basin and reflects the texture of the drainage network.
4. **Drainage Texture (Dt)** : Horton (1945) defined drainage texture is the total number of stream segments of all order in a basin per perimeter of the basin. It is important to geomorphology which means that the relative spacing of drainage lines. Drainage texture is on the underlying

lithology, infiltration capacity and relief aspect of the terrain. Smith (1950) has classified drainage texture into 5 different textures i.e., very coarse (<2), coarse (2 to 4), moderate (4 to 6), fine (6 to 8) and very fine (>8). The texture ratio of the Sina river basin is 0.24, which indicate very coarse texture.

5. **Elongation Ratio (Re):** The elongation ratio reveals the shape or form of the drainage basin, which is the ratio of the diameter of the circle of the same area as the basin to the maximum basin length. This ratio usually runs from 0.6 to 1.0 over a broad range of climatic and geological type. The Elongation ratio of the Sina river basin is 0.16 which indicate basin is elongated.
6. **Circulatory Ratio (Rc) :** The Circulatory ratio is a dimensionless parameter which provides a quantitative index of the shape of the basin. Miller had defined circulatory ratio as the ratio of basin area to the area of the circle having the same parameter as the basin. The low values of circulatory ratio indicate basins youth stage, the medium value indicates its mature stage and high value represents its old stages of life cycle. Sian River having the circulatory ratio of 0.23 shows its mature stage of development. Circulatory ratio has an impact of length and frequency of streams, physical structures, climate, relief and slope of the basin.



7. **Form Factor Ratio (Rf) :** The ratio of area of the basin to the square of length of basin is known as Form Factor (Horton, 1932). When the form factor is less than 0.754 then the watershed is always perfect circular in shape. Smaller the value of form factor will indicates more elongated watershed. The form factor value of the basin is 0.108 which means that the basin would be less elongation shape because of lower value. The elongated basin with low form factor indicates that the basin will have a flatter peak of flow for longer duration.

C. Relief Aspect of Sina River Basin

The relief is the three dimension aspect of river basin. The relief analysis incorporates area height, relative relief, relief ratio, etc. of the region are discussed.

1. **Basin Relief (H) :** The vertical distance difference between point of maximum elevation and minimum elevation is the relief of basin. Its significant role in landforms development, drainage development, surface and subsurface water flow, permeability and erosional properties of the terrain can be understood. The basin relief of Sina River is 389 meters.
2. **Relief Ratio (Rh) :** The maximum relief to horizontal distance along the longest dimension of the basin parallel to the principle drainage line is termed as relief ratio (Schumm,1956). Relief ratio has direct relation between the relief and channel gradient. The relief ratio normally increases with decreasing drainage area and size of the watersheds of a given drainage basin. The relief ratio of Sina River is 1.15.

Table No-4 :Relief Morphometric Aspect of Sina River

Morphometric Parameters	Symbol / Formula	Calculated Value	Reference
Basin Relief (H)	$H = MaE - MiE$	389 m	Hadley & Schumm (1961)
Relief Ratio (Rh)	$Rh = H/Lb$	1.15	Schumm (1956)
Ruggedness Number (Rn)	$Rn = H \times Dd$	291.75	Schumm (1956)

Source: Compiled By Researcher

3. **Ruggedness Number (Rn):** According to Schumm (1956), the ruggedness number calculated by the maximum basin relief is multiplied with drainage density. The ruggedness

number of Sina river basin is 291.75 which indicate both relief and drainage density are moderate.

Conclusion:

Morphometric analysis was carried out to analyze and determine the drainage pattern and characteristics of Sina River basin using topographical maps, Cartosat-1 data and geo-spatial technique. The study of linear aspects of drainage basin result shows that, the basin has been formed in dendritic pattern with seventh order stream. Plotting the logarithm of number of streams against stream's order shows a straight line which shows the streams usually decreases as the stream order increases. The mean Bifurcation ratio of the Sina basin is observed 3.79 which is a higher value that indicates the basin has been characterised by the influences of underlying structures and lithology. The drainage density of the Sina river basin is 0.75 km/sq.km which is indicates that the Sina river basin drainage density is extremely coarse drainage density. The stream frequency value of the Sina River basin is 0.33 km/ km². The Elongation ratio of the Sina river basin is 0.16 which indicate basin is elongated. The circulatory ratio of 0.23 shows its mature stage of development. The form factor value of the basin is 0.108 which means that the basin would be less elongation shape because of lower value. The elongated basin with low form factor indicates that the basin will have a flatter peak of flow for longer duration. The basin relief of Sina River is 389 meters. The relief ratio of Sina River is 1.15. The ruggedness number of Sina river basin is 291.75 which indicate both relief and drainage density are moderate. The present study is helpful for water management planning, natural resource management, plantation and understanding physiography of basin.

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Changing Cropping Pattern In Washim District– A Geographical Analysis. (M.S.)

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Latur

Abstract:-

Population growth and literacy are responsible for bringing changes in agriculture. Man is most active element in the process of agricultural development, particularly in technological field i.e. irrigation, HYV seed etc. Overall agricultural development depends both physical and demographic factors of the region. Because agriculture is affected by climate but ultimately it is outcome of human effects; though man's role and need in agricultural cropping pattern change. The Agricultural cropping pattern is continuously changing with the passage of time. The present study is, therefore, conducted to analyses the areal differentiation in cropping pattern in Washim District. The analyses of such changes are of special interest for Geographers and planners in forming agricultural plans for development of agriculture to implement them.

Key Words : Change to cropping pattern, HYV Seeds, Agricultural Development .

Introduction:

Agriculture is the primary and oldest activity of man, the pillar of the economy of any country and is civilization. In our country 70 % population is directly involved in agriculture activity. The agricultural development depends on physical environment as well as socio-economic condition, such as relief future, soil types, climate, drainage system and improved seeds, fertilizers, and new technology and as well as all facilities. The man is most active element in the process of agricultural development and Socio-Economic Setting of the Washim District. Agriculture land use in Washim District in Maharashtra recorded continuous changes during the past three decades. Agriculture is the key to overall development of the economy of the district. The land scape we see today is the collection of the legacies from the past, because Population growth and cropping pattern various changes in agriculture. The Agricultural cropping pattern is continuously changing with the passage of time. The present study is, therefore, conducted to analyses the areal differentiation in cropping pattern in Washim District. The analyses of such changes are of special interest for Geographers and planners in forming agricultural plans for development of agriculture to implement them.

Objectives:

- 1 To find out the number of cropping pattern in Washim District.
- 2 To find out the area under cropping facilities in Washim District.
- 3 To find out the impact of cropping pattern facilities on agricultural pattern.
- 4 To find out present condition of cropping pattern in Washim District.

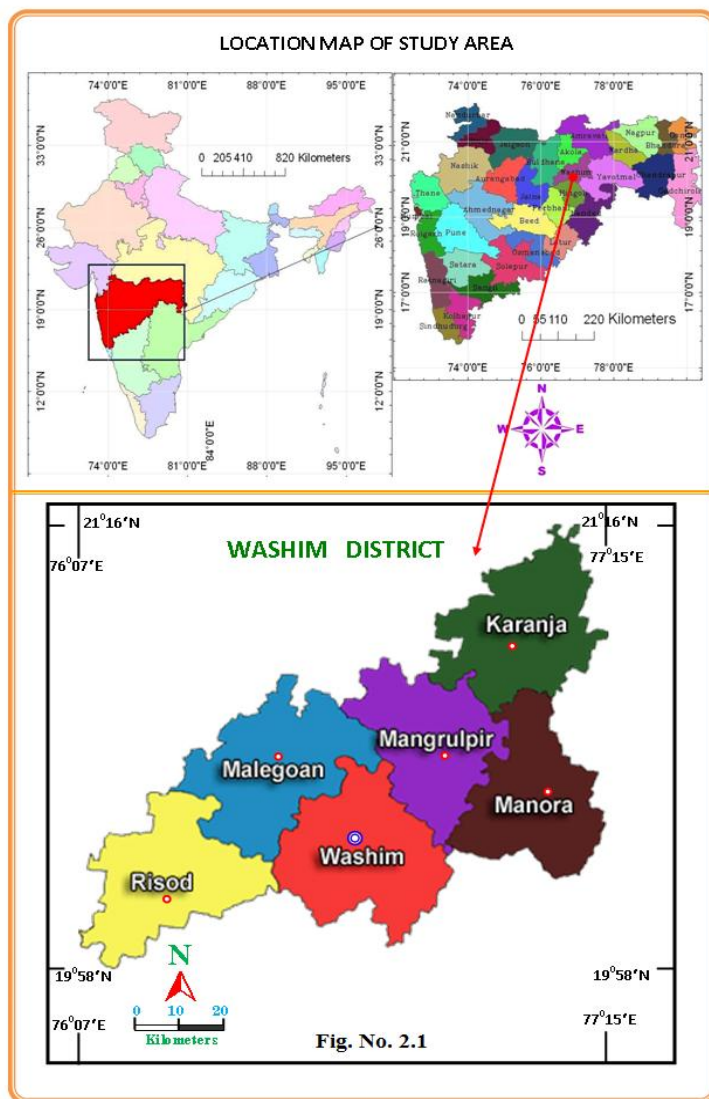
Methodology:

This study is based on secondary data collected from District statistical Hand book. Socio-economic Reviews and Deputy Director of Agriculture in 2014-2015. The data are represented Agricultural department of Washim District.

Study Area:

Washim district was formed on 1st July 1998, which is a new district in Maharashtra state. It was divided from Akola district on 1st July 1998. It is situated at the border of Vidharbha and Marathwada division. Washim district is located on the Western Vidharbha which is surrounded by Buldhana, Akola, Amravati, Yawatmal, Hingoli district. Akola lies to north, Amravati to its north-east, Hingoli to its south, Buldhana to its West and Yawatmal to its east. This district is situated in the South-East part of Maharashtra State. Its latitude distance is 19⁰58¹ North to 21⁰16¹ North and longitudinal distance is 76⁰07¹ East to 77⁰15¹ East. The total geographical area of this district is 5150 Sq.km. which is 1.65 per cent

of Maharashtra state. This district is divided into two sub-divisions, *Viz.* Washim and Mangrulpir. These are further divided into 6 Tehsils. The Talukas are Malegaon, Mangrulpir, Karanja, Manora, Washim and Risod. In this district there are 04 Municipal Council and 02 Nagar Panchayat for the administrative purpose. In 2011 Census, there were 06 Tahsils with 789 inhabited villages in the district. According to the district Census of 2011 has total population of this district is 11, 96,714. According to Census 2011, in this district the number of villages created from 128 villages from Washim Tahsil, 99 villages from Risod Tahsil, 122 villages from Malegaon Tahsil, 136 villages from Manglurpir Tahsil, 167 villages from Karanja Tahsil and 137 villages from Manora Tahsil. The rivers have created huge flow in rainy season Painganga, Kans, Katepurna, Morna, Adan, Arunvarti and Bembala are the major rivers of the district.



Source : Survey of India, Location Map, Washim District

Physiography:

The Physical landscape is the fundamental base for the development of various economic activities. It affects the origin and development of agriculture. The physical aspects such as the relief, drainage, climate and soil play significant role in shaping the agriculture. There are various landscapes in this district. Kans, Arunawati, Penganga and its tributaries have created huge flow in rainy season and her tributaries have created huge values in Ajanta

ranges. The rivers flow in rainy season and become dry in summer. Various regions are different from each other because of their geographical features.

There are various landscapes in this district. The district is characterized by gentle sloping to undulating plains. The North-western part of constitutes low hills. On Ajanta mountain ranges are north west to east, and southern part of Penganga river basin region. The general slope of land is from west to east falls in evaluation from 542 m. (1,778 ft) in same direction covered by this district. The rivers flow in rainy season and become dry in summer. Various regions are different from each other because of their geographical features. The main seasonal stream of the district is dry during the major part of Washim District. We find small hills on northern part of in this District drainage pattern of Painganga river. So we can find various cropping pattern change in this District.

Climate:

Climate is an important factor of agriculture pattern. The study area has dry climate with more humidity in the month of July. The summer and winter are extreme. The temperature during the summer raises Tahsil 41⁰-45⁰Cg. In some part of the Washim district represents characterized by hot & cold windily during the cold. Generally winter are October to February on this month. The winter is much similar throughout the district and temperature goes down to 21⁰ to 10⁰ Celsius in the month of December- January and cold waves from north. About the rainfall generally 775cm. in the during the monsoon period and average of 80cm. receive in the year total rainfall is received during monsoon period Jun to September. The air is generally dry during summer season when the humidity is found 40% in the morning and 20% in the afternoon. Humidity is founded highest during monsoon season. About 75% in the morning and 60% in the afternoon. The average generally temperature is 20⁰ to 36⁰c. in the year.

Soils:

Soil is the most vital and ubiquitous resource of the earth. It has been said that there can be no life without soil. Soils are loose surface materials of life. It is the physical basis of our agricultural enterprises. The importance of soil lies in the fact that it provides man's food, clothing and even increasing list of other needs and hence while describing the soils the detailed knowledge of site and soil condition is required as it helps to determine land leveling needs, the irrigation, drainage and special reclamation of requirement of specific soil type. Soil conservation of measures and the alignment of canals and drains. The soil information is also necessary to judge the choice of the crops, application of fertilizers, cultivation and irrigation scheduling (Dent and Young, (1981). The present section deals with the soil types in connection with irrigation.

Cropping Pattern:

Cropping pattern of Washim district experienced considerable change during the two decades. Its agricultural resources base extended to the farthest limits mostly brought by extending cultivation on almost all the available lands. Cropping pattern is strongly affected by natural and cultural environmental factors. A large number of factors, such as, increase in population, increase in food grain, increase for land, irrigation facilities, use of high yielding variety seeds, use of modern machines, such as Tractor, Thrashers, Harvester, increase in farm return, greater awareness among farmers towards cropping pattern played a significant role in changing the pattern of cropping in Washim district.

Soya been, cereal, pulses and other cropped are Cotton, Fruits are improved their relative position in the crop complexion Washim district. While cotton and oilseeds showed their negative trend percentage to total cropped area under Cereal was 2.91% in 2011 and 2014-15 respectively. In 2010-2011 the area under pulses was 11.63 of the total cropped area while area under this cropped respective to 2.82% in 2014-15. Soyabeen showed positive trend. In 2010-2011, the area under Soyabeen was 05.35% of the total cropped area which

increased to 10.87% in 2014-15 (**Table-1**) On the other hand Cotton was loser. Area under this crop decreased from 09.11% in 2010-11 to 2014-15.

Table-1, Washim District : Area Under Various Crops (%)

Crops	Cropped area in %		Change in %
	2010-2011	2014-15	
Cereal	24.42	27.33	+2.91
Pulses	11.63	14.45	+2.82
Soya been	05.35	16.22	+10.87
Cotton	21.33	12.22	-9.11
Oilseeds	12.05	09.69	-2.36
Other crops	25.22	20.09	-5.13
Total	100.0	100.	

Data Computed from Stastical Abstract of Washim district 2010-11, 2014-15 & 2016-17.

Cotton covered 21.33% of the total cropped area of Washim district in 2010-2011. Its proportion came down to 12.22% in 2014-15 mainly due to expansion of tube well irrigation in the region most of its area diverted towards more profitable crop of Soyabeen. Oilseeds covered 12.05% area in 2010-11 while this area increased to 2.36% in 2014-15 of the total cropped area in 2010-11 area under Soyabeen was profitable loose now we showed that Soyabeen was occupied 10.87 % of the total cropped area in 2014-15. Other crops like fodder, Fruits.& Vegetables displayed high proportion of the total cropped area as shown in the Table-1. To sum up it can be concluded that cotton oilseeds are showing decreasing trend whereas cereal, pulses soybean & other crops are displaying significant proportion of the total cropped are in Washim district during 2010-11 to 2014-15. On the basis of above mentioned study it can be concluded that application of Green Revolution technology played an important role in changing the patterns of crops in washimdistrict. Use of irrigation facilities provided more land under cereals crop are the gainer crops in the district. Soyabeen , Oilseeds, Cotton, and other crops like fodder, fruits and vegetable are gainer. Crops in Washim district Vegetables constitute an integral part of daily food requirements of the urban people to keep the supply perennial therefore a large number of vegetables are grown throughout the year. Fodder refers to the crops which are cut green for feeding the livestock. The livestock (dairy) is fed on cultivated fodder. To sum up it can be said that crops which have become more precious are covering more area from the less valuable crops. This is the reason that Soyabeen, cereals and pulses etc. There are the most important crops which are showing a positive change in cropping pattern in Washim District in Maharashtra state.

Conclusions:

Spatio-temporal transformations in changing cropping pattern in Washim district. We observed different variable difference cropping patent changes in this district.

1. The net soon area as well as gross cropped area has increased.
2. Non food crops show an increasing trend in this District.
3. Cotton crops have decreased in this District.
4. Soyabeen crops has increasing profitable trend in this District.
5. Oilseeds and other crops area has decreased in this District.

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Gender Equality In India: More Needs To Be Done

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Abstract:

The term gender equality refers to the economic, social and cultural attributes and opportunities associated with being male or female. In most communities, being a lady or a gents is not simply a matter of different biological and physical characteristics. As India developed economically, there are calls for the country to pay better awareness to social and human development, including women empowerment. This paper deals with the importance of gender equality as efforts that includes "advocating for women's and girl's human rights, combating discriminatory practices and challenging the roles and stereotypes that create inequalities and exclusion. Gender equality means both men and women have equal power and opportunities for education, healthcare, economic participation and personal development. It profiles the gender inequality scenario and types of inequalities between men and women in India. The government has generated the scopes for international agencies to work in combination with with state governments, local non-government organisations and private corporations on a abundance projects to assist women from different socio-economic backgrounds. Even with these efforts, India's ranking on global surveys of gender equality has not enhanced significantly over the years.

Key words: Gender equality, human rights, women empowerment

Introduction:

Female represent half of the population of Indian society and therefore also half of its potential to develop and lead to future success. Mostly girls and women faced inequalities from the time of their birth and follow them all their lives. In our country, girls and females having second position compared to male and are dispossessed about to health care or proper nutrition, leading to a higher mortality rate¹. Child marriage affects girls far more than boys. Nearly 15-16 million girls below age 18 are get married every year. Marrying young also affects girls' education. The country can be high grade when male and female both go through equal hardship and lack of empowerment². The process of Gender equity is being equitable to women and men. Gender equality needs uniform entertainment by women and men of socially-valued goods, resources, opportunities, and rewards³. Equal rights for men and women are enshrined under Articles 14 to 16 in the Indian constitution, which came into effect on 26 January 1950⁴. Gender equality does not mean that men and women become the same; only that access to opportunities and life changes is neither dependent on, nor constrained by, their sex⁵. Discrimination based on gender is strictly prohibited. Within the country, the Dowry Prohibition Act, 1961 and the Protection of Women from Domestic Violence Act, 2005 have been enacted to criminalize instances of dowry and domestic violence. Attaining gender equality needs women's empowerment to certify that decision-making at private and public levels and approaches to resources are no longer weighted in men's favour, so that both women and men can fully play a part as equal partners in productive and reproductive life. Under the Maternity Benefit Act in 2017, government also increased maternity leave from 12 weeks to 26 weeks for the private sector⁶. In every extent of Indian politics, the Women's Reservation Bill gives 33 per cent reservation for women seats. This is venturing to grow female political participation. Women in India are making an appearance in all sectors, including business, medicine, politics, sports and agriculture. History was made when two female scientists from the Indian Space Research Organisation led the country's second lunar mission Chandrayaan-2 from its inception to completion in 2019⁷. Another significant stage was reached when the Supreme Court conquer the government's position on women serving as army commanders in 2020. Firstly women were enlisted into the armed forces in 1992 and have furnished in a number of positions, including doctors, nurses, fighter pilots, engineers, etc. Though India has increases awareness about human development, its global standing on gender equality remains little. India's ranking in the Global Gender Gap Report, commissioned by the World Economic Forum, declined from 108th in 2018 to 112th in 2020⁸.

Gender inequality:

To realize the level of women empowerment in Indian society an investigation of gender equality is very essential. In India gender inequality refers to health, economic, education, and political inequalities between men and women and is a varied issue which treat men and women alike⁹.

Some of the key findings in the gender inequality in India:

- **Son preference:** There is strong evidence of continued son preference in India¹⁰.
- **Education:** In urban areas there is gender equality in childrens hence school attendance ratio is nearly similar for girls and boys but in rural areas unfavorable circumstances in education for female candidates are marked as compared to male and increases with age. The ration of school dropout for female candidates are very high compared to male candidates.
- **Age at marriage:** In India age at first marriage continues to be very small. The median age at first marriage for women age is only 16.8 years.
- **Spousal age difference:** The age of married women is nearly 15-49 and they got marry to men who are 10 or more years older than them.
- **Gender relations:** Majority of men say that husbands and wives should make decisions jointly but in practice husbands should have the major say in most decisions.
- **Decision-making:** Among all the employed and earning women only one-fifth women have consideration in how their own earnings are used and only 7 in 10 have a say in how their husbands' earnings are used¹¹.
- **Status of women:** Women's lives more than men's are centered at home. They contribute more excluded from the society at large scale. The norms and rules made by society may exclude women from particular types of paid employment or leadership positions. On the other hand men may exclude from the child care and home sphere, which is considered the women's territory.
- **Employment:** Over the past 25-30 years women have increasingly become part of the labor force. According to the World Bank statistics women's labor force participation as a ratio to men's has increased from about 0.5 to about 0.8 in our country. From the starting of work, women participate in paid labor force less. Once they do they are paid about 80% of the pay that men receive when working full time¹².

Some gender inequalities:

Gender inequality in Agriculture:

From the report of 2009 in India there is wage inequality between men and women in manual ploughing operations, where men were paid Rs. 103 per day, while women were paid Rs.55, a wage gap ratio of 1.87¹³.

Educational inequalities:

In India girls from rural area continue to be less educated than the boys. It shows that denial of educational empowerment of girls in India¹⁴.

Property rights inequalities:

Under the law women have equal rightness to grant property and receive equal inheritance rights, but in practice, women are at a detriment. In real practices 70 per cent of rural land is owned by men. Laws, such as the Married Women Property Rights Act of 1974 protect women, but few seek legal redress¹⁵.

Literacy inequalities:

As per the report the female literacy rate in India is lower than the male literacy rate. Literacy rate of females is 65.46 per cent compared to a male which is 82.14 per cent¹⁶.

Reservations for female students:

Since from 1990, India had observed meaningful improvements in female literacy and enrolment rate, then also quality of education for female remains to be deliberately compromised as the country continues to hold great importance for male than female. Even today the government of India is unable to implement the 33 per cent of reservation to women, indicating male dominance in India¹⁷.

Gender-based violence:

As per the report by Crime in India (2012), average annual crime rates per 100,000 women in India by its States and Union Territories¹⁸.

Political inequalities:

This measure of gender inequality considers the gap between men and women in political decision making at the highest levels¹⁹.

Importance of Gender Equality:

Gender equality is independently connected to continuous development and is essential to the realization of human rights for all and is very vital to attain the goal of women empowerment. Fairness between men and women exists when both sexes are able to share evenly in the distribution of influence and power, have same opportunities for financial independence through work or through setting up businesses, appreciate equal access to education and the freedom to develop personal interests, ambitions, and talents, share responsibility for the home and children and are completely free from harassment, demoralizing and gender-based violence both at work and at home. It is to be noted that where gender inequality exists, generally women who are eliminated or kept out in relation to decision-making and access to economic and social resources²⁰.

Conclusion:

It could be seen clearly from the above discussion that women in India have been subjected to various types of discrimination and disabilities towards enjoyment of benefits of development consequent upon disempowerment. In order to promote gender equality in socio economic development, the following measures can be considered.

Suggestion:

1. Attaining equal fortuity and treatment between men and women in employment
2. Promotion of uniform and proportional treatment aimed at equal wage for work of equal value
3. Health support that corresponds to gender difference
4. Improvement of education and learning to encourage gender equality and promote diversity of choice
5. To achieve gender equality in science and technology and academic fields
6. Promotion of gender equality in the area of regional development, disaster prevention, environment, and others
7. Enlargement of Women's Participation in Policy and Decision-making Processes in All Fields in Society
8. Banning of gender discrimination during all stages of employment and management
9. Upgrade of Women's Education and Learning Activities to Achieve Women's Empowerment
10. Make education gender sensitive.
11. Arrange self defense workshops for girls and women.
12. Let allow girls to use mobiles, computers, laptops etc to gain recent knowledge and technologies to start their own earnings.
13. When programmes, policies and decisions are designed related with women's foundation, by consulting women's and their needs, poli

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Corporate Social Responsibility and Environmental development with special regard to Environmental development

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Abstract:-

The business contribution to property development, CSR has several complementary themes that area unit helpful everywhere world business. The definition of property development and world property development agenda together with the link between business and property development is then mentioned. The international organisation world compact as Associate in Nursing example of generalizing CSR initiatives towards the a lot of comprehensive goal of property development during a world scale is looked into within the following section. once knowing the ideas and trends of CSR and property development, it's vital to guage them thus on build real changes. thence we tend to mentioned on the way to live CSR thoroughly at company level and company property at a worldwide level. corporations have a social responsibility to social and environmental consequences of environmental injury that caused . Implementation of company social responsibility (Cooperate Social Responsibility) is a vital half within the framework a part of the social control of environmental law . Implementation of CSR growing chop-chop, as well as in Bharat . Through Law No. forty Year 2007 concerning indebtedness Company, specifically in Article seventy four, in response to the action of the business world to social and environmental causes damages to society. however in application / CSR implementation are undertaken by the corporate isn't maximized with implications for the social control of environmental law.

Keywords: property, development, Environmental Development, Social company Responsibilities

Introduction:-

CSR towards community has become the important issue within the era of globalisation. CSR covers the link between companies and also the Societies with that they interest. CSR conjointly includes the responsibility that the inherent on either side of this relationship. CSR defines society in its widest sense on could levels, to includes all stakeholders Associate in Nursingd constituent cluster that maintain an in progress interest within the organization's operation. company Social Responsibility means that the responsibilities on the businesses for the event of the atmosphere and for the community welfare and for the betterment of society. CSR is extremely liable for the protection of the atmosphere and scale back the atmosphere waste product. the company body not solely the staff, stakeholders, customers or society however to the full atmosphere. The CSR is important issue a lot of significantly within the context of environmental justice and development. This paper can specialise in company Social Responsibility in environmental protection with regard to property development CSR implies that company performance is judged not simply by the services, merchandise and profits that companies build however conjointly by the impacts they need on social well-being and on the native and world atmosphere. the increase of 'instant' media services with radio and particularly tv throughout the Nineteen Fifties and Sixties and social media via the globe Wide internet since the Nineteen Nineties has exaggerated the speed with that info regarding company wrongdoing travels. This has exaggerated pressure on corporations to accede to property development objectives, significantly in terms of their social and environmental targets. This has recently been mirrored in Europe's 2013 meat adulteration scandal that publicized the actual fact that horse meat was found in merchandise that were labeled as beef in thirteen European countries

Meaning of company Social Responsibility

World Business Council has given most ideal definition of company Social Responsibility (CSR) for property development , which says "company Social Responsibility is that the continued commitment by business to behave ethically and contribute to the economic development whereas up the standard of lifetime of force and their families also as of the local people and society at giant". The international organisation world Compact's 10 principles within the era of human rights, labour, the atmosphere and anti*corruption enjoys universal agreement. The principles on environment area unit,

Principle 7: Business ought to support a preventative approach to environmental challenges.

Principle eight :- Undertake initiatives to push larger environmental responsibility.

Principle nine :- encourage the event of diffusion of environmentally friendly technologies.

Legislative Framework of CSR :-

Section a hundred thirty five of the new Company Act browse with schedule VIII deals with company Social Responsibility. It contain the provisions that mandate the businesses to require up CSR initiative as a statutory duty.

WHO should comply:-

each company that exceed any of the subsequent 3 conditions has got to go with obligatory CSR norms;

internet value of office 500 crores of more; or

Turnover of office 1000 crores or more; or

profit of office 5 crores or a lot of, throughout any yr

The eligible company should, throughout any yr, guarantee it pay a minimum of two of its average internet profits created throughout the 3 years in real time preceding this yr towards local time activities.

Corporate Social Responsibility and property Development

Corporate Social Responsibility is closely connected with property Development. personalities have heap needs| of requirements |of necessities} and these want mustn't be consummated at the value of the necessity of the longer term generations. the companies mustn't bring up solely profit or dividends however conjointly bring up social and environmental needs. Though, all folks is liable for saving this planet for our survival and for the survival of our successors. however here we tend to area unit progressing to discuss the activities taken into the thought by the corporation to save lots of atmosphere. company Social Responsibility makes the corporation liable for the injury they need created on atmosphere. Corporate Social Responsibility mans the responsibilities on the businesses for the event of the environment and for the community welfare and for the betterment of the society. the most purpose of this study is to look at the perspective towards property development and CSR among India's future business elite. In India, the Vellore voters Welfare Forum recites the Brundtland Commission definition of property development as "developments that meets the wants of the current while not compromising that ability of future generations to satisfy their own needs". Indian Judiciary, whereas regarding duties and responsibilities of companies conjointly refer CSR in numerous judgments.

National Textile staff Unions Vs P.R. Ramakrishna, the normal read that an organization is that the property of shareholders is Associate in Nursinging exploded story. in step with the new socio-economic thinking an organization may be a social establishment having duties and responsibilities towards the community within which it functions. clearly the Hon'able SC is relating CSR, once it talks of duties and responsibilities towards the community, the commonly accepted read is that if a company has the resources and has return an extended method in its progress, It owes a debt to the society and also the community within which it's progressed. Also, it's united that if an organization has caused loss to its close areas. it's its obligation to form up for the loss, whether or not technical or environmental, as an area of CSR. Even though corporations area unit taking serious efforts for the sustained development, some cities still area unit questioning the construct of CSR. There area unit people that claim the Corporate Social Responsibility underlies some ulterior motives whereas others think about it as a story. The two law is obligatory. it'll be obligatory to pot CSR For corporations on top of a thousand crores turnover of five crores profit. CSR is restricted solely huge corporations. there's no clarity from taxation angle.

Vijay Singh Punia Vs State of Rajasthan imposing 15 August 1945 of the turnover of the dying and printing industries as damages for sousing pollution Rajasthan court discovered , the emission of untreated waste water by the commercial units is depriving the voters the access to pure well water that is essential for the existence. Not solely well water has been tormented by the method of business unit are in operation, however their operating has conjointly affected the standard of vegetables and crops that area unit adult therein area who have suffered the intonation upon the environmental and ecology of the previous.

Conclusion and suggestions:-

little doubt initial work on CSR restrained issue within the social space however later years we've seen the inclusion of environmental facet within the realm. the truth is that CSR isn't a maneuver for complete building however it creates an inside complete among its workers. humoring it activities that helps society is a way or the opposite solely adds to the goodwill of an organization.

Today, CSR bring up responsibility across all stakeholders in terms the Triple Bottom-line, People, planet and profit. once considering social scenario in Bharat it tough for under government to bring social modification. company have the, strategic thinking, manpower, experience and cash to bring social modification. Effective partnership between company and government ends up in development. so tho' the directive principles deliver by the constitution of Bharat guide to the state however alos offer the backing to the construct of CSR as a result of solely government cannot consummated the wants of gift society. it's necessary to encourage little and medium enterprises in CSR activities. briefly each company has got to use company sustainability's roots consist the construct of property development. Initiatives on a part of companies area unit required within the gift scenario so as to realize the goal of property development. the companies should take responsibility for atmosphere protection.

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Monitoring Urban Growth Dynamics in Thrikkakara Municipality, the Peri – Urban Area of Kochi based on Index Based Model

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Abstract:

Rampant urbanization has been a global concern among researchers and decision makers. Assessing urban growth trends in a timely manner is a prerequisite for sustainable development practices. Peri urban zones experience rapid urbanisation and conversion of land use practices and hence, suffer from various developmental issues. Remote Sensing and Geographic Information System (GIS) provide various tools for monitoring and modelling urban growth. This paper assesses expansion of built up land in Thrikkakara municipality of Kerala, which is a growing urban centre in the peri urban zone of Kochi metropolitan city. Multi temporal Landsat data of 1994 and 2019 have been used for analysing spatio temporal dynamics of built up area and urban expansion over a period of 25 years. The study also examines the factors led to the accelerated urban growth in Thrikkakara municipality

Key words: urbanisation, urban sprawl, built up area, peri urban area, and index based built up index

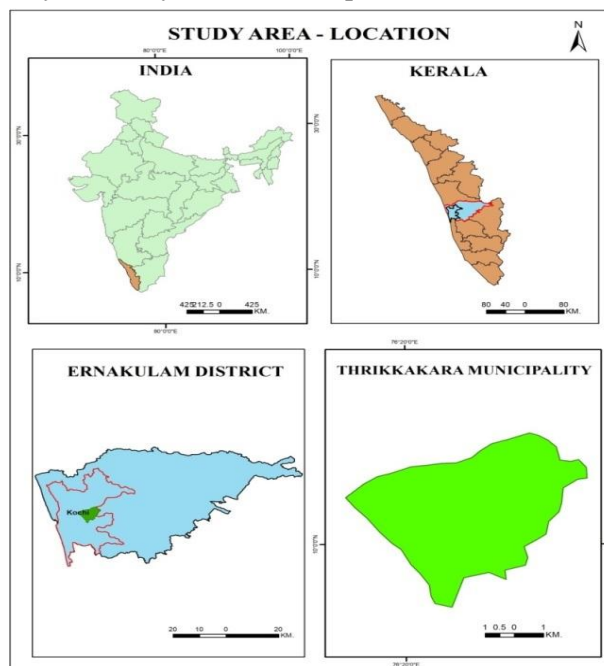
Introduction:

Urbanisation is largely considered as signal of growth and development of an area in terms of population concentration, economic growth and societal changes. Rapid urban growth is a global issue affecting countries and decision makers. The process of urban expansion results in the conversion of natural land cover into urban land uses without systematic planning (Gupta et al., 2014). Urban expansion is spatially manifested as the spread of urban built up area at the cost of other land use land cover classes. It is a dynamic process whereby large scale changes occur in land use practices (Ramachandra T.V et al., 2012). This process is highly visible in the urban fringe zones or otherwise called the peri urban areas. The peri urban zone undergoes rampant land conversion, due to new developmental activities and increased construction. Sustainable development of cities requires timely monitoring of urban growth trends. Urban built up area estimation is necessary for planning urban land use practices and land allocation for infrastructural development. Remote Sensing and Geographic Information System serves as an effective tool in mapping and modelling urban land use changes and urban expansion. Index Based Built up Index (IBI) helps in rapid extraction of built up areas from satellite imageries (Xu, H, 2008). Many scholarly articles have proved the use of IBI in built up change analysis and urban growth modelling. Kerala witnessed expeditious urban growth during 2001 – 2011 and the urban share of Kerala as per 2011 census is 48%. This sharp increase is attributed to the growth in number of small and medium towns. This paper attempts to assess the changes of built up area over a period of 25 years in the Thrikkakara Municipality of Ernakulam district in Kerala, which is a peri urban town of Kochi metropolitan.

Study Area:

Thrikkakara municipality of Ernakulam district in Kerala is a growing urban centre in the peri urban zone of Kochi metropolitan city. It is a rapidly growing city situated in the eastern fringe of Kochi. The selected area lies between 10° 2' N to 10° 5' N latitudes and 76° 15' E to 76° 25' E longitudes extending across an area of 27.28

sq.km. The region exhibits very monotonous topography with gentle to moderate slope from East to West. The total population of the municipality is 77319 and has a population density of 2385 persons



per sq. km. Kakkanad; the IT hub of central Kerala is situated in this municipality. Kakkanad houses many IT establishments like Infopark, Lulu cyber city and Smart city. This area is a residential and industrial zone of Kochi. The location map of study area is shown in Map 01.

Objectives:

1. To monitor the changes in built up area during 1994 to 2019 using multi temporal satellite images.
2. To examine the urban growth trends of Thrikkakara

Methods and Techniques:

Indexbased Built up Index (IBI) makes use of three thematic indices namely, Soil Adjusted Vegetation Index (SAVI), Modified Normalized Difference Water Index (MNDWI) and Normalized Difference Built-up Index (NDBI) to represent three major land components soil, water and built up area respectively. Landsat 5/TM image of study area dated 04 Feb 1994 and Landsat 8 OLI/TIRS of 08 Jan 2019 form the database for the study. After pre-processing, study area is extracted from the data bands by raster clipping with the boundary data. Thus IBI is derived through the following equations:

$$NDBI = (MIR - NIR) / (MIR + NIR)$$

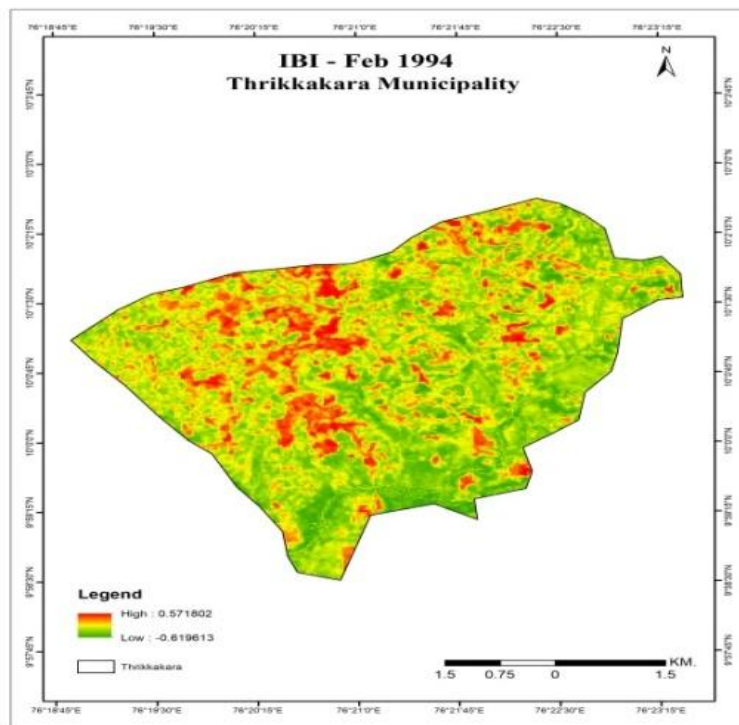
$$MNDWI = (Green - MIR) / (Green + MIR)$$

$$SAVI = \{ (NIR - Red) (1+l) \} / (NIR + Red + l); l \text{ is the correction factor, the value ranges from 0 to 1 where very high plant densities will be given 0 and very low plant densities will be given 1 (Ridd, 1995). For this study } l \text{ is given value of 0.5.}$$

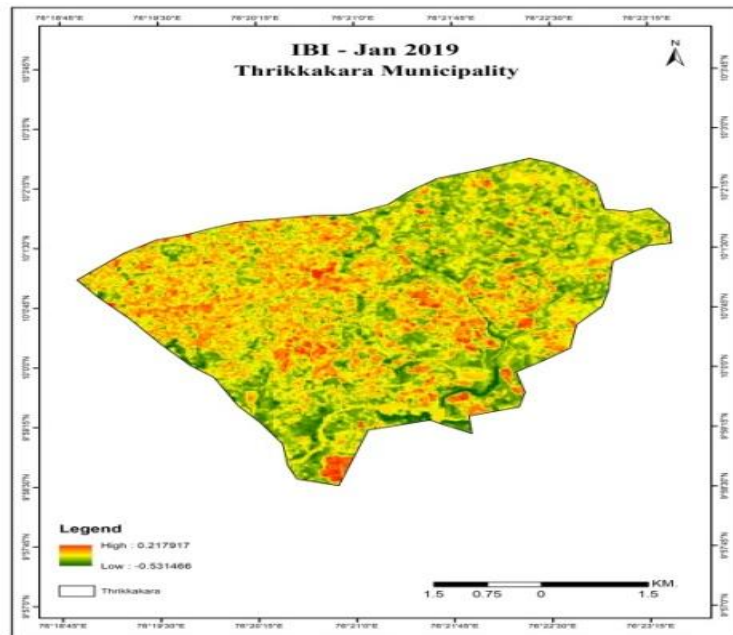
$$\text{Hence, } IBI = \frac{\{NDBI - (SAVI + MNDWI) / 2\}}{\{NDBI + (SAVI + MNDWI) / 2\}} ; \text{ (H Xu, 2008)}$$

The value of IBI ranges from -1 to 1. Positive values represent enhanced elements. The IBI results are obtained as images in raster formats. The reclassified raster images are converted to vector using conversion tool. Built up extension was quantified for both periods using area calculation and the results represented through maps and tables were interpreted to reach conclusion.

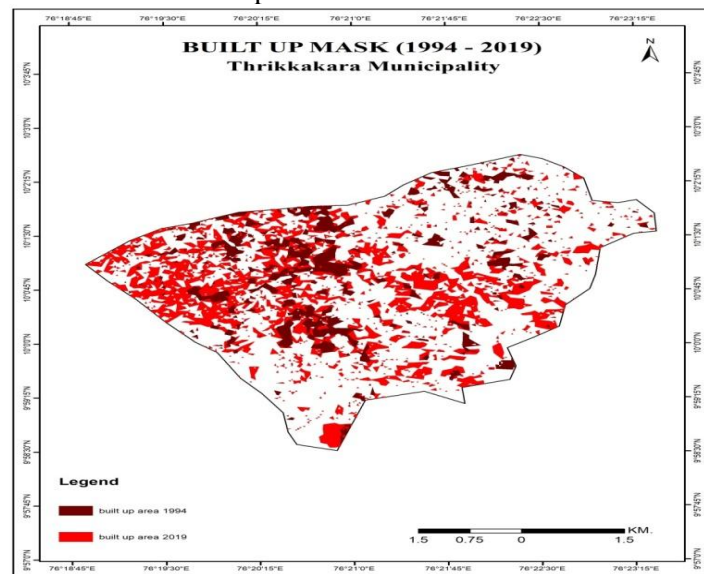
Results and Discussions:



Map 02: IBI 1994



Map 03: IBI 2019



Map 04: Built up Change 1994 to 2019

IBI raster outputs of both 1994 and 2019 are shown in maps 02 and 03. The change is depicted as a final map showing the built up mask of two different periods (Map 04). From the built up mask, it is obvious that urban land use has increased drastically over the study period. Kakkannad in this municipality is the IT centre of Kochi. It houses Info Park, the second largest IT Park in Kerala. With its inception in 2004, this region witnessed massive development within a short span of time. Earlier, fallow lands were converted into residential buildings and high rise apartments to serve the accommodation needs of the techies. Thus it emerged as an important suburban residential centre. Thus Info Park changed the face of the region. So back in 1994, urban activities were limited to certain pockets alone.

Table 02: Temporal changes in built up area

Category	Area in 1994 (sq. km)	Area in 2019 (sq. km)	Percentage change
Built up area	4.1	10.3	+151
Non built up area	28.4	22.2	-21.83
Total	32.5	32.5	--

In 2019, Thrikkakara registered three times increase in built up area, causing a percentage change of 151 % as against other land cover whereas non-built up area shown a decline of 21.8%. This is due to the urban sprawl of Kochi towards its eastern fringe. This can be identified from map 03 and 04. Early isolated settlement of Thrikkakara has been amalgamated to the Greater city of Kochi by urban sprawling. Kochi has grown towards its suburban towns by filling up the rural patches in between. This is due to the rapid diffusion of urban amenities. Unlike, rest of the country, Kerala shows a rural urban (Sreekumar, 1990) pattern due to this characteristic feature called rural urban continuum. Kochi experienced a phase of diffusive urbanisation after 2000, where there occurred a transformation from localised urbanisation to regionalised and complementary urbanisation (Jayalakshmy, S S, 2016). It is clearly noticeable that there is a change from rural to urban land use character in majority of the area within this 25 year period.

Conclusion:

The temporal analysis of urban growth in the study area reveals that Thrikkakara has recorded three times increase in built up land use in the municipality. Majority of the land use change is observed at the western part of the municipality, where there is a clear conversion from rural to urban character. This change can be attributed to the gravitational pull of the nearby big city, Kochi. However, rapid land conversion to impermeable concrete surfaces is a serious threat to urban environment and sustainable practices. It can lead to many adverse effects such as frequent flash floods, lowering of ground water table, severe drought, increasing land surface temperature etc. Scientific and planned allocation of land should be the priority for sustainable management of resources.

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9. Sub Theme – Urbanisation and global environmental Change]]

A Study of Research Process in Social Science

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Introduction :-

Research is an art of scientific Investigation. Some people consider research is a movement, a movement from the known to the known. It is actually a voyage of discovery. It is the pursuit of truth with the help of study, observation, comparison and experiment. In short the search for knowledge through objective and systematic methods of finding solution to a problem is research. The term research refer to the systematic method consisting of enunciating the problem, formulating a hypothesis, collecting the facts or data, analyzing the facts and reaching certain conclusion either in the form of solution towards the concerned problem.

Objective of the study –

1. To study of the research process in social science.
2. To understand the research report writing

data base –

The present study is depend upon secondary any such as various books, published unpublished Journals, Volume, Souver etc.

Research Process :-

Generally, research is understood to follow a certain structural process. Though step order may very depending on the subject matter and researcher. A bried description of the following stated stapes will be helpful.

Formulating the Research Problem.

There are two types of research problem. Viz, those which relate to state of nature and those which relate to relationship between variables. The best way of understanding the problem is to discuss it with one's own colleagus or with these having some expertise in the matter. In an acadmic institution the researcher can seek the help from guide who is usually an experienced man and has several research problems in mind often, the guide puts for the problem in general terms and it is upto the researcher to narrow it down and phrase the problem in operational terms. This task of formulating or destining a research problem is a step of greatest importance in the entire research process. Infact, Formulation of the problem often follows a sequential pattern where a number of formulation are set up , each formulation more specific than the proceeding one, each one phrased in more analytical terms and each more realistic in terms of the available data and resources.

Literature Survey –

Once the problem is formulated, a brief summary of it should be written down. It is compulsory for a research worker writing a thesis for a Ph.D. degree. degree to write a synopsis of the topic literature survey connected with the problem Academic journals, conferences proceeding government reports, book etc.

Hypotheses :-

After literature survey, researcher should state in clear term the working hypothesis. The development of working hypothesis plays in important role. Hypothesis should be very specific and limited to the peace of research in hand because it has to be tasted. The role of hypothesis is to guide the research by delimiting the area of research and to keep him on the right track It also indicates the type of data required and the type of methods of data analysis to be used.

Prepare the Research design.

The researcher will be required to prepare to research design. He will have to state the conceptual structure within which research would be conducted. The preparation of such a design facilitates research to be as efficient as possible yielding maximum information. There are several research design, such as, experimental and non experimental hypothesis testing. Experimental design can be either informal design.

Collection of Data :-

There are several ways of collecting the data which differ considerably in context of money costs time and other resources at the disposal of the researcher. Data can be collected by any or more of the following ways. Such as by observation, personal interview telephone interview, mailing of questionnaires, through schedules.

Actual project work :-

It is very important step in the research work. Project proceeds on correct lines, the data to be collected would be adequate and dependable. If the survey is to be conducted by means of structured questionnaires, data can be readily machine-processed. In such a situation, question as well as the possible answers may be coded. The training may be given with the help of instruction manuals which explain clearly the job of interviewers at each step. These steps should be taken to ensure that the survey is under statistical control so that the collection information is in accordance with the pre-defined standard of accuracy.

Analysis of Data –

The analysis of data requires a number of closely related operations such as establishment of categories, the application of these categories to raw data through coding, tabulation and then drawing statistical inferences. The unwieldy data should necessarily be conducted into a few manageable groups and tables for further analysis. Researcher should classify the raw data into some purposeful and usable categories. Analysis work after tabulation is generally based on the computation of various percentage coefficients etc. In the process of analysis, relationships or differences supporting or conflicting with original or new hypotheses should be subjected. Similarly, the technique of analysis of variance can help us in analyzing whether three or more varieties of seed grown on certain fields yield significantly different results or not. In brief, the researcher can analyse the collected data with the help of various statistical measures.

Test of Hypothesis :-

After analyzing the data as stated above, the researcher is in a position to test hypotheses. Various tests, such as chi square test, t-test, F-test have been developed by statisticians for the purpose the hypotheses may be tested through the use of one or more of such tests, depending upon the nature and object of research enquiry.

Preparation of the Report / Thesis :-

Lastly, the researcher has to prepare the report of what has been done by him. The main text of the report should have the following contents-I) Introduction B) summary of findings, C) main report D) conclusion II) report written in a concise and objective style in simple language III) charts and illustrations in the main report should be used only if they present the information more clearly and forcibly iv) Calculated confidence limits must be mentioned and the various constraints experienced in conducting research operations may as well be stated

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Study Of General Landuse Pattern In Sangli District (Maharashtra)

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ABSTRACT:

Land is the very most important natural resource of country and the best base of Indian Agricultural production. The Land surface is fixed and of this only a certain proportion is available for cultivation. It is necessary to ascertain the extent to which land, now lying waste can become available for cultivation. Therefore land utilization is necessary for Agricultural development and planning. Efficient use of land depends on the capacity of man to utilize the land and manage it in proper perspective. Thus utilization of land for different purposes indicates an intimate relationship between prevailing ecological conditions and man with Irrigation facilities farmer is able to grow cash crops. Irrigation responds the shift from seasonal cultivation to permanent and promotes more intensive cultivation. The Sangli district is one of the district of Maharashtra states. It is located in the western part of Maharashtra. And it covers an area 8572 Sq.km. With comprise eight tahsil and 724 village and population of about 2832143 as per 2011 census. The Present Research paper is examined on general land use pattern in Sangli District.

Keywords: *Agriculture, Fallow land, Land use pattern, Net sown area.*

Introduction:

Land is the basic natural resource. The total life of human being depends upon land. Land is the surface utilization of all developed and vacant land at a given time and space. Land utilization is the use made of the land by man. Man uses land for pasture, mining, transportation, gardening, and residential, recreational, industrial, commercial and agricultural purposes. It is not normally possible to use land for two or more purposes simultaneously though sometimes even this possible. Land use is an important aspect of geographical studies particularly relevant to agricultural geography. The study of land utilization has both geographic demographic dimensions. The geographic aspect consists largely of a survey of the topography and soil conditions which influence the utilization of land for crops. The demographic aspect considers the studies of population distribution, composition, characteristics and trends not only in the area being survey, but in the whole country. Land use is the use actually made of any parcel of land, house, apartments and industrial location are Land use categories, whereas the term residential, industrial and agricultural refer to system of land utilization implying roads, neighborhood retail and service activities as well as location of industries and the carrying of agricultural pursuits. In a rural area, tree crop or row crop would identify land use, where an orcharding, truck farming and grazing indicate a system of land utilization. The term 'land utilization' is also used for varied utilization of land and soil surveys e.g. land under cultivation, pasture, barren, orchard, fallows, waste, settlements, forests, water bodies etc. Land use is conditioned by the association of two sets of factors firstly, physical factors such as geology, relief feature, climate, soil and vegetation which limit the use capabilities of land and secondly, cultural factors which include both economic and institutional factors. Cultural factors represent the length of occupancy of the area, demographic and socio-economic conditions, institutional framework and the technological levels of the people which determine the extent to which the land can be utilized. Thus, in general, there are three factors of land use e.g. (1) physical factors which includes geology, relief surface, drainage, underground water, climate, soil and vegetation (2) economic or location factors, (3) institutional factors.

Objectives:

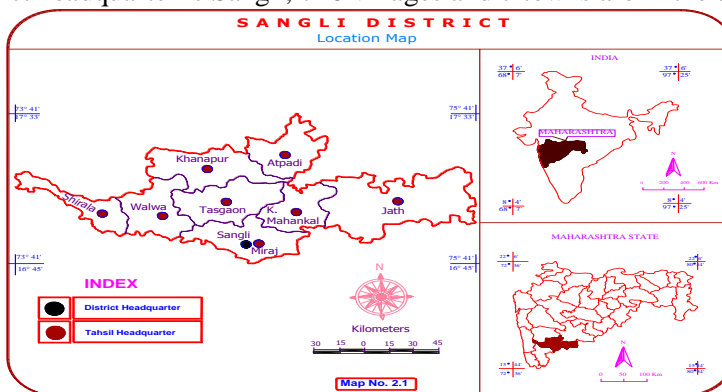
The main objective of the present study is to the general land use pattern in the Sangli District.

Data Collection & Methodology:

The present study mainly on based the primary and secondary data source. The primary data is collected by visiting of same places in Sangli District. The secondary data will be collected through the tahsil office. The Published records of Zilla Parishad of Sangli District, Reference books, journals, Agricultural epitomes published by state Government.

Study Area:

The Sangli district is one of the district of Maharashtra States. It is located in the western part of Maharashtra. Sangli District lies between the 16°45' N to 17°22' N latitude and 73°42' E to 75°40' E longitudes. And it covers 8572 Sq.km. area. Sangli city is the district headquarters. It is bounded by Satara & Solapur districts, to the north, Bijapur District (Karnataka) to the east, Kolhapur and Belgaum (Karnataka) districts to South and Ratnagiri district to the west. Sangli district is situated in the river basins of the Warna and Krishna rivers. Other small rivers, such as the Warna and the Panchganga flow into the River Krishna. The average annual rainfall of the district is 620.20 mm. in year 2015. The district headquarter is Sangli, 728 villages and 7 towns are in the district.



General Landuse Pattern in Sangli District:

Tahsil wise trends in general land use pattern in Sangli Districts is shown in Table No.1. With this generalized picture of general land use pattern of the Sangli district, a detailed analysis of the same is given below. For this analysis decadal average of the year 1990-95 and 2010-15 are used to find out the spatio-temporal changes.

Area under Forest:

Out of total geographical area below 4000hectare area was found under forest in Walwa, Atpadi, Miraj and Kawate Mahakal tahsils,4000 to 8000hectare geographical area was observed under forest in Tasgaon tahsil during 1990-95,whereas above 8000 hectare area was found under forest in Shirala, Khanapur and Jat tahsils. Out of total geographical area below 4000 hectare area was found under forest in Walwa, Atpadi, Miraj and Kawate Mahakal tahsils, 4000 to 8000 hectare geographical area was observed under forest in Tasgaon tahsil during 2010-15, whereas above 8000 hectare area was found under forest in Shirala, Khanapur and Jat tahsils.

1: Tahsilwise General Landuse Pattern in Sangli District (1990-95 and 2010-15)

(Area in '00' hectares)

Name of the Tahsil	Year	Area under Forest	Area not available for Cultivation	Uncultivable Land	Fallow Land	Net sown area	Total Geographical area
Shirala	1990-95	13122	2307	4326	1186	43007	63447
	%	20.68	3.63	6.81	1.86	67.78	100
	2010-15	13122	3228	4826	3177	39064	63417
	%	20.69	5.09	7.60	5.00	61.59	100
	Change in %	0.01	1.46	0.79	3.14	-6.19	0
Walwa	1990-95	2952	8448	282	4812	60278	78735
	%	3.74	10.72	0.35	6.11	76.55	100
	2010-15	2952	8803	1805	7319	57902	78781
	%	3.74	11.17	2.29	9.29	73.49	100
	Change in %	0	0.45	1.94	3.18	-3.06	0
Khanapur	1990-95	10936	11630	19009	2299	88207	132602
	%	8.24	8.77	14.33	1.73	66.52	100
	2010-15	10936	13324	18710	1850	87342	132602
	%	8.24	10.04	14.10	1.39	65.86	100
	Change in %	0	1.27	-0.23	-0.34	-0.66	0
Atpadi	1990-95	2146	9821	10506	18944	45752	87171
	%	2.46	11.26	12.05	21.73	52.48	100
	2010-15	2314	10602	11554	1427	59334	87171

	%	2.65	12.16	13.25	1.63	68.06	100
	Change in %	0.19	0.9	1.2	-20.1	15.58	0
Tasgaon	1990-95	4961	9018	7994	4163	84883	111215
	%	4.46	8.10	7.18	3.74	76.32	100
	2010-15	4961	10076	7994	8442	79786	111259
	%	4.45	9.05	7.18	7.58	71.71	100
	Change in %	-0.01	0.65	0	3.84	-4.61	0
Miraj	1990-95	1097	7590	5049	4159	73662	92624
	%	1.18	8.19	5.45	4.49	79.52	100
	2010-15	1097	10910	5850	2048	72737	92624
	%	1.18	11.77	6.31	2.21	78.52	100
	Change in %	0	3.58	0.86	-2.28	-1	0
K. Mahankal	1990-95	924	12262	7541	7814	38775	70673
	%	1.30	17.35	10.67	11.05	54.86	100
	2010-15	924	11647	7541	1939	51422	70673
	%	1.30	16.48	10.67	2.74	72.76	100
	Change in %	0	-0.87	0	-8.31	17.9	0
Jat	1990-95	11305	12698	5801	48840	145952	224607
	%	5.03	5.65	2.58	21.74	64.98	100
	2010-15	11305	9187	5725	36773	188180	224538
	%	5.03	4.09	2.54	16.37	83.80	100
	Change in %	0	-1.56	-0.04	-5.37	18.82	0
Gross Cropped Area	1990-95	47425	73133	60628	94100	586177	861065
	%	5.50	8.49	7.04	10.92	68.07	100
	2010-15	47593	77787	61205	36773	637707	861065
	%	5.52	9.03	7.10	4.27	74.06	100
	Change in %	0.02	0.54	0.06	-6.65	5.99	0

Source: Computed by the researcher on the basis of Socio-Economic Review and Statistical Abstract of Sangli District 1990-91 to 2014-15.

From 1990-95 to 2010-15 the positive volume of change (in %) in respect of area under forest is observed in talukas viz. Atpadi (0.19%) and Shirala (0.01%) and Total District (0.02%). From 1990-95 to 2010-15 the negative volume of change (in %) in respect of area under forest is observed in taluka viz. Tasgaon (-0.01%). Remaining tahsils of the study region was no change in area under forest.

Area Not Available For Cultivation:

This group includes a) the land put to nonagricultural uses and b) barren and uncultivable land. Area under land put to non-agricultural use includes land occupied by buildings, road and railway or under water and other such uses.

Out of total geographical area below 4000 hectare area was found not available for cultivation in Shiralatahsil, 4000 to 8000 hectare geographical area was observed not available for cultivation in Miraj tahsil during 1990-95, whereas above 8000 hectare area was found not available for cultivation in Walwa, Khanapur, Atpadi, Tasgaon, Kawate Mahakal and Jattahsils.

Out of total geographical area below 5000 hectare area was found not available for cultivation in Shirala tahsil, 5000 to 10000 hectare geographical area was observed not available for cultivation in Walwa and Jat tahsils during 2010-15, whereas above 10000 hectare area was found not available for cultivation in Khanapur, Atpadi, Tasgaon, Miraj and Kawate Mahakal tahsils.

From 1990-95 to 2010-15 the positive volume of change (in %) in respect of area not available for cultivation is observed in talukas viz. Miraj (3.58%), Shirala (1.46%), Khanapur (1.27%), Atpadi (0.90%), Tasgaon (0.65%) and Walwa (0.45%). From 1990-95 to 2010-15 the negative volume of change (in %) in respect of area not available for cultivation is observed in talukas viz. Jat (-1.56%) and Kawate Mahakal (-0.87%).

Other Uncultivable Land:

Other uncultivable land excluding fallow land consists three types of land viz. (a) Culturable waste, (b) Permanent pasture and grazing land, (c) Land under miscellaneous trees etc. Culturable waste land includes the land which can be brought under cultivation but which has not been cultivated for some time and not been cultivated successively for more than five years. The category of

miscellaneous trees, crops includes land under grass, bamboo, other trees used for fuel and casuarinas tress. Permanent pasture and grazing land include all such lands which are under grass cover owned by Government or privately.

Out of total geographical area below 4000 hectare area was found other uncultivated land in Walwa tahsil, 4000 to 8000 hectare geographical area was observed other uncultivated land in Shirala, Tasgaon, Miraj, Kawate Mahakal and Jat tahsils during 1990-95, whereas above 8000 hectare area was found other uncultivated land in Khanapur and Atpadi tahsils.

Out of total geographical area below 5000 hectare area was found other uncultivated land in Shirala and Walwa tahsils, 5000 to 10000 hectare geographical area was observed other uncultivated land in Tasgaon, Miraj, Kawate Mahakal and Jat tahsils during 2010-15, whereas above 10000 hectare area was found other cultivated land in Khanapur and Atpadi tahsils.

From 1990-95 to 2010-15 the positive volume of change (in %) in respect of other cultivated land is observed in talukas viz. Walwa (1.94%), Atpadi (1.20%), Miraj (0.86%) and Shirala (0.79%). From 1990-95 to 2010-15 the negative volume of change (in %) in respect of other uncultivated land is observed in talukas viz. Khanapur (-0.23%) and Jat (-0.04%) tahsils. No change was noticed in Tasgaon and Kawate Mahakal tahsils.

Fallow land:

The meaning of term "Fallow land" is that the land which is not under cultivation at the time of reporting but which has been sown in the past. Census of India has divided the fallow land into two type's viz. (i) Current fallow land, (ii) Permanent fallow land or other than current fallow.

Current fallow indicates the land left fallow during the current year only and permanent fallow (Other than current fallow). Means land left fallow temporarily out of cultivation for 1 to 5 years. However, for the present study these two categories are grouped together. Out of total geographical area below 4000 hectare area was found fallow land in Shirala and Kahanapur tahsils, 4000 to 8000 hectare geographical area was observed fallow land in Walwa, Tasgaon, Miraj and Kawate Mahakal tahsils during 1990-95, whereas above 8000 hectare area was found fallow land in Atpadi and Jat tahsils.

Out of total geographical area below 4000 hectare area was found fallow land in Shirala, Khanapur, Atpadi, Miraj and Kawate Mahakal tahsils, 4000 to 8000 hectare geographical area was observed fallow land in Walwa tahsil during 2010-15, whereas above 8000 hectare area was found fallow land in Tasgaon and Jat tahsils.

From 1990-95 to 2010-15 the positive volume of change (in %) in respect of fallow land is observed in talukas viz. Tasgaon (3.84%), Walwa (3.18%) and Shirala (3.14%). From 1990-95 to 2010-15 the negative volume of change (in %) in respect of fallow land is observed in talukas viz. Atpadi (-20.10%), Kawate Mahakal (-8.31%), Jat (5.37%), Miraj (-2.28%) and Khanapur (-0.34%).

Net Sown Area:

This category and fallow lands together constitute the extent of cropped land in any region and therefore is of vital significance in studies relating to agricultural geography. The land which is actually cropped during the current agricultural year is called "Net Sown Area" In computing the net area sown, areas grown more than once have been counted only once. Out of total geographical area below 50000 hectare area was found net sown area in Shirala, Atpadi and Kawate Mahakal tahsils, 50000 to 80000 hectare geographical area was observed net sown area in Walwa and Miraj tahsils during 1990-95, whereas above 80000 hectare area was found net sown area in Khanapur, Tasgaon and Jat tahsils.

Out of total geographical area below 50000 hectare area was found net sown area in Shirala tahsil, 50000 to 80000 hectare geographical area was observed net sown area in Walwa, Atpadi, Tasgaon, Miraj and Kawate Mahakal tahsils during 2010-15, whereas above 80000 hectare area was found under net sown area in Khanapur and Jat tahsils. A clear view of the movements of gross cropped area and net sown area is depicted in Graph No. 4.23 & 4.24. From 1990-95 to 2010-15 the positive volume of change (in %) in respect of net sown area is observed in talukas viz. Jat (18.82%), Kawate Mahakal (17.90%) and Atpadi (15.58%). From 1990-95 to 2010-15 the negative volume of change (in %) in respect of net sown area is observed in talukas viz. Shirala (-6.19%), Tasgaon (-4.61%), Walwa (-3.06%), Miral (-1.0%) and Khanapur (-0.66%).

Conclusion:

1. From 1991-95 to 2010-15 the negative volume of change (in %) in respect of area under forest is observed in taluka viz Tasgaon (-0.01%) Remaining talukas of the study region was no change in area under forest.
2. From 1991-95 to 2010-15 the negative volume of change (in %) in respect of area not available for cultivation is observed in taluka viz Jat (-1.56%) and Kawate Mahankal (-0.87%)
3. From 1991-95 to 2010-15 the negative volume of change (in %) in respect of other uncultivated land is observed in taluka viz Khanapur (-0.23%) and Jat (-0.04%) thasils. No change was noticed in Tasgain and Kawate Mahankal thasils.
4. From 1991-95 to 2010-15 the positive volume of change (in %) in respect of fallow land is observed in talukas viz Tasgaon (3.84%) Walwa (3.18%) and Shirala(3.14%). From 1990-95 to 2010-15 the negative volume of change (in %) in respect of fallow land is observed in talukas viz Atpadi (-20.10%). Kawate Mahankal (-8.31%), Jat (5.37%),Miraj(-2.28%), and Khanapur (-0.34%).
5. From 1991-95 to 2010-15 the positive volume of change (in %) in respect of net sown area is observed in talukas viz Jat (18.82%) Kawate Mahankal(17.90%) and Atpadi (15.58%). From 1990-95 to 2010-15 the negative volume of change (in %) in respect of net sown area is observed in talukas viz Shirala (-6.19%). Tasgaon (-4.61%), Walwa (-3.06%),Miraj (-1.0%), and Khanapur (-0.66%).

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Environmental Moments In India And Its In Sustainable Development

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Abstract: -

After the 1980s, environmental awareness began to increase around the world. Discussion around the world began to think about the sustainable availability of natural resources, resulting in discussions about environmental conservation, and sustainable development. In 1966, Kenneth Boulding wrote *The Economics of the Coming Spaceship Earth*. This article presents two main models of development. In 1972, the Meadows Brothers introduced the limits of development to the probable world through their scholarly articles, *Blue print for survival and limits of growth*. The questions posed by science, technology and the capital market explain the limitations of development. The Brundtland Report and the World Conference began to use the model of development, such as coordinated development and joint planning. Churches began in such a way that the model of the developed country could not leave the question of the developing country. The movement for the promotion of human rights based on the principles of justice, freedom, equality and brotherhood for sustainable development was formed. This research paper examines the contribution of environmental movements to sustainable development in India in terms of sustainable development. It studies major movements like Chipko movement, Appiko movement, Chilka movement, Narmada Bachao movement. What should be the development strategy? How to implement it? In this regards Questions presented. Creating a society free from exploitation, local communities should have the right to decide their own future. Such was the structure of these movements. This research paper examines the contribution of these movements to sustainable development and the extent to which they have been successful in showing new directions of development.

Preface: -

In the 1980s, environmental awareness in India began to grow exponentially. The main reason for the rise of churches around the world on environmental issues was the growing concern about the sustainable availability of natural resources. As a result, environmental awareness began to grow. In the article, he explained two models of development. The first model was a free economy, unbridled consumption of natural resources and limited production. It was presented as a model of Western development. The second model he proposed was limited use of natural resources, reclamation of sustainable materials from waste, development under a limited economy, in short, the second model of sustainable development. In 1972, the Meadows brothers, in their scholarly articles *Blue Print for Survival and Limits of Growth*, presented the limits of development to the potential world. The questions posed by science, technology and the capital market are explained in this article. In the 1980's, environmental concerns began to be expressed globally, and the issue was discussed at the Brundtland Report (1987) and at the World Conference (1982), as the nation's problems plagued all nations, regardless of their differences. The two conferences discussed the development of the environment. It was adopted by the developing nations as the model of the developed country. Mahatma Gandhi's model was not adopted by the then rulers in terms of sustainable development. Gandhiji's model of development was considered obsolete as industrial development, big dams, cities based on science and technology, in short, capital industry. The adverse effects of this model of development began to spread to India after the 1980s, and an environmental movement based on justice, freedom, and equality began to emerge in India. Environmental movements have played an important role in the promotion of human rights as well as the issues of displaced people, common workers, unorganized workers, tribal deprived groups and farmers. In short, the movement has started raising issues of various groups in terms of sustainable development. Assumptions: -

- 1) Environmental movements contributed to changing the pattern of development.
- 2) These movements laid the foundation for sustainable development.
- 3) In sustainable development, the issues of displaced people, ordinary workers, unorganized workers, tribal deprived groups, farmers will not be ignored. This was explained by these movements.
- 4) These movements made it clear that development of the locals can be achieved not only through big projects but also through small projects.

Objectives: - The following objectives are set out in this research paper for the study of the contribution of environmental movements in India to sustainable development.

- 1) To study the contribution made by Narmada BachaoAndolan, ChilkaAndolan, AppicoAndolan, Chipko Andolan to sustainable development.
- 2) To study the questions created regarding development.

Research Methods: Analytical in this research paper. A metaphysical, isolated approach is adopted. For this, primary and secondary tools have been used.

Environmental Movement: - In India, after the 1980s, it became clear that the concept of development adopted by the aristocracy was not in the public interest. The new mass movements have pointed out that a different path of development based on justice, freedom and equality has to be adopted.

Narmada Bachao Andolan: -

The Narmada BachaoAndolan is one of the most important movements in the struggle for sustainable development. In this regard, it is important to look at the issues raised by the Narmada movement. From this movement the limits of development and its consequences became clear. The displacement rehabilitation movement caused by several large dams began to raise questions about self-determination. The Narmada River enters Gujarat from the border of Madhya Pradesh and Maharashtra at a distance of about 1210 km from Amarkantak in Madhya Pradesh. The Government of India decided in 1946 to supply water to the drought prone areas of Madhya Pradesh, Gujarat, Rajasthan and Maharashtra. It was done by Jawaharlal Nehru. In Gujarat, it has been decided to build a 455 feet Sardar Sarovar Dam near Navagaon. The project has been declared as a joint venture between the three states of Gujarat, Madhya Pradesh and Maharashtra. Dams, 135 medium dams, thousands of small dams, a total of 3200 dams of tomorrow. The original height of Sardar Sarovar was fixed at 161 feet. It was later raised to 455 feet. The Sardar project is the largest and covers 300 hectares of land covering 1300 hectares of forest, affecting 35 to 40 million people and distributing water through canals in 75000 km of land areas affecting one lakh people and 234 villages directly. Is. A total of 573 villages will be displaced under all the projects. Out of this population, 57.6% are tribals. The project will affect over eight per cent of the total Indian population. It was clear that the project would displace the tribal masses. In 1987, the Narmada Dam Committee was set up to fight for the rehabilitation of the general public and tribals. To combat the plight of the tribals at the rehabilitation site and the barren land, the committee first set up a dam in Kaledia and recovered the money embezzled by the authorities.

The Narmada Dam Committee started working on the issue of IDPs in 9 villages. On August 18, 1988, due to non-receipt of any assurance from the Narmada Control Authority in Arabia, social activists of Narmada Dam victims and other organizations in all the three states of Kaledia Colony (Gujarat), Badwani (Madhya Pradesh) and Dhule (Maharashtra) submitted a statement to the District Collector. Protested. Narmada BachaoAndolan raised issues of further struggle regarding this project. Decision making process was wrong, rehabilitation was impossible, doubts about dividends, financial bankruptcy, environmental destruction and social justice. Ministry of Environment's rehabilitation policy, watershed development, dam capacity, plant and livestock benefit area, health alternative The project was approved without studying eight issues such as afforestation and earthquake funding. In short, the movement raises questions about sustainable development.

Chilka Movement: -

The state of Orissa is home to the largest chilka lake in Asia. The livelihood of 192 villagers depends on Chilka Lake. B. The Patnaik government jointly gave the power to fish in the lake to the Tata Company. The agreement left 50,000 fishermen unemployed and more than 200,000 unemployed. They were deprived of their traditional rights which resulted in conflict. The rights of the locals, bio and environment through this movement Ran presented the question of employment of unorganized people. Through this movement the issues of the locals are also important in sustainable development. Sustainable development must be done while preserving the bio-environment. The employment of unorganized people should also be considered while constructing the project. This is how questions were raised from this movement.

Movement of the chip: -

In 1974, a company called Symonds was awarded a contract to cut down Anju trees in Uttarakhand. The local people used to make agricultural implements from this tree and make a living from it. Most of the men in the area were invited to the district headquarters in Chamoli to seek redressal of their grievances. On the other hand, forest workers and loggers were sent to Raini village

to cut down trees. As there were no men in the village, the women got confused. But a woman named Gauradevi entered the forest area with 27 girls and women. After that, other women entered the forest area. Forest workers and contractors also tried to separate the women from the tree by showing them guns and weapons, but the women did not let go of the tree. The women did not leave the tree for two days and two nights. After the defeat, the forest department workers went back to the woodcutter. The movement raised the question of conservation of forests, the right of local people to use forests for subsistence. The movement made it clear that this should be included in sustainable development.

Appiko movement: -

Like the Chipko movement in North India, the Appiko movement made a different impression in South India. From that, the natural forest was turned into an artificial forest. In 1952, the Kannada forest was 81 per cent. Tensions grew between the needs of the people and the needs of for-profit industries, which led to the Apico movement. The purpose of the Appiko movement was to conserve forest resources.

These environmental movements raised some important issues in terms of sustainable development.

1. What about local resource ownership when creating development projects?
2. Why should the locals sacrifice their rights while implementing development projects for the people living a charitable life?

Such questions were raised by this movement.

Conclusion: -

1. The leaders of the above environmentalist movement are seen formulating a sustainable development policy based on Gandhian ideas. In order to make the process of development human-centered, nature-centered, efforts should be made to bring the society, which is haunted by castes, religions and creeds, towards moral and economic equality. Such insistence holds this movement.
2. Local communities should have the right to shape their future while pursuing sustainable development. Decentralization should be emphasized in development planning. Such insistence was met by these movements.
3. These movements made it clear that development policy should also address the issues of tribals, disadvantaged groups, unorganized workers.
4. These environmentalist movements made it clear that self-reliant development, sustainable development, environmental awareness and social rights should be considered in sustainable development.
5. No question should be asked as development is necessary. These environmental movements have eroded the role of the state. The issues of all groups should be considered in the Sustainable Development Policy. The movement succeeded in making this clear.

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Studies On Role Of Honey Bees As Pollinators For Sustainable Development Of Agriculture

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Abstract:

Bees are nature's marvel for sustainable development of agriculture as they spend their life span in visiting the thousands of flowers. Their economic role in agriculture is to pollinate thousands of flowering plants and assure setting seeds or fruits. The potential benefits, due to bee pollination, in the form of increase in yields of various crops including fruits & vegetables, oilseeds, pulses and other cash crops. Honey Bees have their vital role in sustaining plants bio-diversity resulting in environmental stability. Beekeeping is less expensive input for promoting sustainable and eco-friendly agriculture to enhance the crop productivity by cross pollination of various agricultural and horticultural crops. Studies reveal that the income in hands generated due to pollination in crops is much more than the income from honey. Beekeeping supplements income generation to the rural economy therefore still more efforts has to do.

Introduction:

Historically, the Royal commission for Agriculture promote beekeeping as cottage industry in 1928, then in Tamilnadu (1931), in Punjab (1933) and in U.P. (1938). In 1954, all India Khadi and Village Industries Board (KVIB) gave booster dose to beekeeping and beekeeping industry came on the map of village of India. Afterwards in 1981 Indian Council of Agricultural research (ICAR) launched project on honeybee research and training through Agricultural Universities. Thus at present there are about 18 lakh bee colonies in India with annual product in 78000 metric tons of honey. The major market for Indian honey are Germany UK, Japan, France, Italy and Spain. Though the honeybees are best known for the honey they produce, their economic role in nature is pollination, vital step in reproduction of flowering plants. It is the transfer of pollen grains from anther to stigma. It is amphimixis of male and female gametes and is necessary for all seeds and fruits production. Honey Bees play a vital role in food production and overall agricultural productivity, as pollinators. Their pollinating ability is such that if human remove just one species the honey bees from pollination process, he will starve to death. The reason is that, forager bees or worker bee is special cast in honey bees having only the function to visit the flowers as compared to other insects. The bees visits many flowers a day in search of pollen and nectar. Among the insects, bees are considered the most efficient pollinators because they have hairy bodies which easily pick up pollen grains as they move about in flowers. During a single day one bee may visit several hundred of flowers. Furthermore, bees are consistent foragers and tend to work one kind of flower at a time. Scout or searcher bees will locate the best flowers and then encourage their hive mates (forager bees) to use the same source. Pollen from the anthers is trapped in hairs covering the bee and carried to the stigma of the same plant or another from the same species. This is the first step towards fertilization and the production of seeds and fruits. Bees, therefore, play a vital role in food production and overall agricultural productivity, as pollinators. So beekeeping provides pollination services. In some countries the economic value of pollination is higher than the value of honey. Beekeepers move their hives to different farms in order to maximize honey flow and to improve crop pollination. In America, India and China pollination by bees is highest and fetches additional money to the beekeeper. Farmers are willing to rent the hives from beekeepers. Hives are placed near to the blooming crops (especially fruit and oil seed crops) and removed after flowering. Many beekeepers make money in this way and still have the honey from the hive. The beekeepers get double profit! In some countries like Uganda there are organizations that have practiced pollination services on rent to the farmer. Bees are known to increase and improve the yields of coffee, cotton, sunflower, onion, papaya, beans, mango, bananas, and many other cash crops.

Oil seeds	% increase in yields	Vegetables	% increase in yields
Mustard	128.1 to 159.8	Radish	22 to 100
Rai	18.4	Cabbage	100 to 300
Sarson	222	Onion	353,5 to 9,878
Sunflower	20 to 3400	Cucumbers	21.1 to 411
Linseed	1.7 to 40	Brinjal	35 to 67
Orchard crops	% increase in yield	Legume/Pulses %	% increase in yields

Grapes	756.4 to 6,700	Kidney bean/ghevada	500 to 600
Orange	471 to 900	Alfalfa (ghas)	23.4 to 19,733
Mosambi	35 to 750	Arhar (toor)	21 to 30

Table: The crop-wise increase in yield /hector due to bee pollination.

(Source: All India coordinated project on honey bee research and training)

Theme / Idea:

To enhance the beekeeping in agriculture sector, so as to increase the productivity of crops per hector through pollination for rural economy of farmers. Honey bees offers cross pollination in flowering plants which is less expensive input for promoting sustainable and eco-friendly agriculture and enhancing crop production. Though it is a valuable ecosystem service but till today farmers are not converged towards beekeeping for sustainable development of agriculture only because of following reasons-

1. Lack of technical knowledge for efficient management of bee colonies.
2. Lack of infrastructure at village level for promoting beekeeping.
3. Lack of honey bee species for promoting cross pollination.
4. Lack of quality nucleus stock of bees.
5. Flowering of plants and secretion of nectar and production of pollen is influenced by climatic conditions such as global warming.
6. Indiscriminate use of insecticides, pesticides, weedicides, etc. kills the bees.
7. Lack of infrastructure for producing genetically superior queen bees for supply to beekeepers.
8. Lack of adequate laboratories for disease prevention and control.
9. Lack of institutional support for beekeeping in terms of bank loans, etc.
10. Mono-Cropping culture.

Conclusions:

Bees are important to the farmers because more bees mean better pollination and higher yields. Nectar and pollen is only the food of bees and not used by other livestock so there is no competition. If bees are killed, the value and yield of crops is reduced. Therefore it is in everyone's interest to maintain and manage strong population of honeybees as a part of bee pollination management. Better management of bee colonies is essential to increase pollination efficiency of bees i.e. their visit to the blooming crop plants. The fundamentals of management of bee colonies for pollination are-

- a) Increase the number of bee hives in blooming crop fields.
- b) Provide additional hive frames by keeping a space for constant rearing.
- c) Provide additional storage or honey chamber to avoid swarming.
- d) Care of queen and young ones from disease and pest is essential.
- e) Bee Biology and Bee behaviour should know.
- f) Apply crop rotation system to attract the bees.

Beekeepers and farers have to do:

1. As insecticides kill the bees and contaminate hive products. Farmers can help by selecting and using the recommended pesticides with great care.
2. Never using pesticides when flowers are open. Foraging insects work on open blossoms and will be killed if sprayed at this time. If pesticides must be used, it is be sprayed early or late in the day when crop flowers are closed and there is no wind to drift the spray onto other flowers or hives. Farmers should always try to choose a pesticide that attacks the pest only but will not harm the bees.
3. Beekeepers should teach others the value of pollination by insects. They should also educate neighbouring farmers about insecticides and their negative impact on the bee colony.

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Sustainable Agriculture

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Abstract:

Sustainable agriculture is a farming systems that are "capable of maintaining their productivity and usefulness to society indefinitely and must be resource-conserving, socially supportive, commercially competitive and environmentally sound. Sustainability refers to the continuous ability and is a systems issue. Sustainability as a goal seeks durability for an activity or a system where a system is a collection of different elements, components, subsystems, or constituents knit together into an integrated whole that help in the system's organization and maintenance of its integrity (Von Bertalanffy, 1968). Sustainability does not mean that a system has an unlimited life span, but a sustainable system is one that attains its expected life span reliable with sequential scale.

Introduction:

Agriculture is the lifeline for provisions of life on earth. Agriculture encompasses every aspect of human survival by directly or indirectly connecting through the products consumed – from the air we breathe to the fossil fuels we depend. A sustainable system is one that survives or persists through emerging stresses and shocks owing to the interactive nature of its components (Costanza and Palten, 1995). Sustainable agriculture development is a central idea to all future human activities. In its good judgment agricultural sustainability means ecological sustainability. The revolution in agriculture is occurred with the support of technological advancements in improved crop and animal varieties, fertilizers, pesticides, irrigation and mechanization has resulted in meeting the projected demand of goods and services from agriculture. The need for bothering about agricultural sustainability is an awakening of twentieth century wherein the technological developments in agriculture, industry and infrastructure for human ease is falling short of support systems and resources to match the gentle increase in human population with enhanced life expectation and economic growth.

USDA (legal) Definition:

Sustainable agriculture means, an integrated system of plant and animal production practices having a site-specific application and that will,

1. Satisfy human food and fiber needs.
2. Enhance environmental quality and the natural resource on which the agricultural economy depends.
3. Make the most efficient use of nonrenewable resources and resources on-farm.
4. Control and integrate natural biological cycles.
5. Sustain the economic viability of farm operations.
6. Enhance the quality of life for farmers and society as a whole.

Major components of sustainable agricultural system:

1. Soil and water conservation to prevent degradation of soil productivity.
2. Efficient use of limited irrigation water without leading to problems of soil salinity, alkalinity and high ground water table.
3. Crop rotations that mitigate weed, disease and insect problems; increase soil productivity and minimize soil erosion.
4. Integrated nutrient management that reduces the need for chemical fertilizers improves the soil health and minimizes environmental pollution by conjunctive use of organics, in-organics and bio-fertilizers.
2. Integrated pest management that reduces the need for agro-chemicals by crop rotation, weather monitoring, use of resistant cultivar, planting time and biological pest control.
3. Management system to control weed by preventive measures, tillage, timely inter-cultivation and crop rotation to improve plant health.

4. A) Productivity:

5. Sen (1981) developed the concept of 'entitlements' as a medium for access to food. Various types of entitlements made people food secure. This has led to the awareness that maintaining productivity per unit area of land at sustainable yield that is within the productive ability of the land is a basic condition for the sustainability of an agricultural production system. This is the current distress in terms of the productivity component of

sustainable agriculture. In addition, the high cost of production and low profitability are frightening the sustainability of the levels of yield of these intensive cultivation systems (Cassman *et al.*, 1997; Ladha *et al.*, 2003; Pingali *et al.*, 1995).

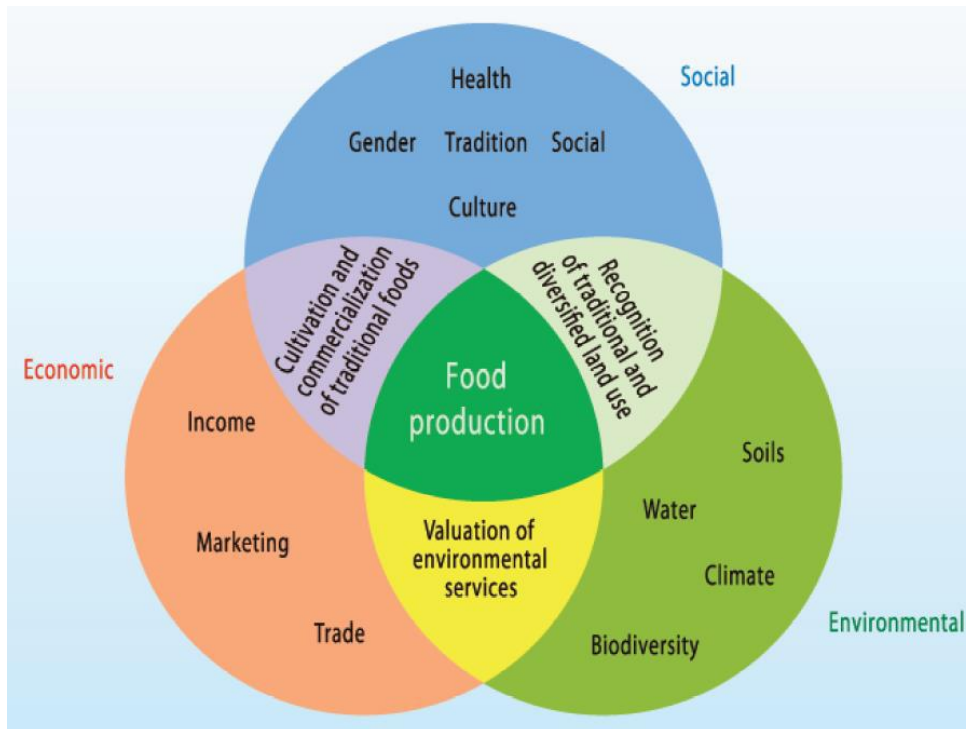


Fig 1. A generalized diagram showing interrelationships between basic components of sustainability (IFOAM)

B) Ecological Viability:

The modern methods of agriculture production of plants and animals with trust on monocultures, improved plant types with high productivity potential that demand higher qualities of nutrients and water, powerful pesticides that aims to eradicate the pests (weeds, insects and weeds), modified production atmosphere through poly houses for overcoming weather dependency of agriculture, mechanization etc., definitely increased the yields and profits but caused permanent negative impact on soil and environment. Increased greenhouse gas emissions, loss of variety of crops and plant life, development of pesticide resistance, nutritional imbalance, dislocation of cattle population, mass-produced micro-climate, infrastructure development of warehouse, cold storages, roads, transport, etc. is seriously impacting the regional/local ecological balance.

C) Social Acceptability:

Social justice and equity, the fourth component of sustainability, is even more multifarious. It is more external fact to the farm and natural assets but of human values that impacts on the farming practices and level of adoption of technologies acceptable to the social norms in the farming community.

Conclusion:

The aspects of efficient use of resources with conservation, growth with equity, demand driven and sustainability are the hard odd jobs to complete given background of agricultural diversity and inflexible customs attached to agriculture in India.

Advantages of sustainable agricultural system:

1. Production cost is low.
2. Over all risk of the farmer is reduced.
3. Pollution of water is avoided.
4. Very little or no pesticide residue is ensured.
5. Ensures both short and long term profitability.

Disadvantages of sustainable agricultural system:

1. Since sustainable agriculture uses least quantum of inputs; naturally the output (yield) may also be less.

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Role of Water, Sanitation, and Hygiene methods on Improving Health Outcomes among Children.

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Abstract

This review was done to explore the impact of water treatment, hygiene, and sanitary interventions on improving child health outcomes such as absenteeism, infections, knowledge & hygiene education among school-age children. A literature search was conducted using the databases PubMed and Google scholar for studies published between 2009 and 2012 and focusing on the effects of access to safe water, hand washing facilities, and hygiene education among school-age children. Fifteen studies were included in the final analysis. 73% of the studies were conducted in developing countries and were rural based (53 %). The child's age, gender, grade level, socioeconomic index, access to hygiene and sanitary facilities, and prior knowledge of hygiene practices were significantly associated with the outcomes. Nutrition practices which are key factors associated with the outcomes was rarely assessed. Further research is required to assess the long-term impact of such interventions in different settings.

Key words: Water, Sanitization Hygiene, infection Diarrhea

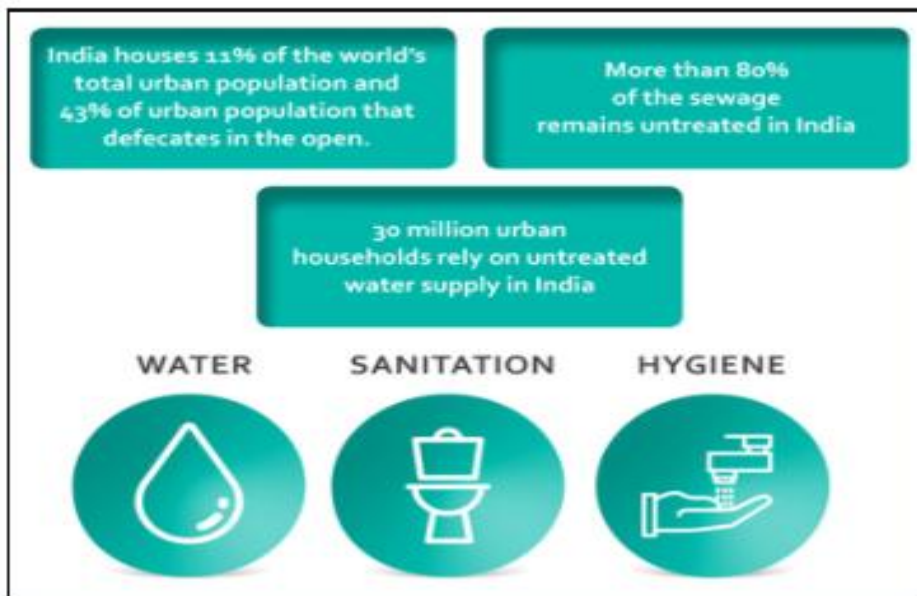
Introduction: The poor access to water supply is a prevalent issue in over 850 million people worldwide with over 2.5 billion limited by access to sanitation facilities. The global burden of disease and mortality rates could be reduced by about 9.1% and 6.3%, respectively, if rapid success is attained in facilitating access to water, sanitation, and hygiene facilities. A large proportion of these diseases are related to diarrhea incidences which contribute to the mortality rate of about 1.9 million and new diarrhea cases estimated at 4 billion annually especially among children under five years old.

The World Health Statistics review done in 2009 showed that the highest case fatality rates due to diarrheal incidences occurred in India with over 386,000 diarrheal deaths. High mortality rates of about 13.9% are still attributed to diarrheal deaths in Egypt among children less than five years old irrespective of the recent reduction in child mortality rates. The leading cause of infant mortality and health-related expenditures has been attributed to diarrheal incidences among children in Indonesia. Diarrheal diseases are also the third cause responsible for **increased morbidity rates** in all age groups in Indonesia.

There is a huge effect of lack of appropriate water facilities, hand washing, and hygiene practices on child health outcomes. Impaired cognitive learning and learning performance are long-term outcomes of the negative effects of infections such as diarrhea, worm infestations.

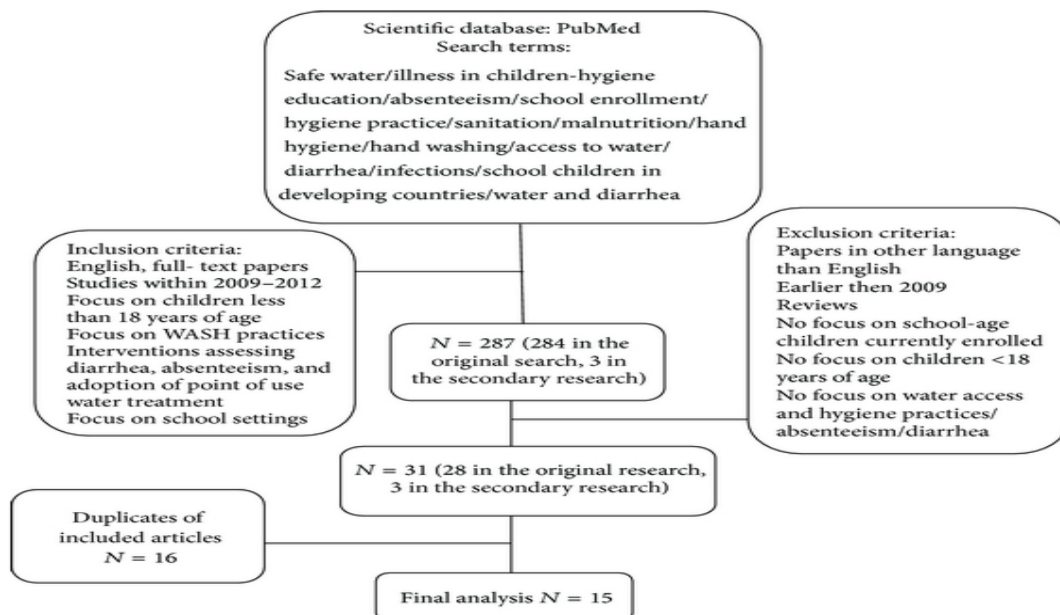
Attendance is a strong predictive factor of academic success. **Absenteeism due to illness** has been shown to be reduced by implementation of mandatory **hand hygiene and sanitary procedures**. The availability and utilization of **alcohol-based sanitizers** in schools have also been shown to reduce absenteeism by about 20–50%. A hand hygiene intervention in two public elementary schools in Chicago involving instructions in hand hygiene practices and provision of hand hygiene facilities significantly reduced absenteeism among students

There have been considerable studies that have examined the effect of water treatment, hygiene, and sanitary practices on reducing absenteeism, diarrhea prevalence, and acute respiratory infections in school-age children. However, limited research has been done to evaluate the effectiveness of water, sanitation, and hygiene practices through randomized controlled clinical trials to gauge the long-term impact of these interventions on improving child health outcomes. It is reviewed that the objective of the study is to examine and describe the gaps in the existing water, sanitation, and hygiene interventions to improve child health outcomes such as acute respiratory infections, diarrheal episodes, and absenteeism in various settings



Methods:

A search was conducted in January 2013 using the scientific databases PubMed and Google scholar for studies published between 2009 and 2012 and focusing on the effects of access to safe water, hand washing facilities, and hygiene education among school-age children.



Result:

From review it can be concluded that the outcomes assessed were reducing illness-related absenteeism, gastro-intestinal, and respiratory infections and adoption of point-of-use water treatment in children. Hygiene and sanitation interventions have had considerable impact on reducing diarrhea and absenteeism rates in school-age children.

Discussion:

Results of our systematic review yielded fifteen studies which assessed the impact of WASH practices to improve the knowledge, attitudes, practices, and child health outcomes. These health outcomes include absenteeism, diarrhea, acute respiratory infections, and adoption of point of use water treatment. More than half of the studies (53 %,) were randomized controlled trials, followed by 40%

cross-sectional studies and 6% being a case series study. 60% of the studies were interventions that involved water treatment, hygiene practices, hygiene education, and sanitation in single form or in combination. Various data collected included socio-demographics, household and school characteristics, and environmental factors. Higher rates of infection by helminthes and protozoa were more prevalent in the younger age group consisting of children aged 7-8 years old compared to the older children aged 8 to 10 years. The most commonly assessed variables with highest significance were latrine coverage and hand washing practices while the least commonly assessed were school characteristics including pupil-latrine ratio, availability of soaps in toilets, water source contamination, water availability, drying material availability, and several household variables including number of people sharing bedroom or toilet with child. This review showed that several independent variables were implicated in the adoption of WASH practices and found to be significantly associated with the outcomes. These variables should be carefully studied in future randomized controlled interventions. They include the age of the child, gender, grade level, socioeconomic index, access of hygiene sanitary facilities & hygiene facility.

Conclusion:

This review identified a gap in assessment of nutrition practices which is a key factor related to the various outcomes studied especially diarrheal infections and should therefore be given more attention in future research. The studies assessed the health and educational effects of WASH practices in schools on reducing absenteeism and diarrhea prevalence/infections among school-age children on a short term. However, there have been little or no empirical studies which examined the long term impact of WASH interventions on child health outcomes, and therefore limited data to support future interventions. This was noted as a limitation in various studies showing a high loss to followup, where followup was present [30]. The positive effect of an education component in the intervention on the uptake and adherence to hygiene practices should be noted in future research. Knowledge was implicated in several studies in this review as a facilitator in the uptake of hygiene practices and interventions. Several key independent variables including age of the child, gender, grade level, socioeconomic index, access to hygiene and sanitary facilities use and prior knowledge of hygiene practices which were significantly associated with child health outcomes should be noted and controlled for in future interventions. The review concluded that the importance of access to safe water, hand washing facilities, and hygiene education cannot be underscored in abating water-borne illnesses, malnutrition, school absenteeism, and generally improving the quality of life and learning performance in children.

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Spatial Analysis of Rural Settlement in Nashik District, Maharashtra

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Abstract

The present paper is to identify the types of rural settlements of the Nashik District of Maharashtra. For analysis of rural settlement of the study area, dispersal index has been calculated by using the **R.B.Mandal (1972)** method. Present study is mainly based on secondary source of data which is collected from the Census Handbook of Nashik District, 2011. Rural settlements show the reciprocal relationship of human occupation features and environment. The overall analysis of the research work indicates that dispersal index value of the study area is varies from 416 in Peth tahsil to 1121 in Niphad tehsil. The rural settlements of the study region categorized on the basis of Dispersion Index into four different types; Fragmented, Dispersed, Composite and Compact settlement. Western and some eastern part of the study region is witnessed for the fragmented settlements. It includes Peth, Surgana, Trambak and Trambak tehsils in the study area. The main cause of formation of this settlements is unfavorable physical condition for human settlement due to rugged topography, poor soil, steep slope, poor transportation network and less agricultural development. Whereas compact settlements are observed in Deola, Nashik and Niphad tahsils of the study area, where physical environment is good for agricultural development due to plain region, fertile soil, availability of irrigation facilities and good transportation network.

Keywords: Settlement, Rural Settlement, Dispersion Index, Settlement Density, Compact Settlement and Composite Settlement.

Introduction:

Settlement Geography is main branch of Human Geography. The main aim of studying settlement geography is to acquaint with the spatial & structural characteristics of human settlements under varied environmental conditions. Human have created settlement in own needs, and it's been evolving for a long time (**Mondal & Roy, 2020**). The housing number is increasing day by day due to the increase in population and the reduction of joint family (**Lamia Ferdous, 2017**). Arousseau (1920), Bernhard (1931), Pawlowski (1938), Debouverie (1943), Trewartha (1946), Mandal (1972), Hudson (1976), Gilg (1996) and many other Geographers have studied the settlements and explained the types of rural settlements on the basis of various criteria's and statistical methods. Trewartha (1946) suggests two primary types of rural settlement as an isolated or dispersed and nucleated. R.L.Singh have classified rural settlement into four type. It includes Compact, Semi Compact, Semi Sprinkled and Sprinkled or dispersed. All human settlements are different from one another depending upon the surrounding environment. Hence, rural settlements show the reciprocal relationship of human occupation features and environment (**Singh, 1961**). Types and pattern of rural settlement is totally depends on physical and socio-economic condition of the region. Therefore settlement are not observed same everywhere on the earth surface.

Study Area:

Nashik District is one of the major agriculturally developed district of North Maharashtra which is located in the western part of the country. It extends from 19° 33' to 20° 53' North Latitude and 73° 15' to 75° 16' east Longitude. It is bounded by Jalgaon and Aurangabad districts in the east, Dhule district in the north, Ahemadnager district in the south, Gujarat state in the north- west and Thane district in the south- west. The Nashik district has 15 tehsils which are grouped into four sub-divisions. It includes Nashik, Malegaon, Niphad and Kalwan sub division. The district is a part of Deccan plateau of the Peninsular India and formed by basaltic rocks. The elevation of the study area is varying between 300 Metres to 600 Metres from the sea level with lofty peaks. The district has two main rivers, the Godavari and the Girna. The climate of the district is generally observed dry except during the monsoon season. The average annual rainfall of the study area is 1034.5mm. According to the 2011 census, Nashik district is 15,530 sq. Kms proportion with the Maharashtra state about 5.05 %. Out of which 57.47 % is rural and 42.53 % is urban. In 2011, Nashik district had population of 6,107,187 of which male and female were 3,157,186 and 2,950,001 respectively. Average literacy of Nashik district in 2011 was 82.31 percent. With regards to Sex Ratio in Nashik District, it stood at 934 per 1000 male. Child sex ratio is 865 girls per 1000 boys. The density of population is 393

persons per sq. km. Among the 35 Districts of the State, the District ranks 3rd in terms of area, 4th in terms of population and 7th in terms of population density. Location of the study area is showed in Fig. No.1. As per the 2011 census of India, Hindu was the principal religion in the district at 85.73 percent of total population. Whereas Muslims constituted 11.35 percent of the district's population. Buddhist, Jain, Christians constituted 1.55 %, 0.63 %, 0.39 % of the population respectively. Remaining 0.16 percentage people not stated their religion. There are 1919 villages are located in the study area.

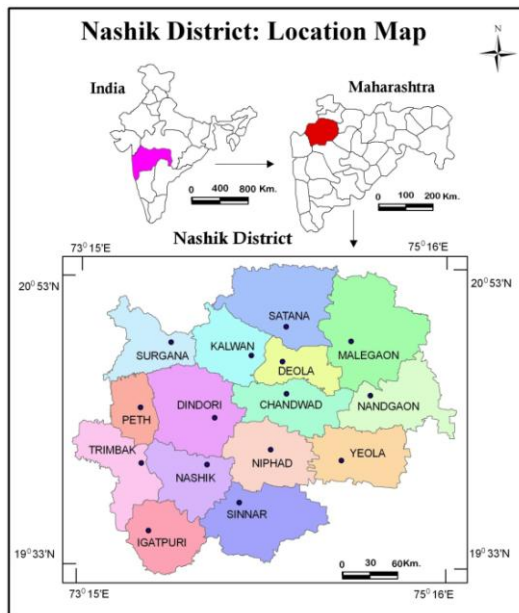


Fig. No.1

Objectives:

The main objective of the present study is to analyze the types of rural settlement and their affecting factors in the study area.

Data and Methodology:

Present study is mainly based on secondary source of data. Secondary data obtained from socio-economic abstract of the Nashik district (2019), Census of India Website, & Nashik District Gazetteers. The tahsil has been taken as a unit for spatial analysis of rural settlement of the Nashik district. For reference purpose some books, research papers, websites newspapers articles are also used. Data is processed and represented with the choropleth map by using GIS techniques. Dispersion Index is calculated for each tehsils by using following formula given by **Mandal, R. B. (1972)**.

Average population size of settlement (a)

$$\text{Dispersal Index (DI)} = \frac{\text{Average population size of settlement (a)}}{\text{Average spacing of settlement (b)}}$$

DI= Dispersal Index

a = Total Population / number of settlement

b = $\sqrt{\text{total population / number of settlement}}$

Higher Dispersal Index Value shows compact settlements while lower Dispersal Index values indicate dispersed settlements. For the analysis of rural settlement density is also calculated for each tahsil with help of following formula:

Number of Total settlement in Tahsil

$$\text{Settlement Density} = \frac{\text{Number of Total settlement in Tahsil}}{\text{Total area (Rural) of tahasil (sq.km)}}$$

Results and Discussion:

Settlements are the most distinctive form of the cultural landscape (**Kharate, 2009**). The type of rural settlements is mostly considered as a distributional type in which rural settlements are classified on the basis of agglomeration and dispersion of the houses (**Pore, 2018**). Rural settlements are of various types. Different physical, socio-economic and cultural factors have an influence on the types of settlements. Their nature is uneven spatially and distribution of settlements is also not even

everywhere. Hence different types of settlements found in different regions (Sandanshiv, 2020). Rural settlements are places of habitation, production and living for rural people, and are affected profoundly by the natural conditions and factors of rural society, economy and culture (MA Xiaodong, 2013). For the analysis of classification of rural settlement types a statistical method (Dispersion Index) of R.B.Mandal (1972) has been applied, which is shown in the Table No.1. After the using the formula of Dispersion Index, all tahsils are grouped into four types of rural settlements which are shown in Table No.1 and Fig.No.2.

Table No.1.Nashik District-Dispersion Index & Settlement Density

Sr. No	Tahsil	Area in sq. km (Rural)	Rural Population	No of Rural Settlements	Settlement Density (Per Sq.km)	Dispersion Index
1	Surgana	843.75	169553	190	4.44	423.47
2	Kalwan	874.81	208362	152	5.76	571.41
3	Deola	569.5	144522	50	11.39	856.45
4	Satana	1479.28	336734	169	8.75	673.49
5	Malegaon	1794.07	368137	143	12.55	726.82
6	Nandgaon	1082.04	185186	100	10.82	562.98
7	Chandwad	925.3	210508	111	8.34	656.85
8	Dindori	1400.25	315709	157	8.92	673.35
9	Peth	572.98	119838	145	3.95	415.77
10	Trambak	886.67	156367	125	7.09	469.69
11	Nashik	559.67	175948	73	7.67	870.50
12	Igatpuri	817.49	197686	117	6.99	639.21
13	Sinner	1360.89	281091	129	10.55	670.87
14	Niphad	1041.89	418853	134	7.78	1120.99
15	Yeola	1051.68	221320	124	8.48	612.88

Source: Computed by Researcher with help of Census Data 2011

Table No.2.Nashik District-Types of Rural Settlement as per (Mandal Dispersion Index)

Dispersion Index	Types of Settlement	Name of Tahsils	Total No. of Settlement	Total Area (%)
Less than 565	Fragmented	Peth, Surgana, Trambak & Nandgaon	460	23.97
565 to 665	Dispersed	Kalwan, Yeola, Igatpuri & Chandwad	604	31.47
665 to 765	Composite	Sinner, Dindori, Satana & Malegaon	598	31.16
Above 765	Compact	Deola, Nashik & Niphad	257	13.39

Source: Computed by Researcher, 2021

Fragmented Settlements:

These settlements are characterized by the presence of small group of rural dwellings which are widely scattered over the area. In this settlements houses are found far away from each other. The dispersion values of these settlement category is less than 565. The fragmented types of rural settlement are found in the western and at some eastern part of the study area. 23.97 percent part of the study area is covered by these settlements. Peth, Surgana, Trambak and Nandgaon tahsils are included in these area. The settlement density of these region is 18.18 per sq.km. There are two separate region of these settlements. One is located in the western part of the study region, which is dominated by rugged topography. Rugged topography, steep slope, less ground water level & poor quality soils may be responsible factors for the formation and development of this type of settlements. Another region is located in the eastern part of the study area where climatic condition is not too much favorable for agriculture and other human occupations, therefore in this region size of settlements is observed very small and most of settlements are scattered.

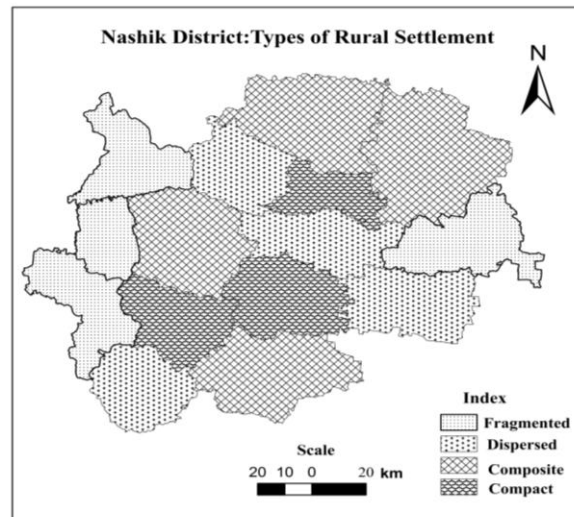


Fig.No.2

Dispersed Settlements:

Dispersed type of rural settlements is also known as deagglomerated or de-concentrated rural settlements. This type is completely opposite type to the compacted settlements. In this settlement type, scattered huts or homesteads could be seen all over the village area and relatively long distance between dwellings. The dispersal values of these settlement category is from 565 to 665. 31.47 percent part of the study area is covered by these settlements. These type of settlement are mostly found in Kalwan, Yeola, Igatpuri and Chandwad tahsils of the study area. The settlement density of these region is 23.31 per sq.km. These settlements are small in size and they are located near the cultivable lands. These settlements are poorly linked with each other in the study area.

Composite Settlements:

Composite settlements are more common in the relative plain and fertile areas. In study area these types of settlements observed in Sinnar, Dindori, Satana and Malegaon tahsil of the study area and it covers 31.16 percent area of the Nashik District. These region having dispersal index value in between 665 to 765. Dindori and Satana are two major tahsils of the study area where agriculture is developing rapidly is one of the important cause of formations of these types of settlements. In case of Sinner tahsils due to industrial areas and SEZ is major cause of attracting outside migration around these areas villages therefore composite settlements are observed. In case of Malegaon tahsils rapidly growing population is may be one important cause of formation of these types of settlements..

Compact Settlements:

These settlements are also known as nucleated or clustered settlements. Generally in nucleated settlements houses are constructed very close to each other and roads are very narrow. Compact rural settlement is the product of permanent agriculture, productive land and favorable climatic conditions (Patil, 2019). These types of rural settlements are observed in Deola, Nashik and Niphad tahsils of study area which is covers 13.39 percent part of the study area. Niphad and Nashik tahsils are well developed in agriculture due to fertile black soil and availability of good irrigation facility. Transportation facilities are also well developed in these region and it is located very close to city area where job opportunities are good. Deola tahsil also have these types of settlement due to favourable condition for agriculture, such as the availability of fertile soils, comparatively plain region and development of irrigation facilities. Most of settlements are located in the area having dense population with close spacing between the houses. The settlement density of these region is 26.84 per sq.km.

Conclusions:

The overall analysis of the research work indicates that dispersal index value of the study area is varies from 416 in Peth tahsil to 1121 in Niphad tehsil. The rural settlements of the study region categorized on the basic of Dispersion Index into four different types; Fragmented, Dispersed, Composite and Compact. Western and some eastern part of the study region is witnessed for the fragmented settlements. It includes Peth, Surgana, Trambak and Trambak tehsils. The main cause of formation of this settlements is unfavorable physical condition for human settlement due to rugged

topography, poor soil, steep slope, poor transportation network and less agricultural development. Whereas compact settlements are observed in Deola, Nashik and Niphad tahsils of the study area, where physical environment is good for agricultural development due to plain region, fertile soil, availability of irrigation facilities and good transportation network. The study of settlement density indicates that it is observed very less in the area of fragmented and dispersed settlement area (Peth, 3.95 per sq. kms.), (Surgana, 4.44 per sq. kms.) whereas it is comparatively more in area of composite and compact settlements (Malegaon, 12.55 per sq. kms.), (Deola, 11.39 per sq. kms.) in the study area. On the basis of study it is concluded that physical, socio-economic factors have influence on the type of rural settlements in the study area. Their favorable nature leads to compact settlements while adverse condition leads to dispersed and fragmented settlements.

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Gender Equality & Women's Empowerment

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Abstract: - Gender Equality is a Right of Every Human Being. It means providing equal opportunities & rights to all men, women & transgender. All should get equal freedom & rights to lead his or her life according to their choice but past history reveals that especially women & transgender faced too much problems in order to achieve equality in all respects and thus the concept of women empowerment blooms to secure & sustain the dignity of women. While transgender are still in state of developing their status & struggling for getting respect from society. Therefore we need to think liberal & treat everyone same.

Keywords: - Respect Genders, Obey Fundamental Rights, Promote Harmony & Humanity.

Introduction: - Whenever we think about gender inequality, the first & foremost thing which comes in our mind is the injustice imposed over women by male fraternity & other groups of our rudimentary system. In Ramayana, we know Sita "Agni-Pariksha" which is imposed by her husband Lord Rama. We know that there was a "Sati Pratha" where a widow wife was burnt alive along with dead body of her husband which is really inhuman custom. We also know about "Parda or Burkha System" which is meant for women only and along with this there are various other ill-practiced, where a girl child, daughter, sister, wife & mother was continuously accused by male domination. On the other hand transgender community is still isolated in our country. But as the time passes our system undergoes the process of changing, it is continuously influenced by western culture and a new modern civilization came to existence. More over new thoughts & ideas somehow uplift the status of women & transgender in present scenario but lot more things are still awaiting in terms of equity. Right to Equality, Right to Freedom are some of our important fundamental rights in Constitution of India which gives feathers to "Rights of All Gender".

Content: - Apart from lots of discrimination, controversies towards gender attitude, women now are moving ahead towards a new world. Women contribution was negligible in previous times, but now a drastic change is observed in the life style of women. Her power makes the world motile. Her presence refreshes the beauty of nature, she is bold, beautiful and smart with respect to our culture & heritage also along with this she possess the potential to change the world. Women not only play a vital role in family but also stood for the development of society and as well as contributing towards the progress of nation. Women also show their participations in various organizations, different sectors, corporate offices, multinational companies and almost in all the fields. she contributed the same as compare to men. None of the organizations or departments is running without women, almost all types of sector is running successfully because of tremendous effort and hard work of women. Her positive attitude motivates others. Her achievements become the source of inspiration for all. She is a good combination of brain and beauty. Actually various fundamental rights, education policies, and various law & orders helps women to flourish them in all possible ways and to prove their identity in male dominating society.

We also aware that lots of organizations, women commission, NGO's are working day & night to empower women & to secure their status in society but unless & until women won't take stand for themselves everything will go waste. All men should support women, treat them with respect instead of taking granted. One woman should support another woman. A girl child or a boy child should get equal respect & freedom in a family. So if we want to overcome from inequality among all the genders we should go for concrete change in the attitude & behavior of both men & women then an only we think about gender equality.

Whereas transgender are still struggling with our system for achieving good status & better life style. Some laws & acts are meant for them but communities are still not lite a new path to move from darkness of sorrow to light of knowledge. So it the duty of each & every individual to give support, respect & equal opportunity to them, to understand their needs & requirements, try to fulfill & accomplished their genuine demands, proposed various welfare schemes, implement proper law & order for their holistic development, and motivate them through harmony & humanity so that they can also move towards sustainable development and contribute for society & nation.

Conclusion: -

Gender Equality & Women Empowerment both are like two sides of a single coin. So if we want to treat everyone same, maintain equality among all the genders then we should have to empower women & transgender and for this everyone must need to adopt following things and teach the same to our future generation.

1. First & foremost eradicate all old orthodox thoughts.
2. Abolishing in human practices.
3. Develop respect for all genders.
4. Stop domination & treat everyone equal.
5. Strictly follow or obey all fundamental rights of our Indian Constitution.
6. Woman should protect, support & respect another woman.
7. Do not take woman for granted.
8. Never ever support any injustice or inequality.
9. Always take stand against any discrimination.
10. Implement new laws & acts for protection of women fraternity.
11. Need to think out of box, for gender equality.
12. Educate people through various gender sanitization awareness programs.
13. Promote movies like Dangal, Three Idiots, PK, OMG etc.
14. Motivate youth to campaign against gender inequality.
15. Need to explain the importance of each & every individual identity.
16. Need to create more liberal & responsible society.
17. Some more reservation facility should be available for transgender.
18. Promote love & harmony among all genders especially for transgender.
19. Try to understand the difference between human being & being "Human"

Also it is very important to educate, support & empower all "Women Fraternity" because confidence, intelligence and determination are the vital ingredients when it comes to defining today's spirited women as well as they are the only one who possess the power to give "Life to all". Lastly spread happiness, love & affection towards all genders and treat them equal as we all are the wonderful creature of Almighty.

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Nutritional Status of Indian Children : Geographical Analysis

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In recent days, the problem of under nutrition or malnutrition has become a silent emergency. One of the important aspects in health is nutritional status of women and children. Good nutrition and proper diet is very much essential for healthy living condition. It facilitates the healthy living, it contributes for proper physical development and generates energy which will help us to perform protective functions. It is depressing that in India about half of the children are facing the problem of malnutrition. This paper examines the nutritional status of children in India, This paper is based on secondary data. One of the most important queries ever asked by human being in the history of everyday life is 'how are you'? Is it an instinct enquiry or just the opening remarks of interaction? Is it a natural or Geographical question? By this basic question it can be reiterated that every human being is struggling to maintain and sustain able and stable health condition in human history. Therefore people always begin with the how you are question, with the feeling that only when health is alright, everything will be on track. However, maintaining stable health is not always depends on individuals. For most of seonditions, human beings themselves are not responsible. Geographical and politico-cultural factors occupy major share in the overall success and failure of health. Therefore health has become one of the important indicators of social and human development, One of the important aspects in health is nutritional status of women and children. Good nutrition and proper diet is very much essential for healthy living condition. It facilitates the healthy living in three ways: First, it should contribute for proper physical development. Second, is it should be energy generating and finally it should perform protective functions. In this regard, different age group people depending upon their age, gender, physical activities and climate require different quantity and qualitative food which meets the proper nutritional requirements. In recent days, the problem of under nutrition or malnutrition has become a silent emergency. Always the visible conditions and direct effect of nutritional imbalance is revealing health status and the life style. In the same way the hidden factors have influenced such a big health disorder are unrevealed Geographical and cultural factors. Among them, the mancriteria's like religion, caste and gender play an important role in determining the existing situations, A number of studies have been already conducted on the issues related to under nutrition and malnutrition. Many studies have found that the main cause of malnutrition among children is improper protein consumption, ultimately leading to malnutrition among children below 5 years. Protein energy malnutrition (PEM) is identified as a major health and nutrition problem in India. It occurs particularly in children in the first year of life. It is not only an important cause of childhood morbidity and mortality, but leads also to permanent impairment of physical and possibly, of mental growth of those who survive. (Park K, 2009). Over the years, the concept of "Protein gap" has given place to the concept of "food gap" * thiatds^ -PEM is primarily due to an inadequate intake of food (food gap/ both in quantity and quality, and Infections, notably diarrhoea, respiratory infections, measles and intentional worms which increase requirements for calories, protein and other nutrients, while decreasing their absorption and utilization. (Ibid, 2009)

Geographical Factors of Malnutrition Role of poverty:

Poverty is one of the major causes of ^nutritional problem among children. Poverty acts like vicious circle leading to illiteracy, unhealthy living condition, lack of awareness, ignorance. The Geographical model. hypothesises that poor families do not have the economic, social or community resources needed to be in good health. For instance, poverty affects children's well-being by influencing health and nutrition, the home environment, and neighborhood conditions. The combined effects of poverty provides the foundation for a cycle of poverty and hopelessness among family members, who in turn engage in risky health behavior, such as substance abuse, smoking and poor dietary habits, that can result in obesity and nutrition-related chronic disease. (Nnakwe, Nweze Eunice, 2009). In spite of some improvement in nutritional status, nearly half the children are suffering from malnutrition. This means that about half of the children of India may not have reached their physical or mental potential and sizable proportion of them may be functionally impaired. Clearly the incidence of malnutrition is much more widespread than the incidence of income poverty. Also reduction in malnutrition is much slower than that of -income-poverty. (Radhakrishna, R et.al, 2011)

Impact of Child marriage :

Infant nutritional status is reflected through her mother's health status. Early marriage and repeated episodes of pregnancies has a serious effect on mother which contributes to serious problem like 'maternal depletion syndrome' which has a direct effect on her body. Adverse effect of short birth interval of child survival is the first mechanism is 'maternal depletion syndrome' according to which a mother with repeated pregnancies and especially short birth intervals doesn't have sufficient time for recovering both physically and nutritionally particularly in conditions of malnutrition and is more likely to have premature and low birth weight babies having poor survival chances.(Srivastava. J.N. 1990). Early conception results in early termination of breast feeding for preceding child which results in underweight among children. Conceiving before 18 years of a mother has a greater health impact on both mother and baby if it continuous with short birth spacing with second child bearing it leads ' to greater depletion of physical and nutritional status of both mother and child, ultimately resulting in immature birth of baby.

Mother's role in child nutrition :

Nutritional level of a child begins from the first condition of being foetus in mother's womb. During this stage baby gets all the materials starting from oxygen to food from mother. In that situation healthy living condition of mother is very much essential for well being of mother and child. Furthermore child health totally depends on mother at least till baby reaches 6 to 10 months after delivery. Therefore healthy living condition of mother results in health baby. In many cases mother couldn't be able to take proper care of herself ultimately results in low birth weight of a baby. Malnutrition is intergenerational process because malnourished girls when they marry and have low birth weight infants the child in turn becomes malnourished. This is how the cycle continuous. This is mainly because of improper health care and inadequate nutrition. Lower the percentage of mothers who have been to school, the large number of women who have given birth to low birth weight babies.(HUNGAMA, 2011) .There exists an inverse relationship between Geographical of child health and nutrition. There are various factors like poor sanitation, improper food intake, poor household and improper health care has a greater impact on mother and child health. In developing countries like India, male child's health condition is given more importance to female child and it is more prevalent among mothers educational attainment is low and household income is less. The determinants of child malnutrition in rural areas have been analysed by Radhakrishna and Ravi (2004) using a logit regression model. The result shows that the probability of a child falling into malnutrition decreases with improvement in mothers nutritional status, ^mother's education, mothers age .\ and ante natal Visits, but increases when The' mother is working' The adverse effect of the working status of the mother may be a characteristic among the poor households. The risk of malnutrition also decreases with the standard of the household whereas it, increases (with household size. (Radhakrishna" R 2011)

Sanitation :

Though, many governmental, nongovernmental and various other international organisations have taken steps to improve the sanitation facilities in India, it couldn't reach the goal. People are not coming forward to make use% of these programmes perhaps because of illiteracy and ignorance. Furthermore "in many cases misappropriation of funds also happening. Health is considered as an important aspect of social development. Increased income condition is not considered as development. Increased income, is only one part of development can be achieved only with overall social development like income, health, improved standard of living, equal status of women, healthy living condition and clean environment. Health outcomes in society are influenced by activities in the economy, social practices and cultural values. Three factors contribute towards them: the first relates to living conditions which prevent occurrence of ill health, the access to food security, balanced nutritional diet, safe drinking water, sanitation arrangement etc. The second is availability of health services which include preventive and curative medicine and hospital care. The development resulting from consumption of products, use of service and social intercourse also produce profound consequence for health this constitute the third factor. (Saxena, K.B, 2011). Good income has a positive impact on proper sanitation, availability of medical services and proper housing thus contribute to good health and increased chances of infant survival. Further literate people give more importance to good sanitation facilities, personal hygiene which contributes to good environment. In the backdrop of impact of malnutrition on the growth of healthy children in India, an attempt has been

made in this paper to examine and analyse the problem of malnutrition among Indian children. This paper describes the nature and extent of malnutrition in India and socio-economic background of malnourished children. This study is based on secondary data.

Height and Weight of children :

Overall growth of children always depends on satisfactory Body Mass Index (BMI). Height and weight of children are the important aspects in measuring the stable physical growth of children. Children should have adequate height and weight according to their age.

In India stunting of children though decreased from NFHS-I to NFHS-II, it has increased from NFHS-II to NFHS-III. In north Indian states with some exceptions, in all other states the rate stunting has been increased from NFHS-I to NFHS-III. Waterlow's classification defines two groups for protein energy Malnutrition: - Malnutrition with retarded growth, in which a drop in the height/age ratio points to a chronic condition- shortness or stunting: *-malnutrition with a low weight for a normal height, in which the weight for height ratio is indicative of an acute condition of rapid weight loss, or wasting. This combination of indicators makes it possible to label and classify individuals with reference to two poles: children with insufficient but well-proportioned growth and those with a normal height, but who are wasted. (Park K, 2009)

Nutritional status of children by caste and Tribe :

We all know that how caste and tribal factors influence socio-economic and cultural status of communities and groups in India. In India backward and lower castes and tribe are sufferers of socio-economic maladies. This is also reflected in malnutrition status. For instance in Table -3 we can observe that underweight of children among Scheduled Castes has been decreased gradually from NFHS-I to NFHS-II. However, among Scheduled Tribes during NFHS-I to NFHS-II chronic underweight has increased.

Table-3 Nutritional status of children by caste and Tribe

Schedu- led caste	Weight-for-age		Height-for-age		Weight-for-Height	
	%below-3SD	% below-2SD	% below -3 SD	% below-2SD	% below -3SD	% below-2SD
NFH S-1	23.7 %	57.5%	33.2%	58.0%	3.4%	18,5%
NFH S-2	21.2%	53.5%	27,5%	51.7%	3.0%	16.0%
NFH S-3	18.5%	47.9%	27.6%	53.9%	6.6%	21.0%
Scheduled tribe						
NFH S-1	25.3%	56.8%	28.8%	52.8%	4.1%	22.0%
NFH S-2	26.0%	55.9%	27.6%	52.8%	4.4%	21.0%
NFH S-3	24.9%	54.5%	29.1%	53.9%	9.3%	27.6%

Source: NFHS I, II, III, UPS, Mumbai.

Household socio-economic status is by far the most robust single predictor of nutritional wellbeing in focus states, but this effect more or less disappears in the best states (except Kerala). Children from households belonging to scheduled caste or scheduled tribe generally have worse nutrition, but the specific effects vary considerably by state. Children from households identifying as Muslim do have significantly worse nutrition except in Himachal Pradesh. (HUNGaMA Survey Report, 2011). While, it is true that the incidence of poverty has declined over time in India and more so in the more recent years, the incidence of poverty among SCs and STs, however, is much higher than the national aggregate by 8.5 (SC-rural) and 19.4 (ST-rural) percentage points. The gap across social groups in poverty has reduced somewhat over time, though it is still present. Across religious groups, the incidence of poverty among Muslims in rural areas is actually less than the aggregate. However, this community exhibits greater poverty incidence than the aggregate in urban areas. There is a high concentration of Muslims in the urban areas, as a result of which they become

more visible. Finally, poverty among Christians and Sikhs is considerably lower than the aggregate. (India Human Development Report, 20 U) It shows instead of improvement vulnerability of marginalized group has been increased in spite of several governmental plans to improve their condition. Further compared to S.C's and others the condition of S.T. children is worsening. In other's category good improvement can be found except the chronic wasting which has increased from NFHS-II to NFHS-III.

In other reports the wasting of children has been decreased. The rate of decrease is also greater than the National average in wasting. In Indian culture we find different religion and among religion only we find different caste and sub-caste. In this context historically some of the castes have been given more importance and some castes like SC and ST have been socially,- economically and culturally have been segregated. Thus it has direct effect -on overall development of nation and community. This backwardness can be solved by addressing the problem with proper developmental programmes focusing the vulnerable groups.

Nutritional status of children by Religion :

Different religious groups live in India. Variations in their socio-economic status are found throughout in Independent India. Underweight of children *is* not a serious problem because the rate has been decreased from NFHS-I to NFHS-III in all religious groups except among Christians where we found though chronic underweight has increased but by the time of NFHS-II to NFHS-III acute underweight has decreased, but the decreased rate of underweight among Christians is very less compared to other religious groups and national average of decreased rate. Stunting of children has been increased among every religion from NFHS-II to NFHS-III report. Further it is sad to know the increased rate of stunting among Muslims and Christians. Moreover the rate stunting of Christian children is greater compared to Hindus, Muslims and national average rate of stunting which needs special attention. Rate of wasting has been increased among all the religion from NFHS-II to NFHS-III particularly among Hindus and Muslim. Coming to Christians there is no improvement instead the rate of wasting among Christian children has been increased from NFHS-I to NFHS-II from NFHS-II to NFHS-III which shows the vulnerable condition under which Christian children are suffering. -

Stunting of children gradually decreased from NFHS-I to NFHS-II but by the time of NFHS-III rate of stunting of children has been increased among all caste, tribes and religion hyt the rate of increase is greater among Muslims and Christians compared to ^hy%ther group. The rate of wasting has also decreased from NFHS-I to NFHS-II, in all other category to some exceptions whereas wasting of children has been increased drastically from NFHS-II to NFHS-III. At the same time, it is sad to know that the rate of wasting has not at all decreased in any report instead it has increased to a greater extent among Christians and STs which needs special attention. Thus, Nutritional problem is not just a medical or biological It involves multifarious factors. By understanding these, nutrition related problem can be dealt with root effect. One of the important factors among them is culture, beliefs, attitudes which originate from their religion and cultural beliefs. It is not only the responsibility of government but also every citizen to work towards individual and community health. Mother and Child health and nutritional programmes are very much essential in a country like India where we find increased number of infant mortality, child mortality and maternal mortality. We find that some of the diseases and health problems among children depend not only requires community action but also on the level of parents' education and their attitude towards health. Apart from government effort to improve sanitation and malnutrition problem among children, it becomes the responsibility of an individual taking care of themselves and their children for proper implementation and utilisation of health programmes. Many times malnutrition among children in developing countries like India depends not only on the availability of food but on the selection preparation and proper utilization of food stuff among children at right age and right time.

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Water Management: Present Situation and Upcoming Challenges

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Abstract:

Water distinguishes our world compare to all the others we know about. Though the overall deliver of available freshwater is more than sufficient to meet all present and estimated water demands. The lack of sufficient fresh water to meet human intake water and hygiene needs is certainly a constraint on human fitness and production and hence on economic development as well as on the protection of a clean surroundings and healthy ecosystem. This paper identified the issue facing water managers these days and upcoming research needed to well again inform those who struggle to generate a more sustainable and attractive upcoming.

Key Word: Water management, water condition, Global Environment, Challenges etc.

Introduction:

All through the world, demographic, financial, and technological trends contain accelerate our ability to by design and naively adjust the environment we survive in and that sustain us. We human have befallen the main driver of ecological change. Our actions are impacting our overall atmosphere, with our climate.

This in turn impact the amount and spatial and of time distributions of rainfall that falls on watershed and the time of its surplus. Together with change in landscape, due to increase in food and energy making and from the society of public into urban centers, we are varying the amount and quality of our freshwater wealth on which we depend to live, both actually and carefully. Water plays a role in the creation of the lot we create. There is no substitute and while it is renewable there is only a limited quantity of it.

Objectives:

To study the present situation of water condition

To understand the present and upcoming challenges of water management To analyze and interpretation of about water management

Freshwater Stress:

Now a day's each one is troubled about the possible water shortage in the face of increasing, mainly population driven, water difficulty, and its penalty on our energy and food production. The universal danger Perception Survey conducted with 900 standard expert by the World Economic Forum reports that the maximum level of community shock over the next 10 years. In recent decades the gain raise in water use on a overall scale has exceed double that of population growth. This has lead to more, and larger, region in the world being subject to water stress where the present limited rates of water use and utilization, let alone the beloved rates, are invalid. Water stress and supplies are varying. What they will be in the upcoming is unsure, but it is positive that they resolve change.

Globalization:

Growing globalization is inspiring the realization of new rules and events for the international trade of goods and services, rejecting the rising cheek of global Firm engage indirectly in water use and transfer. This globalization of trade has extensive implication for consumers, governments, and the setting. As immensity water is not usually traded, except for rather limited quantities in bottles, the water used to produce the goods that are traded across limitations, called virtual water, can have a major blow on water balances in basins and regions. The US is the world's largest exporter of essential water.

Non stationary in provide and require:

By tradition, water infrastructure and water management systems have been planned and constructed based on historical explanation of climate and hydrological data and utilization trends, followed by statistical analysis and interpretations of these data to find out the possibility of certain events up. Water engineers and managers usually recognize that this is not the case, but can only effort with the in order they have existing, at times introduce security factors in the hopes of layer doubt of data and upcoming variability

Water for the Environment:

Our build and physical environment can either enhance or debase the quality of our lives. Scenery provides us with multiple benefits. including food and fuel; better air and water quality;

control of water flow and hotness regime; better soil structure and fertility; oxygen production; carbon and nutrient storage; recycling; and cultural, recreational, and spiritual enrichment.. withdrawal of water to meet urban weight, grow more food, and produce new energy all result in less water for the atmosphere and for maintain ecology health. Our confront is to classify and then generate a sustainable stability among all these weight that are both varying and unsure.

Research Needs and guidelines:

Gradually reaction and response to uninvited disruptions in life support system are not sufficient in today's world where humans can manage the atmosphere of our earth. Sustainably if healthy and significant livelihoods for all of humanity is our major challenge in this century. gathering this challenge is going to need changes in the way that the necessary water, food, energy, and other goods and services are provide and beneficially inspired. Through study we are culture more about how to protect ecosystem and their want for water. We identify that change in our actions and our diet can also have a large impact on our water use. We want to create choice. continuous study is wanted to help us to classify these constantly growing option and to informus on their use.

Technology:

A lot of believe that equipment, the tools and methods used in the making of produce and services, will make it possible to get the upcoming we want. really, there is a lengthy list of technological trend and advance that are possible to benefit fast and effective edition of the water segment Computer-based optimization and imitation model included with interactive graphics, audio based decision sustain systems will continue to help us identify those plans, designs and policy that exploit the pet impact and reduce the undesired ones as well as creation clearer the tradeoff among the two.

Monitoring:

There is a need to expand the global monitoring information system on water to providethe information needed for water management and to monitor progress against target But it is more than a matter of better sensors and more satellites. There need to be corresponding improvements in ground-based monitoring networks, and a combination of knowledge from all sources, including balancing airborne monitoring systems in order to improve water resources management.

Agriculture:

FAO and the World Water Council [FAO and WWC, 2015] have accomplished that, with appropriate investment and policy interventions, food production will be sufficient to support a global population of 9–10 billion in 2050 although food and nutritional insecurity will persist in many regions. Countries in water-scarce regions willpower more and more need to develop food safety strategy that clearly believe structural food provide deceit and trade arrangements that will provide security from food price instability. Higher pressures on water for food production may beexpected to develop because large segments of the populations in the rising countries will tend to lifttheir standards of living.

Energy:

Water management policies must also about ensure adequate water to produce the energy demanded by society. Humans and their economies and societies dangerously depend on reliable supplies of energy. Energy, as electricity and liquid and gaseous fuels, available when and where needed, requires water to produce, such as for cooling and reefing.The global population in 2050 is expected to be two billion more than it is today. Greater wealth inmany rising markets is resulting in new and rising cities and increased energy and water consumption. Projected water demands for primary fuel extraction, carbon appropriation, and alternative transportation fuels derived from biofuels, shale gas, oil sands, coal, hydrogen, and thedevelopment of natural gas materials from shale gas are significant.

Urban and Industrial Water Demands:

Now adays partly of the world population lives in city areas. UN Habitat predicts that practically the entire demographic increase of the world over the next 30 years will be concerted in urban areas, mostly in low-income countries. By 2050 urban dwellers will account for about 85% of the population of the more developed world and some 65 % in the less developed regions seven out of ten populace will live in urban settlements [UN Habitat,2012]. With this immigration comesacomplextrade-offbetweenenvironmentalrisks in rural and urban settings.

The trend is clear. Less is inhibited and more wastewater is treated, so that both the water and

some of the basics that accumulate in the making process can be reused. Industries in many countries are now dominant less water per unit output and reducing pollution loads in their waste. 21st Century approaches to urban water management will incorporate (1) enlarged water management and efficiency, (2) distributed storm water organization which captures and uses rainfall, (3) Source separation, (4) water recovery and reuse, (5) distributed water treatment, (6) heat recovery, (7) organic management for energy production, and (8) nutrient recovery.

Limitation: Water Management:

This process is very expensive to making new structure about Dam project the water management for society or human community. It is big problem arise in front of government related to acquire land and their disarticulation of people. Within a couple decades, water shortage may affect about two thirds of the world's population. In many countries there is still propensity to deal with water lack of problems by augmenting the *water supply*, e.g., by growing surface and groundwater storage and share through the origin of new infrastructure, desalination of sea water or salty water, reuse of wastewater, or recharging aquifers.

Governance:

Given today's speed up pace of technical development and the leisurely pace of social development, it seems likely that the biggest issue or limitation in the future will remain what it is today that is the human part of water managing, not the technical one. Improving our governance policies and actions takes even more time than obtaining the funding needed to improve our infrastructure systems. This time lag is especially disturbing given the penalty of not meeting the world's demands for water [International Food Policy Research Institute (IFPRI), 2009, 2010, 2012]. Recently, the concept of effective water governance has grown in importance and has led to the widening of the water agenda, so as to include the humanity of social and political institutions and processes, corruption, and power imbalances between poor and rich countries and between rich and poor people's [Rogers and Hall, 2003].

Sustainable Development Goals:

The Millennium Development Goals (MDGs) which conclude at the end of 2015 were the first attempt of the international society to set goals with time-limited targets for development. The Sustainable Development Goals (SDGs), to be finalized and adopted by the UN General Assembly in September 2015, will chase up on the MDGs and take account of lessons learned during the accomplishment of the MDGs. The 17 goals and over 160 targets in the draft document are based on a common definition of "the future we want" that comes from open discussion that attracted tens of thousands of stakeholders individually or through membership organizations. The overall objective is human well-being. personality nations, while agreeing to the common goals, will have the flexibility in situation targets to achieve them according to their own capacity and preference needs.

Conclusion:

Gradually reaction and responses to disagreeable disruptions in life support systems are not enough in today's world where humans can control the environment of our planet. In this anthropogenic period, we are the only species with the capacity to reflect on our activities and change it as needed to secure our health and economic and social well-being. Providing healthy and important livelihoods for all of people is our major confront in this century. It is going to require all of us as a society to identify, through research, develop, through engineering and science, and realize, through governance, the technical, financial, political, and social actions that will set a course toward the success of a desirable and more sustainable and safe future.

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Unrealistic or Illusory Women Identity in Shaw's Play, Pygmalion

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Pygmalion, the king of Cyprus, is a story taken from the myth. In this story, Pygmalion makes a sculpture of woman in his vision. The sculpture is so beautiful that he falls in love with it, and after the devotion of God of love Aphrodite, it comes to life. By titling his play after this story, Shaw concentrates attention to questions of femininity and gender. Pygmalion sculpts his ideal woman, so Prof. Higgins and Colonel Pickering mold Eliza the poor flower girl into the ideal lady. These two narratives show how unrealistic and even unnatural the expectations that society often has for women. Pygmalion's perfect woman can only be attained with an artificial construct, a sculpture. Similarly, the ideal noble lady of British society in the world of Shaw's play is a kind of fake, only a role that Eliza must learn to play. Pygmalion can thus be seen as showing how oppressive unrealistic ideals of femininity can be: to attain these ideals, Eliza has to be coached, disciplined, and taught. She has to pretend like upper class lady.

In the play there is exploration of gender roles with its other female characters. As it is set in the early 20th century, before women gained many basic rights and privileges, the play's other female characters Mrs. Pearce and Mrs. Higgins are largely confined to their respective households. Nevertheless, they play important roles. Mrs. Pearce ensures the functioning of Prof. Higgins' daily work and reminds him about his own manners and behavior. And Mrs. Higgins takes Eliza in when she leaves Higgins and Pickering, and helps resolve things at the play's conclusion. These two characters are the true examples of how women might still exert some agency within an oppressive Victorian society. But despite any redeeming aspects to women's roles in the world of the play, they ultimately cannot escape the constraints of their sexist world. At the end of the play, Eliza has to choose between living with Prof. Higgins, living with her father, or marrying Freddy. In both the cases, her future can be controlled by male. She tells Higgins that she desires independence, although she is a strong character, we never see her actually obtain her independence or tried in the direction.

The play is reformation of Eliza's identity into being socially high-class and acceptable society by Prof. Henry Higgins a man who considers himself as her creator. It discusses, from a Liberal and Marxist-Socialist Feminist perspective, the outward improvement of her manners as illusory empowerment as well as her loss of control over her own source of livelihood, and her eventual consciousness of it. It also discusses the differences in social expectations from men and women, and the hypocrisy therein, and the audience's preoccupation with a happy ending. A play that starts out as an interesting peek into the world of linguistics is artfully transformed by George Bernard Shaw into a deeper commentary on society and its effect on gender identity. In Pygmalion, Shaw portrays the nuances of class and gender relations through an engaging plot centered on a flower-girl and a Professor of Phonetics playing their role in a fateful bet. Professor Henry Higgins' initial interest in Eliza is more in terms of her as an object of a casual experiment to impress his colleague, Colonel Pickering, than as a flower girl who could use some help with her speech: Prof. Higgins comments that the English she speaks will keep her in the gutter to the end of her days, but he trusts himself by saying, Well, sir, in three months I could pass that girl off as a duchess at an ambassador's garden party. I could even get her a place as lady's maid or shop assistant, which requires better English. (Shaw 12) The act of wanting to change Eliza's identity altogether shows that she was viewed as a person essentially lower than Higgins or Pickering. Her identity on account of her social standard is automatically damaged to be of no importance. Higgins simply seems to think about her as a living, breathing person who does not have any kind of feelings, let alone a woman who deserves to be treated with dignity no matter what her social standard, simply on the premise that she is a fellow human being. To Higgins, her potential is not much more than to be a badge of his linguistic prowess. Eliza as a flower girl might lack genteel manners but she is well aware of her rights and does not like people walking over her, no matter how high they might be on the social position. Mary Wollstonecraft in her *A Vindication of the Rights of Woman*, attempts to show us how affluence worked against eighteenth-century, married, bourgeois women. Wollstonecraft compared such "privileged" women to members of "the feathered race," birds that are confined to cages and that have nothing to do but preen themselves and "stalk with mock majesty from perch to perch". Middle-class ladies were, in Wollstonecraft's

estimation, "kept" women who sacrificed health, liberty, and virtue for whatever prestige, pleasure, and power their husbands provide them. Eliza Doolittle is pushed upwards to become one such middle-class woman with Higgins as her guardian instead of a husband. Very often, these women were not allowed to exercise outdoor, they lacked healthy bodies and similarly, they were not permitted to make their own decisions so they lacked liberty. Since they were "discouraged from developing their powers of reason given that a great premium was placed on indulging self and gratifying others, especially men and children, they lacked virtue" (Tong 13). Henry Higgins, by making a lady out of Eliza, takes away her livelihood without presenting her with a new one. Her speech, her clothes, her manners, her behavior and even the subjects she wishes to speak on are monitored and transformed to suit a well-bred upper class lady. She is prohibited to speak on the subject like Economics, disease, and death because she is not to think of realistic subjects or of earning her own money as a poor flower girl because she is too long for sophisticated job like that. Her independence is deftly taken away as she becomes a plaything for the two linguists. Pickering, Higgins: I'm interested. What about the ambassador's garden party? I'll say you're the greatest teacher alive if you make that good. I'll bet you all the expenses of the experiment you can't do it. And I'll pay for the lessons.

It is important to note here that Eliza is still under the impression that she is to profit greatly in economic terms from this experiment. Florists would hire her once they saw that she could speak well. She doesn't seem to foresee the social baggage that comes along with being a proper lady. Her initial idea of simple speech lessons snowballs into passing her off as a duchess at sophisticated function, and one may say that her control over her life slips. In becoming ladylike, she automatically becomes a part of the bourgeoisie that has no dearth of wealth and can thereby afford to force women to stay at home; except she doesn't have any of the wealth only the superficial appearances of it. Upper class ladies are often a lot more oppressed than the working class women because they are never viewed as people who have the potential to be productive. They are seen almost as objects to be decorated and are used to decorate the house, to entertain the man's guests with their perfect manners, and to produce heirs: Oh! If I only could go back to my flower basket! I should be independent of both you and father and the entire world! Why did you take my independence from me? Why did I give it up? I'm a slave now, for all my fine clothes. (Shaw 79) Eliza, by taking on the role of such a lady, is cut off from her decision making powers and is at the mercy of what Higgins, Pickering, or her father Alfred Doolittle choose to do with her. It is decided after the exchange of money between Alfred Doolittle and Higgins regarding Eliza to keep her where she is, without giving her a choice in the matter. The transformation that occurs thereafter costs Eliza her freedom from the norms of upper class society. The question of Eliza is settled with the exchange of a few pounds between the two men. When the two linguists are cautioned about the territory they are treading on, they don't seem to see any problem with taking charge of the identity of another human being: The manners and habits that disqualify a fine lady from earning her own living without giving her a fine lady's income! Is that what you mean? (Shaw 54) They dismiss any attempt at a solid plan for Eliza's future by saying they will find her some "light employment" or get her married to someone who can provide shelter for her. These statements are often made without any consultation with her, showing that the two men might really think they own her and can figure out what to do with her on their passing whims. She is just a puppet in the hands of Higgins, like Galatea in Pygmalion's. Higgins and Pickering become the "creators" of her identity here and then strip her of her old way of life along with her old clothing. Higgins sees her as his very own creation, as if he invented her, and his attachment towards her seems to consist mainly of familiarity and the liking one has for a pretty object one owns. Higgins moves from the position of her tutor to the position of her custodian.

The female identity here is being bestowed on a seemingly un-ladylike woman who does not conform to the usual normative structures of society. Eliza has grown up with no knowledge of how to conduct herself in a socially acceptable way to upper class society. Her priorities were selling her flowers and having enough to eat and she wanted to keep her dignity for that no matter what. Higgins and Pickering, who are under the impression that they are fixing Eliza, are in fact not doing much apart from sharpening Eliza's superficial conduct. Eliza is dressed in fancy clothing and taught how to speak 'properly'. The content of her conversations in her first social meeting after she has begun working with Higgins is to be limited to the weather and everyone's

health. This shows that talking about anything heavy, serious, or simply realistic was considered to be against the norms for what good ladies chatted about. The linguists are at no point seen imparting any academic knowledge apart from phonetics to Eliza in spite of admitting a number of times that Eliza is rather quick with picking up what is taught. She is not pushed to think for herself or to analyze anything while Pickering and Higgins brainstorm all the time around her. She is told what she must do. The two men work towards creating the perfect social doll, and do not care that in the process of creating this doll they're pasting an identity that consists of an incredibly superficial skill-set on to a full woman- a woman who had initially come to them to work on her speech and make her economic condition improve. The female identity in this setting is judged as admirable or otherwise based on mainly outward appearances. At the Ambassador's party, Eliza is well-liked because she's pleasing to the eye and says all the right things. She creates an image of wealth and good breeding. They view her social acceptability, no matter how hollow, as a point of empowerment for her. Her loss of livelihood is not of much consequence to the two, and it is important to note that once their purses are taken away from her, her empowerment in terms of social hierarchy is not of much consequence in turn. The idea that Eliza is being given the power to pierce upper class society is only a superficial mask for the loss of power she experiences in the decision making of her own life. Upper class societal norms are also seen differing with gender in the play, quite hypocritically. Eliza is often criticized for being too emotional or for overreacting. This behavior, however, may stem from how society expects women to be and from the frameworks it creates for that purpose: Although Wollstonecraft did not use terms such as "socially constructed gender roles," she denied that women are, by nature, more pleasure seeking and pleasure giving than men. She reasoned that if they were confined to the same cages that trap women, men would develop the same flawed characters. Eliza eventually manages to evade the illusory and deceptive "empowerment" that comes along with being a lady and resists conformity after realizing that her productivity has been snatched away from her. Her final statement shows what a long way Eliza's identity has come- from an easily flustered flower girl, to a mere doll, and then to a smart and assertive woman. Adaptations of the play have often altered the ending to make it "happy". Arguably the most famous movie adaptation of it, *My Fair Lady*, shows Eliza returning to Higgins and speaking in her old flower girl way. These adaptations are quite the opposite of what Shaw was intending to do with the play and it prompted him to write a note on what happens after and why Eliza does not end up marrying Higgins for "Galatea never does quite like Pygmalion: his relation to her is too godlike to be altogether agreeable"(Shaw 97). Paul Lauter while comparing two of Shaw's plays discusses the changes made to them on popular demand: The usual perversions of *Candida* and *Pygmalion* are thus understandable: to make the plays suitable for musical comedy audiences, they must be bent into normally sentimental frames and fitted with stereotypic happy endings. Eliza and Higgins are turned into a romance that pleased the audience; viewers become passive because they do not have to think of the reasons why there, no romance between Eliza and Higgins. In spite of that, they may think that happened because the man has status and the girl is beautiful. (2) In Shaw's version of what happens after, however, Eliza gets back some of her own, marries Freddy who may not be rich and influential but is respectful towards her, and runs her own shop with the regular ups and downs of life. Up till she was depended upon Prof. Higgins but her rebellious way creates her individual identity yet under the control of her husband.

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A Geographical Study Of Road Transport Network In Beed District

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Abstract:

The roles of transportation in society can be classified according to economic, social, political and environmental roles. The social role of transport has caused people to live in permanent settlements and has given chances of sustainable developments. Transport network social & economic development of the area is being done, such as Agricultural, Marketing, Education, Health, Industrial, Villages, Tourism & Milk business etc, are being promoted.

Keywords:Transportation, Sustainable, Infrastructure, Development.

Introductions:

The transportation means movement of passengers from one place to another place. The term 'transport' has been derived from two Latin terms, namely –trans and portare. Trans refers to across or the other side and portare implies to carry. The combined meaning of these is there for to carry good and persons from one place to another. They are four types of transport operating in almost every country today. They are railway transport, road transport, air transport and water transport. Earlier the study of transportation has been done as the element of economy, but with the growth of specialization in knowledge including Geography. I have interest in the study to transport for two main reasons first-transport is significant human activity with a strong spatial component and second –it is an important factor influencing the special variation in many other social and economic activity. Road transport constitutes an essential element in the infrastructure of all kind of economic activity in Aback word region. It promotes spectacular production and exchange.

Study Area:

For the present investigation the beed district is selected as a study region. the beed district is lies between 18°28' to 19° 28' North latitude and 74°54' to 76° 57' East longitude. Beed district covers an area of 10638.55 squr km which is 3.45% of the total state area. total road length as on 2013 it is 11591.17 km national highway 191.35 km state highway-1249.20 km district road -1469.70km village road -2030.77 km. the beed district divided in to 11 tahshil for administrative setup these tahshil are beed, gevrai, majalgao, dharur, ashti, shirurkashar, patoda, parli, wadvani, kaj and ambajogai. The total population as per 2011 census iss 25.85 lace and density of population is 242 persons per squire km of the study region.

Objective

- To Analysis the taluka wise distribution of transport network in the study area.
- To study the transport network system in study area.

Database & Methodology:

This paper is based on secondary data sources. To fulfil this objectives data Socio-economic abstract of Beed District. The data regarding climate and physiography is collected from the Socio-economic abstract and Gazetteer of Beed district. The Tehsil is taken as the component unit of investigation. The analysis and interpretation of data has been done from the geographical point of view. MS-Excel was applied to process, analyse and represent this data. High, moderate and low literacy patterns were examined in detail.

Result Discussions :

- A) A Study of Road Transport Network in study area.

Table no .1

Sr.no	Categories	length in KM
1	National Highway (NH)	282.00
2	State Highway (SH)	205.00
3	Major District Road	1638.10
5	Other District Road	2190.50
6	Rural (Village) Road	7851.52

In the study area the end of 2016-17 there is a good Transport Network of black topped surfaced roads. The Total length of the road is 13212.07Kms including corporation areas out of which 282.00kms National Highway and 205.00 kms state Highway &278.10kms & 1638.10 kms major district roads,2190.50 kms other District roads, besides these 4706.01kms are village road. Of which 7851.52 kms.

Table no.2, Taluka wise Distribution of Road Transport Network in Study Area

Sr.no	Taluka	National Highway (NH)	State Highway (SH)	Major District Road	Other District Road	Rural (Village) Road	Total
1	Asthi	00	132.40	215.10	409.95	777.50	1579.95
2	Patoda	00	92.10	161.60	62.70	372.50	733.90
3	Shirur-kashar	7.70	99.00	152.40	88.50	413.20	760.80
4	Georai	00	138.70	276.40	258.85	675.40	1349.35
5	Majalgaon	36.00	45.00	87.05	211.70	1003.60	1383.35
6	Wadvani	00	59.50	39.00	93.00	271.83	487.3
7	Beed	00	98	226.60	256.85	1572.99	2188.44
8	Kaij	70.50	100.30	174.40	282.95	743.10	1371.25
9	Dharur	29.00	26	114.50	110.50	442.30	748.30
10	Parli	50.80	157.05	43.65	179.80	830.08	1292.38
11	Ambajogai	88.00	96.90	147.40	235.70	749.02	1317.02
Total		282.00	1044.95	1638.10	2190.50	7851.52	13212.07

Table reveals that there is total length of the roads in the study area is 13212.07 km. Out of this length, Maximum road length of 2188.44 km is in Beed taluka & the lowest road length of 487.3 km is in the Wadvani. As per above table, In Beed district, the maximum length in the road is 7851.52 km of the Rural Road and the lowest roadway of 282.00 km is of National highway. This is roadway connected by other District & others state. National highway No-211 (Dhule-Beed-Solapur) Passes through the beed, Georai, Talukas in the study area. The major District road these are important road within a District, serving areas of Agriculture, marketing, education, health and connecting these with each other or with the main highway.

Impact of Geographical Factors on Transportation Network in Study Area:

Study area, some state highways & major district roads have to pass through "Ghats" or hill roads. These Ghats one on Dhule Solapur national highway road near Manjersumba village and one on KaijMajalgaionroad nearDharurare having considerable elevations & have many sharp turns which then dangerous for smooth traffic, Moreover the road width is narrow and there are many sharp turns with steep gradients. Many accidents have taken place in these Ghats in the past.

Conclusion:

- 1) In Study area the total Length of the road is 13212.07kms.
- 2) In Study area is Maximum road length of 2188.44 kms in Beed taluka& lowest of 487.03 kms roadway length inWadvaniTaluka.
- 3) In Study area, the maximum length in the road is 1638.10 kms of the major district roads and the lowest road of 282 kms is of National highway
- 4) Due to impact of geographical Factors in the study area, some highways and major district roads pass through the bridge constructed over "Ghat" or hill and rivers.
- 5) Wadvani and Dharurtaluka is very less Road of length in Beed District.

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Spatial Analysis of Basic Education Facilities in Goa 2010-18

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Abstract

Education, a dynamic process of transforming of an individual. Each individual is potentially divine and inherent, divine energy which manifests itself in different forms of knowledge, skills, values, beliefs and habits, from known to unknown. Education a basic necessity plays vital role in raising the efficiency of men power and become source for the development of mankind. It is the most treasured privilege that one can have for an individual's psychological and social growth.

Many times, the processes of education take place under the guidance of knowledgeable individual over the ages the processes continued to be. The modern era education determines the learned people through the formalized education and its levels through the institutions to make them self-reliant in the process of sustainable development of a region/nation. The study area displays inequalities in itself in spite of good indicators in human development indices. Nearly 1/3rd of the talukas had contrast scene than the rest. Nearly half of the of the talukas does not have even half of the average expected number of student's enrollment. The invisible, unsubstantiated difficulties in the interior talukas are silently pushing the students to look towards towns and cities that too to the private unaided schools. This kind of scene to be taken seriously in order to provide an opportunity to everyone to achieve equitable sustainable development in the state.

Key words; Educational institutions, facilities, spatial inequalities.

INTRODUCTION

Education, till secondary stage is important to every individual to acquire the expected knowledge and to impart the needed foundation for the specialized higher education, those are the years (up to 16) ideal to give wider scope and perspective to enter in to the higher and specialized career choices of a person to shape. Goa after its liberation from (nearly 450 years) Portuguese's rule in 1961 has registered progress in the field of education, achieved 88.70% literacy 2011 and considered education as the foundation for human development.

OBJECTIVES

To study the Spatio-temporal distribution of the education facilities.

To measure the pattern/clusters and volume of change over the years.

To know the taluka wise and year wise distribution and development of higher secondary education in Goa.

HYPOTHESIS

The spatial-temporal distribution of education facilities in all talukas are uniform.

The student-teacher ratio is in accordance to the laid down provision.

School-students ratio is uneven in the interior talukas against coastal talukas over the years.

DATA AND METHODOLOGY

The study was carried out with the needed information and data from secondary source (2010-18) i.e. office of Directorate of planning, statistics and evaluation Govt of Goa. published reports of the government. The methods are employed in the present study area are simple and effective. The data was processed to find out the percentage student's-teacher ratio, students-school, and teachers-school ratios. To explore the prevailing spatial anomalies in the respective talukas of Goa.

STUDY AREA

Goa a small 25th state of India lies in central part of west coast; the latitudinal extent extends from 14 53' 00" to 15 48' 00" N and the longitudinal extent extends from 73 40' 33" to 74 23' 13" E. The state is bounded on the north by Maharashtra (nearly 80.88 kms) and on the east and south by Karnataka (about 177.99 kms) and on the west by the Arabian sea. It

covers an area of about 65 kms. The shore line length of about 144 kms State comprises nearly 14.57 lakhs (2011) in 12 talukas of North Goa district and South Goa district with a density of about 394 persons per sq km and the male female ratio is about 968/1000.

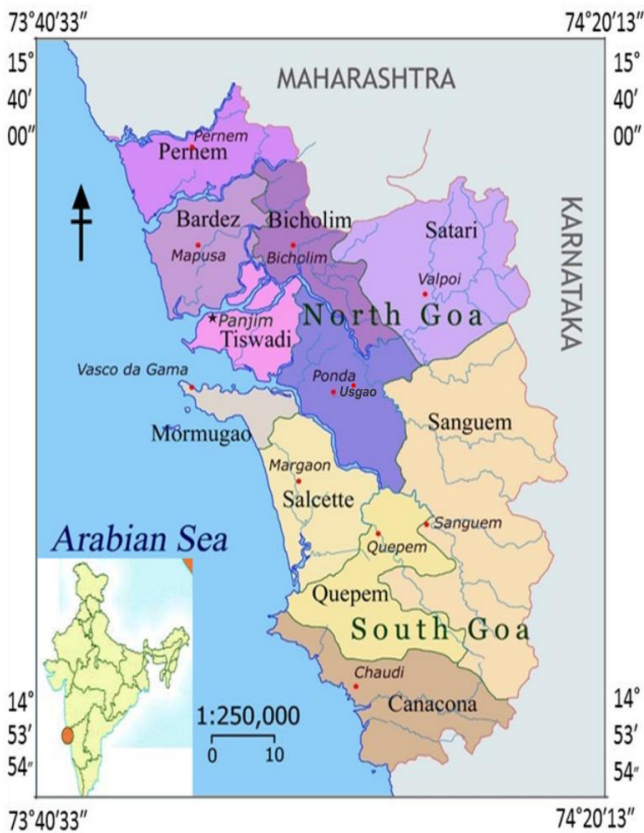


Fig2

Fig 1

LOCATION MAP OF STUDY AREA AND INDIA

The topography of the study area comprises nearly 22% of coastal region with an average elevation of 0-50 meters, nearly 30% of central undulating and up land with an average elevation of 51- 250 meters remaining nearly 43% is of high land with an elevation of about 251-700 meters with an exception of peaks the study area has eight rivers of which river Mandovi and river Zuari comprise major share of river basin specially in central and western margin.

Significance And Analysis

Elementary education refers to the first phase of compulsory education that children obtain during the few years of schooling. This education has specific goals that meet the general needs of the students along with some of the special need that the children wish to see. Elementary education forms the foundation for gaining the basic knowledge in order to realize the dream and enable to do in their life.

The formal education plays a vital role in every one's personal growth. In the present study an attempt has been made to ascertain an equal scene among the 11 talukas. The enrolment of students in the schools, type of institutions (Govt aided, unaided) and students-school ratios had been considered as significant for the study.

STUDENTS ENROLEMENT TALUKA WISE 2010-18 GOA (TOTAL) Table No 1

SR. NO	TALUKAS	YEAR							
		2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
1	Pernem	9961	10009	10315	10363	10394	10563	10445	10708
	In %	4.27(9)	4.18(9)	4.22(8)	4.23(8)	4.15(8)	4.40(8)	4.36(8)	3.57(8)
2	Bardez	36288	38451	38708	40018	40566	40163	40023	40245
		15.56(2)	16.07(2)	15.84(2)	16.34(2)	17.23 (2)	16.74(2)	16.71(2)	13.42(2)
3	Bicholim	14808	15035	15106	15159	15980	15278	15168	15289
		6.35(6)	6.28(6)	6.18(6)	6.19(6)	6.22(6)	6.36(6)	6.63(6)	5.9 (6)
4	Sattari	10134	10346	10272	9987	9582	9474	9156	8989
		4.34 (8)	4.32 (8)	4.20 (9)	4.07 (9)	3.72 (9)	3.94 (9)	3.82 (9)	2.99 (9)
5	Tiswadi	29748	30388	30012	31122	31984	30113	30813	30395
		12.76 (3)	12.70 (3)	12.28 (3)	12.71 (3)	12.46 (3)	12.55 (3)	12.86 (3)	10.13 (3)
6	Ponda	25044	25790	26821	26775	26386	26445	26352	26344
		10.74 (5)	10.78 (5)	10.97 (4)	10.93 (4)	10.80 (4)	11.02 (4)	11 (4)	8.78 (4)
7	Sanguem	9006	8988	9043	8809	8292	8464	8084	7982
		3.86 (10)	3.75 (10)	3.70 (10)	3.59 (10)	3.42 (10)	3.52 (10)	3.37 (10)	2.66 (10)
8	Quepem	13193	13482	13704	13536	13940	13286	13137	13039
		5.65 (7)	5.63 (7)	5.60 (7)	5.52 (7)	5.13 (7)	5.53 (7)	5.48 (7)	4.34 (7)
9	Canacona	6930	7196	7388	7290	7187	7161	7099	7181
		2.97 (11)	3 (11)	3.02 (11)	2.97 (11)	2.96 (11)	2.98 (11)	2.96 (11)	2.39 (11)
10	Salcete	52628	53441	55731	55416	54636	54855	54987	54842
		22.57 (1)	22.34 (1)	22.81 (1)	22.63 (1)	23.19 (1)	22.86 (1)	22.96 (1)	18.29 (1)
11	Marmugao	25381	25998	26605	26307	26161	24082	24154	24820
		10.88 (4)	10.87 (4)	10.89 (5)	10.74 (5)	10.67 (5)	10.03 (5)	10.08 (5)	8.27 (5)
TOTAL		233121	239124	244305	244782	246139	239884	239418	299834
AVG/TALUKA		21193	21739	22210	22253	22376	21808	21765	27258

The Table No 1 displays the talukawise inequalities in the enrolment of student's (both boys and girls) in Goa from 2010-2018. Of the total 11 talukas. The highest number is (2,99,834. 2017-18) against (2,33,121. 2010-11). Majority of the students were of coastal talukas 27% of the talukas i e Salcete, Tiswadi and Bardez together comprises nearly (1,18,664) 51% of the total students in the state. Similarly, the case in (2010-18) whereas interior remote eight talukas

e g Canacona Satterri etc (73%, 8 talukas) together constitute 49% in the enrollment of the students. In other words, most of the students are from coastal plain region than the undulating, terrain region of Goa. In other words, Salcete, Bardez and Tiswadi talukas have good education facilities and better transport for students against talukas like Canacona, Sanguem etc. On an average the enrollment of students in each taluka expected to be nearly 21,193 (2010) – 27,258 (2018) students, which could be seen only in the talukas of Murmagao, Ponda whereas rest nearly half of the of the talukas does not have even half of the average expected number of student's enrollment.

The invisible unsubstantiated difficulties in the interior talukas are silently pushing the students to look towards towns and cities that too to the private unaided schools. This kind of scene to be taken seriously in order to achieve equitable sustainable development in the state.

STUDENTS ENROLEMENT IN GOVERNMENT, AIDED AND UNAIDED SCHOOLS

Another prominent aspect linked with education in Goa was of the preference to aided private schools than the government and unaided schools over the years. The Table No 2 represents the talukawise number of students in Government, Aided and Unaided school Goa.

STUDENTS IN GOVERNMENT, AIDED, UNAIDED SCHOOLS I-X STD 2010-18 GOA Table No 2

YEARS	TALUKAS	PERNEM	BARDEZ	BICHOLIM	SATTARI	TISWADI	PONDA	SANGUEM	QUEPEM	CANACONA	SALCETE	MARMUGAO	TOTAL	AVG/TALUKA
2010-11	G	3021	4195	5053	6525	5483	7183	4757	4055	3132	5261	6040	54705	4973
	A	6056	28150	8758	3176	19563	15213	4148	8781	3458	36387	14878	148568	13506
	UA	884	3943	497	433	5702	2648	101	357	347	10980	4463	30355	2760
2011-12	G	2915	4808	4792	6619	4216	6863	4590	3934	3052	5192	5687	52668	4788
	A	6088	29247	9042	8508	20049	15825	4272	9143	3871	36836	15314	158195	14381
	UA	943	4396	1201	436	6123	3178	666	405	330	11413	4997	34088	3099
2012-13	G	2902	2216	4474	6238	3861	6408	4509	3913	2899	5172	5670	48262	4387
	A	6375	25672	9423	3535	20170	16506	4401	9410	4201	38996	15647	154336	14031
	UA	943	4393	1209	499	5981	3905	133	381	288	11563	5288	34583	3144
2013-14	G	2759	2255	4517	6069	3812	6006	4323	3573	2687	4828	5482	46311	4210
	A	6935	31098	9561	3940	21119	16779	4386	9719	4330	39781	15870	163518	1483
	UA	669	4581	1179	142	6191	3990	100	238	273	11184	5015	33562	3051
2014-15	G	2601	3329	7780	5845	3072	5778	4190	3392	2308	4378	5002	47675	4334
	A	6991	31803	9754	4046	22035	17443	24425	9778	4634	40373	15993	187275	17025
	UA	714	4469	1147	148	5746	3372	47	235	245	9885	5168	31176	2834
2015-16	G	2454	3128	4257	5237	2493	5101	4075	3234	2185	3870	3094	39128	3557
	A	7386	32201	9901	4120	21980	18092	4364	9837	4736	46927	16103	175647	15968
	UA	723	4734	1120	117	5610	3252	25	215	240	10057	4889	30982	2817
2016-17	G	2333	2925	3995	4961	2420	4746	3847	3332	2064	3625	2068	36316	3301
	A	7455	32346	9961	4073	22311	18260	4230	9695	4778	51298	16544	180951	16450
	UA	657	4752	1212	122	6082	3346	00	290	254	37064	4937	58716	5338
2017-18	G	2295	2767	3986	4673	2318	4565	3835	2993	2062	3404	2491	35389	3217
	A	7813	31901	10124	4272	21992	18259	4147	9722	4843	41368	16573	171014	15547
	UA	600	4240	1179	134	6065	3520	00	324	276	10070	4756	31164	2833.

Nearly 64% (1,48,568 of 2,33,628. 2010) students were of private aided schools against government and private unaided schools similar the case for the year 2018 i e 72% (1,71,014. of 2,37,567.). Greater number of students preferred private aided schools may be due to better standard operating procedures, monitoring, noninterference in the process of education. even parents prefer to send students in those schools. The highest number of enrolled students in private unaided are more in Salcete Bardez and Tiswadi talukas 95,261 (56%) of 1,71,014. (Table No 2), followed by Marmugao, Ponda and Bicholim talukas. Interestingly the enrolled students in the unaided schools in the talukas of Canacona, Sanguem, and Sattari haveregistered very less against the enrollment in government schools. The enrollment of students in the aided schools' over the years shows increase, against Government schools where in the students enrollment decreases because of inadequacies in facilities and the support services concerned with parents as well as guardians.

STUDENTS-SCHOOL RATIO

One of the significant indicators to understand the inequalities in the education facilities in each taluka. On an average the number of students in each school was expected to be 133 (2010) to 146 (2018) however the actual scene was too far from the expected. The study area displays wide variations (Table No 3) ranging from 61students in each school (2010, Sanguem) to 254 (2010 Murmagao). Of the total 11 talukas, nearly 4 (36%) talukas (2010) comprise 58% of the total enrollment of students. Similar scene repeats in 2018 (36% talukas) 55% of the enrollment of students. The talukas of Canacona, Sanguem, Sattari, Pernem registered half of the average expected, over the years these talukas continue to display diminishing enrollment of students. The prevailing situation needs to be explored to ascertain the variations.

Students-School Ratio 2010-18 Goa (Taluka Wise-Total) Table No 3

SR. NO	Talukas	YEARS							
		2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
1.	Pernem	67	69	73	70	72	74	76	157
2.	Bardez	167	178	179	184	183	184	318	182
3.	Bicholim	108	111	111	110	111	118	118	117
4.	Sattari	68	70	70	69	68	66	64	63
5.	Tiswadi	197	201	194	206	207	209	217	213
6.	Ponda	116	122	125	126	125	128	129	124
7.	Sanguem	61	62	62	62	62	61	59	57
8.	Quepem	127	131	132	131	130	122	130	130
9.	Canacona	69	72	72	69	66	66	68	68
10.	Salcete	230	239	248	254	254	254	255	254
11.	Marmugao	254	252	258	246	227	227	234	236
	Total	1464	1507	1524	1527	1527	1509	1668	1601
	Avg/Taluka	133	137	139	139	55	137	152	146

Conclusion,

Education means acquisition of knowledge and experience various efforts have been made by the central and state Governments to provide the basic education facilities to attain sustainable development. The study area has shown marked progresses in the educational sector in comparison with rest of the states and UTs, especially after liberation and statehood however there are inequalities exist among the talukas. The spatial distribution of educational institutions in all the 11 talukas is not uniform in general and levels wise distribution of educational institutions in particular there is a need to reduce the gap between the two. Enrollment of students and also to maintain uniform student's strength. Teacher-student ratio in educational institutions. Nearly half of the of the talukas does not have even half of the average expected number of student's enrollment. The invisible, unsubstantiated difficulties in the interior talukas are silently pushing the students to look towards towns and cities that too to the private unaided schools. This kind of scene to be taken seriously in order to provide an opportunity to everyone to achieve equitable sustainable development in the state.

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The variation in female Literacy – A case Study of India country With special reference to Maharashtra State

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Abstract –

The woman's Maharashtra are not a wakened for their own right and duties due to lock of education total literacy of India country is 1.38 Billion among which literate men are 78.4% and woman 70.3% <2021> It is because of the social, economic and cultural backwardness and also improper implementation of government planning. This paper assesses social economic and domestic causes of low literacy in women due to illiteracy of woman many problems occur in society. such as, devoted wife system, dowry system, women's sexual, abuse child marriage etc. due to, this woman's life has become very complicated, due to this woman's powerful socially, economically and psychologically and it happens only because of literacy, therefore she should be given education A few suggestions are given the social and economic development of a region. A few suggestions are also enlisted to enhance literacy in woman of India country.

Key words : population literacy Male – female, rural urban woman literacy.

Introduction –

2009, Ramatra K. The variation in female literacy is a peculiar characteristic of India country literacy The literacy phenomenon for female literacy society is at most significant for the development of region or nation. When a woman being literate the future generation is supposed to be literate as she is the mother of future generation. Education is crucial social factor that plays a vital role in initiation of process of social economic and cultural development M.C Dougall, Lovi 2000, Asture S.B. Virabhadra C. Dande C. 2000)

Review –

1. Literacy a qualitative approach of population is one of the most significant indicators of social awakening and culture advancement of the people in an area, whereas a change in literacy reflects the social economic literacy can help understanding the varied Ahmad and Nana, 1997 The level of development of any area may be gauged through social various elements of exposition of regional development because of its duals functional as cause and effect of modernization (Dube and Mishra P. 278)

2. Literacy and educational attainment is one of the most important indicators of development without which no society can progress, It not only brings the development in agricultural and non agricultural sectors of economy but also control the growth of population < Ramotra 2000 >, Literacy is essential for eradicating poverty and mental isolations for cultivation peaceful < Chandana and sidhu 1980 >. It generates awareness and builds personality in such a way as to promote development and welfare of a nation and its people < sengupta and Gaha. 2001 >. Literacy is the yardstick of culture advancement and is one of the most important and sensitive social attributes which influence the development of the society and influence the development of the society and in turn reflects the social economic status of population. Literacy alters perceptions attitudes and behavior. A number of studies (Agruotri and Ramachndran, 2001 and Bhat 2000 etc have highlighted the significant role that women's education plays in the development of a society).

3. Prabhu and sarkar < 1992 > in India, Ashok Mitra < 1964 > had used it initially to measure levels of regional development taking census data of 1961 and later on several studies including Nath < 1970 > and dandekar committees < 1984 > have adopted it. To identify the level, over all literacy pattern at district level altogether 18 indicators which include total literacy rural - urban literacy, male female literacy have been selected for the present study.

Problems –The present study of women's study the variation in female literacy A case study of India country with special Reference to Maharashtra

Significance :-

Highlighted the significant role that women's Education plays in the development of a society female education affects the economic well being of a country including Gross national product per capita income female labour force participation self employment and market < Mishra 2002 >, The status of women in any society is supposed to be the true index of social development < phadke, 1988 >, women's education is instrumental in reducing fertility and infant and child mortality rates improving

the nutritional status of children and healthcare practices and in improving children's school enrolment < sen - gupta and Gaha 2002>

Scope and limitations :

The present study are to angles the variation in Female literacy in India county special reference to Maharashtra State during the period 1901 to 2021year

Data Collection and methodology –

Data has been collected form social –Economics sources and census handbook. The data was processed and tabulated in percentage and proportions processed data was represented through various cartographic techniques

1.Study of Area :- India is a country in south Asia . It is the second – most populous country , the seventh largest country by land area and the most populous democracy in the world . Bounded by the Indian ocean , Bounded on the west and north west by India , on the north by Bangladesh , on the east by Myanmar and the Andaman and Nicobar Island of India .Its southern limit is a line between sangaman kanda , Srilanka and north western most point of Sumatra Indonesia . It Is the largest water region called a bay in the world . There are countries dependent on the bay of Bengal in south Asia and southeast Asia. In ancient India , Bay of Bengal was known as Kalinga SagarMaharashtra is a state on the western sear Coast line of India It is surrounded by goa and Karnataka states in south Andharapradesh in south east Gujarat, Dadara and Nagar Haveli and Madhya Pradesh in North, Chhattisgarh in east and Arabian sea in west Maharashtra is the third largest states of India both in area and population of the state was 12.62 core. Maharashtra stated lies in 73.E To 81.E longitude and 16 N to 22 N Latitudes Maharashtra is devided into five geographical regions.

Objectives-

- To study the level of woman's education in the India country.
- To search out of the influencing factors on women's education.
- To study the level of woman's education in Maharashtra state.
- Compared study of rural and urban literacy in Maharashtra state.

Statistics of data (status of woman's education) :- According to the census – 2021 total population of the India country is 1.38 Billion , Maharashtra state Total population is 12.62 Crore. Maharashtra Literacy is Rural 77.01% and Urban 88.69% Population in

Table 1.1, Rural Urban population literacy rate in India

Year	Rural	Urban	Total	Males	Remarks
1901	89.0	11.0	5.35	9.83	0.60
1911	89.7	10.3	5.92	10.56	1.05
1921	88.8	11.2	7.16	12.21	1.81
1931	87.9	12.2	9.50	15.59	2.93
1941	85.9	14.1	16.10	24.90	7.30
1951	82.8	17.2	16.67	24.95	9.45
1961	82.0	18.0	24.02	34.44	12.95
1971	80.0	20.0	29.45	39.45	18.69
1981	76.7	23.3	36.23	46.89	24.82
1991	74.0	26.0	42.84	52.74	32.17
2001	72.6	27.4	64.83	75.26	53.67
2011	77.1	86.69	74.04	75.26	53.67
2021	73.06	87.7	77.07	78.04	65.46

Source :-Census of India

Rural Area growth of population is high urban growth of population is low. India country male's literacy population is high but, female literacy population is low compared to male literacy population.

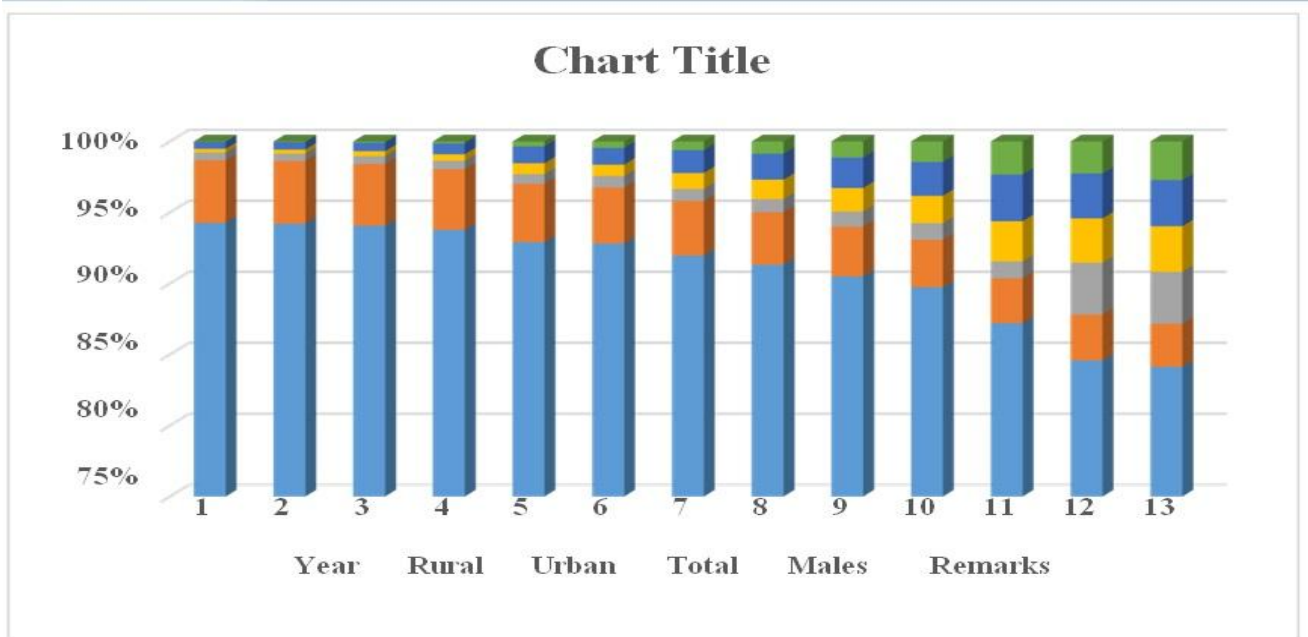
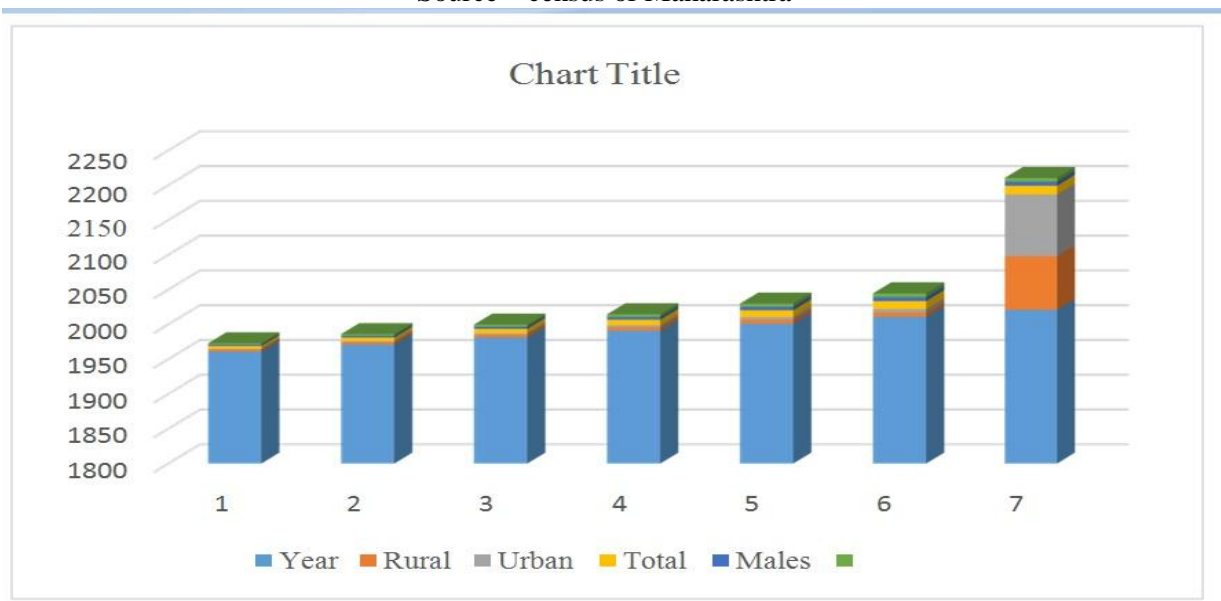


Table 1.2, Rural and Urban population Literacy in Maharashtra

Year	Rural	Urban	Total	Males	FEMALES
1961	2.84	1.12	3.96	2.04	1.91
1971	3.47	1.57	5.04	2.61	2.43
1981	4.08	2.20	6.28	3.24	3.04
1991	4.84	3.05	7.89	4.08	3.81
2001	5.58	4.11	9.69	5.04	4.65
2011	6.15	5.09	11.24	5.84	5.40
2021	77.01	88.69	12.62	05.90	05.40

Source – census of Maharashtra



In shorts, in Maharashtra state women’s population was very low, rural area are very few woman’s educated. Rural and urban population in Maharashtra year Rural urban total males females 1961
 Influencing factors of woman’s education –

After independence women's literacy is raised considerably but it is still lower in comparison with the males. The following factors probably affects the woman's literacy.

- 1.The guardians pessimistic attitude for girls education It caused numerous problems of quests detached from schools
- 2.The guardians feel that girls education as extra bardan.
- 3.In some villages it is seen that the girls are compelled to leave their school because of the misconduct of the teachers sometime bad atmosphere of the school becomes main factor.
- 4.In the study area 15% school in rural areas are built with hats and hovels under the open sky the basic initial facilities like bench black board, toilet, drinking water, seats, playground and laboratory are not available.
- 5.A majority of the girls are engaged in talking care of their young stars along with their education this is the main barrier in women education.
- 6.Urban and rural girls have dis continued their education after marriage. Its main causes are the poor condition of their husband family and their negligence for education.
- 7.Some Schools do not bear the standard, these schools are being operated by one or two teachers. Some days girls and
- 8.boys < students> have to return form their schools. Because of teachers absence. In rural areas, the free increment in nongovernment schools in form tution fees have affected the girls education belonging to weak and wretched families.

Conclusion :-

For the appropriate development of the girls Education, self economic dependency is essential for the both i.e. rural and urban families. Along with these things social and domestic responsibility is compulsory. In the changing atmosphere, investigation < search> May play an important role in education in this long process. Changing its pace is of more importance than that direction.

It we want to adopt a possible mission for girl education in the nations like India, we will have to cross the social barriers and achieve the education for employments.

Recommendations (strategies for up liftment of girls education)

- 1.Oration of such atmosphere in which the girls might be self-encouraged, feel better and secure. In their schools in necessary.
- 2.Especially in rural areas the infantile <puerile> house should be established so that adult and married girl's could not pause going to college on behalf of their younger one.
3. Girls Education of all categories should be free.
- 4.Mid – day meal plan is extra responsibility upon the appointed teachers It should be managed by other agencies.
- 5.The girls should be encouraged with employment by government.
- 6.At each and every ground the girls academic institutions need extension or there should be appropriate facilities of transpiration so, that their girls in the institutions.

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Importance of The Trade and Commerce

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Abstract

Commerce is that part of business which is concerned with the exchange of goods and services and includes all those activities which directly or indirectly facilitate that exchange and it embraces all those functions which are essential for maintaining a free and uninterrupted flow of goods. Therefore, the term commerce includes 'trade' and 'aids to trade' and electronic commerce is a subset of e business, is the purchasing, selling, and exchanging of goods and services over computer networks (such as the Internet) through which transactions or terms of sale are performed electronically.

Keynotes: Commerce, Trade, E-Commerce, importance and types of E- Commerce.

Introduction

Commerce is a branch of business. It is concerned with the exchange of goods and services. It includes all those activities, which directly or indirectly facilitate that exchange. Commerce looks after the distribution aspect of the business. Whatever is produced it must be consumed, to facilitate this consumption there must be a proper distribution channel. Here comes the need for commerce which is concerned with the smooth buying and selling of goods and services.

Commerce is mainly concerned with distribution of goods. It embraces all those functions which are essential for maintaining a free and uninterrupted flow of goods. Therefore, the term commerce includes 'trade' and 'aids to trade'.

The term 'trade' is used to denote buying and selling. Therefore, one who buys and sells is a trader. A trader is a middleman between the producer and the consumer. Trade may be wholesale trade or retail trade. A wholesale trader purchases in large quantities from the producers, and sells in small quantities to the retail traders. A retail trader is one who purchases from the wholesale trader or sometimes directly from the producer, and sells in smaller quantities to the ultimate consumers.

Aids to Trade

Aids to trade may be classified into five categories: (i) transportation, (ii) warehousing, (iii) insurance, (iv) advertising, and (v) banking. These are briefly explained below.

Transportation: Selling all the goods produced at or near the production centres is not possible. Hence, goods are to be sent to different places where they are demanded. The medium which moves men and materials from one place to another is called transport.

Transport can be of three types:

- i. Land transport - road, rail
- ii. Air transport - airplane
- iii. Water transport - boat, ship

Warehousing: Storage is indispensable in these days of mass production. The goods should be stored carefully from the time they are produced till the time they are sold, hence, the need for warehousing. Warehouses are also called godowns.

Insurance: The goods may be destroyed while in production process or in transit due to accidents, or in storage due to fire or theft, etc. The businessmen would like to cover these risks. Insurance companies come to their rescue in this regard. They undertake to compensate the loss suffered due to such risks. For this purpose, the business has to take an 'insurance policy' and pay a certain amount regularly, called 'premium'.

Advertising : Advertising is an effective aid in selling the goods. The producer, through advertisement, communicates all information about his goods, to the prospective consumers and create in them a strong desire to buy the product. Advertising can be carried in different ways. It can be indoor or outdoor. Communicating with people through advertising, when they are in their homes, is called indoor advertising. Examples of this type are advertising through newspapers, radio, 'television, etc. Communicating with people, when they go out from their homes, is called outdoor advertising. Examples of this type are advertisements in cinema theatre, wall posters, and hoardings at prominent places.

Banking: Now-a days we cannot think of business without banks. To start the business or to run it smoothly we require money. Banks supply money. A bank is an organization which accepts deposits of money from the public, withdrawal on demand or otherwise, and lends the same to those who need it. Banks also provide many services required for the business activity. Here We have attempted to give just an overview of various business activities.

Definition of Commerce

According to **James Stephenson**, "Commerce is an organized system for the exchange of goods between the members of the industrial world."

In a broader sense, "Commerce is that part of business which is concerned with the exchange of goods and services and includes all those activities which directly or indirectly facilitate that exchange."

Importance of Commerce

The importance of trade and **commerce** are mentioned in following points :-

1. Commerce tries to satisfy increasing human wants

Human wants are never ending. They can be classified as 'Basic wants' and 'Secondary wants'. Commerce has made distribution and movement of goods possible from one part of the world to the other. Today we can buy anything produced anywhere in the world. This has in turn enabled man to satisfy his innumerable wants and thereby promoting social welfare.

2. Commerce helps to increase our standard of living

Standard of living refers to quality of life enjoyed by the members of a society. When man consumes more products his standard of living improves. To consume a variety of goods he must be able to secure them first. Commerce helps us to get what we want at right time, right place and at right price and thus helps in improving our standard of living.

3. Commerce links producers and consumers

Production is meant for ultimate consumption. Commerce makes possible to link producers and consumers through retailers and wholesalers and also through the aids to trade. Consumers get information about different goods through advertisements and salesmanship. The manufacturers are regularly informed about the likes and dislikes of the consumers through marketing research. Thus commerce creates contact between the centers of production and consumption and links them.

4. Commerce generates employment opportunities

The growth of commerce, industry and trade bring about the growth of agencies of trade such as banking, transport, warehousing, advertising, etc. These agencies need people to look after their functioning. Increase in production results in increasing demand, which further results in boosting employment opportunities. Thus development of commerce generates more and more employment opportunities for millions of people in a country.

5. Commerce increases national income and wealth

When production increases, national income also increases. In a developed country, manufacturing industries and commerce together accounts for nearly 80% of total national income. It also helps to earn foreign exchange by way of exports and duties levied on imports. Thus, commerce increases the national income and wealth of a nation.

6. Commerce helps in expansion of aids to trade

With the growth in trade and commerce there is growing need for expansion and modernization of aids to trade. Aids to trade such as banking, communication, advertising and publicity, transport, insurance, etc., are expanded and modernised for the smooth conduct of commerce.

7. Commerce helps in growth of industrial development

Commerce looks after the smooth distribution of goods and services made available by the industry. Without commerce, industry will find it difficult to keep the pace of production. It helps to increase demand for goods on one hand and on the other hand it helps industries by getting them the necessary raw materials and other services. Hence, commerce helps in attaining better division of labour and industrial progress.

8. Commerce encourages international trade

Through commerce we can secure a fair and equitable distribution of goods throughout the world. With the help of transport and communication development, countries can exchange their

surplus commodities and earn foreign exchange, which is very useful for importing machinery and sophisticated technology. It ensures faster economic growth of the country.

9. Commerce benefits underdeveloped countries

Underdeveloped countries can import skilled labour and technical know-how from developed countries. While the advanced countries can import raw materials from underdeveloped countries. This helps in laying down the seeds of industrialization in the underdeveloped countries

10. Commerce helps during emergencies

During emergencies like floods, earthquakes and wars, commerce helps in reaching the essential requirements like foodstuff, medicines and relief measures to the affected areas.

E-Commerce

The Internet is now a flourishing industry. With the technology advancing at a fast rate, more and more people are open to computers and internet. Increasingly they are learning to utilize the Internet for their day to day needs. Here ecommerce websites take a front seat, moving out to the millions of people searching for your kind of product or services online. Putting it simply, ecommerce or Electronic Commerce means buying and selling of goods and services on the Internet. Before making any decision in business, it is worth taking into consideration the benefits, the company would reap on implementation of the new strategy of e-commerce.

E-Commerce (e-commerce) or electronic commerce, a subset of e business, is the purchasing, selling, and exchanging of goods and services over computer networks (such as the Internet) through which transactions or terms of sale are performed electronically. In practice, this term and a newer term, e-business, are often used interchangeably. For online retail selling, the term e-tailing is sometimes used.

Electronic commerce is the conduct of financial transactions by electronic means. With the huge success of commerce on the Internet, e-commerce usually refers to shopping at *online stores* on the World Wide Web, also known as ecommerce Web sites. E Commerce can be broken into four main categories: B2B, B2C, C2B, and C2C.

Types of E-Commerce

E-commerce can be classified as follows:

B2B (Business-to-Business): Companies doing business with each other such as manufacturers selling to distributors and wholesalers selling to retailers. Pricing is based on quantity of order and is often negotiable.

B2C (Business-to-Consumer): Businesses selling to the general public typically through catalogs utilizing shopping cart software. By dollar volume, B2B takes the price, and the consumer to do the transaction .

C2B (Consumer-to-Business): A consumer posts his project with a set budget online and within hours companies review the consumer's requirements and bid on the project. The consumer reviews the bids and selects the company that will complete the project. C2B empowers consumers around the world by providing the meeting ground and platform for such transactions.

C2C (Consumer-to-Consumer): There are many sites offering free classifieds, auctions, and forums where individuals can buy and sell things to online payment systems like Pay Bill where people can send and receive money online with ease. E Bay's auction service is a great example of where person-to-person transactions take place every day since 1995. Companies using internal networks to offer their employees products and services online not necessarily online on the Web are engaging in B2E (Business-to-Employee) ecommerce.

Other Forms of e-Commerce that involve transactions with the government— from procurement to filing taxes to business registrations to renewing licenses. There are other categories of e-commerce, but they tend to be superfluous, some of these are:

G2G (Government-to-Government), G2E (Government-to-Employee), G2B

(Government-to-Business), B2G (Business-to-Government), G2C (Government-to-Citizen), C2G (Citizen-to-Government).

Advantages of E-Commerce

You may have realized that business transactions conducted electronically have a wide scope. E-commerce is applicable to wholesale as well as retail business. Buying and selling through internet

may take place round the clock between business units in different parts of the world. Let us discuss the advantages of e-commerce.

(i) Wider choice: With the help of a well-developed computer networking system, business units can operate at the national as well as global level. The customers thus, have a wider choice of products and services.

The businessmen also get a wider market for their products and services.

(ii) Improved customer services: Suppliers of goods and services can offer a wide range of services to the customers, before as well as after sales such as information about products, guidance for use, responding to customers' queries about quality and usefulness of the product, etc.

(iii) Quick response to customer needs: In e-commerce business transactions take far less time as compared to the normal process of buying and selling. This is because the producers cut short the distribution channel and supply products and services directly to consumers.

(iv) Cost saving and price reduction: There is substantial cost saving in business transactions conducted through e-commerce. There is no need to display goods in showrooms or keep large stock in godowns. The number of employees required to carry on the business is less. Thus, the cost of operation naturally comes down. So the customers may get goods at a lower rate.

(v) Market information: Access to market information available through the internet enables business concerns to identify varied customer needs and produce new goods and better services accordingly.

Conclusion

Trade has played an important and gradually increasing role in the ecology of the human species. The economic advantages of trade are directly important in finessing ecological limitations and taking advantage of specialized opportunities. However, the political consequences of a dependence on trade, the by-products of having to organize protection, the cultural evolutionary consequences of increased diffusion of ideas, and the demographic and genetic impact of large-scale population movements are at least as important.

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मराठवाडा: जिल्हानिहाय लोकसंख्या व भौगोलिक क्षेत्र यांच्या सहसंबंधाचा भौगोलिक अभ्यास

प्रा. डॉ. ए. ए. काळगापुरे

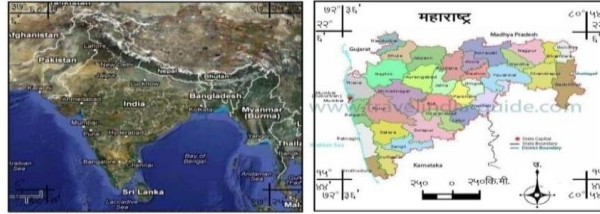
भूगोल विभागप्रमुख, श्री हावगीस्वामी महाविद्यालय, उदगीर जि.लातूर

प्रस्तावना

कोणत्याही देशाच्या आर्थिक, सामाजिक, सांस्कृतिक व राजकीय विकासात लोकसंख्या हा महत्त्वाचा घटक आहे. राष्ट्रनिर्मितीमध्ये व राष्ट्राचा विकास घडवून आणण्यामध्ये लोकसंख्येला महत्त्वाचे स्थान असले तरी लोकसंख्या या घटकाचा विचार करत असताना त्या देशातील नैसर्गिक साधनसंपत्ती व मानवाचा सांस्कृतिक विकास यासंदर्भात विचार होणे आवश्यक ठरते. म्हणून लोकसंख्येशिवाय कोणत्याही देशाचा, राज्याचा किंवा एखाद्या प्रदेशाचा विकास करणे शक्य असत नाही. प्रस्तुत शोधनिबंधामध्ये मराठवाड्यातील जिल्हानिहाय लोकसंख्या व भौगोलिक क्षेत्र यांच्या सहसंबंधाचा भौगोलिक अभ्यास करण्यात आला आहे. अभ्यास क्षेत्र मराठवाड्याचे स्थान गोदावरी नदीखो-यात असून या प्रदेशाचा अक्षवृत्तीस विस्तार $17^{\circ} 31'$ उत्तर अक्षवृत्त ते $24^{\circ} 41'$ उत्तर अक्षवृत्ताच्या दरम्यान आहे. तर रेखावृत्तीय विस्तार $74^{\circ} 40'$ पूर्व रेखावृत्त ते $78^{\circ} 16'$ पूर्व रेखावृत्ताच्या दरम्यान आहे. मराठवाड्याच्या उत्तरेस जळगाव, बुलढाणा, वाशिम व यवतमाळ या जिल्ह्यांच्या सीमा येतात. तसेच दक्षिणेला कर्नाटक राज्याच्या सीमा असून पश्चिमेला महाराष्ट्रातील नाशिक, अहमदनगर व सोलापूर या जिल्ह्यांच्या सीमा आहेत. मराठवाडा प्रदेशाचा आकार हा त्रिकोणी आहे. याची पूर्व-पश्चिम लांबी 934 कि.मी. तर उत्तर-दक्षिण लांबी 330 कि.मी. आहे. मराठवाडा विभागात औरंगाबाद, जालना, बीड, उस्मानाबाद, लातूर, परभणी, नांदेड व हिंगोली या आठ जिल्ह्यांचा व एकूण 75 तहसीलचा समावेश आहे. औरंगाबाद हे या प्रदेशाचे विभागीय कार्यालय असून प्रशासकीयदृष्ट्या महाराष्ट्रात हा औरंगाबाद विभाग म्हणून ओळखला जातो. महाराष्ट्राच्या एकूण क्षेत्रफळापैकी मराठवाड्याचे क्षेत्रफळ 21.06 टक्के (64811 चै.कि.मी) इतके आहे व महाराष्ट्राच्या एकूण लोकसंख्येपैकी 16.11 टक्के लोकसंख्या मराठवाड्यात आहे.

मराठवाडा विभाग

स्थान



अभ्यासाची उद्दिष्टे

प्रस्तुत शोधनिबंध पूर्ण करण्यासाठी खालील उद्दिष्टे समोर ठेवण्यात आली आहेत.

1) मराठवाड्यातील जिल्हानिहाय भौगोलिक क्षेत्र व लोकसंख्येचा अभ्यास करणे.

2) मराठवाड्यातील भौगोलिक क्षेत्र व लोकसंख्या यांच्या सहसंबंधाचा अभ्यास करणे.

अभ्यास पद्धती

प्रस्तुत शोधनिबंधाची उद्दिष्टे साध्य करण्यासाठी खालील अभ्यास पद्धतीचा अवलंब करण्यात आलेला आहे.

$$Mean = \bar{X} = \frac{\sum X}{N}$$

माहिती संकलन

प्रस्तुत शोधनिबंधासाठी जी उद्दिष्टे निश्चित करण्यात आली आहेत. त्या उद्दिष्टांना अनुसरून विषय विवेचन करून निष्कर्ष स्पष्ट करण्यात आले आहेत.

सारणी क्र.1.1, मराठवाडा: क्षेत्रफळ व लोकसंख्या (2011)

अ.क्र.	जिल्हे	क्षेत्रफळ (चौ.कि.मी.)	लोकसंख्या
1	औरंगाबाद	10106	3695928
2	जालना	10692	2585928
3	बीड	7715	1958483
4	उस्मानाबाद	7550	1660311
5	लातूर	7166	2455543
6	नांदेड	10545	3356566
7	परभणी	6511	1835982
8	हिंगोली	4526	1178973
	एकूण	64811	18727748
	मराठवाडा सरासरी	8101.37	2340968.5

संदर्भ: सामाजिक-आर्थिक समालोचन, महाराष्ट्र शासन

सारणी क्र.1.1 नुसार मराठवाड्यातील सरासरी भौगोलिक क्षेत्रफळ 8101.37 चौ.कि.मी. व सरासरी लोकसंख्या 2340968.5 इतकी आहे. जिल्हानिहाय भागौलिक क्षेत्र व लोकसंख्येचा अभ्यास केल्यास असे दिसून येते की, मराठवाड्यातील सरासरी भौगोलिक क्षेत्रानुसार औरंगाबाद (10106 चौ.कि.मी.), बीड (10692 चौ.कि.मी.), नांदेड (10545 चौ.कि.मी.) या जिल्ह्यांचे क्षेत्रफळ जास्त आहे. या तुलनेत लातूर (7166), जालना (7715 चौ.कि.मी.), उस्मानाबाद (7550 चौ.कि.मी.), हिंगोली (4526 चौ.कि.मी.) या जिल्ह्यांचे क्षेत्रफळ मराठवाड्यातील सरासरी भौगोलिक क्षेत्रफळानुसार कमी आहे. मराठवाड्यातील जिल्हानिहाय सरासरी लोकसंख्येचा (2340868) अभ्यास केल्यास असे स्पष्ट होते की, औरंगाबाद (3695928), नांदेड (3356566), बीड (2585928), लातूर (2455543) या जिल्ह्यांची लोकसंख्या मराठवाड्यातील सरासरी लोकसंख्येपेक्षा जास्त आहे व इतर जिल्ह्यांची लोकसंख्या कमी आहे.

सारणी क्र.1.2, मराठवाडा: क्षेत्रफळ व लोकसंख्या टक्केवारी (2011)

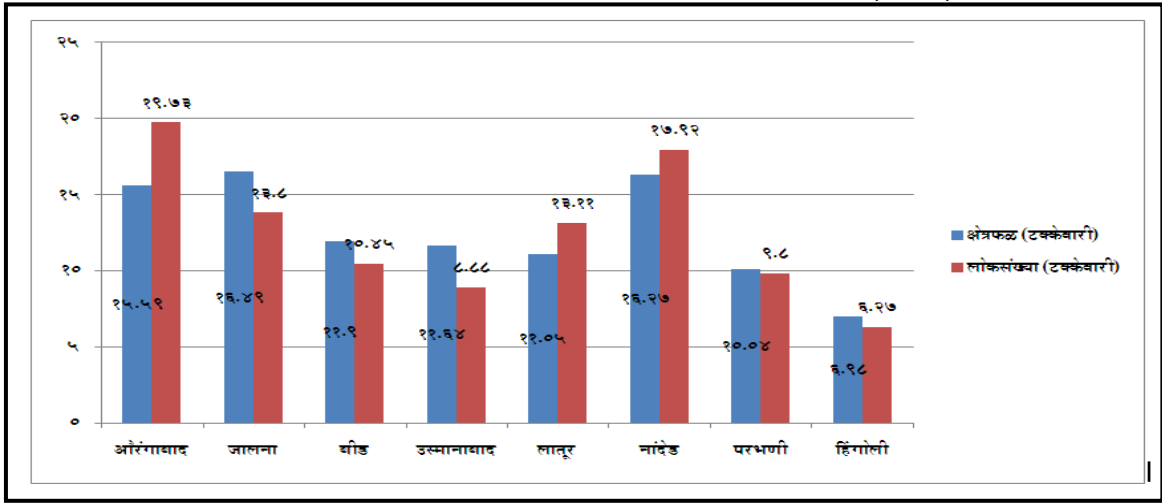
अ.क्र.	जिल्हे	क्षेत्रफळ (टक्केवारी)	लोकसंख्या (टक्केवारी)
1	औरंगाबाद	15.59	19.73
2	जालना	16.49	13.80
3	बीड	11.90	10.45
4	उस्मानाबाद	11.64	8.88
5	लातूर	11.05	13.11
6	नांदेड	16.27	17.92

7	परभणी	10.04	9.80
8	हिंगोली	6.98	6.27
	एकूण	99.96	99.96
	मराठवाडा सरासरी	12.49	12.49

संदर्भ: सामाजिक-आर्थिक समालोचन, महाराष्ट्र शासन

सारणी क्र.1.2 नुसार (आलेख क्र.1.1) भौगोलिक क्षेत्रफळ (टक्केवारी) व लोकसंख्या (टक्केवारी) यानुसार सरासरी सांख्यिकीय पद्धतीनुसार भौगोलिक क्षेत्रफळ व लोकसंख्या या संबंधाचा अभ्यास केल्यास असे स्पष्ट होते की, भौगोलिक क्षेत्रफळाच्या व लोकसंख्येच्या तुलनेत औरंगाबाद, बीड व लातूर या जिल्ह्याची सरासरी क्षेत्रफळाच्या तुलनेत जास्त आहे. तर जालना, उस्मानाबाद, परभणी, हिंगोली या जिल्ह्याची लोकसंख्येची टक्केवारी सरासरी मराठवाड्याच्या भौगोलिक क्षेत्राच्या टक्केवारीपेक्षा कमी आहे.

आलेख क्र.1.1.मराठवाडा: क्षेत्रफळ व लोकसंख्या टक्केवारी (2011)



निष्कर्ष

प्रस्तुत शोधनिबंधासाठी जी उद्दिष्टे निश्चित करण्यात आली आहेत त्या उद्दिष्टांना अनुसरून खालील निष्कर्ष स्पष्ट करण्यात येत आहेत.

1) मराठवाड्यातील सरासरी भौगोलिक क्षेत्रफळानुसार अभ्यास केल्यास असे स्पष्ट होते की, औरंगाबाद (10106 चौ.कि.मी.), बीड (10692 चौ.कि.मी.), नांदेड (10545 चौ.कि.मी.) या जिल्ह्यात क्षेत्रफळ जास्त असलेले दिसून येते. क्षेत्रफळानुसार या जिल्ह्यात सरासरी लोकसंख्या देखील जास्त दिसून येते. इतर जिल्ह्यात क्षेत्रफळ व लोकसंख्या कमी दिसून येते.

2) मराठवाड्यातील लोकसंख्या व क्षेत्रफळ यांच्या सहसंबंधाचा अभ्यास केल्यास असे दिसून येते की, औरंगाबाद, नांदेड व लातूर या जिल्ह्यात क्षेत्रफळाच्या तुलनेत लोकसंख्या जास्त दिसून येते. येथील औद्योगिक, शैक्षणिक, सांस्कृतिक व सामाजिक घटकांचा विकास झाल्यामुळे क्षेत्रफळाच्या तुलनेत लोकसंख्या जास्त असलेली दिसून येते. इतर जिल्ह्यात क्षेत्रफळाच्या तुलनेत लोकसंख्या दिसून येत नाही.

संदर्भ ग्रंथ

- 1) 1991 ते 2011 जिल्हानिहाय सामाजिक-आर्थिक समालोचन
- 2) महाराष्ट्र भूगोल-प्रा.के.ए. खतीब, के.सागर पब्लिकेशन, पुणे
- 3) <https://en.wikipedia.org/wiki/Marathwada>

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प्रा. डॉ. शिरमाळे महेबुबपाशा बाबूमियाँ

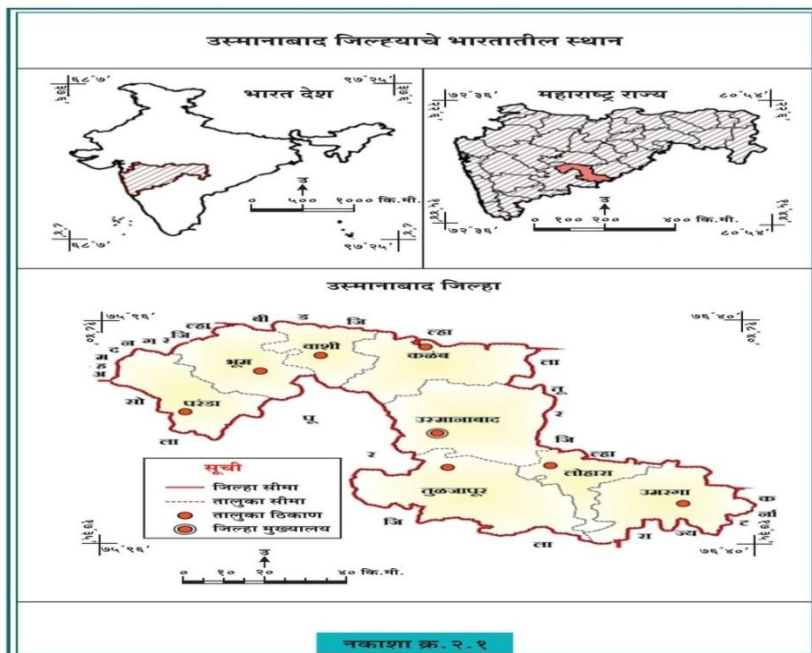
भूगोल विभाग शरदचंद्र महाविद्यालय, शिराढोण ता. कळंब जि. उस्मानाबाद.

प्रस्तावना:- भूमी हे देशाची एक महत्वाची नैसर्गिक साधन संपत्ती आहे व अशा साधन संपत्तीचा अधिक योग्य वापर करणे हे देशातील लोकांच्या हातात आहे. जमीनीचे किंवा भूमीचे महत्व लक्षात घेता तिचा योग्य प्रकारे वापर केल्यास फायदेशीर असते. जमिनीचा अयोग्य प्रकारे उपयोग केल्यास जमिनीची उत्पादनक्षमता घटून त्या देशाची प्रगती खुंटते. अभ्यासक्षेत्रातील मानवांच्या गरजा अन्न, वस्त्र, निवारा याबरोबरच वाहतूक, दळणवळण, वस्ती, संरक्षण आणि मनोरंजन इत्यादसाठी मानवाला भूमीकडे पहावे लागते. भूमी उपयोजन हे स्थलकालसापेक्ष असते. म्हणजे भूमी उपयोजन हे स्थला नुसार व काळा नुसार बदलत असते. म्हणजे भूमी उपयोजन हे स्थळानुसार व काळानुसार बदलत असते. उस्मानाबाद जिल्हायातील भूमी उपयोजनाचा विचार केला असता मागील २० वर्षांपूर्वी जे भूमी उपयोजन होते ते आज नाही. कारण तांत्रिक व यांत्रिक घटकातील बदलामुळे दोन दशकांपूर्वी एखाद्या भूमीचा उपयोग कृषीसाठी केला जात असेल तर आज त्या भूमीवर वस्ती निर्माण झाली असेल किंवा अन्य एखाद्या कार्यासाठी त्या भूमीचा उपयोग केला जात असेल तसेच अभ्यासक्षेत्रातील विविध तालुक्यातील भूमी वापर तंतोतंत सारखेच असणार नाही. क्षेत्रातील उपलब्ध प्राकृतिक, आर्थिक व सामाजिक घटकामुळे भूमी वापरात भिन्नता निर्माण होते.

बीजसंज्ञा:- भूमी उपयोजन, स्थल - कालपरत्वे बदल.

अभ्यास क्षेत्र :-

प्रस्तुत शोधनिबंधासाठी उस्मानाबाद जिल्ह्याची निवड केलेली आहे. उस्मानाबाद मराठावाड्यातील नैऋत्य कडील जिल्हा असून त्याचा अक्षवृत्तीय विस्तार १७°३५' उत्तर अक्षवृत्त ते १८°४१' उत्तर अक्षवृत्ताच्या दरम्यान आणि रेखावृत्तीय विस्तार ७५°१६' पूर्वे रेखावृत्त ते ७६°४०' पूर्वे रेखावृत्ताच्या दरम्यान आहे. उस्मानाबाद जिल्हायाचे क्षेत्रफळ ७५१२.४ चौ.कि.मी असून महाराष्ट्र राज्याचा ३.२१ टक्के क्षेत्र या जिल्हायाचे आहे जिल्ह्यात उस्मानाबाद, कळंब, उमरगा, तुळजापूर, परांडा, भूम, लोहारा व वाशी या आठ तालुक्यांचा समावेश होतो.



स्रोत : भारतीय सर्वेक्षण विभाग, भूस्थलदर्शक नकाशा, उस्मानाबाद जिल्हा.

गृहितके:-

- १) जिल्हायातील एकूण भूमी उपयोजनांपैकी जंगलव्याप्त क्षेत्र कमी होत आहे.
- २) जिल्हायातील एकूण भूमी उपयोजनांपैकी कुरणाखालील आणि पडीत जमिनीखालील क्षेत्र कमी होऊन लागवडीखालील क्षेत्रात वाढ होत आहे.

उद्दिष्ट :-

- १) उस्मानाबाद जिल्हातील भूमी उपयोजनाचा स्थल-कालपरत्वे अभ्यास करणे .

माहिती स्त्रोत्र :-

सदरील शोधनिबंध प्राथमिक व द्वितीयक स्वरूपाच्या आकडेवारी वर आधारलेला आहे. उस्मानाबाद जिल्हातील भूमी उपयोजनाचा अभ्यास करताना ई. स १९९१ ते २०११ या कालावधीचा विचार करून सदर अभ्यासासाठी जिल्हा सामाजिक व आर्थिक समालोचन, उस्मानाबाद जिल्हा कृषी अधिकारी अहवाल, जिल्हा सांख्यिकीय विभागातील अहवाल, मुलाखत, प्रश्नवली तंत्राचा उपयोग करून माहिती संकलित केली आहे.

अभ्यास पद्धती:-

प्रस्तुत शोधनिबंधसाठी आकडेवारी संकलित झाल्यानंतर टक्केवारीच्या सहाय्याने सांख्यिकीय पद्धतीद्वारे नकाशावर जिल्हातील एकूण भूमी उपयोजन क्षेत्र विभाजित वर्तुळाच्या सहाय्याने दाखविण्यात आलेले आहे.

विषय विवेचन :- (Discussion)

उस्मानाबाद जिल्हातील भूमी उपयोजनात प्रामुख्याने जंगलव्याप्त क्षेत्र, कुरणाखालील क्षेत्र, पडीत जमीन आणि शेती लागवडीखालील जमिनीचा अभ्यास केलेला आहे.

भूमी उपयोजनाविषयी वेगवेगळ्या तज्ज्ञांनी आपली मते खालीलप्रमाणे मांडली आहेत.

- १) आर. पी. सिंग यांच्या मते,

“Land use is function of four variables land, water, air and man”.

"जमीन, पाणी, हवा आणि मानव यांच्या कार्यातून भूमी उपयोजन निर्माण होते."

- २) फार्मन टी. डब्ल्यू. यांच्या मते,

“Land use is means surface utilization of all developed and vacant land for a specific point at a given time and space.”

“विशिष्ट क्षेत्रात, विशिष्ट वेळेला, विशिष्ट ठिकाणी विकसित व अविकसित भूमीचा केलेला वापर म्हणजेच भूमी उपयोजन होय.”

- ३) आर.बी. मंडल यांच्या मते,

“Land use means optimum use of every piece of land”.

“भूमीचा प्रत्येक तुकड्यांचा पर्याप्त मात्रेपर्यंत वापर करणे म्हणजे भूमी उपयोजन होय.”

वरील तज्ज्ञांच्या मते, वेगवेगळ्या कारणांसाठी भूमीचा वापर केला जात असतो. भूमीचा प्रत्यक्षात जो वापर केला जात असतो त्यालाच भूमी उपयोजन म्हटले जाते.

उस्मानाबाद जिल्हातील एकूण भूमी उपयोजन:-

सारणी क्र. १.१ वरून उस्मानाबाद जिल्हातील भूमी उपयोजनात सन १९९१-९२ ते १९९५-९६ मध्ये एकूण जंगल व्याप्त क्षेत्र ०.६६ टक्के, एकूण कुरणाखालील क्षेत्र ३.७० टक्के, एकूण पडीत जमिनीखालील क्षेत्र १०.१४ टक्के तर एकूण शेती लागवडीखालील क्षेत्र ८५.५० टक्के सर्वाधिक व्यापलेले आहे. सन १९९६-९७ ते २०००-०१ मध्ये एकूण

जंगलव्याप्त क्षेत्र ०.५२ टक्के, एकूण कुरणाखालील क्षेत्र २.०५ टक्के, एकूण पडीत जमिनीखालील क्षेत्र ९.१३ टक्के, तर एकूण लागवडी खालील क्षेत्राने सर्वाधिक ८८.३० टक्के क्षेत्र व्यापलेले आहे.

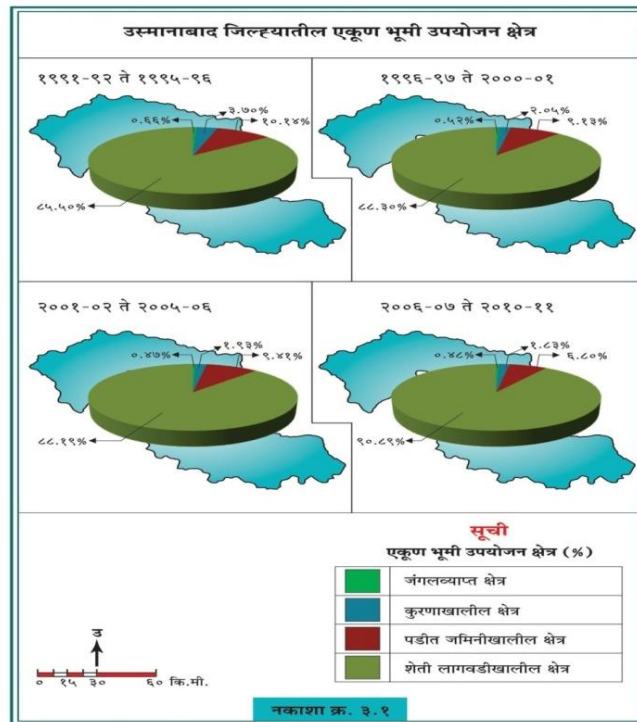
सारणी क्र १.१, उस्मानाबाद जिल्ह्यातील एकूण भूमी उपयोजन क्षेत्र (टक्केवारीमध्ये)

व्याप्त क्षेत्र	वर्षे				बदल
	१९९१-९२	१९९६-७	२००१-२	२००६-०७	
	१९९५-९६	२०००-१	२००५-६	२०१०-११	
एकूण जंगलव्याप्त क्षेत्र	०.६६	०.५२	०.४७	०.४८	- ०.१८
एकूण कुरणाखालील क्षेत्र	३.७०	२.०५	१.९३	१.८३	- ०.८७
एकूण पडीत जमिनीखालील क्षेत्र	१०.१४	९.१३	९.४१	६.८०	- ३.३४
एकूण शेती लागवडीखालील क्षेत्र	८५.५०	८८.३०	८८.१९	९०.८९	+ ५.३९
एकूण	१००%	१००%	१००%	१००%	

स्त्रोत:- जिल्हा सामाजिक व आर्थिक समालोचन उस्मानाबाद जिल्हा १९९१-२०११

सन २००१-०२ ते २००५-०६ मध्ये एकूण जंगलव्याप्त क्षेत्र ०.४७ टक्के, एकूण कुरणाखालील क्षेत्र १.९३ टक्के, एकूण पडीत जमिनीखालील क्षेत्र ९.४१ टक्के तर एकूण लागवडीखालील क्षेत्राने सर्वाधिक ८८.१९ टक्के क्षेत्र व्यापलेले आहे. सन २००६-०७ ते २०१०-११ मध्ये जंगलव्याप्त क्षेत्र ०.४८ टक्के, एकूण कुरणाखालील क्षेत्र १.८३ टक्के, एकूण पडीत लागवडीखालील क्षेत्राने ६.८० टक्के आणि एकूण शेती लागवडीखालील क्षेत्राने सर्वाधिक ९०.८९ टक्के क्षेत्र व्यापलेले आहे.

नकाशा क्र १.१



स्त्रोत : संशोधकाने संकलित केलेल्या आकडेवारी आधारीत.

निष्कर्ष:-

उस्मानाबाद जिल्ह्या च्या सामान्य भूमी उपयोजनाचा अभ्यास केला असता सन १९९१-९२ ते २०१०-११ या कालावधीत जंगलव्याप्त क्षेत्रात -०.१८ टक्क्यांनी घाट झालेली आहे. तर एकूण कुरणाखालील क्षेत्रात देखील -१.८७ टक्के घाट झालेली आहे. तसेच एकूण पडीत जमिनीखालील क्षेत्रात देखील -३.३४ टक्क्यांनी घट झालेली आहे आणि एकूण शेती लागवडीखालील क्षेत्रात ५.३९ टक्क्यांनी वाढ झालेली आहे. सर्वात जास्त वाढ एकूण शेती लागवडीखालील क्षेत्रात तर सर्वात जास्त घट एकूण पडीत जमिनीखालील क्षेत्रात झाल्याचे दिसून येते.

संदर्भ ग्रंथ :-

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- २) के. सागर 'महाराष्ट्रातील जिल्हे', अनिरुद्ध पब्लीसिंग हाऊस, पुणे.
- ३) डॉ. सुरेश फुले (२०१२), 'कृषी भूगोल', विद्याभारती प्रकाशन, लातूर .
- ४) माजिद हुसेन, "कृषी भूगोल " रावत पब्लिकेशन ,जयपूर.
- ५) डॉ. विठ्ठल घारपुरे (२०००), 'कृषी भूगोल', पिंपळापुरे पब्लिकेशन, नागपूर.
- ६) जिल्हा सामाजिक व आर्थिक समालोचन, जिल्हा उस्मानाबाद (१९९१-९२ ते २०१०-११).
- ७) कृषी अधिकारी अहवाल, कृषि विभाग उस्मानाबाद.

हवामान बदल हे एक जागतिक आव्हान : चिकित्सक अभ्यास

प्रा. डॉ. दिलीप गोविंदराव भोगे

सहाय्यक प्राध्यापक, (भूगोल विभाग) आज्ञाद महाविद्यालय, औसा. जि. लातूर

गोषवारा/ सारांश :

जागतिक पातळीवर विकासाच्या नावाखाली मानवाने पर्यावरणाचे प्रचंड प्रमाणात नुकसान केले आहे. गरिबी आणि अज्ञान हे पर्यावरणीय हानीचे साथीदार असून त्यातून पर्यावरणाचे प्रतिनिधीत्व करणारी संरक्षित जंगले, अभयारण्ये, वन्यप्राण्यांची निवासस्थाने नष्ट होत आहेत. परिणामी निसर्गाचा समतोल बिघडत आहे. पृथ्वीवरील वातावरणात कार्बन डाय ऑक्साईडचे प्रमाण, हरितगृह वायूचे प्रमाण वाढत आहे. तसेच तापमान, पर्जन्यमानात, वारे वाहण्याच्या पध्दतीत लक्षणीय बदल झालेला आहे. यामुळे हवामानात बदल होत आहे. जागतिक पातळीवरील हवामान बदलामुळे जगभर दुष्काळ, महापूर, चक्रीवादळे, साथीचे रोग, अँसिड पर्जन्य अशा अनेक समस्या निर्माण होत आहेत. हवामान बदलाचे परिणाम संपूर्ण जगाला भोगावे लागत आहे. म्हणून हवामान बदल हे जगात अनेक समस्यांचे मूळ कारण बनत असल्याने संपूर्ण जगाने या आव्हानाकडे गांभीर्याने लक्ष देणे आवश्यक आहे.

प्रस्तावना:

सदरील शोध निबंधामध्ये जागतिक हवामान बदल हे एक जागतिक आव्हान याचे विश्लेषण करताना वातावरणातील वाढते घातक वायू, तापमान, पर्जन्यमान, जंगल, सजीवसृष्टी अभयारण्ये व पर्यावरणीय आपत्ती या घटकांचा आधार घेण्यात आला आहे. शास्वत विकासासाठी जागतिक हवामानात बदल घडवून आणणाऱ्या महत्वपूर्ण घटकांचा विचार सदरील अभ्यासात करण्यात आलेला आहे. आज हवामान बदल ही जागतिक समस्या एक आव्हान बनली आहे. या आव्हानाचा मुकाबला करण्यासाठी निसर्गातील मानवी हस्तक्षेप तसेच निर्माण होणारी नैसर्गिक संकटे यांचा अभ्यास करण्यात आलेला आहे.

उद्दिष्टे:

प्रस्तुत शोध निबंध खालील उद्दिष्टांना अनुसरून अभ्यासण्यात आलेला आहे.

- 1) जागतिक हवामान बदल अभ्यासणे.
- 2) जागतिक हवामान बदलांच्या आव्हानांचा अभ्यास करणे .
- 3) हवामान बदलांची कारणे अभ्यासणे.
- 4) हवामान बदलांच्या परिणामांचा अभ्यास करणे.
- 5) हवामान बदलासंबंधीत उपाययोजना अभ्यासणे.

माहिती संकलनांचे स्रोत व संशोधन पध्दती :

सदरील शोध निबंधासाठी आवश्यक असलेली माहिती संकलित करण्याचे स्रोत द्वितीयक स्वरूपाचे आहेत. पुस्तके, सामाहिके, विविध संशोधन जर्नल, हवामान तज्ञांचे अहवाल, इंटरनेट साईट, प्रशासकीय कागदपत्रे याद्वारे माहिती संकलित करण्यात आली आहे. या संकलित माहितीच्या आधारे हवामान बदल हे एक जागतिक आव्हान याचा अभ्यास करण्यात आला असून या संकलित माहितीच्या आधारे तिचे सादरीकरण करण्यात आले आहे.

विषय विवेचन :

हवामान बदल म्हणजे तापमान, पर्जन्य, हवेतील बाष्प, सुर्यप्रकाश, वायू, वाऱ्याचा वेग व दिशा या हवामानाच्या विविध घटकांच्या सरासरी प्रमाणात घडून येणारा बदल होय. म्हणजेच पृथ्वीवर वातावरणात होणाऱ्या बदलास हवामान बदल असे म्हणतात. हवामान बदलाने पृथ्वीवरील पर्जन्यमान असमतोल, तापमानात वाढ, हिमनद्यांचे वितळणे, सागरपातळी उंचावणे, पर्यावरणीय आपत्तीत वाढ, नवनवीन रोगांचा प्रादुर्भाव, त्वचारोगाचे वाढते प्रमाण, कृषि, मानव, वनस्पती व प्राणी प्रजातीवर अनिष्ट परिणाम अशी अनेक आव्हाने निर्माण केली आहेत. हवामान बदल या आव्हानांच्या मुळाशी असलेल्या कारणाची माहिती घेणे आवश्यक आहे.

वातावरणात घातक वायूंच्या प्रमाणात वाढ :

औद्योगिक क्रांतीनंतर पृथ्वीच्या वायूमंडळात कार्बन डाय ऑक्साईड, मिथेन, क्लोरोफ्ल्यूरोकार्बन नायट्रस ऑक्साईड व इतर कृत्रिम उष्णता शोषून घेणाऱ्या घातक वायूंच्या प्रमाणात वाढ झालेली. हरितगृहाच्या संस्थेत वाढ झाल्याने हरितगृहातून बाहेर पडणाऱ्या घातक वायूंच्या प्रमाणात वाढ झाली. या वायूंच्या संपूर्ण पृथ्वीवरील तापमानावर परिणाम झाला आहे. 1950 नंतर जागतिक तापमानात वाढ झाल्याचे प्रमुख कारण वातावरणात घातक वायूंच्या प्रमाणात झालेली वाढ हेच आहे. वेगवेगळ्या घटकांच्या (जीवाश्म इंधन, वाहनांचे प्रदूषण, वाढते शहरीकरण, जंगलतोड, वनवा इत्यादी) माध्यमातून कोटयावधी मेट्रिकटन कार्बनचे उत्सर्जन वातावरणात होत आहे. कार्बन डाय ऑक्साईड वायूंच्या प्रमाणात वाढ झाल्यामुळे वातावरणात असंतुलन निर्माण होवून पृथ्वीच्या सरासरी तापमानात वाढ झाली. त्यामुळे हवामान बदलत आहे हे जगासमोरील फार मोठे आव्हान आहे. कारण संशोधक म्हणतात, दीर्घकालीन अभ्यास लक्षात घेतला तर कार्बन डाय ऑक्साईडची पातळी सातत्याने वाढत असल्याचे दिसत आहे.

जागतिक वातावरणातील वार्षिक कार्बन डाय ऑक्साईडचे प्रमाण (1960 ते 2020)

इ.स.	वातावरणातील कार्बन डाय ऑक्साईड प्रमाण PPM मध्ये (Parts Per Million)
1960	305
1970	325
1980	340
1990	355
2000	370
2010	385
2020	411

स्रोत : <https://ww.kaggle.com>

उपरोक्त तक्त्यामध्ये जागतिक वातावरणातील वार्षिक कार्बन डायऑक्साईडचे प्रमाण (1960 ते 2020) PPM मध्ये दर्शविण्यात आले आहे. 1960 मध्ये वातावरणात कार्बन डायऑक्साईडचे प्रमाण 305 PPM इतके होते. तर 60 वर्षांनंतर 2020 मध्ये तेच प्रमाण 410 PPM इतके झालेले आहे. म्हणजेच कार्बन डायऑक्साईडच्या प्रमाणात 105 PPM एवढी वाढ झालेली आहे. जोन्स यांनी 20 व्या शतकात दरवर्षी कार्बन डायऑक्साईडची पातळी सतत वाढत असल्याचे मत व्यक्त केले या मतावर इतर संशोधकांनी हे संशोधन काळजी करण्यासारखे असल्याची प्रतिक्रिया दिली आहे.

पृथ्वीचा सूर्याशी होणारा कोन आणि सूर्यावरील डागांच्या संस्थेत वाढ :

पृथ्वीचे परिवहन आणि परिभ्रमण होताना तिचा सूर्याशी विशिष्ट असा कोन असतो. पृथ्वीच्या फिरण्याच्या क्रियेतील तिचा सूर्याशी होणाऱ्या कोनात थोडाही फरक पडल्यास सूर्याकडून पृथ्वीवर येणाऱ्या सूर्यप्रकाशाच्या प्रमाण आणि उर्जेत फरक पडतो. त्याचा परिणाम हवामान बदलामध्ये होतो. दर 11 वर्षांनी सूर्यावरील डागांच्या संख्येत कमालीचा बदल घडून येतो म्हणजेच डागांच्या संख्येत वाढ होते. यांचा परिणाम वातावरणावर होतो. त्यामुळे अंतराळात धुळीचे लोट निर्माण होतात. त्या धुळीकणांना सौरउर्जा आडली जाते. तसेच ते सौरउर्जा अधिक ग्रहण करतात त्यामुळे पृथ्वीवरील तापमानात वाढ होते. परिणामी हवामानात कमालीचा बदल होतो. तसेच पृथ्वीवरील एखाद्या क्षेत्रात ज्वालामुखी उद्रेक होत असतील तर तेथील वातावरणात दूरवर राख पसरून सूर्याची उष्णता अडवली जाते. सूर्यकिरणे पृथ्वीवर येणाऱ्या प्रतिबंध होऊन पृथ्वीवरील तापमानात वेगाने घट होते. तर तेथील वातावरणातील तापमानात तात्पुरती वाढ होते. त्यामुळे हवामानात बदल घडून येतो.

लोकसंख्या विस्फोटाचा नैसर्गिक संसाधनावरील ताण :

जागतिक लोकसंख्या भरमसाठ वाढल्याने त्यांच्या गरजा पूर्ण करण्यासाठी मर्यादीत संसाधनाचे अमर्याद प्रमाणात शोषण करण्यात आल्याने मर्यादीत साधनसंपत्तीवर ताण पडला. वाढत्या लोकसंख्येने निसर्गाचे शोषण वाढले म्हणजे मानवाने विकासाच्या नावाखाली वातावरण, जलावरण, जीवावरण, मृदावरण व पर्यावरण यात हस्तक्षेप करून संतुलित निसर्गचक्रात बिघाड घडवून आणला. त्यामुळे पृथ्वीचे तापसंतुलन, हवा, पाणी, जमीन व पर्यावरण संतुलन बिघडले.

जैवविविधता धोक्यात आली याचा परिणाम म्हणून पर्यावरणात अनेक प्रकारचे बदल घडून आलेले आहेत. मानवाने पर्यावरणात हस्तक्षेप करून पर्यावरणीय समतोल बिघडवल्याने हवामान बदलाचे महासंकट म्हणजे आढ्यान जगासमोर उभे आहे. हवामान बदलामुळे पृथ्वीवरील कांही भागात अतिवृष्टी तर कांही भागात पाण्याची तीव्र टंचाई निर्माण होते. कांही प्राण्यांच्या जाती स्थलांतरीत होत आहेत तर कांही वनस्पती- प्राण्यांच्या जाती नष्ट होत आहेत. उदा: 6.5 कोटी वर्षापूर्वी डायनासोर या प्राण्याचा अस्त झाला. ध्रुवीय प्रदेशातील व हिमनद्यातील बर्फ वितळून सागर पातळीत मोठ्या प्रमाणात वाढ होते. आम्ल पर्जन्य होवून माशांच्या जाती नष्ट होतात. पर्जन्यमानात घट होऊन पर्यावरणीय समतोल बिघडून पर्यावरणीय आपत्तीत वाढ झालेली आहे. तापमानातील वाढ वातावरणात मिसळत असलेल्या घातक वायूतील वाढीमुळे मानवी रोगामध्ये वाढ होत असून मानव, वनस्पती व प्राणी जीवसृष्टीवर वाईट परिणाम होत आहेत. एकूणच हवामान बदलामुळे सर्वत्र क्षेत्रात अस्थिरता निर्माण झालेली दिसून येते.

निष्कर्ष :

वरील माहितीचे विश्लेषण हे स्पष्टपणे दर्शविते की, हवामान बदलामुळे निसर्गचक्रात बिघाड, पृथ्वीवरील सरासरी तापमानात वाढ, पर्जन्यमानात असमतोल, बर्फाच्छादनात घट, सागर जलाच्या पातळीत वाढ, सागरीप्रवाह मार्गात बदल, आम्लपर्जन्यात वाढ, पर्यावरणीय आपत्तीच्या संख्येत वाढ, अनेक रोगांचा प्रादुर्भाव, पृथ्वीवर जीवित व वित्त हानी होताना दिसून येते. यावरून हवामान बदलाने पर्यावरणात नकारात्मक प्रभाव पडत आहे. हवामान बदल रोखण्यासाठी शास्वत तसेच विकास साधण्यासाठी पर्यावरणीय घटकांचा नियोजनपूर्वक वापर करताना विविध कार्यक्रम राबवून अपारंपारीक उर्जा संसाधनाचा योग्य वापर करण्यासंबंधीत सामान्य लोकामध्ये जागृती करणे गरजेचे आहे. हवामान बदलाच्या परिणामाची जाणीव करून देताना हवामान बदलासंबंधीत ज्ञान असणाऱ्या तज्ञांना सहभागी करून घेण्याची आवश्यकता आहे. या नियोजनाची जबाबदारी संपूर्ण जगावरच आहे.

शिफारशी :

हवामान बदलामुळे अनेक गंभीर समस्या निर्माण होवून आढ्यांना सामोरे जावे लागत आहे. मानवाच्या व पारिस्थितीकीच्या अस्तित्वासाठी हवामानातील बदल नियंत्रणात आणणे आवश्यक आहे. त्यासाठी खालील शिफारशी करण्यात येत आहेत.

- 1) वृक्षतोडीवर नियंत्रण आणून वृक्षसंवर्धन चळवळीस चालना देणे.
- 2) वातावरणातील कार्बनडाय ऑक्साईड वायूचे प्रमाण घटविण्यासाठी प्रयत्न करणे.
- 3) सर्व प्रकारच्या प्रदूषणावर आळा घालणे.
- 4) सर्व प्रकारच्या संसाधनाचे संवर्धन करणे.
- 5) औद्योगिकरण, नागरीकरण व लोकसंख्या वाढीवर नियंत्रण आणणे.
- 6) अपारंपारिक उर्जेवर चालणाऱ्या वाहनांचा वापर करणे.
- 7) पर्यावरणातील वाढता हस्तक्षेप कमी करून पर्यावरण विषयक कायदे कडक करावेत.
- 8) हरितगृह वायू वातावरणात मिसळणार नाहीत याची प्रत्येकाने काळजी घेणे.
- 9) अक्षय उर्जा साधनांचा विकास व प्रदूषण मुक्त उर्जेची निर्मिती करणे.
- 10) हवामान बदलाबाबत लोक शिक्षण व जनजागृतीबरोबर कृती कार्यक्रम आखून त्याची अंमलबजावणी करणे.
- 11) हवामान बदलाची माहिती देणाऱ्या समांतर यंत्रणेतून पर्यावरण संबंधाची चळवळ उभी करणे.

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पर्यावरणाचे मानवी शरीराव आणि मानवी जीवनावर होणारे परिणाम

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प्रस्तावना -

मानवहा भूततलावावरील सर्वश्रेष्ठ आणि बुद्धीमान प्राणी म्हणून ओळखला जातो. हाच मानव अप्रगत किंवा रानटी अवस्थेत असतांना निसर्गातील वनस्पती, कंदमूळे, फळे, व प्राण्याची शिकार करून आपली उपजिवीका त्या काळात मानवाने भागविल्याचे दिसून आले आहे. म्हणजे मानवाची जेव्हा उत्पत्ती झाली तेव्हा पासूनच मानवाचा पर्यावरणाशी संबंध झालेला आहे. म्हणजे मानवाने फार पूर्वीपासून निसर्गाचा उपयोग करून घेतला होता. म्हणूनच सन १८८२ मध्ये फ्रिडरिश राटसेल यांच्या ॲन्थ्रोपोजिऑग्राफी ग्रंथात म्हटले आहे की "मानवी समानाच्या इतिहासावर भौगोलिक पर्यावरणाच्या प्रभावाचे दिग्दर्शन केले होते. यातूनच खऱ्या अर्थाने मानव केंद्रस्थानी मानला गेला. त्यामुळेच मानव व नैसर्गिक पर्यावरण यांच्यात कार्यात्मक संबंध (Functional Relationship) निर्माण झाले. म्हणजे मानवाचा पर्यावरणाशी चांगल्या प्रकारे संबंध निर्माण झाला. त्याचा परिणाम मानवी जीवनावरती व शरिरावरती होऊ लागला. पर्यावरणाचे महत्व मानवी जीवनात वाढल्याने मानवाने फार मोठ्या प्रमाणात विकास केला त्यामुळेच अनेक गोष्टींचा शोध लागल्यामुळे विज्ञान व तंत्रज्ञानाच्या बळावरती पर्यावरणातील अनेक घटकांचा फायदा मानवाला कशा प्रकारे होतो. त्यातूनच मानवावरती व शरिरावरती पर्यावरणशास्त्राचे काय परिणाम होतात त्या दृष्टीकोणातूनच आपण अभ्यास करणार आहोत. पर्यावरण व मानव यांचा फार जवळचा संबंध आहे. डॅनियल चिरास म्हणतात की, "पर्यावरणातील जैविक (सजीव) व अजैविक (निर्जीव) घटकातील परस्पर क्रियांचा अभ्यास करणारे शास्त्र म्हणजे पर्यावरणशास्त्र होय" "Environment refers to the sum total of condition which surrounded man at a given point in space and time" म्हणजे पर्यावरणाचा व मानवाचा फार जवळचा संबंध आहे. त्यामुळेच पर्यावरणाचे परिणाम मानवी जीवनावर व शरिरावर होतात.

* ध्येय व उद्दिष्टे :-

- १) पर्यावरणाचा मानवी जीवनावरती कसे परिणाम होतात ते स्पष्ट करणे.
- २) पर्यावरणाचा मानवी शरिरावरती कसे परिणाम होतात ते स्पष्ट करणे.
- ३) पर्यावरणामुळे मानवावरती व शरिरावरती कोण कोणते बदल होतात ते स्पष्ट करणे

* गृहितके :-

- १) पर्यावरणामुळेच मानवी जीवनावरती बदल झाले.
- २) पर्यावरणामुळे मानवी शरिरावरती ही बदल होतात.
- ३) पर्यावरण या घटकामुळे मानवी जीवनात आणि शरिरावरती निश्चित बदल होतात.

* विश्लेषण :-

पर्यावरणाला आजच्या युगात अनन्यसाधारण महत्व प्राप्त झाले आहे त्यामुळे मानवाने फार पूर्वीपासून पर्यावरणाची जपवणूक केली होती. त्याचे फायदे मानवी जीवनावरती, शरिरावरती, हवामानावरती झाल्याचे दिसून येते. म्हणूनच नैसर्गिक पर्यावरणाला महत्व प्राप्त झाले आहे. खऱ्या अर्थाने पर्यावरणाचे दोन प्रकार पडतात. एक म्हणजे नैसर्गिक पर्यावरण (Natural Environment) आणि दुसरे म्हणजे मानव निर्मित किंवा सांस्कृतिक पर्यावरण (Manmade or Cultural Environment) म्हणजे पर्यावरणाचा निसर्ग आणि मानव

यांचा फार जवळचा संबंध आहे. पर्यावरण चांगल्या प्रकारे राहिले तर मानवी आरोग्य उत्तम दर्जाचे राहते. पर्यावरणात म्हणजे निसर्गात बदल झाला तर त्याचा परिणाम मानवी जीवनावरती, शरीरावरती निश्चित होत असतो. म्हणून म्हटले की, नैसर्गिक पर्यावरणाचे वैशिष्ट्ये म्हणजे ते अत्यंत गतिशिल (Dynamic) असते. त्यामुळे पर्यावरणात सतत घडामोडी घडत असतात. त्यात बदल होत असतात हे बदल स्थलरूप व कालरूप असतात. म्हणूनच पर्यावरण सगळीकडे सारखे नसते. म्हणून त्याचा परिणाम मानवी शरीरावरती होत असतो. जर एखाद्या ठिकाणी नैसर्गिक आपत्ती आली तर त्या भागात त्या आपत्तीनुसार बदल होतात. तेच बदल मानवावरती, प्राण्यावरती आणि मानवी शरीरावरती होत असतात.

पर्यावरणाचा हा बदल खऱ्या अर्थाने ग्रामिण व नागरी भागावरती पडून तेथील व्यवसाय, लोकसंख्या, प्रशासकीय यंत्रणा दळणवळण संपर्कसाधने या वरती होऊन त्याचा परिणाम मानवी जीवनावरती होऊन बऱ्याच अंशी मानवी शरीरावरतीही फार मोठ्या प्रमाणात बदल घडून येतात.

पर्यावरणामुळे शेती व्यवसायावरती सुध्दा फार मोठ्या प्रमाणात बदल होतात. शेतीवरचा बदल म्हणजे तो मानवाच्या दृष्टीकोनातून महत्वाचा बदल असतो. त्यामुळे त्या बदलाचे परिणाम खऱ्या अर्थाने मानवी शरीरावरतीही होतो. जर नैसर्गिक आपत्तीमुळे शेतातील शेतीवर परिणाम होऊन मानवाच्या शरीरावरती खऱ्या अर्थाने जे बदल घडून गेले आहे त्याचे प्रतिबिंब मानवी जीवनावरती होतात म्हणूनच पर्यावरण हे मानवाच्या दृष्टीकोनातून महत्वपूर्ण घटक आहे असे म्हणता येईल.

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लोकसाहित्याच्या अभ्यास पद्धती व संप्रदाय

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प्रस्तावना:

भारतीय संस्कृती ही देशाच्या इतिहासामुळे विलक्षण भूगोलामुळे आणि जनतेतील वैविध्यामुळे आकारास आली आहे. शेजारच्या विविध देशांतील चालीरिती परंपरा व कल्पना सामावून घेत भारतीय संस्कृतीने सिंधुसंस्कृती, वैदिक काळापासून ते आजपर्यंत झालेली विविध बदले पचवून देखील स्वतःचे परंपरागत प्राचीनत्व टिकवून ठेवले आहे भारतीय संस्कृती तिच्या इतिहासाने, अद्वितीय भौगोलिक रचनेने, वैविध्यपूर्ण लोकजीवनाने विविध धर्म, भाषा, वातावरण, चालीरिती आणि परंपरेने समृद्ध होऊन जगविख्यात झाली आहे अशा भारतीय संस्कृतीची पाळेमुळे लोकसाहित्यात खोलवर रुजलेली आहेत. भारताची आदिम संस्कृती ही आजही भारतातील आदिवासींमध्ये आपणास पहावयास मिळते. अशा लोकसाहित्यातून लोकसंस्कृतीचे अनेक धागे एकत्रित बांधले जातात आणि हेच लोकसंस्कृतीचे बदलते स्वरूप साहित्यामध्ये दिसून येते. लोकसाहित्य हा प्रत्येक देशाचा एक ऐतिहासिक सांस्कृतिक प्रादेशिक असा एक मौल्यवान ठेवा आहे.

रूसो च्या सोशल कॉन्ट्रॅक्ट या ग्रंथानंतर सर्व जगातच साधेपणाविषयी ग्रामीण व नागरी जीवनाविषयी अनावर ओढ निर्माण झाली. मनुष्याला नैसर्गिक अप्रतिम जगणे प्रिय वाटू लागले. त्याच साचेबद्ध एकसुरी जीवनाचा अतिरेक झाला की मानवी मनातली ही आदिम प्रेरणा उफाळून वर येऊ लागली त्यामुळे मानवी मन पुन्हा मूळ परंपरेकडे खेचले गेले मग त्याला मोकळ्या रसरशीत जीवनाची ओढ लागली. विशेषतः नैसर्गिक ग्रामीण जीवनाविषयी आकर्षण वाटू लागले. अठराव्या शतकाच्या मध्यावर निसर्गाबद्दल कुतूहल निर्माण झाले त्यातूनच रोमँटिसिझम ही चळवळ उदयास आली जर्मनीमध्ये ती फोफावली. वातावरण हळवे, कोमल बनले. निसर्ग साद घालू लागला. रोझेस सारख्या कवीच्या कवितेतून जुनी पौराणिक प्रतीके झळकू लागली कथा-कादंबरीकार या आकर्षणातून पुढे आले. यंत्रावताराने संवेदनाशून्य बनलेला आणि खऱ्या निसर्गाला पारखा बनलेला माणूस हा अनेक लेखक कवींची लेखन प्रेरणा ठरली. आपल्याकडे मराठी भाषेत औद्योगिकीकरणाच्या विषय अवस्थेतून मर्दकरांची कविता जन्मास आली.

किती तरी दिवसात
नाही चांदण्यात गेलो
किती तरी दिवसात
नाही नदीत डुबलो

या ओळी अकृत्रिम नैसर्गिक जीवनाच्या उत्कट ओढीची साक्ष देतात याच ओढीतून पुरातत्त्ववेत्ता ह्यूग मिलरने स्कॉटलंडमध्ये रुढी परंपरा व पारंपरिक कथांचा संग्रह प्रसिद्ध केला थॉमस किटले याही पुरातत्त्ववेत्त्याने पुराणकथांकडे लक्ष पुरवले. पुराणकथांची संकलने होऊ लागली. यंत्रयुगात पराभूत पोरक्या मनोवृत्ती मुळे तसेच पुराणकथा दैवतकथा शास्त्राच्या अभ्यासकांच्या प्रयत्नातून लोकसाहित्याच्या अभ्यासाला चालना मिळाली लोकसाहित्याच्या अभ्यासाचे महत्त्व जगभर वाढल्यामुळे निरनिराळ्या सिद्धांतांच्या आधारित लोकसाहित्याची चिकित्सा व अभ्यास हा शास्त्रीय दृष्टिकोनातून होऊ लागला. लोकसाहित्याच्या अभ्यासामध्ये उत्तरोत्तर भर पडत गेल्यामुळे प्रत्येकाच्या वेगवेगळ्या दृष्टिकोनामुळे या अभ्यास क्षेत्रात भिन्नभिन्न संप्रदाय निर्माण झाले

शोधनिबंधाची उद्दिष्टे:

१. लोकसाहित्य स्वरूप संकल्पना स्पष्ट करणे.
२. लोकसाहित्य व संस्कृती याचा अभ्यास करणे.
३. लोकसाहित्याच्या विविध अभ्यासपद्धती व संप्रदाय अभ्यासणे.

शोधनिबंधाची ग्रहीतके:

१. लोकसाहित्य व संस्कृती यांचा अन्योन्य संबंध आहे.
२. लोकसाहित्यातून ऐतिहासिक, भौगोलिक, प्रादेशिक जाणीवा व्यक्त होताना दिसतात.
३. लोकसाहित्याचा विविध शास्त्रीय अभ्यासपद्धती व संप्रदायाद्वारे अभ्यास केला जातो.

संशोधन पद्धती:

प्रस्तुत शोधनिबंधात वर्णनात्मक विश्लेषणात्मक व तुलनात्मक अभ्यास पद्धतीचा वापर करण्यात आला आहे तसेच प्राथमिक व दुय्यम साधनसामग्री म्हणून प्रकाशित संदर्भ ग्रंथांचा उपयोग करण्यात करण्यात आला आहे.

लोकसाहित्याच्या विविध अभ्यास पद्धती व संप्रदाय:

अठराव्या शतकात युरोपमधील लोकसाहित्याच्या अभ्यासाला सुरुवात झाली, त्या अगोदर लोकसाहित्याचे संकलन केले जात होते. लोकसाहित्यात प्राचीन रुढी परंपरा सण-उत्सवविधी यांचा समावेश होतो यातूनच लोकसाहित्य समृद्ध बनत गेले व त्याचा आवाका वाढत गेला. लोकसाहित्याचे महत्त्व जगभर वाढल्यामुळे वेगवेगळ्या सिद्धांतांच्या आधारे शास्त्रीय पद्धतीने अभ्यास होऊ लागला, यातूनच लोकसाहित्याच्या अभ्यासाच्या विविध पद्धती व संप्रदाय निर्माण झाले.

भाषाशास्त्रीय अभ्यास संप्रदाय:

भाषा हे मानवाला मिळालेले वरदान आहे भाषेमुळे मानवाचा इतिहास त्याची संस्कृती समृद्ध झाली मानवी भाषेची उत्पत्ती आणि तीजविषयीचे सिद्धांत मांडण्यासाठी भाषाशास्त्रज्ञांची दृष्टी मानवांचे प्रारंभिक वाङ्मय दैवतकथा याकडे वळले. भाषाशास्त्रीय उपपत्तीसाठी दैवतकथांचा अभ्यास भाषाशास्त्रज्ञांना उपकारक ठरला. म्हणून दैवतकथाशास्त्र ही भाषाशास्त्राची प्रारंभीची एक अभ्यास शाखा ठरवली गेली. भाषाशास्त्राच्या अभ्यासाचा प्रारंभ ग्रिम बंधू पासून झाला त्यानंतर मॅक्समुलरने लोककथाशास्त्रात महत्त्वाची भर घातली १८५६ साली ऑक्सफर्ड एसेज हा ग्रंथ लिहून तौलनिक दैवतकथाशास्त्र या नव्या संशोधनपर अभ्यासाला जन्म दिला. या ग्रंथात त्याने दैवत कथा शास्त्रासंबंधी आपला सुप्रसिद्ध सिद्धांत मांडला त्यांच्या मते दैवतकथा म्हणजे भाषेचा विकृत वापर भाषेचा जडलेला रोग सर्व दैवतकथांचे मूळ नैसर्गिक घटनांमध्ये असते. ही घटनाच दैवत कथांची प्रतीक रूपके बनतात मॅक्समुलर चा हा सिद्धांत खूप लोकप्रिय झाला तो म्हणतो की सर्व दैवत कथांचा आत्मा सूर्य कथा आहे मॅक्समुलर च्या या मताला वैज्ञानिक बैठक आहे मात्र पुढे वॉल्टर केली या भाषाशास्त्रज्ञांनी मॅक्समुलर च्या सूर्य सिद्धांताला विरोध केला.

निसर्गरूपकवादी संप्रदाय:

मॅक्समुलर च्या दैवत कथा शास्त्राच्या विवरणातून निसर्गरूपकवादी संप्रदायाचा उगम झाला. दैवतकथा एका वेगळ्या दृष्टिकोनातून अभ्यासल्या तर मानव आणि निसर्गघटनांनाच वेगवेगळ्या दैवतांची नावे दिलेली आढळून येतात. वेदांमध्ये इंद्रदेव आहे. इंद्र आणि वृत्र या दोघांचे युद्ध वर्णन येते. त्यातील वृत्र म्हणजे मेघ. ऋतुचक्रात मेघांचा पराजय झाला की, शरद ऋतूचे आगमन आहे. हा इंद्राचा विजय आहे. असे कथेत वर्णन केले जाते. याप्रमाणेच सूर्यदेव आणि राक्षस म्हणजे अंधार यामध्ये युद्ध या पुराणकथा आणि सर्व घटनांची प्रतीके म्हणून येतात. वेदांमध्ये प्रसिद्ध पुरुरवा उर्वशी ची कथा येते. उर्वशी पुरुरवाला सोडून जाते. या कथेचा अर्थ अलौकिक स्वर्गीय सौंदर्याने पृथ्वीवरील मर्त्य मानवाचा त्याग केला, असा लावता येतो. भारतीय पुराणकथा प्रमाणे जगातील अन्य दैवतकथांचा ही असा प्रतीकांच्या आधारे अर्थ लावता येतो. आधुनिक कवींनीही निसर्गावर मानवी भावनांचे आरोप केले आहेत. अनादी काळापासून मानवाला निसर्गाविषयी कुतूहल आहे. निसर्गाची अनेक गूढ उकलण्याची त्याची धडपड आहे. निसर्गाबद्दल असीमता, अनाकलनीयता, त्याचे क्षणोक्षणी दिसणारे नाना विभ्रम, त्याची नित्यनूतनता, विविधता हे सर्व मानवाला अलौकिक स्वर्गीय देवतास्वरूप वाटत आले आहे. त्यातूनच प्रारंभी दैवत कथांची उभारणी झाली असे निसर्गरूपकवादी संप्रदायाचे म्हणणे आहे.

भ्रांत कल्पनावादी संप्रदाय:

भ्रांतकल्पनावादी संप्रदाय या अभ्यास पद्धतीचा प्रवर्तक ह्युमरेस हा अभ्यासक होता. म्हणून या अभ्यास पद्धतीला ह्युमरेस संप्रदाय असेही संबोधले जाते. भ्रांतकल्पनावादी अभ्यासकांच्या मते दैवतकथा या ऐतिहासिक महापुरुषांच्या स्त्रियांच्या जीवनाबद्दलच्या भ्रांतकल्पनाच आहेत. असे ते म्हणतात पुराणातील देव-देवता अप्सरा राक्षस हे सर्व मानवी होते इंद्र मानव होता ऋषींच्या कल्पनेतून श्रद्धेतून तो देव झाला. सत्य व कल्पना यांच्या मिश्रणातून दैवत कथा उदयास आल्या अशी भूमिका स्वीकारून लोकसाहित्यातील दैवतकथाकडे प्राचीन लोककथाकडे पाहिले पाहिजे. असे भ्रांतकल्पनावादी संप्रदायाचे म्हणणे आहे. भारतीय पुराण कथेतल्या पुरुषांच्या अंगी देवत्व असलेलेच रंगवले आहेत. या पुरुषांनी एखादी शक्ती विद्या संपादन केलेली असते अगर देव ऋषी यांना प्रसन्न होऊन एखादे अस्त्र देतात वर देतात. कर्णाला सूर्याकडून कवच-कुंडले मिळाली. अर्जुनाला धनुष्य मिळाले, अश्वत्थामाला चिरंजीवी वर मिळाला अशी वर्णने येतात. महाभारत कुरूवंशाचा इतिहास आहे हे मत स्वीकारले तर महाभारतातील व्यक्तिरेखा ऐतिहासिक व्यक्तिरेखा ठरतात. श्रीकृष्ण व्यास अशा व्यक्तिरेखा मग देवत्वास पोहोचलेल्या दिसतात. भ्रांत कल्पना म्हणजे व्यक्ती विषयी थोडी अतिशयोक्त अवास्तव कल्पना करून घेणे असे म्हणावे लागेल.

हेतू कथा वादी किंवा स्पष्टीकरण वादी संप्रदाय:

हेतूकथावादी किंवा स्पष्टीकरण वादी संप्रदायाची उभारणी दैवतकथांच्या अभ्यास दृष्टिकोनातूनच झाली आहे दैवतकथावाद्यांनी दैवत कथेमागील निसर्गसत्य शोधायचा प्रयत्न केला. पण सर्वच कथांत निसर्ग सत्य आढळणे अशक्य आहे. असा अनुभव त्यांना येऊ लागला मग ज्या दैवत कथेत निसर्ग रूपक आढळत नाही त्या कथेला हेतूकथा मानले जाऊ लागले. हेतूकथा म्हणजे

विशिष्ट हेतू ठेवून लिहिलेली कथा अशा कथांमध्ये मार्गदर्शन प्रबोधन किंवा काही गूढ उकलून दाखविणे असा हेतू असतो. निसर्गातील गुपित उलगडून दाखविण्यासाठीच अशा दैवत कथांचा अवतार झाला, असे मानण्यात येऊन हेतू कथावादी संप्रदायाचा उदय झाला. दैवत कथेत प्रबोधन असते, ज्ञान देण्याचा हेतूही असतो, निसर्ग घटनांचे अर्थ, स्पष्टीकरण, त्यामागील कारण किंवा आचार, नीतियम यांची शिकवण या हेतूने दैवत कथा सांगितल्या गेल्या असे हेतूकथावादी संप्रदायाकांचे मत आहे

सारांश:

लोकसाहित्याच्या शास्त्रीय अभ्यास करण्याच्या हेतूने विविध अभ्यास पद्धती शोधण्यात आल्या यामध्ये प्रत्येकाची भूमिका स्वतंत्र आहे. विशेष करून जगभरातील प्रारंभीचे मौखिक वाङ्मय म्हणून दैवत कथांचा विचार प्राधान्याने करण्यात आला. त्यातून एका अभ्यासपद्धतीत त्रुटी भरून काढण्यासाठी दुसरी अभ्यासपद्धती मांडण्यात आली. दैवतकथाशास्त्र संप्रदाय आणि मानवशास्त्र संप्रदाय या दोन पद्धतीत मतभेद निर्माण झाले. चर्चा रंगल्या त्यामुळे लोकसाहित्याच्या अभ्यासाच्या कक्षा

रुंदावल्या भाषाशास्त्रीय अभ्यास संप्रदाय,निसर्गरूपकवादी संप्रदाय,भ्रान्तकल्पनावादी संप्रदाय,हेतूकथावादी किंवा स्पष्टीकरणवादी संप्रदाय अशा विषयात पारंगत असणाऱ्या अभ्यासकांनी चिंतनाद्वारे लोकसाहित्याकडे पाहिले,त्यामुळे जगभरातील लोकसाहित्याला अभ्यासाच्या दृष्टीने शास्त्रीय बैठक मिळाली. लोकसाहित्याचा विकास विविध अंगांनी न्याहाळता आला.लोकसाहित्याला स्वतंत्र अभ्यास विषय म्हणून मान्यता मिळाली.विद्यापीठातून लोकसाहित्य अभ्यास संशोधनाची स्वतंत्र विभाग करण्यात आले.ललित साहित्याची पूर्वपीठिका म्हणून लोकसाहित्य प्रकाराचा शोध आणि बोध घेतला जाऊ लागला,त्यातून काही आधुनिक अभ्यास पद्धती उदयास आल्या.भाषाशास्त्रीय वाहक भारतमूलक समप्रसारणवादी ऐतिहासिक भौगोलिक अशा प्रारंभीच्या अभ्यास पद्धती बरोबरच आधुनिक अभ्यास पद्धतींचा ही जन्म झाला.असे सरतेशेवटी म्हणावे लागेल.

संदर्भग्रंथ सूची:

१. लोकसाहित्याचा उद्गम व विकास :डॉ.शरद व्यवहारे, विश्वभारती प्रकाशन,नागपूर.
२. लोकसाहित्याचे स्वरूप:डॉ. प्रभाकर मांडे,गोदावरी प्रकाशन,औरंगाबाद.
३. लोक साहित्य स्वरूप आणि विवेचन:डॉ.पुरुषोत्तम कालभूत,विनय प्रकाशन,नागपूर.
४. लोकसाहित्य संकल्पना आणि स्वरूप:प्रा.मोहन पाटील,मानसन्मान प्रकाशन पुणे.

हिंदी - मराठी आत्मकथा में दलित समाज का प्रामाणिक दस्तावेज वर्षा मुरलीधर खोपे

At. Post - Gangamsla Taluka - Majlgaon District - Beed मो.9112469057

भारत में विभिन्न भाषायें बोली जाती हैं , परंतु हर एक भाषा में समान प्रवृत्तिया पायी जाती हैं। भाषा में प्रवृत्तिया अनेक हैं, परंतु आत्मा एक ही देखने को मिलती है। भाषा कौनसी भी हो , वह मानवी व्यवहार मानसिक व्यापारों को अभिव्यक्त करती है।

दलित साहित्य की चर्चा आज पूरे विश्व में हो रही है। दलित साहित्य ने पूरे विश्व में ख्याती पाई है और इसके प्रेरणास्रोत डॉ. आंबेडकर रहे हैं। मराठी ने ही दलित साहित्य को जन्म दिया है। दलित साहित्य का प्रेरणास्रोत मराठी ही रहा है। दलित आत्मकथा मराठी साहित्य की अपनी अलग विधा है।

आत्मकथा साहित्य की एक ऐसी विधा है , जिसमें लेखक पूरी प्रामाणिकता के साथ जीवन के सही गलत अनुभवों को पूरे समाज के सामने खोलकर रखता है। परम्परागत आत्मकथा से पृथक संवेदना और शिल्प को लेकर ये रचनाएँ अत्याधिक चर्चित रही हैं। मराठी में शरणकुमार लिंबाळे, किशोर शांताबाई काळे, लक्ष्मण माने, लक्ष्मण गायकवाड, हिंदी में रमणिका गुप्ता, ओमप्रकाश वाल्मिकि आदि लेखकों ने हिंदी मराठी साहित्य में आत्मकथा के माध्यम से अपनी पहचान बनायी है।

कई विद्वानों ने आत्मकथाएँ लिखी हैं, परंतु जिसके जन्म पर ही प्रश्न उठाया गया, जहाँ जन्म होने पर पिता के नाम का सहारा न होने पर समाज प्रताडित करता हो , ऐसे अत्यंत दरिद्रता में यातनाओं तथा उपदाओं का सामना करते हुए उच्च शिक्षा ग्रहण कर अपना अलग अस्तित्व स्थापित करनेवाले युवक की 'कोल्हाट्याचं पोर' इस बेजोड आत्मकथा का मराठी तथा हिंदी साहित्य जगत में उल्लेखनीय स्थान है। कोल्हाट्याचं पोर एक ऐसी आत्मकथा है, जो पूरे कोल्हाटी समाज का प्रतिनिधित्व करती है। कोल्हाटी समाज में स्त्रियों की अपमानजनक स्थिति उद्घाटित होती है। ऐसे समाज में किशोर ने जन्म लिया , जिस समाज को पहले से ही उपेक्षित तिरस्कृत नजर से देखा जाता है। जिस समाज में बेटी होने पर त्योहार मनाया जाता है , परंतु बेटा होने पर खुशी नहीं होती। लेखक ने कई तकलीफ देह अपमानजनक स्थितियों से गुजरते हुए भी अपने नाम के साथ अपनी तिरस्कृत माता का नाम जोड़े रखा और पूरे स्वाभिमान से समाज में तथा साहित्यिक जगत में रोशन किया। यह उनकी महानता एवं माँ के प्रति श्रद्धा का प्रतिक है। डॉ . गौतम कुमार का बयान यहाँ सबित होता है , "दलित लेखक अपनी आत्मकथा में स्वयं और परिवार के द्वारा झेले हुए यथार्थ का चित्रण करने में भी नहीं हिचकता। यदि दलित लेखक के परिवार की महिलाओं को मजबूरीवश , भयवश, बलवश अथवा अन्य किसी कारणों से भी शारीरिक और यौन शोषण झेलना पड़ता है तो वह उसको अपनी आत्मकथा में अपने अनुभवों और सोच के अनुसार स्थान देता है।"

दूसरी आत्मकथा 'अक्करमाशी' शरणकुमार लिंबाळे की बहुचर्चित मराठी आत्मकथा है। अक्करमाशी यह कृति भारतीय सामज और संस्कृति की सबसे बड़ी विडम्बना है। अक्करमाशी लिंबाळे की जीवन की कटू सच्चाई है जो पूरे समाज के बलपर थप्पड़ मारती है।

शरणकुमार लिंबाळे की 'अक्करमाशी' में स्त्री-पुरुषों के अनैतिक असामाजिक संबंधों से उत्पन्न संतान की व्यथा को प्रस्तुत किया है। इसमें लेखक ने सवर्ण एवं अछूत वर्ग द्वारा उपेक्षित जीवन की त्रासदी को व्यक्त किया है। "दलित चेतना यहाँ समाज की सबसे बड़ी चुनौती बनकर खड़ी है। वह क्या है? कौन है? अछूत अथवा सवर्ण, मनुष्य अथवा, अमानुष ।" ऐसे कई सवलों को यह आत्मकथा, जातिभेद, वर्णव्यवस्था, अस्पृश्यता, मानवीय संबंध , नैतिकता और मानवाधिकारों को ढकलेती चली जाती है। शरणकुमार लिंबाळे को आत्मकथा लिखते समय उन्हें कुछ गलत नहीं लगता, उन्होंने जो भोगा है, सहा है, उसी को उन्होंने अपनी लेखनी में उतारा है।

शरणकुमार लिंबाळे जी के अनुसार – "हजारों वर्षों से यहाँ इंसान को अछूत कहा गया है, उसे गाँव के बाहर रखा गया है। नदी के निचले वाले हिस्से में उसने पानी पिया है। स्कूल में उसके लिए अलग जगह है। इस अमानवीय व्यवस्था को हटाने के लिए विद्रोह करना जरूरी था जिसे हमने साहित्य के रूप में छेड़ा है। यह खाली साहित्य नहीं , यह हमारा हथियार है। अपनी किताब को मैं खाली किताब नहीं, इस सड़ी-गली व्यवस्था के विरोध में उठाया गया हथियार समझता हूँ।"

दलित जीवन की पीड़ाएँ असहनीय और अनुभव – दग्ध है। ऐसे अनुभव जो साहित्यिक अभिव्यक्तियों में स्थान नहीं पा सके। एक ऐसी समाज-व्यवस्था में हमने साँसे ली हैं, जो बेहद क्रूर और अमानवीय है। दलितों के प्रति असंवेदनशील भी। दलितों के जीवन का भोगा हुआ यथार्थ, संघर्षपूर्ण जीवन, संत्रास, पीड़ा, वेदना, जातियता, शोषण एवं घृणा आदि का लेखाजोखा दलित आत्मकथा है।

'जूठन' एक ऐसी आत्मकथा है, जिसमें दलित जाति के सुख-दुःख को उजागर किया है। 'जूठन' आत्मकथ लिखते समय कई मित्रों ने उन्हें टोका कि आत्मकथा लिखकर अपने अनुभवों को मूल धन खा रहा है। कुछ का कहना है कि खुद को नंगा करके आप अपने समाज की हीनता को ही बढ़ाएँगे। आप आत्मकथा लिखकर आप अपनी प्रतिष्ठा ही न खो दे। तो जबाब में उन्होंने कहा जो सच है, उसे सबके सामने रख देने में संकोच क्यों ? तो वह कहते हैं - 'हमारे यहाँ ऐसा नहीं होता' यानी अपने आपको श्रेष्ठ साबित करने का भाव, उनसे मेरा निवेदन है, इस पीड़ा के दंश को वही जानता है, जिसे सहना पड़ा है। यही जूठन की प्रामाणिकता का दस्तावेज है।

मुर्दहिया दलित साहित्यकार डॉ. तुलशीराम की आत्मकथा है, जिसके माध्यम से लेखक ने कई वर्षों से दलित आत्मकथाओं में साहित्य जगत के बंधे-बंधाये मानदण्डों को तोड़कर अपनी से जुड़े उस सच्चे और कड़वे यथार्थ को उजागर करने का प्रयास किया है। आत्मकथा जिंदगी का आलोचनात्मक दस्तावेज है। जहाँ अपने ही विषय के बारे में बात की जाएँ वही आत्मकथा है। तुलशीराम ने मुर्दहिया में केवल अपने बारे में ही नहीं बल्कि दलित समाज की समस्या को उठाया है।

आत्मकथा की शुरुवात ही "मूर्खता मेरी जन्मजात विरासत थी" वाक्य से होती है। इस पर डॉ. दिनेश राम ने लहुरि नहीं आवना में लिखा है "ऐसा साहसिक और ईमानदारी भरा वाक्य एक दलित ही लिख सकता है, कोई द्विज नहीं, आखिर आज तक किसी द्विज ने यह नहीं लिखा कि अगर उसकी कौम निरंतर विदेशियों की गुलाम रही तो इसलिए कि वह मोरेली बैकवर्ड थी।" मुर्दहिया में अनेक अंधविश्वासों का वर्णन रचनाकारों ने किया है। अंधविश्वास में डूबी जाति में अभी सुधार नहीं आया। लेखक आत्मकथा में लिखते हैं - "सच्चाई चाहे जो भी हो, इस भूतही प्रक्रिया ने मेरे खानदान के हर व्यक्ति को घनघोर अंधविश्वास के गर्त में धकेल दिया। परिणामस्वरूप घर में भूत बाबा की पूजा शुरू हो गयी। किसी को सरदर्द होते ही ओझैती-सोखैती शुरू हो जाती थी।" यह दलित आत्मकथा मार्मिक है। दलितों के विरुद्ध अन्याय, शोषण और अत्याचार अधिक है। इसलिए दलित साहित्य में आत्मकथा से अधिक सृजन की आवश्यकता है। सृजन भी ऐसा जो दलित वर्ग को जागृत अधिकार और सम्मान को बढ़ा सके।

अंधविश्वास के कारण लेखक अपनी दाईं आँख हमेशा के लिए खो बैठते हैं। उनकी एक आँख की रोशनी हमेशा के लिए चली जाती है। जिसका उन्हें बहोत दुःख होता है। "भारत के अंधविश्वासी समाज में ऐसे थकित अशुभ श्रेणी में आते हैं। ऐसी श्रेणी में मेरा भी प्रवेश मात्र तीन साल की अवस्था में हो गया। अतः घर से लेकर बाहर तक सबके लिए मैं अपशकुन बन गया।"

दलित साहित्य अर्थात् दलित लेखकों द्वारा दलित चेतना से दलितों के विषय में किया गया लेखन। दलित साहित्य का स्वरूप उसके अंतर्गत होनेवाले दलित्व में है और उसका प्रयोजन स्पष्ट है। उसका लक्ष्य है दलित समाज को गुलामी से अवगत कराना, गुलामी के विरुद्ध संघर्ष के लिए प्रेरित करना। दलित साहित्य और दलित विमर्श निस्तरंग भारतीय समाज के तालाब में फेके गए ऐसे पत्थर के समान है, जिसने पुरे तालाब को हिलोलित कर दिया। दलित चेतना और दलित आंदोलन के विकास के साथ-साथ दलित साहित्य भी विकसित हुआ जिसने अनुवाद प्रगतिवाद के सांस्कृतिक मुद्दों को अपने अनुभव और यथार्थ की खराद पर घिस कर, अपने अनुरूप तलाश कर, विधा को प्रखरतम किया।

आंबेडकर विचारधारा को लेकर लेखन करने वाले सुरजपाल चौहान का समग्र साहित्य यथार्थवादी और प्रामाणिक है। जो सबर्णों द्वारा दी गई पीड़ा निःसृत है, विद्रोह का भाव है, वर्ण और वर्गशत्रु के प्रति आक्रोश तथा हिंदू समाज के प्रति अंतर्विरोधों की पहचान है। सुरजपाल का साहित्य प्रामाणिक है क्योंकि वह सच्चाई की प्रामाणिकता पर खरा उतरता है। भोगे हुए यथार्थ का साक्षी है।

तिरस्कृत आत्मकथा में लेखक ने अपने बचपन से लेकर आज तक जितना अपमान और तिरस्कार सहा है, वही आत्मकथा में बताया है, लिखा है। 'तिरस्कृत में पत्नी, भतिजा, रिश्तेदारी, समाज, लोगों के व्यवहार से उत्पन्न जो व्यथा चित्रित हुई है, वह वास्तव में एक अंतहीन पीड़ा का रूप ले लेती है। 'तिरस्कृत की मुल समस्या जातिवाद और अस्पृश्यता है। इसके बारे में वे लिखते हैं - "इस देश में जातिवाद का परचम कब, किसने क्यों और कैसे फहराया? यह बात अब किसी से छिपी नहीं। आज सबकुछ तो उजागर हो चुका है। हाँ, जिन्हें सही ऐतिहासिक मानसिकता की धारा में गोते खा रहे हैं और अपने ही भाइयों वाल्मीकि या भंगी जाति के लोगों से अपने आपको श्रेष्ठ माने बैठे हैं।"

लेखक ने सबर्णों द्वारा दिए गए जातीय दंश एवं दुर्व्यवहार को व्यापकता के साथ चित्रित किया है। सुरजपाल के मित्र भी उनके साथ तभी तक रिश्ता रखते हैं, जब तक उनकी जात का पता नहीं चलता। पता चलते ही मित्र उनसे रिश्ता तोड़ देते हैं। जिसमें उनकी मानसिकता प्रकट होती ? वे लिखते हैं - "सरकार से मिलने वाले वजिफे के लिए कॉलेज के सूचनापट पर दलित छात्रों की सूची लगी हुई थी। उसमें मेरा नाम भी था। मेरे नाम पर नजर पडते ही अनुपम जैन बोला, "अरे चौहान, क्या तुम राजपुत नहीं हो? शेड्युल्ड कास्ट हो क्या?"

द्रोणाचार्य भले मर गए हो, लेकिन वे भेष बदलकर आज भी समाज में दिखाई देते हैं, उनकी जातिवादी सोच आज भी जिंदा है, जो समाज और शिक्षण संस्थाओं में दिखाई देती है।

आत्मकथाएँ व्यक्ति को कठिन परिश्रम करने की प्रेरणा देती हुई सफलताओं की सुखद अनुभूति से साक्षात्कार करती हैं। 'शिकजे का दर्द' आत्मकथा में सुशीलाजीने अपनी गरिबी, जातिवाद, वर्णवाद, मनुवाद विचार प्रणाली, कर्मट ब्राम्हणवादी विचार आदि को अभिव्यक्त किया है। यह आत्मकथा दलित आत्मकथा होने के साथ-साथ स्त्री की करून गाथा भी है। सुशीला जी इस संदर्भ में लिखती हैं - "मेरा दर्द उस शिक्षित सम्मानित दलित महिला का दर्द है, जो पीएच.डी. प्राप्त कॉलेज की प्राध्यापिका होने के बाद भी जाती के रोजगार के नाम से जाती है। मेरी आत्मकथा मेरी संवेदना का प्रामाणिक दस्तावेज है।"९

'शिकजे का दर्द' लिखने का उद्देश्य दर्द देनेवाला शिकजे को तोड़ने का प्रयास है। लेखिका के मन में आक्रोश, उपेक्षा, अपमान उनके मन में पनपता है। लेखिका के साथसाथ लेखिका के भाई भी व्यवस्था का शिकार बनते हैं। उन्हें जाती के नाम पर सताया जाता है। तब शंकर भैया परंपरा को तोड़कर लडको से मारपीट करते हैं, परंतु ये समाज उनके प्रतिरोध को कुचल देता है और उन्हें रोजगार की तलाश में भटकने के लिए मजबूर कर देता है। ऐसे कई प्रसंग लेखिका ने अपने आत्मकथा में दिए हैं। जहाँ एक भिकारी तक दलितों से भीक लेना पसंद नहीं करता। बरामदे से मैने देखा और सुना, पडोसन भिखारी से हमारे घर की ओर इशारा करके कह रही थी। "महाराज जी इस घर से भिक नहीं लेना यहाँ जमादारान रहती है।"

'शिकजे का दर्द' आत्मकथा संघर्षशील मन की यात्राएँ हैं, जो प्रेरणादायी हैं। यह आत्मकथा अपने समय और समाज का दस्तावेज प्रस्तुत करती है। इसमें गरिबी, अस्पृश्यता, जातिवाद, अंधश्रद्धा का चित्रण हुआ है। लेखिका का जी लिखती है कि यह आत्मकथा उनकी वेदना का प्रामाणिक दस्तावेज है। परंतु इस वेदना से तभी छुटकारा मिलेगा जब समाज की मानसिकता बदलेगी। 'शिकजे का दर्द' दलित स्त्री की व्यथा को सूक्ष्मता से प्रस्तुत किया है। किसी की दया, सहानुभूती की अपेक्षा स्वाभिमान और समानता का व्यवहार करती है। उनका उद्देश्य है पुरुषप्रधान समाज व्यवस्था के विरुद्ध स्त्री-पुरुष समानता का निर्माण हो और धर्मान्धता के विरुद्ध मानवतावादी विचार हो।

संदर्भ :

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वर्षा मुरलीधर खोपे

हिंदी विभाग

डॉ. बाबासाहेब आंबेडकर मराठवाडा विश्वविद्यालय,

औरंगाबाद. मो. ९११२४६९०५७

पेशवेकालीन रोखे आणि कर्ज वसुलीच्या पध्दती

प्रा. डॉ. धनंजय नागोराव मोगले

इतिहास विभाग, वसुंधरा कला महाविद्यालय, सोलापूर

प्रस्तावना:-

मराठी राज्याची राजधानी पुणे आणि पुण्यातील शनिवार वाड्याला या सावकारामुळे महत्व प्राप्त होते. म्हणून विविध प्रांतातील सावकार, व्यापारी आणि कारागीर यांना पुण्याचे आकर्षण निर्माण झाले होते. पुणे ही 18 व्या शतकात भारताच्या पश्चिम किनार्यावरील सावकार व व्यापारी यांचे निवासस्थान झाले होते. शनिवारी वाड्याभोवती व अनेक स्थानिक सरकारने सावकारांनी आपला ठसा निर्माण केला होता म्हणून व्यापारी ची वाढ होऊन पैशाच्या देवीघेवीचे व्यवहार मोठ्या प्रमाणात वाढले होते. 1750 ते 1818 म्हणजे पेशवाईच्या अंतापर्यंत पुण्यास राजधानी म्हणून आर्थिक सुबत्ता प्राप्त झाली होती. सरंजामदार, सरदार आणि सरकारी नोकरी यांना स्थाईक होण्यास हे शहर अनुकूल होते. 1760 मध्ये पुण्याची लोकसंख्या 40,000/- होती. जी केवळ 40 वर्षात म्हणजे 1800 मध्ये 10,000 लाख झाली. यावरून शहराच्या वाढीचा वेग लक्षात येतो.

खाजगी क्षेत्र :-

गरीब आणि समाजातील खालच्या वर्गाला कर्ज देताना व्याजाचा दर कमी होता. कर्जदार कर्ज घेताना व्याजदरात कोणताही फरक न करता गहाण ठेवून किंवा लहान शिवाय कर्ज घेत असत सोने आणि चांदीच्या मौल्यावान दागिन्यावर कर्ज देण्यात येत होते. घर, मौल्यवान वस्तू, जमीन, संपत्ती, प्राणी किंवा सरकारी कागदपत्रे, तसन, इनाम इत्यादी गोष्टी जामीन म्हणून दिल्या जात. वेळेवर कर्जाची रक्कम परत करू शकला नाही तर व्याजाचा दर वाढविला जात होता. जर करार करतेवेळी सूट किंवा बिनसुट असा करार केला असेल तर त्याप्रमाणे व्याज आकारले जात असे किंवा व्याज वजा केले जात असे. कर्ज परत फेडीपर्यंत चालूच राहत असे. ठराविक मुदतीच्या शेवटी हे व्याज थांबत नसे. तरुण मुली, स्त्रिया, कारागीर, पाथरवट, धोबी, कासार हे कर्ज घेणारे गरीब वर्गातील लोक होते.

व्याजाचा दर :-

सार्वजनिक आणि खाजगी क्षेत्रातील कर्जांच्या कागदपत्रांची परीक्षण केल्यानंतर असे आढळून आले की, व्याजदराचा सर्वसामान्य सर्व सामान्य किंवा सर्वसंमत असा नियम ठरवून दर ठरविलेला नव्हता. रक्कम किती मोठी किंवा लहान असो कर्ज घेणारा प्रतिष्ठित किंवा सामान्य गरीब असो प्रत्येक वेळा व्याजाचा दर बदलत असे. कारण ऋणकोची गरज आणि पैशाची उपलब्धता यावरून हा दर ठरत होता. इ.स. 1720 ते 1740 ते या काळातील व्याजाचा दर नंतरच्या काळात तुलनेत अधिक होता. कदाचित सावकार हे युध्दाच्या मदतीसाठी पाटपुरावा करणे धोकादायक समजत अशी काही शक्यता दिसत नाही. सुरुवातीच्या काळातील सावकारांची संख्या अत्यंत कमी होती. महाराष्ट्राबाहेरील सावकार महाराष्ट्रात येऊन व्यवसाय सुरू केला नव्हता म्हणून व्याजाचा दर हा पैशाची उपलब्धता यावर अवलंबून होता म्हणून 1720 ते 1740 हा दर दीड ते तीन टक्के दरमहा असा होता. हा दर सरकारला दिलेला कर्जावरही आकारण्यात येत होता. कारण खड्या सैन्याच्या सामान्य माणसाच्यासाठीही हा दर एक ते दीड टक्का होता. तरीही लोक कर्ज काढीतच. ब्राह्मण सावकार सावकाराला कर्ज देताना खालील प्रमाणे कर्ज देत व दर आकारित असत.

1) कर्ज रोखा

हा कर्ज काढताना अत्यंत प्रचलित असलेला प्रकार होता. या कर्जरोख्यात ऋणको कर्ज परतफेडीचा हमी देत असे. किती मुदतीसाठी कर्ज दिले आहे आणि व्याजाचा दर काय आहे हे ही या कर्जरोखा मध्ये नमूद केलेले आहे. व्याजदरामध्ये सुट्टी देण्यात आली आलेली आहे किंवा नाही याविषयी देखील यात लिहिलेले असे. या कर्ज रोख्यावर स्वतंत्र जामीनदाराची सही लागत असे.

2) वायदा रोखा :-

वायदा रोखा हा खातेदारांना करावा लागे. हस्या हस्याने कर्ज परत करण्यासाठी अटीचा हा करार म्हणजे वायदा असे

श्री

यादी पेशजी रसदेचा औवज लिहून दिला त्या सिवाय जाजती सुमा सित समानीनमयाव अलफे

1000	प्रांत राजापुली नि ॥ गोविंदराज माणकर रसद रुपये 21200 पैकी पेशजी लिहून दिल्ले 20200 बाकी त्रिंबक नारायण मेहेंदळे याचे वचन पंधराशे रुपये होते त्यापैकी पाचशे रुपये पुत्राचे नेमण देऊन हजार रुपये कमी केले ते घ्यावयाचे रुपये
2700	तालुके अक्कीनगड व बदरवाडी नि ॥ बाबुराव वासलकर रसद रुपये 26620 पैकी पेशजी लिहून दिले 23920 रु. बाकी सिंबदी पैकी कारकुन सुभा ठेवणुकी दूर करावे त्या बद्दल अेवज घ्यावयाचा आजमासावर करार जाहला आहे. तो रुपये 2400 अक्कीनगड 300 बिरवाडी ---- 2700
2600	पा सावसे नि ॥ भारकर रसद व ॥ आजमास अखलासीचा द रु.126000 पैकी पेशजी रसद लिहून दिल्ली ते रु.10000 बाकी जाजवी रु.1000 अैन रसद 1000 अैन रसद 1600 जससाल मजकुरापासुन दर सालशंभरखंडी घातला त्याज व ॥ साल मजकुराचा 2600
10000	तालुके कुकर मुंडे ॥ बुधावण नि ॥ नारायणराव यादव 8000 कुकरमुंडे व ॥ आजमास करारी रुपये 9000 पैकी लग्नपेटी व ॥ नेमीले 1000 रुपये बाकी तुर्त घ्यावे ते रुपये 2000 सा बुधावल आजमासावल मखलासी होणे. सदरहु रुपये तुर्त घ्यावे 1000
3825	सावकार वसईकर याजकडे विसाजी केशव लेले यांचे कर्ज येणे त्याचा ठराव भिकाजी गोपाळ यांचे विद्यमाने हुजुर होवुन हर्सेबदी चाल साला ठरविली त्यास साल मजकुराचा हफ्ता याची याद अंकदर ठरावाची महादजी रघुनाथ दि ॥ निंबाजी गोपाळ याज बराबर पुण्यास गेली असे चार साला हफत्याची बेरिज 11412 ॥ पैकी सालम जहूरचे हफत्याचे20125

3) सरकत रोखा :-

सरकत म्हणजे भागीदार ज्यावेळेस भाग घेतात कर्ज काढले जात असे त्यावेळी हा रोका करण्यात येत असे विशेषतः शेतकरी आपल्या शेतीसाठी असा रोखा करुन कर्ज काढीत असत वायदा रोख्याचे एक उदा असे.

श्री

भाप्रपद व 13 / 1659

19-9-1737

राजश्री कालपाटील जगन्नाथा गोसावी यांनी छ स्त्रे ! मल्हारराम आसीर्वाद उपरी तुमचे रु. 1022 ॥ एक हजार साडेबावीस आम्हाकडे आहेत ते रु ॥ जेव्हा मागाल तेव्हा देऊ बहुत कार्य लिहिणे मिती भाद्रपद वद्य 13 त्रयोदशी श. 1659

हे पत्र मल्हारराम धारापुरे याने काळोजी पाटील यास लिहीले आहे. ही वचन चिठ्ठी आहे. या पत्रात व्याजाचा दर व्याजाची मुदत किंवा कर्जफेड केली नाही तर आकारवयाचा दंड यांचा उल्लेख नाही. या पत्रातील भाषा हि वचन चिठ्ठीतील भाषेप्रमाणे आहे किंवा ड्राफ्टप्रमाणे आहे. जरी हे पत्र 1737 मधील इ.स. मधील असले तरी 1800 व्या शतकातीलच आर्थिक माहिती हे पुरविते.

कर्ज वसुली :

कर्ज वसुलीतील सरकारचा सहभाग :-

सरकार स्वतः सावकारांना प्रचंड दराने व्याज देत होते. तरी दस्तऐवज स्वरूपात शुल्कात कोणताही बदल केलेला गेला नाही. सामान्य जनता गरीब शेतकरी, कार्यकर्त्यांना व पिढवणुकीतुन वाचविण्यासाठी सरकारने कायदे किंवा नियम केले नव्हते. त्या काळातील सर्वसामान्य माणसाच्या गरजा मर्यादित होत्या शक्यतोवर ते कर्ज घेणे टाळत पण घ्यावेच लागे तर सामाजिक आणि नैतिक दबाव दबावामुळे ते शक्य तेवढ्या लवकर परत करण्याचा प्रयत्न करीत. कारण व्याजाचा प्रचंड दर हा देखील त्यास कारणीभूत होता. लोकांची अशी श्रद्धा होती की, आपल्या आयुष्यात आपण कर्जबाजारी मेलो तर दुसऱ्या जन्मात आपणास त्रास होईल. पहिला बाजीराव माधवराव पेशवे यासारखे पेशवे देखील यावर विश्वास ठेवीत होते. भारतीय परंपरा आणि श्रद्धा यावर त्यांचा विश्वास होता. पहिला बाजीराव यांनी ब्रह्मोद्वस्वामी यास म्हटले, कर्ज फिटम नाही आणि आता वाचविण्याची सार्थक काय? बाजीरावाने उत्तरेतील राजकीय सत्ता विस्ताराचे जे धारेण आखले होते आणि चिंता अधिक होती. माधवराव मृत्यु शक्येवर असताना नाना फडणीसास बोलावून आपल्या कर्जाची जबाबदारी स्वीकारावी अशी अंतिम इच्छा प्रकट केली होती. त्याप्रमाणे दुल्लभदास या सावकाराने त्यांची कर्जाची हमी घेतलेली होती. शक्य होईल तितक्या लवकर कर्जाची परतफेड करण्याचा प्रकार त्या काळी होता. जर वडिलांनी काढलेले कर्ज परत केले नाही तर त्यांचा परतफेडीची जबाबदारी मुलाची असे.

एखादी व्यक्ती कर्जाची परतफेड करू शकला नाही तर सरकार त्यास वेळेवर कर्जाची परतफेड करण्याचा हुकूम देत असे व त्यांच्या विरुद्ध कायदेशीर कारवाई सुरू करत असे. त्यासाठी सरकार कर्जदारावर कर्ज चौथाई हा कर आकारित असे.

कर्ज चौथाई :-

सरकार कायदेशीर कारवाई करून कर्ज वसुली करित असे. त्याचा खर्च म्हणून कर्जाचा 1/4 रक्कम स्वतः घेत असे. इ.स.1753 मध्ये या शीर्षकाखाली राघोबादादाने बरीच मोठी रक्कम प्राप्त केली होती.

कर्ज चौथाई जमा सदाशिव वाळूजकर कर्ज लोकांकडे येणे होते. त्यास व शगीर्द बरोबर दिले अन् उगवुन दिले अन चौथाई सरकारात घेतले जमा रु.1000.

कोचवन, धरण, तगादा याशिवाय धरणे तगादा वगैरे कर्ज वसुलीसाठी दबाव टाकण्याचे आणखी काही मार्ग होते कोचवन सावकार कोचवनाचा वापर करित असे. त्याचा अर्थ तगादा म्हणजे दबाव कर्जाच्या त्वरीत वसुलीसाठी धरणे धरावे लागे. यासाठी ब्राह्मणाची नेमणुक केली जात होती. कर्जदाराच्या दारात ब्राह्मणाची धरणे धरण्यासाठी नेमणुक करून कर्ज परत करेपर्यंत ऋणकोची फजिती केली जात होती.

धरणे

18 व्या शतकातील धरणे धरण्याची एक उदाहरण अत्यंत उपयुक्त आहे. मराठा सरदार होळकरांनी सावकार गोपाळदास भगवानदास काशीकर यास अडीच लाख रुपये कर्जासाठी लिहीले पण भोसल्यांना तीन लाख रुपये कर्ज पहिले होते म्हणून कानडे यांनी कर्ज देणे नाकारले. चिपळूणकर या सावकाराचे होळकरांकडे असलेले कर्ज आणखी वसूल झाली नव्हती. म्हणून चिपळूणकरांनी होळकर यांच्या घरा पुढे कानडे यांचे धरणेसाठी बसण्याची व्यवस्था करून पाहिली परंतु ती विनंती त्यांनी नाकारले कारण कानडे यांचे होळकर बरोबरचे संबंध चांगले होते. म्हणून ते आपल्या व्यवसायात पुढे चालू इच्छित होते. म्हणून कानडे यांनी धरणे धरण्याचे नाकारले व स्वतः चिपळूणकरांनी होळकरांच्या राजवाड्या बाहेर धरणे धरून होळकरांकडून कर्ज वसूल केले.

त्याग व आमरण उपोषण :

कर्ज वसुलीचा अधिक प्रभावी मार्ग म्हणजे त्या होता. कर्जदार कर्जाची परतफेड करित नाही याची खात्री पटल्यानंतर सावकार किंवा त्यांनी नेमलेल्या माणसे कर्जदाराच्या घरापुढे उपोषण करित. हे उपोषण देवापुढेही होत असे. जोपर्यंत कर्जाची रक्कम परत मिळत नाही. तोपर्यंत त्या ठिकाणी बसून राहत त्यासाठी त्यांची मरण्याची तयारी असेल. उपोषण करताना जर ब्राह्मण मृत्यु पावले तर कर्जदात्यावर ब्राह्मण जातीचे महापातक केल्याचा आरोप सिद्ध होत असेल. म्हणून तर फार क्वचित प्रसंगी याचा वापर करित असे.

जर ऋणकोणी ठरलेल्या वेळेत कर्जाची परतफेड केली नाही. तर हिशोबाच्या शेवटी वाढीव व्याजदराने सर्व हिशोब करून सुट न देता हिशोबर करितही अट अर्ज घेते वेळेस मान्य करून घेण्यात येत होती. त्यावेळेस कर्जास जामीन देण्याची

पद्धत अस्तित्वात होती. कामाविसदार हा कर्ज परत फेडीस जामीन असे. सावकार देखील जामीनदार असत. त्यासाठी दर हजारी 50 रुपये घेत असत. जर जामिनदार नसेल अशा वेळी ठराविक रक्कम द्यावी लागत.

स्वारी राजश्री पंतप्रधान सु!! समसेन कर्ज गृ कृष्णाजी महादेव रागोवा बहरव दफाने पत्रे छ 16 जीव्हने राणोजी बलकवडे यांजकडील महालाजी करार झाला आहे. त्याचप्रमाणे हमीदार तुम्ही आणून द्यावेत. त्यास तुर्त हमीदार कोणी न मिळे सबब सरकारात तुम्ही 200 रुपये दिले ते सहा महिनेपर्यंत बिनव्याजी ठेविले असे पुढे राहिले तरी त्याजादार माहे दरसदे रुपया एक बिनसुट प्रमाणे करार केले व अखेर साली मानण्याचा हमीदार आणून देणे.

सावकाराच्यासंघटना:

सावकार आपल्या खात्याचा नोंदी अगदी तारीखवार, वेळेनुसार ठेवीत असत. जर एखादी तक्रार आली तर पंचायतीची नेमणूक केले जात असे. या सर्वांचा विचार करून निर्णय देणे हे त्यांचे काम होते. या सावकारी संघटना खटल्याचा वाद एखाद्या कोर्टाप्रमाणे सोडवित असत. ही संघटना प्रसिद्ध होणाऱ्या व्यक्तीचे होती त्यात एकादशी इतर सावकारी प्रकरण तपासून पाहू निरीक्षणांती निर्णय देत असत त्यांचा निर्णय एकमताने घेण्यात येईल येत होता व दोन्ही पक्षांवर बंधनकारक असे असाच एक निर्णय हरिकृष्ण बिलवडकर यांच्या वही खात्याची चौकशी करण्यासाठी पंचायतीमध्ये आला होता. तो असा -

पुण्याचा कारभार हिकृष्ण विवलकर बघत असे रामाजी महादेचा मृत्यू नंतर त्याने हिशोब नीट ठेवले नाही. कैलासवासी तीर्थरूप यांचा खाजगी कारभार पुणे यांचा मशाल निल्लेकडे होता गाव व कुरण व बोगस जमीन खरेदी करून घेतली वगैरे खर्च परवानगीने आपल्या अखत्यारीत केला त्याचा नसलास मध्ये ती रूपाचा देवाज्ञा झाली ते समयी शुभम दाखवू नका मागू लागले पुरंदर मुक्कामी सरकारात फिर्यादीत त्रिंबक मीना यांनी आणली की बनवण्याचे शॉप मनास आणून फडशा करावा यावर पंचायत नेऊन दिली येणे प्रो !!

बाबाजी प्रल्हाद !!2!! रामजी बल्लाभ भाडे !!3!! महादजी कृष्ण चादोरकर !!4!! महादाजी वासुदेव !!5!! रामचंद्र अभ्यंकर पंचायतीत हरी कृष्णाकडे सुभेदाराचे देणे निघाले. 9

त्याकाळी पंचायतीव्दारे निवाडे करण्याची पद्धत अस्तित्वात होती असे दिसते.

सावकारी टपालीची जरूरी :-

त्यावेळचे सावकार नुसती पैशाचीच तेवढी उचाढाल व देवघेव करीत असे नाही तर कापडाचा व सराबीचाही धंदा करणे त्यास सोयीचे जाई तात्पर्य स्थलांतर व रोकड द्रव्यांची कागदी चलनात रूपांतर हे व्यवहारात आवश्यक व या कारभाराला टपालाचे ही जरूरी ही नेहमीच असे.

म्हणून सावकारांच्या पदरी हे काम करणारे काही त्यांचे नोकर असत व ते या गावातून त्या गावात जात आणि सावकारी हुंड्या, वराता, चिठ्या पत्रे यांची ने-आण करीत या नोकरांना की खिजमदार, खास भारदार मिर्झा असे म्हणत पण हेच काम करणारे हाच धंदा करणारे लोक असत त्यास जासूद काशीद हे नाव असे. या जसुदांचेही जथेदार लोक असत. जथेदार म्हणजे ठेकेदार कॉन्ट्रॅक्टर 10 जसुदा वरील जो नाईक त्यास मिर्धा म्हणत.

असे हे जतेदार किंवा मिर्धे ज्यांना प्रसंगी जासूद पाहिजे त्यांना जासुद पूर्वी म्हणजे सावकारी मंडळी प्रमाणे सरकारलाही जासुद पूर्वी तरीपण सावकारी टपाल आणि सरकारी टपाल यातून अंतर आहे.

सरकारी टपालाला गुप्त बातम्या मिळविणे या दृष्टीने धोका तर सावकारी टपालाला हुंड्या, वरात हस्तगत करणे या दृष्टीने धोका त्यातल्या त्यात सावकारी टपालाला भीती कमी.

येथे सर्वात मुख्य बाब ती म्हणजे सावकार लोकांना इतिहास कालीन सरकार अथवा फौजबंद सरकार आपापल्या सैन्य शिबिरातून बरोबर घेऊन मुलुखगिरी ला जात आणि सरकारही आपण होऊन जात कारण सैन्याचा तळ पडेल तेथे बाजार भारे किंवा सैन्याचा मुक्कामात प्रसंगी जो पैसा लागेल तो हि सावकार देत असे व सैन्याच्या मुक्काम शेजारील गावात असलेल्या सरकारी पी डी वरून किंवा वाणी व्यापारी व्यापाऱ्याकडून पतीवर हुंड्या देऊन पैसे घेत अथवा पाहिजे असलेला माल घेत सारांश सैन्याबरोबर सावकार असत व तेथे त्यांची जासूद काशीत आणि टपाली काम चाले. कित्येक सावकारांच्या पत्रातून आणि जमाखर्चाची वह्यातून राजकारणी वार्ता लढायांचा हालचाली राजकारणी, इतर घटना आणि तह वगैरेचे संबंधी जी माहिती मिळते ती सावकारांच्या सैन्याशी व लढाईशी असा प्रत्यक्ष संबंध येई.

सावकारी बातमी :-

सावकारी कागदपत्रांतून या बातम्या कशा आहेत त्यांच्या प्रत्यक्ष उदाहरण खाली दिले आहेत. प्रसिद्ध पानिपतच्या लढाईज जे विश्वासराव पेशवे वीरस्वर्ग पावले. त्यांची सासुरवाडी पुण्याच्या दीक्षित पटवर्धनाकडे होती. या पटवर्धनांच्या नाशिक येथील त्यांच्या जुन्या वाड्यात प्रेक्षणीय नक्षीचे लाकूडकाम आहे हे पटवर्धन सावकार होते. यांच्या शके 1681 ते 1683 या तीन वर्षांच्या रोजनाम्यात (इसवी सन 1759 ते 1761) लढायांची उल्लेख झाली आहेत. रुपये 9 ता खंडू मिर्धा शु. 14 नानासाहेबांचे लष्करात पेशजी कासीत गेला त्याचा अजुरा शेख असाच दुसरा उल्लेख यापेक्षा महत्त्वाचा आला आहे. तो असा 19 (2) रुपये ताजु खंडू मिर्धा वा 5 नामे खाजगी खर्च परभारे अजुरा 14 रुपये नानासाहेबांचे लष्करात भेलसापुढे 6 कोस गेला. त्याचा रुपये 15 पैकी वजा 1 महादजी नारायण जोशी यांनी दिला रुपये 1.

या दोन उल्लेखावरून कळते की, पानिपतच्या लढाईत सदाशिवरावभाऊ अडचणीत सापडले होते. त्यास सहाय्य करण्या करिता नानासाहेब सैन्य घेऊन गेले होते. इतकेच नव्हे तर भेलशाच्या पुढलाही मुक्काम नानासाहेबांनी गाठला होता व म्हणून या पटवर्धनाच्या जासुदाला भेलाशाच्या पुढे 6 कोस जावे लागले. अशा प्रकारे दादासाहेबांच्या लष्करात काल्पी, अष्टी येथे कलकत्ता काशी नागरपुर इत्यादी शहरांना महाक्षेत्राच्या ठिकाणी विशेष :ता जेथे जेथे सैन्याने मुक्काम झालेले आहेत तेथे तेथे या सावकारांचे जासूद हुंड्या घेऊन म्हणजे पैशाच्या देवघेवी संबंधाने जात असत.

जासुदासंबंधी खर्च :-

सावकारांच्या व्ह्यामध्ये त्या संबंधीचा खर्च मांडण्याची पद्धत लक्षात घेण्याजोगी आहे. ती वरून जासुदांची जथे असते हे स्पष्ट दिसून येते व तशी माहिती मिळण्याजोगी आहे. जो जासुदाच्या कामगिरीस जबाबदार आहे तो काही प्रत्येक्षात जात नाही आणि जाणाऱ्यास पैसे द्यावेच आहेत आणि ते तर या दुय्यम या जाथेदाराला पैसे देताना ही कोणामार्फत दिली ते आणि किती दिवसात जासुदाने मुळ मुक्कामाला गेले पाहिजे हेही या नोंदीत असते. उदा. 2 रु ता उटामिर्धा वा 4 (रा.1682) मंगळवार जासुद रवाना शहरास बाली चवथे दिवीशी जावे हा करार.

सावकारी बातम्याचे सधान :-

पेशवे यांचे एका पत्रात असे आले आहे की, सावकारी लिहून आल्याची वार्ता सैन्यात बोलतात 30 पुरवणी पाहिजे दुसऱ्या एका पत्रात स्पष्ट आले आहे की, सावकारी बातमीचे सधान राखावे, सरकारी पत्रातून सावकारीत लिहून आले म्हणजे सावकारांच्या रजासुंदाकडून दुसऱ्या सावकारांच्या पत्रातून सावकारीत लिहून आले असे पुष्कळ वेळा येते.

सावकारी पत्र कसे असते हे समजण्यासाठी उदाहरण म्हणून एका सावकारी पत्राचे भाग दिलेला आहे.

समारोप :-

पेशवेकालीन महाराष्ट्रातील सावकाराने आपल्या व्यवहाराने सामाजिक आणि आर्थिक गरजा पूर्ण केल्या व नीव अर्थव्यवस्था निर्माण केली. ज्यात सरकारी अधिकारी सावकार आणि इतर वर्गातील लोकांचा सहभाग होता. या व्यवस्थेची सुरुवात पहिला पेशवा बाळाजी विश्वनाथ यांच्या काळापासून झाली होती. त्याचा शेवट 18 व्या शतकाच्या शेवटी बरोबर होता. या काळातील पेशव्यांने सावकारांना संरक्षण दिले होते. त्यांच्याशी वैवाहिक संबंध प्रस्थापित केले होते. या व्यवहाराला उत्तेजन दिले म्हणून सावकारांचा व्यवसाय भरभराटीस आला होता. ज्यामुळे पेशव्यांना आपले राज्यविस्ताराचे धोरण यशस्वी राबविता आले. शिवाय सामान्य ब्राह्मण माणसाला आपला विकास करता आला. व्याजचा दर दीड ते चार टक्के एवढा होता. सावकार आपल्या कर्जाची वसुली करत इत्यादी मार्गाने हे सर्व संमत व प्रगत मार्ग समजले जात होते. कर्ज वसुलीसाठी सरकार त्यांना मदत करीत असत. अधिकाधिक पेशवा सरकार आपल्या सावकारांचे पद आणि प्रतिष्ठा यांच्या रक्षणासाठी अनेक उपाययोजना करीत.

सावकारी व्यवसायाचे विकास पेशव्यांच्या संरक्षणाखाली होत होता. ब्राह्मणाने संरक्षण देण्यात आले होते. इतरांना त्या व्यवसायात बंदी नसली तरी सवलती नव्हत्या. महाराष्ट्रात जे सावकारी व्यवसाय करीत होते. त्यात ब्राह्मण, गुजराती, मारवाडी, लिंगायत, गोसावी यांचा समावेश होता. सावकारांनी पैसा उपलब्ध करून दिल्यामुळे व्यापार व वाणिज्य यांच्या प्रगतीला हातभार लागला. काही लोकांनी चांगले जीवन जागण्यासाठी या पैशाचा वापर करता आला. पण समाजातील एका विशिष्ट वर्गातील होते म्हणून ब्रिटिश सत्ता स्थापन होताच. त्या सावकारांचा अंत झाला. त्यांना सवलती नाकारण्यात आल्या त्यांचे जास्तीचे हक्क नाकारले गेले शेवटचा पेशवा बाजीराव दुसऱ्यांचा आर्थिक क्षेत्रातील

सहभागी होण्याचा हक्क नाकारण्यात आला. एक प्रकारे सरकार आणि सावकार यांची भागीदारी एकदाची कायमची संपली. नव्या आर्थिक व्यवस्थेच्या निर्मितीसाठी जुनी सरंजामी व्यवस्था नष्ट होणे गरजेचे होते असे ईतिहासावरून दिसते.

सारांश :-

पेशवेकाळात सावकारांना मान व प्रतिष्ठा होती. कारण छत्रपती शाहू महाराज आणि पेशव्यांना सावकारांचे महत्व माहिती होते ते सावकारांना आपल्या घरी बोलावून त्यांच्याबद्दल जवळीक आणि जिऱ्हाळा दाखवत असत. सावकारांना त्यांची स्वतःची गावे बसविण्यासाठी मदत करत असत. त्यांना विविध स्वरूपाची सवलती देत असत. इ.स. 1725 मध्ये शाहूने मोहनदास यास मदतीसाठी साताऱ्यास बोलाविले होते. 1740 मध्ये बाजीराव पेशव्यांनी दिक्षित – पटवर्धन यांना मदत करत असत. त्यांना विविध स्वरूपाची सवलती देत असत. इ.स.1725 मध्ये शाहूने मोहनदास यास मदतीसाठी साताऱ्यास बोलाविले होते. 1740 मध्ये बाजीराव पेशव्यांनी दिक्षित – पटवर्धन यांना नाशिकहून पुण्यास बोलाविले होते व त्यांना सर्वतोपरी मदत केली. पुण्याच्या बुधवार पेठची स्थापना करणारे भिडे सावकारांना पेशव्यांना पुण्यास बोलाविले होते. पेशव्यांनी त्यांना वित्तीय बाबतीत बरीच मदत केली. बारामतीच्या बाबूजी नाईक जोशी यांना पेशव्यांनी त्यांना वित्तीय बाबतीत बरीच मदत केली. बारामतीच्या बाबूजी नाईक जोशी यांना पेशव्यांनी पुण्यास बोलावून घेतले. या सर्व सावकारांनी पेशव्यांनी जवळचे संबंध निर्माण केले होते.

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सारांश :

नैसर्गिक पर्यावरणात विविध घटकांपैकी पाणी हा सर्वात महत्त्वाचा घटक आहे. पाणी हे पृथ्वीवर मानव जातीसह सर्व सजीवांसाठी मुलभूत स्रोत आहे. मानवाचा विकास आणि वनस्पती समुदायाचे अस्तित्व प्रत्यक्ष-अप्रत्यक्ष पाण्यावर अवलंबून आहे. पृथ्वीवरील एकूण पाणी साठ्यापैकी 97 टक्के पाणी हे महासागरात खारट स्वरूपात असून 2 टक्के पाणी हे बर्फ व हिमनदीमध्ये व्यापले आहे. तर 1 टक्के पाणी गोड्या स्वरूपात पृथ्वी पृष्ठावर आढळून येते. पृथ्वीवर ताजे पाणी हे भूगर्भातील पाणी, महासागरातील पाणी व भूपृष्ठावरील पाणी असे प्रमुख स्रोत आहेत. भूगर्भातील पाणी स्रोतामध्ये विहिर, कुपनलिका, हातपंप व झरे हे प्रमुख स्रोत आहेत. भूपृष्ठावरील पाण्याच्या स्रोतामध्ये नद्या, ओढे, जलसिंचन प्रकल्प, पाझर तलाव, कोल्हापूरी बंधारे यांचा समावेश होतो. महासागरीय पाण्यामध्ये प्रशांत महासागर, अटलांटीक महासागर, हिंद महासागर, आर्कटिक महासागर, अंटार्कटिक महासागर यांचा समावेश होतो. सर्वात मोठा प्रशांत महासागर असून एकूण महासागर क्षेत्रापैकी 40 टक्के क्षेत्र व्यापले आहे. बीड जिल्हा हा दुष्काळग्रस्त व पर्जन्यछायेचा भाग म्हणून ओळखला जातो. या जिल्ह्यात पर्जन्यातील असमानता व पाण्याची कमतरता खूप मोठ्या प्रमाणात जाणवते. जिल्ह्यात पाण्याच्या कमतरतेमुळे दुष्काळजन्य परिस्थिती वारंवार उदभवत आहे. बीड जिल्ह्यातील भूपृष्ठीय जलसंसाधनाचे संवर्धन हा शोध निबंधाचा प्रमुख उद्देश आहे. अभ्यास क्षेत्राचा जलसंसाधना संदर्भात अभ्यास करण्यासाठी द्वितीय माहिती स्रोत उपयोगात आणला आहे. यासाठी जिल्हा सामाजिक व आर्थिक समालोचन, केंद्रीय जल संसाधन मंत्रालय, भारत सरकार, जिल्हा अधिकारी कार्यालयाकडून पर्जन्यमान संदर्भात माहिती संकलन, कार्यकारी अभियंता बीड, लघु पाठबंधारे विभाग बीड, मुख्यालय अंबाजोगाई जिल्हा पुस्तिका यांच्या साहाय्याने माहिती संकलित केली आहे. संकलीत माहितीच्या आधारावर सांख्यिकीय पद्धतीच्या साहाय्याने आकडेमोड, माहितीचे पृथ्यकरण करून मिळवलेल्या सांख्यिकीय माहितीच्या आधारे तक्ते, आलेख व आकृत्या यात दर्शवण्यात आलेल्या आहेत. सदरील शोध निबंधात प्रामुख्याने वर्णनात्मक व विश्लेषणात्मक संशोधन पद्धतीचा वापर करण्यात आला आहे. बीड जिल्हा सामाजिक व आर्थिक समालोचन 2018-2019 या आधारावर जिल्ह्यात 3 प्रमुख नदी प्रणाली असून मोठे जलसिंचन प्रकल्प 2, मध्यम जलसिंचन प्रकल्प 16, लघु जलसिंचन प्रकल्प २०४, पाझर तलाव 2668, कोल्हापूरी बंधारे 1206 यांचा समावेश होतो.

प्रस्तावना :

पाणी निसर्गातील सर्वात मौल्यवान स्रोत आहे. पाण्याचा उपयोग मानवास कृषी, उद्योग, विद्युत निर्मिती, जलवाहतूक, कारखाने, मत्स्य संवर्धन व घरगुती वापराबरोबरच पिण्यासाठी अत्यंत महत्त्वपूर्ण असे जलसंसाधन आहे. एखादी व्यक्ती अन्नाशिवाय महिनाभर राहू शकते, पण पाण्याशिवाय राहू शकत नाही. जलसंसाधनाच्या उपलब्धतेवर मानवाचे आरोग्य व आर्थिक विकास अवलंबून असतो. संयुक्त राष्ट्रांच्या प्रमाणानुसार प्रत्येक व्यक्तीला वैयक्तिक स्वच्छता राखण्याकरीता, पिण्याकरीता व अन्नधान्य शिजवण्याकरीता दररोज 20 ते 25 लिटर पाणी आवश्यक आहे. दिवसेंदिवस वाढती लोकसंख्या यामुळे जलसंसाधनाची कमतरता भासत आहे. पाणी हे जीवन आहे, जल हे तो कल है। असे वारंवार म्हटले जाते. जलसंसाधन हे पृथ्वीवरील जलावरण, शिलावरण व वातावरण या तिन्ही आवरणात समाविष्ट असणारे संसाधन आहे. यामुळे अभ्यास क्षेत्रात भूपृष्ठीय जलसंसाधनाचे संवर्धन यांचा अभ्यास करणे हा शोध निबंधाचा प्रमुख उद्देश आहे.

जलसंसाधन भूगोलाची संकल्पना :

"जलसंसाधन भूगोलात पाण्याची स्थिती, त्यांचे स्थानिक वितरण, उपयोग व संरक्षण यांचा अभ्यास केला जातो. यामध्ये पृथ्वीवरील जलावरण, वातावरण व शिलावरण यामधील संपूर्ण जलचक्राच्या घटनांचा समावेश केला जातो."

आधुनिक काळात जलसंसाधन भूगोलाची व्याख्या खूप व्यापक होत गेली आहे. प्रो. डील्विज आणि पिटर मुलर यांनी जलसंसाधन भूगोलास जलविज्ञानापासून विकसित भौतिक भूगोलाची नवीन शाखा मानले आहे. जलसंसाधन भूगोल ही भौतिक भूगोलाची उपशाखा असून त्यामध्ये भौतिक घटकाबरोबरच मानव संसाधनाच्या आंतरक्रियाचा समावेश केला जातो.

लघु, मध्यम व मोठ्या प्रकल्पाची संकल्पना:

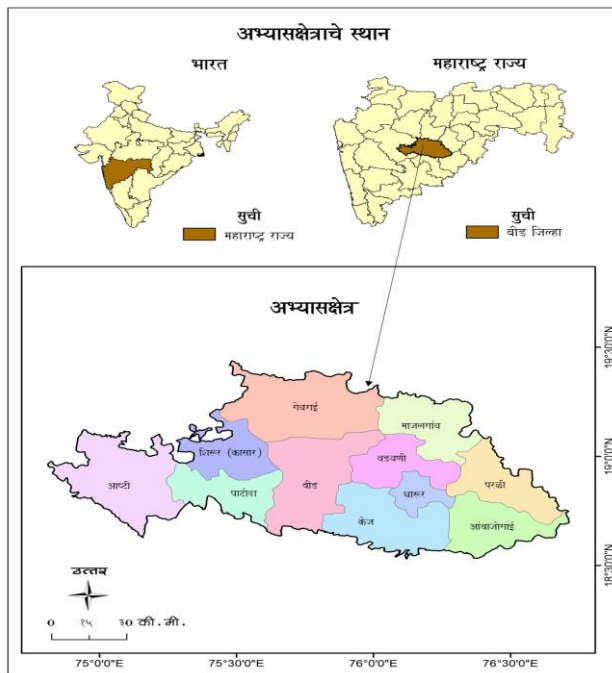
1. लघु प्रकल्प: ज्या प्रकल्पाचे क्षेत्र 2000 हेक्टर पेक्षा कमी असते त्या प्रकल्पाला लघु प्रकल्प असे म्हणतात. यामध्ये राज्यस्तर, स्थानिक स्तर व जिल्हा परीषद स्तर यांचा समावेश होतो.
2. मध्यम प्रकल्प: ज्या प्रकल्पाचे क्षेत्र 10,000 हेक्टरपेक्षा कमी व 2000 हेक्टरपेक्षा जास्त असते त्या प्रकल्पाला मध्यम प्रकल्प असे म्हणतात.
3. मोठे प्रकल्प: ज्या प्रकल्पाचे क्षेत्र 10,000 हेक्टरपेक्षा जास्त असते, त्या प्रकल्पाला मोठे प्रकल्प असे म्हणतात.

उद्दिष्टे :

बीड जिल्ह्यातील भूपृष्ठीय जलसंसाधनाचेसंवर्धन यांचा अभ्यास करणे.

अभ्यास क्षेत्र :

बीड जिल्हा मराठवाड्याच्या मध्यस्थानी वसलेला असून जिल्ह्याचा अक्षवृत्तीय विस्तार 18028' उत्तर ते 19027' उत्तर अक्षांश व रेखावृत्तीय विस्तार 74054' पूर्व ते 760 57' पूर्व रेखांश असा आहे. बीड जिल्ह्याच्या उत्तरेस औरंगाबाद व जालना, पूर्वेस परभणी व लातूर हे जिल्हे आहेत, तर दक्षिणेस उस्मानाबाद व पश्चिमेस अहमदनगर या जिल्ह्यांच्या सीमा लागून आहेत. बीड जिल्ह्याचे एकूण क्षेत्रफळ 10440.35 चौ. कि. मी असून ते महाराष्ट्राच्या क्षेत्रफळाच्या 3.47 टक्के एवढे आहे. बीड जिल्ह्यात बीड, गोवराई, अंबाजोगाई, वडवणी, धारूर, केज, माजलगाव, शिरूर कासार, पाटोदा, परळी व आष्टी असे एकूण 11 तालुके आहेत. 2011 च्या जनगणनेनुसार बीड जिल्ह्याची एकूण लोकसंख्या 2585049 एवढी असून ती महाराष्ट्राच्या एकूण लोकसंख्येच्या 2.30 टक्के एवढी आहे. बीड जिल्ह्यातील एकूण लोकसंख्येपैकी पुरुष 1349160 तर महिला 1235943 यांचे प्रमाण आहे. बीड जिल्ह्यातील एकूण लोकसंख्येपैकी 80.10 टक्के लोकसंख्या ग्रामीण भागात तर 19.90 टक्के लोकसंख्या शहरी भागात राहते. जिल्ह्यात लिंग गुणोत्तर 916 इतके असून लोकसंख्या घनता प्रमाण प्रती चौ. कि. 242 एवढी आहे. बीड जिल्ह्यात गोदावरी, लेंडी, सिंदफणा, बिंदूसरा, कुंडलिका, सरस्वती, वान, गुणवती, मांजरा व सिना या प्रमुख नद्या आहेत. बीड जिल्ह्यातील लघु, मध्यम व मोठ्या प्रकल्पातील जलसंसाधन व स्रोत यांचा अभ्यास करण्यासाठी बीड जिल्हा हे अभ्यास क्षेत्र निवडण्यात आले आहे.



माहिती संकलन व संशोधन पद्धती :

बीड जिल्ह्यातील लघु, मध्यम व मोठ्या प्रकल्पांची संपूर्ण माहिती संकलन द्वितीय सामुग्रीच्या साहाय्याने करण्यात आली आहे. यासाठी कार्यकारी अभियंता बीड, लघु पाटबंधारे विभाग बीड, मुख्यालय अंबाजोगाई, जून 2011 जिल्हा पुस्तिका, जिल्हा सामाजिक व आर्थिक समालोचन यांच्या साहाय्याने माहिती संकलन केली आहे. संकलीत माहितीवर सांख्यिकी पद्धतीच्या साहाय्याने आकडेमोड, माहितीचे पृथक्करण करून मिळवलेल्या सांख्यिकीय माहिती, तक्ते, आलेख व आकृत्या यात दर्शविण्यात येणार आहेत. सदरील संशोधनात प्रामुख्याने वर्णनात्मक व विश्लेषणात्मक संशोधन पद्धतीचा वापर करण्यात आला आहे.

विश्लेषण :

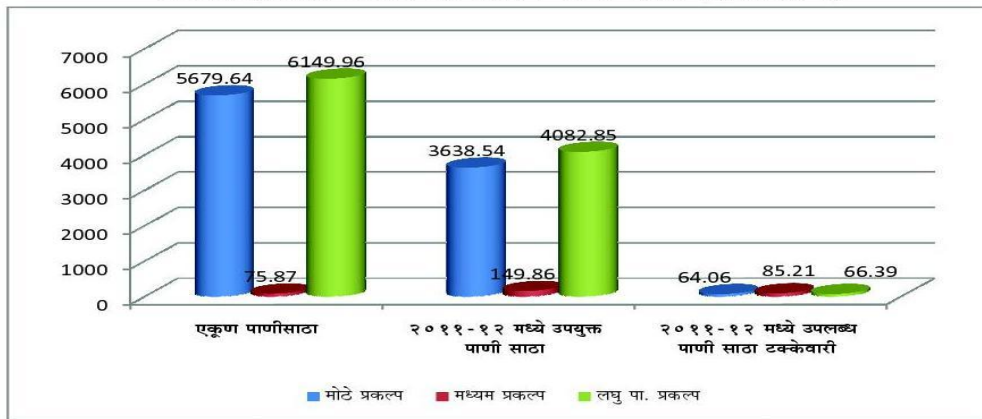
बीड जिल्ह्यातील भूपृष्ठीय जलसंसाधनामध्ये नदी, जलसिंचन प्रकल्प, पाझर तलाव व कोल्हापूरी बंधारे यांचा समावेश होता. अभ्यास क्षेत्रात महत्त्वपूर्ण जलप्रणाली अस्तित्वात असून यामध्ये गोदावरी, मांजरा व सिना या प्रमुख नद्या आहेत. अभ्यास क्षेत्रातील सर्वच नद्या या हंगामी स्वरूपाच्या असल्याने उन्हाळ्यात पाण्याची कमतरता वारंवार भासते. उपलब्ध जलप्रणालीतील जलसंपदा साठा मध्यम, मोठे व लघु जलसिंचन प्रकल्पात होत असून याचा उपयोग जलसिंचन, उद्योग, मानवी वापर, जलवाहतूक, कारखाने व विद्युत निर्मितीसाठी केला जातो. अभ्यास क्षेत्रात पाझर तलाव व कोल्हापूरी बंधारे जलसंपदेसंदर्भात महत्त्वपूर्ण आहेत.

तक्ता क्र. 1, बीड जिल्ह्यातील जलसिंचन प्रकल्प पाणी साठा (द.ल.घ.मी)

अ. क्र.	पाणी साठा (द.ल.घ.मी)	मोठे प्रकल्प	मध्यम प्रकल्प	लघु पा. प्रकल्प
1	एकूण पाणीसाठा	5679.64	75.87	6149.96
2	2011-12 मध्ये उपयुक्त पाणी साठा	3638.54	149.86	4082.85
3	2011-12 मध्ये उपलब्ध पाणी साठा टक्केवारी	64.06	85.21	66.38

अ. आधार - कार्यकारी अभियंता बीड लघु पाटबंधारे विभाग, बीड, मुख्यालय अंबाजोगाई, जून 2011, जिल्हा पुस्तिका, पृ.11

आलेख क्र. १
बीड जिल्ह्यातील जलसिंचन प्रकल्प पाणी साठा (द.ल.घ.मी)



बीड जिल्ह्यातील जलसिंचन प्रकल्पातील पाणी साठा (द. ल. घ. मी.) तक्ता क्र. 1 नुसार एकूण पाणीसाठा मोठ्या प्रकल्पात 5679.64 (द.ल.घ.मी), मध्यम प्रकल्पात 75.87 (द.ल.घ.मी) व लघु प्रकल्पात 6149.96 (द.ल.घ.मी) या प्रमाणे आहे. यामध्ये इ.स. 2011-12 मध्ये उपयुक्त पाणी साठा मोठ्या प्रकल्पात 3638.54 (द.ल.घ.मी), मध्यम प्रकल्पात 149.86 (द.ल.घ.मी) तर लघु प्रकल्पात 4082.85 (द.ल.घ.मी) उपयुक्त पाणीसाठा आहे. म्हणजेच 2011-12 मध्ये उपलब्ध पाणी साठ्याची टक्केवारी पाहिली असता मोठ्या प्रकल्पात 64.06 टक्के, मध्यम प्रकल्पात 85.21 टक्के तर लघु प्रकल्पात 66.38 टक्के उपलब्ध पाणीसाठा असल्याचे स्पष्ट होते.

तक्ता क्र. 2, बीड जिल्हा जलसिंचन प्रकल्प

अ. क्र	वृहत योजनेनुसार एकूण प्रकल्प	संख्या	प्रकल्पीय सिंचनक्षमता (हेक्टरमध्ये)
1	मोठे प्रकल्प	03	83634
2	मध्यम प्रकल्प	18	33700
3	ल.पा. (राज्यस्तर) 100 ते 250 हेक्टर पेक्षा कमी सिंचन क्षमता (को.प.ब.सह)	136	18467
4	ल.पा. (राज्यस्तर) 250 हेक्टर पेक्षा जास्त सिंचन क्षमता (को.प.ब.सह)	230	102723
5	उपसा सिंचन योजना (राज्यस्तर व स्थानिक स्तर)	09	2250
	एकूण	443	240775

अध्याधार - कार्यकारी अभियंता बीड लघु पाटबंधारे विभाग, बीड, मुख्यालय अंबाजोगाई,
जून 2011 जिल्हा पुस्तिका, पृ. 02

बीड जिल्ह्यातील जलसिंचन प्रकल्पाची सिंचन क्षमता तक्ता क्र. 2 नुसार बीड जिल्ह्यात मोठे 3 प्रकल्प असून 83634 हेक्टर क्षेत्र सिंचनाखाली येते. मध्यम प्रकल्प 18 असून 33700 हेक्टर क्षेत्र सिंचनाखाली येते. लघु प्रकल्पामुळे 121190 हेक्टर क्षेत्र सिंचनाखाली येते. उपसा सिंचन योजनेच्या माध्यमातून 9 प्रकल्पा अंतर्गत 2250 हेक्टर क्षेत्र सिंचनाखाली येते. बीड जिल्ह्यात एकूण प्रकल्प 443 मुळे 240775 हेक्टर क्षेत्र सिंचनाखाली आले आहे.

तक्ता क्र. 3, बीड जिल्हा पर्जन्यमान अहवाल 1991-2018

वर्ष	जून ते ऑक्टोबर		
	प्रत्यक्ष	सरासरी	%
1991	328.2	664.6	49.38
1992	689.8	664.6	103.79
1993	647	664.6	97.35
1994	375.6	664.6	56.52
1995	652.8	664.6	98.22
1996	937.4	664.6	141.05
1997	482.6	664.6	72.62
1998	1143.1	664.6	172
1999	504.2	664.6	75.87
2000	886.8	664.6	133.43
2001	734.2	663.1	110.72
2002	582.6	663.1	87.86
2003	459.6	663.1	69.31

2004	542.8	663.1	81.86
2005	867.6	663.1	130.84
2006	615.8	663.1	92.87
2007	662.2	663.1	99.86
2008	696	663.1	104.96
2009	677	663.1	102.1
2010	793	663.1	119.59
2011	961	663.1	144.93
2012	440.7	666.36	66.14
2013	671.4	666.36	100.76
2014	370.5	666.36	55.6
2015	330.4	666.36	49.58
2016	835	666.36	125.31
2017	704.6	666.36	105.74
2018	334.7	666.36	50.23

स्त्रोत: बीड जिल्हा सामाजिक व आर्थिक समालोचन, 1991 ते 2018.

बीड जिल्हा पर्जन्यमानाचा अभ्यास केला असता तक्ता क्र. 3 नुसार 1998 मध्ये प्रत्यक्ष पर्जन्य 1143.1 मी. मी. पर्जन्याची नोंद सर्वाधिक झाली असून सरासरी वार्षिक 664.6 मि. मी. पर्जन्य झाले असे समजते. यावर्षी सर्वाधिक 172 टक्के पावसाची नोंद झाली आहे. 2011 मध्ये प्रत्यक्ष पर्जन्य 961 मी. मी. नोंद असून सरासरी वार्षिक पर्जन्य 663.1 मी. मी. झाले असे समजते. यावर्षी 144 टक्के पावसाची नोंद या वर्षी झाली. 1996 मध्ये प्रत्यक्ष पर्जन्य 937.4 मी. मी. झाले ते सरासरी वार्षिक 664.6 इतके होते. यावर्षी 141.5 टक्के पावसाची नोंद झाली. 1991 मध्ये प्रत्यक्ष पर्जन्य 328.2 मी. मी. नोंद असून सर्वाधिक कमी आहे. सरासरी वार्षिक पर्जन्य 664.6 इतके होते. या वर्षी 49.38 टक्के पावसाची नोंद झाली. यावरून असे निदर्शनास येते की, पर्जन्याची असमानता व कमतरता वारंवार आढळते. त्याचबरोबर 1998 मध्ये सर्वाधिक पर्जन्य तर 1991 मध्ये सर्वात कमी पर्जन्याची नोंद होते.

तक्ता. क्र. 4, बीड जिल्हा जलप्रणाली

अ. क्र.	जलप्रणाली	उपनद्या
1	गोदावरी जलप्रणाली	अ) लेंडी नदी ब) अमृता क) सरस्वती ड) गुणवती इ) वाण फ) सिंदफणा ग) बिंदुसरा ह) कुंडलिका
2	मांजरा जलप्रणाली	अ) चौसाळा ब) बाभती क) रेणा
3	सिना जलप्रणाली	अ) तलवार ब) विंचरणा क) मेहकरा

स्त्रोत: बीड जिल्हा गॅझेटियर

बीड जिल्ह्यात गोदावरी, मांजरा व सिना या मुख्य नद्या आहेत. नद्यांचा उपयोग जलसिंचन, औद्योगिकीकरण, पिण्यासाठी पाणी, वीजनिर्मती, तसेच मानवाचे जीवन समृद्ध करण्यासाठी केला जातो. पाणी म्हणजे

जीवन आहे हे प्राचीन काळापासून ऋषीमुनींनी व विविध शास्त्रज्ञांनी म्हटले आहे. जलप्रणाली ही त्या प्रदेशाच्या विकासात महत्त्वपूर्ण भूमिका बजावत असते. मानवाच्या दृष्टीने जलसंसाधन अत्यंत महत्त्वपूर्ण आहे.

जल संसाधनाचे संवर्धन.

बीड जिल्ह्यातील भूपृष्ठीय जल संसाधन स्रोत नदी,ओढे ,जलसिंचन प्रकल्प,पाझर तलाव व कोल्हापूरी बंधारे यांचे संवर्धन काळाची गरज आहे.

1)पाणी हे दुर्मिळ असून पाणी वापराच्या संदर्भात जाणीव जागृती करणे आवश्यक आहे.

2)भूपृष्ठावर उपलब्ध पाण्याचे भूजल पुनर्भरण करण्यासाठी पाणी आडवा पाणी जिरवा हा उपक्रम आवश्यक आहे.

3)ज्या ठिकाणी भूजल पातळी खोल गेली आहे त्या ठिकाणी जल संवर्धनाची कामे हाती घेण्यात यावीत.

4)गाव स्तरावर नदी,ओढे या ठिकाणी पाझर तलाव व कोल्हापूरी बंधारे यांची निर्मिती करण्यात यावी.

5)घरगुती वापरातील पाण्याचा पुनर्वापर करण्यासाठी पाण्यावर प्रक्रिया करून विविध उद्योगासाठी पाणी वापरणे आवश्यक आहे.

निष्कर्ष :

बीड जिल्ह्यातील लघु, मध्यम व मोठ्या प्रकल्पातील पाणीसाठा व त्यावर आधारीत सिंचन क्षमता महत्त्वपूर्ण आहे. जलसिंचन प्रकल्पातील पाणीसाठ्याचा प्रमुख स्रोत पर्जन्यमान व गोदावरी, मांजरा व सीना या प्रमुख जलप्रणाली हा आहे. मोठे, मध्यम, लघु व उपसा सिंचन योजना एकूण 443 प्रकल्पाची 240775 हेक्टर सिंचन क्षमता आहे.

संदर्भ :

1. बीड जिल्हा सामाजिक आणि आर्थिक समालोचन.
2. जिल्हाधिकारी कार्यालय बीड, जिल्हा पर्जन्यमान 1991 ते 2018 पर्यंत
3. कार्यकारी अभियंता बीड, लघु पाटबंधारे विभाग बीड, मुख्यालय अंबाजोगाई, जून 2011 जिल्हा पुस्तिका, पृ. 2 व 11
4. जल प्रबंधन भूगोल - डॉ. बी. सी. जाट व डॉ. अजय मल्लीक.कंपनी जयपूर, 294
5. बीड जिल्हा संकेतस्थळ.

सुद्ध जल: समस्या आणि उपाय

प्रा. डॉ. रेणुकादास यशवंत बोनर

पुण्यश्लोक अहिल्यादेवी होळकर, महाविद्यालय राणीसावरगाव

प्रस्तावना

जल ही जीवन आहे. पाण्याशिवाय मानवी जीवनाची संकल्पना ही करता येते नाही. निसर्गाने पृथ्वीवर पाण्याची मूबलक उपलब्धता करून दिली आहे. त्याची वाटणी मात्र विषम झाली आहे. तसेच हे सर्वच पाणी मानवासाठी उपयोगी नाही. पृथ्वीवरील एकूण पाण्याच्या साठ्यापैकी 97 टक्के पाणी महासागरात खाल्या पाण्याच्या स्वरूपात आहे. 03 टक्के पाणी गोड्या पाण्याच्या स्वरूपात आहे. त्या 03 टक्के पाण्यापैकी 2 टक्के पाणी घनस्वरूपात (बर्फाच्या स्वरूपात) आहे. त्याचा मानवास विशेष उपयोग होत नाही. फक्त 1 टक्का पाणीच नद्या, सरोवरे, विहीरी, तळी इ. च्या स्वरूपात आहे. त्या 1 टक्का पाण्याचा उपयोग करावा लागतो. म्हणून जसजशी लोकसंख्या वाढेल व विकास होत जाईल तसतसे गोड्या पाण्याची वाढत जात आहे. गोड्या पाण्याचा साठास्थिर आहे. ही बाब लक्षात घेऊनच संयुक्त राष्ट्र संघाच्या सिरीयाच्या प्रतिनीधीने अशी चेतावनी दिली आहे की तो दिवस दूर नाही की ज्या दिवशी खनिज तेलापेक्षा पाणी महाग होईल. वर्तमान काळात विज्ञानाने उतुंग प्रगती केली असली तरीही पाण्याची निर्मिती करण्याची पध्दत अजून प्रत्यक्षात सापडली नाही. पण निसर्गाने दिलेल्या पाण्याचे रक्षण न करता आपण दूषित करत आहोत. त्यावर उपाय करणे गरजेचे आहे. भारतात प्रत्येक शहरातून नदीच्या पात्रात दररोज हजारो लिटर पाणी सोडण्यात येते. सांडपाणी, प्रक्रिया न करता नदीत सोडल्याने आपण चांगले पाणी प्रदूषित आहे. शास्त्रज्ञांनी संशोधनात्मक अभ्यासातून असे दाखवून दिले आहे की प्रत्येक मनुष्य सांडपाण्यामध्ये दररोज 17 ग्रॅम्स केमिकल्स टाकून पाण्याचे प्रदूषण करतो. अशाप्रकारे संपूर्ण शहरातून येणारे सांडपाणी नदीतील चांगले पाणी प्रदूषित करत आहे. आधुनिक पध्दती, रहाणीमान व स्वच्छतेच्या अयोग्य पध्दतीतून अनेक प्रकारची घातक रसायने वापरली जातात. आपल्या देशात सरासरी 19 हजार कोटी घनमीटर पाणी वापरण्यासाठी उपलब्ध होते. यापैकी जवळपास 86 टक्के पाणी नदी, सरोवरे इ. रूपाने प्राप्त केले जाते व बाकीचे भूमिगत जलाच्या रूपाने प्राप्त केले जाते. भारतात लोकसंख्या वाढीबरोबर पाण्याचा वापरही मोठ्या प्रमाणात वाढला आहे व या वाढत्या लोकसंख्येला स्वच्छ व शुद्ध पिण्याच्या पाण्याचा पुरवठा करणे फार कठीण झाले आहे. माणसाच्या शरिराला रोज 5 लिटर पाण्याची आवश्यकता आहे. तसेच दररोज सरासरी 40 लिटर पाणी प्रत्येकाला विविध कारणांसाठी वापरावे लागते. भारतात दररोज पाण्याच्या वापर कोणत्या कामासाठी किती प्रमाणात होतो. ते खालील तक्ता क्रमांक 1 मध्ये दर्शविलेले आहे.

तक्ता क्रमांक - 1, उद्देशानुसार दररोज पाणी वापर दर्शविणारा तक्ता

अ.क्र.	उद्देश	पाण्याचा उपयोग दररोज/दरडोई/लिटर
1	स्वयंपाक	4.5
2	धार्मिक कार्य	18.5
3	भांडे धुण्यासाठी	13.6
4	कपडे धुण्यासाठी	13.6
5	शौचालयासाठी	27.3
6	स्नानासाठी	27.3

साधारणपणे प्रत्येक व्यक्ती ही दिवसाला वरील प्रमाणे पाणी वापरते. काही व्यक्ती यापेक्षा कमीजास्त प्रमाणात पाणी वापरू शकतात. भारतातील काही प्रमुख शहरात दरदिवसी दरडोई पाण्याचा वापर तक्ता क्रमांक 2 मध्ये पुढील प्रमाणे दर्शविण्यात आला आहे.

तक्ता क्रमांक 2, भारतातील काही प्रमुख शहरात दरदिवसी दरडोई पाण्याचा वापर दर्शविणारा तक्ता

अ.क्र.	प्रमुख शहर	पाण्याचा उपयोग उपयोग
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1	बंगलोर	190
2	मुंबई	320
3	कलकत्ता	190
4	दिल्ली	160
5	लखनौ	90
6	चेन्नई	160

वरील आकडेवारी वरून असे दिसून येते की भारतीय शहरात पाण्याच्या उपयोगाच्या प्रमाणात जी असमानता आहे त्याला अनेक घटक जबाबदार आहेत. भारतात जलप्रदूषणाची समस्या काश्मिरपासून ते कन्याकुमारीपर्यंत व गुजरात पासून ते अरुणाचल प्रदेश पर्यंत एक सारखीच आहे. भारतातील जलप्रदूषणाची समस्या ही उद्योगधंद्याप्रमाणे किंवा त्यापेक्षा जास्त जबाबदार घटक गावातील व शहरातील घाण पाणी आहे. या शहरातील घाण पाण्यामुळे भारतातील असंख्य नद्या आणि सरोवरे प्रदूषित झाली आहेत. जलप्रदूषण जरी नैसर्गिक आणि मानवनिर्मित घटकांमुळे होत असले तरी सर्वात जास्त कारणीभूत घटक म्हणून मानवनिर्मित घटकांचा उल्लेख करावा लागतो.

जलप्रदूषणाचीकारणे :

1. देशातील बहुतेक उद्योगधंदे हे नद्यांच्या किनारी प्रदेशात आहेत व त्यामुळे कारखान्यातील दुषित पाणी नदीत सोडले जाते व त्यामुळे नदीतील शुध्द पाणी प्रदूषित होते.
2. रासायनिक खतांच्या उपयोगामुळे जलप्रदूषणाची नवी समस्या निर्माण झाली आहे.
3. जलवाहतूकीद्वारे होणारी इंधन गळती, घातक द्रव्ये व घनरूप पदार्थांची गळती, अपघात इत्यादी क्रियांद्वारे पाण्यात अपद्रव्यांचा समावेश होऊन पाणी प्रदूषित होते.
4. स्नान करतांना साबणामुळे त्याचप्रमाणे कपडे धुतांना वापरलेल्या डिटर्जंटमुळे पाण्यात रसायने मिसळून पाणी दूषित होते.
5. क्वाटरनाशके, जंतुनाशके व तणनाशकांच्या वाढत्या वापरामुळे व त्यांच्या पाण्यातील प्रवेशामुळे पाणी प्रदूषित होत आहे.

जलप्रदूषणाचेपरिणाम :

जलप्रदूषणाचे परिणाम हा मानवी शरीरावर व त्याच्या सभोवतालच्या पर्यावरणाच्या आरोग्यावर होतो. दूषित पाणी पिल्यामुळे हगवण, कॉलरा, टाईफॉईड, कावीळ इ. रोग होतात. भारतात दूषित पाणी पिल्याने आजारी पडून दरवर्षी सरासरी 7 कोटी 30 लाख कामाचे दिवस नष्ट होतात व उपचारासाठी होणारा खर्च दरवर्षी सरासरी 600 कोटी रूपये आहे. दूषित पाण्यामुळे जलचर प्राण्यावर परिणाम होतो व ते नष्ट होण्याच्या मार्गावर आहेत. घरगुती वापरासाठीचे पाणी नुसते स्वच्छ, गंधहीन व रंगहीन असून चालत नाही तर ते सर्व प्रकारच्या रोग उत्पन्न करणाऱ्या जीवजंतुंपासूनही मुक्त असले पाहिजे म्हणून शुद्धीकरणाच्या विविध प्रक्रियांमध्ये निर्जंतुकीकरण अत्यंत महत्त्वाचे आहे. पाण्याचे वायुमिश्रण, निवळण, निस्यंदन ह्या प्रक्रिया निर्जंतुकीकरण अधिक प्रभावी बनवण्यास सहाय्य करतात. म्हणून ही शुद्धीकरणाची शेवटची पायरी समजली जाते.

निर्जंतुकीकरणाचेप्रकार :

निर्जंतुकीकरणाच्या अनेक प्रकारांपैकी भौतिक प्रक्रिया आणि रासायनिक प्रक्रिया असे दोन प्रकार आहेत.

भौतिक प्रक्रिया :

पाणी उकळणे अथवा त्यामध्ये अतिनील (ultraviolet) किरण सोडणे किंवा स्वनातीत ध्वनीलहरींचा झोत सोडणे.

रासायनिक प्रक्रिया :

पाण्यामध्ये आम्ल, अल्क अथवा surface – active agents घालणे, चांदी, तांबे ह्यासारखे जड (Heavy) धातू वापरणे, क्लोरीन, ब्रोमीन, आयोडीन, क्लोरीन डाय-ऑक्साइड, ओझोन ह्यांसारखे रासायनिक पदार्थ वापरणे इत्यादी. ह्या यादीमधील सर्वात नेहमी वापरले जाणारे पदार्थ म्हणजे क्लोरीन, ब्रोमीन आणि आयोडीन, त्यांतही सर्वमान्य पदार्थ म्हणजे क्लोरीन. कारण १) त्याच्या वापरातील सुलभता, २) त्याची पाण्यातील मात्रा सहज मोजता येते, ३) तो पाण्यामध्ये दीर्घकाळ टिकतो आणि ४) ब्रोमीन आणि आयोडीन ह्यांच्या तुलनेत त्याच्या वापरास खर्च कमी येतो. वरील यादीमधले इतर पदार्थ काही विशिष्ट

परिस्थितीमध्येच क्लोरीनपेक्षा सरस ठरतात. परंतु क्लोरीनबरोबर यशस्वी स्पर्धा करू शकत नाहीत. किंबहुना क्लोरीनला पूरक म्हणूनच त्यांचा उपयोग होतो.

क्लोरीनीकरणाचा इतिहास :

पाण्यातील जीवजंतूंचा नायनाट करण्यासाठी क्लोरीन व त्याची संयुगे ह्यांचा वापर १७० हून अधिक वर्षे होत आलेला आहे. इ.स. १८९७ मध्ये इंग्लंडच्या केंट परगण्यामध्ये विषमज्वराची साथ येऊन गेली, त्यानंतर पिण्याच्या पाण्याचे नळ निर्जंतुक करण्यासाठी क्लोरीनचा उपयोग केला गेला. इ.स. १९०४ पासून इंग्लंडमध्ये आणि इ.स. १९०८ पासून अमेरिकेमध्ये पिण्याच्या पाण्याचे सतत निर्जंतुकीकरण (Continuous disinfection) करण्यास सुरुवात झाली. ह्यासाठी आणि ह्याआधी सर्व कामांसाठी विरंजक चूर्ण (Bleaching powder) अथवा सोडियम हायपोक्लोराईटचा वापर करीत असत. १९१० मध्ये वायुरूप क्लोरीनवर दाब वाढवून त्याचे द्रवरूप केले गेले. तसेच द्रवरूप क्लोरीन हाताळण्यासाठी लागणारी यंत्रसामुग्री विकसित केली गेली. तेव्हापासून आजपर्यंत द्रवरूप क्लोरीनचा वापर सर्रास केला जात आहे. जलशुद्धीकरण केंद्रातील क्लोरिनीकरणाच्या पद्धती: जलशुद्धीकरण केंद्रामध्ये क्लोरीनचा वापर निस्यंदनानंतर केला जातो. कारण पाण्यामधील अशुद्ध पदार्थ निस्यंदनाआधीच्या (म्हणजे वायुमिश्रण, क्लोराटन, कणसंकलन आणि निवळण) प्रक्रियांनी पाण्याबाहेर काढल्यामुळे क्लोरीनचा परिणाम अधिक चांगला होतो. तसेच कमी मात्रेमध्ये त्याचा अपेक्षित परिणाम (जंतुनाशन) घडवता येतो. क्लोरीनची पाण्यातील प्रक्रिया पुढील तीन प्रक्रियान्वये दाखवता येते. उदा., विरंजन (Bleaching), ऑक्सिडीकरण (Oxidation) आणि निर्जंतुकीकरण (Disinfection) ह्यांमधील कोणती प्रक्रिया होईल हे पाण्यातील अशुद्ध पदार्थ आणि त्यांची मात्रा ह्यावर ठरते. जरी क्लोरीनचे मुख्य काम पिण्याचे पाणी निर्जंतुक करणे हे असले तरी त्याचा उपयोग इतर कामासाठी सुद्धा करता येतो. उदा.,

पूर्वक्लोरीनीकरण(Prechlorination) :

शुद्धीकरण केंद्रामध्ये प्रवेश होण्यापूर्वी केलेले क्लोरिनीकरण. पाण्यामधील सहज ऑक्सिडीकरण होऊ शकणारे पदार्थ, जीवाणू, पाण्यामधील अनिष्ट रंग, वास आणि चव उत्पन्न करणारे पदार्थ, भूगर्भामधील पाण्यात असणारे लोह आणि मंगल आणि सेंद्रिय पदार्थ ह्यांची संयुगे काढण्यासाठी उपयोगी.

पश्चात क्लोरिनीकरण(Postchlorination) :

शुद्धीकरण पूर्ण झाल्यावर केलेले क्लोरिनीकरण. रोग उत्पन्न करणारे पाण्यातले जीवाणू, विषाणू मारण्यासाठी. पुनक्लोरीनीकरण वितरणसंस्थेच्या पाइपाच्या जाळ्यामधून पाणी वाहत असताना. त्यातल्या क्लोरीनची मात्रा विशिष्ट पातळीवर ठेवणे आणि पाईपांमध्ये जीवाणूंची वाढ होऊ न देणे.

विच्छेद बिंदू क्लोरिनीकरण:

पाण्यामध्ये अमोनिया असल्यास तो समूळ काढून टाकण्यासाठी. वितरणाच्या विस्तृत जाळ्यामध्ये सर्वत्र क्लोरीन टिकून ठेवण्यासाठी.

अतिक्लोरिनीकरण(Superchlorination) :

नैसर्गिक आपत्तीमध्ये (भूकंप, पूर वगैरे) शुद्ध पाणी पुरवण्यासाठी. ह्या पाण्याला क्लोरीनचा खूप वास येतो, पण ते पिण्यास योग्य असते.

विक्लोरिनीकरण(Dechlorination):

अतिक्लोरिनीकरण केलेल्या पाण्यामधला अतिरिक्त क्लोरीन काढून टाकण्यासाठी. ह्या कामासाठी प्रभावित कार्बन (activated carbon), सोडियम बायसल्फाईट किंवा सोडियम सल्फाईट किंवा सल्फर डाय-ऑक्साइड वायू वापरला जातो. वितरण व्यवस्थेमधल्या टाक्या, नवे आणि दुरुस्त केलेले पाईप इ. निर्जंतुक करण्यासाठी, जलतरण तलावांमध्ये पाणी निर्जंतुक ठेवण्यासाठी, भूगर्भातील पाणी निर्जंतुक करण्यासाठी, धरणांत किंवा तळ्यांत साठवलेल्या पाण्यामधील शैवाल (अल्गी) नष्ट करण्यासाठी. ह्या कामी क्लोरीनबरोबर मोरचूद (कॉपर सल्फेट) वापरला जातो.

क्लोरीनीकरणामधील काही अनिष्ट बाबी :

शुद्धीकरण करीत असताना प्रमाणाबाहेर क्लोरीन वापरले गेले तर त्या पाण्याला अनिष्ट चव आणि वास येतो. तसेच पाण्यामध्ये फिनॉले (Phenols) किंवा त्यांच्या संयुगाबरोबर क्लोरीनची रासायनिक प्रक्रिया होऊन शरीरास घातक ठरणारे आणि उग्र वास आणि चव असणारे पदार्थ उत्पन्न होतात. नैसर्गिक पाण्यामध्ये असलेल्या सेंद्रिय पदार्थांमध्ये ह्युमिक आणि /

किंवा फुल्विक आम्ल असल्यास क्लोरीन पदार्थाबरोबर होणाऱ्या प्रक्रियेतून क्लोरोफॉर्मसारखे घातक उपपदार्थ (Byproducts) तयार होतात म्हणून फिनॉल्स आणि ह्यूमिक/फुल्विक आम्ल प्रथम काढून मग क्लोरिनीकरण करणे योग्य ठरते, अथवा ओझोन, क्लोरीन डाय-ऑक्सिड, क्लोरामीन्स ह्यासारखे पदार्थ प्रथम वापरून त्यानंतर निर्जंतुकीकरणासाठी क्लोरीनचा वापर करणे योग्य ठरते.

निर्जंतुकीकरणाची उपयुक्तता ठरवणारे घटक :

- पाण्यातील जंतूंचे प्रमाण, त्यांचे प्रकार आणि त्यांचे पाण्यातील वितरण – ज्या पाण्यात जंतूंचे प्रमाण मोठे असते त्यामध्ये जंतूनाशकाबरोबर संयोग करणारे (आणि म्हणून त्याची कार्यक्षमता कमी करणारे) पदार्थ असतात. तसेच काही जंतू स्वतःभोवती संरक्षक कवच (Cyst) उत्पन्न करतात, तर पुंजक्यांच्या रूपांत असणारे जंतू इतर जंतूंना संरक्षण देऊ शकतात, त्यामुळे जंतूनाशकाची मात्रा मोठ्या प्रमाणावर वाढवावी लागते.
- जंतूनाशकाची पाण्यातील मात्रा, तिचे प्रकार आणि वितरण – सर्वसाधारणपणे पाण्यात मिसळणाऱ्या जंतूनाशकाची पाण्याबरोबर होणारी प्रक्रिया (उदा., क्लोरीन) जलीय अपघटन (Hydrolysis) आणि आयनीभवन (Ionization) अशा दोन टप्प्यांमध्ये होते. ह्यामधील HOCl हायपोक्लोरस ॲसिड आणि OCl⁻ हायपोक्लोरस आयन हे जंतूनाशक आहेत. त्या पाण्यामध्ये त्यांचे प्रमाण जितके जास्त असेल तितके ते अधिक परिणामकारक
- पाण्यातील अशुद्ध पदार्थांचे प्रकार व मात्रा – जंतूनाशकाची शक्ती कमी करणारे किंवा त्यांची मात्रा कमी करणारे पदार्थ म्हणजे फेरस व मँगॅनस आयन, हायड्रोजन सल्फाईड वायू, अमोनिया, नायट्राईट व सल्फाईट आयन. तसेच पाण्यातील आलंबित पदार्थ जंतूपेक्षा आकाराने मोठे असल्यामुळे त्यांना जंतूनाशकांपासून संरक्षण देऊ शकतात. म्हणून हे पदार्थ जंतूनाशकाचा वापर करण्याआधी पाण्यातून काढून टाकणे आवश्यक ठरते.
- पाण्याचे तापमान – बहुतांश रासायनिक प्रक्रियांचा वेग पाण्याच्या तापमानाबरोबर वाढत जातो, तसेच क्लोरीनचा रेणू जंतूंच्या पेशींमध्ये शिरून मगच त्यांना मारू शकतो. पाण्याच्या वाढत्या तापमानाबरोबर ही क्रिया अधिक वेगाने होते.
- पाण्यातील अशुद्ध पदार्थ आणि जंतूनाशक ह्यांमधला संपर्क काळ (Contact Time) जेवढा मोठा तेवढा जंतूनाशकाचा प्रभाव मोठा, पाण्यामध्ये सेंद्रिय पदार्थ असले तर ते जंतूनाशकाबरोबर संयोग पावून त्याची मात्रा कमी करतात, त्यामुळे संपर्क काळ तरी वाढवावा लागतो किंवा जंतूनाशकाची मात्रा तरी वाढवावी लागते.

जलप्रदूषणाचे नियंत्रण आणि उपाय :

जलप्रदूषण हा काही फक्त स्थानिक प्रश्न नसून तो जागतिक स्वरूपाचा प्रश्न आहे. म्हणून जलप्रदूषण टाळण्यासाठी खालील उपाय करणे आवश्यक आहे -

- पाण्याची शास्त्रीय तपासणी करून जलप्रदूषणाची तीव्रता कमी करणे.
- जल प्रदूषणासाठी जबाबदार असणारी प्रदूषके, कारणे व त्यांची उगमस्थाने शोधून जलप्रदूषणाविषयी योजना तयार करणे व प्रदूषण नियंत्रणायोग्य ती कार्यवाही करणे, उदा. सांडपाणी, मैलापाणी यासाठी गटार प्रक्रिया संयंत्राचा वापर करणे.
- ग्राम व नगरविकास योजनेत जलव्यवस्थापनास व प्रदूषण नियंत्रणास प्रथम पसंती देणे त्यासाठी विविध योजना आखून लोकजागृती करणे.
- जल शुद्धीकरणाच्या नवनवीन तंत्राचा वापर करून पिण्याच्या पाण्याची सर्वाधिक काळजी घेणे.
- दूषित पाणी शुद्ध करून पुनर्वापर करण्याच्या दृष्टीने कार्यवाही करणे.
- दूषित पाण्याची उगमस्थाने तपासून पर्यायी व्यवस्था व नियोजन करणे.
- जल प्रदूषण कमी करण्यासाठी जनसंपर्क, जागृती व संवर्धनाच्या हेतूने विविध माध्यमांचा प्रभावी वापर करणे.
- जलनियोजन व पर्यावरण रक्षणाचे महत्व विविध स्तरावर प्रतिबिंबित करणे.
- सरकारी माध्यमातून कडक कायदे करणे व केलेल्या कायद्यांची अंमलबजावणी करणे.
- जलप्रदूषणाची संपूर्ण शास्त्रीय माहिती जनसामान्यांपर्यंत पोहचवून लोकजागृतीद्वारे नियंत्रण उपाय योजणे.
- ग्रामीण भागात व शहरात सुलभ संडासाची सोय करणे. जेणेकरून लोक नदीकाठावर व उघड्यावर संडास करणार नाहीत.
- प्रेत जाळण्यासाठी विद्युत शवागृहाची सोय करणे की जेणेकरून प्रेत नदीत फेकून दिली जाणार नाहीत.

- सुमारे 80 टक्के पेक्षा जास्त आजार हे पाण्यापासून होतात. त्यामुळे पाण्याची स्वच्छता राखणे हे प्रत्येक व्यक्तीचे आद्यकर्तव्य मानले पाहिजे.
- ग्रामीण भागातील साखर कारखाने प्रदूषणाची केंद्रे होवू नयेत म्हणून कारखान्यातील मळी व सांडपाण्यावर प्रक्रिया करण्याची सोय सक्तीने बंधनकारक करावी.
- पाण्याच्या शुध्दतेसाठीची जाणीव व पाण्याच्या योग्य वापराविषयीचे ज्ञान लोकांना व्हावे म्हणून 22 मार्च हा जागतिक जलदिन व 29 एप्रिल हा जलसंपत्ती दिन म्हणून साजरा करावा व लोकात जागृती निर्माण करावी. तसे केंद्र व राज्य शासन स्वच्छता अभियान हा कार्यक्रम मोठ्या प्रमाणावर राबवत आहे. जास्तीत जास्त लोकांचा सहभाग हा आवश्यक आहे. लोकसंख्या वाढीच्या प्रमाणात जलसाठे वाढत नाहीत म्हणून जे जलसाठे आहेत त्याचे शास्त्रोक्त पध्दतीने जलसंवर्धन करणे ही काळाची गरज झाली आहे.

संदर्भ :

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3. www.who.int.hac events
4. www.unwater.org wash
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हवामानातील स्थित्यांतरे

डॉ. कळसकर सूर्यकांत नागनाथ

भूगोल विभाग प्रमुख तथा संशोधक मार्गदर्शक, कै. बापूसाहेब पाटील एकंबेकर ग्रामीण कॉलेज, हणेगांव ता.देगलूर जि. नांदेड

प्रस्तावना:-

एखाद्या विशिष्ट ठिकाणच्या विशिष्ट वेळेच्या वातावरणाच्या असलेल्या अल्पकालिन स्थितीला हवा असे म्हणतात. वातावरणाच्या या स्थितीमध्ये तापमान, आर्द्रता, वायुभार, वारा, पर्जन्य, ढग, पर्जन्य, सौरशक्ती, तापमान आणि इतर हवेचे घटक असतात. एखाद्या प्रदेशाच्या तापमान, पर्जन्यवृष्टी, आर्द्रता आणि वारा यासारख्या हवामान घटकांच्या सरासरीवरून तेथील हवामानाची निश्चिती केली जाते. किंवा हवेच्या दिर्घ कालीन सरसरीला हवामान असे म्हणतात. त्रिवार्था यांच्या मते, हवेची दैनिक स्थिती जी एखाद्या विशिष्ट ठिकाणाच्या वातावरणीय घटकांच्या दिर्घ कालावधीनुसार ठरविली जाते. अशा स्थितीला हवामान असे म्हणतात. क्रिच फिल्ड यांच्या मते, पृथ्वी आणि वातावरण यांच्या दरम्यान उष्णता आणि आर्द्रता यांचा होणारा विनिमय व त्यांची दिर्घकालीन प्रक्रिया यातून जी स्थिती निर्माण होते त्यास हवामान असे म्हणतात. थार्वेट या हवामान तज्ञांच्या मते, एखाद्या ठिकाणचे हवामान म्हणजे उत्सर्जित उष्णता व आर्द्रता यांचा उपलब्धता आणि त्यांच्यातील एखाद्या प्रदेशातील असलेले संतुलत्व होय. वातावरणातील अस्थिरतेमुळे हवामान नेहमी बदलत राहते आणि दिवसेंदिवस हवामान बदलत असतानाही दररोज दिवसरात्र आणि शेकडो कोट्यवधी वर्षांच्या भौगोलिक काळापर्यंतच्या हवामानातही बदल होत असतो. हवामानाच्या दृष्टीकोणातून कोणतीही दोन वर्षे किंवा कोणतीही दोन दशके, कोणतीही दोन शतके किंवा कोणतीही दोन सहस्रवर्षे एकसारखीच नाहीत नाहीत.

उद्दिष्टे:-

या शोध निबंधाची उद्दिष्टे खालील प्रमाणे आहेत.

1. हवामानातील स्थितांतराचा अभ्यास करणे.
2. हवामाना बदलांना कारणीभूत घटकांचा अभ्यास करणे.

विषय विवेचन :-

वातावरण हे गतिशील आहे. त्याचे भौतिक गुणधर्म आणि त्याची गती व दिशा या दोन्ही गोष्टींवर सौर विकिरण, खंडांची भौगोलिक स्थिती, समुद्राचे प्रवाह, पर्वत रांगांचे स्थान व अभिमुखता, वातावरणीय वायुचे संघटन आणि वनस्पती यांचा प्रभाव आहे. पृथ्वीच्या हवामानातील नियतकालिक फेरबदलावर वातावरण आणि पृथ्वीवरील प्रणालीतील इतर भौगोलिक, रासायनिक, जैविक आणि भौगोलिक घटकांमधील परस्पर क्रियाप्रक्रियांचा परिणाम झालेला आहे हे सर्व घटक वेळेवेळी बदलतात. महासागर जलाच्या तापमानाचे वितरण, वातावरणीय वायुचे संघटन आणि पृष्ठभागावरील वनस्पती यासारखे घटकातील परिवर्तनसाठी लाखो वर्षांचा कालावधी लागतो. जसे की खंडांची स्थिती आणि पर्वतांची उंची, यामध्ये होणाऱ्या बदलाचा कालावधीत अब्जावधी वर्षांचा असतो. वातावरणातील भौतिक गुणधर्म आणि गतीमुळे उद्भवणारे हवामान हे प्रत्येक कल्पित वेळेनुसार बदलते. हवामान बदलाच्या स्वरूपाचे विश्लेषण 18 व्या शतकाच्या उत्तरार्ध आणि 19 व्या शतकाच्या सुरुवातीच्या काळापर्यंत कमी प्रमाणात झाले. स्कॉटिश भूगर्भशास्त्रज्ञ चार्ल्सलेल, स्विस निसर्ग शास्त्रज्ञ आणि भूगर्भशास्त्रज्ञ लुईस आगासिज, इंग्रजी निसर्गशास्त्रज्ञ चार्ल्स डार्विन, अमेरिकन वनस्पतिशास्त्रज्ञ आसाग्रे, आणि वेल्श, निसर्गशास्त्रज्ञ अल्फ्रेडर सेलवॉलेस यांच्या सह या काळातील निसर्गशास्त्रज्ञ भौगोलिक आणि जीवशास्त्रज्ञ यांनी भूतकाळातील हवामान आजच्या काळापेक्षा पूर्णपणे वेगळा असल्याचे स्पष्ट केले आहे. 20 व्या शतकाच्या सुरुवातीच्या काळात भूगर्भशास्त्रज्ञ आणि पुरातत्त्व शास्त्रज्ञांनी प्लाइस्टोसीन पूर्वी म्हणजे सुमारे 2.6 दशलक्ष वर्षांपूर्वी झालेल्या हवामानविषयक बदलांचे पुरावे शोधून काढले. आता आर्द्रप्रदेश असलेल्या प्रदेशामध्ये भूतकाळामध्ये उष्णत प्रदेश असल्याचे पुरावे दिले आहेत (उदा. इंग्लंड आणि न्यूइंग्लंड) तर कोळसा दलदलीच्या वनस्पती आणि कोरल रिफचे जीवाश्म असे सूचित करतात की, उष्णदेशीय हवामान एके काळी युरोप आणि उत्तर अमेरिका या दोन्ही देशांमध्ये सध्याच्या उंच अक्षांशावर होते. स्कॉटिश भूगर्भशास्त्रज्ञ जेम्सक्रॉलने त्यांच्या संशोधन असे स्पष्ट केले आहे की, वारंवार परिभ्रमण मार्गापासून पृथ्वीच्या कक्षाचे विचलन आणि मार्गामध्ये बदल झालेला आहे. हे बदलच हिमनदी आणि अंतर्देशीय कालावधी बदलण्यासाठी जबाबदार आहे. क्रोलची विवादास्पद कल्पना 20 व्या शतकाच्या सुरुवातीस सर्बियन गणितज्ञ आणि खगोलशास्त्रज्ञ मिल्युतिन मिलान कोव्हिच यांनी घेतली. मिलानकोविचने

त्यांच्या संशोधनातून असेल निष्कर्ष काढले आहेत की. हिमनदीचे कालखंड घडविणारी यंत्रणा चक्रीय बदल तसेच इतर दोन कक्षीय मापदंडांद्वारे चालविली जाते. एक म्हणजे पृथ्वीच्या अक्षाच्या फिरण्याच्या दिशांच्या दिशात्मक फोकसातील बदल आणि दुसरे अक्षीय कलने (झुकाव बदल किंवा तिरकसपणा) सूर्याभोवती असलेल्या त्याच्या कक्षाच्या विमानाच्या संदर्भात पृथ्वीचा अक्ष. ऑर्बिटल भिन्नता आता संपूर्ण पृथ्वीवरील इतिहासामध्ये हवामानातील भिन्नतेचे एक महत्त्वाचे घटक म्हणून ओळखली गेली आहेत. 1990 च्या दशकापासून पृथ्वीच्या हवामानात क्रांतिकारक बदल घडले आहेत. सतत चालू असलेल्या हवामान बदलांचे अवकाशातील, भूमीच्या पृष्ठभागावर आणि जगातील महासागराच्या पृष्ठभागावर आणि त्याखाली दोन्ही सेन्सर्सच्या नेटवर्कद्वारे निरीक्षण केले जात आहे. काही फार दुर्मिळ नोंदी १००० वर्षांहून अधिक जुन्या आहेत. जी जैविक किंवा भौगोलिक प्रक्रिया आहेत जी मागील हवामानातील काही बाबी नोंदवतात. त्यामध्ये भूतकाळातील वनस्पती आणि प्राणी वितरणाच्या जीवाश्म नोंदी, महासागर आणि खंडांच्या पूर्वीच्या परिस्थितीतील गाळ आणि भू-रासायनिक निर्देशक आणि भूगर्भातील भूभागा मागील हवामानातील वैशिष्ट्ये समाविष्ट करतात.

हवामान बदलाची कारणे

शेकडो कोट्यावधी काळापासून चालणार्या अनेक घटकांमुळे हवामाना बदलावर परिणाम झाला असल्याचे दिसून येते. हवामान बदलांची अनेक कारणे पृथ्वीवरील व्यवस्थेचा भाग आहेत त्याचबरोबर वातावरणाचा सुद्धा एक भाग आहे. हवामानातील भिन्नतेत मूलभूत भूमिका निभावण्यासाठी हे घटक महत्त्वाचे आहेत.

सौरबदल

सूर्याच्या निर्मितीपासून सूर्याची प्रकाश किरणे किंवा सौरउर्जा मध्ये परिवर्तन होत आहे. ही घटना पृथ्वीच्या हवामानासाठी महत्त्वपूर्ण आहे, कारण सूर्य वातावरणीय अभिसरण चालविण्यास ऊर्जा प्रदान करतो. सूर्यापासून किरणोत्सर्गी ऊर्जेची उर्जा फारच लहान वेळेमध्ये बदलते, सौरवादळ आणि इतर कारणांमुळे सौरक्रियामध्ये बदल होत असतो. या सौरक्रियेमध्ये हिमयुगात सौरउर्जा कमी झाली असावी असा अंदाज व्यक्त केला जातो. ज्वालामुखीच्या क्रिया हवामानावर बऱ्याच प्रकारे प्रभाव टाकू शकतात. ज्वालामुखीचा उद्रेकातून मोठ्या प्रमाणात सल्फरडाय ऑक्साईड, कार्बनडाय ऑक्साईड आणि इतर वायू बाहेर पडतात, ज्यामुळे वातावरणीय पारदर्शकता कमी होते आणि यामुळे पृथ्वीच्या पृष्ठभागावर आणि विशेषतः ज्या प्रदेशामध्ये ज्वालामुखी झाला आहेत तेथे पोहोचणार्या सौरकिरणांचे प्रमाण कमी होते. फिलिपिन्समधील माउंटपिनाटुबोमध्ये 1991 मधील विस्फोट हे त्याचे एक अलीकडील उदाहरण आहे, ज्याचा वातावरणीय अभिसरण आणि उष्णतेच्या प्रमाणावर प्रभाव होता. पृथ्वीच्या भूविवर्तनीकी पट्ट्याच्या हालचालींचा परिणामसुद्धा हवामानाच्या बदलावर झालेला आहे. या हालचालीमुळे भूपृष्ठांचे आकार आणि स्थान सुद्धा बदलले असल्याचे आल्फ्रेड वेगनर या हवामान शास्त्रज्ञांनी त्यांच्या भूखंड वहन सिध्दांतामध्ये स्पष्ट केले आहे. सेनोझोईक कालखंडामध्ये तिबेटच्या पठाराचे उत्थान झाल्यामुळे वातावरणीय अभिसरण प्रकियेवर त्याचा परिणाम होऊन दक्षिण आशियाई देशामध्ये मान्सून हवामानाची निर्मिती झाली असावी तसेच उर्वरित आशियातील हवामान प्रभावित झाले असावे.

परिभ्रमण कक्षातील परिवर्तन

सौर यंत्रणेतील इतर ग्रहांच्या गुरुत्वाकर्षणाच्या प्रभावामुळे पृथ्वीच्या परिभ्रमित भूमितीचा अंदाज वर्तवता येतो. पृथ्वीच्या कक्षाच्या तीन प्राथमिक वैशिष्ट्यांचा परिणाम प्रत्येक चक्रीय किंवा नियमितपणे पुनरावृत्तीच्या रीतीने होतो. प्रथम, सूर्याच्या सभोवतालच्या पृथ्वीच्या कक्षाचे आकार जवळपास लंबवर्तुळ असतात. सूर्याच्या संदर्भात पृथ्वीच्या अक्षाचा झुका, जो पृथ्वीच्या हंगामी हवामानासाठी प्रामुख्याने जबाबदार असतो, सामान्यतः झुकणे जितके मोठे असेल तितके उन्हाळ्यात गोलाधर्माद्वारे मिळणारे सौरविकिरण तितके जास्त असते आणि हिवाळ्यात कमी प्राप्त होते. पृथ्वीच्या परिभ्रमित भूमितीमध्ये तिसरा चक्रीय बदल दोन एकत्रित घटनेचा परिणाम: (१) पृथ्वीची अक्ष फिरणे म्हणजेच सूर्याच्या संदर्भात अक्षांची दिशा बदलणे आणि (२) पृथ्वीच्या परिभ्रमणांच्या दिशेने हळूहळू फिरणे. या दोन प्रक्रिया 26,000 वर्षांचे चक्र तयार करतात, ज्याला विषुववृत्तांचा प्रीसिजन म्हणतात, या कक्षीय बदलांमुळे सौर विकिरणांच्या अक्षांश आणि हंगामी वितरणात बदल घडतात आणि यामुळे अनेक हवामानात बदल घडतात. ग्लेशियल-इंटर ग्लेशियल आणि मॉन्सून पॅटर्न्स तयार करण्यात परिभ्रमण कक्षातील भिन्नता मुख्य भूमिका निभावतात.

हरितगृह परिणाम

सूर्यापासून पृथ्वीकडे येणारी उर्जा लघु लहरीच्या स्वरूपात असते. ती वातावरणाकडून पृथ्वीच्या पृष्ठभागाकडे येऊ शकते. तथापि पृथ्वीकडून उत्सर्जित होणारी उर्जा दीर्घ लहरीच्या स्वरूपात असते. त्यातील काही ऊर्जा तपांबरातील खालच्या थरात शोषली जाते. हवेतील पाण्याची वाफ 4 ते 7 मायक्रॉन तरंग लहरीची उर्जा शोषून घेते. हवेतील कार्बन डाय ऑक्साईड वायू 13 ते 19 मायक्रॉन तरंग लहरीचे ऊर्जा शोषून घेतो. सुमारे 65 टक्के ऊर्जा वातावरणातून अवकाशात उत्सर्जित होते. परंतु पाण्याची वाफ व कार्बनडाय ऑक्साईड यांनी शोषून घेतलेली उर्जा तपांबरामध्ये तापमान वाढविण्यास कारणीभूत ठरते. तपांबरातील हवा उपावरण किरणांच्या स्वरूपात उर्जेचे उत्सर्जन करते. त्यातील काही उर्जा वातावरणाच्या वरच्या थरात जाते. परंतु काही ऊर्जा पृथ्वीच्या पृष्ठभागाकडे परत येते. या परत येणाऱ्या उर्जेमुळे पृथ्वीचे तापमान सरासरीपेक्षा जास्त वाढते. यालाच हरीतगृह परिणाम असे म्हणतात. वातावरणातील पाण्याची वाफ, कार्बन डाय ऑक्साईड, धुलीकण व क्लोरोफ्लुरो कार्बन द्रव्ये यांच्यामुळे उर्जा लहरी पृथ्वीकडे परत येऊन पृथ्वीच्या तापमानात वाढ होण्याच्या क्रियेला 'हरित गृह परिणाम' अशी संज्ञा वापरण्यात येते. कार्बनडाय ऑक्साईड, मिथेन आणि पाण्याची वाफ हे सर्वात महत्वाची हरितगृह वायू आहेत या सर्व वायुमंडलीय वायूंचा एकत्रित परिणाम पृथ्वीप्रणालीच्या उर्जा बजेटवर होतो. पृथ्वीच्या विविध ऐतिहासिक कालखंडात ग्रीन हाऊस वायूंच्या एकाग्रतेत बरीच भिन्नता आहे, याबदलांनी मोठ्या प्रमाणात टाईम केल्सवर हवामान बदल घडवून आणले आहेत. सर्वसाधारणपणे, ग्रीनहाऊस गॅसचे प्रमाण विशेषतः उबदार कालावधीत जास्त असते आणि थंडीच्या टप्प्यात कमी असते. मानवीक्रियेत - विशेषतः औद्योगिक क्रांतीपासून जीवाश्म-इंधन ज्वलन आणि वायुमंडलीय कार्बनडाय ऑक्साईडसाठी सजीव वनस्पती महत्त्वपूर्ण सिंक बनतात, जेव्हा वनस्पती जाळल्या जातात किंवा कुजतात तेव्हा कार्बनडाय ऑक्साईडचे स्रोत म्हणून काम करतात. विविध ग्रीनहाऊस वायू विशेषतः कार्बन डाय ऑक्साईड, मिथेन, ओझोन आणि क्लोरोफ्लोरोकार्बन्स (सीएफसी) च्या वातावरणीय बदलाच्या वाढीस जबाबदार आहेत.

मानवीक्रिया

पर्यावरणीय समस्या म्हणून जागतिक हवामानात बदल होतो आहे यामागील कारणांमिमांसा करताना मानवी कृती हवामान प्रभावाकडे आकर्षित करते. ज्या मानवी आर्थिक क्रिया आहेत त्यात जीवाश्म-इंधन ज्वलन आणि जंगलतोडीच्या माध्यमातून कार्बनडाय ऑक्साईड उत्सर्जनाचा विचार करावा लागतो. मानवी क्रियाकलापांमध्ये मिथेन (तांदूळ लागवड, पशुधन, खनिज उत्खनन आणि इतर स्रोत पासून) आणि क्लोरोफ्लोरो कार्बन (औद्योगिक स्रोतांमधून) या सारख्या इतर ग्रीन हाऊस वायूंचे उल्लेख करणेही आवश्यक ठरते. 20 व्या शतकात आणि 21 व्या शतकाच्या पहिल्या दशकात जागतिक हवामानाच्या सरासरीमध्ये स्पष्टपणे तापमान वाढ झाल्याचे हवामानतज्ञांचे मत आहे. खरंतर, 20 वे शतक हे मागील 10 शतकांमधील सर्वात उबदार होते आणि आधुनिक तंत्रज्ञानाच्या सहाय्याने हवामानाच्या नोंदी सुरू केल्यापासून 2001-10 हे दशक सर्वात गरम दशक होते. बऱ्याच हवामान तज्ञांनी ग्रीन हाऊस वायूंच्या उत्पादनामुळे होणार्या मानवी-प्रेरित हवामान बदलाचा स्पष्ट पुरावा म्हणून या तापमान वाढीकडे लक्ष वेधले आहे.

हवामान बदल आणि मानवी जीवन

सर्व मानवी जातीला हवामानातील बदलामुळे अनेक प्रकारच्या घटना आणि परिवर्तनाला सामोरे जावे लागत आहे. हवामानातील बदल हे दीर्घकालावधीत होऊ शकतात. काही प्रदेशात एका दशकाच्या कालावधीत अनेक वर्षे दुष्काळ, पूर किंवा इतर कठीण हवामान स्थितीचा सामना करावा लागतो. अशा हवामानातील दशीकीय भिन्नतेमुळे मानवी क्रियाकलाप आणि नियोजनाला आव्हान निर्माण होते. दुष्काळाच्या बाबतीत बहु आयामी दुष्काळामध्ये पाणी पुरवठ्याची समस्या तीव्र स्वरूपाची असते. ही समस्या शेती उत्पादनास मारक ठरते. यामुळे आर्थिक आणि सामाजिक समस्या निर्माण होतात. दुष्काळामुळे उपासमारीबरोबरच अनेक आरोग्यविषक समस्या निर्माण होतात.

निष्कर्ष :-

या शोध निबंधाची खालीलप्रमाणे निष्कर्ष काढण्यात आले आहेत.

मानवी संस्कृतीच्या उदयापासून किंवा त्या अगोदरपासून हवामान बदलाची ही प्रक्रिया निरंतर चालू असल्याचे दिसून येते. सुमारे 10000 वर्षांपूर्वी शेतीचा विकास झाल्यापासून मानवी संस्थांना हवामान बदलाचा अनुभव आला आहे. या हवामान बदलांचा अनेकदा मानवी संस्कृती आणि समाजांवर खोलवर परिणाम झाला आहे . वार्षिक आणि दशकातला हवामानातील चढउतार तसेच शतकानुशतके बहुपक्षीय वेळेच्या कालावधीत होणारे मोठे -मोठे बदल यांचा समावेश आहे . या बदलामुळे

प्रारंभिक शेती लागवड आणि पिके , वनस्पतीं, पाळीव प्राणी , जनावरे यावर परिणाम होत असतो . हवामानातील बदलांच्या प्रतिक्रियेनुसार मानवी संघटनांमध्ये अनुकूलतेने बदल झाले आहेत . या जलद आणि गंभीर हवामान बदलांच्या पार्श्वभूमीवर ज्यामध्ये हडप्पा महोनजोदाडो यासारख्या काही संस्था व सभ्यता मोडकळीस आल्या आहेत . पृथ्वीवर सध्या अस्तित्वात असलेल्या वाळवंटी प्रदेशामध्ये हिमयुगाची वेशिष्टये आढळलेली आहेत . तसेच मध्य आशियाच्या प्रदेशात अस्तित्वात असलेल्या खनिज तेलाच्या खाणीवरून देखिल हे स्पष्ट होते. अशा रितीने हवामान परिवर्तन ही निरंतर चालणारी प्रक्रिया असल्याचे दिसून येते.

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हिंदी साहित्य का आधुनिक काल साहित्य क्षेत्र में परिवर्तन का काल माना जाता है। इस काल में गद्य साहित्य का उद्भव होता है। साहित्य की विभिन्न विधाओं में नारी को स्थान देने का प्रारंभिक काल यही माना जाता है। कहानी एक ऐसी विधा है जिसमें नारी को केंद्र में रखा गया और नारी जागरण के संदर्भ में विविध प्रयास किए गए। हिंदी कहानी की विकास यात्रा भारतेंदु युग से प्रारंभ होती है, द्विवेदी युग में उच्च शिखर पर पहुंचती है। भारतेंदु युग में कहानियां लिखी गईं लेकिन कहानी तत्वों का ध्यान नहीं रखा गया। द्विवेदी युग से वास्तविक कहानी लेखन प्रारंभ हो गया था। प्रारंभिक कहानियों में इंदुमती, प्लेग की चुड़ैल, ग्यारह वर्ष का समय, दुलाईवाली आदि कहानियां प्राप्त होती हैं, जिनका उद्देश्य मनोरंजन या सुधार का था। सन 1911 के पश्चात हिंदी कहानी में नारी को केंद्र में रखकर उसे इंसाफ दिलाने का प्रयास किया है। तत्कालीन परिवेश में नारी आंदोलन, सामाजिक आंदोलन प्रारंभ हुए थे।

प्रारंभिक दौर में श्रीमती राजेंद्र बाला घोष ने कहानी क्षेत्र में प्रवेश किया और नारी जागरण को प्रमुखता दी। जगदीश चतुर्वेदी जी ने बंग महिला की कहानियों के संदर्भ में लिखा है "बंग महिला का मौलिक अवदान यह है कि उन्होंने पहली बार आधुनिक ढंग की कहानी लिखी। देश प्रेम, सामाजिक सुधार एवं स्त्री मन की विभिन्न झांकियों को उन्होंने बड़ी खूबसूरती से रचा है"। दुलाईवाली, भाई बहन, हृदय परीक्षा आदि कहानियों में श्री का जीवंत चित्रण किया है। बंग महिला की कहानियों में निष्क्रिय, बेजान, अशिक्षित, अज्ञानी नारी को जगाने का प्रयास किया है। बंग महिला की आदर्श बालिका, नारी नीति शिक्षा, पत्नी पत्र, दर्पण, नई बहू आदि रचनाओं में नारी की पति परायणता, धर्म परायणता, कुशल गृहिणी, सतीत्व, वीरता आदि रूपों का चित्रण किया गया है। प्रियवंदा देवी, शारदा देवी आदि की कहानियों में बाल विवाह के को परिणाम, नारी शिक्षा की आवश्यकता और उसके गृहस्ती जीवन को चित्रित किया गया है। शारदा देवी ने विधवा और अभागिनी नामक कहानियों में बाल विवाह और विधवा का समस्या ग्रस्त जीवन, वृद्ध विवाह और पुरुषों की स्वार्थी व्यक्तित्व का उद्घाटन किया है।

माधव सप्रे की एक टोकरी भर मिट्टी, चंद्रधर शर्मा गुलेरी की उसने कहा था कहानियों में नारी के आदर्शत्व को उजागर किया गया है। उषा देवी मित्रा जी ने बचन का मोल, आंधी के छंद, रागिनी और आवाज आदि कहानी संग्रह में नारी की पारिवारिक दशा, पति पत्नी के बीच का द्वंद्व, वेश्या और विधवा की स्थिति का वर्णन विस्तृत ढंग से किया है।

प्रेमचंद को कहानी विधा के ओजस्वी तारे के रूप में देखा जाता है। प्रेमचंद का कहानी संसार समस्त नारी जाति का मार्गदर्शन करता है और नारी के जीवन की वास्तविक झलक दिखलाता है। प्रेमचंद के पंच परमेश्वर, बड़े घर की बेटी, रानी सारंधा, माता का हृदय, बूढ़ी काकी, दुर्गा का मंदिर, सेवा मार्ग, नशा, मिस पाल, पूस की रात, कफन आदि कहानियों में नारी का यथार्थ और आदर्श उन्मुख चित्रण हुआ है। ईदगाह कहानी की अमीना, बूढ़ी काकी की बूढ़ी काकी, पंच परमेश्वर की बूढ़ी खाला, बेटों वाली विधवा की फूलमती, प्रेमा, सुभागी आदि नारी पात्रों के माध्यम से नारी शोषण, नारी जीवन की समस्याएं, दांपत्य जीवन और नारी जागरण पर प्रकाश डाला गया है। प्रेमचंद जी ने अपनी कहानियों के माध्यम से स्त्री जीवन की वास्तविकता को प्रस्तुत किया है और ग्रामीण परिवेश में स्त्रियों का जीवन वास्तविक धरातल पर प्रस्तुत किया है। इस युग के अन्य प्रमुख कहानीकारों में जयशंकर प्रसाद जी का नाम आता है। जयशंकर प्रसाद ने आतीतोन्मुखी सांस्कृतिक गौरव और जीवन मूल्यों की प्रतिष्ठा भावनामयी एवं चरित्र प्रधान नारी पात्रों द्वारा की है। छाया, प्रतिध्वनि, आकाशदीप, आंधी और इंद्रजाल आदि कहानी संग्रह में नारी का त्यागमयी रूप और आदर्श प्रेमी का रूप का चित्रण किया है। प्रेमचंद युग के अन्य कहानीकारों में सियाराम शरण गुप्त, प्रताप नारायण श्रीवास्तव, वृंदावन लाल वर्मा आदि कहानीकारों ने अपनी कहानियों में स्त्री की पराधीनता, स्त्री की विवशता, स्त्री की कुलीनता और चेतना को उजागर किया है। पांडे बेचन शर्मा उग्र की दोजक की आग, इंद्रधनुष, रेशमी चिंगारियां, निर्लज्ज, बलात्कार आदि कहानियों में विधवाओं, वेश्याओं पर होने वाले अत्याचार, स्त्री पुरुष संबंध और नारी के अंतर्मन को खोला गया है। जैनेंद्र, इलाचंद्र जोशी, अज्ञेय की कहानियों में नारी की मानसिकता को व्यक्त किया है।

प्रेमचंद के पश्चात कहानी साहित्य दो धाराओं में प्रवाहित होता है एक मनोवैज्ञानिक कहानियां दूसरी समाजवादी कहानियां। मनोवैज्ञानिक कहानियों में भारतीय नारी के पीड़ित अंतःकरण और मनोविज्ञान को वास्तविक धरातल पर उजागर किया है। अज्ञेय की रोज, जैनेंद्र की पत्नी, भगवती चरण वर्मा की पराजय और मृत्यु में क्रमशः मालती, सुनंदा,

भुनेश्वरी आदि नारी पात्रों के माध्यम से रूढ़ीवादी और परंपरा से पीड़ित, शोषित, दमित भारतीय नारी का चित्रण हुआ है। जैनेंद्र की पत्नी कहानी में श्री मन में चल रहा द्वंद्व उजागर किया गया है। जैनेंद्र जी ने प्रेम की उदात्तता, व्यवहार की उदात्तता, विचारों की उदात्तता, नारी का समर्पण भाव आदि को विभिन्न नारी पात्रों के माध्यम से उजागर करने का कार्य किया है। इलाचंद्र जोशी ने समाज के निम्न मध्यवर्गीय चरित्रों की कुंठित अस्मिता को छोड़ दिया है। इलाचंद्र जोशी जी के स्त्री पात्र पुरुषों की तुलना में सशक्त, गंभीर, संयमी और प्रभावशाली हैं। उनका अपना स्वतंत्र व्यक्तित्व प्रस्फुटित होता हुआ दिखाई देता है। इनके स्त्री पात्र पुरुषों को प्रभावित करने की अपेक्षा अधिक आंदोलित दिखाई देते हैं और पथभ्रान्त होने पर विशिष्ट दृष्टिकोण की नवयुगीन जागृत नारी हैं।

यशपाल ने पूंजीवादी व्यवस्था में नारी का जो शोषण हो रहा है उसे चित्रित किया है। यथार्थ के धरातल पर नारी जीवन की अयाचित विवशता को यशपाल ने मार्मिकता से उद्घाटित किया है। यशपाल के पिंजरे की उड़ान, फूलों का कुर्ता, ज्ञानदान, वह भैरवी, तुमने क्यों कहा था, मैं सुंदर हूँ आदि कहानी संग्रह में स्त्री के पत्नी रूप, माता रूप, प्रेमिका रूप के साथ-साथ नारी शिक्षा, देह प्रथा, विधवा समस्याएं और नारी की आर्थिक विवेचना पर प्रकाश डाला है।

शैलेश मटियानी लाठी, काला कौवा, घर गृहस्थी, एक शब्दहीन नदी, सुहागिनी आदि कहानियों के नारी पात्र क्रमशः गूंगी लाठी, कुंती, प्रतिमा, हंसा और लीलावती आदि नारी पात्रों के माध्यम से स्त्रियों की दुर्दशा को प्रस्तुत किया है। राजेंद्र यादव की जहां लक्ष्मी कैद है, प्रतीक्षा आदि कहानियों में आर्थिक स्वावलंबन के लिए संघर्षरत नारी, उसका अकेलापन और दुख उजागर किया है। रांगेय राघव, उपेंद्रनाथ अशक, अमृतलाल नागर, भगवती चरण वर्मा ने मध्यवर्गीय नारी के यातनयों का सफल चित्रण किया है। कमलेश्वर राजा निरबंसिया कहानी में स्त्री-पुरुष के संबंधों पर दृष्टिक्षेप डाला है। नीली झील में कमलेश्वर ने विधवा विवाह का समर्थन किया है। कमलेश्वर ने नारी के विभिन्न रूपों का चित्रण करते हुए नारी के शोषित रूप को प्रस्तुत किया है।

आंचलिक कहानियों में फणीश्वर नाथ रेनू की तीसरी कसम, लाल पान की बेगम और ठेस कहानियों में ग्रामीण अंचल में पत्नी नारियों के अंतर्मन को स्वच्छता से उभारा है। शिवप्रसाद सिंह जी दादी मां कहानी में ग्रामीण नारी की सोच और उसका हृदय खोला है। नई कहानियों में भी नारी जीवन की यथार्थ स्थिति और गति को चित्रित किया है। नई कहानी के रचनाकारों में मोहन राकेश, राजेंद्र यादव, भीष्म साहनी, अमरकांत और रांगेय राघव आदि कहानीकारों ने स्त्री जीवन के जागृत रूप को प्रस्तुत किया है। सचेत कहानी और अकहानियों के कहानीकारों ने नारी जागरण एवं उनकी समस्याओं को लिखने का प्रयास किया है। महीप सिंह, वेद राही, नरेंद्र कोहली, योगेश गुप्त आदि कहानीकारों ने नारी के प्रति माननीय दृष्टिकोण को अपना आया है। नारी में आत्मविश्वास एवं आर्थिक स्वावलंबन लाने का प्रयास इनके कहानियों में दिखाई देता है।

हिंदी कहानी क्षेत्र में कतिपय महिला कहानी कारों का उल्लेख मिलता है जिन्होंने नारी की समस्याओं को स्वानुभूति के रूप में चित्रित करते हुए नारी जागृति पर प्रकाश डाला है। कृष्णा सोबती, मन्नू भंडारी, उषा प्रियंवदा, राजी सेठ, मृदुला गर्ग, ममता कालिया आदि महिला लेखिकाओं ने स्त्री का वास्तव अंकन करने का प्रयास किया है उनके विभिन्न कहानियों में स्त्री जीवन का यथार्थ धरातल पर चित्रण हुआ है। निष्कर्ष रूप में कहा जाए तो हिंदी कहानियों में नारी को लेकर विस्तृत रूप से लेखन हुआ है। हिंदी कहानी ने स्त्री के शोषित एवं चेतित रूप स्पष्ट करने का कार्य किया है।

संदर्भ ग्रंथ:

१. स्त्री विमर्श: साहित्यिक और व्यावहारिक संदर्भ-डॉ. करुणा उमरे
२. हिंदी साहित्य की कतिपय विशिष्ट महिलाएं एवं उनकी रचनाएं-डॉ. देवकृष्ण मौर्य
३. स्त्री विमर्श समकालीन चिंतन-सं. रिचा शर्मा
४. स्त्री सशक्तिकरण के विविध आयाम-सं. डॉ. ऋषभ देव शर्मा

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1भूगोल विभाग प्रमुख, महिला कला महाविद्यालय, बीड.

2राज्यशास्त्र विभाग, महिला कला महाविद्यालय, बीड.

हिमनद्याचा उमग पर्वतात अत्यंत उंचावरून होतो. तेथून त्या वाहत खाली उतरतात व एका ठराविक उंचीवर तापमान वाढल्यामुळे त्यातील बर्फाचे पाण्यात रुपांतर होऊन त्या पुढचा प्रवास नदी म्हणून करतात. हिमालय, आल्प्स, अँडीज इत्यादी जगातील सर्वच उंच पर्वतांमध्ये या हिमनदया सापडतात. सर्वच नदया बारामही वाहत असतात. अलीकडे वाढते प्रदुषणामुळे हिमनदया धोक्याच्या वळणावर जाताना दिसतात. हिमनदया आणि पर्यावरण प्रदुषण ही आज जागतिक समस्या निर्माण झालेली आहे. जगातील अनेक देश यांचा गंभीर विचार करताना दिसतात. आग्नेय आशियातील शंभर कोटीहून अधिक लोक जलसुरक्षा, अन्नसुरक्षा आणि उर्जासुरक्षेसाठी आणि स्वतःचे अस्तित्व टिकवून ठेवण्यासाठी या हिमनद्यांवर अवलंबून आहे. तेंव्हा या हिमनदया प्रदुषण मुक्त करणे ही एक जागतिक समस्या निर्माण झालेली आहे. हिमनदया आणि पर्यावरण प्रदुषण हा संशोधन पेपर लिखाणामध्ये काही संदर्भग्रंथांचा वापर केला असून व्दितीय संशोधन तंत्रामध्ये मासिके, साप्ताहिके, दैनिक वर्तमानपत्राचा अवलंब करून सदरील संशोधन पेपर लिहिण्याचा प्रयत्न करण्यात आलेला आहे. हिमालय ही निसर्ग देवतेने सर्व मानवतेला दिलेली एक अमूल्य भेट आहे हजारो वर्षांपासून या हिमाच्छादीत भव्य पर्वतराजींनी आपलं संरक्षण करण्याची चेळी वेळ आली आहे. आता सर्वांनी एकत्र येऊन हिमालयाचे संरक्षण करण्याची वेळ आली आहे. हिमालयातील संवेदनशील आणि नाजूक पर्यावरणाच्या संरक्षणाच्या मुद्द्यावर बीजींगमध्ये दोन फेब्रुवारी 2021 रोजी व्हर्च्युअल आंतरराष्ट्रीय परिषद घेण्यात आली. या परिषदेत गंगोत्री, यमुनोत्री, बद्रीनाथ, केदारनाथ, हृषीकेश, हरिद्वार आणि इतर अनेक पवित्र स्थान असलेल्या उत्तराखंड या भारताच्या देव भूमीला हिमालयातील हिमनदीच्या प्रकोपाचा प्रचंड फटका बसला. आजपर्यंत शोधकार्यात तीसहून अधिक मृतदेह हाती लागले असून अद्यापही दोनशेहून अधिक लोक बेपत्ता आहेत. हिमालयात आलेली ही पहिलीच नैसर्गिक आपत्ती नाही तर ती अखेरचीही निश्चित नाही. केदारनाथला सन 2013 मध्ये झालेल्या ढगफुटीची स्मृती अद्यापही ताजी आहे. दरवर्षी येणाऱ्या महाप्रचंड पुरामुळेच कोसी नदीला बिहारचे आश्रु तर ब्रम्हपुत्रीला आसामचे आश्रु अशी ओळख आहे.

हिंदकुश हिमालय प्रदेशात येणाऱ्या अफगानिस्तान, पाकिस्तान, भारत, चीन, नेपाळ, भुतान, बांग्लादेश आणि म्यानमार या देशांपैकी एकही देश गेल्या काही काळात वाढत्या नैसर्गिक आपत्तीच्या तडाख्यातून सुटलेला नाही. त्यामुळे हिमालयाचे संरक्षण करण्यासाठी एक समान धोरण आखण्याची सामुदायिक जबाबदारी या प्रदेशातील शासनाची व भारत सरकारची राहिल. वास्तविक या समुदायिक प्रयत्नांमध्ये सहभागी होणे हे संपुर्ण आंतरराष्ट्रीय समुदायाचे कर्तव्य आहे कारण हिमालयातील पर्यावरणाला सर्वात मोठा धोका जागतिक तापमान वाढीपासून आणि पर्यावरण बदलापासूनच आहे. या संकटात महत्वाची भूमिका बडया देशाच्या अर्थव्यवस्था कारणीभूत आहेत. हिमालयात जवळपास 30 हजार चौरस मैलांहून अधिक बर्फ आहे. उत्तर आणि दक्षिण ध्रुव वगळता इतका मोठा साठा कुठेही नसल्याने हिमालयात पृथ्वीचा तिसरा ध्रुव म्हणून ओळखला जातो. हिमालयातील हिमनद्या या जीवनपोषण करणारे आशियाचे जलकुंभ आहेत. दक्षिण आशिया, चीन आणि आग्नेय आशियातील शंभर कोटीहून अधिक लोक जलसुरक्षा, अन्नसुरक्षा आणि उर्जा सुरक्षेसाठी म्हणजेच स्वतःचे अस्तित्व टिकवून ठेवण्यासाठी या हिम नद्यांवर अवलंबून आहेत. औद्योगिकरणाच्या आधीच्या काळाच्या तुलनेत जागतिक तापमान वाढ 1.5 अंश सेल्सिअसपर्यंत नियंत्रित करण्यात जगाला यश आले आहे. तरीही हिमालयातील हिमनद्यांचे तापमान वाढून त्या वितळून कोसळण्याची शक्यता जास्त असून त्यामुळे हाहाकार उडू शकतो. म्हणूनच आपण ज्या घटनांना सामोरे जात आहोत तो प्रकार जागतिक पर्यावरणीय आपत्तीपेक्षा वेगळा म्हणता येणार नाही.

पर्यावरणाची कोणतीही काळजी न घेता देशांची लष्कर रस्ते बांधत आहेत. शस्त्रकोठार, धावपट्ट्या, हवाईतळ, भुयार बांधत आहेत. क्षेपणास्त्र तळांसाठी खोदकामही होत आहे. सियाचिन येथे दरवर्षी भारत आणि पाकिस्तानचे जितके हिमस्खलन, अतिथंड वारे किंवा हिमदंशामुळे मृत्युमुखी पडतात तितकी हानी प्रत्यक्ष चकमकीतही होत नाही. या शत्रुत्वाचे रुपांतर सहकार्यात केले गेले नाही तर हिमालयाचे अपरिमित आणि कधीही न भरून येणारे नुकसान आणि विघटन होणे निश्चित आहे. त्यामुळे वेळीच उपाययोजना करणे अत्यंत गरजेचे आहे. संयुक्त राष्ट्रांच्या हवामान बदलांवरिल आंतरशासकीय पॅनेल [Inter Government Panel on climate change (IPCC)] या संस्थेने हवामान बदलाचे समुद्र आणि हिमाच्छादीत भाग यावर

होणारे परिणाम या संदर्भात एक विशेष अहवाल 25 सप्टेंबर 2019 रोजी प्रकाशित केला. या अहवालात जगभरातील 195 देशांच्या प्रतिनिधींनी मान्यता दिली. या अहवालात वातावरणाशी संबंधीत धोक्याची आणि आव्हानाची रुपरेषा मांडण्यात आली हा अहवाल तयार करण्यासाठी 36 देशांतील 100 पेक्षा अधिक लेखकांनी समुद्र आणि हिमाच्छादीत भाग (क्रियोस्फियर) या संदर्भातील 7 हजार शास्त्रीय संशोधनाचे संदर्भ अभ्यासून पुढील प्रमाणे निष्कर्ष काढण्यात आलेले आहे.

समुद्र आणि हिमाच्छादीत भाग हे पृथ्वीवरील जीवन प्रणालीमध्ये अत्यंत महत्वाची भूमिका बजावतात. या प्रणालीवर पृथ्वीवरील उंच पर्वतीय प्रदेशामध्ये राहणारे एकूण 670 दशलक्ष (67 कोटी) लोक आणि समुद्र किनाऱ्यावर राहणारे 680 (68 कोटी) लोक संपूर्णपणे अवलंबून आहेत. 40 दशलक्ष (40 लाख) लोक कायमस्वरूपी आर्क्टिक प्रदेशांमध्ये राहतात तर लहान बेटावर राहणाऱ्या लोकांची संख्या 65 दशलक्ष (6.5 कोटी) आहे. जागतिक तापमानामध्ये पूर्वीपासून होत असलेल्या आणि सध्या होत असलेल्या हरितगृह वायुंच्या उत्सर्जनामुळे औद्योगिकीकरणपूर्व पातळीच्या तुलनेत एक टक्क्याने वाढ झाली आहे. त्याचे परिणाम एकूणच परिसंस्थेवर आणि माणसावर होत असल्याचे पुरावे उपलब्ध झालेले आहे. समुद्र अधिक उष्ण आणि आम्लधर्मी होत चालला असून त्याच उत्पादकता कमी होत चालली आहे. हिमकडे बर्फ वितळून समुद्राच्या पाणी पातळीत वाढ होत असल्याचे समुद्रकिनारी भागातील लोकांना या विविध संकटाचा सामना करावा लागत आहे. त्यामुळे तातडीने हरितगृह उत्सर्जन कमी करण्याची गरज असून त्यावरच परिसंस्था आणि मानवी जीवन अवलंबून असल्याचे निदर्शनास येते. 9 फेब्रुवारी 2021 रोजी जम्मू काश्मिरमधील हिमनद्याला आलेल्या पुरामुळे मानवी हानी झाल्याचे आढळून आले आहे. तेंव्हा गरज ही आहे की हरितगृह वायुंचे उत्सर्जन कमी करण्याची तरच मानवी जीवन सुखमय होईल. जागतिक तापमान वाढ मर्यादित ठेवली तरी देखील 21 व्या शतका अखेर समुद्रपातळी 30 ते 60 सेमीने वाढेल आणि या बाबत योग्य उपाययोजना तातडीने केल्या गेल्या नाहीत तर समुद्रपातळीत 60 ते 110 सेमीपर्यंत वाढ होईल. त्यामुळे किनारी प्रदेश बेटे यांना उंच लाटांचा आणि तिव्र वादळांचा सामना करावा लागेल. समुद्रातील पाण्याच्या वाढलेल्या तापमानामुळे त्यातील विविध जलचर प्रजाती आणि अन्न साखळी यावर विपरित परिणाम झाल्याचे आढळून आलेले आहे.

स्वित्झर्लँडमधील हिमनद्यांमध्ये 10 टक्क्यांची घट झाल्याचा शोध स्वित्झर्लँडमी ऑफ सायन्सने लावला आहे. हवामान बदल आणि जागतिक तापमान वाढ समस्येमुळे स्वित्झर्लँडमधील हिमनद्या लोप पावण्याचा धोका निर्माण झाला आहे. स्वित्झर्लँडमधील काही पर्यावरण प्रेमी लोकांना पिझोल हिमनदी लोप पावल्यामुळे तिचे अत्यंत संस्कार केले त्यामुळे तेथील लोकामध्ये हिमनद्याबाबत जागरूकता निर्माण झालेली आहे. पॅरिस करारांतर्गत भारताची बांधिलकी ठेवण्यासाठी भारत सरकारने 2 ऑक्टोबर 2015 रोजी UNFCCC ला आपला कार्बन उत्सर्जन नियंत्रण स्वेच्छा योगदान आराखडा [INDL Intended Nationally Determined Contributions] सादर केलेली होती. त्यामध्ये भारताची बांधिलकी नमूद करण्यात आलेली आहे. ती अशी सन 2030 पर्यंत कार्बन उत्सर्जन तीव्रता (अधिक उत्पादनाच्या प्रत्येक एकासाठी होणारे कार्बन उत्सर्जन) सन 2005 मधील पातळीच्या 30 ते 35% नी कमी करण्याचे उद्दिष्ट्ये आहे. सन 2030 पर्यंत देशातील जीवाश्मरहित इंधन स्रोतापासूनची वीजनिर्मिती स्थापित क्षमतेच्या 40 टक्क्यापर्यंत नेण्याचे उद्दिष्ट्ये आहे. सन 2030 पर्यंत जंगल व वृक्षाच्छादीत क्षेत्र वाढवून 2.5 ते 3 अब्ज टन कार्बन शोषून घेणारे कार्बन सिंक निर्माण करण्याचे उद्दिष्ट्ये आहे. अशा प्रकारे भारताने पॅरिस कराराची बांधिलकी ठेवली तर भारतातील कर्बन उत्सर्जन नियंत्रणात येऊ शकेल परंतु यासाठी कठोर उपाययोजना करणे गरजेचे आहे.

पंतप्रधान नरेंद्र मोदी यांच्या अध्यक्षतेखाली केंद्रीय मंत्रीमंडळाने 28 डिसेंबर 2018 रोजी किनारपट्टी नियमन क्षेत्र (सीआरझेड) अधिसूचना Coastal regulation zone (CRZ) Notification 2018 कलमामध्ये काही दुरुस्त्याला मंजुरी देण्यात आली. किनार पट्टी पर्यावरणाच्या संरक्षण व संवर्धनासाठी केंद्रीय पर्यावरण मंत्रालयाने 1991 साली किनार पट्टी नियमन क्षेत्र (सीआरझेड) अधिसूचना आढावा घेऊन काही दुरुस्त्या करून त्यामध्ये दुरुस्त्या करण्यात आलेल्या आहेत. त्या येणेप्रमाणे. सीआरझेड भागातील सध्याच्या निकषांनुसार एफएसआयला परवानगी देण्यात येईल.

1. दाटीवाटीची लोकसंख्या असलेल्या ग्रामीण भागामध्ये विकासाच्या अधिक संधी मिळू शकतील.
2. किनारपट्टी भागात पर्यटनाशी संबंधित पायाभूत विकासाला प्रोत्साहन देण्यात आले आहे.
3. सीआरझेड मंजुरीशी संबंधित प्रक्रिया सोपी करण्यात आलेली आहे.
4. सर्व बेटासाठी 20 मीटरचे ना विकास क्षेत्र (एनडीझेड) निश्चित करण्यात आले आहे.

5. पर्यावरणदृष्ट्या संवेदनशील मानण्यात आलेल्या सर्व क्षेत्रांना विशेष महत्व देण्यात आलेले आहे.
6. प्रदुषण कमी करण्यावर विशेष भर देण्यात आला आहे.

संरक्षण आणि धोरणात्मक प्रकल्पांना आवश्यक सवलती देण्यात आल्या आहेत.

या सर्व बाबींची दक्षता घेतली तर पर्यावरण प्रदुषणाला आळा बसू शकतो. आधुनिक काळामध्ये भारत देशाला नव्हे तर जागतिक पातळीवरील शासन व्यवस्थेला हिमनदयाचे प्रदुषण रोखण्याचे फार मोठे आव्हान आहे. त्यासाठी सर्व जगातील देशांनी एकत्र येवून कठोर उपाययोजना केली तर हिमनदयाचे संवर्धन होऊ शकते.

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- 5) सागरशास्त्र व सागर विज्ञान प्रा.के.टी. कोलते, प्रा. एम.जी. पुराणिक.

वाहतूक आणि व्यापार विकास रणनीती

प्रा. बागूल वाय. के.

अर्थशास्त्र विभाग, रयत शिक्षण संस्थेचे, एस.एस.जी.एम. कॉलेज. कोपरगाव

गोपवारा -

एखाद्या देशाची वाहतूक व्यवस्था बऱ्याच कारणाने आर्थिक वाढीमध्ये अविभाज्य भूमिका बजावते. कच्चा माल, यंत्रसामग्री, तयार वस्तू इत्यादींच्या द्रूत आणि सुलभ हालचालीमुळे त्याचा फायदा उद्योगांना होतो. वाहतूक व्यवस्थेचे जाले जेव्हादे मोठे आणि सशक्त असेल तेव्हाही वाहतूक सुकर बनत असते. उदा. भारतीय अर्थव्यवस्था पूढील १५ वर्षात जर ८ ते ९% दराने व्यापाराची वाढ होण्याची आवश्यकता आहे. भारतातील वाहतूक व्यवस्था आणि आर्थिक विकास चांगली वाहतूक व्यवस्था वस्तूसाठी बाजारपेठ विस्तृत करू शकते. त्यामुळे उत्पादनाच्या ठिकाणी कच्चा माल, इंधन, उपकरणे इत्यादींची हालचाल सुलभ होऊ शकते. पुढे हे दुर्गम भाग तसेच उत्पादनासाठी संसाधने उघडेल. तसेच वाहतूकीची सुविधा वाढत असताना मोटार वाहने, इंजिन, जहाजे इत्यादींची मागणी वाढते.

प्रस्तावना -

वाहतूक या शब्दाची उत्पत्ती Transporate या लॅटीन शब्दापासून झालेली आहे. 'Trans' म्हणजे Across (ओलांडून किंवा पलीकडे) आणि Portare म्हणजे Carry (वाहून नेणे) म्हणजे वाहतूक या शब्दाचा अर्थ एका ठिकाणाहून दुसऱ्या ठिकाणी वाहून नेणे. वाहतूकीच्या या क्रियेमध्ये वस्तू, सेवा तसेच मानवी श्रम एका ठिकाणाहून दुसऱ्या ठिकाणी घेऊन जाणे अभिप्रेत आहे. वस्तू किंवा व्यक्ती एका ठिकाणाहून दुसरीकडे वाहून नेणे म्हणजे वाहतूक. वाहतूक आणि दळणवळण हा मानवाचा प्राचीन काळापासून प्रचलित असलेला तृतीय श्रेणीचा व्यवसाय मानला जातो. देशाच्या आर्थिक आणि औद्योगिक विकासात वाहतूक साधनांना अतिशय महत्वाचे स्थान आहे.

वाहतूक आणि व्यापार या संकल्पनेचे महत्व -

कोणत्याही प्रदेशाच्या आर्थिक विकासात वाहतूक व्यवस्था हि अत्यंत महत्वाची क्रिया असते. प्रगत आणि परिणामकारक वाहतूक आर्थिक प्रगतीचा पाया ठरत असते. जगभर लोहमार्गांचे जाळे निर्माण झाल्यामुळे आर्थिक विकासाचा वेग वाढला आहे. वाहतूक व्यवस्थेचे महत्व खालील मुद्द्यांच्या आधारे स्पष्ट करता येते.

- 1) वाहतूक व्यवस्थेमुळे काल - उपयोगिता वाढते.
- 2) वाहतूक व्यवस्थेमुळे स्थल - उपयोगिता वाढते.
- 3) वाहतूक व्यवस्थेमुळे वस्तूच्या उपयोगितेमध्ये वाढ घडून येते
- 4) प्रादेशिक विकास घडून येण्यास वाहतूक घटक मदत करतो.
- 5) मानवी जीवनस्तर आणि राहणीमान सुधारण्यास मदत करते.
- 6) प्रादेशिक संरक्षण व राष्ट्रीय एकात्मता वाढीस लागते.
- 7) अंतर्गत व आंतरराष्ट्रीय व्यापारातील वाढ होते.

आर्थिक विकास, सामाजिक विकास व पर्यावरण संरक्षण यामध्ये वाहतूक विकास संकल्पनेस महत्व आहे.

अभ्यास विषयाची उद्दिष्टे -

- 1) वाहतूक व व्यापार विकास संकल्पनेचा अभ्यास करणे.
- 2) वाहतूक व व्यापार विकास या संकल्पनेचे महत्व पटवून देणे.
- 3) वाहतूक व व्यापार विकास माध्यमातून पर्यावरण संवर्धन करणे.

अभ्यास विषयाची गृहीतके -

- 1) पर्यावरण संवर्धनात वाहतूक व व्यापार विकास या संकल्पनेचे महत्व.
- 2) वाहतूक व व्यापार विकास हि संकल्पना आर्थिक व सामाजिक विकासात महत्वाची भूमिका निभावत आहे.
- 3) वाहतूक व व्यापार विकासांमुळे दुर्मीळ संसाधने संवर्धित होत आहेत.

संशोधन पध्दती -

प्रस्तुत शोधनिबंध हा द्वितीय साधन सामग्रीवर आधारित आहे. वर्तमानपत्रे, मासिके, संदर्भग्रंथ व शाश्वत विकासासंबंधीचे शासकीय अहवाल या द्वितीय साधनसामग्रीवर हा शोधनिबंध आधारित आहे.

त्याचप्रमाणे इतर आवश्यक त्या घटकांमधील माहिती संकलित करून निष्कर्ष काढण्यात आलेले आहेत.

अभ्यास घटकांचे विश्लेषण –

उत्तम वाहतूक व्यवस्था ही कोणत्याही देशाच्या आर्थिक विकासाची पहिली पायरी आहे असे मानले जाते. सुगम व विकसित वाहतूक मार्गांशिवाय कोणत्याही प्रदेशाचा आर्थिक व सामाजिक विकास घडून येणे कठीण जाते. प्रत्येक देशाच्या आर्थिक नव्हे तर सर्वांगीण विकासामध्ये वाहतूक क्षेत्राचे महत्व हे अनन्यसाधारण असेच आहे. भूमी, जल, आणि अवकाश या मार्गांनी होणारी वाहतूक म्हणजे देशाच्या शेती, उद्योग, सेवा या क्षेत्रांची जीवन वाहिनीच असते. या सर्वांमध्ये भारतासारख्या विकसनशील देशाच्या दृष्टीने रस्ते वाहतूक ही विकासाची पायाभूत गरज ठरली आहे.

वाहतूक व व्यापार विकास या संकल्पनेचे विश्लेषण पुढील घटकांद्वारे करता येते.

1) रेल्वे वाहतूक -

रेल्वे म्हणजे देशाची जीवन-रेखा असते. वाहतूकीच्या सर्व साधनांमध्ये रेल्वेचे स्थान महत्वाचे ठरते. औद्योगिकीकरणानंतर युरोपमध्ये सर्वप्रथम रेल्वेची सुरवात झाली. आज जगभरात सर्वच देशांतील वाहतूकीमध्ये रेल्वे वाहतूक महत्वाची ठरत आहे. कारण कच्चा माल, धान्य, भाजीपाला, खनिज तेल व इतर खनिजे, कारखान्यातील पक्का माल, प्रवासी, अवजड वस्तू इ. अनेक गोष्टींच्या मोठ्या प्रमाणावरील व दूर अंतरावरील वाहतूकीसाठीचे ते एक महत्वाचे साधन ठरले आहे.

भारतीय अर्थव्यवस्थेचा सर्वात मोठा भर हा रेल्वे वाहतूकीवर आहे. विकसित देशांत तर रेल्वेचे खाजगीकरण झाले आहे. तेथे रेल्वेमार्ग वेगळ्या कंपन्यांच्या मालकीचे असतात. यामुळे एकाच रेल्वेची मत्केदारी न राहता स्पर्धा निर्माण होत असल्यामुळे त्या मार्गाची व गाड्यांच्या वाहतूकीची उत्पादकता व कार्यक्षमता सतत वाढती ठेवावी लागते. रेल्वे वाहतूकीची देशाच्या अर्थव्यवस्थेला होणारी मदत बघता स्पर्धात्मक रेल्वे उद्योग असणे गरजेचे असते.

2) रस्ते वाहतूक -

रस्ते वाहतूक हा वाहतूकीचा सर्वात प्राचीन प्रकार आहे. त्याचा इतिहास हा आपल्या मानवी संस्कृती एवढाच पुरातन आहे. जेव्हा वाहतूकीची कोणतीच साधने अस्तित्वात नव्हती तेव्हा मानव आपल्या पायांनी चालत. रस्ता हा मानवी संस्कृतीच्या प्रगतीचा अविभाज्य भाग बनला आहे. अलीकडील काळात विज्ञान-तंत्रज्ञानात जी नेत्रदीपक प्रगती घडून घडून आली आहे त्यामुळे रस्त्यांचे प्रकार, स्वरूप, वाहने यामध्ये आमूलाग्र बदल घडून येत आहेत. आता तर कोणत्याही देशाच्या सर्वांगीण विकासामध्ये रस्ते वाहतूक ही रक्तवाहिन्यांप्रमाणे काम करतात. एकूणच देशाच्या आर्थिक प्रगतीचा पाया रस्ते वाहतूकीतून घातला जातो.

जागतिक पातळीवर दर कि.मी. चा वाहतूक खर्च कॅनडामध्ये १२ रुपये, जपानमध्ये 22 रुपये, फ्रान्समध्ये ३२ रुपये, तर भारतात ४२ रुपये एवढा आहे. आज भारतातील ६१% मालवाहतूक होते व ती वार्षिक १६ ते १८ टक्क्यांनी वाढत आहे. रेल्वेपेक्षा गेल्या २० वर्षांत भारतात रस्त्यांची वाढ होत आहे.

3) माल वाहतूक -

१९५१ साली भारतीय रेल्वे एकूण मालवाहतूकीच्या ८९ टक्के हिस्सा वाहून नेत होती. १९८६-८७ मध्ये हा हिस्सा केवळ ५३% वर आला. २००७.०८ च्या आकडेवारीनुसार हा हिस्सा केवळ ३०% वर आला आहे. वास्तविक तेल्वे वाहतूक ही किंमत व पर्यावरण या दोन्ही दुर्घीनी अर्थव्यवस्थांना किफायतशीर ठरत असतांना गेल्या ६५ वर्षांत मालवाहतूकीच्या त्याच्या घसरत्या प्रमाणामुळे भारतीय अर्थव्यवस्थेचे ३८,५०० कोटी रुपयांचे नुकसान झाल्याचा एक अंदाज वर्तविण्यात आला आहे.

4) प्रवासी वाहतूक -

अर्थव्यवस्थेच्या वाढीबरोबर भारतातील रेल्वेने होणारी प्रवासी वाहतूकही वाढत आहे. भारतीय रेल्वे १० लाख कोटी प्रवासी इतकी वाहतूक करते. २०३० पर्यंत ही प्रवासी वाहतूक १६८ लाख कोटी प्रवासी इतकी म्हणजे १७ पटींनी वाढणार आहे. जर भारतीय रेल्वे आजच्या पद्धतीने चालू राहिली तर हे २०३० चे लक्ष्य गाठणे केवळ अशक्यप्राय आहे. सरकारने म्हणूनच आता त्यात गुंतवणूक वाढवून त्यातील सुरक्षा उत्पादकतेच्या दृष्टीने कार्यक्षमता वाढविण्याकडे भर देणे जरूरी आहे.

5) हवाई वाहतूक -

भारतात हवाई वाहतुकीची सुरवात १९१२ मध्ये झाली. १९३२ मध्ये भारतीय वाहतुकीचे जनक जे आर डी डाटा यांनी भारतातील पहिली विमान वाहतूक कंपनी टाटा एअर लाईन्स सुरु केली. भारतामध्ये प्रतिवर्षी हवाई वाहतुकीस अधिकाधिक महत्व प्राप्त होत असून त्याची वाढही झपाट्याने होत आहे. भारतामध्ये आंतरराष्ट्रीय, राष्ट्रीय, आणि स्थानिक असे तीन प्रकारचे हवाई मार्ग असून यापैकी आंतरराष्ट्रीय हवाई मार्ग मुंबई, दिल्ली, कोलकाता, चेन्नई येथे इतर परदेशी कंपन्यांच्या हवाई मार्गाशी जोडले जातात.

निष्कर्ष –

- 1) वाहतूक व व्यापार विकासामुळे पर्यावरणाचे संवर्धन झाल्याचे दिसून येते.
- 2) वाहतूक व व्यापार विकासामुळे आर्थिक व सामाजिक विकास होत असल्याचे दिसून येत आहे.
- 3) वाहतूक व व्यापार विकासामुळे राष्ट्रा-राष्ट्रांमध्ये सहकार्य वाढत असल्याचे दिसून येत आहे.
- 4) राज्य पातळीवर, राष्ट्रीय पातळीवर व आंतरराष्ट्रीय पातळीवर वाहतूक व व्यापार विकास या संकल्पनेस खूपच महत्व प्राप्त झालेले आहे.

सारांश –

वाहतूक उद्योगाचे अर्थव्यवस्थेतील महत्व जाणून घेतांना केंद्र व राज्य या दोन्ही सरकारांनी एका व्यापक धोरणाची आखणी करणे जरूरी आहे. कारखान्यातील माल थेट बाजारपेठेत किंवा बंदरात इष्टतम पद्धतीने कसा जाईल यासाठी वेगवेगळी मंत्रालये व वेगवेगळी धोरणे असण्यापेक्षा एकाच वाहतूक मंत्रालय व व्यापक सर्वसमावेशक धोरण आखणे जरूरीचे आहे.

संदर्भसूची –

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- 2) डॉ.अरुण कुंभारे – आर्थिक भूगोल
- 3) डॉ.विठ्ठल धारपुरे – आर्थिक भूगोल
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- 5) डायमंड पब्लिकेशन्स – कृषी भूगोल
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- 7) प्रा. ए.पी.चौधरी – भारताचा प्रादेशिक भूगोल
- 8) डॉ.जी.के.चव्हाण – आर्थिक भूगोल
- 9) डॉ.ए.एस.डोके – आर्थिक भूगोल

महिलांचे सेवा क्षेत्रात योगदान

प्रा. वृंदा पी. काटकर

सहा. प्राध्यापिका, मातोश्री कौशल्याबाई कला वाणिज्य, व विज्ञान महाविद्यालय, गडचिरोली

गोषवारा : सेवा क्षेत्र हे भारताच्या संपूर्ण देशांतर्गत उत्पादनाचे (जीडीपी) प्रमुख क्षेत्र आहे, त्या बरोबरच महत्त्वपूर्ण रोजगार उपलब्ध करून देण्यामध्ये परदेशी गुंतवणूकीसाठी देखील एक महत्वाचे आकर्षण आहे. तसेच निर्यातीत देखील मोठा रोजगार प्राप्त होतो. भारतातील सेवा क्षेत्रात विविध प्रकारच्या सेवांचा समावेश आहे वाहतूक, हॉटेल आणि रेस्टॉरंट्स, व्यापार, साठवण आणि दळणवळण, रियल इस्टेट, वित्त, विमा, व्यवसाय सेवा, समुदाय, सामाजिक आणि वैयक्तिक सेवा आणि बांधकाम संबंधित सेवा, इत्यादींचा यात समावेश होतो. सेवा क्षेत्रात समाजातील एक भाग म्हणून महिलांचे योगदान खूप महत्वाचे आहे. एक व्यक्ति म्हणून स्त्रियांमध्ये सुद्धा पुरुषांइतकेच कौशल्य आणि क्षमता असतात. एक निश्चित व्यक्तिमत्व असल्याने त्यांच्यात एक वैशिष्ट्यपूर्ण असे सामाजिक संप्रेषण कौशल्य नसते. अशा वेळी स्त्रियांना अधिक मेहनत करावी लागते. त्यामुळे त्यांचा तुलनात्मक व्यावसायिक क्षमता असूनही स्वता;ला सिद्ध करण्यासाठी पुरुषांपेक्षा कठोर परिश्रम करावे लागतात. परंतु आजची नवीन महिला कर्मचारी मात्र हे करण्यासाठी उज्वल, उत्साही आणि तयार आहेत.

बीजके: सेवा क्षेत्रात लिंग परिमाण, विविध क्षेत्रात महिलांसाठी रोजगाराच्या संधी, सरकारी उपक्रम, यशस्वी महिलांची उदाहरणे.

प्रस्तावणा: विकसित देशांमध्ये सेवा क्षेत्राच्या विस्तारामुळे व्यावसायिक महिला कर्मचार्यांची निरंतर वाढ झाली आहे. विकसनशील देशांमधील बऱ्याच महिलांसाठी सेवा क्षेत्र हे रोजगाराचे स्रोत आहे. परंतु त्याचे सापेक्ष महत्त्व आणि सेवांमध्ये महिलांचे प्रतिनिधित्व या क्षेत्रांमध्ये भिन्न आहे. जगात सर्वच देशांमध्ये, शिक्षण क्षेत्रे आणि आरोग्य क्षेत्रे हे महिला कामगारांवर अधिक अवलंबून आहेत, परंतु परिस्थिती नुसार काही प्रदेशांच्या इतर भागात बदल होऊ शकतो. विकसनशील देशांमध्ये सेवा क्षेत्रातील महिलांच्या रोजगाराची संधी ही जागतिकीकरणाशी जोडलेली आहे. सेवा क्षेत्रात तयार केलेले नवीन रोजगार हे दोन्ही, कमी आणि अत्यधिक कौशल्य असणारे रोजगार आहेत. त्यामुळे ह्याचा महिलांच्या रोजगार संधीवर दुहेरी परिणाम होतो. दूरसंचार पायाभूत सुविधा विकसित करण्यासाठी माहितीवर आधारित उद्योगमध्ये अनेक नवीन रोजगार निर्माण केले जात आहेत. विकसनशील देशांमध्ये डेटा प्रोसेसिंग सारख्या ओपेरेशन साठी ते सुशिक्षित आणि स्वस्त परवडणार्या महिला कामगारांचा वापर करतात. काही ठिकाणी मात्र महिला केंद्रबिंदु असणारे रोजगार देखील वाढत आहेत. विकसनशील देशांमधील पूर्वीच्या इलेक्ट्रॉनिक्स आणि कपड्यांची उत्पादन वाढविण्याच्या क्षमतेसोबत सेवा ओपेरेशन ची तुलना केली जाऊ शकते. ज्यात आंतरराष्ट्रीय शारीरिक बळ वाहून नेण्याच्या सुविधेत सुधारना होऊ शकते. आंतरराष्ट्रीय वित्तीय सेवा क्षेत्रातील वेगाने विस्तारणाऱ्या विशेषत; डेटा एन्ट्री सारख्या निम्न कौशल्यावर आधारित क्षेत्रांमध्ये महिला कामगारांची संख्या जास्त आहे. जागतिकीकरणाच्या सेवा क्षेत्रातील आंतरराष्ट्रीय कंपन्या ह्या विकसनशील देशांमधील कंपन्या आणि व्याकांना मदत करतात . ग्राहकांच्या गरजेनुसार आणि विशेष प्रकारच्या मॅन्युफॅक्चरिंग सेवा क्षेत्रात आपल्या शाखा तयार करतात. जसे की जाहिराती वगैरे. वेगाने पसरणार्या आंतरराष्ट्रीय वित्तीय सेवा क्षेत्रातील महिला कामगारांचे प्रमाण वाढत आहे . डेटा एन्ट्री सारख्या निम्न कौशल्यावर आधारित क्षेत्रात ही वाढ लक्षणीय आहे. क्रेडिट कार्ड प्रदाते, मेल ऑर्डर व्यवसाय, एअरलाइन्स आणि ऑफलाइन शेर पाठविणार्या रेल्वे प्रणाली इत्यादी डेटा बेस सर्विस मध्ये अंतर्भूत होतात . काही आशियाई देश (भारत, चीन , मलेशिया आणि फिलिपिन्स) अशा उपक्रमांची केंद्रे स्थापित करीत आहे . कॉल सेंटर वेगाने विस्तारत आहेत . विकसनशील देशांमध्ये सॉफ्टवेअर सेवा, संगणक प्रोग्रामिंग आणि वित्तीय सेवा (बँकिंग आणि विमा) यासारख्या इतर सानुकूलित व्यावसायिक सेवा हस्तांतरित केले जात आहे. अल्प प्रमाणात का होईना महिला उच्च नोकरीतही कार्यरत आहेत. लोकसंख्येवर देखील व्यापार आणि परकीय गुंतवणूकीच्या वेगवान वाढीचा परिणाम होत आहे. आंतरराष्ट्रीय सीमेबाहेर अनेक महिला पुरुषांबरोबर स्थलांतर करत आहेत. ह्या वाढीबरोबरच काही घरगुती कार्यासाठी मागणी वाढली आहे .

सेवा क्षेत्रात नोकरीचे लिंग परिमाण:

सेवा, करमणूक, पर्यटन तसेच नर्सिंग आणि अकुशल कामगारांचे अध्यापन ह्यांची काही प्रमाणात आंतरराष्ट्रीय मागणी वाढत आहे. हे सर्व क्षेत्र शिक्षित महिलांनी अर्धवट भरले आहे. परंतु ही परिस्थिती मात्र स्त्रियांच्या शैक्षणिक स्तराशी जुळत नाही.

व्यावसायिक कामगारांसोबतच अत्यंत कुशल अशा कामगारांची आंतरराष्ट्रीय मागणी वाढली आहे. ज्याचा परिणाम म्हणून होणारा ब्रेन डेड (मेंदूतील निचरा) हा मूळ देशासाठी केवळ नुकसानकारक आहे. आणि हे टाळावे म्हणून काही देशांनी स्थलांतर करण्यावर बंदी घातली आहे.

खालीलप्रमाणे काही विशिष्ट व्यवसाय स्पष्ट केले जाऊ शकतात. :

(अ) बहुतांश देशांमध्ये तुलनेने स्त्रिया ह्या पुरुषांपेक्षा जास्त प्रमाणात सेव क्षेत्रात काम करतात. परंतु सेवा उपक्रम मात्र महिलांना अस्पष्ट रोजगार प्रदान करतात. तर बहुतेक पुरुष हे सेवा क्षेत्रात कामाला असतात.

(ब) लिंग पृथक करणे हे खूप व्यापक आहे. वैयक्तिक आणि सामाजिक सेवा ह्या प्रामुख्याने स्त्रियांचे वर्चस्व असणारे असतात, तर पुरुषांचे वर्चस्व हे उत्पादक आणि वितरण सेवा ह्या मध्ये असते .

(क) उपविभागातील लोकांमध्ये कर्मचार्यांची पात्रता मोठ्या प्रमाणात बदलली आहे. उत्पादक आणि सामाजिक सेवा क्षेत्रे हे सुशिक्षित कामगारांची नियुक्ती करतात.

१. व्यावसायिक आणि तांत्रिक व्यवसायातील महिला प्रामुख्याने दोन व्यवसायांवरच मर्यादित आहेत –

परिचारिका आणि शिक्षक

- हे व्यवसाय म्हणजे पारंपारिक काळजीघेणारे क्षेत्र आहे ज्यात केवळ महिलांच्या क्रियाकलापांचा विस्तार होतो.

२. प्रशासकीय आणि व्यवस्थापकीय व्यवसायात देखील महिलांचे प्रतिनिधित्व केले जाते परंतु त्यात केवळ लिपिक आणि सचिवात्मक नोकऱ्यांचे प्रमुख आहेत .

विविध क्षेत्रात महिलांचे योगदान:

हॉटेल उदयोग, औषध, बँकिंग, वर्तमानपत्रे आणि मासिके, मास मीडिया आणि कम्युनिकेशन, रेडियो आणि दूरदर्शन अशा विविध क्षेत्रात महिला कार्यरत आहेत. स्वातंत्र्योत्तर काळापासूनच महिलांचा विकास हे सरकारचे धोरणात्मक उद्दीष्ट राहिले आहे. शिक्षण, आर्थिक सहाय्य, कौशल्य विकास इत्यादींच्या माध्यमातून महिला सबलिकरणासाठी अनेक सरकारी योजना कार्यरत आहेत.

७० च्या दशकापर्यन्त महिला विकासाची संकल्पना ही प्रामुख्याने कल्याणभिमुख होती. १९७० च्या दशकात कल्याणकारी दृष्टीकोणाचा विकासाच्या दृष्टीकोणातून बादल झाला, परिणामी विकास प्रक्रियेचे परस्पर मजबुतीकरण झाले. ८० च्या दशकात आरोग्य, शिक्षण आणि नोकरी या तीन मुख्य बाबींवर जोर देण्यात येऊन या सर्व क्षेत्रात महिलांना प्राधान्य देण्यात आले.

सरकारी आणि स्वयनसेवी संस्थांनी एसएसआय क्षेत्रासह स्वयरोजगारामध्ये वाढ करित आहेत आणि औद्योगिकीकरणाच्या माध्यमातून महिलांच्या आर्थिक योगदानावर लक्ष केंद्रित करत आहेत. याबरोबरच, वेळोवेळी महिलांना प्रशिक्षण देण्यासाठी सरकारने अनेक योजना सुरू केल्या आहेत. कस्तूरबा गांधी बालिका विद्यालय योजना (केजीबीव्ही) आणि मुलींसाठी प्राथमिक शिक्षणाचा राष्ट्रीय कार्यक्रम (एनपीईजीईएल), महिला समस्या कार्यक्रम ह्या योजना सुरू केल्या आहेत. ह्याशिवाय स्त्रियांच्या सुरक्षिततेसाठी २०१३ मध्ये निर्भया योजना सुरू केली आहे. अंमलबजावणीची प्रक्रिया अत्यंत संथ तर कधी भ्रष्टाचारयुक्त असल्यामुळे असुरक्षित लिंगाच्याबाबतीत सामाजिक कल्याणासाठी सरकारने राबवलेल्या अनेक योजनान्चा अंतिम परिणाम फार निराशाजनक आहे. सरकारने देशाच्या विकास प्रक्रियेस गती देण्यासाठी वेळोवेळी धोरणांची प्रामाणिकपणे अंमलबजावणी करण्यासाठी विशेष काळजी घेतली पाहिजे. याव्यतिरिक्त, महिलांचे कौशल्य वाढविण्यासाठी खासगी क्षेत्राने पुढाकार घ्यायला हवा. आणि त्याबरोबरच एका सुशिक्षित, आर्थिकदृष्ट्या बळकट आणि संपत्तीसधन असलेल्या स्त्रीने गरीब व अशिक्षित महिलेला व्यावसायिक प्रशिक्षण देण्यासाठी होण्यासाठी आवश्यक ती पावले उचलली पाहिजेत.

रोजगाराच्या संधी उपलब्ध करून देण्यासाठी आवश्यक कौशल्ये आत्मसात केलेल्या काही यशस्वी स्त्रियांची उदाहरणे खालीलप्रमाणे आहेत –

अ) नीता अंबानी :

रिलायन्स फाऊंडेशनचे अध्यक्षपद तसेच रिलायन्स इंडस्ट्रीजचे संचालकपद नीता अंबानी यांच्याकडे आहे. रिलायन्स फाऊंडेशन भारत इंडिया जोडो (बीआयजे) चा प्रमुख कार्यक्रम राबवून ग्रामीण परिवर्तनाचा प्रयत्न केला आहे ज्यामुळे स्वातंत्र्याच्या १०० वर्षांच्या कालावधीत भारताला विकसित देश बनण्यास मदत झाली आहे. ते १३ शाळांमध्ये १५००० मुलांना

शिकवित आहेत. वंचितांसाठी रुग्णालयाच्या सभोवताल कम्युनिटी पोहोच च्या माध्यमातून त्यांनी 'सर्वांसाठी आरोग्य' (हेल्थ फॉर आल) हा उपक्रम सुरू केला. रिलायन्स फाऊंडेशन च्या या उपक्रमाचा आतापर्यंत साडेचार कोटी लोकांना लाभ दिला आहे.

ब) नीलम धवन :

नीलम धवन ह्या मायक्रोसॉफ्ट इंडियाचे माजी एमडी आहेत. त्या आता एचपी इंडियाला नव्याने फायदा घेण्यासाठी तयारी करीत आहेत. व्यवसाय संधी सेवा क्षेत्रात यशस्वी महिलांची अशी बरीच उदाहरणे आहेत.

क) चित्रा रामकृष्ण :

चित्रा रामकृष्ण ह्या नॅशनल स्टॉक एक्सचेंजच्या मुख्य कार्यकारी अधिकारी तसेच एम. डी. आहेत. त्यांना आपल्या स्त्रियांबद्दल नेहमी असा विश्वास आहे की आमच्या स्त्रिया ह्या अद्वितीय आहेत कारण त्या नीती, मजबूत सामाजिक मूल्ये, विविधता, लवचिकता आपल्या सोबत घेऊन येतात. मध्य प्रदेश आणि बरेच इतर राज्य सरकारे कॉर्पोरेटस सोबतच महिलांशी संबंधित कायदेशीर समस्या, मुलांची काळजी, रोजगाराचा दर्जा यांच्याकडेही लक्ष देतात.

निष्कर्ष:

भारतामध्ये मागील दशकामध्ये झालेली महत्वपूर्ण वाढ व त्याचा स्त्रियांना लाभ मिळवून देण्यासाठी मोठ्या धोरणावर लक्ष केंद्रित करणे आवश्यक आहे. याचा अर्थ असा होतो की धोरण राबविणार्यांनी महिलांच्या सर्जनशील गुंतवणूकीला समर्थन देण्यासाठी कायदे मजबूत करणे आवश्यक आहे. त्यासोबत महिलांना समर्थन देणारी धोरणे मोठ्या प्रमाणावर राबवणे आवश्यक आहे. कामाच्या ठिकाणी माध्यमिक आणि तृतीय शिक्षण, व्यावसायिक आणि कौशल्य प्रशिक्षण यासाठी गुंतवणूक करण्यासाठी अधिक प्रभावी उपाययोजना करणे आवश्यक आहे. जर भारताला २०३० मध्ये जगातील तिसरी सर्वात मोठी अर्थव्यवस्था बनवायचे असेल तर ६० दशलक्षाहून अधिक महिलांमध्ये समान संधीसह कामगारांची संख्या वाढविणे आवश्यक आहे, तरच राष्ट्राचा १००% विकास होईल.

संदर्भ:

१. महिला संघर्षाचे नवे रूप - नंदिता गांधी
२. दलित महिला - डॉ. मंजूसुमन
३. स्त्रीवादी सामाजिक विचार - विधुत भागवत
४. महिला विकास कार्यक्रम - आशु
५. फुले-आंबेडकर महिला चळवळ - मीनाक्षी चंद्र

कोव्हिड १९ चे पर्यावरणावरील सकारात्मक परिणाम

प्रा. मानकरे ज्ञानेश्वर रघुनाथ

भूगोल विभाग प्रमुख, एस. एन. डी. टी. कला आणि एस. सी. बी. वाणिज्य व विज्ञान महिला महाविद्यालय, मुंबई

सारांश- कोव्हिड १९ किंवा कोरोना विषाणूच्या जगभरातील संसर्गामुळे गेल्या वर्षभरापासून सर्व सामान्य जनजीवन जवळपास ठप्प झालेले आहे. त्यामुळे जगातील जवळपास सर्व देशांच्या अर्थव्यवस्थेवर याचे गंभीर परिणाम झाल्याचे दिसून येतात. या संसर्गजन्य रोगाच्या भितीमुळे जगातील अनेक देशांनी संपुर्ण देशात लॉकडाऊन घोषित केले. त्यामुळे करोडो लोकांना वर्षभरापासून सक्तीने घरी बसावे लागले. त्यामुळे करोडो लोकांच्या नोकऱ्या गेल्यामुळे लोक बेरोजगार झाले. मानवी आरोग्यावर याचे गंभीर परिणाम झाले. लाखो लोकांना आपला जीव गमवावा लागला. घरात कोंडून रहावे लागल्याने वेगवेगळ्या आजारांचे प्रमाण वाढले. मानसिक व शारीरिक रोगांचे प्रमाण वाढले. शाळा, महाविद्यालये बंद ठेवण्यात आल्यामुळे विद्यार्थ्यांचे शैक्षणिक नुकसान झाले. भारतासारख्या विकसनशील व गरीब देशातील गरीब लोकांचे प्रचंड हाल झाले. रोजंदारीवर उदरनिर्वाह करणाऱ्या लोकांची उपासमारी घडली. जगातील करोडो लोकांना सक्तीचे स्थलांतर करावे लागले. भारतासारख्या देशात लाखो लोकांनी पायी स्थलांतर केले. त्यात सरकारच्या नियोजनाचा अभावी कित्येक लोकांना जीव गमवावा लागला. आरोग्य क्षेत्रात काम करणाऱ्या लोकांना या संसर्गजन्य रोगाची लागण जास्त झाल्यामुळे त्यांना आपले जीव गमवावे लागले. वाढत्या रोग्यामुळे आरोग्य क्षेत्रावर प्रचंड ताण पडला.

अशा प्रकारे कोविड १९ मुळे मानवी जीवनावर गंभीर परिणाम झाला असला तरी पर्यावरणवर याचा काही सकारात्मक परिणाम दिसून आलेला आहे. प्रस्तुत प्रबंधामध्ये कोविड १९ चे हे पर्यावरणावरील सकारात्मक परिणाम शोधण्याचा प्रयत्न केलेला आहे.

प्रास्ताविक

कोव्हिड १९ महामारी ने संपूर्ण जग ग्रासले असून मानवी जीवनाच्या सर्व क्षेत्रावर याचे परिणाम झालेले आहेत. एवढेच नाहीतर या रोगाने संपूर्ण जगातील लोकांना या रोगामुळे गेल्या वर्षभरापासून घरात अक्षरशः कोंडून रहावे लागले आहे. त्यामुळे या रोगाची आणि त्यामुळे उद्भवलेल्या परिस्थितीची सर्वांगाने मिमांसा होणे आवश्यक आहे.

कोव्हिड १९- अर्थ आणि इतिहास -

कोरोना विषाणू हा विषाणूचा समूह आहे. याची प्रामुख्याने लागण सस्तन प्राण्यांमध्ये व पक्ष्यांमध्ये होते. त्यामुळे त्यांना विविध रोग होतात. उदाहरणार्थ गाय व वराह यांना अतिसार व कोंबड्या, बदक व इतर पक्ष्यांना श्वसनाचे रोग होतात. मानसातील कोरोना विषाणू सर्व प्रथम १९६० साली शोधला गेला त्याचे नाव २२९ ई व मानवी कोरोना विषाणू ओसी ४३ असे नाव होते. कोव्हिड १९ हा आजार SARS CoV- 1 आणि SARS CoV -2 या विषाणूमुळे होतो. या नवीन विषाणूची लागण सर्व प्रथम चीनमधील हुबै राज्यातील वुआन शहरात झाली. तेथूनच जगभर या रोगाचा प्रसार झाला हे जागतिक आरोग्य संघटनेच्या संशोधनात आढळून आले आहे. कोव्हिड १९ ची लक्षणे म्हणजे ताप, खोकला, आणि श्वासोच्छ्वास घेणे कठीण जाणे याशिवाय थकवा, अंग दुखणे, अतिसार, घसा खवखवणे, गंधाची जाणीव न होणे अशी लक्षणे आहेत. लागण झाल्यानंतर २ ते १४ दिवसानंतर लक्षणे दिसून येतात. २८ जून २०२० पर्यंत जगातील १८५ देशातील ९९,३९,८१३ लोकांना या रोगाची लागण झालेली होती. त्यामुळे ४,९७,४४२ लोक मरण पावले आहेत. सर्व साधारणपणे लागण झालेल्या लोकांपैकी ५% लोकांचा मृत्यू झाला आहे. (<https://mr.m.wikipedia.org>)

जागतिक आरोग्य संघटनेने कोव्हिड १९ हा रोग सार्वजनिक आरोग्यासाठी आंतरराष्ट्रीय आणीबाणी असल्याचे सांगून कोव्हिड १९ जागतिक महामारी घोषित केली आहे. तर टेड्राॅस अडम हॅनोम गैब्रियेसोस यांनी Covid 19 हे नाव दिले. तसेच इंटरनॅशनल कमिटी ऑफ टॅक्सोनाॅमी ऑफ व्हायरस यांनी SARS CoV- 2 हे नाव दिले आहे.

(<https://mr.m.wikipedia.org/wiki>)

कोव्हिड १९ चे पर्यावरणावरील सकारात्मक परिणाम:

कोव्हिड १९ चे विविध क्षेत्रावर गंभीर परिणाम झालेले असले तरी पर्यावरणावर कांही सकारात्मक परिणाम झालेले आढळतात. कोव्हिड १९ चा प्रसार जगभर झालेला असल्यामुळे आणि त्यावर कोणतेही औषध नसल्याने संपूर्ण लॉकडाऊन हेच चीनमधील

कोरोनाच्या नियंत्रणातून शक्य झाल्यामुळे, जगातील सर्व प्रमुख देशांनी लॉकडाऊन चा मार्ग स्विकारला. लॉकडाऊन मध्ये वाहतूक, उद्योग, सण उत्सव, समारंभ, शाळा महाविद्यालये, कार्यालये बंद करण्यात आली.

कोविड १९ चे हवामनावरील सकारात्मक परिणाम -

१) हरित वायूच्या उत्सर्जनात घट - कोविड १९ मुळे जगातील बहुतेक देशात लॉकडाऊन लागू केल्यामुळे हवेची क्वाॅलिटी सुधारण्यास मदत झाली. हवा प्रदूषणास कारणीभूत असणारे वाहतूक व कारखाने बंद असल्यामुळे हवेच्या प्रदूषणात घट झालेली आहे. २००६ च्या WHO च्या रिपोर्ट नुसार जगातील एकूण मृत्यू पैकी ७.६ % मृत्यू हवा प्रदूषणामुळे झाले होते. त्यामुळे लॉकडाऊन मुळे लोकांना शुद्ध हवा घेण्याची संधी मिळाली. या काळात चीन मधील नायट्रोजन डायॉक्साईड व कार्बन डायॉक्साईड यांच्या उत्सर्जनात अनुक्रमे ३५% व २५% घट झाल्याचे आढळून आले आहे.

(लाऊरी एम., www.carbonbrif.org/analysis) मॅकमोहन जे. (www.forbs.com/sites) यांच्या मते लॉकडाऊनमुळे हवा प्रदूषण खटल्यामुळे एकट्या चीनमधील ७७००० लोकांचे प्राण वाचले आहेत.

युरोपियन स्पेस एजन्सी २०२० च्या रिपोर्ट नुसार (www.esa.int/Applications/Observing) 1 जानेवारी २०२० ते ११ मार्च २०२० या काळात उत्तर इटलीच्या पो नदीच्या खोऱ्यातील वाहने, ऊर्जा निर्मिती केंद्रे आणि शेती मधून उत्सर्जित होणाऱ्या नायट्रस ऑक्साईड मध्ये सातत्याने घट झाल्याचे दिसून आले आहे.

याच काळात भारताची राजधानी नवी दिल्लीतील हवेतील सुक्ष्म कणांचे प्रमाण घडल्याचे आढळून आले. हे प्रमाण ९१ $\mu\text{g}/\text{m}^3$ पासून २० ते २६ $\mu\text{g}/\text{m}^3$ येवढे म्हणजे जवळपास ७१ % घटले होते. तसेच या काळात हवेतील नायट्रोजन डायॉक्साईडच्या प्रमाणात देखील ५२ $\mu\text{g}/\text{m}^3$ पासून १५ $\mu\text{g}/\text{m}^3$ येवढी म्हणजे ७१ % घट झालेली दिसून आली आहे. अशाच प्रकारे भारतातील मुंबई, कोलकाता चेन्नई व बेंगळुरू या महानगरातील प्रदूषणात घट झालेली आहे. (www.cpcb.nic.in/latest).

२) हवेच्या गुणवत्तेत सुधारणा- अमेरिकेची अंतराळ संशोधन संस्था नासा ने आपल्या उपग्रहांच्या माध्यमातून उत्तर भारतातील हवेच्या प्रदूषणाची २० वर्षांची आकडेवारी प्रसिद्ध केली त्यावरून हवेतील एरोसोलची पातळी २० वर्षांत लॉकडाऊन नंतर सर्वात कमी आढळली आहे. (लोकसत्ता २२ फेब्रुवारी २०२१)

एरोसोल हे हवेतील घन कण असतात जे मानवी आरोग्यास हानिकारक असतात. लॉक डाऊन च्या काळात औद्योगिक व वाहनावरील निर्बंधामुळे हवेची गुणवत्ता सुधारण्यास मदत झालेली आहे. त्यामुळे उत्तर भारतातील दृश्यमानता वाढलेली आढळली आहे. अलीकडेच पंजाब मधील जालंधर मधून १०० कि.मी. अंतरावरील हिमालयाचे अद्भुत दृश्य दिसलेले आहे. वायु प्रदूषणामुळे २०१७ मध्ये जगामध्ये १२.४ दशलक्ष लोकांचा मृत्यू झालेला होता. भारतामध्ये देखील लोकांच्या मृत्यूचे तिसरे मोठे कारण हवा प्रदूषण जडित रोग आहेत. अमेरिकेतील एका संशोधनामध्ये हवा प्रदूषण व कोविड १९ चा प्रसार यांचा जवळचा संबंध आढळला आहे. भारतामध्ये तर हवेतील प्रदूषकाचे प्रमाण अतिशय गंभीर स्वरूपाचे आहे. त्यामुळे हवा प्रदूषणात घट झाली नसती तर स्वशन विकारामुळे कोविड १९ ची स्थिती आणखी गंभीर झाली असती.

३) ओझोन थराला पडलेल्या छिद्रात सुधारणा - पृथ्वीच्या वातावरणातील ओझोन वायू च्या थराला पडलेले छिद्र भरत आले आहे. ही अतिशय सकारात्मक गोष्ट या काळात घडून आलेली आहे. आपल्या वातावरणात भूपृष्ठापासून २५ ते ३० किमी उंचीवर ओझोन वायूचा अतिशय महत्वाचा थर आहे जो सूर्यापासून येणारी अतिनील किरणे शोषून घेतो. त्यामुळे पृथ्वीवरील तापमान संतुलित राहते. परंतु औद्योगिक वापरातील क्लोरो फ्लोरो कार्बन मुळे या थराला ध्रुवीय प्रदेशात छिद्र पडले होते. त्यामुळे जागतिक तापमान वृद्धी सोबतच, अनेक गंभीर आजारांना लोक बळी पडत होते. परंतु लॉक डाऊनच्या काळात जगातील औद्योगिक व वाहनावरील निर्बंधामुळे हवा प्रदूषणात घट झाल्यामुळे ओझोनच्या थराला पडलेले छिद्र भरत आले आहे हे नासाच्या संशोधनातून सिद्ध झाले आहे.

अशा प्रकारे कोविड १९ च्या प्रादुर्भावाच्या काळात हवामानाच्या विविध घटकांवर सकारात्मक परिणाम दिसून आलेले आहेत.

कोविड १९ चे जलसृष्टीवरील सकारात्मक परिणाम -

१) पाण्याच्या गुणवत्तेत सुधारणा- कोरोना व्हायरस च्या जागतिक प्रादुर्भावामुळे कराव्या लागलेल्या लॉक डाऊन मुळे हवेच्या शुद्धते बरोबरच जल सृष्टीवर देखील काही सकारात्मक परिणाम झालेले आढळतात. नदीचे आरोग्य व पाण्याची गुणवत्ता यावर हा परिणाम दिसून येतो. लॉक डाऊन मुळे जगातील कारखाने, उद्योगधंदे, वेगवेगळे प्रक्रिया उद्योग यातून नद्या व समुद्रात सोडले

रसायनयुक्त पाणी थांबले त्यामुळे नद्या व समुद्र किनाऱ्यावरील पाण्याचे प्रदूषण कमी झालेले आहे. तसेच नद्यांच्या स्वयं शुद्धीकरण क्षमतेमध्ये वाढ झाल्याचे दिसून येते. नद्यांच्या शुद्धिकरणासाठी कोट्यावधी रुपये खर्चून सरकार विविध योजना राबवत आहे. तरी हवा तो परिणाम दिसून येत नाही पण लॉक डाऊन मुळे नद्या आपल्या खऱ्या स्वरूपात येताना दिसून येत आहेत.

२) **नद्यांचे पुनरुज्जीवन-** भारतामध्ये गंगा व यमुना नद्यांचे महत्व सर्व विदित आहे. गंगा व यमुना नदीत औद्योगिक कचरा, सांडपाणी व धार्मिक ठिकानातील निर्माल्य मोठ्या प्रमाणात टाकले जाते. त्यामुळे गंगा व यमुना या नद्या मोठ्या प्रमाणात प्रदूषित झालेल्या आहेत. परंतु देशभरातील लॉक डाऊन मुळे गंगेतील व यमुना नदीतील टाकाऊ पदार्थांचे प्रमाण घटल्यामुळे दिल्ली आणि आसपासच्या प्रदेशातील यमुना नदीची शुद्धता वाढलेली आहे. गंगा नदीची शुद्धता ३६ ठिकाणी मोजली जाते. त्यापैकी २७ ठिकाणचे पाणी आंगोळीस योग्य झाले असून प्रक्रिया करून पिण्यायोग्य झालेले आहे. साऊथ एशिया डॅमस्, रिव्हर्स ॲंड पिपल्स या संस्थेच्या अभ्यासानुसार कानपूर व मथुरा येथील गंगा नदीची शुद्धता वाढली असून पाण्याची गुणवत्ता वाढलेली आहे.

(द वायर)

उत्तर प्रदेश राज्य प्रदूषण नियंत्रण मंडळाच्या आकडेवारी नुसार गंगा नदीच्या पाण्यात विरघळलेल्या ऑक्सिजनचे प्रमाण वाढलेले आहे. जलिय परिसंस्थेतील संजीवांच्या वाढीसाठी या ऑक्सिजनची आवश्यकता असते. गंगा नदीचे ही एक प्रकारचे पुनरुज्जीवनच आहे.

३) **सरोवरांची शुद्धता-** उत्तराखंड प्रदूषण बोर्डाच्या संशोधनामध्ये हरिद्वार व रुषीकेश मधील गंगा नदीचे पाणी लॉक डाऊन मध्ये ४० ते ५० पटीने शुद्ध झाले आहे. नैनिताल, भीमताल, नौकूचीयाताल, सातताल या सरोवरांची शुद्धता या काळात मोठ्या प्रमाणात वाढलेली आहे. तसेच या सर्व सरोवरांच्या पाण्याच्या पातळीत देखील वाढ दिसून आलेली आहे.

४) **स्वच्छ समुद्र किनारे-** समुद्र किनारे देखील या काळामध्ये प्रदूषण रहित होण्यामध्ये मदत झालेली आहे. समुद्र किनाऱ्यावरील लोकांची गर्दी कमी झाल्यामुळे कासवा सारख्या जलचर प्राण्यांना किनाऱ्यावर अंडी घालता आलेली आहेत. अनेक ठिकाणी डॉल्फिन सारखे मासे मुक्त संचार करताना दिसून आलेले आहेत. नदीमधील जैव वैविध्यता वाढण्यास मदतच झालेली आहे. वाहतूक व पर्यटनावर जगभर निर्बंध लागल्यामुळे लोकांनी नेहमी गजबजलेले समुद्र किनारे या काळात शांतच राहिले. त्यामुळे प्रदूषण रहित स्वच्छ समुद्र किनारे आढळून आले.

कोविड १९ चे वन्य जीवसृष्टीवरील सकारात्मक परिणाम-

लॉक डाऊनच्या काळात मानवाचा जंगलातील वावर कमी झाल्यामुळे वन्य प्राणीना देखील मुक्तपणे त्यांच्या अधिवासात संचार करण्यास वाव मिळाला आहे. त्यामुळेच ज्या ज्या ठिकाणी जंगलाला लागून शहरांचा विस्तार झालेला आहे अशा भागात वन्य प्राणी आढळून आलेले आहेत. अगदी दिल्ली, मुंबई, मैसूर, बेंगळूरू सारख्या महानगरात देखील वन्य प्राणी रस्त्यावर फिरताना आढळून आलेले आहेत.

जपानमधील नारा पार्क पर्यटन स्थळावर नागरी भागात देखील शिका या हरणाच्या जाती आढळल्या आहेत. थायलंड मध्ये लो बुरी शहरामध्ये जंगली माकडे मोठ्या प्रमाणात शहरामध्ये फिरताना आढळली. इटलीच्या किनाऱ्यावर डॉल्फिन दिसून आली. इस्राईल मधील तेल अविब मध्ये इजिप्शियन गीज दिसून आले. भारतामध्ये ऑलिव्ह रीडले ही दुर्मिळ प्रजातीचे कासव ओडिसा च्या किनाऱ्यावर दिसून आले. ही प्रातिनिधिक उदाहरणे आहेत. अशी लक्षावधी उदाहरणे जगभरामध्ये दिसून आली आहेत.

निष्कर्ष:

कोविड १९ निश्चितपणे एक जागतिक महामारी असून मानव जातीपुढील एक गंभीर संकट आहे. कारण आज पर्यंत तरी कोणतेही प्रभावी औषध या रोगावर शोधले गेले नाही. या महामारी मुळे जगातील कोट्यवधी लोक प्रभावित झालेले आहेत. त्यामुळे अशी महामारी पुन्हा कदापिही निर्माण होऊ नये. मानवाच्या दृष्टीने या महामारी चे चांगले परिणाम असू शकत नाहीत. परंतु ही वसुंधरा मानवा शिवाय इतर अब्जावधी जीव जंतूंचेही घर आहे. त्यांचाही या पृथ्वीवर आपल्या इतकाच अधिकार आहे. तो अधिकार मान्य करून आपण पर्यावरणामध्ये हस्तक्षेप करणे थांबवले पाहिजे. तरच आपले अस्तित्व अबाधित राहिल, नाहितर कोविड १९ सारखी संकटे पुन्हा पुन्हा उद्भवतील.

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औसा तालुक्यातील लोकसंख्या आणि आरोग्य : एक भौगोलिक अभ्यास

प्रा. जावळे व्ही. जी.

आझाद महाविद्यालय, औसा

सारांश :

प्रस्तुत शोधनिबंधात औसा तालुक्यातील लोकसंख्या व आरोग्य याचा अभ्यास केला आहे. लोकसंख्या वाढीमुळे अल्पभुधारक, शेतमजूर, कमी उत्पादन यामुळे गरीबीचे प्रमाण अधिक आहे. याचा परिणाम आरोग्यावर झाला आहे. याचा अभ्यास या शोध निबंधात करण्यात आला आहे.

विज संज्ञा :

औसा तालुक्यातील लोकसंख्या आणि आरोग्य

प्रस्तावना :

भारत आणखी काही वर्षात चीनला मागे टाकून, लोकसंख्याच्या बाबतीत जगात पहिल्या स्थानावर जाईल. सर्वाधिक तरुणांचा देश म्हणून भारताला काही लाभ होणार असले, तरी वाढती लोकसंख्या ही आरोग्य विषयांचे प्रश्न सोडविण्या खेरीज ते पेलता येणार नाही. सध्याच्या जागतिक लोकसंख्येत भारताचा वाटा 18% तर चीनचा 19% आहे. कधीतरी भारत चीनला मागे टाकणार. भारतातले दरडोई उत्पादन वार्षिक 720 डॉलर असून नॉर्वे देशात ते 60000 डॉलर्स म्हणजे भारताच्या सुमारे 80 पट आहे. दक्षिण आशियात देखील थायलंड या देशात भारताच्या चौपट दरडोई उत्पन्न आहे. देशात 35% जनता दारिद्र्य रेषेखाली असून त्यांचे उत्पन्न दिवसाला 50 रु पेक्षा कमी आहे. त्यामुळे आरोग्याच्या सुखसोई फारच कमी आहेत. भारतात 28% जनता शहरामध्ये राहते, 72% जनता खेड्यामध्ये राहते त्यामुळे भारताचा विकास निर्देशांक 0.6 आहे. त्यामुळे आरोग्याच्या सुखसोई कमी आहेत.

भारतात दर हजारी मृत्यू प्रमाण 7.6 असून अरब अमीरातीत ते केवळ 1% आणि मालदीव मध्ये फक्त 3% आहे. अर्भक मृत्यूदर 57% आहे तर माता मृत्यूदर 3% आहे. एकूण मृत्यूच्या हिशोबात 53% मृत्यू हे असांसर्गीक आजारामुळे (हृदयविकार व कर्क रोग) होतात. टी.बी. क्षय रोगामुळे या तुलनेत फक्त 4% मृत्यू होतात. तसेच पक्षाघातमुळे 7% मृत्यू होतात असे दिसते.

ऐतिहासिक पार्श्वभूमी :

औसा हे महाराष्ट्र राज्यातील एक ठिकाण आहे. लातूर जिल्ह्यातील एक महत्वाचे ऐतिहासिक व सांस्कृतिक केंद्र आहे. या ठिकाणी एक किल्ला आहे. चालुक्य, राष्ट्रकुट, कल्याणीचे चालुक्य, यादव व बाहमनी, अहमदनगरची निजामशाही, विरची बिदरशाही, विजापूरची आदिलशाही, मोगल, मराठे व हैद्राबादचा निजाम या सर्वांचे औशावर राज्य होते.

भौगोलिक पार्श्वभूमी, अभ्यास क्षेत्राचे स्थान, सिमा आणि क्षेत्रफळ :

औसा तालुक्याचा अक्षवृत्तीचा विस्तार 1800' उत्तर ते 19025' उत्तर अक्षवृत्ता दरम्यान तर रेखावृत्तीय विस्तार 76015' पूर्व ते 76045' पूर्व रेखावृत्त असा आहे. औसा तालुक्याचा सर्वसाधारण आकार ट्रपीझ स्वरूपाचा असून उत्तर आणि दक्षिण कडील भाग एकमेकाला समांतर स्वरूपाचा आहे.

अभ्यासक्षेत्राचा 2011 च्या अहवालानुसार 1263 चौ.कि.मी. असून लातूर जिल्ह्याची तुलना करता 17.64% एवढे क्षेत्र औसा तालुक्याने व्यापले आहे. औसा तालुक्यात 7 मंडळे असून अभ्यास क्षेत्रात 130 एवढी गावे आहेत. 2011 च्या जनगणनेनुसार औसा तालुक्यात एकूण लोकसंख्या 2,80,240 इतकी आहे.

औसा तालुक्याच्या पूर्वेस निलंगा तालुका, पश्चिमेस उस्मानाबाद तालुका, दक्षिणेस लोहारा तालुका आहे आणि उत्तरेला लातूर तालुका आहे. औसा तालुक्याच्या उत्तरेला तावरजा नदी व दक्षिणेला तेरणा नदी आहे. अभ्यास क्षेत्रात एकूण 7 मंडळे असून ती औसा, किनीथोट, किल्लारी, भादा, मातोळा, बेलकुंड आणि लामजना ही आहेत.

उद्दिष्टे :

1. औसा तालुक्यातील लोकसंखेचा आरोग्यावर होणारा परिणाम अभ्यासणे.
2. तालुक्यातील आरोग्य स्थिती, कारणे, परिणामांचा अभ्यास करणे.
3. तालुक्यातील आरोग्य सुविधा व त्याची उपलब्धता अभ्यासणे.

4. आरोग्य केंद्राच्या विकासाचा व त्याच्या उपयोगितेचा अभ्यास करणे.
5. आरोग्यविषयक आधुनिक सोयी-सुविधांची उपयुक्तता तपासणे.

संशोधन पध्दती :

प्रस्तुत शोधनिबंध हा द्वितीय माहिती स्रोताद्वारे आधारित असून माहिती संकलीत करण्यासाठी द्वितीय स्रोताचा उपयोग केला आहे. गॅझेटियर, जनगणना पुस्तिका, वेगवेगळे लेख व पुस्तके, वेबसाईट याचा उपयोग करण्यात आला आहे. तसेच तक्ता व आलेखाचा वापर करण्यात आला आहे.

विषय विवेचन :

भारतात 1954 मध्ये आरोग्य सेवा योजना सुरु झाल्या त्यामुळे आरोग्य व औषधोपचार या सेवा खाजगी क्षेत्रासोबत सार्वजनिक क्षेत्राकडे आल्या व त्यामुळे जन सामान्यांना उपचारा बाबत दिलासा मिळाला. प्रत्येक भारतीय नागरीकास निरोगी आयुष्य जगण्याचा अधिकार आहे. परंतु भारतातील ग्रामीण भागातील लोकांना खाजगी आरोग्य सेवा परवडणाऱ्या नसतात. त्यामुळे हे लोक आपल्या आरोग्याकडे दुर्लक्ष करतात. परिणामी आरोग्याचे गंभीर प्रश्न निर्माण होतात. औसा तालुक्यात भौगोलिक परिस्थिती, रस्ते, वाहतूक व दळणवळणाच्या साधनाचा आभाव आहे. येथील लोक शेतमजुर किंवा अल्पभुधारक आहेत. सिंचनाचे प्रमाण अत्यल्प असल्याने केवळ पावसाच्या पाण्यावर शेती केली जाते. उत्पन्नाचे साधने कमी असल्याने गरीबीचे प्रमाण अधिक आहे. त्याचा अनिष्ट परिणाम आरोग्यावर होतो. याशिवाय निकृष्ट अन्न, अशुद्ध पाणी, शिक्षणाचा आभाव, व्यसनाधिनता, रुढी परंपरांचा प्रभाव, अंधश्रद्धा इत्यादीचा प्रभाव आरोग्यावर होतो.

निष्कर्ष :

औसा तालुक्यातील लोकसंख्या आणि आरोग्य याचा अभ्यास केल्यानंतर असे लक्षात येते की, लोकसंख्या वाढीचा वेग जास्त असून त्याचा परिणाम लोकसंख्येच्या आरोग्यावर होत असलेला दिसून येतो. आरोग्य आणि आरोग्याच्या सेवा यात वाढ करण्यासाठी पाण्यासारखा पैसा खर्च करावा लागेल.

शिफारसी :

अतिरिक्त डॉक्टर, नर्स, दवाखाने यांच्या संख्येत वाढ करणे, राहणीमान दर्जा वाढविणे, दरडोई उत्पन्न वाढविणे, लोकसंख्या वाढीला आळा घालणे, लोकसंख्या वितरण संतुलीत करणे, लोकसंख्या आणि आरोग्यविषयक धोरणे आखणे व साक्षरता वाढ करणे, बेकारी आणि दारिद्र्य कमी करणे.

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अंदमान निकोबार पर्यटन स्थळाचा क्षेत्रीय अभ्यास

डॉ. सौ. वंदना प्रविण मोटघरे

ओम सत्यसाई कला व विज्ञान महाविद्यालय, परसोडी

सारांश -

प्रस्तुत शोधनिबंधात भारताच्या केंद्रशासीत प्रदेश अंदमान निकोबार बेटांची अभ्यासाकरीता निवड केली आहे. आज पर्यटनाचे आर्थिक, सामाजिक महत्व लक्षात घेता या विषयाला भूगोल या विषयाशी जोडण्यात आले आहे. त्यामुळे पर्यटन या विषयाचा क्षेत्रीय अभ्यास करणे गरजेचे ठरते. शोधनिबंध प्रत्यक्ष क्षेत्रभेट घेऊन तसेच द्वितीयक साधन सामग्री, विविध संदर्भग्रंथ, वर्तमान पत्रे, इंटरनेट यावर आधारीत आहे. अंदमान बेटे हे ठिकाण चारही बाजूंनी निळा समुद्र 90 टक्के भागावर वनस्पतींनी नटलेला निसर्गरम्य ठिकाण आहे. शिवाय येथे स्वच्छ समुद्र किनारा, समुद्री खेळ येथे भरपूर मोठ्या प्रमाणात खेळली जातात. समुद्रातील प्रवाळ बेटांचे प्रत्यक्ष दर्शन सागरांच्या लाटांसोबत खेळण्याचा मनसोक्त आनंद लुटता येतो. त्यामुळे हे ठिकाण दिवसेंदिवस पर्यटकाचे आकर्षणाचे केंद्र होत आहे. या बेटांची वैशिष्ट्ये म्हणजे आजही बेटे मानवी प्रदुषणापासून प्रदुषणमुक्त दिसत आहेत. ही अशीच परिस्थिती टिकवून ठेवण्याकरीता शासनाने नियम सक्तीचे व काटेकोर करणे गरजेचे आहे. त्यासाठी शासनाने याकडे विशेष लक्ष देणे गरजेचे आहे. तसेच काळाच्या गरजेप्रमाणे या पर्यटन क्षेत्राचा विकास करण्याकरीता शासनाने पर्यावरणाचा पर्यटनाशी सांगड घालून विविध रिक्त ठिकाणांचा विकास घडवून आणणे काळाची गरज ठरत आहे.

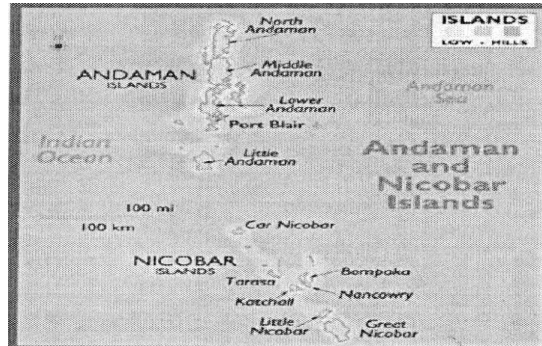
प्रास्ताविक -

भूगोलाच्या अनेक शाखा आहेत. यापैकी पर्यटन भूगोल ही भूगोलाची अलीकडील महत्वपूर्ण होत चाललेली शाखा आहे. भूगोल व पर्यटन दोघांचाही संबंध प्राचीन काळापासून आहे. आज भारतात पर्यटन स्थळाचा चांगला विकास झाला आहे. भारतीय अर्थव्यवस्थेत पर्यटन उद्योग चांगलेच मुळ धरून बसले आहेत. पर्यटन उद्योगाचे महत्व लक्षात घेऊन व त्याचा भौगोलीक घटकाशी संबंध पाहून या विषयाला भूगोल विषयाशी जोडण्यात आले आहे आणि म्हणूनच आज भूगोल अभ्यासकांना क्षेत्रीय अभ्यास करणे अगत्याचे झाले आहे.

अभ्यास क्षेत्र -

प्रस्तुत शोध निबंधात भारताच्या आग्नेयेस असलेला एक केंद्रशाशित प्रदेश म्हणून ओळखला जाणारा अंदमान-निकोबार या द्विपसमुहाचा अभ्यासाकरीता निवड केला आहे. प्रदेशाचा अक्षांशीय विस्तार 60 उत्तर ते 140 उत्तर व रेखावृत्तीय विस्तार 920 पूर्व ते 940 पूर्व आहे. प्रदेशाचे एकूण भौगोलीक क्षेत्रफळ 8249 चौ.कि.मी. पसरलेले आहे. प्रदेश अंदमान व निकोबार अशा दोन भागात विभाजीत असून दोन्हीची राजधानी पोर्ट ब्लेअर आहे. प्रदेशाची एकूण 2011 च्या जनगणनेनुसार लोकसंख्या 379944 एवढी आहे. अंदमान द्विपसमुहात एकूण 572 बेटांनी मिळून बनला असून तेथील केवळ 36 बेटांवरच मनुष्य पोहचू शकला आहे. इतर बेटे आज चर्चेचे व संशोधनाचे विषय बनलेले आहेत. भारताच्या सरहद्दीचे शेवटचे टोक म्हणजे इंदिरा पॉइंट हे येथे आहे.

अंदमान निकोबार स्थानदर्शक नकाशा



संशोधनाची उद्दिष्टे -

1. अंदमान निकोबार या केंद्रशासीत प्रदेशातील पर्यटन स्थळाचा भौगोलीक अभ्यास करणे.
2. पर्यटन स्थळाचे प्राकृतिक स्वरूप अभ्यासणे.

3. पर्यटन आकर्षणाच्या कारणांचा शोध घेणे.

संशोधनाचे गृहितके -

1. प्रदुषणमुक्त निसर्ग व समुद्र सौंदर्यामुळे पर्यटकाची आकर्षणाचे केंद्र बनले आहे.
2. विशेष भौगोलीक परिस्थितीत पर्यटनाच्या विकासात चालणा देणारी संकल्पना आहे.
3. शासनाची बेटांच्या विकासामध्ये उदासिनता असावी.

संशोधन पध्दती -

प्रस्तुत शोधनिबंध प्राथमिक व दुय्यम साधन सामुग्री यावर आधारित आहे. यासाठी प्रत्यक्ष स्थळांना क्षेत्रभेट देऊन माहिती मिळविली, विविध संदर्भग्रंथ, वर्तमानपत्रे, सामाजिक-आर्थिक समालोचन, इंटरनेट, स्थानिक प्रकाशित पुस्तके इत्यादींचा वापर करण्यात आला आहे.

पर्यटनाचे स्वरूप व व्याप्ती -

पर्यटन हा शब्द इंग्रजीतील Tourist या शब्दाचे रूपांतर आहे. Tourist हा शब्द Tour या शब्दापासून बनला आहे. ऑक्सफोर्डच्या शब्दकोषानुसार पर्यटक म्हणजे जो उत्कंठेपोटी आनंद, मौज, व निसर्ग सौंदर्य पाहण्यासाठी प्रवास करून भ्रमंती करतो त्यास पर्यटक असे म्हणतात.

प्राकृतीक स्वरूप -

अंदमान-निकोबार ही बेटे हिंदी महासागरात स्थित असून भौगोलीक दृष्टिकोनातून जर पाहिले तर दक्षिण पूर्व आशियाचा एक भाग आहे. उत्तरेला अंदमान द्विपे तर दक्षिणेस निकोबार द्विपसमुहाची रांग तर उत्तर दक्षिण दिशेने पसरलेली दिसून येते. द्विपसमुहाच्या पूर्वेस अंदमान सागर तर पश्चिमेस बंगालची खाडी आहे. चारही बाजूंनी समुद्रांनी वेढलेला निसर्गरम्य ठिकाण, अल्हाददायक वातावरण, उष्ण दमट हवामान त्यामुळे मृदेमध्ये भिन्नता आहे. कलकत्यापासून 1287 कि.मी. तर चेन्नईवरून 1353 कि.मी. अंतरावर असणारे अद्भुतपूर्ण अशी उत्तर-दक्षिणेस कमाणीच्या आकारात विखुरलेली अशी बेटे आहेत.

हवामान -

प्रदेश उष्ण कटिबंधात येतो. येथील कमाल तापमान 370 से. तर किमान तापमान 230 से. आढळतो. मृदेमध्ये भिन्नता दिसून येते. त्यामुळे तेथे वनस्पती ही विभिन्न प्रकारची पाहावयास मिळते.

वनस्पती - वनस्पतीत विविधता दिसून येते. तीन प्रकारात वनस्पतींना विभाजित करण्यात आले आहे ती खालीलप्रमाणे -

1. पडोक, कोको, युगलम, मार्बल, साँटीत, वूड.
2. त्रिष्मा, वायले, चाई, लकूच, लिचीमि, पाँगगीत, चिटयिन.
3. डिळू, व्यत्री, टंगस्पीगी, गुर्जन.

नारळ सुपारी ही येथील नगदी पिके आहेत. जवळपास 650 प्रकारच्या वनस्पतींच्या जातीत बेटांवर निर्माण झालेले आहेत.

प्राणी -

रानमांजर, डुक्कर, साप, ग्रीन, लिझार्ड इ. प्राणी येथे दिसून येतात. जगातील सर्वात मोठा कासव Dermocheleys Coriacea हा या बेटावर आढळतो. सर्वात मोठे खेकडे ज्यांना कॉकोनर कॅब म्हणतात. ते खूप आहेत. तोंडाने नारळ कवच फोडून ती नारळे खातात व जीवन जगतात.

ऐतिहासिक पाश्चभूमी -

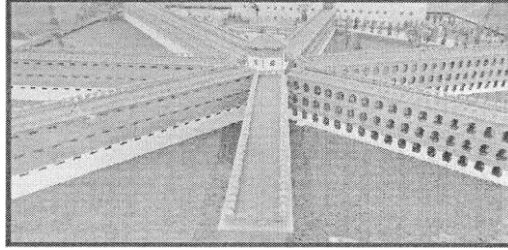
अंदमान बेटावर सर्वात प्रथम इ.स. 1755 मध्ये युरोपियन व्यक्ती डॅनिश (डेन्मार्कचा निवासी) याने या बेटाचा शोध लावला. त्यानंतर इ.स. 1789 मध्ये इंग्रज या बेटावर पोहोचले. त्यांनी बेटाचा उपयोग कॉलोनी व नेवेन मिल्ट्री बेस करीता केला व संपुर्ण जागा इंग्रजांनी डॅनिशकडून विकत घेऊन या बेटावर इंग्रज साम्राज्य स्थापित केले. इंग्रजांनी या बेटाचा उपयोग ज्या स्वातंत्र्यवीर भारतीयांना जन्मठेपेची शिक्षा दिली जाई त्यांना या बेटावरील जेलमध्ये ठेवले जायचे. या जेलचे नाव त्यांनी सेल्युलर जेल असे ठेवले. इंग्रज शासनामध्ये अंदमान हे नाव काळ्या पाण्याच्या शिक्षेकरीता खूप चर्चित होते. भारत सरकारने याच सेल्युलर जेलला राष्ट्रीय स्मारक म्हणून घोषित केले आहे.

या द्विपच्या नावाविषयी विविध मते आहेत. अंदमान शब्द हनुमानाचे एक रूप जो संस्कृतीशी साध्यर्म दाखविणाऱ्या मलय शब्दामधून आला आहे. मलय भाषेत रामायणातील हनुमानाच्या पात्राला हंडमान म्हटले जाते. यावरून अंदमान शब्दाची उत्पत्ती झाली असून निकोबारचा अर्थ नेकड (नग्न लोकांचे बेट असा होतो).

पर्यटकांची आकर्षणे -

अंदमान निकोबार ही निसर्गरम्य भौगोलीक स्थळे आहेत. येथे एकूण 572 बेटे असून जवळपास 36 बेटांवर पर्यटक जाऊ शकतात. त्यातील काही निवडक बेटांवर जाण्यासाठी प्रायव्हेट कुझची व्यवस्था आहे. येथे हा प्रदेश बऱ्याचकाळ इंग्रजांच्या अधिपत्याखाली असल्यामुळे तेथील बेटांना इंग्रजी अधिकाऱ्यांच्या नावावरून नावे देण्यात आली आहे. येथे पर्यटकांना आकर्षित करणारी प्रेक्षणीय बेटे जवळपास अणगीणत आहेत. ती पुढीलप्रमाणे आहेत.

1.सेल्युलर जेल - पोर्ट ब्लेअर येथे ही जेल इंग्रजांनी बांधली. स्वातंत्र्य संग्रामातील क्रांतीविरोधी जन्मठेपेची शिक्षा सुनावल्यावर त्यांना काळ्या पाण्याची सजा दिली जायची. त्यात कोलु चालविले, तेल काढणे, दगड फोडणे, चक्री पिसणे, लाकडे तोडणे इ. कामे करावी लागत व येथे त्यांना पाठविले जायचे. या जेलची रचना 7 शाखांमध्ये करण्यात आली आहे. मध्ये एक टॉवर असल्यामुळे ज्याच्यामुळे सर्व कैद्यांवर सख्त निगरानी ठेवली जायची. यात जवळपास 696 खोल्या आहेत. देशाला स्वातंत्र्य मिळतेवेळी त्यातील 4 शाखा तोडण्यात आल्या. आज 3 शाखा अस्तित्वात आहेत. तेथे साहित्य संग्रहालये आहेत. क्रांतीवीरांनी वापरलेल्या साहित्याचा संग्रह पर्यटकाला पाहायला मिळतो. तसेच विविध घडामोडींच्या महत्वपूर्ण फोटोज आपणास पाहावयास मिळतात. तसेच वीर सावरकर उद्यान देखील तेथे विकसीत करण्यात आला आहे. रात्रीच्या वेळेस सनलाईट शो मधून क्रांतीविरोधी होणाऱ्या अत्याचाराचे दर्शन इंग्रजी व हिंदी या भाषेतून आपल्याला पाहावयास मिळते.



2.रॉस आयलॅण्ड - पोर्टब्लेअर पासून अगदी 3 कि.मी. वर हा बेट आहे. इंग्रजांच्या काळात पूर्वी अंदमानची राजधानी होता. आजही आपल्याला या ठिकाणी प्रेस मशिन, मशिनगण, जुने दस्तावेज, पेपर कारखाने, तोफ इ. साहित्य पाहावयास मिळतात. या ठिकाणी वाज्याचा झुकाव चांगला असल्यामुळे येथे सी पॅराशूट हा वॉटरगेम जास्त खेळला जातो.

3.हॅव्लोक आयलॅण्ड - पोर्टब्लेअरवरून 35 कि.मी. लांब हा आयलॅण्ड आहे. इंग्रज अधिकाऱ्यांच्या नावावरून याला हॅव्लॉक हे नाव देण्यात आले आहे. नेताजी सुभाषचंद्र बोस यांनी या बेटाला स्वराज द्विप हे नाव दिले आहे. हा बेट अंदमान मधील महत्वपूर्ण बेट आहे. स्वच्छ सुंदर समुद्र त्यात अनेक जलक्रिडा, खेळ येथे खेळले जातात. जसे स्कुबा ड्रायव्हिंग, स्पीड बोट, डालफींग बोटिंग, सी पॅराशूट इत्यादी वॉटरगेम करिता हा बेट अत्यंत उत्तम आहे. वॉटरगेम खेळण्यासाठी एलीफंटा बीच हे अतिशय सुंदर बीच आहे.

हॅव्लॉक आयलॅण्ड

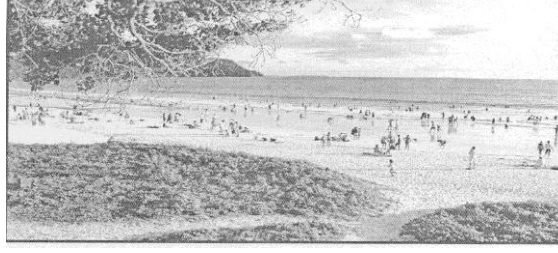


स्कुबा ड्रायव्हिंग



4.राधानगरी बीच - आशिया खंडातील असणाऱ्या बेटांमध्ये आयडीयल बीच म्हणून राधानगरी बीचला ओळखले जाते. किनाऱ्यावर निसर्गरम्य दृश्य व पर्यटकांना खेळण्याकरिता अतिशय सुंदर समुद्राच्या येणाऱ्या लाटा या पर्यटकांना भरभरून आनंद देणाऱ्या ठरतात.

राधा नगरी बीच

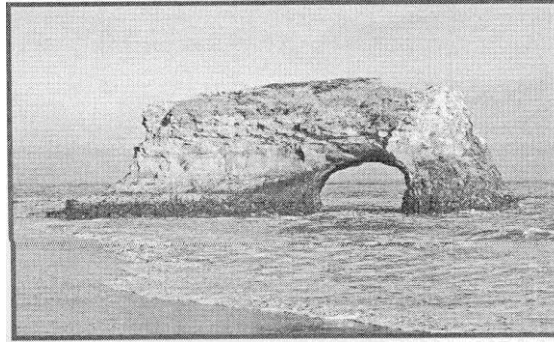


5. एलीफंटा बीच - हा बीच देखील हॅवलॉगमध्ये वॉटरगोम खेळण्याकरीता उत्तम आहे. कारण येथे स्क्वुबा ड्रायव्हिंग करिता आवश्यक असणाऱ्या उथळ पाणी येथे उपलब्ध आहे. पाणी अतिशय स्वच्छ असून सागरामध्ये 8 ते 10 मी. खोलीवर जाऊन समुद्रातील जलचर प्राणी, वनस्पती, विविधरंगी मासे पर्यटकाला जवळून पाहता येतात.

6. भरतपूर बीच - पाण्यातील खेळ खेळण्याकरीता तसेच पर्यटकांच्या आंगोळीकरीता अतिशय उत्तम असे हे बीच आहे. या समुद्राच्या आतमध्ये जवळपास अर्धा कि.मी. पर्यंत आंगोळीकरीता पर्यटक जाऊ शकतात. संध्याकाळी 4 वाजेपासून समुद्राला ओहोटी येथे सुरू होते आणि पाणी हळूहळू कमी होत जाऊन किनारा कोरडा पडतो. हे अद्भुतपूर्ण दृश्य पाहण्यासाठी पर्यटक मोठ्या संख्येत गर्दी करतात.

7. नॅचरल बीच - वर्ष 2004 ला आलेल्या त्सुनामीचे पडसाद या बीचवर आजही पाहायला मिळतात. तेथे नैसर्गिक कमानीची निर्मिती झालेली दिसून येते. शिवाय समुद्रातील प्रवाळ या किनाऱ्यावर पर्यटकाला पाहावयास मिळतात. या मृत प्रवाळावर आपली उपजीविका करणारी समुद्री जेलीफिश, तारामासा, विविधरंगी मासे अतिशय जवळून पाहावयास मिळतात.

नॅचरल बीज



याशिवाय अनेक जॉलीबीच, सक्रीय ज्वालामुखी, नैसर्गिक लवंग स्तंभ इ. अनेक ठिकाणे देखिल पर्यटकांचे आकर्षण आहेत. वरील सर्व स्थळांना पर्यटकांची एप्रिल, मे, जून हे तीन महिने वगळता वर्षभर गर्दी असते. कारण यावेळी वातावरणात दमटपणा कमी असतो. बंगालच्या उपसागरात निसर्गाने अत्यंत रमणीय पर्यावरण स्नेही ठिकाण मानवाला बहाल केले आहेत. चारही बाजुस समुद्र व मध्ये एकमेव भूखंड त्यामुळे एक आल्हाददायक वातावरण चारही बाजुस निसर्ग सानिध्य त्यामुळे पर्यटकांसाठी अत्यंत आरोग्यदायी असे ठिकाण आहे. उत्तम भौगोलीक सानिध्य, तापमान, पर्जन्य, राहण्याची सोय, भरपूर वॉटर गेम्स, क्रुझची सफारी या सर्व गोष्टींमुळे पर्यटक आज या स्थळी आकर्षिले जात आहेत.

निष्कर्ष -

1. निळाकार समुद्र, सोनेरी किरणे, सुखावह जंगले, प्रदुषणमुक्त टिम संघटनेची कार्य मानवी कारणातून ढवळाढवळ न झालेली बेटे शिवाय अनेक प्रकारची वॉटर गेम्स समुद्राच्या खोलवर पाण्यात जाऊन समुद्र सौंदर्य पाहण्याची उत्सुकता यामध्ये मोठ्या प्रमाणात पर्यटक आकर्षिले जात आहेत.

2. बेटांना सातत्याने बसणारे भूकंपाचे झटके शिवाय त्सुनामी लाटांच्या धोक्यांसाठी शासनाने नियोजन करणे महत्वपूर्ण कार्य झाले आहे.

3. जंगले, लाकूडकाम, शेती व्यतिरिक्त बेटे, समुद्रांचा विकास करणे तसेच विकासाचे लक्ष तयार करतांना केंद्र सरकारने पर्यावरणाची सांगड पर्यटनाशी घालून विकासाचा विचार करावा.

4. मानवी प्रदुषणापासून ठिकाण प्रदुषणमुक्त राहण्यासाठी नियमाचे सक्तीचे पालन होणे गरजेचे आहे.

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विकेंद्रित शासन आणि लोकशाही शाश्वत विकासातील पहिले पाऊल

प्रा. सय्यद आर. आर.

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प्रस्तावना-

भारत देशातील खेड्यांच्या स्वयंपूर्ण संकल्पनेचा आता लोप झालेला दिसून येतो. ग्रामस्वराज्य ही संकल्पना अर्थात सत्ता आणि अधिकारांचे विकेंद्रीकरण करून ग्रामीण जनतेला स्वावलंबी घडवण्याच्या तत्वावर आधारलेली होती. ग्रामीण भाग हा भारतीय प्रशासनाचा मूलभूत घटक आहे. खेड्यातील प्रत्येकांना रोजगार मिळाला पाहिजे आणि त्यांच्यात आत्मविश्वास निर्माण झाला पाहिजे. त्यामुळे कुटीर उद्योग व ग्रामोद्योगांना प्रोत्साहन मिळेल आणि शाश्वत विकासाचे पहिले पाऊल आत्मविश्वासाने पडेल त्यासाठी साधी राहणी व मूल्याधिष्ठित विचारसरणी, आर्थिक मानवता, अर्थव्यवस्थेचे विकेंद्रीकरण आणि मुख्यत्वेकरून शेतीची सुधारणा अशा विविध कार्यक्रमातून ग्रामस्वराज्याची निर्मिती झाली तर शाश्वत विकास ठामपणे होईल यात शंका नाही. राजकीय विकेंद्रीकरण यामध्ये ग्रामीण समाजाला जास्तीत जास्त अधिकार देण्यात यायला हवे. स्थानिक सरकारवरील नियंत्रणही कमी झाले पाहिजे. गावाचा कारभार पाच जणांच्या पंचाकडून चालवण्यात यावा. पंचांना आवश्यक ते अधिकार आणि कायदेशीर सत्ता त्यांना दिली तर गावाचा कारभार व्यवस्थित रीतीने चालेल. पंचाला गावातील निर्णय घेण्याचे स्वातंत्र्य देण्यात यावे. गावातील तंटे मिटवणे व न्याय देण्याचे काम पंचायतींना करण्यास द्यावे. त्याचप्रमाणे गावात ग्राम संरक्षण दल असावे. त्यामुळे तेथे फार बाहेरचे ढवळाढवळ राहणार नाही. अशा रीतीने ग्रामीण भागातील राजकीय विकेंद्रीकरण असेल.

संशोधनाची उद्दिष्टे:-

- १) शाश्वत विकासात राजकीय सत्तेच्या विकेंद्रीकरणाचे महत्त्व याचा अभ्यास करणे.
- २) आर्थिक सत्तेच्या विकेंद्रीकरणावर भर देणे.
- ३) शाश्वत विकासात लोकशाही आणि विकेंद्रित शासन यावर प्रकाश टाकणे.
- ४) शाश्वत विकासात समता, स्वातंत्र्य व सामाजिक न्याय या मूल्यांचा अभ्यास करणे.
- ५) शाश्वत विकास करत असताना लोकशाही व अहिंसा यांच्यातील विसंगतपणा कसा फायद्याचा आहे याचा अभ्यास करणे.
- ६) विकेंद्रिकरणातून राजकीय जागृती शाश्वत विकासास फायदेशीर यावर प्रकाश टाकणे.
- ७) सामाजिक ऐक्य हा विचाराचा शाश्वत विकास याचा अभ्यास करणे.

ग्रहीतके-

- १) शाश्वत विकासात स्थानिक स्वराज्य संस्थांना महत्त्व दिलेले दिसून येते.
- २) शाश्वत विकास करण्यासाठी कायदेविषयक उपाय योजना केलेल्या दिसून येतात.
- ३) समता स्वातंत्र्य व सामाजिक न्याय हा शाश्वत विकासाचा पाया असल्याचे दिसून येते.
- ४) सत्तेच्या विकेंद्रीकरणाचा लोकशाही व अहिंसा यांच्यात विसंगतपणा दिसून येतो.
- ५) शाश्वत विकासात आर्थिक राजकीय सत्तेचे विकेंद्रीकरण झालेले दिसून येते.

संशोधन पद्धती:-

प्रस्तुत शोध निबंधासाठी दुय्यम संशोधन पद्धतीचा उपयोग करण्यात आलेला आहे. त्यामध्ये विविध राजकीय संदर्भ ग्रंथ, वर्तमानपत्रे, मासिके, साप्ताहिके, इंटरनेट व वर्णनात्मक इत्यादी दुय्यम साधनांचा उपयोग करण्यात आलेला आहे.

१) शाश्वत विकासात राजकीय सत्तेचे विकेंद्रीकरण:-

शाश्वत विकासात राजकीय सत्तेचे विकेंद्रीकरण झाले पाहिजे. राजकीय सत्तेचे विकेंद्रीकरण झाल्याशिवाय शाश्वत विकास शक्य नाही. ग्राम स्वराज्याच्या संकल्पनेत विकेंद्रीकरण अंतर्भूत करून सर्वसामान्य जनतेला सत्तेत सहभागी होता यावे, म्हणून स्थानिक स्वराज्य संस्थांच्या निर्मितीवर भर दिला आहे. शाश्वत विकासात राजकीय विकेंद्रीकरणामध्ये ग्रामीण समाजाला जास्तीत जास्त अधिकार देण्यात यायला हवे. स्थानिक सरकारवरील नियंत्रणही कमी झाले पाहिजे. गावाचा कारभार पंचांकडून चालवण्यात यावा. पंचांना आवश्यक ते अधिकार आणि कायदेशीर सत्ता त्यांना देण्यात यावी. गावाचा कारभार व्यवस्थित रीतीने चालेल यासाठी पंचाला गावातील निर्णय घेण्याचे स्वातंत्र्य देण्यात यावे. गावातील तंटे मिटवणे व न्याय

देण्याचे काम पंचायतींना करण्यास द्यावे. त्याच प्रमाणे गावात ग्राम संरक्षण दल असावे.त्यामुळे तेथे फारसे बाहेरचे ढवळाढवळ राहणार नाही. अशा रीतीने ग्रामीण भागातील राजकीय विकेंद्रीकरण व्हावे.

२) शाश्वत विकासात आर्थिक सत्तेचे विकेंद्रीकरण-

"शाश्वत विकासात आर्थिक सत्तेचे विकेंद्रीकरण देखील महत्त्वाचे आहे. यामुळे समाजातील लोकांचे शोषण, पिळवणूक होणार नाही, प्रत्येकाला आपला योग्य वाटा मिळून समाजाच्या सर्वांगीण विकासाला मदत होईल."१ ग्रामीण जनता शेतीवर अवलंबून आहे, ग्रामीण भागात मोठ्या प्रमाणावर आर्थिक बेकारी दिसून येते. शेतीचा हंगाम हा काही काळापुरता असतो. जेव्हा हंगाम संपतो तेव्हा शेतकरी व शेतात काम करणारे शेतमजूर यांचा वेळ हा शिल्लक राहतो. या काळात त्यांनी कौशल्य आणि हस्तव्यवसाय यावर आधारित ग्रामोद्योग आणि कुटीर उद्योग करून वस्तूचे उत्पादन करावे. त्यामुळे त्यांच्यात आर्थिक सत्तेचे विकेंद्रीकरण होईल. किमान मूलभूत गरजांची पूर्तता करण्यास मदत होईल.

३) लोकशाही आणि विकेंद्रित शासन:-

लोकशाही विकेंद्रीकरणाची संकल्पना म्हणजे लोकशाही पद्धतीने तयार केलेल्या प्रादेशिक एककाकडे योग्यरीत्या कायदेविषयक उपाय योजना करून केंद्र सरकारद्वारे मोठे अधिकार व जबाबदाऱ्या वितरण करणे. विविध क्षेत्र आणि गटाच्या गरजांच्या पूर्तता होण्यास राज्यशासन अपयशी ठरते तेव्हा पुढील विकेंद्रीकरण होण्याचे आव्हान केले जाते. विकेंद्रीकरण संस्थात्मक काम, वित्त व मानवी संसाधने, धोरण बनवणे, धोरण तयार करणे, योजना करणे आणि कार्यक्रमाची अंमलबजावणी यांच्या संबंधित आहे. "आर्थिक आणि मानवी संसाधने स्वायत्त स्तोत्रांची पिढी आणि खरेदीशी संबंधित आहे त्यांच्यावर नियंत्रण करणे आणि त्यांचे मालक असणे त्याचे प्रभावी उपयोजन करणे."२

४) शाश्वत विकासाचा समता, स्वातंत्र्य व सामाजिक न्याय हा पाया :-

लोकशाहीत लोकांची सत्ता किंवा लोकांची जीवन पद्धती असा अर्थ अपेक्षित नसून लोकांचे स्वातंत्र्य, समता, सामाजिक न्याय हा सरकारचा पाया मानला जातो. विकासाचे प्रशासन हेच निवडणुकीचा तत्वात अपेक्षित नसून लोकांची मूलभूत इच्छा आणि स्थानिक लोकांची गरज लक्षात घेऊन शाश्वत विकास झाला पाहिजे. लोकशाही लोकांची दैनंदिन जीवनात प्रतिबिंब उमटले पाहिजे. "लोकशाही पाठीमागची अशी कल्पना आहे की, जास्तीत जास्त लोकांना निर्णय प्रक्रियेत सामावून घेऊन स्थानिक पातळीवर नागरीकांना निर्णय प्रक्रियेत सामील करून घेऊन त्यांच्यावर जबाबदारी देऊन सर्व कामे पार पाडवीत."३ लोकशाही मध्ये सर्व लोक समान समजले जातात. लोकशाहीत सरकारची एक अशी व्यवस्था आहे जिथे नागरिकांना प्रस्तावामध्ये सहभागी होण्यास आणि कायद्याने निर्मिती करण्यास परवानगी आहे. लोकशाहीमध्ये बहुसंख्य नियम असतात. सरकार यामध्ये सर्वाधिक शक्ती लोकांकडून होते आणि सामान्य प्रतिनिधी द्वारे वापरले जाते. विकसनशील देशात निरक्षरतेचे प्रमाण दारिद्र्य, जातीभेद या वृत्तीही विकेंद्रीकरणाच्या आड येतात; पण ती कारणे असल्यापेक्षा त्यांच्या अविकसित स्थितीचे परिणामच आहेत आणि म्हणून विकेंद्रीकरणाची खरी गरज आशा देशातच अधिक आहे.

५) राजकीय सत्तेत सामान्यांच्या सहभागाचे महत्त्व:-

भारतातील विकास साध्य करण्यासाठी विकेंद्रीकरणाचा मोठ्या प्रमाणात स्वीकार करावा लागेल. विकेंद्रीकरणाची संकल्पनाही आर्थिक, राजकीय दृष्टिकोनातून महत्त्वाची ठरते. यांच्या माध्यमातून गावातील तळागाळातील लोकांचा समावेश राजकीय प्रक्रियेत होईल आणि आर्थिक विकेंद्रीकरण हे समाजातील श्रीमंत, गरीब, श्रेष्ठ-कनिष्ठ भेदभाव नष्ट होईल. समाजात समता प्रस्थापित होऊन विकासाचे मार्ग हे प्रशस्त केले जातील. राजकीय परिणाम हे विशेष करून टीकात्मक आहेत. कारण "राज्याचे लोकशाही मार्गाने यात पुन्हा बांधणी होते. याच लोकांना निर्णय प्रक्रियेत सामावून घेऊन लोकांच्या चर्चेतून सहभागातून निर्णय घेतले जातात."४ स्थानिक शासन हे रिकाम्या जागेसारखे अस्तित्वात येत नाही. स्थानिक शासनाला अधिकार सत्ता प्राप्त होते. राजकीय सत्तेत सहभागी त्वाचा एक महत्त्वाचा घटक म्हणून स्थानिक शासनाला विकेंद्रीकरणात महत्त्व आहे. स्थानिक समस्याचे समाधान, स्थानिक जनतेचा सहभाग आणि स्थानिक नेतृत्वाला संधी यामुळे स्थानिक स्वशासन लोकशाही व्यवस्थेचा मुलाधार मानला जातो. स्थानिक स्वशासनास शाश्वत विकासाचे पहिली पायरी असे म्हणतात.

६) शाश्वत विकासासाठी लोकशाही व अहिंसा यांच्यातील विसंगतपणा फायदेशीर :-

विकसनशील देशात विकासाच्या मार्गाने मोठे समाज परिवर्तन घडून येत आहे. शासन संस्थेचे भूमिका प्रभावी आणि अग्रेसर आहे ती म्हणजे आर्थिक, सामाजिक आणि राजकीय क्षेत्रामध्ये आमूलाग्र बदल घडत असून लोकांना सुखी करून त्यांची

नैतिक व आध्यात्मिक प्रगती करणे हे आमचे ध्येय आहे. हे ध्येय लोकशाही विकेंद्रीकरण आतून साध्य होऊ शकते. विकेंद्रीकरण अहिंसेशी विसंगत आहे. खेड्याचा सर्वांगीण विकास करण्यासाठी लोकशाहीत भर दिला आहे. "आज शहरी लोकांची सुरक्षितता धोक्यात असल्यामुळे मोठ्या प्रमाणावर सरकारला पोलीस सेवेवर खर्च करावा लागतो. कारण संपत्तीचे केंद्रीकरण शहरात झाले आहे. यामुळे शहरी प्रश्न वाढले आहेत. त्यामुळे पोलीस संरक्षणाची मोठ्या प्रमाणात गरज लागते. अशी पोलीस संरक्षणाची गरज खेड्यातील झोपडीत राहणार्या लोकांना लागत नाही कारण त्यांच्याकडे चोरी करण्यासारखे काहीच नसते."५ आज पोलीस संरक्षण श्रीमंत राजकारणी, उद्योगपती यांनाच जास्त लागते.

७) सत्तेच्या विकेंद्रीकरणातून राजकीय जागृती:-

सत्तेचे विकेंद्रीकरण ही लोकशाहीच्या दृष्टीने अत्यावश्यक बाब आहे. लोकशाही विकेंद्रीकरण प्रक्रियेत पंचायतींना महत्त्वाचे स्थान असते. "विकेंद्रीकरण निर्माण करण्याचा प्रमुख उद्देश सत्तेचे विकेंद्रीकरण होते आणि खेड्यांना स्वावलंबी बनवणे, ग्रामीण जनतेत राजकीय जागृती निर्माण करणे, ग्रामीण जनतेत नेतृत्वाचे गुण निर्माण करणे, राष्ट्र, राज्य व ग्रामस्थरा पासून नेतृत्वाची उभारणी करणे. लोकशाही विकेंद्रीकरणात स्थानिक संस्थांना सहभागी केल्यास विकास कामे ही सरकारी कामे न राहता ग्रामस्थांची कामे बनतील यासाठी लोकांना विश्वासात घेण्यासाठी त्यांच्यावर जबाबदारी टाकणे गरजेचे आहे. लोकशाही विकेंद्रीकरणात हे शक्य आहे."६ विकास ही समाज परिवर्तनाची प्रक्रिया आहे आज एकविसाव्या शतकात लोकांच्या अपेक्षा सरकार कडून वाढले आहेत. या अपेक्षांची पूर्तता सरकार सुयोग्य करू शकत नाही. या कामी स्थानिक प्रशासनाची मदत घेतल्यास स्थानिक समस्या व उपाय सुचवता येतील. यासाठी स्थानिक शासनास अधिकार प्राप्त झाल्यास हे शक्य होईल.

८) सामाजिक ऐक्य हा विचाराचा शाश्वत विकास:-

समाजात विविध जाती जमातीचे लोक राहतात, त्यांच्यात संघर्ष उद्भवतात यामुळे न्यायालयात दाखल होणारे खटले दिवसेंदिवस वाढत आहेत. यासाठी गावपातळीवर तंटे गावातच मीठवले तर पुढे होणारा न्यायालय सर्च वाचतो व लोकांचा वेळ तसेच पैसा वाचतो म्हणून "महाराष्ट्र शासनाने तंटामुक्ती योजना सुरू केली. यासाठी शासनाने पुढाकार घेतला यामुळे गावाचे सामाजिक ऐक्य धोक्यात येत नाही."७ ग्रामीण भागातील तंटे सोडवण्यासाठी पद्धत लोकसहभागातून निर्माण व्हावी, गावात तंटे निर्माण होऊ नये व झालेले तंटे हे गावातच सोडवण्यात यावेत. खेड्यापाड्यातील सामाजिक शांतता, जातीय सलोखा आणि एकी कायम ठेवण्यासाठी गावात तंटामुक्ती असणे आवश्यक आहे यामुळेच गावाचे सामाजिक ऐक्य धोक्यात येत नाही आणि सामाजिक शाश्वत विकास होण्यास मदत होते.

निष्कर्ष:-

- १) शाश्वत विकासात सरकारच्या योजना ह्या कागदोपत्री न राहता प्रत्यक्ष साकार होऊन गावाचा विकास होण्यास मदत होईल.
- २) शाश्वत विकासात राजकीय सामाजिक व आर्थिक इत्यादी क्षेत्राचे महत्त्वाची भूमिका असते.
- ३) शाश्वत विकासात आर्थिक सत्तेचे विकेंद्रीकरण होणे गरजेचे आहे.
- ४) सत्तेच्या विकेंद्रीकरणा मुळे शाश्वत विकासात समाजातील तळागाळातील लोकांचा सहभाग झालेला दिसून येतो.
- ५) शाश्वत विकासात राजकीय सत्तेचे विकेंद्रीकरणातून राजकीय जागृती होते.
- ६) शाश्वत विकास साधत असताना सामाजिक ऐक्य निर्माण होते.
- ७) संयुक्त राष्ट्रसंघाच्या सदस्य राष्ट्रांनी जगाच्या शाश्वत विकासासाठी सतरा लक्ष्याची ऐतिहासिक योजना 1 जानेवारी 2016 पासून सुरू केली आहे. या योजनेचा उद्देश 2030 पर्यंत अधिक संपन्न, अधिक समतावादी न्यायपूर्ण, शांततामय व सुरक्षित जगाची निर्मिती करणे हा आहे.

समारोप:-

अशा रीतीने विकेंद्रित शासन आणि लोकशाही हे शाश्वत विकासातील पहिले पाऊल आहे. धर्म, नीती, राजकारण, अर्थकारण, शिक्षण, कायदा, आरोग्य, शेती, श्रम, आंतरराष्ट्र वाद, युद्ध, सार्वजनिक जीवन तसेच वैयक्तिक जीवन या सर्व घटकाचा शाश्वत विकास साधत असताना विचार करावा लागतो. शाश्वत विकास या शब्दाचा अर्थ व्यापक आहे. राजकीय दृष्टिकोनातून शाश्वत विकास करत असताना राजकीय सत्तेच्या विकेंद्रीकरणाला प्राधान्य दिलेले दिसून येते तसेच आर्थिक सत्तेचे देखील विकेंद्रीकरण झालेली दिसून येते. तसेच शाश्वत विकासाचा समता, स्वातंत्र्य व सामाजिक न्याय हा पायाच असल्याचे जाणवते. शेवटी ग्रामीण भागातील समस्या सोडवण्यासाठी गावात तंटामुक्त समिती स्थापन करण्यात यावी ज्यामुळे गावातील

समस्या गावातच सोडविल्या जाव्यात खेड्यापाड्यातील सामाजिक शांतता, जातीय सलोखा आणि एकी कायम टिकविण्यासाठी गावात तंटामुक्ती समिती असणे आवश्यक आहे आणि यामुळेच गावचे सामाजिक ऐक्य धोक्यात येत नाही आणि शाश्वत सामाजिक विकास होण्यास मदत होते.

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समाज में बच्चों के प्रति बढ़ती हिंसा के प्रति समाज को जागरूक करना

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प्रस्तावना-

सभी माता-पिता यह चाहते हैं कि उनका बच्चा बड़ा होकर एक अच्छा इंसान बने और उनका नाम रोशन करे भारत में खासतौर पर बच्चे जबतक खुद समझदार नहीं हो जाते, माता-पिता उन्हें अनुशासन में रखने के लिये कभी प्यार तो कभी सख्ती का इस्तेमाल करते हैं। लेकिन कई बार माता-पिता अनजाने में बच्चों को अच्छी सीख देने के इरादे से उनको मानसिक और शारीरिक प्रताड़ना दे रहे होते हैं। यूनिसेफ के द्वारा कराये गये अध्ययन में पता चला है कि भारतीय परिवारों में अनुशासन सिखाने के प्रयास के तहत 6 साल तक के बच्चों के साथ 30 अलग-अलग तरह की हिंसा को अंजाम दिया जाता है। इनमें शारीरिक, मौखिक और कभी-कभी मानसिक उत्पीड़न भी शामिल है। सर्वे में पता चला है कि लड़के और लड़कियों को अपने बचपन के दौरान उत्पीड़न झेलना पड़ता है।

बच्चों के विरुद्ध की गई हिंसा के प्रकार-

यूनिसेफ ने अपने सर्वे में बच्चों पर होने वाली 30 तरह की हिंसाओं का जिक्र किया है, जिसमें जलाना, चिकोटी काटना, थप्पड़ मारना, छड़ी, बेल्ट, छड़ आदि से पीटने को शारीरिक हिंसा में रखा गया है। वहीं दोषारोपण, आलोचना करना, चिल्लाना, भद्दी भाषा का इस्तेमाल करने को मौखिक हिंसा की श्रेणी में रखा गया है। इसके अलावा बच्चों को खाना न देना, बाहर जाने से रोकना, भेदभाव करना, मन में भय पैदा करना जैसे उत्पीड़न को भावनात्मक उत्पीड़न में शामिल किया गया है।

बच्चों के विरुद्ध विगत वर्षों में हुये हिंसा के आंकड़े-

नेशनल क्राइम रिकॉर्ड्स ब्यूरो, गृह मंत्रालय, भारत सरकार द्वारा प्रतिवर्ष प्रकाशित क्राइम इन इंडिया रिपोर्ट से पता चलता है कि 2009 में बाल बलात्कार (बच्चों के खिलाफ अपराध का 22 प्रतिशत) के 5368 मामले दर्ज किए गये थे, 2010 में 5484 मामले (बच्चों के खिलाफ अपराध का 20.5 प्रतिशत) और 2011 में 7112 मामले (बच्चों के खिलाफ अपराध का 21.5 प्रतिशत)। बच्चों के खिलाफ यौन अपराधों की घटनाओं में वृद्धि जारी रही। भारत में अपराध साल 2014 से पता चलता है कि पाक्सो अधिनियम और बाल बलात्कार के तहत क्रमशः 8904 और 13766 मामले दर्ज किए गये थे।

भारत में 2015 में पाक्सो अधिनियम के तहत 14,913 मामले दर्ज किए गए और अन्य 10,854 में बाल बलात्कार के मामले दर्ज किए गए। भारत में अपराध 2016 से पता चलता है कि पाक्सो अधिनियम और अन्य प्रसंगिक आईपीसी प्रावधानों के तहत 36,022 मामले दर्ज किए गए थे। अपराधों से बच्चों का संरक्षण अधिनियम 2012 पाक्सो अधिनियम एक ऐतिहासिक कानून है।

पाक्सो अधिनियम-

पाक्सो अधिनियम के तहत अपराध करने का प्रयास 'अपराध के लिये प्रदान किये गये किसी भी विवरण के कारावास से दंडित किया जाता है, एक अवधि के लिये जो आजीवन कारावास तक बढ़ सकता है और उस अपराध के लिए या जुमाने के साथ या दोनों के साथ कैद की सबसे लंबी अवधि (धारा 18)। "सजा की शर्तों के अंशों की गणना करने के लिए, आजीवन कारावास को बीस साल के कारावास के बराबर माना जाएगा" (आईपीसी की धारा 57). विशेष अदालत को अपराध का संज्ञान लेते हुये अदालत के 30 दिनों के भीतर बच्चे के सबूतों की रिकार्डिंग पूरी करनी होती है। इस अवधि का कोई भी विस्तार विशेष न्यायालय द्वारा लिखित रूप में दर्ज किया जाना चाहिए, कारणों के साथ (धारा 34 (1)). विशेष न्यायालय की आवश्यकता है, जहां तक संभव हो, अपराध (धारा 35(2))का संज्ञान लेने की तारीख से एक वर्ष के भीतर मुकदमा पूरा किया जाए।

पाक्सो अधिनियम में शारीरिक रूप से या मानसिक रूप से अक्षम बच्चे को अनुवादक, दुभाषिया या विशेष शिक्षक की सहायता के माध्यम से पुलिस स्टेशन, मजिस्ट्रेट और विशेष अदालत के स्तर पर संवाद करने में सक्षम बनाने के प्रावधान हैं। उपर्युक्त आंकड़ों से संकेत मिलता है कि दिल्ली में विशेष न्यायालयों ने शारीरिक रूप से अक्षम बच्चों को दुभाषियों की सहायता प्रदान की है। मुंबई में सत्र न्यायालय, हालांकि पाक्सो अधिनियम को लागू करने से पहले, मानसिक रूप से अक्षम बच्चों को दुभाषियों की सहायता के साथ-साथ मानसिक स्वास्थ्य पेशेवरों, विशेषज्ञों और सहायता व्यक्तियों को भी प्रदान किया

है। पाक्सो अधिनियम (धारा 16 और 17)के तहत किसी अपराध को उकसाने की सजा है। इसमें उन परिस्थितियों का उल्लेख किया गया है जिनके तहत किसी व्यक्ति को किसी अपराध के लिए उकसाने के लिए कहा जाता है, साथ ही उसकी सजा भी- "यदि उकसाने के परिणामस्वरूप उकसाया गया कृत्य किया जाता है, तो उस अपराध के लिए प्रदान की गयी सजा के साथ दंडित किया जाएगा।

प्रमुख प्रावधान-

- अधिनियम बच्चे के बयान को दर्ज करते समय और विशेष अदालत द्वारा बच्चे के बयान के दौरान जांच एजेंसी द्वारा विशेष प्रक्रियाओं का पालन करता है।
- सभी के लिए अधिनियम के तहत यौन अपराध के बारे में पुलिस को रिपोर्ट करना अनिवार्य है, और कानून में गैर रिपोर्टिंग के लिए दंड का प्रावधान शामिल है।
- अधिनियम में यह सुनिश्चित करने के प्रावधान है कि एक बच्चे की पहचान जिसके खिलाफ यौन अपराध किया जाता है, मीडिया द्वारा खुलासा नहीं किया जाए।
- इस अधिनियम के तहत सूचीबद्ध अपराधों से निपटने के लिए विशेष न्यायालयों के पदनाम और विशेष लोक अभियोजकों की नियुक्ति का प्रावधान है।
- बच्चों को पूर्व-परीक्षण चरण और परीक्षण चरण के दौरान अनुवादकों, दुभाषियों, विशेष शिक्षकों, विशेषज्ञों, समर्थन व्यक्तियों और गैर-सरकारी संगठनों के रूप में अन्य विशेष सहायता प्रदान की जानी है।
- बच्चे अपनी पसंद या मुफ्त कानूनी सहायता के वकील द्वारा कानूनी प्रतिनिधित्व के हकदार हैं।

पाक्सो अधिनियम की प्रमुख विशेषताएं-

बच्चों को 18 वर्ष से कम आयु के व्यक्तियों के रूप में परिभाषित किया गया है। अधिनियम लिंग तटस्थ है, अर्थात्, यह स्वीकार करता है कि अपराध और अपराधियों के शिकार पुरुष, महिला या तीसरे लिंग हो सकते हैं। यह एक नाबालिग के साथ सभी यौन गतिविधि को अपराध बनाकर यौन सहमति की उम्र को 16 साल से 18 साल तक बढ़ा देता है। अधिनियम यह मानता है कि यौन शोषण में शारीरिक संपर्क शामिल हो सकता है या शामिल नहीं भी हो सकता है, यह इन अपराधों को यौन उत्पीड़न और यौन उत्पीड़न के रूप में वर्गीकृत करता है। जनवरी 2010 में, नेशनल कमीशन फार प्रोटेक्शन ऑफ चाइल्ड राइट्स (एनसीपीसीआर) ने बच्चों के लिए काम करने वाले कुछ एनजीओ को जैसे, कि तुलिर-सेंटर फॉर द प्रिवेंशन एंड हीलिंग और चाइल्ड सेक्सुअल एब्यूज एंड एचएक्यू सेंटर फॉर चाइल्ड राइट्स बिल पर चर्चा करने के लिए आमंत्रित किया। समिति ने विधेयक के मसौदे को खारिज कर दिया और प्रस्तावित कानून के ठोस और प्रक्रियात्मक पहलुओं से निपटते हुए एक वैकल्पिक मसौदा तैयार किया, जिसे तब एनसीपीसीआर ने मंत्रालय को प्रस्तुत किया था। पाक्सो अधिनियम और यौन अपराधों से बच्चों का संरक्षण नियम 2012 एक साथ 14 नवम्बर 2012 को लागू हुआ। महिला एवं बाल विकास मंत्रालय ने पाक्सो अधिनियम 2012 की धारा 39 के तहत आदर्श दिशानिर्देश तैयार कर के देखा। पाक्सो अधिनियम के परिणामस्वरूप, स्वास्थ्य और परिवार कल्याण मंत्रालय की एक और पहल के तहत बालकों के चिकित्सा परीक्षण के लिए दिशानिर्देश तैयार किया गया। बच्चों को यौन शोषण का खतरा है, देखभालकर्ताओं द्वारा फ्रेंडी पीट्स केस को प्रस्तुत किया गया था, विशेष रूप से यह सफल अभियोजन के परिणामस्वरूप हुआ था। सुप्रीम कोर्ट ने साक्षी केस 1/4 Sakshi vs. Union of India: (1999) 6SCC591½ में यौन शोषण से निपटने के लिए आईपीसी की अपर्याप्तता पर प्रकाश डाला था। जब महिला एवं बाल विकास मंत्रालय ने बच्चों के खिलाफ अपराध विधेयक का मसौदा परिचालित किया (2009) तब शुरू हुई कानून बनाने की प्रक्रिया जो अंत में पाक्सो अधिनियम बन गयी। बाल यौन शोषण मामलों को तब आपराधिक प्रमुख अधिनियम 1 और न्यायिक मिसाल के प्रावधानों के तहत दर्ज किया गया था। कई गैर सरकारी संगठनों और व्यक्तियों ने इस मुद्दे को उजागर करने और यह सुनिश्चित करने के लिए एक समर्पित भूमिका निभाई। अधिनियम की धारा 46 के अनुसार, अधिनियम के प्रावधानों को प्रभावी करने में उत्पन्न किसी भी कठिनाई को केंद्र सरकार द्वारा अधिनियम के लागू होने के दो साल के भीतर हटाया जा सकता है। हालांकि, पहले दो साल सेवा प्रदाताओं के लिए दिशानिर्देशों को पूरा करने और पाक्सो अधिनियम के तहत विशेष न्यायालयों को नामित करने में गया। बच्चों के विरुद्ध होने वाले अपराधों के कारण-

भारत देश में अधिकांश जनसंख्या गरीबी स्तर के नीचे निवास कर रही है, जिस कारण से शिक्षा के अभाव के कारण एवं अज्ञानतावश, माता-पिता बच्चों पर उचित रूप से ध्यान नहीं दे पाते हैं। बच्चों पर उचित रूप से ध्यान न दे पाने का कारण संयुक्त परिवार का विघटन भी है। साथ ही कई जगह पर माता-पिता दोनों कार्य करते हैं, जिस कारण से वह बच्चों पर उचित रूप से ध्यान नहीं दे पाते हैं। साथ ही वर्तमान में टीवी चैनलों व मोबाइल पर एवं फिल्मों अश्लील दृश्यों की

अधिकता के कारण भी बच्चों के प्रति अपराधों में वृद्धि हुयी है। इसके अतिरिक्त कम उम्र के बच्चे कुछ सोचने-समझने में असमर्थ होते हैं, वह नहीं समझते हैं कि कौन व्यक्ति उनको किस इरादे से छू रहा है, जिस कारण से भी बच्चों के प्रति अपराधों में निरंतर वृद्धि हो रही है।

बच्चों के विरुद्ध होने वाले अपराधों को रोकने के उपाय-

बच्चों के विरुद्ध अपराधों के संबंध में विगत कुछ वर्षों के आंकड़ों को देखने से यह स्पष्ट है कि बच्चों के प्रति अपराधों में निरंतर वृद्धि हो रही है। पाक्सो अधिनियम में कठोर दण्ड के प्रावधान किये जाने के पश्चात् भी बालकों के विरुद्ध होने वाले अपराधों में कमी नहीं आ रही है। अतः बालकों या बच्चों के विरुद्ध अपराधों में कमी करने के लिए इस संबंध में बच्चों के माता-पिता एवं बच्चों को जानकारी देने की एवं शिक्षा देने की आवश्यकता है। वर्तमान में कई स्कूलों में विधिक साक्षरता शिविर आयोजित किये जाते हैं, जिसमें न्यायाधीशगण, अधिवक्तागण तथा पुलिस अधिकारीगण के द्वारा बच्चों को गुडटच एवं बेडटच के बारे में जानकारी दी जाती है तथा बच्चों को बताया जाता है कि यदि कोई उनको गलत नियत से छू रहा है तो उसकी जानकारी अपने माता-पिता, अपने शिक्षक तथा अपने साथवाले बच्चों को जरूर दें, उनको डरने की आवश्यकता नहीं है। साथ ही विधिक साक्षरता शिविर में यह भी जानकारी दी जाती है कि किस प्रकार से कानूनी कार्यवाही करना है तथा कानूनी कार्यवाही करने पर फरियादीपक्ष को क्या-क्या विधिक उपचार उपलब्ध हैं। बच्चों के प्रति होने वाले अपराधों को रोकने हेतु सबसे प्रमुख जवाबदारी उनके माता-पिता की है, उनको हमेशा ही अपने बच्चे पर यह नजर रखनी चाहिए कि बच्चा कहीं गलत प्रभाव में तो नहीं आ रहा है। यदि उपरोक्त सभी बातों पर ध्यान दिया जाये तो, निश्चित ही बच्चों के प्रति अपराधों में कमी आने की संभावना है।

निष्कर्ष-

भारत के कुल जनसंख्या का 37 प्रतिशत हिस्सा बच्चों का है और विश्व की कुल जनसंख्या में 20 प्रतिशत हिस्सा बच्चों का है तथा बच्चे ही बड़े होकर देश की तरक्की की आधारशिला बनते हैं। बच्चों का यौन शोषण एक सामुदायिक चिंता का विषय बन गया है और कई विधायी और व्यावसायिक पहलों पर ध्यान केंद्रित किया है।

व्यसकों की तुलना में, बच्चों को अपने उपर हुए जुल्मों का खुलासा करना अधिक कठिन लगता है। यह सिद्ध करने के लिए पर्याप्त सबूत हैं कि जिन लोगों ने अपने बचपन में दुर्व्यवहार का सामना किया है, वे इसके दुष्परिणामों को अपने व्यस्कता में अच्छी तरह से जानते हैं, दूसरों के साथ अपने संबंधों और स्वयं की छवि को आकार देते हैं। सालों से बाल शोषण पर ध्यान आकर्षित करने और इसके आसपास की चुप्पी की साजिश को तोड़ने के लिए कई प्रयास किए गए हैं। विगत कुछ वर्षों में पाक्सो अधिनियम के अंतर्गत कई गंभीर मामलों में न्यायालयों के द्वारा आरोपियों के मृत्युदण्ड की सजा भी प्रदान की गयी है।

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पर्यावरणाचा मानवी जीवनावर होणारा परिणाम : एक अभ्यास

प्रा. दुलेखॉ इब्राहिम पठाण

भूगोल विभाग, पुण्यश्लोक अहिल्यादेवी होळकर, कनिष्ठ महाविद्यालय राणीसावरगाव, ता. गंगाखेड, जि.परभणी
प्रस्तावना :

जागतिक स्तरावर पाहता सर्वप्रथम पर्यावरण आणि विकासास प्राधान्य आहे. पर्यावरण आणि विकास एकमेकास पूरक आहेत. वास्तवात या एकाच नाण्याच्या दोन बाजू आहेत. पर्यावरणीयदृष्ट्या भक्त विकास संकल्पना सर्व देशांना लागू पडते. मानवाच्या पर्यावरणाचे रूपांतर करण्याच्या क्षमतेमुळे आर्थिक विकासाचे फायदे त्याला मिळू शकतात आणि मानवी जीवनमानाचे गुणसंवर्धन करण्याची संधी प्राप्त होते. अन्यथा याच शक्तीचा दुरुपयोग केल्यास नैसर्गिक पर्यावरणाची अपरिमित हानी देखील होऊ शकते आणि पर्यायाने मानवी जीवनावर त्याचा प्रतिकूल परिणाम होतो. कोणत्याही प्रकारचा उशीर न करता पर्यावरणीय समस्येची हाताळणी केली पाहिजे. नाही तर मानव आणि त्याच्या पर्यावरणावर संकलित आघात होईल. प्रतिबंधात्मक उपायांना उशीर केल्यास अधिक समस्या पुढे उभ्या ठाकतील आणि अशा नुकसानीची भरपाई करणे कठीण होईल. येथे प्रदूषित करण्यासाठी फक्त आपले जग आहे की, जे आपले फक्त एक घर आहे आणि तेच बिघडवून टाकले तर दुसरे कोणतेही नाही. जोपर्यंत पृथ्वीचे अस्तित्व आहे तोपर्यंतच माणूस जगू शकेल.

उद्देश :

- १) पर्यावरणाचा मानवी जीवनावर होणारा परिणाम पाहणे.
- २) पर्यावरण आणि समाज यांच्यातील परस्पर संबंध स्पष्ट करणे.
- ३) पर्यावरणातील व सामाजिक घटकांच्या अभ्यासाची गरज स्पष्ट करणे.
- ४) पर्यावरणीय समस्या यांची मानवी पार्श्वभूमी सांगणे.
- ५) पर्यावरण व मानवी समाजाच्या अभ्यासाचा दृष्टिकोन स्पष्ट करणे.
- ५) मानव, तंत्रज्ञान यांच्या पर्यावरणावरील प्रभावांचे स्पष्टीकरण करणे.
- ६) पर्यावरणातील वेगाने होणाऱ्या बदलांचा आढावा घेणे.

गृहितके :

- १) पर्यावरण आणि मानवी समाजाचा अभ्यास करता येतो.
- २) पर्यावरणीय समस्या यांची मानवी पार्श्वभूमी सांगता येते.
- ३) मानव आणि तंत्रज्ञान यांच्या पर्यावरणावरील प्रभावांचे स्पष्टीकरण करता येते.
- ४) पर्यावरणातील वेगाने होणाऱ्या बदलांचा आढावा घेता येतो.
- ५) पर्यावरण आणि मानव यांचा परस्पर संबंध सांगता येतो.

मानवनिर्मित पर्यावरणाचा विकास :

मानवी विकास सर्वस्वी पर्यावरणावर म्हणजेच निसर्गावर अवलंबून असल्याने मानवाचा पर्यावरणात हस्तक्षेप होणे सहाजिकच आहे. पर्यावरणाचा समतोल ढळेल म्हणून मानवाची विकास प्रक्रिया थांबविता येणार नाही. म्हणूनच मानवी विकासाच्या योजना कार्यान्वित करताना मानवाचे व सजीवांचे अस्तित्व पर्यावरणाच्या संतुलनावर आधारित आहे हे विसरून चालणार नाही. विकासाच्या हव्यासापोटी मानवाने नैसर्गिक तत्वे परिस्थितीकी तत्त्वे यांनाच शह दिला आहे. याचे दृश्य व अदृश्य परिणाम आपल्याला जाणवू लागले आहेत. उपयोगी वृत्तीच्या पाठलागात मानवाने मृदा, पाणी, वनस्पती, खनिजे, शक्ती साधने यांचा नाश केला. व त्या जागी मानवनिर्मित पर्यावरणाचा विकास आपल्या गरजा पुरवण्यासाठी केला. प्रचंड शहरे, कृत्रिम व रासायनिक खते, कीटकनाशके, मोठमोठी धरणे व कालवे यांचा वापर बेसुमारपणे केला. यामुळे मृदा, जल, खनिजे, प्राणी व वनस्पतीचे प्रचंड

नुकसान झाले. ज्या गोष्टी निसर्गाला निर्माण करायला हजारो वर्षे लागली. त्या गेल्या काही वर्षात मानवाने त्याच्या तंत्रज्ञानाच्या शक्तीने अगदी सहज वेगाने नष्ट केल्या. मानव व पर्यावरण यांचा संबंध मानवाच्या पृथ्वीवरील अस्तित्वापासूनच आहे. जसा पर्यावरणाचा मानवावर परिणाम होतो, तसाच मानवाचाही पर्यावरणावर प्रभाव पडतो. मानवाला जसे स्वतःचे अस्तित्व टिकवण्याचा अधिकार आहे, तसाच अधिकार इतर सजीवांनाही आहे. परंतु मानवाच्या स्वार्थी, लोभी, अतिरेकी व उपयोगी प्रवृत्तीमुळे पर्यावरणाचा ऱ्हास वेगाने होत आहेत. आज परिस्थिती अशी आहे की जर आपण पर्यावरण त्यांना समजून घेतले नाही तर कदाचित उद्या आपल्या अस्तित्वाचाच प्रश्न उभा राहील. यासाठी पर्यावरणाचा समतोल राखणे अतिशय महत्त्वाचे आहे. मानवी विकासासाठी पर्यावरणाचा वापर जरूर करावा परंतु त्याच बरोबर पर्यावरण संरक्षणाची व संवर्धनाचीही जबाबदारी घेतली पाहिजे. पर्यावरण संवर्धनाची जबाबदारी समस्त मानवी समाजाची आहे व ही जबाबदारी समजून घेण्यासाठी पर्यावरणाचा अभ्यास करणे गरजेचे आहे. पर्यावरण शास्त्र हा एक आंतरविद्याशाखीय अभ्यास आहे यात भूगोलशास्त्र, वनस्पतीशास्त्र, रसायनशास्त्र व भूगर्भशास्त्र यांचा समावेश तर आहेच, परंतु मानवी समाज शास्त्राचा अभ्यासही मोलाचा आहे. कारण पर्यावरण विषयीच्या मानवापुढील सध्याच्या समस्या प्रामुख्याने मानवनिर्मित आहेत.

पर्यावरणातील घटक :

पर्यावरण म्हंटले की, ते कोण कोणत्या घटकांनी बनलेले असते, याबद्दल आपण विचार करू लागतो. या घटकांची यादी करावयाची झाली तर आपण भूमी व त्या खालील भुजला पासून सुरुवात करायला हवी. पर्यावरणाची खऱ्या अर्थाने सुरुवात भुजलापासून होते. मुख्यतः ज्या प्रदेशात सजीव केवळ पावसाच्या पाण्यावर अवलंबून असतात, तिथे भूजलास अनन्यसाधारण महत्त्व असते. उदा. वाळवंटातील जीवसृष्टी भूजलावर अवलंबून असते. भूजल, खडक आणि माती हे तीन घटक सजीवांच्या सृष्टीची पद ठरवतात. वनस्पतीच्या वाढीसाठी पाण्याबरोबर मातीची आवश्यकता असते. मातीची कस ती माती कुठल्या खडकापासून तयार झाली ती शुष्क आहे की ओलावा असलेली आहे, तिची सुपीकता तीत असलेल्या व्यवस्थेवर अवलंबून असते. विशिष्ट पर्यावरणात उगवणाऱ्या वनस्पती व वित्त पूर्ण असतात. उदा. हिमालयातील वनस्पती महाराष्ट्रात कधीच नीट होऊ शकणार नाहीत. कारण सागर सपाटीपासून उंची, तापमान, पर्जन्य, सूर्यप्रकाश, माती असे विविध घटक हिमालयातील वृक्ष वाढवण्यास मदत करतात. त्यातील कमतरता किंवा अधिकता या वृक्षांच्या वाढीस प्रतिकूल ठरली. महाराष्ट्रात पठारावर बाभूळ, करवंती, आंबा, पिंपळ, वड या वनस्पती आढळतात किंवा कोकणातला हापूस आंबा दुसरीकडे येत नाही. याचे कारण जमीन, पाणी, हवा, वनस्पती व त्या भागातली सजीव या सगळ्यांचा परस्पर संबंध हे होय. एखाद्या भागामध्ये ज्या वनस्पती उगवतात त्यावर अवलंबून तिथे प्राणिसृष्टी वाढत असते. पर्यावरणातील सर्वच घटक अशा प्रकारे परस्पर परस्परावलंबी असतात. काळाच्या ओघात त्यांच्यातील परस्पर प्रक्रियांनी एखाद्या विशिष्ट भौगोलिक स्थानाचे पर्यावरण निश्चित होत असते. यालाच या ठिकाणाचा पर्यावरणाचा समतोल असे म्हंटले जाते. यात महत्त्वाची गोष्ट अशी की, काही कारणांनी या घटकांपैकी एखाद्या जरी घटकांचे प्रमाण कमी व जास्त झाले, तरी हा पर्यावरणाचा समतोल ढासाळतो. त्याचा परिणाम मानवी घटकावर दिसून येतो.

पर्यावरण आणि मानवी संबंध :

नैसर्गिक पर्यावरणात मानवतेवर प्राणी, वनस्पती व सूक्ष्मजीव त्यांच्या सभोवताली असणाऱ्या पर्यावरणात नैसर्गिकपणे जीवन जगतात. नैसर्गिक तत्त्वे, चक्रप्रणाली यांच्यात बाधा न आणता इतर सजीवांचा जीवनक्रम अनादीकाळापासून सातत्याने चालू आहे. नैसर्गिक कारणांनी पर्यावरणात होणारे बदल सोडले तर इतर सजीवांचा पर्यावरणात बदल घडवून आणण्यात कोणताही सहभाग नाही. मानवतेवर सजीव नैसर्गिक तत्त्वांना अनुसरून निसर्गाच्या चौकटीत जीवन क्रम पूर्ण करतात. नैसर्गिक पर्यावरणात बदल घडवून आणण्याइतपत इतर सजीवांची

क्षमता नसल्यामुळे निसर्गाचा एक घटक म्हणूनच ते जीवनक्रम पूर्ण करतात. याउलट मानव मात्र नैसर्गिक पर्यावरणात आहे त्या स्थितीत राहतात सुख, सुविधा, विकास उपभोग यांच्या नावाखाली सातत्याने सभोवतालच्या परिस्थितीत ढवळाढवळ करत आला आहे. मानवाचे पृथ्वीवरील अस्तित्व सुमारे दहा ते वीस लाख वर्षांपासून आहे. काळाच्या ओघात मानवी समाजाची उत्क्रांती होत गेली. शेती तंत्राचा शोध लागेपर्यंत मानवाचे जीवन भटके व अस्थिर स्वरूपाचे होते. इतर प्राण्यांमध्ये मानवी समूह पर्यावरणाच्या आवाक्यातच मूलभूत गरजांची पूर्तता करित असत. मानवाचे निसर्ग विषयक ज्ञानही मर्यादित होते. शेती तंत्रज्ञानानंतर मात्र मानवी संस्कृतीच्या उत्पादनाला सुरुवात झाली. तेथून पर्यावरणातील संप्रदायाच्या वापराला खऱ्या अर्थाने सुरुवात झाली. नंतर मानवी समाजाच्या विकासात संशोधने, औद्योगिक क्रांती, आधुनिकीकरण, नागरी क्रांती, स्थानांतरे, तंत्रज्ञानात्मक क्रांती असे विविध टप्पे बघायला मिळतात. या सर्वांचा पर्यावरणाच्या एकूण स्वरूपावर विघातक दुष्परिणाम झाला आहे.

तंत्रज्ञान आणि पर्यावरण यांचे परिणाम :

पृथ्वीवरील प्राकृतिक विविधतेमुळे सामाजिक उत्क्रांती होताना मानव आणि पर्यावरण यांच्यातील संघर्ष सातत्याने सुरू आहे. यातूनच मानवी समाजाची वेगवेगळी सामाजिकता सामूहिकपणे प्रकट झाली. आर्थिक व सामाजिक विकासासाठी तंत्रज्ञानाची वाटचाल करत असताना या तिन्ही घटकांचे परस्पर संबंध अभ्यासणे हा मानव पर्यावरण संबंधाचा महत्त्वाचा भाग ठरतो. सजीव समाजात वनस्पती व प्राणी, तसेच समाजाचे अस्तित्व पूर्णतः वेगळ्या स्वरूपाची आहे. मानवाला बुद्धी, वाचा, कल्पना या महत्त्वपूर्ण देणग्या असल्याने पर्यावरणातील संपदा, शक्ती, वैज्ञानिक तत्वे या विषयी मानवाने कल्पकता, बौद्धिक सामर्थ्य व तंत्रज्ञान यांच्या जोरावर रहस्य शोधून काढली. याचा वापर मानवी संस्कृतीच्या विकासासाठी मोठ्या प्रमाणावर झाला. याबरोबरच मानवी समाज, तंत्रज्ञान विकास यांचे पर्यावरणावर काय परिणाम होतील, याकडे फारसे लक्ष न दिल्यामुळे या तीनही घटकांचा आंतरसंबंध व परिणाम अभ्यासणे गरजेचे आहे. आज आधुनिक युगात तंत्रज्ञानात वेगवान बदल होत असल्याने त्यांचे पर्यावरणावरील परिणाम लक्षात घेण्याची गरज निर्माण झाली आहे.

निष्कर्ष :

- १) सध्याचा मानवी समाज पर्यावरणातील संपदांचा वापर करताना फक्त स्वतःच्या हक्काचा विचार करतो. पर्यावरणीय दृष्टिकोनातून मात्र ही पूर्णतः विसंगत आहे. या संपदांचा, तंत्रज्ञानाचा वापर करण्याचा जसा सध्याच्या पिढीला अधिकार आहे, त्याप्रमाणेच मानवाचे जैविक सहचारी वनस्पती व प्राणी यांचाही तेवढाच अधिकार आहे.
- २) शिवाय येणाऱ्या भावी पिढ्यांसाठी प्राकृतिक पर्यावरण व सांस्कृतिक पर्यावरण निकोप ठेवण्याची मोठी जबाबदारी सध्याच्या पिढीवर व तिच्या तंत्रज्ञानात्मक वाटचालीवर आहे. प्रत्यक्षात मात्र यापेक्षा चित्र फार वेगळे आहे.
- ३) पर्यावरणाच्या आरोग्याचे भान न ठेवता केवळ विकास, अल्प काळातील फायदे, स्पर्धेतील विषय, अतिभोगी वृत्ती यावर भर दिला जात आहे.
- ४) पर्यावरण तज्ज्ञांच्या मते मानवी समाजाच्या या दुर्लक्षितपणाची किंमत भावी काळातल्या पिढ्यांना नक्कीच भोगावी लागेल.
- ५) त्यासाठी मानव आणि पर्यावरण यांच्यातील सुसंवाद वाढवणे गरजेचे आहे.
- ६) तसेच मानवी ज्ञान जसे विकासाच्या मार्गावर वाटचाल करू शकते, तसेच त्याचा सकारात्मक वापर हा पर्यावरणाच्या निकोप आरोग्यासाठी करता येतो याचे भान आधुनिक मानवी समाजाने ठेवले पाहिजे, तरच मानवी अस्तित्व टिकेल; अन्यथा पृथ्वी हा निर्जीव ग्रह होण्याची शास्त्रज्ञांना भीती वाटत आहे.

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