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# Journal of Research and Development

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**February-2021. Special Issue-11, Volume-2**

***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

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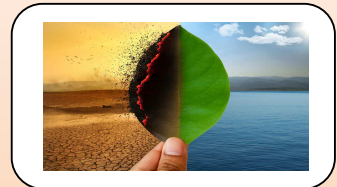
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**Dr. S. A. Chaus**

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## **Sustainable Development for Water Resource Management**

**Dr. Deshmukh S. B.**

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### **Abstract**

Human alone are not responsible for the origin of water scarcity. Nature also increases it in different ways such as distribution of rainfall is not equitable in the world. In India there is 1170 mm rainfall on an average every year, but 90% of it is either absorbed in the earth, or evaporates and go to seas. Sera golden, who has been associated with the activities of the World Bank and was the chief of the world water commission constituted at Hague, said on 11 August 1999 that, the main reason for water crisis is population explosion for meeting the water need of huge population, Systematic management of water sources will have to be made we need to pursue water management policies consciously, continuously and aggressively. Another option is to consider the oft-renewed proposal of linking of rivers to more water from areas of surplus to areas of deficit. At the meso-level we could better integrate groundwater development, Comprising exploration assessment and sustainable exploitation from remote sensing, by hydrogeological and geophysical studies. We could also consider alternatives to traditional cropping practices, where feasible Artificial recharge augmentation can be achieved by recharging wells and bores with good quality water from streams. With percolation tanks in semi-arid hardrock areas and with rainwater harvesting in Urban areas finally, at the micro level each one of us should be a socially aware and responsible Citizen, exercise water economy and Promote and support water management practice

### **Introduction**

"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs".

Water is an incredibly important aspect of our daily lives. Water is a basic necessity of all life on earth. Not only is it required for the environment and its life support Systems, the access to fresh water affects the very existence of human beings and their inherent dignity. A step to conserve water is the step to secure the future. Earth's total water is estimated to be 71% out of this only 2.8% of water which is used for drinking purpose. In the body of human being there is 65-75% of water out of his total weight. Population growth combined with the increase of demand per capita has resulted in unsustainable patterns of water consumption. But by considering the today's global and developing world it is essential to do water management for sustainable development.

### **Current Situation**

- 20% of the world's population does not have access to safe drinking water.
- 40% do not have sufficient water for adequate living and hygiene.
- More than 2.2 million people die each year from diseases related to contaminated drinking water
- By 2050, water scarcity will affect 2 to 7 billion people out of total 9.3 Billion.
- India with 16% of the world's population has only 4% of the fresh water resources.
- Per capita availability of fresh water in India has dropped from 5,177 cubic meters in 1951 to 1,820 cubic meters in 2001.
- Urban situation is no better. Water is rationed twice a week in Bangalore and for 30 minutes a day in Bhopal
- Two out of every three people on earth will have to live in water stressed condition by the year 2025.
- In many rural areas, women still have to walk a distance of about 2.5 kms to reach the source of water. On an average, a rural woman walks more than 14000 km a year just to fetch water.
- Water source being open dug well, the quality of water is poor, dirty, saline and has turbidity. Girls of 8-10 years are not spared. They cannot afford the luxury of school.

### **Objective-**

- To develop Water Resources using new technologies.
- For taking the care of available Water Resources establishment of the protective institutions and make the Laws & Rules.

### **Water Conservation-**

A step to conserve water is the step to secure the future. The most essential among all the natural resources on earth is water. A drop of water is worth more than a sack of gold for the thirsty man. If each one of us makes efforts to save water today, it will save us later. Water conservation is the most effective and environmentally sound method to fight global warming. Water conservation is what that can reduce the scarcity of water. It aims to improve the efficiency of use of water and reduce losses and waste.

### **Sustainable Development**

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their Own needs.

The concept of needs, in particular the essential needs of the world's poor, to which overriding priority should be given. The idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs.

Sustainable development includes following aspects-

- 1) Economic Development
- 2) Social Balance
- 3) Environment Conservation

**Sustainable development includes following policies -**

#### **1. Human rights and duties-**

- a) People have a human right to water to meet their basic needs and a right to use water for other purposes, but this right is balanced by their duty and right to protect the environment.
- b) People have a right to development, which requires both basic access to water and the right to use water for economic purposes, and a duty to respect and protect the aquatic environment.
- c) People have a right to a healthy environment and a duty to contribute to such an environment.
- d) People have a duty to take responsibility for their consumption and pollution of water to the end of conserving water and preserving the environment at large.

#### **2. Qualified sovereignty of states-**

- a) States have a right and duty to use water for their development and for the implementation of the right of self-determination of peoples, which requires both basic access to water and the right to use water for economic purposes, and a duty to respect and protect the aquatic environment.
- b) States have a right and duty to use water for the protection of public health and to protect the environment entailing its life support systems.
- c) States shall ensure that their use of water is not to the detriment of the global waters or the environment at large.

#### **3. Equitable and reasonable utilization-**

- a) In the application of the principle of equitable and reasonable utilization, the international community including people, states, companies and organizations has a responsibility to safeguard the basic access to water for present and future generations and to stimulate a supportive and open international economic system, qualified by the protection of ecological integrity and the environment as the common concern of humankind.
- b) The international community shall apply the principle of common but differentiated responsibilities in safeguarding equitable access to and use of water for all people while at the same time protecting the aquatic environment.

**Active Workers in INDIA for Water Conservation with History-**

#### **1. Centre for Science & Environment (CSE)-**

Created reports on basis of research & surveys to assess usefulness of local water bodies and feasibility and impact of government water policies.

#### **2. Tarun Bharat Sangh (TBS)-**

- ❖ Involved in revitalization of 5 rivers around Alwar region like Arvari and Ruparel.
- ❖ Uses traditional water harvesting methods especially 'Johads' or small earthen check dams.
- ❖ For every Rs. 100 invested village economic production raised by Rs. 400.
- ❖ Currently has 3000 water harvesting structures in 650 villages.
- ❖ Started the 'Jal Biradari' program in April 2001 to create awareness among people regarding National
- ❖ Water Policy. Against privatization of water resources and interlinking of rivers.

#### **3. Madhya Pradesh Watershed Management-**

At the community level, a preliminary application of the framework to the Madhya Pradesh Watershed Management framework, part of the 1994 Rajiv Gandhi Mission on Watershed Management, in India.

**Conclusion-**

The concept of sustainable development has gained much support as reflected in water management. Sustainable development is widely accepted as an overarching objective of the international community. Due to the useful policies of Sustainable development and water management it can be possible to improve the economic development, environment balance. Also with proper water management

We can able to suppress the problems created to today's generation and we will able to create a new generation without worry of water requirements. By doing this economy of our country will developed and we will see our self at a developed place.

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## **Inclusive Rural transformation through Innovation with reference to role of state**

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### **Abstract**

Development is progressively perceived as a powerful arrangement instrument for tending to the basic issues that portray neediness in minimized provincial networks. This unique issue unites key bits of knowledge from different aspects of rural change programs in the worldwide , with the view to reveal insight into the nature and results of state contribution. The commitments to this feature three areas in which the state assumes a significant job in prodding comprehensive rural change: advancing rural advancement , supporting provincial limit working , and the arrangement of master poor developments for country social improvement. In each of the three areas, government bolster combined with more prominent investment of neighborhood network individuals in the arranging and execution of inventive tasks demonstrated to create more noteworthy potential for progress. The commitments likewise underscore the essential job that the state must play in supporting nearby ability fabricating and spanning information holes between development makers and rural client networks, so as to encourage neighborhood retention of outer mechanical arrangements.

### **Introduction**

One of the fundamental highlights of imbalance in creating nations is the tireless pay and profitability isolate among urban and rural inhabitants, which brings about centralizations of destitution in provincial and semi urban zones. Going up against these difficulties require striking measures to quicken provincial change so as to build the investment of rural networks in standard monetary frameworks of creating nations, and improve the possibilities of accomplishing a considerable lot of the other manageable advancement objectives. Progressively, states are perceiving the potential benefit of saddling advancement to the comprehensive formative undertaking, to assemble maintainable networks and an impartial society equipped for going up against the approaching dangers of the twenty-first century. The discussion movements to conceptualizing the job of the state in advancing advancement for provincial change, an issue that has gotten little consideration in the writing so far. This exceptional issue is subsequently given to exploring different aspects of development corresponding to country change, so as to expand our comprehension of how such procedures can add to encouraging social and monetary incorporation of underestimated networks (see Heeks, Foster, and Nugroho 2014), or develop prohibition, by and large. The focal job that the state plays in controlling markets and nearby improvement offices to devise advancement and advancement techniques for adjusted and comprehensive auxiliary change is a basic concentration for every one of the papers included. This presentation will propel why such a center is critical at this particular crossroads. It will at that point talk about the commitments to the exceptional issue as far as their bits of knowledge for three topics, finishing up by setting out bearings for additional exploration.

### **Rural Development and societal transformation**

In the course of recent decades, salary and riches disparity increases been ascending inside many developing nations, regardless of a worldwide pattern towards a decrease in pay imbalance between nations , reflecting innovative make up for lost time and worldwide pay convergence. Over a similar period, there has been an expanding acknowledgment that unnecessary pay and resource disparity is hurtful to financial improvement (Persson and Tabellini 1994; Deininger and Squire 1998; Rodrik 1999; Ostry, Berg, and Tsangarides 2014; Stiglitz 2015; Ustyuzhantseva 2017). Basic change coming about because of asset realloca-tion from low-efficiency conventional divisions to high-profitability fabricating area is viewed as a run of the mill approach to accomplish the benefits of expansion due to the static and dynamic picks up that reallocation can achieve (Ranis and Fei 1961; Duarte and Restuccia 2010; Lavopa and Szirmai 2012). The difficulties of basic change are especially distinct for creating nations with a developing partition among rural and urban populaces. With the worldwide rise of problematic advancements encapsulated as a 'fourth mechanical unrest', like never before previously, effective country change requires the utilization of inventive arrangements coordinated to widening the regional development base, from customary exercises into

increasingly gainful parts that empower individuals from rural networks to upgrade their jobs and prosperity. The OECD is moving past the emphasis on innovation as one of the key components adding to profitability development, to consider how innovation can assume a significant job in standing up to worldwide and social difficulties. Ultimately, an effective advancement technique needs to fabricate broad advancement abilities to encourage financial development that is comprehensive in its temperament, and henceforth, transformative likewise for minimized poor, frequently in immature regional networks (Papaioannou 2014; Swaans et al. 2016). rural change is to be accomplished through a procedure that includes novel comprehensive ways to deal with advancement that give more space to provincial network individuals to take dynamic part in forming answers for the issues they face. The acknowledgment that advancement is not just about high-innovation items and the information boondocks is a basic establishment to move accentuation to building development capacities and cultivating nearby advancements to deliver moves explicit to neighborhood settings. The thought of advancement, in its neoclassical arrangement with an accentuation on free markets, innovation, efficiency and seriousness, is to be sure in sufficient for realizing basic transformation and human development.

#### **Innovation diffusion and social transformation**

Rural change should be viewed as a major aspect of a more extensive procedure of economy-wide structural change, which modifies the structure of landholdings, the advancements being used, the abilities of provincial ladies and men, and the dissemination and elements of the population and work power. Multiple advantages that go past country territories are generated as side-effects of the change. The basic changes associated with country change frequently require the saddling of innovative information so as to expand the scope of beneficial exercises that rural specialists can participate in. As opposed to adding to development and industrialization no one but, advancement can be a key factor in tending to critical formative difficulties, for example, giving access to drinking water and sanitation, killing ignored infections, decreasing craving or giving proper social insurance and training. Innovation can likewise add to support capable improvement by tending to ecological difficulties through the presentation of new advances and non-mechanical changes. Moreover, as opposed to an over-accentuation on 'new to the world' types of development, it is the diffusion of advances (regardless of whether new to the neighborhood or nation setting) that at last decides the pace of progress in profitability just as the monetary and social advantages that it achieves. Approaches and motivators to fund, scale up and diffuse advancements are in this manner of most extreme significance for change to be effective. The selection and fast diffusion of new innovations, while conveying the possibility to address cultural difficulties, can in any case additionally achieve new, unintended salary disequalities, when their advantages are unevenly circulated among individuals from the receiving networks. A comprehensive procedure of advancement can help moderate the troublesome effects of the social changes going with the appropriation of new innovations and creation methods. Achieving country change that is comprehensive in its methodology requires that in nations affected by rural destitution, the state embraces improvement techniques that empower and enable provincial networks to take advantage of the lucky breaks, while deflecting the dangers related with change forms

#### **The state, advancement and comprehensive improvement**

The mix of bits of knowledge from all these heterodox thoughts arranged the phase for the professional definition of the job of the state, and the need of a satisfactory modern strategy that can encourage efficiency union and comprehensive change of provincial zones. The state's essential job in the change procedure lies in its ability to activate and reallocate assets for an enormous scope to give motivators to tackling science, innovation and advancement to spike transformative development. The commitment of Amsden on the industrialization of South Korea as a formative state was especially huge, in that it demonstrated that East-Asia's prosperity was not the aftereffect of the working of free markets, yet rather a result of state mediation. In any case, while considering the job of the state and its offices in advancement forms, power elements and organization, especially of underestimated gatherings, go to the fore as issues that requires examination in formative state settings (Cullen et al. As called attention to by Schneider , what differentiates a state situated to auxiliary change and human improvement is that it is intended to move a nation's worldwide positioning quickly and for all time. While we think about the formative methodology as

basic to the accomplishment of basic change, the papers in the extraordinary issue are all the more firmly centered around seeing how the state may support and drive advancement and financial consideration strategy in emerging economies. The capacity to effect comprehensive rural change is to a great extent subject to the degree to which the state can activate assets and apply new information that improves work and land efficiency in provincial territories. In Taiwan, for instance, land change programs established by the state utilized open venture stock offers offered to landowners to change over interests in landholding into mechanical resources, and in this way establish the framework for industrialization. Moreover, land redistribution, farming advancement and skimming of agri-social surplus by the state assumed a pivotal job in the improvement of South Korea. While open private coordinated effort is underscored, the state has an obligation to guide and encourage such communications towards accomplishing social and formative results.

#### **Insights from the contributions**

The ambiguous relationship between developmental state policies and monetary inclusion provides a appropriate space to question how state policies decide to fostering rural innovation, era diffusion and inclusive development in nations grappling with intense degrees of poverty and inequality. In other phrases, how do country rules in those rising economies deploy technological know-how, technology and innovation equipment to spur transformative development in a manner that also at once addresses the troubles of inequality and poverty in terrible rural communities? The contributions in this context offer insights through interrogating and analyzing a wide range of examples of rural transformation and financial inclusion programmes located in countries unfold in the course of lots of the growing international, ranging from Africa to Asia and Latin the USA. Thematically, we are able to pick out three categories of issues highlighted with the aid of the authors: How does the state at various degrees promote transformative innovation regulations via making use of new agricultural methods? the primary paper in this set compares the modernization of rice manufacturing in two river deltas in Vietnam, and the second one, compares state techniques of agricultural reform for incorporated development that centered decided on rural groups in Algeria. How does the state build capacity for inclusive transformation? right here the authors paintings at contrasting scales, the first focusing on the local stage of co-operative gaining knowledge of for innovation co-creation in areiding labs' initiatives in South Africa, while the second one explores the function of governance and standardization in Alpaca value chains in Peru. How does the state catalyze and assist provision of seasoned innovation for social inclusion in rural transformation? instances are interrogated, the first focused on renewable electricity manufacturing in rural Argentina and the second, on the supply of ecological lavatories to deal with open defecation in a rural district of TamilNadu, India. We can identify the programmes that make a contribution to rural transformation, inclusive innovation and functionality building efforts as a part of a broader structural transformation task driven by means of the developmental agenda of the state.

#### **Building limit with respect to comprehensive change**

Habiyaremye's commitment illuminates how this support might be encouraged, by investigating the information trade between college based information makers and individuals from minimized networks with their own epistemic and reference outline works. The paper focuses on the significance of helpful learning as a procedure to increment relation and diminish information asymmetry between the two epistemic networks in an effort to encourage the co-creation and assimilation of new mechanical information expected to change the employments of rural and semi-urban networks. Here, rural change is activated by the social changes coming about because of new information created through the co-learning process intrinsic in nearby Living Labs ventures. The comprehensive idea of this change procedure go past the typical components of being poor and empowering interest, as it puts the end clients at the core of the innovation process by including them as co-creators (see additionally Jacobs et al. 2019). State support through giving co-learning motivating forces and encouraging the development of human capital was a key driver for the accomplishment of these transformative undertakings. In like manner, through an investigation of portioned administration in the Peruvian alpaca fiber esteem chain, Miklos Lukacs de Pereny, Ronnie Ramlogan and Marcela Miozzo show the significant job that open administration plays in engaging regional networks to adequately take an interest in and advantage from worldwide worth chains. Institutionalization in the alpaca fiber esteem chain additionally assumes a basic job in

advancing territorial modern advancement, and the attending social change among the country networks required at different levels of the worth chain. The job of supporting framework as a key mainstay of the limit vital for an increasingly exhaustive auxiliary change is under-scored by the disappointment of the confined regional change in the southern Peruvian High-terrains to associate with bigger basic changes, because of missing transportation and correspondence foundation.

#### **Expert poor advancement for social consideration**

Shyama Ramani's examination of the different difficulties experienced in the selection and subsequent relinquishment of a significant number of the creative toilets introduced in a rural area of Tamil Nadu underscores again the significance of investment of end clients in underestimated networks in the structure of developments intended to address their issues (Petersen et al. Her paper tends to the basic issue of open urinal in India, as a itching problem of social consideration in regional change. Similarly essential to the development procedure is satisfactory correspondence to pass on the advantages, and to construct the social abilities to guarantee that end clients procure the information and instruments vital for proper use, and the upkeep ability to continue, the recently embraced clean advancements. In spite of the fact that the state government was a proper accomplice in the consortium that was responsible for this activity, its job gave off an impression of being constrained, surrendering administration to private on-screen characters and noble cause, rather than proactively driving the diffusion and maintainability of this social advancement. The absence of an office to guarantee constant fix of toilets and screen a continued appropriation process likewise gives space to the state to step up its association, in the event that it needs the innovation to be genuinely transformative.

#### **Conclusion**

Taken together, the papers right now compare a perplexing arrangement of issues: the job of the state in advancement that drives basic change and comprehensive improvement, to limit the country urban partition in creating nations. In six nation settings, and utilizing a scope of theoretical focal points, the papers research how states with formative desire convey advancement to spike basic change and address disparity in rural territories, comparable to both creation and to human and social improvement. The state in rising economies can assume a basic job in outfitting advancement strategy to improve agrarian creation techniques, yet it can likewise intercede by advancing limit working for comprehensive change, and by guaranteeing the arrangement of professional poor social innovations. Where the state is all the more straightforwardly included, at all levels and across areas, there is a higher probability of accomplishment, however where state operators advance neighborhood abilities and end-client cooperation, between sections are significantly bound to succeed. Further research to test these attestations in a more extensive scope of nation, sectoral and social settings can be of incredible worth.

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## **Distribution of Migration: A Special References To Yerala River Stream**

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### **Abstracts**

Replacement in India has gotten expanded academic consideration in the previous forty years, helped by extra classifications of information gathered through the National Census likewise Directorate of Economics and Statistics. Thinking about the idea of movement, kinds of relocation. Most developments happen locally; 43 percent of inside relocation is rustic provincial and country to metropolitan level, comprising fundamentally of ladies moving with their spouses after marriage. Next in significance is the provincial metropolitan relocation of guys looking for monetary increase. The couple of studies done on transients' qualities show movement. The particular function of destitution in causing relocation is as yet under discussion. Key regions for additional examination remember a more prominent concentration for fixed status; the social and segment outcomes of relocation on sending and accepting networks; and the social, financial and segment conduct of the transients. This paper discusses a case of conflict over distribution of Yerala River stream migration of Khanapur taluka of Sangli district in Maharashtra.

**Keyword:** - nature of migration, causes of migration, distribution of streams migration

### **Introduction: -**

River channel migration is the geomorphological process that involves the lateral migration of an alluvial river channel across its floodplain. This process is mainly driven by the combination of bank erosion of and point bar deposition over time. When referring to river channel migration, it is typically in reference to meandering streams. In braided streams, channel change is driven by sediment transport (Datapages Archives,1987).

In the words of Mangalam, "migration is a relatively permanent moving away of a collectivity, called migrants, from one geographical location to another preceded by decision-making on the part of the migrants on the basis of hierarchically ordered set of values or value ends and resulting in changes in the international system of the migrants".

### **Study Area: -**

The study area lies in west part of Maharashtra state bounded by Latitude 16<sup>0</sup> 55' to 17<sup>0</sup> 28' N and Longitude 74<sup>0</sup> 20' to 74<sup>0</sup> 40' E. falling in part survey of India topographical sheet no 47 K – 5, 6, 7, 8, 10, 11, 12, 47 L - 9 on the scale 1:50,000, it covers total area of 3035 km<sup>2</sup> includes two districts (Satara and Sangli) in Maharashtra. These districts experience a tropical wet-dry climate characterized by alternating wet and dry spells. The study area receives rainfall during South-West monsoon from June to September. The distribution of rainfall is not even all over the area.

### **Objectives: -**

1. To analysis of distribution of stream migration in Yerala River basin.

### **Research Methodology: -**

We led a kind of work area research dependent on writing survey and utilization of auxiliary information. Strategy for content examinations is utilized on an example of applicable records and exploration reports in this field, to bring up the most important and satisfactory methodologies in investigating the movement.

### **Review Of Literature: -**

**Talukder Golam Rabby et al., (2011)** have tried to compartment between seasonal migration and economic livelihood policy for the effective poverty reduction in Haor area of Bangladesh. Total 292 households of the study area were interviewed for the data collection. Study concluded that poverty and seasonal migration have been found effective for livelihood diversification in the study area. Further this study also advocates capital development initiatives to promote sustainable livelihoods to the seasonal migrants in flood season.

**Yeshwant (1962)** based on a rural survey revealed that small cultivators and agricultural laborers were more likely to migrate. Low caste people migrated to improve their economics and social position. However, most socially backward communities showed less migratory tendencies than others. Most of the migrants were found to be in the age group of 15 and 24 years. Distance of

migration reveals that short distance migration was predominant over long-distance migration. Majority of the migrants migrated to urban area, leading to an occupational shift.

**Distribution of Streams Migration: -**

Table no. 1 shows that the distribution of migration streams by study region. It can be seen from the table that the rural to urban stream has the largest proportion of northern river basin migrants (37.19 percent in 1970-71) followed by the rural to rural stream (16.2 percent). It is also observed that urban to rural stream is 22.41 percent and Urban to urban is 24.2 percent. The migration stream of rural to rural in central river basin during the year 1970-71 was 16.26 percent, Rural to urban stream has the largest proportion of central river basin migrants (47.29 percent in 1970-71) followed by the urban to rural stream (14.3 percent). In the year 1970-71, Southern river basin is observed that rural to urban stream has the largest proportion of northern river basin migrants (37.71 percent) that followed by the rural to rural stream of migration (17.01percent). It is also observed urban to rural stream of migration which is 31.61 percent and Urban to urban basin migrants are 13.67 percent.

**Table No.1.Distribution of Migrants in Yerala river basin by Streams of Migration**

Migration Streams	River Basin	Migration Percentage				
		1970-71	1980-81	1990-91	2000-01	2010-11
Rural to Rural	Northern	16.2	38.12	36.24	46.12	43.22
	Central	16.26	37.13	47.40	41.63	41.45
	Southern	17.01	34.00	41.01	40.10	42.31
Rural to Urban	Northern	37.19	29.33	30.87	21.42	20.33
	Central	47.21	25.10	20.10	21.51	21.87
	Southern	37.71	31.00	30.33	21.10	24.34
Urban to Rural	Northern	22.41	10.33	11.33	11.34	15.32
	Central	14.30	14.56	10.40	16.22	17.35
	Southern	31.61	12.00	10.55	17.10	12.20
Urban to Urban	Northern	24.20	22.22	21.56	21.12	21.13
	Central	22.23	23.21	22.10	20.64	19.33
	Southern	13.67	23.00	18.11	21.70	21.15
Total	Northern	100	100	100	100	100
	Central	100	100	100	100	100
	Southern	100	100	100	100	100

(Sources: Census of India 1970-71 to 2010-11. NSS figures are taken from NSSO, 2010-11: 23)

The distribution of migration streams by study region can be seen from the table that the rural to urban stream has the largest proportion of northern river basin migrants (29.33 percent in 1980-81) followed by the rural to rural stream (38.12percent). It is also observed that urban to rural migration stream is 10.33 percent and urban to urban is 22.22 percent. The migration stream of rural to rural in central river basin in 1980-81 was 37.13 percent and rural to urban stream has the largest proportion of central river basin migrants (25.7 percent in 1980-81) followed by the urban to rural stream (14.56 percent). In the year 1980-81 Southern river basin is observed that rural to urban stream has the largest proportion of northern river basin migrants (31 percent in 1980-81) followed by the rural to rural stream (34 percent). It is also observed that urban to rural migration stream is 12 percent and urban to urban basin migrants is 23 percent. This show significant changes in the forces of urban transition in association with migration and related spatial changes. Large urban area is expanding largely due to migration, while the cores of several of them have declined.

**Conclusion: -**

Yerala river basin experiences poor performance of agriculture in the last three decades which caused terrible hardship to the people of the basin. It has affected the availability of food grains also. Migration from rural to urban increases urban population, while the counter stream of urban to rural depletes the urban population. Similarly, in the reclassification of rural to urban areas, some villages are reclassified as towns, and some existing towns may be declassified in the absence of fulfilling urban criteria. The net rural to urban classification is therefore the real contributor to urban population growth. Previous studies have attempted to estimate the

contribution of all three components, namely natural increase in urban areas, net rural to urban migration and net rural-urban classification and boundary changes of urban centers.

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## **Assisted the Air Quality Index After Coronavirus Lockdown in Solapur City**

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### **Abstracts**

As the transmission of novel (COVID-19) increments quickly, the entire world received the check in time/lockdown action with limitation of human versatility. The burden of isolate halted all the business movement that significantly influences the different significant ecological boundaries which straightforwardly associated with human wellbeing. As all the sorts of social, financial, mechanical and urbanization action out of nowhere shut off, nature takes the points of interest and indicated improvement in the nature of air, cleaner streams, less commotion contamination, undisturbed and quiet untamed life. This examination plans to talk about the COVID-19 impact on the worldwide climate. In numerous nations, the Air Quality Index (AQI) is utilized to advise people in general about air quality, or the level of contamination, which is determined in an unexpected way. In the case, the nature of estimation information, which is flawed in Solapur city, is out of extent of this paper, and it is a totally unique issue.

**Keywords:** - COVID-19, Lockdown, Air quality index, chemical parameter

### **Introduction:** -

The expectation to gauge the air quality intends to give the data which is straightforward and to be utilized for specific activities. The Air Quality Index (AQI) could be the arrangement, however AQI scales contrast from country to country on the grounds that the air quality principles contrast and associations pick differing levels of classifications, which presents an impediment for examination, and decreases its convenience.

The real territory where greatest measure of harvest build-ups was singed on ranch are Study zone. Sugarcane is the real harvests whose deposits are exposed to on homestead. Extensive scale consuming of yield deposits from sugarcane arrangement of Study region involves genuine concern for GHG emanation as well as for issues of contamination, wellbeing dangers and loss of supplements. There is a need to approve the discharge evaluates tentatively and the related vulnerability in the assessments. The deposits can be put to different gainful uses, for example, consolidation the fields, bio-vitality and so forth and this is conceivable just if build-up is gathered and oversaw appropriately. Mindfulness must be made among the cultivating networks about the negative effects of yield biomass consuming and significance of harvest build-ups consolidation in soil for keeping up supportable rural efficiency. (Rahul Pardeshi,2018)<sup>1</sup>

### **Study Area:** -

Solapur city is located at 17.68°N 75.92°E. It has an average elevation of 458 metres (1502 feet). It is bordered by Ahmednagar district on the north; Osmanabad district on the north and northeast. Gulbarga district on the southeast and Bijapur Districts on the south of Karnataka State, Sangli district on the south and southwest; Satara district on the west, and Pune district on the northwest. It is situated at a distance of 410 km (250 mi) from the Maharashtra State Capital of Mumbai by road and train.

### **Objective:**

To study of AQI after and before Covid-19 lockdown in Solapur City.

### **Data Collection:** -

A monitoring stations which are comprised of Solapur cities is considered to cover state of Maharashtra. The data relate do these parameters were obtained from the Central Pollution Control Board (CPCB, India) online portal (<https://aqicn.org/city/india/solapur/solapur/>) Maharashtra Pollution Control Board (MPCB). The daily averaged air quality index (AQI) data were retrieved from the World's Air Pollution online platform (<https://waqi.info/>).

### **Impact of lockdown and unlock phases and the meteorological factors on air quality:**

A sharp decline in most of the major air pollutants like PM<sub>2.5</sub>, PM<sub>10</sub>, NO<sub>2</sub>, and CO along with AQI in most of the cities during lockdown clearly illustrates a rare benefit and a blessing of forced lockdown that shut down most of the anthropogenic activities such as industries, heavy

traffic, road, and infrastructure construction activities, which are substantial contributors to both fractions of particulate matter and other air pollutants (MPCB2019; Masum and Pal 2020)<sup>2</sup>

PM<sub>2.5</sub> are, by definition, particulates smaller than 2.5 micrometres, so indeed, they should also be included as smaller than 10 micrometres.

The above simulation shows the total atmospheric concentration, from surface up to 20 KM height, and thus contains both the good Ozone as well as the Bad Ozone in the troposphere.

NO<sub>2</sub> is a reddish-brown gas that is emitted from all combustion engines. There are two main nitrogen-based compounds that are emitted from combustion engines: NO<sub>2</sub> and nitric oxide (NO). Collectively these two pollutants are referred to as NO<sub>x</sub> or oxides of nitrogen.

**Table No.1 The chemical parameters among grouping variables (lockdown and unlock periods)**

Chemical Parameters	Lockdown periods 29 <sup>th</sup> April 2020	unlock periods 03 <sup>rd</sup> Feb.2021
PM <sub>2.5</sub> µg/m <sup>3</sup>	44	161
PM <sub>10</sub>	34	84
NO <sub>2</sub>	10	13
Ozone	36	24
SO <sub>2</sub>	5	8
CO	5	10
AQI	44	161

(Sources: [https://app.cpcbccr.com/AQI\\_India/](https://app.cpcbccr.com/AQI_India/))

The daily variety found the middle value of overall stations of different air contaminations (PM<sub>2.5</sub>, PM<sub>10</sub>, NO<sub>2</sub>, CO, SO<sub>2</sub>, ozone,) and air quality file (AQI) during the 29th April 2020, including pre-lockdown. (The quantity of occurrences of every toxin surpassing the National Ambient Air Quality Standards (NAAQS) characterized by (CPCB) and rate change in normal contamination levels during the 03rd Feb.2021 of LDs and ULs as for the quick open time frame given in Table 1; the AQI changes are given in Table. It has been seen that in the majority of the poisons like PM<sub>2.5</sub>, PM<sub>10</sub>, NO<sub>2</sub>, CO, AQI show a sharp declining pattern with here and there spikes, and a critical decrease during the lockdown time frames. For contaminations like PM<sub>2.5</sub> and PM<sub>10</sub> and AQI, this decrease was much more prominent during the ULs, however for some vaporous toxins like CO and NO<sub>2</sub>, this pattern is marginally expanded in the open period. The Solapur city (Table 1) shows that the vast majority of the air quality boundaries had contaminations, which demonstrates that these poisons were essentially fluctuated among the various periods of lockdown and open. When contrasted and as far as possible, normal groupings of PM<sub>10</sub> in lockdown stages were generally surpassing its allowable breaking point, for example 100 µg/m<sup>3</sup> (Table 1); in any case, these levels were definitely decreased well underneath its passable cut-off in both LDs and ULs. The PM<sub>10</sub> level (found the middle value of all stations) was decreased up to 51% in the LDs and further declined up to 80%, Similarly, PM<sub>2.5</sub> was dropped altogether up to 55%. It was seen that the decrease in PM<sub>2.5</sub> levels was well underneath its passable cut-off points, for example 44 µg/m<sup>3</sup>. Contrasted and the PLs, NO<sub>x</sub> (which comprises of NO and NO<sub>2</sub>) is essentially declined up to 56% in open period. Essentially, NO was dropped altogether up to 63% in LDs however this pattern was similarly lower in ULs (up to 44%). Additionally, the NO<sub>2</sub> levels were lesser than as far as possible (44 µg/m<sup>3</sup>) even before the COVID-19 lockdown. The normal grouping of CO was additionally essentially diminished in the LD stages contrasted and PDs; the least was in open period; however, the level was somewhat expanded in ULs in a comparable example like NO<sub>x</sub>. The CO fixation dropped up to 5% and 10%, individually, in the LD and ULs. Besides, the CO levels never surpassed as far as possible, i.e., 161 mg/m<sup>3</sup> in the whole contemplated period. Among the vaporous toxins, the decrease of ozone was a lot of lower in LDs (up to 56%), however it has essentially dropped in the ULs (up to 73%), albeit regardless of pre-lockdown and lockdown, ozone was generally discovered to be inside as far as possible (36 µg/m<sup>3</sup>). Additionally, the decrease of SO<sub>2</sub> was lower in the LDs and ULs and was not conspicuous contrasted and different contaminations, but rather it was well beneath as far as possible in all periods. Among natural contaminations, benzene was discovered to be surpassing as far as possible, for example 5 µg/m<sup>3</sup>

according to CPCB. It was radically diminished in the LDs just as in the ULs likewise like toluene, benzene, and oxyline. AQI was a general appraisal of air quality dependent on the measure's poisons. During the PLs, the normal AQI was generally somewhere in the range of 100 and 200 with the class of moderate quality; in any case, this level was altogether dropped to under 50 during the lockdown and it has been expanded to over 150 during the open stages.

**Conclusion: -**

The sharp decrease in degrees of PM<sub>2.5</sub>, PM<sub>10</sub>, NO<sub>2</sub>, and CO during the COVID-19 lockdown in Solapur city is because of severe limitations on transportation, businesses, and development. Along these lines, this pandemic could be considered as a surprisingly positive development. AQI stayed 'agreeable' during the lockdown-stages and diminished further even post-lockdown because of the adjustment in neighbourhood climate examples, for example, precipitation. Ground-level ozone and SO<sub>2</sub> were the most un-influenced poisons during this lockdown. A slight expansion in the convergences of gas toxins like CO, NO, and SO<sub>2</sub> was again happened as the lockdown was loose. The AQI was proceeded to im-demonstrate fundamentally during the open time frames because of discontinuous showers joined with the lockdown conditions. The connection between meteorological elements and COVID-19 frequencies shows that higher temperature and dew point can't smother the transmission of COVID-19. While, populace thickness was discovered to be a significant factor for the quick spread of this infection in Solapur city.

Moreover, past openness to undeniable degrees of PM<sub>2.5</sub> and PM<sub>10</sub> may prompt a higher danger of COVID-19 mortality. These outcomes show how numerous factors add to the spread of infections and ought to be utilized to advise people about the legitimate use regarding security estimates when visiting more populated/modern zones. The main result of this examination is to feature to policymakers and the private areas that intentional activities to restrict environmental contamination and even to weaken populace thickness in urban communities can have significant im-plications for human endurance. On the off chance that we can adjust our conduct during a pandemic, and on the off chance that that adjustment in conduct has such appositive outcome, why would we be able to detail strategy towards long haul endurance and a superior personal satisfaction let us utilize our insight carefully.

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## **Texture and Fertility Status of Soils in the environs of Malaprabha River Basin, Karnataka State, India**

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### **Abstract:**

*Soil, water, air, and plants are vital natural resources that help to produce food and fiber for human beings. They also maintain the ecosystem on which all life on Earth ultimately depends. Soil serves as a medium for plant growth; a sink for heat, water, and chemicals; a filter for water; and a biological medium for the breakdown of wastes. Soil interacts intimately with water, air and plants and acts as a damper to fluctuations in the environment. Soil mediates many of the ecological processes that control water and air quality and that promote plant growth. However over the time soil resources have been continuously degraded and depleted. The degradation of soil resources has long been recognized as a primary threat to fruitful and sustainable agriculture. Moreover ongoing climatic changes have added complexities to the challenges faced by the farmers and policy makers in developing nations particularly in India. Hence, the present study is an attempt to make an analysis of texture and fertility status of soils which are necessary for the growth of green plants in the environs of Malaprabha River Basin. In the absence of any one of these elements, a plant fails to complete its life cycle. The disorder, of course, can be corrected by the addition of that elements and to suggest appropriate strategies in the light of prevailing government policies and programmes to improve the fertility status of soils in the study area.*

**Key Words:** natural resources, texture, soil fertility, degradation and agriculture development

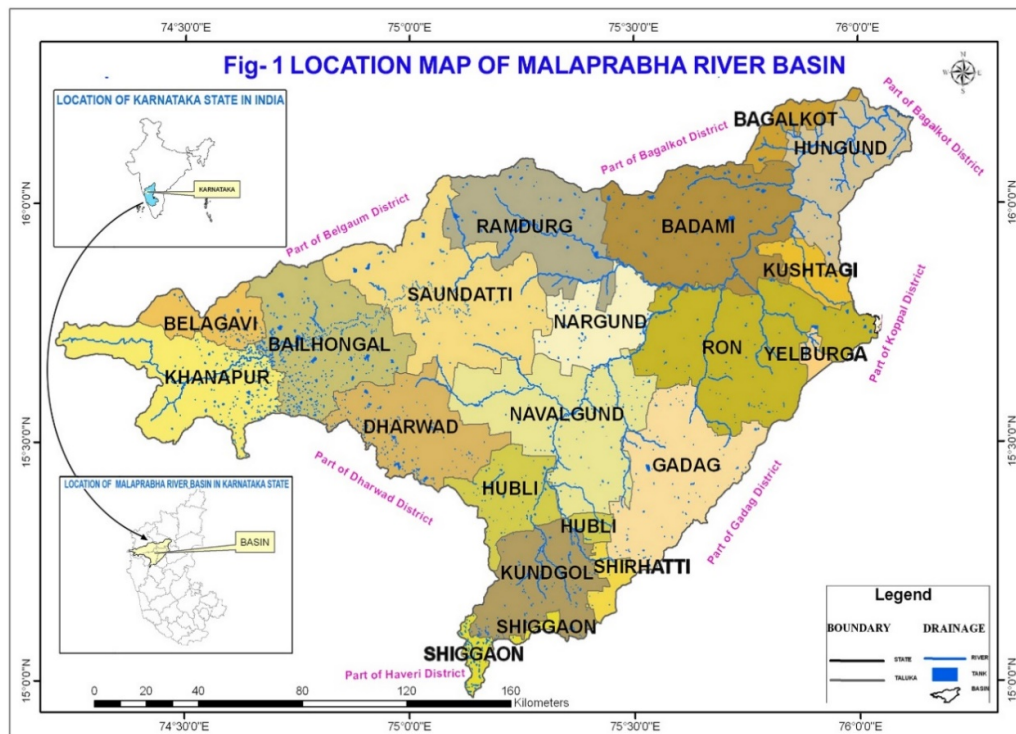
### **Introduction:**

Soils constitute the most important basic resources for agriculture (Bennet, 1955). It is a dynamic living entity and is a medium of plant growth and a product of the interaction of the biosphere, hydrosphere and atmosphere with the lithosphere. It is a three-dimensional body that has depth, length and breadth, and as such cannot be fully comprehended from the surface. Besides climatic considerations, the texture and depth of the soil, its ingredients, salinity and alkalinity status, drainage conditions and the position of ground water table all go to determine the crops which would be suitable for an area and the mode and extent of irrigation to be applied to them (Government of India, 1976). The information of soil profile of a region including its morphological, physical, mechanical and chemical properties and processes of formation is necessary for simulating the hydrological character and also understanding its agricultural land use and production dynamics of a region. Soils undergo changes rapidly in their physical, chemical and biological properties. Addition of inputs such as chemical fertilizers, organic manures, insecticides and pesticides alter the properties of soil. Hence, the present study is an attempt to make an analysis of texture and fertility status of soils, which are necessary for the growth of green plants in the environs of Malaprabha River Basin. In the absence of any one of these elements, a plant fails to complete its life cycle. The disorder, of course, can be corrected by the addition of that elements and to suggest appropriate strategies in the light of prevailing government policies and programmes to improve the fertility status of soils in the study area.

### **Study Area:**

The Malaprabha River Basin of Karnataka state is approximately triangular shape, located in the extreme western part of the Krishna basin. It lies between  $15^{\circ} 05' 02''$  to  $16^{\circ} 20' 19''$  N. latitudes and  $74^{\circ} 05' 43''$  to  $76^{\circ} 05' 33''$  E. longitudes, covering an area of 11549 sq.km, out of which 3880 sq.km in Belgaum (33.59%), 1950 sq.km in Bagalkot (16.89%), 2739 sq.km in Dharwad (23.72%), 2657 sq.km in Gadag, 220 sq. km in Koppal and 103 sq. km in Haveri District (23.01%) [Fig-1]. Topographically the Malaprabha river basin presents the two important divisions, viz. Western Ghats and typical of the eastern part of Deccan/Karnataka plateau with the distinct characteristics. The plateau has two natural sub divisions, the Semi-Malnad and the Northern Maidan, which includes the northern upland or the Deccan trap of the state [Fig-2]. An exhumed structure with superimposed drainage is also responsible for the sharp relief in the Kaladgi

sandstones in which Ghataprabha forms a waterfall near Gokak and the Malaprabha, a gorge near Saundatti (Spate and Learmonth, 1967). The river Malaprabha is the most important right bank tributary of the river Krishna. The Benni hall, Hire hall and others are the principal tributaries of the Malaprabha River.



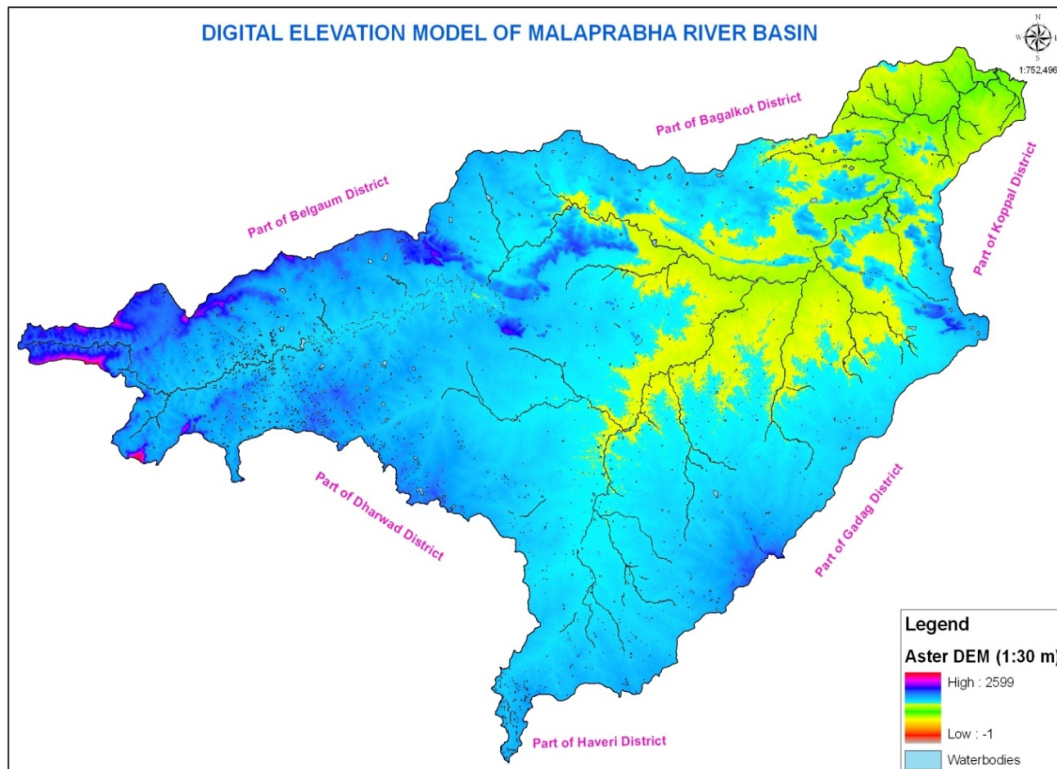
The entire river basin experiences semi-arid type of climate, spread in hilly, northern dry and northern transition zone of agro-climatic zones of Karnataka state, and it is very warm during summer, especially in April and May, with temperature ranging between 35<sup>0</sup> to 40<sup>0</sup>C in eastern part of river basin. The annual normal rainfall of the Malaprabha basin area is over 759 mm spread over 50 days, which receives monsoon rainfall as much as our nation with slight variations. Deep black cotton soils are ubiquitous in basin area. Jowar besides other drought-resistant inferior small millet crops are traditionally predominant crops. Geographically ubiquitous deep black cotton soils, Unpredictable monsoonal rainfall, Droughts and famines are part of life of people in the study region. The present study is a natural region and occupies 6.02% area of the Karnataka state. As per 2011 census, the population of Malaprabha River Basin is 3.38 million (5.53% of the state's total population) of which 77.66% is rural and 22.34% is urban inhabitants. The dominance of rural population makes the regional economy mainly agrarian. The basin's 68.37% of the workforce (61.75% of males and 79.55% of females), however, is still dependent on the agriculture and its allied activities for their livelihood. The economic development and prosperity of the masses depend mainly on agricultural base.

### Objectives:

The present paper is an attempt to make an analysis of texture and fertility status of soils in the environs of Malaprabha River Basin, Karnataka State, India. In this context, the study has been undertaken with the following specific objectives:

1. To escalate the soil texture and fertility status of soils (talukas-wise) in the talukas of the river basin and
2. To suggest appropriate strategies in the light of prevailing government policies and programmes to sustain the fertility status of soils in the environs of the Malaprabha river basin.

**Fig. 2**



### **Materials and Methods:**

The present study is mainly based on the secondary sources of data. Data for the present analysis has been obtained mainly from Survey Report of Soil Fertility Status of Karnataka State by the Department of Agriculture, Govt. of Karnataka in association with International Crops Research Institute for the Semi-Arid Tropics, (ICRISAT) Patancheru, Hyderabad, Andhra Pradesh in 2011, The Directorate, Department of Economic and Statistics, Bangalore, District Statistical Offices of Belgaum, Dharwad, Gadag & Bagalkot districts and District Census of Belgaum, Dharwad, Gadag and Bagalkot districts from 1971 to 2011 Census from Directorate of Census Operations, Bangalore Karnataka State; besides this, data were also collected from various government offices and websites.

Presently the taluka has been considered as the smallest unit of analysis. To achieve the objectives mentioned above the relevant statistical tools like, percentages, averages, variations and others and method of quantitative analysis have been employed. To describe the spatial pattern of soil texture and fertility status of soils in the Malaprabha river basin in 2011, all the talukas are grouped into different categories to show the existing concentration of fertility of soils in the basin area. At last results were presented with a suitable diagrams and figures.

### **Result and Discussions:**

The Regional Center of the National Bureau of Soil Survey and Land Use Planning (ICAR), Bangalore, broadly classified the soils of entire state of Karnataka into six major groups, such as Red, Lateritic and Laterite, Black, Alluvial, Brown Forest and Coastal soils. The Malaprabha river basin is blessed with varied soil resources having geographical origin from different parent materials like, granite, gneiss complex, Deccan trap, Dharwad schist's, sandstone and limestone sedimentary formations. The soils found in this river basin could be broadly classified into seven groups namely, shallow black soils, medium black soils, deep black soils under black soils, gravelly red loam soils, gravelly red clay soils, non-gravelly red loam soils and

non-gravelly red clay soils under red soils. These soils vary in depth, texture, gravelliness and physiographic setting, depending on the parent rock type and climatic conditions prevailed. By and large black soils predominate in the north and eastern part of the river basin and the red soils in the southern and eastern gneissic terrain.

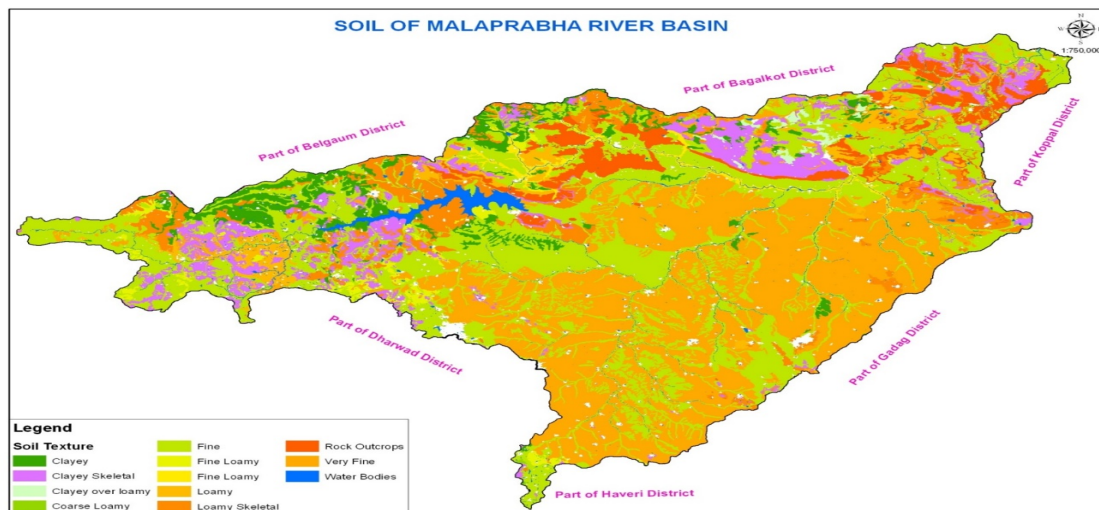
**Soil Texture in the Malaprabha River Basin:**

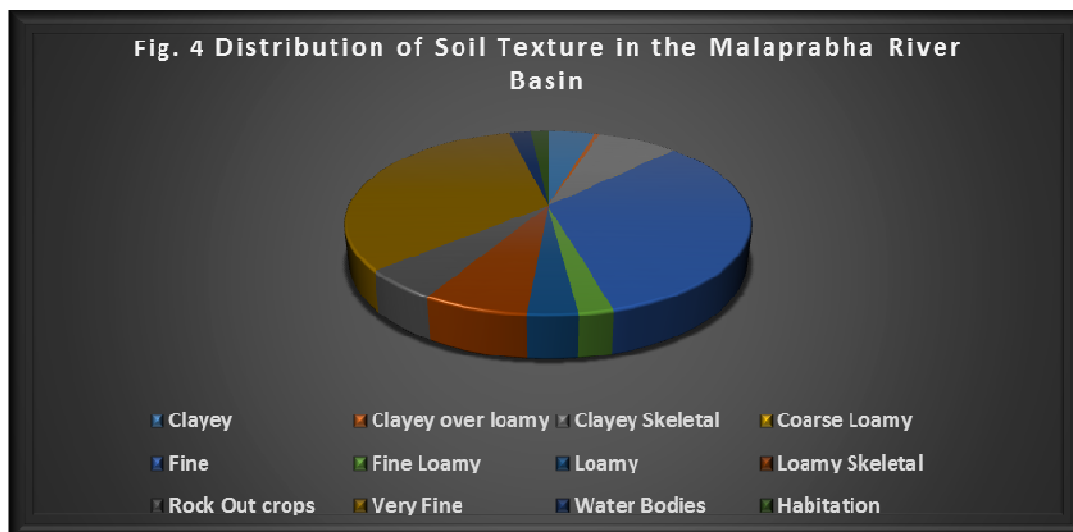
Farming is a business and good soil is part of farmer’s stock-in-trade. Our standard of living positively depends on agriculture which often determined by a combination of the physical, chemical and biological characteristics of the soils texture and fertility, and the crops and livestock raised on them. Soil texture is one of the prime entities, largely influencing on microbiological activities and physio-chemical behaviour of soils and also determines the water retention and transmission properties of soils. The Table-1 and Fig-3 and 4 shows the distribution of soil texture in the Malaprabha river basin. Most area of the basin is having Fine and very fine texture of Soil. Based on texture major part falls under fine texture category have an area about 3824.6 sq. km (33.11%) and very fine texture category have an area about 3751.4 sq. km (32.47%) with rocky and water bodies accounting for the minimum of 7.35%. clayey skeletal (7.58%), loamy skeletal (7.09%), clayey (4.44%), others like, loamy, fine loamy, clayey over loamy, coarse loamy texture (6.28%) and habitation (1.69%) are also found in some areas of the river basin.

**Table- 1 Distribution of Soil Texture in the Malaprabha River Basin**

Sl. No.	Soil Family	Area (Sq. Km)	In %
1	Clayey	512.8	4.44
2	Clayey over loamy	57.4	0.50
3	Clayey Skeletal	876.1	7.58
4	Coarse Loamy	2.5	0.02
5	Fine	3824.6	33.11
6	Fine Loamy	273.4	2.37
7	Loamy	391.3	3.39
8	Loamy Skeletal	818.5	7.09
9	Rock Out crops	618.5	5.35
10	Very Fine	3751.4	32.47
11	Water Bodies	231.4	2.00
12	Habitation	194.7	1.69
Total area (sq km)		11552.6	100.00

**Fig -3**





**Fertility Status of Soils:**

Soils in the Malaprabha river basin constitute diverse orders with extreme variability in origin, parent material, water retention and nutrient status. In addition to the parent material, climatic variables such as rainfall, temperature and sun light influences the types and key properties of soils in a region. Accordingly, soils within the river basin show variation in terms of physical and chemical properties of the soils. At least 16 plant food elements are necessary for the growth of green plants. In the absence of any one of these elements, a plant fails to complete its life cycle. The disorder, of course, can be corrected by the addition of that element. These 16 elements are; carbon, hydrogen, oxygen, nitrogen, phosphorus, sulphur, potassium, calcium, magnesium, iron, manganese, zinc, copper, molybdenum, boron and chlorine. Green plants receive carbon from carbon dioxide in the air, oxygen and hydrogen from water and the remaining elements from the soil. Of all the plant food elements, organic carbon (nitrogen), phosphorus and potassium play an extremely important role in plant growth.

A comprehensive survey report of soil fertility status of Malaprabha river basin is presented in the following paragraphs with supportive tables. It explains that the chemical characteristics of soil mainly Organic Carbon (Nitrogen), Phosphorus, Potassium, P<sup>H</sup>, Electric Conductivity, Sulphur, Zinc and Boron in Malaprabha river basin.

**Organic Carbon** or nitrogen induces vegetative development of plants by imparting a healthy green colour to the leaves. It also controls to some extent, the efficient utilization of phosphorus and potassium. Its deficiency retards growth and root development, turns the foliage yellowish, hastens maturity, causes the shriveling of grains and lowers the crop yield. Table-2(A) presents the spatial distribution of organic carbon (N) status of soils in the talukas of Malaprabha river basin and also comparatively with the status of karnataka state. It revealed the fact that, 38.46% of the talukas (52% of the state soil) namely Ron (0.28%), Gadag, (0.40%), Navalgund (0.44%), Naragund (0.45%) and Kundagol (0.48%) are deficient (< 0.5 %) and 61.54% of the talukas (48% of the state soil) namely Badami (0.53%), Hunagund (0.63%), Saundatti (0.64%), Bailhongal (0.65%) Ramadurga (0.67%), Hubli (0.67%), Khanapur (0.78%) and Dharwad (0.84%) are sufficient (> 0.5 %) category group of organic carbon status of soils in the river basin.

Table- 2(A): Organic Carbon (Nitrogen) Status of Soils in the talukas of MRB

Category	Range of Parameter (in %)	% of State Average	No. of Talukas	% of Talukas	Name of the Taluka (0.28% to 0.84%)
<b>Deficient</b>	< 0.5	52	5	38.46	Ron (0.28%), Gadag, (0.40%), Navalgund (0.44%), Naragund (0.45%) & Kundagol (0.48%)
<b>Sufficient</b>	> 0.5	48	8	61.54	Badami (0.53%), Hunagund



					(0.63%), Saundatti (0.64%), Bailhongal (0.65%) Ramadurga (0.67%), Hubli (0.67%), Khanapur (0.78%) & Dharwad (0.84%)
		<b>100</b>	<b>13</b>	<b>100</b>	<b>0.57 % (Less= 6 + More=7)</b>

**Phosphorus** influences the vigor of plants and improves the quality of crops. It induces the formation of new cells, promotes root growth and accelerates leaf developments, emergence of ears, formation and maturation of grains. The below Table- 2(B) depicts the spatial distribution of available phosphorus status of soils in the talukas of Malaprabha river basin. This is another important element whose deficiency is widespread and constrains the productivity of crops in the river basin. Based on the information, deficiency of phosphorus status is a serious observable fact, 61.54% of the talukas like Saundatti (1.9), Ramadurga (1.9), Bailhongal (2.3) Badami (2.6), Hunagund (2.6), Khanapur (2.6), Navalgund (4.3) and Gadag, (4.6) are deficient (< 5 ppm) and remaining 38.46% talukas namely Ron (5.6), Naragund (5.8), Hubli (7.2), Kundagol (8.1) and Dharwad (15.9) are sufficient (> 5 ppm) category of the available phosphorus status of soils in the river basin.

**Table- 2(B): Available Phosphorus Status of Soils in the talukas of MRB**

Category	Range of Parameter (ppm)	% of State Average	No. of Talukas	% of Talukas	Name of the Taluka (1.9 to 15.9)
<b>Deficient</b>	< 5	<b>41</b>	<b>8</b>	<b>61.54</b>	Saundatti (1.9), Ramadurga (1.9), Bailhongal (2.3) Badami (2.6), Hunagund (2.6), Khanapur (2.6), Navalgund (4.3) & Gadag, (4.6)
<b>Sufficient</b>	> 5	<b>59</b>	<b>5</b>	<b>38.46</b>	Ron (5.6), Naragund (5.8), Hubli (7.2), Kundagol (8.1) & Dharwad (15.9)
		<b>100</b>	<b>13</b>	<b>100</b>	<b>5.03 (Less= 8 + More=5)</b>

**Potassium** enhances the endurance and ability of plants to resist disease, insect attack and cold. It is essential for starch formation and translocation of sugar and especially useful to starch rich crops like sugarcane, potato, etc. Table- 2(C) shows the spatial distribution of available potassium status of soils in the talukas of Malaprabha river basin. On the bases of existing information, deficiencies of potassium are not serious fact, except Bailhongal (41), Badami (43) and Khanapur (44); all other the talukas (76.92%) are sufficient (> 50 ppm) in the available potassium status of soils in the river basin.

**Table- 2(C): Available Potassium Status of Soils in the talukas of MRB**

Category	Range of Parameter (ppm)	% of State Average	No. of Talukas	% of Talukas	Name of the Taluka (41 to 321)
<b>Deficient</b>	< 50	<b>23</b>	<b>3</b>	<b>23.08</b>	Bailhongal (41), Badami (43) & Khanapur (44)
<b>Sufficient</b>	> 50	<b>77</b>	<b>10</b>	<b>76.92</b>	Hunagund (65), Ramadurga (66), Saundatti (71), Hubli (180), Gadag, (183), Dharwad (193)

					Ron (193), Kundagol (243), Naragund (289) & Navalgund (321)
		<b>100</b>	<b>13</b>	<b>100</b>	<b>148.62 (Less= 8 + More=5)</b>

Also, important to plant growth is the chemical balance of the soil i.e., its  $P^H$  value, which indicate the degree of salinity, alkalinity or normality etc. The  $P^H$  value of soil, i.e. whether the soil is acidic, alkaline or normal, plays an important role in plant growth. Soil acidity exceeding a particular limit is injurious to plant growth. The availability of certain nutrients, particularly phosphorus, calcium and magnesium, decreases with increase in acidity. Lime has to be added as an amendment to reduce acidity and bring it to a normal level. Table-2(D) depicts the spatial distribution of  $P^H$  status of soils in the talukas of the river basin. Based on the  $P^H$  status of soils, except Khanapur (7.69%) all other talukas (92.31%) are lies in the normal (6.5 to 8.5) category, it is included under acidic (< 6.5) and none of the talukas are not observe in the alkaline (> 8.5) category group of the river basin.

**Table-2(D):  $P^H$  Status of Soils in the talukas of MRB**

Category	Range of Parameter	% of State Average	No. of Talukas	% of Talukas	Name of the Taluka (5.9 to 8.4)
Acidic	< 6.5	39	1	7.69	Khanapur (5.9),
Normal	6.5 to 8.5	59	12	92.31	Dharwad (6.9), Bailhongal (7.0), Ramadurga (7.4), Hubli (7.4), Badami (7.5), Saundatti (7.8), Hunagund (8.1), Kundagol (8.3), Navalgund (8.3), Ron (8.3), Gadag, (8.3) & Naragund (8.4)
Alkaline	> 8.5	2	--	--	--
		<b>100</b>	<b>13</b>	<b>100</b>	<b>7.65 (Less= 5 + More=8)</b>

The **Electric Conductivity** of soluble salt in the root zone also prevents plant growth. The soluble salts mainly consist of chlorides and sulphates of sodium, calcium and magnesium. Table-2(E) presents the spatial distribution of Electric conductivity status of soils in the talukas of Malaprabha river basin. It observed the fact that; all most all the talukas are normal (< 0.8 dS/m) category, the others like critical to salt sensitive crops (0.8 to 1.6 dS/m), critical to salt tolerant crops (1.6 to 2.5 dS/m) and injurious (> 2.5dS/m) categories are noticed in the electric conductivity status of soils in the river basin.

**Table- 2(E): Electric Conductivity Status of Soils in the talukas of MRB**

Category	Range of Parameter (dS/m)	% of State Average	No. of Talukas	% of Talukas	Name of the Taluka (0.22 to 0.40)
Normal	< 0.8	96	13	100	Kundagol (0.22), Dharwad (0.24), Gadag, (0.25), Hubli (0.25), Ron (0.26), Khanapur (0.30), Navalgund (0.30), Badami (0.32), Hunagund (0.34), Saundatti (0.37),

					Bailhongal (0.39), Naragund (0.38) & Ramadurga (0.40)
<b>Critical to Salt Sensitive Crops</b>	<b>0.8 to 1.6</b>	<b>3</b>	--	--	--
<b>Critical to Salt Tolerant Crops</b>	<b>1.6 to 2.5</b>	<b>0.5</b>	--	--	--
<b>Injurious</b>	<b>&gt; 2.5</b>	<b>0.5</b>	--	--	--
		<b>100</b>	<b>13</b>	<b>100</b>	<b>0.31 (Less= 7 + More=6)</b>

In addition to that, an element like available Sulphur, Zinc and Boron are also plays an important role in the plant growth. The following Table- 2(F) to 2(H) represents the spatial distribution of available sulphur, zinc and boron status of soils in the talukas of Malaprabha river basin. **Sulphur** availability is considered to be sub-optimal in vast majority of the soils where oilseeds and pulses are more grown. The Gadag (4.8), Kundagol (6.0), Ron (6.8) and Navalgund (6.9) talukas are observed in deficient (< 10 ppm) (30.77%) and the others namely Hubli (10.7), Hunagund (10.7), Badami (11.5), Dharwad (11.8), Naragund (15.2), Saundatti (129.9), Khanapur (141.0) Bailhongal (141.2) and Ramadurga (160.0) talukas are noticed in sufficient (>10 ppm) (69.23%) category of sulphur availability status of soils in the river basin.

**Zinc** deficiency has been most commonly reported in the talukas of Malaprabha river basin. Table-2.15 (G) shows the fact that, 61.64% of the talukas are deficient and 38.46% of talukas are sufficient category of available zinc status of soils in the river basin. The deficient (< 0.75 ppm) category comprises of Saundatti (0.38), Ron (0.40), Gadag, (0.42), Naragund (0.46), Navalgund (0.59), Ramadurga (0.59), Bailhongal (0.62) and Kundagol (0.73) talukas, while Badami (0.79), Hunagund (0.88), Khanapur (0.94), Hubli (1.12) and Dharwad (1.12) talukas are incorporated under sufficient (> 0.75 ppm)category of available zinc status of soils in the river basin.

**Table- 2(F): Available Sulphur Status of Soils in the talukas of MRB**

Category	Range of Parameter (ppm)	% of State Average	No. of Talukas	% of Talukas	Name of the Taluka (4.8 to 160.0)
<b>Deficient</b>	<b>&lt; 10</b>	<b>52</b>	<b>4</b>	<b>30.77</b>	Gadag, (4.8), Kundagol (6.0), Ron (6.8) & Navalgund (6.9)
<b>Sufficient</b>	<b>&gt; 10</b>	<b>48</b>	<b>9</b>	<b>69.23</b>	Hubli (10.7), Hunagund (10.7), Badami (11.5), Dharwad (11.8), Naragund (15.2), Saundatti (129.9), Khanapur (141.0) Bailhongal (141.2) & Ramadurga (160.0)
		<b>100</b>	<b>13</b>	<b>100</b>	<b>50.50 (Less= 9 + More=4)</b>

**Table- 2(G): Available Zinc Status of Soils in the talukas of MRB**

Category	Range of Parameter (ppm)	% of State Average	No. of Talukas	% of Talukas	Name of the Taluka (0.38 to 1.12)
<b>Deficient</b>	<b>&lt; 0.75</b>	<b>55</b>	<b>8</b>	<b>61.54</b>	Saundatti (0.38), Ron (0.40), Gadag, (0.42), Naragund

					(0.46), Navalgund (0.59), Ramadurga(0.59), Bailhongal (0.62) & Kundagol (0.73)
<b>Sufficient</b>	<b>&gt; 0.75</b>	<b>45</b>	<b>5</b>	<b>38.46</b>	Badami (0.79), Hunagund (0.88), Khanapur (0.94), Hubli (1.12) & Dharwad (1.12)
		<b>100</b>	<b>13</b>	<b>100</b>	<b>0.70 (Less= 7 + More=6)</b>

**Table- 2(H): Available Boron Status of Soils in the talukas of MRB**

Category	Range of Parameter (ppm)	% of State Average	No. of Talukas	% of Talukas	Name of the Taluka (0.48 to 1.14)
<b>Deficient</b>	<b>&lt; 0.58</b>	<b>62</b>	2	15.38	Saundatti (0.48) & Ramadurga (0.57)
<b>Sufficient</b>	<b>&gt; 0.58</b>	<b>38</b>	11	84.62	Badami (0.68), Dharwad (0.70), Hunagund (0.70), Bailhongal (0.75), Khanapur (0.81), Hubli (0.84), Ron (0.85), Kundagol (0.91), Gadag, (0.99), Naragund (1.22) & Navalgund (1.14)
		<b>100</b>	<b>13</b>	<b>100</b>	<b>0.82 (Less= 7 + More=6)</b>

The deficiency of **Boron** is not critically reported in the talukas of Malaprabha river basin. Table-2.15 (H) explains the fact that, 84.62% of the talukas are included under the sufficient (< 0.58 ppm) category. This category comprises of Badami (0.68) Dharwad (0.70), Hunagund (0.70), Bailhongal (0.75), Khanapur (0.81), Hubli (0.84), Ron (0.85), Kundagol (0.91), Gadag, (0.99), Naragund (1.22) and Navalgund (1.14) talukas, while 15.38% of talukas like, Saundatti (0.48) and Ramadurga (0.57) are sufficient (> 0.58 ppm) category of available zinc status of soils in the river basin.

#### **Conclusions:**

Soils of the talukas of Malaprabha river basin are varied in soil texture and fertility status. Soils are high in organic matter and acidic in reaction. Amelioration of soil acidity and external inputs of essential nutrients is necessary for successful crop production. The status of available nutrition provides the basis for soil and crop specific mineral nutrition recommendation in all the land uses in order to maintain soil nutrient balance and also to enhance higher crop production and productivity. Thus the study suggest the following approaches to improve the fertility status of soils in the basin area. They are:

1. To plan to reduce the distance between 'Lab and Land' through interactive sessions between agricultural scientists and farmers of the basin area.
2. To establish the soil testing centers in the all talukas of the study area.
3. More efforts to participation of farmers in the 'Soil Test Campaign' in the basin area and
4. To sustain the existing fertility of soils status, organize regular "Awareness Programme on Soil Health Status" for the basin areas farmers.

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## **The Study of Women Entrepreneurship in India**

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### **Abstract**

As we know that our society is run on two important wheel one is male and another is female. Without women's there is nothing in the world. In last some decades women's participation in business activities was increased in India. Businesses like manufacturing of homemade eating's such as papad-masale-peckles, women's running bachat gat, beauty parlors, handcrafting and many others. Indian society is known as male-dominated society, but female's population in India is near to male's population, hence women's must be treated as "Better half of the society" but women are considered as weak and dependent on man like ABLA. That's why women are facing disadvantageous status in our society. Now world accepting the values & needs of presence of women's in society. The development of women's entrepreneurship become very important for development of nations. This article is for understanding the women's entrepreneurship in India.

### **Definitions**

On the basis of general concept of entrepreneurship, the women entrepreneurship can be defined as 'A women or a group of women's who initiate, organize & run a business enterprise'. In other world the women who engaged with innovation, imitation & adoption of business activity known as 'women Entrepreneurship'.

The government of India has been defined women entrepreneurship which was based on capital contribution & employment generation for women's in business firm. According to government of India (GOI 2006) women's entrepreneurship is "An enterprise owned & controlled by a women's having a minimum financial interest of 51% of the capital and giving at least 51% of the employment in the enterprise to women's". But this definition is subject to criticism because of it considered the participation of women's minimum 51% in business operations, it means that less than 51% participation of women's in business not considered for women's entrepreneurship.

Finally, women's entrepreneurs are those women's who are think & talk about business and take initiative & organizing all factors of productions and smoothly run business firm.

### **Role of women's Entrepreneurship**

India's first prime minister honorable Pandit Jawaharlal Nehru says when women move forward, the family moves, the village moves & finally nations move. So, in current days, especially in India female entrepreneurs are one of the important factors in respect of economic development. The following points are shows how women entrepreneurship is important.

#### **1. Generating Employment:**

women's start & run a new business maximum times, hence they more associated with employment creation. women's entrepreneurship gives a job opportunity to job seeker. That's why in India women's entrepreneurship helps to reducing unemployment & level poverty.

#### **2. Optimum utilization of resources:**

women's are very emotional and careful by nature. So, females-oriented businesses are good example of optimum utilization of labour, raw material & capital. Women enterprises are those enterprises which are less wastage of productive elements.

#### **3. Industrialization:**

After British rule Indian women's are actively participated in various sectors with man. Like, cinemas, sports, business, services, research activity etc. by such participation women's in business operation the level of industry was increased in India and developed industrialization is important for every country.

#### **4. Contribution towards GDP & Exports:**

Newly established business by women's entrepreneurs resulted in production, employment, industrialization etc. hence its contributing to nations GDP & also increasing exports.

#### **5. Economic Development:**

Women's entrepreneurship helps in reducing unemployment, increasing industrialization over in the country, fulfilling social needs, contributing towards GDP. Hence, its all resulted in overall development of economy of India.

### **Working Area of Women's entrepreneurs**

Women's entrepreneurs in modern days specially after Independence of India working with various areas of economy such as home-made food production like as PAPAD-MASALE-PICKLE etc. tailoring & fashions designing, beauty parlors, art & cinemas, finance, coaching, electronics, scientific research, information technology, medicals, jewellery making, handcrafting, engineering and many other manufacturing & service industries. This indicates that Women's entrepreneurship expanded after independence. In current scenario number of businesses & small ventures are run by women's entrepreneurs in India. In 2016 approximately 163 million Women's start or run business around the world. (Women's entrepreneurship statistics by Branka Vuleta in August 2020). According to the sixth census data released by ministry of statistical & programme implementation Women's having around 14% of total entrepreneurship base in India.

- **Problems Faced by Women's entrepreneurs in India.**

In India women's entrepreneurs are encountering various problems & issues. These all are discussed as follows.

#### **Lack of Education:**

In our Indian culture females are deprived from basic education compare with males. Parents are not allowed girls to higher education. That's why illiterate & less educated females encounter various issued when they are engaged with business. Sometime less educated women's are ignore innovation & risk taken although they able to do it.

#### **Financial Problems:**

Women's entrepreneurs are suffering from shortage of finance because of they have not any asset or property on their own name hence, they can't take loan from bank by giving mortgage. Financial institution also assume that Women's are less credit-worthy that's why banks taking defensive approach before providing finance to Women's.

#### **Unhealthy Competition:**

Women's entrepreneurship has not sufficient fund for canvassing & advertising of products. Thus, they facing a stiff competition with other types of entrepreneurs. Such competition ultimately resulted in the liquidation of Women enterprise.

#### **Male-dominated Society:**

Male-dominated culture is still present in modern India. In this culture women are treated as weak & depended on family members. Dominant male is thinking that women's duty is look after in children's & other family member. There for women can't enter easily in business.

#### **Law Risk-Bearing Ability:**

We know that Indian females are very emotional & they can't take business risk like male entrepreneurs. Sometimes businesses are going through trouble & uncertain conditions like lockdown by COVID- 19 in 2020, at that time so many small & medium scale businesses are destroyed. There are another various barriers to be in day to day business like workers strike, changing government policy, tough competition, change in demand, scarcity of raw material etc. such risk or threats can't handle by women entrepreneurs like others.

- **Conclusion**

As per the all above point we understand the role of women's entrepreneurs how's important in economic development of India. Now in India the share of Women's entrepreneurs is increasing day by day but, sometimes women's entrepreneurs are facing various challenges & issues. In nutshell, Indian economy requiring women's participation in business activity for overall development. Women's are always trying to build healthy & friendly relation with workers, shareholder, customers, suppliers & government. For achievement of business goals, the presence of women's is become very important in current scenario.

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## **L U/ L C Mapping With Change Detection Analysis of Walayar Watershed Using GIS and RS**

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### **Abstract -**

Land use and land cover of a watershed area have an influence on water quality and stream strength. The Land Use Land Cover (LULC) refers to two separate terminologies that are often used interchangeably. Land Cover can be defined as the physical characteristics of the earth's surface which involve vegetation, water, soil, and other physical features created through human activities like settlements, while Land Use refers to land used by humans for habitats concerning economic activities. Main objectives of the research study are: to prepare land use and land cover maps of Walayar watershed for the two time periods i.e. October 2006 and October 2011 and evaluate the land use and land cover change of the study area. Also to determine the extent of inter-class changes of land use and land cover. Integrated use of GIS and Remote Sensing and Digital Image Processing techniques was used for the study. The Information on land use / land cover and possibilities for their optimal use is essential for the selection, planning and implementation of land use schemes to meet the increasing demands for basic human needs and welfare.

**Keywords:** Land Use Land Cover (LULC), watershed, Digital Image Processing techniques, Remote Sensing.

### **Introduction**

Land use and land cover of a watershed area have an influence on water quality and stream strength. The watershed's land cover directly impacts stream hydrology by influencing the amount of storm-water runoff. Forests, natural meadows and wetlands naturally absorb rainwater, allowing a portion of it to percolate back into the ground.

However, impervious surfaces such as pavement, parking lots, driveways, hard-packed dirt roads and rooftops increase the amount of rainfall that flows over land and reduces the amount of rainfall that percolates into the soil to recharge groundwater wells and streams.

The Land Use Land Cover (LULC) refers to two separate terminologies that are often used interchangeably. Land Cover can be defined as the physical characteristics of the earth's surface which involve vegetation, water, soil, and other physical features created through human activities like settlements, while Land Use refers to land used by humans for habitats concerning economic activities. LULC patterns depend on human usage in terms of natural and socioeconomic development through space and time. In other words, Land Use changes have the ability to affect the Land Cover and vice versa. Shifting into possibility negative impact through the Land Use perspective for social activities is affecting Land Cover to change, especially in biodiversity, water and earth radiation, trace gas emission, and other processes that come together to affect the climate and biosphere. These changes are attributed to only one main factor in terms of size and pattern, namely, "population growth." Increasing population growth directly and indirectly contributes to LULC changes, especially from the perspective of demand for built-up area, agricultural activities, and water resources. Ecological expertise is very concerned with LULC changes that impact biodiversity and aquatic ecosystems.

LULC changes affect the watershed water quality, leading to increased surface runoff, reduced groundwater discharge, and transfer of pollutants. Therefore, LULC information at the watershed level is important for selection, planning, monitoring, and management of water resource so that the changes in Land Use meet the increasing demand for human needs and welfare without compromising water quality. Various research studies have been conducted about the change analysis of watersheds, which are important in developing effective management strategies to protect water resources.

Watershed management is necessary because a watershed is not only a hydrological unit but also plays an important part in socioecological perspective by providing economical, food, and social security as well as provision of life support services to local residents. LULC changes in the watershed area for urbanization and deforestation will continuously have negative impacts on water quality and indirectly affect the nature of a watershed ecosystem. Hence, understanding of the spatial and temporal variations that occur in a watershed over time as well as explanation of the interaction



between hydrological components of the watershed will allow better water conservation strategies to be formulated. Specifically, remote sensing has been widely used to classify and map LULC changes with different techniques and data sets, such as IRS LISS-III images that provide better classification of different landscape components at a large scale. Several change detection techniques have been developed in remotely sensed image with continuous debate on the advantages and disadvantages of each technique. These include unsupervised classification or clustering, supervised classification, hybrid classification, and fuzzy classification, which are all commonly applied and used in classification. Although various classification techniques have been proposed, supervised classification methods are considered as favorable for change detection analysis. More recently, researchers have applied supervised classification or un-supervised classification for several LULC change detection for several research aims and purpose.

The Mohammad AG, Adam MA (2010) investigated the effects of different vegetation types on runoff generation and soil erosion. The results showed that there are significant and important changes in runoff generation and sediment production with respect to the different types of vegetative cover. They also concluded that the forests and natural vegetation dominated by *S. spinosa* prevent or decrease the risk of runoff and soil erosion. Based on the above review of literature, problem statement and importance of land use and land cover change detection study, the Walayar watershed has been taken to study the changing pattern of seasonal land use and land cover by using Remote Sensing and GIS, as a tool. The present study will be useful for further planning and management of the selected Walayar watershed and will be very effective to enhance the agricultural production.

#### **Objectives**

- 1) To prepare land use and land cover maps of Walayar watershed for the two time periods i.e. October 2006 and October 2011.
- 2) To evaluate the land use and land cover change of the study area.
- 3) To determine the extent of inter-class changes of land use and land cover.

#### **Study area**

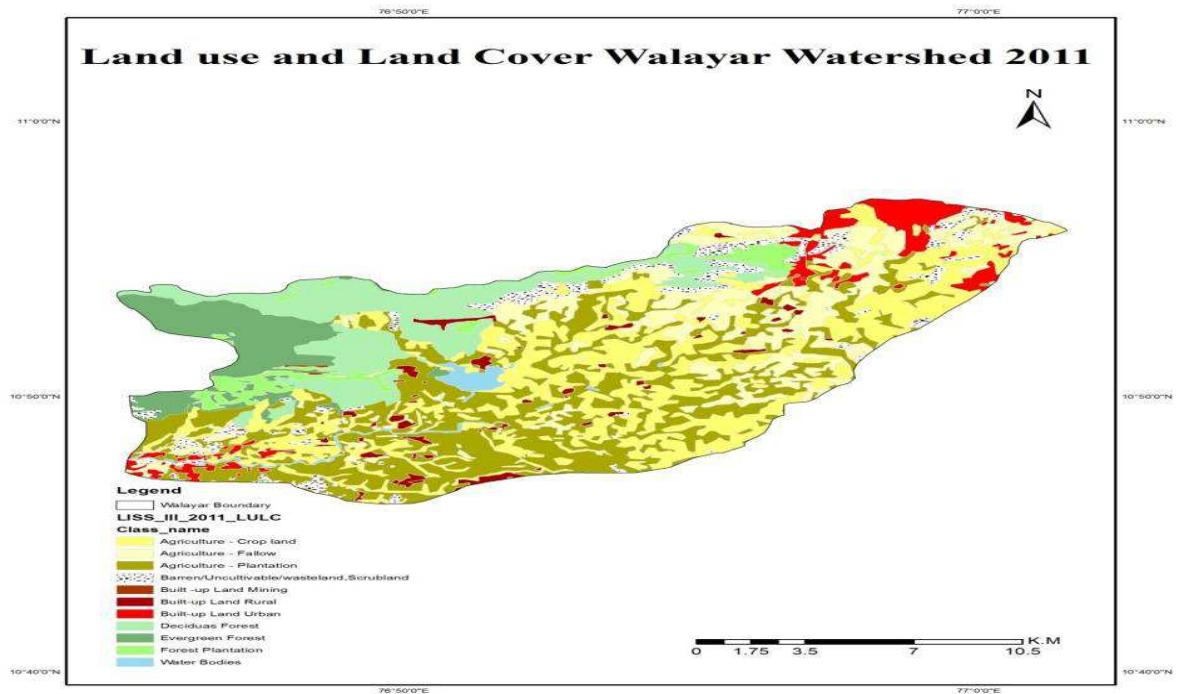
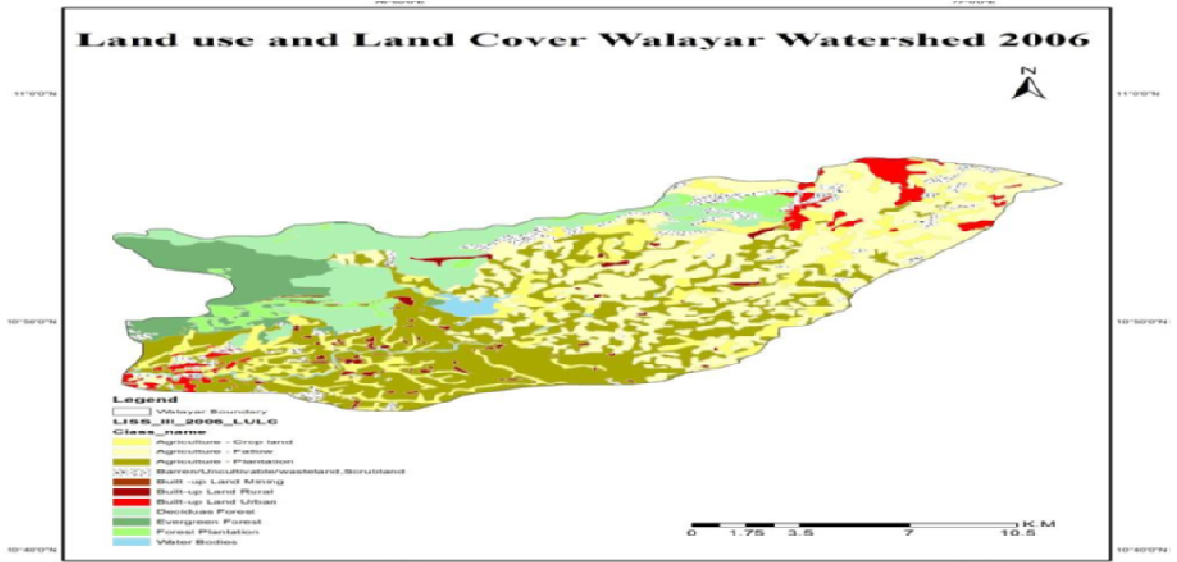
The Walayar watershed area extent Coimbatore and Palakkad district lies between longitude from 76°45'9"E to 77°1'33.363"E and latitude from 10°46'3.905"N to 10°57'11.8"N and the total area of Walayar watershed is covered by 339 sqkm. The watershed include the Coimbatore (South) Taluk in Tamil Nadu and Palakkad Taluk in Kerala. The elevation of the watershed between 1164 to 140 meter from north to south. Walayar Watershed is situated at Palakkad Gap and the watershed composed of plains, valley bottoms. The gap is the lowest pass through the Western Ghats. The Palakkad gap is only breaking in the stretch of the Western Ghats that otherwise runs along the entire eastern edge of Kerala, isolating the State from neighboring Tamil Nadu.

#### **Methodology And Database**

To achieve the objectives to study the density and type of vegetation and analyses the LULC following methodology was adopted. Integrated use of GIS and Remote Sensing and Digital Image Processing techniques was used for the study. The study was carried out specifically for the years, 2006 and 2011. The two multispectral satellite images (LISS III) of medium resolution were used to prepare the land use and land cover (LULC) maps of Walayar watershed for the two same time periods. The unsupervised/Supervised classification technique, which identifies natural spectral grouping, was used to classify the images considering the land use complexity of the study area.

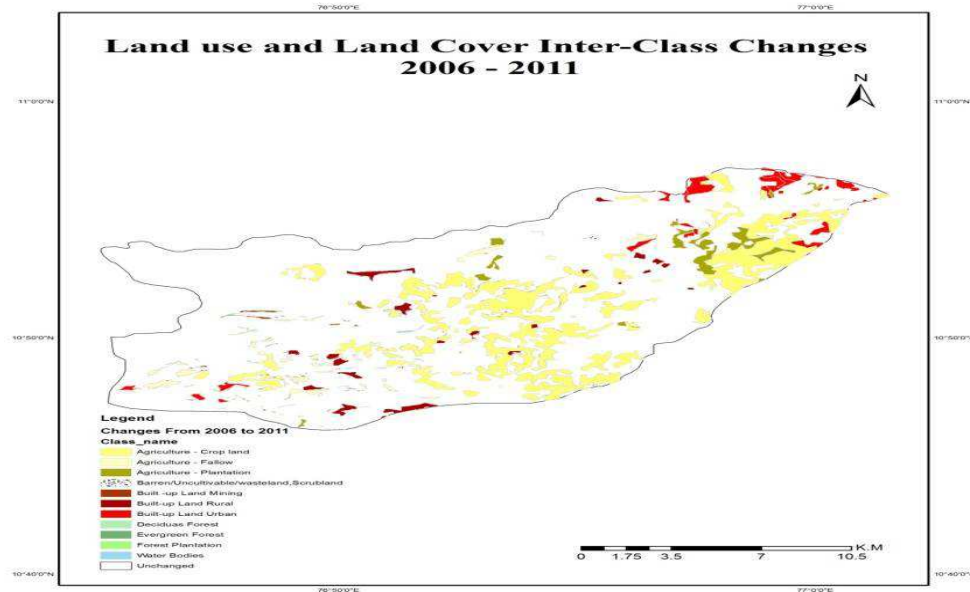
#### **Land use/LandCover Analysis**

Land use/ LandCover Analysis of Walayar watershed were carried out for the year of 2006 and 2011 data to find out the changes in the study area. The satellite data based on Spectral reflectance combined with field knowledge, in attempt was made to classify the images under eleven classes viz .Agriculture- Cropland, Agriculture Fallow, Agriculture Plantation, Barren/Uncultivable/wasteland, Scrubland, Built -up Land Mining, Built-up Land Rural, Built-up Land Urban, Deciduous Forest, Evergreen Forest, Forest Plantation and Water Bodies. In the Walayar watershed more than 75 % of the land is belongs to Agricultural land area.



### Change of Land use and LandCover (2006 to 2011)

Through the study period all the categories showed both positive and negative growth in Walayar watershed area coverage. The maximum area changes are happened in Agricultural field, were the Agriculture - Crop land with 4002 hectare increased and there is major area is converted from Agriculture – Fallow to Crop lands. The second major positive changes happened in Buildup area, were the Built-up Land Rural with 158.91 hectares and Built-up Land Urban with 496.93 hectares are increased from 2006 to 2011 period.



## Conclusion

The current study was undertaken with the purpose of highlighting the qualities of using remote sensing technology in the domain of Walayar watershed Land use and LandCover and its changes of the area. The GIS mapping and monitoring of land use/land cover is important for various management and planning activities, as it is considered as an important element for understanding the earth and its whole system. The LULC classified maps prepared by unsupervised classification methods and comparison revealed changes in area coverage of all the taken eleven categories. Here is the Agriculture - Crop land class expanded the most at the distribution of the other 10 categories.

The Information on land use / land cover and possibilities for their optimal use is essential for the selection, planning and implementation of land use schemes to meet the increasing demands for basic human needs and welfare.

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## **Quantitative and Statistical Approach in Human Geography**

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### **Abstract**

Human geography is the important branch of Geography. Every subject has its definite field of study. One subject studies economic activities while another political intricacies. One studies the surface of the earth while another studies other activities taking place on it. In the same manner we make regional study of the mutual adjustment of man and environment in the field of Human Geography. Human geography is the interdisciplinary subject. Mathematics and various quantitative methods are using in the research of Human Geography. After 1960s many statistical methods are used in the study of Human Geography. After using of the various statistical methods in Human Geography, the conclusions and findings of the research of this subject is very accurate. IN present study based on the discussion on the role of mathematics in the study of Human Geography and their uses. Present study based on secondary data.

**Keywords:** Quantitative, Interdisciplinary, Human Geography, Statistical approach,

### **Introduction:**

Geography is the science of all sciences because, the origin of this subjects is totally related to the origin of earth. Man is not only a geographical agents but he is also an active creature. He marks adjustment with physical environment and change the shape of natural resources by making maximum use of them. In this way man influences his environments. This mutual synthesis between man and natural environment is studied in human Geography is the branch of the social science that deals with the study of people and their communities, cultures, economics, and interaction with the environment by noticing their relations with an across space and place. As an intellectual discipline geography is divided into the sub fields of physical geography and human geography. The latter concentrating upon the study of human activities by the application of quantitative and qualitative research methods.

Vidal-de-la-Blache says "Human Geography is a recent sprout from the valuable trunk of geographical science. Human geography is the expression of a growth of ideals rather than immediate, one might almost say material result of discovery and the extension of geographical knowledge. "The relation of man and nature is the subject matter of human geography. It offers" a new conception of the inter relationship between the earth and man. A conception resulting from a more synthetic knowledge of the physical laws governing our earth and the relations between the living beings which inhabit it.

Any science that generates new ideas and theories we make felt its influence on the other science, eventually geography is entering a period where it will revise its entire system of study and investigation and a greater emphasis in mathematics is bound to be one of the points of interest in this revision present paper study based on a secondary data and totally focus on relationship between human geography and math's.

### **Objectives:**

- 1) To highlights use of the various quantitative method in the study of human geography.
- 2) To study relationship between human geography and mathematics.
- 3) To study statistical methods and their use of human geography.

### **Hypothesis:**

1. Development of scientific geography human geography play crucial role.
2. Major research of human geography is depends on the various statical tequins.
3. To highlight the importance of statical approach for the view of human geography.

### **Uses of statistical methods in human geography:**

Like other science human geography in its investigation, besides, using the usual local methods of agreement and differences employs comparatives and historical methods and the locational analysis based upon the statistical method during the fifties or so called quantitative and theoretical revolution has been generally accepted. But things have not settled down. Another new development has emerged known to same behavioral geography.

In the history of geography the quantitative revolution was one of the four major turning-points of modern geography, the other three being environmental determinism, regional geography

and critical geography. The main claim for the quantitative revolution is that it led to shift from a descriptive geography to an empirical law-making geography. The quantitative revolution occurred during the 1950s and 1960s and marked a rapid change in the method behind geographical research from regional geography into a spatial science. After world war II. Technology become increasingly important in society and as a result nomothetic-based sciences gained popularity and prominence. Database regard predominantly in the U.S. where regional geography was the major philosophical school

The quantitative revolution began in the universities of Europe with the support of geographers and statistician in both Europe and the united state first emerging in the late 1950s and early 1960s. The quantitative revolution responded to the rising regional geography paradigm. Under the loosely defined banner of bringin 'scientific thinking' to geography. The quantitative revolution led to an increased use of computerized statistical techniques, in particular multivariate analysis.

The greatest impact of the quantitative revolution was not the revolution itself but the effect that came afterwards in from of the spread positivist thinking and canter positivist response. The rising interest in the study of distance as a critical factor in understanding the spatial arrangement of phenomena of the first law of geography by waldotobler. The development of spatial analysis in geography led to more applications in planning process and the further development of theoretical geography offered to geographical research a necessary theoretical background.

The greater use of computers in geography also led to many new developments in geomatics, such as the creation and application of GIS and remote sensing. These new developments allowed geographers for the first time to asses complex models on a full-scale model and over space and time. The development of geomatics, as the complexities of the human and natural environments could be assessed also led to a greater role of spatial statistics ans modeling within geography. Eventually the quantitative revolution had its greatest impacts on he fields of physical, economic and urban geography.

The couter-positivist response from human geography was created in a from of behavioral radical and humanistic geography. The quantities revolution also changed the structure of geography. Human geography like other sciences, proceeds in its investigations by the collection and tabulation of data or facts or phenomena with a view to detecting connections between them and correlating, classifying and interpreting them. As in other sciences, human geography seeks the aid of what has been called scientific imagination or investigation to arrive at theories to interpret its facts. The enquiry being with a working hypothesis suggested by one or more sets of observed facts and proceeds to test such facts by comparison with the result of previous and subsequent investigations and according as such a theory is found consistent with known fact as well as with the result of further investigation on the same or similar lines, theory is finally accepted modified or abandoned. Each subsequent concordance strengthens the theory. As Golledge one of the greatest of living geographer suggested that studied in human geography can be categorized in to three types studies of spatial structures. Studies of behavior within these structures the final two are termed process approaches.

**Formulating the research process in geography :-**

- a) Problem identification
- b) Develop question to investigation
- c) Collect and prepare data
- d) Process descriptive data camps, graphs, reach conclusion.
- e) Formulate hypothesis collect and prepare sample data.
- f) Text hypothesis evaluate hypothesis
- g) Develop model law or theory.

**Type of statistical analysis in human Geography :-**

1. Describe statistics concise numerical or quantitative summaries of the characteristics of a variable or data set. (eg. Mean, standard derivation etc)
2. Inferential statistics here we wish to make generalizations about a statistical population.
3. Sample – typical or representative or unbiased subset of the broader, larger more complete statistical population.

**Conclusion:**

In this paper following conclusions are finding.

1. Human geography is resented branch of geography.
2. Statistical and quantitative approaches are very important part of research in human geography.
3. After 1960s many statistical methods are used in the study of Human geography
4. After using the various statistical methods in Human Geography the conclusions and findings of research in this subject is very accurate.

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## **Impact of Biochemical Changes in Collagen Content of Mantle and Gonad Tissues of *Parreysia Corrugata* Due To Actinomycin Toxicity.**

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### **Abstract**

Biochemical modulation due to action of actinomycin the rate of Collagen contents of mantle and gonad tissues in *Parreysia Corrugata* shows significant decrease in mantle from  $2.71 \pm 0.198$  to  $2.12 \pm 0.157$  \*\* for 15<sup>th</sup> day and on 30<sup>th</sup> day. There is significant decrease from  $2.51 \pm 0.156$  to  $1.85 \pm 0.216$  \*\*\* on Gonad shows significant and decrease from  $2.92 \pm 0.245$  to  $2.66 \pm 0.118$  \*\* on 15th days and on 30th days there is a significant decrease from  $2.60 \pm 0.125$  to  $2.15 \pm 0.142$  \* on 30<sup>th</sup> day this is due to toxicity of actinomycin and mobilization of tissue in the metabolism in aquatic fauna.

**Key Words:** *Collagen content, Parreysia Corrugata, Actinomycin*

### **Introduction:**

Collagen is a type of protein fiber found abundantly throughout body our body it provides strength and cushioning to many different areas of the body including skin .More specially collagen is found in our various types connective tissues such as cartilage, tendons, bones, and ligaments . Toxicity of Biochemical reaction due to various toxicants in aquatic composition of a organisms and their different biochemical processes are useful in determining the mechanism of toxicity and variety of various toxicants. Naturally there is a protective mechanism of the body to resistant and combat the toxic effect of the pollutant like heavy metals and their derivatives. Besides it is observed that some biochemical alterations occurring in the body give alarming first indication of stress condition .Similarly there are some competitive inhibitors of the normal The nephrotoxicity, ototoxicity and neurotoxicity of may be due to reactions with cellular alteration of collagen phenotypes may be responsible for compromised function in hypertensive heart disease(Thiedmann *et.al.*1983 ) (Clark *et al* 2001).Metals are known to decrease the energy level interfering the metabolic pathway (Torreblanca *et.al.*, 1992). Pollutants comprising heavy metals may alter cellular functions, ultimately affecting physiological and biochemical mechanisms of animal's chronic Concentration LC<sub>50/10</sub> value of 96 hrs.) of Actinomycin (0.836 ppm) On 15<sup>th</sup> and 30<sup>th</sup> day of exposure, bivalves from each experimental group were sacrificed and mantle , and gonads, were removed. These tissues were dried in oven at 75 °C to 80 °C till constant weight was obtained and blended into dry powder. These powders were used for the estimation of biochemical components of Collagen to observe Efficacy of Actinomycin.

### **Materials and Methods**

Attempts will be made in this study to select Fresh water bivalves, *Parreysia Corrugata* were collected from of kurla dam which is about at the distance of 50 K.M. away from Poladpur City of Maharashtra state. First they are made acclimatized to laboratory condition and they are washed. The water in the aquarium was changed regularly after every 24 hours. After the acclimatization, bivalves , *Parreysia Corrugata* were divided into two groups with equal numbers of animals They were kept in separate aquarium for 15 and 30 days out of remaining one groups treated by chronic Concentration LC<sub>50/10</sub> value of 96 hrs.) Of Actinomycin (0.836 ppm) on 15<sup>th</sup> and 30<sup>th</sup> day of exposure, bivalves from each experimental group were sacrificed and mantle , and gonads, were removed. These tissues were dried in oven at 75 °C to 80 °C till constant weight was obtained and blended into dry powder. These powders were used for the estimation of biochemical components of collagen to observe Efficacy of actinomycin

### **Results and Discussion**

The above Experiment has concluded that the result obtained on 15 & 30 days of mantle and gonads with Actinomycin are as follows.

#### **15 Days Treatment Period (Subchronic)**

The mantle and gonad of *Parreysia Corrugata* shows a significant ( $P < 0.01$ ) decrease. The mantle shows control  $2.71 \pm 0.198$  to treated with actinomycin  $2.12 \pm 0.157$  \*\* mg/g wet tissues in treated .The total Collagen content in mantle and gonad corresponds to an decrease by 15.12% to



8.90 % The profile of total Collagen content in gonad shows significant decrease from  $2.92 \pm 0.245$  to  $2.66 \pm 0.118^{**}$  mg/g wet tissues in gonad respectively .The gonad shows a decrease 8.90%. In both cases significantly decreases is recorded.

### 30 Days Treatment Period (Chronic)

The total Collagen content of mantle and gonad in control *Parreysia Corrugata* has been assessed. The result obtained 30<sup>th</sup> day after treating mantle with the dose has shown significant in from  $2.51 \pm 0.156$  to  $1.85 \pm 0.216^{***}$  mg/g wet tissues. Secondly the result of gonad treated with actinomycin is significant decreases  $2.60 \pm 0.125$  to  $2.15 \pm 0.142^{*}$  mg/g wet tissues respectively .similarly 15 days subchronic exposure of treatment as compare to 30 days exposure shown that they are both tissues reveals significant depletion in Collagen content. In the present comparative study mantle and Gonad shows significant elevation in to the collagen level depletion in the exposure periods. Actinomycin remains the mainstay of treatment for advanced gastric cancer (AGC) and no standard chemotherapy regimen exists. Combinations of irinotecan with folinic acid and infusional actinomycin have shown good efficacy with acceptable toxicity as hematologic toxicity (anemia, neutropenia and leucopenia), Non-hematologic (nausea/vomiting) and diarrhea in patients with metastatic colorectal cancer (Kunz, 1998). Unbalanced supply collagen and ascorbic acid to affect collagen synthesis to give rise to a range of effects such as mutations, mitotic recombination's, chromosome aberrations and depletion of protein level in body. Strand breakage (Memuth, 1989).

**TABLE No.-1 – Alterations in the Collagen content mg/100mg dry weight+ S.E. in mantle and gonad tissues of *Parreysia Corrugata* Treatment with Actinomycin.**

Sr	Tissues	Days	Control	Experimental	Student	% increases
1	Mantle	15	$2.71 \pm 0.198$	$2.12 \pm 0.157^{**}$	P < 0.01	15.12%
		30	$2.51 \pm 0.156$	$1.85 \pm 0.216^{**}$	P < 0.01	22.35 %
2	Gonad	15	$2.92 \pm 0.245$	$2.66 \pm 0.118^{**}$	P < 0.01	8.90%
		30	$2.60 \pm 0.125$	$2.15 \pm 0.142^{*}$	P < 0.001	12.52 %

### Conclusion:

In contrast collagen were through to function only as structural support of whole body of animals Collagen is most commonly found within the body in the skin ,bones and connective tissues . The role of collagen plays a role in the replacement of dead skin cells.it is the protein made up of amino acids which are in turn built of carbon oxygen and hydrogen. Due to the toxicity of cisplatin stop replication in cell cycle then the protein synthesis inhibit the direct impact the thymine base pair automatically stop the collagen due to toxicity that impact decrease the the level of collagen .

### Acknowledgement:

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## **Women and Education**

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### **Abstract**

As human development moves towards the centre on the global stage, people's participation in the development process is recognized as crucial. Despite this recognition, a very large number of people continue to be excluded from the benefits of development. Women, who constitute a majority of the world's population, receive only a small share of development opportunities. The Fourth World Conference on Women, which was held in Beijing in September 1995, proclaimed the goals of equality, development and peace. But, how equal are they? Do they have equitable access to literacy, education, food, nutrition, employment or to the political and economic decision making process? This study mainly focused on the position of women in Indian society and the drop-outs of women in the field of education.

### **Introduction**

#### **Traditional role of women**

If we go back to the age old tradition of India, there is no distinction between man and woman, all being equally 'Brahman'. The ideals of Indian women are very much the same as those of Indian men, unity and equality, greatness and fullness, purity and perfection, the very high standard of learning, culture and all round progress reached by women during the Vedic age in best proved by the fact that Rig-Veda contains hymns by as many as twenty seven single as well as they freedom to choose their life partners, whether a woman was married or unmarried was not the main thing to count; the main thing was to consider her inner inclination and ingrained ideals. Domestic life become compulsory for women and the unquestioning devotion to and self-effecting service of husbands was their only duty. The dictum of Manu is "women are never fit for freedom. – she is to be supported by father, a husband, or son". But women as wives and mothers continued to be honoured as we can see from another dictum of Manu. "A father excels hundred acharyas but a mother excels a thousand fathers." In the role of wife and mother, she was the guardian of household and preserver of cultural traditions. From the smriti period down the 19<sup>th</sup> century, women was seen only as a member of the family, daughter, wife, mother and not as an individual with an identify to rights of her own. Marriage and motherhood were the only valuable achievements of women. Hers was a silent, self-effacing role; she was expected to be a devoted wife willing to suffer for the sake of loyalty to her husband.

#### **Objectives Of The Study**

1. To explain the position of women in society and their role in India.
2. To examine the drop-outs of women in the field of education.

#### **Women and their perspective definition by early and modern personalities**

##### **RajaRamMohan Roy:-**

the foremost among them was the Brahmasamaj, founded by Rajarammohan Roy in 1828 in Bengal. He stood for many social reforms for women, especially for the abolition of 'sati' and for their education and emancipation in society.

**Annie Besant** and the all India Women's Conference led by eminent patriots and national leaders like Kamaladevi, Muthulakshmi Reddy, Rani Lakshmi Bai Rajwade, followed by hopes of others who have given direction and strength to the liberation of women.

**Martin Lurthier** declared, "Women should remain at home, keep house, bear and bring up children. If a woman grows weary and at last dies from child bearing let her die, she is there to do it."

**Telugu Proverb;** - "bringing up a daughter is like watering a plant in another's courtyard"

**An African Proverb;** - "if you educate a man, educate a person: But if you educate a woman, you educate a family."

#### **Why do gender gaps persist in education?**

The reasons for gender gaps in education are many and complex; differ from one country to another, from one culture to another. Yet there are certain factors constraining girls' educational opportunities which are common across cultures.

Poverty has an enormous bearing on girls' chances of schooling. When household income is limited, boys tend to get preference over girls for schooling. The severe discrimination that women face in the labour market, including less chances for a job and less pay than men, reduces the incentive for their schooling. The family is also unable to bear the indirect costs of sending girls who perform tasks that are essential to the household economy to school.

The distance of schools is another important deciding factor. A distant school places girls' safety at risk and it also keeps them away from domestic chores for longer periods of time. For example, a study in Algeria demonstrates that the enrolment rate for girls was 84 per cent when school was less than one kilometre away but it dropped to 25 per cent when the school was more than five kilometres away.

School - related factors play an important role in motivating girls to enrol and stay in schools. In certain cultures, girls' chances of going to school may be directly dependent upon the availability of separate school facilities for girls and the presence of a female teacher. Numerous studies have shown the enrolment rates for girls improve and drop-out rates reduce significantly with female teachers in schools. Other important factors are flexible school timings which allow girls to perform household and agricultural chores; toilet facilities in schools, and relevant and gender – sensitive curricula.

There are also wide regional variations between states like Kerala where almost 100 per cent women are literate, and Rajasthan, where only 20.8 per cent women know how to read and write. There is also a wide urban-rural differentiation, which sadly increased in the decade 1981 – 1991. Female literacy in rural areas is 30.6 per cent and is less than half of the literacy rate in cities. Removal of gender and regional inequalities is therefore basic to any effort to achieve universalization and full literacy.

As with other educational indicators, gender disparities are conspicuous in regard to enrolment and retention. While the rate of growth of enrolment of girls has been higher than that of boys, disparities still persist. The drop-out rates of girls is much higher. During 1993-94, little more than one-third of the number of girls enrolling at the primary stage dropped out before completing primary level and of the remaining who reached the higher secondary stage, another 10 per cent dropped out before completing the school stage. Thus only 32 per cent of girls entering the primary stage reach the end of schooling. High dropout rates of girls are embedded in socio-cultural and economic factors.

#### **Reasons For Drop – Outs**

There are many reasons for dropout girls in higher education. The reason can be categorised as

1. Economic
2. Familial
3. Educational and
4. Social

Besides, a World Bank study in 1996 has pointed out the following as reasons for drop – out of women education.

Such as lack of conveniently

1. Located schools
  2. Inflexible hours
  3. Irrelevant curricula
  4. Non availability of female teachers,
  5. Absence of single – sex schools, plays a greater role in preventing girls from enrolling in school.
- To begin with the location of a school is an important factor effecting parent's decision.
1. Long distance
  2. Perceived as a threat to a daughter's security, might make the parents reluctant to send their daughters to school.

One of the major factors inhibiting the enrolment of girls is the

1. Non availability of separates schools for girls,
2. The absence of female teachers.

#### **Economic Reason**

Poverty in the predominate factor that renders girls to get higher education. Parent of middle and lower classes think, it is wise to save money for their dowry rather than for their education. Whenever the purse of parents gets tight, they at first step strive to stop the expenditure on education of their daughters. Most of them consider it unnecessary expenses as the girl has to go to some other family. The higher education is also expensive that parents of middle class cannot afford it. In every third family we find girls who are not able to get education due to financial difficulty of the parents.

#### **Familial Reason**

There are narrow- minded parents who think that education spoils the character of their daughters if their loving daughter goes to college she will not enter the kitchen, in other words she will not be able to prove herself to be a modes daughter – in- law. In college she will only learn fashion, in co-education the may spoil her character. They argued that when their daughter need not earn, then what in the need of higher education. Instead they will get her married.

#### **Educational Reason**

The dearth of good college or university or not getting admission is also serious problems faced by girls for higher education. Absence of proper hostel also a problem for those who want to go to other places for education. The educational reasons which stand in the way of girls' education are inadequacy of facilities, particularly distance of college or university, irrelevance of the content of education, curriculum not suited to their requirement etc.

#### **Social Reason**

It was felt that higher education for girls resulted in increasing the member of spinsters. So most of the parents wanted their daughter to discontinue higher education. They think it will be late marriage for her daughter if she continues education. Thus, the problems of losing girls, higher education marriage in very common. According to a survey 75 per cent of girls lost their education due to marriage. They give up their studies to enter home life.

#### **Conclusion**

Pandit Jawaharlal Nehru has once states, “the states of women indicate the character of country “. The women also feels she is dependent on some make or other right from birth, has lack of her own identity, either she is known by her father's name or husbands name, she has feelings of powerlessness. If women have to participate in national growth they must first discover themselves, the proud of their accomplishment, have an independent identify feelings of self-worth, initiative, decision – making and independent stature.

“Women must stand erect now and forever more. Then, even if they should not win success and we know that they will win it at least they will deserve success, and that is what matters more than all besides”.

If a nation has to grow and develop its women must rise to the occasion. If we wish a nation to develop, then, half of its population of females must also grow-educate her self-sufficient and have a positive self-image and development. This is also going to be a harbinger at social change for families, communities and nation.

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## **A study of water scarcity in Maharashtra**

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### **Abstract**

Water is the basic necessity of every human being. But, water scarcity is a major issue that is rising very rapidly in modern-day India. The problem has become so severe that in many states the groundwater has almost dried up and people have to depend on water supply from other sources. In addition, water is one of the most misused commodities that we still waste. Water scarcity is the cause of mismanagement and excess population growth of the water resources. Drinking water scarcity in Maharashtra has reached a crisis situation. Every day, 6,290 tankers are supplying water to 4,920 villages and 10,506 hamlets. While tacking a similar drought in 2016, the State government had provided 5,923 tankers to 4,768 villages and 7,622 hamlets. Today there is a need save water for future.

**Key Words:** Water, Scarcity, crisis

### **Introduction**

The earth is now facing many problems such as climate change and droughts, and all of them result from human activity. Water scarcity is one of the biggest challenges because safe drinking water is reducing year by year. Nothing can survive without water as well as human beings so it is necessary to protect clean water from decreasing. There are some causes of water scarcity:

#### **1. Pollution**

Pollution is a major cause of water shortage. Water is polluted when industrial wastes are deposited into water bodies thus making it unfit for human consumption. Oil spillage and fecal matter also makes the water contaminated. It cannot be used for drinking. This makes it scarce.

#### **2. Overuse of Water**

When water is overused, shortage occurs. Some people use too much water especially for irrigation purposes. It therefore becomes inadequate for other equally important uses.

#### **3. Water Wastage**

Wastage of water is also a major cause of water shortage. Some people leave their taps running even when they are not fetching water. All this is lost to the ground. The resultant problem is lack of enough water.

#### **4. Drought**

When drought strikes an area, there is usually no rain for a long period of time. This makes rivers to dry. Other water sources such as streams, ponds, e.t.c also dry up. People therefore do not have enough water for domestic and industrial use.

#### **5. Conflict**

Conflict contributes to water shortages in areas. When people are fighting over control of water sources like rivers, some will not have access to it.

#### **6. Distance**

In some areas especially arid regions, people stay far away from oasis and other sources of water like boreholes. Traveling there takes a lot of time. It is also a burden to carry water from such distant places to homes. This discourages them from going to fetch water. The result is water shortage.

#### **7. Restriction by Governments**

Some governments especially those that govern by dictatorship may restrict citizens from accessing certain water sources.

#### **8. Destruction of Water Catchment Areas**

Water catchment areas such as forests are continually being destroyed through deforestation to pave way for human settlement. This problem has been brought about by rapid population increase. As a result, there is not enough rain thus causing water shortage. Water scarcity is the lack of [fresh water](#) resources to meet [water demand](#). It affects every aspect in the world. It is one of the largest [global risks](#) in terms of potential impact over the next decade. It is manifested by partial or no satisfaction of expressed demand, economic competition for water quantity or quality, disputes between users, irreversible depletion of [groundwater](#), and negative impacts on the [environment](#). Two-

thirds of the global population (4 billion people) live under conditions of severe water scarcity at least 1 month of the year. Half a billion people in the world face severe water scarcity all year round. Half of the world's [largest cities](#) experience water scarcity.

**Objectives:**

1. To study the present status of water scarcity in Maharashtra.
2. To study the solution of water scarcity.

**Hypothesis :**

1. Water scarcity is a biggest crisis.
2. Water scarcity will affect the future.

**Research Methodology**

In this present paper, the secondary source of information has been used. The data has been collected from journals, books and websites.

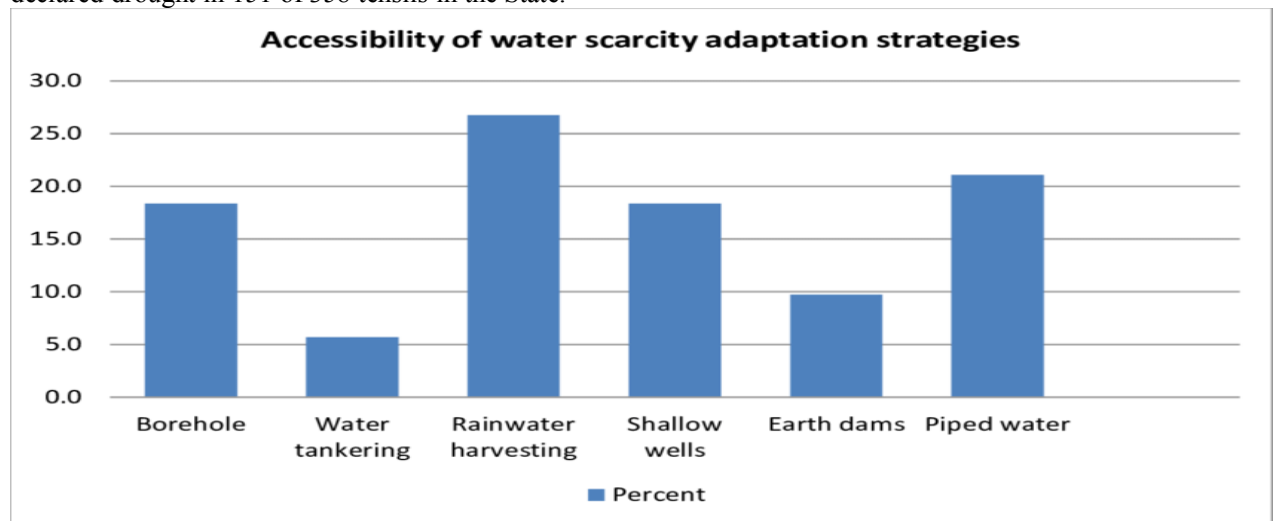
**Data Analysis**

This analysis is in descriptive nature.

In Maharashtra every tanker carries 10,000 litres of water, which in effect means 6.29 crore litres of water is supplied every day to the water-starved residents across Maharashtra. In 2016, 5.92 crore litres of water was provided daily. In the previous years, there was a lot of false billing by the tanker owners. This year, all tankers have been fitted with GPS tracking devices for monitoring their activities.

In many villages, transparent water tanks have been installed to ensure that the correct quantity of water is supplied by the tankers, the official said. Along with humans, farm animals are also suffering due to lack of water. As many as 1,501 cattle camps have been set up in the State. The State government is providing green fodder and water to over 10 lakh animals in these camps.

The official added that the State government has also decided to provide fodder and water to sheep and goats. But it could have an adverse impact on the environment as sheep and goats eat all kinds of vegetation, including thorny bushes. In order to reduce costs, fodder camp contractors could use trees, bushes and other vegetation on public lands, which could result in soil degradation, the official said. After an inadequate monsoon last year, the Fadnavis government in October 2018 declared drought in 151 of 358 tehsils in the State.



Ref:[ [https://www.researchgate.net/figure/Bar-graph-showing-accessibility-of-water-scarcity-adaptation-strategy\\_fig2\\_318108941](https://www.researchgate.net/figure/Bar-graph-showing-accessibility-of-water-scarcity-adaptation-strategy_fig2_318108941)]The above chart indicate the water scarcity adaptation strategies in Maharashtra state.

**How depleted are groundwater levels?**

The latest survey of the Groundwater Survey and Development Agency found that of Maharashtra's 353 talukas, 279 have experienced depletion in ground water levels. Parts of Marathwada and North Maharashtra are among the worst-hit. In 2,642 villages across the state, groundwater levels were found to be more than 3 metres lower than the five-year average — a pointer to uncontrolled extraction of water and damage to groundwater aquifers. GSDA officials

blame non-implementation of the Maharashtra Groundwater (Development and Management) Act, which was enacted to regulate extraction. With food production in rain-shadow belts also dependent on groundwater use, depleting water levels are putting the state's harvest at risk.

**Economic Impact :**

Global freshwater demand is projected to increase substantially in the coming decades, making water one of the most fiercely contested resources on the planet. Water is linked to many economic activities, and there are complex channels through which water affects economic growth. The purpose of this report is to provide background information useful for a quantitative global assessment of the impact of water scarcity on growth using a multi-region, recursive-dynamic, Computable General Equilibrium (CGE) model.

**What are the effects of water shortages?**

The effects of water scarcity can be grouped into these 4 broad areas— Health, Hunger, Education, and Poverty.

**Health** In many developing countries, people are forced to drink low quality water from flowing streams, many of which are contaminated. There are many water-borne diseases that people die off. Less water also means sewage does not flow, and mosquitoes and other insects breed on still (stagnant) dirty water. The result is deadly [malaria](#) and other infections. Lack of water or quality water causes huge sanitation issues. Clinics, local restaurants, public places of convenience and many other places are forced to use very little water for cleaning. This compromises the health of the staff and people who use the facilities.

**Hunger** It takes a lot of water to grow food and care for animals. Experts say that globally we use 70% of our water sources for agriculture and irrigation and only 10% on domestic uses. Less water means farming and other crops that need water to grow have lower yield. It means farm animals will die and others will not do well without water. The result is constant hunger and thirst and low quality of life.

**Education** It is a bit hard to see how water and education is related. For many people in other parts of the world children (and teen girls) have to be up at dawn to collect water for the family. They have to walk for several miles to get water. The children get tired and some have to miss school as a result. Doing this for many years take away school times and the cycle continues. In other places, girls and women are not allowed to go to school at all so that they can serve the family by getting water and taking care of other family needs.

**Poverty** Access to quality water is key to economic prosperity and better living standards. Businesses and schools thrive when people come to work on time and not have to spend all morning looking for water. Restaurants, hotels and shopping places need to keep clean to attract tourists and foreign investments. Manufacturing activities, commercial farms, and mining processes all need a lot of water to thrive. Lack of water means no economic activities will happen and the people will be in constant poverty.

**A few modern solutions that can solve the water crisis in India include:**

**Water Seer** A water seer is as good as a device that produces water from thin air! The population in rural environments often need to traverse long distances in search of fresh water. A water seer obtains water from the surroundings. The moisture content in the air is absorbed and condensed by employing appropriate temperature differences. The water is then collected underground and can be extracted by a water pump for daily use. A water seer can easily be installed anywhere. It produces more than ten gallons of clean drinking water every day and thus can be of great help to improve the crisis of water.

**Low-Cost Water Filtration** Instead of banking into the primary sources for obtaining water one can use the idea of filtering water that has been already used. The cost of filtration can be lower than the cost of obtaining or transporting fresh water across drylands. Some such low-cost filtration systems can use water from contaminated

bodies and purify it for daily use. The filtration system can be something as simple as using a bucket as a reservoir. Large impurities can be removed in this stage. The second round of purification will use cleaning materials to remove any harmful viruses, bacteria, and impurities. Tests have shown that this water is as clean and drinkable as any other source of obtainable fresh water. The water can

be stored in separate chambers to act as a reservoir. This can be an extremely cost-effective method of generating safe and clean drinking water in areas of shortage.

**Water Wheel** The water wheel is an affordable rural solution for the water crisis. This method was invented in India as early as 4000 BC. Water collection is another issue in rural areas, where even when sources of fresh water are accessible, they cannot bring water and store in the villages for a long period of time. The water is stored in drums and other containers which are prone to insect breeding and other harmful disease-causing organisms. This water is difficult to carry to the destination as this is often done manually. The water wheel is a fifty-litre container which can transport water by simply rolling the container to and from the fresh water source. Not only does this save time but clean water can be maintained and refilled as and when required. This is more sanitary for drinking use and constant and fast water supply can be ensured.

**Digitization of water supply** This is an interesting idea which has been adopted in some countries with water scarcity. Even when water pumps and sources of water are installed in the rural areas, there is no set way to ensure that the use of water is carried out responsibly and there is no wastage. Most of the extraction is carried out manually and water is a commodity which can be extremely difficult to ration given the nature of underground storage. The digitization of water involves installing a digital meter and a tap card at all such water facilities. The access of water on the cards can be set according to the population in a household or the village depending on the nature of extraction. The tap card will account for a daily limit and emergency transactions will be allowed to be made only on occasions. This is something which can also be instilled in urban areas. Urban houses tend to generate more wastewater as compared to rural ones. The digitization of water can go a long way in helping to resolve the water crisis in the nation.

**Some another solutions for water scarcity:**

- People should be educated on the benefits of conserving water.
- Laws should be enacted to prevent water pollution. Those found polluting water should pay a fine or face imprisonment.
- People should be encouraged to recycle rain water.
- Farmers should be encouraged to adopt farming practices that use less water.
- Water catchment areas should be preserved.

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## **Application of Shannon's Entropy Approach For Urban Sprawl Of Solapur City**

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### **Abstract**

Urban geography studies various aspects; out of them urban sprawl study focused in recent times. Urban sprawl analysis done by various methods. It includes land use land cover analysis, buffer analysis, multiple buffer analysis, Shannon's entropy approach etc. The GIS and remote sensing are used for quantify sprawl of solapur city. The present paper is deals with Shannon's entropy approach for urban sprawl of solapur city. The Shannon's entropy approach is an only quantitative technique to measure urban sprawl. Its gives clear picture and growth rate of urban sprawl in given area. It is named after Claude Shannon (1948). The term entropy is frequently used to describe the quantity of elements. The entropy is related to the expansion of the spatial variable in a given area, which was given by Shannon's entropy. This approach is useful to measure and distinguish types of sprawl. The entropy method is more appropriate with GIS and Remote Sensing.

**Keywords:** - Urban sprawl, Shannon's entropy, built up Area, GIS, Remote Sensing

### **Introduction**

Urban geography studies various aspects; out of them urban sprawl study focused in recent times. A term urban sprawl describing the physical pattern of low density expansion of large urban areas under market conditions into the surrounding agricultural areas. Sprawl in lies advance of the principal lines of urban growth and implies little planning control of land subdivision. Urban sprawl analysis done by various methods. It includes land use land cover analysis, buffer analysis, multiple buffer analysis, Shannon's entropy approach etc. The GIS and remote sensing are used for quantify sprawl of solapur city. The Shannon's entropy approach is an only quantitative technique to measure urban sprawl.

### **Objectives**

The present study has certain specific objectives. It includes studying application of Shannon's entropy approach for urban sprawl in solapur city.

### **Study Area**

The city of Solapur is located in between 17°43' 30" North latitudes and 17°46' 15" North latitudes to 75°52' 10" East to 75°58' 20" East longitude. The city lies about 550 meters above the mean sea level. The area under the jurisdiction of the Solapur, in Municipal Corporation has an area of 178.5 square kilometer.

### **Database and methodology**

The present study covering an entire solapur city as the study area. The database for present work is satellite images collected form NRSA. The images processed by ArcGIS software. The built up area measurement tabulated with zone wise. The Shannon's entropy method applied for zone wise decadal tables.

### **Shannon's Entropy Approach for urban sprawl of solapur city**

It is named after Claude Shannon (1948). The term entropy is frequently used to describe the quantity of elements. The entropy is related to the expansion of the spatial variable in a given area, which was given by Shannon's entropy. This approach is useful to measure and distinguish types of sprawl. The entropy method is more appropriate with GIS. Shannon's entropy values from 0 to 1. If the distribution of built up is more concentrated at one area; the lowest entropy value is 0. If the entropy value 1, it means distribution of built up across the area.

The Shannon's entropy method calculated using the following formula.

$$E_t = \frac{\sum_{j=1}^m PD_j (\log(\frac{1}{PD_j}))}{\log(m)}$$

$$\text{Where} = PD_j = \frac{D_j}{\sum_{j=1}^m D_j}$$

$E_t$  = Entropy,

P is Probability,

D<sub>j</sub> is the density of land growth it equals to the quantity of built up land divided by the total quantity of land in the j<sup>th</sup> zone in the total of m zone.

The difference in entropy values among two different periods of time used to find out the change in the amount of urban sprawl.

Relative entropy

$$\Delta E_t = E_t (y+1) - E_t (y)$$

Where  $\Delta E_t$  is the difference of the relative entropy values between two periods  $E_t (y + 1)$  is the relative entropy value at time period y+1,  $E_t (y)$  is the relative entropy value at time period y.

**Table 1.1**  
**Entropy Calculation for the Time Period of 1992**

Zones	TGA	1992	Density(D <sub>j</sub> )	PD <sub>j</sub>	1/PD <sub>j</sub>	Log(1/PD <sub>j</sub> )	PD <sub>j</sub> *log (1/PD <sub>j</sub> )
I	25.45	2.77	0.1088	0.0391	25.5754	1.4078	0.0550
II	32.30	3.20	0.0990	0.0356	28.0898	1.4485	0.0515
III	7.73	4.29	0.5549	0.1995	5.0125	0.7000	0.1396
IV	19.41	2.24	0.1154	0.0415	24.0963	1.3819	0.0573
V	45.71	4.25	0.0929	0.0334	29.9401	1.4762	0.0493
VI	41.06	3.31	0.0806	0.0289	34.6020	1.5391	0.0444
VII	3.52	2.94	0.8352	0.3003	3.3300	0.5224	0.1568
VIII	3.39	3.03	0.8938	0.3214	3.1113	0.4929	0.1584
<b>Total</b>	<b>178.57</b>	<b>26.03</b>	<b>2.7806</b>				<b>0.7123</b>

**Source:** Computed by Researcher

**TGA** = Total Geographical Area

Log (m) = log 8

$E_t = 0.7123/0.9030$

Log 8= 0.9030

$E_t = 0.7888$

**Table 1.2**  
**Entropy Calculation for the Time Period of 2002**

Zones	TGA	2002	Density(D <sub>j</sub> )	PD <sub>j</sub>	1/PD <sub>j</sub>	Log(1/PD <sub>j</sub> )	PD <sub>j</sub> *log (1/PD <sub>j</sub> )
I	25.45	3.15	0.1237	0.0400	25	1.3979	0.0559
II	32.30	4.25	0.1315	0.0425	23.5294	1.3716	0.0582
III	7.73	5.13	0.6636	0.2145	4.6620	0.6685	0.1433
IV	19.41	3.22	0.1658	0.0536	18.6567	1.2708	0.0681
V	45.71	5.66	0.1238	0.0400	25	1.3979	0.0559
VI	41.06	3.75	0.0913	0.0295	33.8983	1.5301	0.0451
VII	3.52	3.06	0.8693	0.2811	3.5574	0.5511	0.1549
VIII	3.39	3.13	0.9233	0.2985	3.3500	0.5250	0.1567
<b>Total</b>	<b>178.57</b>	<b>31.34</b>	<b>3.0923</b>				<b>0.7381</b>

**Source:** Computed by Researcher.

**TGA** = Total Geographical Area

Log (m) = log 8

$E_t = 0.7381/0.9030$

Log 8= 0.9030

$E_t = 0.8173$

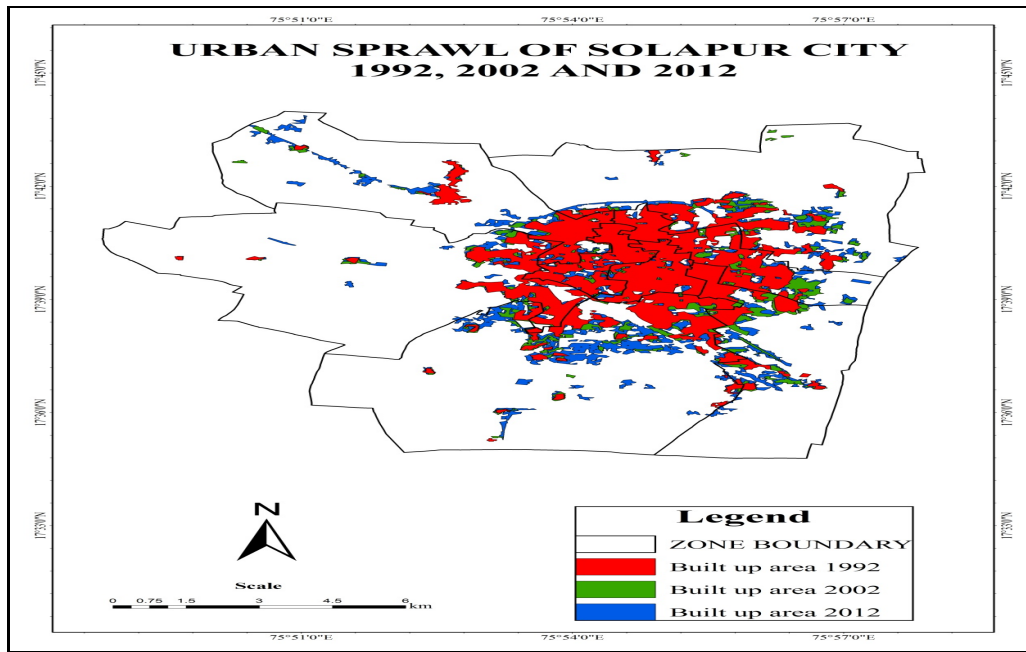
**Table 1.3**  
**Entropy Calculation for the Time Period of 2012**

Zones	TGA	2012	Density (D <sub>j</sub> )	PD <sub>j</sub>	1/PD <sub>j</sub>	Log(1/PD <sub>j</sub> )	PD <sub>j</sub> *log(1/P <sub>Dj</sub> )
I	25.45	4.60	0.1807	0.0500	20	1.3010	0.0650
II	32.30	5.95	0.1842	0.0510	19.5694	1.2915	0.0658
III	7.73	5.81	0.7516	0.2083	4.8007	0.6813	0.1419
IV	19.41	4.65	0.2395	0.0663	15.0829	1.1784	0.0781
V	45.71	9.40	0.2056	0.0569	17.5746	1.2448	0.0708

VI	41.06	4.59	0.1117	0.0309	32.3624	1.5086	0.0466
VII	3.52	3.35	0.9517	0.2638	3.7907	0.5787	0.1518
VIII	3.39	3.33	0.9823	0.2723	3.6724	0.5649	0.1538
<b>Total</b>	<b>178.57</b>	<b>41.69</b>	<b>3.6073</b>				<b>0.7738</b>

**Source:** Computed by Researcher.  
**TGA = Total Geographical Area**

$$\begin{aligned} \text{Log}(m) &= \log 8 & E_t &= 0.7738/0.9030 \\ \text{Log } 8 &= 0.9030 & E_t &= \mathbf{0.8569} \end{aligned}$$



**Fig 1.1**

Table 1.1, 1.2 and 1.3 shows the entropy calculation for the time period of three decade. The entropy value of period 1992, 2002 and 2012 shows that, 0.7888, 0.8173 and 0.8569 respectively. The entropy values of this three decade shows above 0.5, indicating a higher rate of urban sprawl.

**The On-Going Rise of Urban Sprawl**

The calculation of Shannon’s entropy measure indicated that Solapur city continue to sprawl from 1992 to 2012. The entropy value for 1992 is lower than that of 2012. Table 1.4 shows relative entropy. The analysis of entropy value shows that, urban sprawl in Solapur city is far serious. The Shannon’s entropy values shows above 0.5, it means a higher rate of urban sprawl. The force behind the urban sprawl is rapid population growth. The city development plan should prepare according to sprawl.

**Table 1.4**  
**Shannon’s Entropy values of Solapur city**

Sr.No	Year	Entropy ( $E_t$ )	$\Delta E_t$
1	2002-1992	0.7888	0.0285
2	2012-2002	0.8173	0.0396
3	2012	0.8569	-

**Source:** Computed by Researcher

**Conclusion**

1. The Shannon’s entropy value is applied for analysis of urban sprawl. The entropy values continuously increasing, i e. 0.7888 in 1992, 0.8173 in 2002 and 0.8569 in 2012. It means sprawl is increased continuously.

2. The rapid growing population and increasing built up area will produce urban sprawl in future much faster than present.

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## **Geographical Analysis of Irrigation in Solapur District**

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### **Abstract:**

Irrigation is one form or another has been in vogue from time immemorial. For instance, in Egypt, it goes back to 400 B.C. or beyond and other parts of the world it is equally old and is described, often in great detail, in ancient literature such as the Rig-Veda or the records of ancient travelers and traders. It is developed in response to conditions of climate, and the same holds good today in many parts of the world. Irrigation is regarded as an integrated part of a sound infra-structure and is one of the basic in gradient of agricultural activities. To be successful and well developed agriculture requires supply of water at regular interval and in required quantities. Irrigation is essentially the artificial application of water to overcome deficiencies in rainfall for growing crops. This could be done by artificial application of water to land for growing crops and is known by the term "irrigation". Therefore the present study intended to evaluate the ways and means of irrigation sources.

**Keywords:** Water, irrigation, Management.

### **Introduction:**

About 724 minor irrigation projects are constructed in Solapur district at the end of March, 2012. Minor irrigation projects include all irrigation schemes having up to 38, 902 hectares of culturable command area. About 26, 631 hectares irrigation potentials are created of minor irrigation schemes. In 2011-12, there were 68,411 irrigation wells in Solapur district, of the total irrigated area 74.53 percent irrigation is provided by wells. The Nira right bank canal system fed by Bhatghar dam in Pune district was put into operation in 1937-38. This canal system now provides irrigation facilities to the Malshiras tahsil and irrigates about 19,230.76 hectares in the district. Bhima irrigation project is another important major irrigation project in Solapur district. This project consist of two parts viz. (i) Pawana in Pune district (ii) Ujani in Solapur district, with canals on each bank to create irrigation potential of 1, 66, 750 hectares in Pune and a equal potential in Solapur district. The work of Ujani Dam was started in 1969. The Ujani project is completed in 1980. Sina Kolegaon is a new major irrigation project taken up during the fifth plan. Besides the above minor and major irrigation schemes, a large area is irrigated by medium projects.

### **Objectives:**

The present work incorporates the following objectives:

1. To study the irrigation pattern in the study area.
2. To analyze the sources of irrigation in study area

### **Data base & Methodology:**

The present research work has been the data collected and used for the period 1990-1991 to 2011-2012. The work is based on primary and secondary sources of data. The primary data is the raw data collected through different sources, for which special questionnaires were designed through intensive field work, interviews and discussions with the farmers. The broad picture of present pattern of irrigation, land utilization of the district is prepared with the help of secondary data. The data thus, collected through different sources were processed and represented by statistical and cartographic technique.

### **Study area:**

Geographical location of Solapur district is in between 17° 10' to 18° 32' north latitudes and 74° 42' to 76° 15' east longitudes. The district covers geographical area of 14895 sq. km. Which is 4.82% of the total area of Maharashtra State and population of 4315527 (2011 census). The density of population is 290 per sq. km. as per 2011 census. The district has comprising the eleven tahsils, 1150 villages and 9 Municipal Councils and 1 Municipal Corporation. All eleven tahsils are considered for the present investigation.

### **Result and Discussion:**

Taking into consideration, the sources of irrigation are river, lake. Tank, canal, well, tube well and lift irrigation, as parameters, responsible for the changes in the agricultural pattern in different parts of the region under study. But because of uncertain and vagaries nature of monsoon rain, the problem of scarcity of water for irrigation is emerged every five to seven years interval in the district. About 75 percent of the cultivable land area agricultural activity is being carried, which depends on rain. Crop production is more regular and stable on irrigated land area. The important sources available in the district are wells and canals.

### **A) Well Irrigation:**

Well irrigation is a traditional source of irrigation to man, it is as old as agriculture. The well irrigation is suitable for the poor farmer of the district, because it is cheap and easy to operate and the cost of construction of wells is low. The wells used for the irrigation purpose are generally circular with a diameter of 4 to 5 meters and depth from 8 to 12 meters. The total number of tube wells in the district has gone up to 1542 in 1991-92 and its number increase up to 11,484 in the year 2011-12. There were 61046 irrigation wells in Solapur district, out of the total wells; about 91.32 percent wells were in use, while 8.68 percent wells were not in use. Number of wells in use was decreased up to 90.86 percent in 2009-10, as compared to 1991-92 and number of wells not in use was increased up to 9.14 percent during the year 2011-12.

There were about 5294 wells, which are not in use in 1991-92. Its distribution is very uneven. The high percent of wells not in used were marked in Malshiras tahsil and lowest in Akkalkot tahsil. Below 5 percent wells not in used were found in Madha, Pandharpur, Sangola, Mangalwedha and Akkalkot tahsils, while 5 to 15 percent wells not in used were noticed in Barshi and North Solapur tahsils in the year 1991-92. Above 15 percent wells not in used were registered in Mohol, Malshiras and South Solapur tahsils in the same year.

**Table 2. Tahsilwise Distribution of Irrigation Wells in Solapur District (1991-92 and 2011-12)**

Sr. No	Name of Tahsil	1991-92			2011-12		
		No. of wells in use	No. of wells not in use	Total Wells	No. Of wells in use	No. of wells not in use	Total Wells
1	Karmala	3170 (82.65)	665 (17.65)	3835 (100)	3900 (81.93)	860 (18.07)	4760 (100)
2	Madha	7332 (96.81)	241 (3.19)	7573 (100)	6565 (96.09)	267 (3.91)	6832 (100)
3	Barshi	4100 (89.22)	495 (10.78)	4595 (100)	7001 (90.02)	776 (9.98)	7777 (100)
4	North Solapur	3143 (91.90)	277 (8.10)	3420 (100)	1726 (85.31)	297 (14.69)	2023 (100)
5	Mohol	1615 (83.85)	311 (16.15)	1926 (100)	3820 (94.11)	239 (5.89)	4059 (100)
6	Pandharpur	6684 (96.91)	213 (3.09)	6897 (100)	12217 (90.51)	1280 (9.49)	13497 (100)
7	Malshiras	1981 (70.34)	835(29.06)	2816 (100)	3237 (96.88)	104 (3.12)	3341 (100)
8	Sangola	7689 (95.94)	325 (4.06)	8014 (100)	8510 (93.98)	545 (6.02)	9055 (100)
9	Mangalwedha	5792 (96.69)	198 (3.31)	5990 (100)	6390 (93.81)	421 (6.19)	6811 (100)
10	South Solapur	5122 (74.90)	1716 (25.10)	6838 (100)	5875 (76.27)	1827 (23.73)	7702 (100)
11	Akkalkot	9124 (99.80)	18(0.20)	9142 (100)	9170 (97.26)	258 (2.74)	9428 (100)
District Total		55752 (91.32)	5294 (8.68)	61046 (100)	68411 (90.86)	6874 (9.14)	75285 (100)

*Source: i) District Socio-economic Review of Solapur District (1991-92 & 2011-12) ii) Figures in bracket indicate Percentage.*

The high concentration of wells in used was recorded in Akkalkot (97.26%) tahsil and lowest in South Solapur (76.27%) tahsil in 2011-12. Out of the total wells in use, below 90 percent wells were in used in Karmala, North Solapur and South Solapur tahsils in the year 2011-12. The number of wells not in used were marked 5294 (8.68%) in 1991-92, as against 6874 (9.14%) in the year 2011-12. The highest number of wells not in used was concentrated in South Solapur (23.73%) tahsil and lowest in Akkalkot (2.74%) tahsil in 2011-12. Above 15 percent wells were found in Karmala and South Solapur during the same period.

#### **B) Canal Irrigation:**

Canal can be effective source of irrigation, in areas of low level relief, deep fertile soils, perennial source of water and extensive command area. Whereas, digging of canals in rock and uneven area is difficult and uneconomic. Canals are the important form of irrigation in the Solapur district. Well contributes 75 percent of the net irrigated area, followed by canals with 23.85 percent (2011-12). In canal irrigation, water is utilized

by gravity flow. The plain surface of the Bhima and Sina basin in south portion of Solapur district is suitable for surface irrigation. Tahsil-wise volume of change in the percentage of canal irrigation to net irrigated area is shown in Below 2 percent positive change in canal irrigation was marked in South Solapur, Akkalkot, Mangalwedha and Barshi tahsils, whereas, 2 percent to 10 percent positive change was registered in Mohol and North Solapur tahsils between 1991-92 and 2011-12. Above 10 percent positive change in canal irrigation to net irrigated area was found in Sangola, Pandharpur, Madha and Karmala tahsils since 1991-92 to 2011-12. Below 3 percent negative change was recorded only in Malshiras tahsil during the same era.

**C) Tank Irrigation:**

Level of water in tanks is solely dependent on the quantum of rainfall of that season. In years of drought, when water is most needed, the tanks may never get filled due to meager rainfall, such tanks lose a great deal of water by evaporation and seepage, they become filled with silt and are eventually rendered unusable. Tank irrigation is insignificant in Solapur district, where only 2376 hectares of land, constituting 0.80 percent of the net irrigated area, which is mostly confined to the tahsils of South Solapur, Barshi, Akkalkot, Malshiras and Madha tahsils.

**D) Percolation Tank:**

In the study area, the site and situation for construction of percolation tanks was launched mainly as a relief measure during the famine of 1972-73. It is operated by constructing the mud walls across the small streams of recharging ground water. It helps to increase to water table in command area of the wells. In the study made by the fact finding committee, it is noticed the ground water potential of the area supplied by percolation tanks have become a spatial feature of a drought-prone area. There are 724 percolation tanks in the study area. The highest number of percolation tanks is found in Barshi tahsil (111) and lowest in Pandharpur (35) tahsil in 2011-12. Whereas, Karmala (59), Madha (63), North Solapur (52), Mohol (65), Malshiras (73), Sangola (70), Mangalwedha (62), South Solapur (58) and Akkalkot (77) tahsils percolation tanks.

**C) Lift Irrigation:**

The sources of irrigation in the district are rivers, wells, canals, tanks and bandharas. Water is lifted from the rivers, wells, canals etc. and used for irrigation purpose. The co-operative lift irrigation societies, therefore, have been formed as an alternative to provide irrigation facilities. This has helped in bringing larger area under irrigation, reduce the cost of irrigation per hectare, raise more than one crop a year and make farming more profitable. With the two big rivers, viz. the Bhima and Sina and small rivers like Man, Bori and Harna lately a few lift irrigation schemes have been taken up in the cooperative sector. A major lift irrigation scheme is located in Tandulwadi in South Solapur tahsil. The total number of lift in the district is 130, with capacity 1345 hectares of land. The percentage of lift irrigation to total irrigated area is 0.05 percent.

**E) Kolhapur Type Weir:**

The Kolhapur type weir play vital role in the district. Kolhapur type weir constructed at regular interval in the river course and the water is stored in the river course, which is lifted and used for further 2 to 3 months i.e. January, February and March. The lifts are operated on river banks. The topography in the district provides ideal locations for such K.T.W. In fact, rural electrification is the major contributing factor for the development of lift Irrigation.

**Table no.3 Area under Different Sources of Irrigation (Area in Hectare and Percentage to Net Irrigated Area)**

Sr. No.	Source	Years				
		1971-72	1981-82	1991-92	2001-02	2011-12
1	Canal	29433	33929	37590	65665	70665
	% of Net Irrigated Area	25.90	28.19	15.79	25.09	23.85
2	Well	82099	83260	194789	192125	222125
	% of Net Irrigated Area	72.23	69.18	81.85	73.41	75.00
3	Other Sources	2130	3150	5600	3922	3326
	% of Net Irrigated Area	1.87	2.61	2.34	1.49	1.46
4	Net Irrigated Area	113662	120339	237979	261712	296166
	% of Net Irrigated Area	100	100	100	100	100
5	Gross Irrigated Area	143166	173666	274108	278138	315172

*Source: Computed by Researcher from....i) Socio-economic Review and District Statistical Abstract of Solapur District ii) District report of Present Position of Irrigation from 1971-72 to 2011-12 Solapur District.*

It may be seen that during 1971-72 to 2011-12, there was net increase of 1, 82,504 hectares of irrigated area in the study area. The net area irrigated has increased in all tahsils in Solapur district. In Mangalwedha, Mohol and Akkalkot tahsil have recorded area about 3,000 to 10,000 hectares. In Madha, Barshi, South Solapur, Karmala, North Solapur, Malshiras, Sangola and Pandharpur tahsils recording an increase of about 13,000 to 42,000 hectares.

**Conclusion:**

1. The high percent of wells not in use were marked in Malshiras tahsil and lowest in Akkalkot tahsil.
2. Number of wells in use was decreased up to 90.86 percent in 2009-10, as compared to 1991-92 and number of wells not in use was increased up to 9.14 percent during the year 2011-12.
3. The total area irrigated by well has increased by 27,336 hectares, but the percentage to total irrigated area decreased as there is increase in other sources of irrigation i.e. canals, lift irrigation and tube wells.
4. Due to variation in physical, geological and local climatologically factors, that marked regional imbalances in irrigational facilities, which are observed in the study region.

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## **Agro tourism as a Strategy for Rural Development in Pune district, Maharashtra, India**

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### **Abstract:**

The agro tourism is an important component of the overall touristic activity. Agro tourism is a concept of developing and preparing villagers for creating an alternative source of earning and sustaining their heritages with multiple benefits for both local communities and environmental protection. This kind of tourism develops where agricultural activities and tourist interacts. This touristic activity plays an important role to create jobs and to participate in the development of rural communities. Basically it develops as niche tourism in different parts of world. Realising this fact the researcher visited some tehsils in Pune district, Maharashtra. The villagers are completely dependent on agriculture. As agriculture demands only few seasons engagement so they doesn't have anything else to do in offseason. The study had given a track to the youth to protect their untouchable heritages and earn money with their own people. The present paper evaluates analyses and provides a strategy as an alternative source of income to the farmers and youth of villagers at their own doorstep. The aim of this study is to improve our understanding of how agro tourism activities can contribute to revitalize rural communities. The research was an applied one according to the purpose and a descriptive-analytical study due to its nature and methodology. The study is based on the questionnaires completed by 80 local elites, 100 tourists and 05 ATC in Pune District.

### **Introduction:**

Agriculture is the backbone of developing country economies, especially India. In India, 85 % of the population is directly or indirectly dependent upon agriculture and a vast majority is based in the rural belt. The villagers are completely dependent on agriculture. As agriculture demands only few seasons engagement so they doesn't have anything else to do in offseason. The question of rural development has been long addressed by the scientific community. Because of globalization and industrialization the existence of agriculture is threatening. In the effort to gain sustainable development, farmers and other organizations have started organizing themselves spontaneously in rural networks in order to solve their problems and those of rural communities. New and alternative business models have developed with the aim to guarantee competitive advantages, to improve farm revenue streams, to return in taking an active role in the agro food system, and to develop new consumer market niches. Tourism is a very significant contributor to the GDP of any country and is a crucial tool for employment generation, poverty alleviation and sustainable rural development. India basically being a rural economy, rural tourism and agro tourism hold an important place in facilitating development. A term Agro-tourism is a new face of tourism. An Agro tourism is farm based business that is open to the public. Agro-tourism means Agricultural tourism. It refers to the act of visiting a working farm or any agricultural, horticultural or agri business operation of the purpose of enjoyment, education or active involvement in the activities of the farm or operation.

The scope of tourism has varied branches very often depending upon the purpose and circumstances under which the activity is being taken up. In India of late the unique tourism arteries that have gained momentum are health tourism (medical tourism), religious tourism, sports tourism, educational tourism etc. Agri tourism is now an additional artery of the tourism sector in India. Though at present it is in nascent stage, with proper government incubation it can gain flight.

### **Rational of the study:**

Agro tourism is the latest concept in the Indian tourism industry, which normally occurs on farms. It gives you the opportunity to experience the real enchanting and authentic contact with rural life, taste the local genuine food and get familiar with the various farming tasks during the visit. It provides the welcome escape from the daily hectic life in the peaceful rural environment. Agro Tourism is an innovative agricultural activity related to Tourism and agriculture both. It has

great capacity to create additional source of income and employment opportunity to the farmers. Maharashtra is one of the most tourist centres in India and there is large scope and great potential to develop agro tourism. Pune district rich history and its cultural and geographical diversity makes its international tourists appeal large and diverse. It presents heritage and cultural tourism along with medical, business and sports tourism.

**Objective:**

Following are the objectives of present research;

1. To create or develop a strategy for agro tourism on agricultural land of India.
2. To train the villagers to treat the foreigners as their source of income and pride.
3. To understand and evaluate the socio economic contribution of agro-tourism in a developing economy like India.

**Methodology:**

The methodology can be applied to selected ATC being studied. The methodology is made up of the following steps:

step 1: determine the overall number of agribusiness in the region, and how many of them are officially authorized to offer an agro tourism experience and are currently active. The set of such agro tourism farms constitutes the population of interest for our analysis.

step 2: Definition of a questionnaire to be delivered to the managers of the agro tourism farms within the population of interest. Responses to the questionnaire will be analysed to answer the research questions.

**Agro tourism potential in Pune district:**

Pune district abounds in numerous tourists attractions ranging from ancient temples, ancient forts and monuments, forests and wildlife, unique hill station, pilgrimage centres and rich tradition of festivals, art and culture. Pune district has a rich historical and cultural heritage, which has been under explored by the tourism industry and the government agencies. Pune district has a great potential to the development of agro-tourism, because of natural conditions and different types of agricultural products as well as variety of rural traditions and festivals. It is a good opportunity to develop an agro-tourism business in Pune district. But there is a problem of low awareness about this business in the farmer and problem of the finance and proper view in the farmers of the Pune. The farmers benefit by deriving additional source of income and tourist hunger natural environment is satisfied. Rural Tourism" covers "a range of activities provided by farmers and rural people to attract tourists to their area in order to generate extra income for their business." Any form of tourism that showcases the rural life, art, culture and heritage at rural locations, thereby benefiting the local community economically and socially as well as enabling interaction between the tourists and the locals for a more enriching tourism experience can be termed as rural tourism. Though the hurdles seem many the potential for economic growth along with environmental protection is highly acceptable. Pune is the Information technology Hub of India hence it can also be agro-tourism tourism hub of India. It can utilise and implement technological tools to improve effectiveness and efficiency of agro-tourism (Online booking, services etc). There is a need for required support from local community and government for a sustainable growth in this sector as opportunities need to be exploited in strategically planned manner.

**Findings:**

1. Mulashi, Parashar, MorachiChincholi, Baramati has the potential to attract tourists. Beautification work had already done. More cleanliness is required around the ATC.
2. There is other scope of source of income than agriculture.
3. They have no peculiar traditions or cultures but people are very warmth in nature. They welcome their guest with full respect and love.
4. They are good in agriculture practices.

**Benefits of Agro tourism:**

Agro Tourism has provided the Farmers a source of additional income on their existing assets. Besides it provides them with an opportunity to interact socially with various kinds of visitors, elevating their social status and enriching their lives in general. The ATDC survey in 2014 , 2015 , 2016 shows that 0.40 million, 0.53million ,0.7 million tourists have visited these centers respectively

totally generating 35.79 million Indian rupees to farmer's family, generated jobs to women and youth in the rural communities. This created a win win situation for not only the farmers or the tourists but also for the Government. Not only was the farmer happy to stay in the farm and the tourist satisfied to buy farm fresh produce, but the Government accepted us with open arms as Agriculture Tourism was given a major boost in Maharashtra Tourism Policy 2016.

Agro tourism has the potential to change the economic face of traditional agriculture. The benefits of agro tourism development are main fold. It would bring many direct and indirect benefits to the farmers and rural people. Some of the benefits are following:

- Employment opportunity to the farmers including farm family members and youth.
- Additional income source for the farmers to protest against income fluctuation.
- Cultural transformation between urban and rural peoples including social moral values.
- Farmers can improve their standard of living due to contact with urban peoples.
- Benefits to the urban peoples, they can understand about the rural life and know about the agricultural activities.
- It support for rural and agricultural development process.
- Help to the reduce burden on the other traditional tourist centers.

#### **Agro-Tourism Advantages**

- Diversify and increase income sources.
- Share challenges and satisfaction of your lifestyle with others.
- Develops interpersonal and communication skills.
- Agro-tourism creates employment opportunities for farmer's family members.
- Supplements the family's income.
- One of the most rewarding aspects of Agro-tourism for many farmers is the opportunity to provide the public with a better understanding of what agriculture is really about.
- It is also an opportunity to enhance the community's economic potential.
- Relatively less expensive.

#### **Conclusion:**

Tourism plays very important role in economic development on regional level. Now day's tourism is one of the fastest growing industries in the world. Pune District is one of well-known tourist region of, having natural, historical, religious and cultural destinations. The development of tourism started from the last 50 years. It was just an experiment to judge that whether agro tourism will be successful in small villages or not. Tourists experience at village were great. Many tourist revert mail and send many many thanks to the ATC and tour operator for giving such a wonderful experience. Making them realize that they are their source of earning. The social, cultural, educational, historical, geographical and agricultural factors are affecting the tourism all over the world. India is the paradise of tourism. Tourism has demonstrated its potential by creating jobs and encouraging income generating activities to benefit local communities in the particular area. Today the concept of Agro-tourism is helpful to the farmers and people of urban and rural area. Agro-tourism is multi-activity and helped for sustainable development in rural area. In Agro-tourism, tourist has the opportunities to get aware with agricultural area, agricultural operations, local food and tradition of local area. The agro-tourism may become additional money for farmers and instrument of employment generation of rural area. Last few years agro-tourism is one of the options for urban tourists.

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## **Role of Education towards Empowerment of Women in India**

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### **Abstract:**

*This paper discusses the status and role of education towards empowerment of women as well as the Government initiatives for women empowerment in India. .Exploitation and atrocities on women is a global phenomenon and has become more critical in India.*

**Keywords:** Status, Education, Empowerment of Women

### **Introduction:-**

Women empowerment is very essential for the development of the country. In every dimension of life, contribution of women has been acceptable. They are considered as a strong pillar in every culture. Women play a significant role in the creation of family and making a nation better. Women are as valuable as the natural resources in the progress of the country. Though many efforts have been made by Government of India and socio- reform bodies to improve the status of women at all levels, in spite of all these instances, women have not achieved the deserving status in the society.

Education is the one of the key variables that influences a number of other social and economic factors. "Educating the women" is the most powerful tool that can bring change of position of women in society bringing reduction in inequalities and functions as a means of improving their status within the family. Education implies not only gaining knowledge but also transforming that knowledge into application through vocational training and skill development.

**Objectives of the study:-**This research paper has following objectives-

- 1) To know the status and role of education of women empowerment.
- 2) To study the Government Initiatives for women empowerment in India.

### **Methodology of the study:-**

The present study is based on the collection of data from secondary sources. Secondary data is obtained from various published and unpublished records, books, magazines and journals

### **Status of Women Empowerment**

Our customs and traditions still decide how women should dress and what norms will a widow follow. This indicates that women cannot take decisions by themselves. The inequalities inherent in our traditional social structure, based on caste, community and class, have a very significant influence on the status of women in different spheres. Traditions and religions have a strong influence on women in a guiding their lives from birth to death. It also observed that these did not have a homogenous pattern and have undergone many changes and remodeling under the compulsions of changes in other spheres of life; especially economic and political. Nevertheless, the social disabilities, although modified, continue. Marriage and motherhood continue to be the most honorable and religiously valuable achievement for women.

Literacy and Education are important indicators in a society and play a central role in human development that impacts overall social-economic development. Higher levels of literacy and education lead to better attainment of health and nutritional status, economic growth, population control, empowerment of the weaker sections and community as a whole..

India presently accounts for the largest number of illiterates in the world .Literacy rate in India have raised sharply from 18.3 per cent in 1951 to 64 per cent in 2001 in which enrolment of women in education have also risen sharply 07 per cent to 54.16 per cent.

Figures of Census 2011, in India 77, 84, 54,120 persons have been counted as literates. Among all literates, 33, 42, 50,358 are females, whereas 44, 42, 03,762 are males. The literacy rate of India in 2011 is 74.0 per cent. Literacy rate among females is 65.5 per cent whereas the literacy rate among males is 82.1 per cent. Literacy rate for females is showing increasing trends since 1981. Table 01 highlights the literary rate for females as per census 2011.

**Table 01: Literacy Rate for Females as per census**

As Table 1 shows the pre-Independence time literacy rate for women had a very poor stream in comparison to literacy rate of men. This can be witnessed from the fact that literacy rate of women has risen from 0.7% to 7.3 % while the literacy rate of men has risen from 9.8 % to 24.9 % during these four decades. The literacy rate of male has almost tripled over the period e.g. 25% in

Year	Persons	Male	Female
1901	5.3	9.8	0.7
1911	5.9	10.6	1.1
1921	7.2	12.2	1.8
1931	9.5	15.6	2.9
1941	16.1	24.9	7.3
1951	16.7	24.9	7.3
1961	24.0	34.4	13.0
1971	29.5	39.5	18.7
1981	36.2	46.9	24.8
1991	52.1	63.9	39.2
2001	65.38	76.0	54.0
2011	74.04	82.14	65.46

Source: *Census of India (2011)*

1951 and 76 % in 2001. Government has undertaken various programs to increase literacy rate. Surprisingly the female literacy rate has increased at a faster pace than the male literacy during the decade 1981 -2001. The growth is almost 6 times e.g. 7.9 % in 1951 and 54% in 2001. From this analyze one can infer that only half of the female population are literates are wadding behind three fourth of the literate male population.

**Role of education towards empowerment of women:**

- Various writers have highlighted the role of education for the empowerment of women.
- According to the International Encyclopedia on Women (1999) in the programme of action of the International Conference on Population and development education is considered as one of most important means to empower women with the knowledge, skill and self-confidence necessary to participate fully in development process.
- The National Education Policy on education (1986) emphasized the promotion of women’s in all areas of learning to eliminate any sex based stereotyping with the guarantee of equality before the law and the emphasis on girl’s education. Since employment plays a vital role in improving women’s status in a society education of women is a prime importance in any women empowerment programme.
- The National Education Policy of India (2020) rightly addresses some foundational issues in Indian education system regarding gender. The lessons from Indian experience can shed light in the challenges and required solutions for Educational attainment under 4th Sustainable development goal. The most important of them is Access. The report proposes various steps to increase access of women into schools. This includes creating special education zones, Gender inclusion funds, the targeted scholarships, and formula based and discretion funding of gender inclusionary projects in school levels. The report also addresses the problem of sexual harassment which women faces during the course of travel to schools and within schools. The report also suggests meals scheme in schools which will incentivize women of poor households to access schools

Education is a potent tool in the emancipation and empowerment of women. It is indispensable that education enables women not only to gain more knowledge about the world outside of her health and home but helps her to get status , positive self – esteem, and self- confidence, necessary courage and inner strength to face challenges in life. Apparently it also facilitates them to procure a job and supplement the income of family and achieve social status. Education especially of women has a major impact on health and nutrition as an instrument of developing a sustainable strategy for population control.

Women are undoubtedly the foundation of the basic unit of the society-the family. Even in traditional roles they demonstrate great innovation, skill, intelligence, hard work and commitment. If we can harness these attributes effectively, India's growth can be more inclusive and equitable. The education of women is therefore important.

#### **Government Initiatives:-**

For translating policy parameters in practice government at the centre and at the state level designed several programmes with a gender focus.

Some of the well-known programmes that began for making education for equality and empowerment an achievable goal were the *District Primary Education Programme (DEEP) of the 90s*. This programme focused on achieving universalization of primary education with the gender focus.

Several successful interventions were designed under this programme, such as the community mobilization programmes like, *Prabatpheries, Schoolchalo Abhiyan, and Kalajathas Maa-beti Abhiyan, etc*

Later, the DEEP programme was up scaled to cover elementary stage of education with the enactment of *Sarva Shiksha Abhiyan (SSA) in 2000-01*. Two objectives that highlight gender concerns were bridging gender and social gaps by 2007 and achievement of Universalization of Elementary education by 2010.

The two well-known interventions under SSA on encouraging participation and retention of girls in education i) *National Programme for Girls at the Elementary Level. (NPEGEL)* and ii) *the Katsurba Gandhi Balika Vidyalaya Scheme (KGBV)*.

Both the programmes attempt to cover the elementary cycle of school education of girls from the most deprived and hard to reach groups. These programmes aim to motivate and build confidence among stakeholders and girls in particular on the importance of education.

To continue the inertia of strengthening the foundation of elementary education justifiable by enacting the *Right of education Act (2009)*. This Act reiterates Government's resolve to ensure Education to All.

Further, to continue the memento of linear progress in education, the Government has introduced the *Rastriya Madhyamik Shiksha Abhiyan (RMSA)* in 2009. The targeted interventions under this programme on equality concern are- special focus on micro planning, preference to areas with concentrations of SC/SC/Minority for opening of schools, special enrolment drive for the weaker section, more female teachers in schools and separate toilet blocks for girls.

*The State of World Population Report (2020)*, by UNFPA, states that there are 924 women per 1,000 men in India. The same report mentions that there are 46 million "missing girls" in India, 1 out of every 3 in the world. This is due to sex-selective abortions and female feticide, rampant in urban and rural India alike. And for those girls who survive, things turn more and more terrible with every passing year of their lives.

It is a small wonder, then, that in the area of education too, girls are especially disadvantaged. In a country where the literacy rate is 74.37%, the female literacy rate continues to lag behind significantly, at 53.7%, with a gap of 21.6% points at the national level. The girl child faces many layers of impediments in receiving a quality education, and reports suggest that some of these problems are likely to be exacerbated by the ongoing COVID-19 pandemic, with the technological divide adding another layer of discrimination against girls.

*The New Education Policy (NEP) 2020*, India's first education policy of the 21<sup>st</sup> century, could be a thin ray of hope for the seemingly unremitting darkness in the quest for girls' education.

#### **Conclusion**

India as a country is still recovering from years from years of abuse in the time of the Raj and more years of economic suffering at the hands of the License Raj. It is only now that Globalization. Liberalization and other socio-economic forces have given some respite to a large proportion of the population. However there are still quite a few areas where women empowerment in India is largely lacking. In India large numbers of women are illiterate and suffer from lack of empowerment. The condition of the women who live in vast rural and hinterlands of India is more serious and devastates.

In India the need of women development with a focus on women empowerment is really crucial and demanding to protect the women of the society from cruelty and social victimization. There should

have proper coordinating and monitoring of programmes initiated by the Government , local authorities , NGOs etc., to ensure the mainstreaming of women in the society , to provide social justice and equality to women and to help their active participation in the social decision making process for the great cause of humanity.

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## **Understanding Women Empowerment through Gender Subordination and Gender Equality**

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### **Abstract:**

In recent years, empowerment of women has been a matter of crucial importance in most of the governments of the world. A framework to study women's empowerment vis-à-vis women's status has to follow from a clear understanding of gender equality. Studying women's empowerment means a careful recognition of the essence of gender subordination through the study of gender relations. It also reveals the exercise of consideration derived from a articulated goal of equality. This paper is based on theoretical study and attempts to understand women empowerment through the various facets of gender subordination and gender equality.

**Keywords:** Empowerment; Status; Gender; Essence; Subordination

### **Introduction:**

The concept equality has been significant to the explanation of the term "Women's Empowerment" as articulated logically by many feminists. The Feminist understanding of empowerment includes power to and power from within. Empowerment process will take a form which arises out of a particular cultural, ethnic, historical, economical, geographical, political and social location, specific life experience and out of the interaction of all the above with gender relations prevailing in society. As far as women empowerment is concerned, the National Policy of Education, Government of India (1986) mentioned that women would become empowered through collective reflection and decision making. The parameters of women empowerment are building a positive self identity and self confidence, developing the ability to think critically, ensuring equal participation in the process of bringing about social change in society. To that context, when we look into the gender relation, it is evident that men are favored by the rules of the already existing institutions within which gender relations occur. This symmetry remains unquestionable and definite because men are in a position of dominance and women of subordination.

The concept of gender equality, therefore anticipated the women empowerment which is twofold- Empowerment that is externally induced process and a process that may be termed as Self-empowerment. The former process signifies the removal of hurdles to as well as the encouragement of women's access to and control over productive resources such as land, equipment, housing, etc. that enable women to arise their self reliance. While the latter process denotes to an amicable atmosphere where a women find a "time and space" of their own and begin to reconsider their lives critically and collectively (A. Sarma).

### **Aspects of Gender Subordination and Gender Equality:**

The consequences of the traditional subordination of women may be regarded as 'natural', 'unchangeable' and 'unbroken social arrangements'. Traditional gender relations restricted almost all women irrespective of class, caste or communities access to land, housing and control over property, thereby transforming them to extreme vulnerable. In many parts of India, women inherit land and other properties through marriages but still women enjoy a little claim or no claim over those assets. The social arrangements have been formed only to favour men with regard to the right of inheritance. The control over resources and management is determined by men only.

Women's access to education is also hindered by several factors. It is constrained by cultural factor, withdrawal of girl children due to economic hardship or for caring of younger brothers and sisters or to manage the male education in poor families. One of the tragedies of the deprivation of women education is the need to pay huge amount of dowry in order to get a more educated groom that compelled parental decision to withdraw the girl from formal education. This is generally applicable to the remote areas of the society. However, women's education is considered as a lesser quality to marriage in most of the parts of India even today.

The empowerment of women cannot be accelerated without considering the economic dependence which is very crucial to achieve gender equality. Patriarchal ideology not only creates an intra-house hold division of labour but the burden of the household falls on women as if it were

natural. Women find it extremely difficult to take up production work outside the home; however, when financial conditions deteriorate, it is women's labour that often comes to rescue of the household (A. Sarma). They have no choice but to work outside the home, continue fulfilling their responsibilities of the household and also bear children. Change in gender relation in the public sphere may seem an attainable goal for many women, but the family still remains the last frontier of male domination.

Without attaining political power, no society can claim to have given equal status to women. The entry of women into politics has been an encouraging step towards their empowerment. The 73<sup>rd</sup> and 74<sup>th</sup> Constitutional Amendment Act has created spaces for women to participate in local self government – Rural and Urban governance. The Act provided 33% reservation for women may open up certain opportunities for enhanced political participation. Though under the provision of 73<sup>rd</sup> CAA, only 33 percent reservation is made to women, but Bihar, the first state in India to reserve 50 percent of the Panchayat seats for women. This bold step of Bihar was followed by Sikkim, which increased their reservations for women to 40 percent. More states like the Chhattisgarh, Madhya Pradesh, Rajasthan, and Uttarakhand have already passed laws increasing the reservations for women in Panchayats to 50 percent and accordingly Panchayat elections were held at those states with the new arrangements (Nupur Tiwari). Assam has also conducted the last Panchayat election in 2018 by providing 50 percent reservation of seats for women. The main motive behind increasing the percentage of seats for women in local bodies in a bid to empower women socially and politically. Though the percentage for reservation is an arbitrary figure, but it is sufficient enough to make the change evident and visible. It is impediment for women to enter into political affairs for the cause of suitable change in gender relations and their status.

The concept of women empowerment has become a centre point in the larger political scenario. The participatory politics has been immensely contributed by it. In the context of India, basically after the Indian independence various developments have taken place in the field of participatory politics of women. Very recently, the 108<sup>th</sup> Constitutional amendment bill of 2008 proposed to 33% reservation of seats for women in Lok Sabha and all State assemblies. The bill was passed in Rajya Sabha on 9<sup>th</sup> March 2009 but never voted in Lok Sabha. The truth is that empowerment should entail a power to participate in the decision making process in all spheres of society, with no separation of the public and private and in all social, economic, political and cultural processes. The capacity and capabilities of women mostly remain unrecognized and their contributions remain unnoticed.

A. Sarma observes that not only in the political field only, but women from all communities are at the mercy of unjust religious laws that govern their lives. Political party, particularly in power is resisted to step on the area of a common civil code due to political consequences. The Constitution of India provided the right to non-discrimination on the basis of sex and specifically considers the requirement for special provision for women in regard of continuing gender based inequalities between men and women. The Directive Principles of State Policy incorporated in the Constitution of India are a significant and fundamental part of the framework of governance in the country. But there is no definite mechanism or a process to secure that the state acts intrinsically upon these principles or guidelines.

The most savage facet of gender subordination is perhaps the women's lack of control over their own bodies. In most parts of India even today, the womenfolk do not enjoy the right to decision regarding their own marriage. In early ages, women are being married to older person; so called cultural doctrine boost parents who give marriages of their daughters even as they are children. Moreover, it is the woman who bears the pain of carrying child in their womb for nine months, they are more familiar with the problems of giving birth a baby, therefore it is the women who should give the call for having a child. To that context, women should have the right to abortion. But in reality due to gender subordination, women lack the power of abortion and the decision is vested upon the hands of the male.

#### **Conclusion:**

Today many women activists, women representatives (local or national), women organizations and women academics are working in close collaboration for women empowerment. They are helping women by providing legal awareness recourses, legal aid programme etc.

However, such kind of awareness campaign is very rare in remote places. They are often so unaware of their fundamental freedoms that the notion of 'rights' is for them an alien concept. They tend to be much more conversant with the concepts of responsibilities and obligations.

The concept of gender superiority is still the uppermost in man's mind. Unless, this is changed and both men and women take to revised values, in respect of gender power relationship, issue of status of women will continue to be assessed traditionally and not by social change. Lots of work need to be done related to the women empowerment in a plural society like India, if history's longest oppression is to be seriously tackled.

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## **Role of Library & Information Science in Human Development**

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### **Abstract: -**

Every human being is born with something new, something never existed before. Each is born with the ability to win in life. Thus library and information science needs to develop human resources to the achievement of personnel as well as organization goals and objectives especially in weaker sections Library and information science play an important role in the development of knowledge, full society through its collections, facilities, resources and services. Information sciences have tried to develop human resource in all aspects. There are several challenges to solve user needs and satisfaction among library services at the right time. Human resource is the most needed asset in the organization because all other Natural resources can be better used by motivated human resources only.

**Keywords:** Role, Library and Information Science, Human Development.

### **Introduction:**

The important role of librarians in giving access to information for human development means LIS departments must develop unique educational systems. Librarians and information experts play an important role in development of human resources Information is an important factor in societal growth and development, and the ability to use available information tools is refer to as source of power . In the 21st century governments and individuals must take this need for information use and literacy as a way of development. Libraries are more important for sophisticated learning and education. Societies that develop functional libraries are also good in human development and progressive in life. We need to emphasis the need of good libraries to change mindsets. Libraries are important now when the idea of education is stressing more independent learning and acting on library resources.

### **Development:-**

"Development" is a gradual change toward advancement and power. Development has political, economical, cultural aspects and social. Rapid expansion of knowledge and technology gives complexities in determining which factors have an effect on development. Considering factors such as education, hygiene, culture, economy, etc., leads to a reasonable but unified development Taken as a body, development is all actions that lead organization and society toward an organized system of individual and collective living conditions relating to desirable values.

### **Concepts of Human Development:**

In 1990 the first Human Development Report introduced a new approach for advancing human wellbeing. Human development – or the human development approach - is about expanding the richness of human life, rather than simply the richness of the economy in which human beings live. It is an approach that is focused on people and their opportunities and choices.

### **People:**

human development focuses on improving the lives people lead rather than assuming that economic growth will lead, automatically, to greater wellbeing for all. Income growth is seen as a means to development, rather than an end in itself.

### **Opportunities:**

human development is about giving people more freedom to live lives they value. In effect this means developing people's abilities and giving them a chance to use them. For example, educating a girl would build her skills, but it is of little use if she is denied access to jobs, or does not have the right skills for the local labour market. Three foundations for human development are to live a long, healthy and creative life, to be knowledgeable, and to have access to resources needed for a decent standard of living. Many other things are important too, especially in helping to create the right conditions for human development, and some of these are in the table below. Once the basics of human development are achieved, they open up opportunities for progress in other aspects of life.

**Choice:**

human development is, fundamentally, about more choice. It is about providing people with opportunities, not insisting that they make use of them. No one can guarantee human happiness, and the choices people make are their own concern. The process of development – human development – should at least create an environment for people, individually and collectively, to develop to their full potential and to have a reasonable chance of leading productive and creative lives that they value.

**Definition of Human Development**

**Abdulhadi Abba Kyari (2017):** The term human development may be defined as an expansion of human capabilities, an enhancement of freedom, a widening of choices, „and a fulfillment of human rights.

**Streeten, Paul (1994):** This simply means developing mentally, socially through growing and experiencing things in your life and learning new things. Development concerns expanding the choices people have, to lead lives that they value, and improving the human condition so that people have the chance to lead full lives,

**Srinivasan, T.N. (1994).** Thus, human development is about much more than economic growth, which is only a means of enlarging people’s choices. Human development disperses the concentration of the distribution of goods and services that underprivileged people need and center its ideas on human decisions.

**Human development foundation (2009)** By investing in people, we enable growth and empower people to pursue many different life paths, thus developing human capabilities. This capability would (presumably) increase their value of life and expand their choices

**Library and Information Science:**

Library and information science, sometimes given as the plural library and information sciences Bates, as "library and information studies"Canada Library School University Programs"2014 is a merging of library science and information science. The joint term is associated with schools of library and information science . In the last part of the 1960s, schools of librarianship, which generally developed from professional training programs to university institutions during the second half of the 20th century, began to add the term "information science" to their names. The first school to do this was at the University of Pittsburgh in 1964. Galvin, T. J. (1977). More schools followed during the 1970s and 1980s, and by the 1990s almost all library schools in the USA had added information science to their names. Weaver Press: Although there are exceptions, similar developments have taken place in other parts of the world. In Denmark, for example, the 'Royal School of Librarianship' changed its English name to The Royal School of Library and Information Science in 1997. Exceptions include, where the term documentation science is the preferred name of the field, France, where information science and communication studies form one interdisciplinary, where the fields of Archival science, Library science and Musicology have been integrated as Archival, Library and Museum studies. In spite of various trends to merge the two fields, some consider the two original disciplines, library science and information science, to be separate. There have also been attempts to revive the concept of documentation and to speak of Library, information and documentation studies. Library and information science, has been defined as a discipline oriented towards providing access to vast amount of accumulated knowledge and information.

**Information and Human Development:**

Information is raw material for development of both urban rural dwellers. Prosperity, progress, and development of any depend on the nation’s ability to acquire, produce, access, and use pertinent information, because when a nation is developed the develop. A report on older rural people (2008) in Haranda (2009) indicates that, access information is also critical to letting people know their entitlements to welfare benefits and sources of support to overcome social exclusion. Wikipedia (2013) posited that economic development generally refers to the sustained, concerned action of policy makers and communities that promotes the standard of living and economic health of a specific area. Economic development can also be referred to as the quantitative and qualitative changes in the economy it’s because, when a nation develop economically the people develop individually. Such actions can involve multiple areas including development of human capital,

critical infrastructure, regional competitiveness, literacy, social inclusion environmental sustainability health, safety and other initiatives..

**Role of LIS in Human Development:**

The library is dynamic social institution and indispensable resource centre. All types of libraries have some roles to play in the community in which they are established. The following are some of the major roles.

**Role in Information Science:** Information Science rules the world, the library is centre for reliable information, students often use the library because they always try to argument their lecture note with ideas, and facts obtained from other sources. A well organized library provides information also referred to as reference source. Information source provides answers to questions like Who, when, where and what. Which in turn enhances the development of its users Information service is essential in the communication process because it is a prerogative to everyone for effective and efficient communication.

**Role in Education:** The library is associated with education. In ancient time the Egyptians preserved writing materials for education purposes. In Middle Ages, libraries were attached to the monasteries whereas in renaissance era, they were committed to the preservation and transmission of knowledge. In modern times the major reason for setting up libraries and information centers" is to stimulate educational advancement and Human development We should also note that one of the criteria for the accreditation of courses in institutions of higher learning is a well equipped library. The library helps to stimulate educational growth as well as serve as instrument for bringing up informed and developed citizenry.

**Role in Research :** Time is an important factor in realizing research objectives. Which a well equipped and organized library with well organized resource materials that can be easily retrieved and the researchers" time saved. Libraries and information centers provide the needed back-up resources for this purpose. Information exploitation has led to the existence of diverse branches of knowledge especially in the area of science and technology, the library tries to provide materials that will satisfy the enquiry need of these researchers for their personal research growth and development

**Role in Recreation:**Library and information centre are involved in the promotion of cultural activities of the community in which it operates. In Nigeria, recreational facilities provided are minimal because of the level of development; emphasis is still on scholarship. However, library public lectures, concert exhibition, film show and drama productions are examples of recreational activities that can help in human development. Some people also regard the provision of light reading materials e.g. Magazines, fiction news papers as recreational materials

**Role in Custodial:**The library is meant to preserve the recorded knowledge of man, i.e. it safe guards recorded information in any format. This role of the library and information centre is vital in human development because without it recorded human knowledge could not have been transmitted from one generation to another and so many important and useful ideas would have long been lost.

**Conclusions:**There is no doubt that information and library propels nations and humans to greater height. It is the apex of all resources needed for political, economic, socio-cultural and educational development in countries across the globe. Library and information is a vital tool in human and national development, therefore there should be emphasis on these agents of development to ensure the vast growth and development of the citizenry.

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## **Principles of Sustainable Development- A Review**

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### **Introduction:**

Development means 'improvement in country's economic and social conditions'. More specially, it refers to improvements in way of managing an area's natural and human resources in order to create wealth and improve people's lives. The concept of development is not very old. It came by the second half of the preceding century perhaps only when most of the present-day less developed countries emerged as independent nations after their long subjugation to the colonial rule and set out on the path of their own planned economic progress. Social, political and economic changes that took place in Western Europe became the parameters of development and modernization to assess the level of progress made by the developing countries on this path.

This concept of development is concerned with the industrialization and technological development of the 18<sup>th</sup> and 19<sup>th</sup> century. Development makes our life Comfortable. But, by the end of 70s of the last century, it was realized that the nature and extent of development, as was conceived and being pursued, would harm more than help the mankind. Cruel exploitation of the natural resources in the name of development produced lot of problems like ecological imbalance, environmental degradation and pollution of water and air. These alarming conditions forced scholars to contemplate about an approach to development which would minimize these threats. This led to the emergence of the concept of sustainable development. The approach of sustainable development refers to the method of development which may, on the one hand, bring about better standard of living and life chances and, on the other, the possibility of negative impact of the process of development may be minimal. The researcher tried to explore the concept the sustainable development through this research article.

### **Meaning of Sustainable Development:-**

Sustainable Development is the sustainable process of social development. Right from World Bank to UNICEF all international institutions talk about it and these institutions are providing financial and fundamental assistance to the developing nations.

- 1) According to World Commission of Environment and Development (WCED), "Sustainable development refers to that development which fulfills the present needs and is accountable for the future needs as well."<sup>1</sup>
- 2) Cerin, P. (2006) argues that SD is a core concept within global development policy and agenda. It provides a mechanism through which society can interact with the environment while not risking damaging the resource for the future.<sup>2</sup>
- 3) According to Robert Allen, "Sustainable Development that is likely to achieve lasting satisfaction of human need and improvement of the quality of human life."

Sustainable development means that future generations will not have to pay the price while meeting the needs of today's society. All the rulers of the world today are debating how to achieve the golden mean between economic development and demand for social and natural resources in that country.

The concept of sustainable development aims at maximizing the net benefits of economic activities, subject to maintaining the stock of productive assets (physical, human and environmental) over time and providing a social safety net to meet the basic needs of the poor. Sustainable development attempts to accelerate development in an environmentally responsible manner keeping in mind the intergenerational equity requirements.<sup>3</sup>

### **History of Sustainable Development:-**

Sustainable development has its roots in ideas about sustainable forest management which were developed in Europe during the 17<sup>th</sup> and 18<sup>th</sup> centuries. The concept of sustainable development received its first major international recognition in 1972 at the UN Conference on the Human Environment held in Stockholm.<sup>4</sup> In 1980 the International Union for the Conservation of Nature published a world conservation strategy that included one of the first references to sustainable development as a global priority and introduced the term 'sustainable development'. Two years later, the United Nations World Charter for Nature raised five principles

of conservation by which human conduct affecting nature is to be guided and judged. In 1987 the United Nations World Commission on Environment and Development released the report Our Common Future, commonly called the Brundtland Report.<sup>5</sup> The report included what is now one of the most widely recognized definitions of sustainable development.

**Basic objectives of Sustainable Development:-**

The principle of sustainable development seeks to achieve the following three basic objectives:

- (1) To maintain production of goods and services for development and efficiency;
- (2) Conservation and management of natural resources including preservation of bio-diversity and maintenance of biological integrity;
- (3) Maintenance and enhancement of the quality of life adopting the principle of equitable distribution of wealth and material resources.

These objectives may respectively be called as economic, environmental and social objectives of the principle of sustainable development.

**Principles of Sustainable Development-**

The origin of the principles of the sustainable developments is in the report of Brundtland Commission. These principle of sustainable development has evolved on the basic assumption of co-existence of two apparently conflicting notions i.e. development and environment. But from the practical point of view, ecological, economic and social aspects of sustainability are inseparable. These aspects of the development can be defined through the principles of sustainable development. These basic principles of the sustainable development are as follows-

- 1) Inter-generational equity** - Past, present, and future people depend on the earth. The earth's resources are scarce; and its capacity to recover from the effects of some of our actions, such as the emission of greenhouse gasses, is limited. It is up to the people of the present what kind of world to leave to the people of the future, the unborn. There are various ideas about what exactly the present people owe to future people, and that is what intergenerational equity is all about.<sup>6</sup> Intergenerational equity means that "the purpose of human society must be to realize and protect the welfare and well-being of every generation this requires sustaining the life-support systems of the planet, the ecological processes and the environmental conditions necessary for a healthy and decent human environment."<sup>7</sup> Thus through the sustainable development protection of the earth is held to be important, not because we respect nature's intrinsic worth, but to allow it to serve as a resource for the development of human society, in the past, present, and future. The increasing attention to intergenerational equity was perceived, particularly by the developing world, as a threat to the interests of the people of the present. They held that increased attention to the interests of future people would come at the expense of the poor people of the present generation.
- 2) Used conservation of natural resources-** Resources are the backbone of every economy and provide two basic functions – raw materials for production of goods and services, and environmental services. A common classification of natural resources is as follows – i) Non-renewable and non-recyclable resources such as fossil fuels, ii) Non-renewablebut recyclable resources, such as minerals, iii) Quickly renewable resources such as fish, iv) Slowly renewable resources such as forest, v) Environmental resources such as air, water and soil, vi) Flow resources, such as solar and wind energy.<sup>8</sup> Today there is a growing conviction in the scientific community that renewable resources are far more seriously threatened than non-renewable resources. The destruction of renewable resources that results from changes in entire ecosystems can have much more serious consequences for humankind than the possible exhaustion of specific non-renewable resources. Natural resources are limited and every generation each generation should use the natural resources in such a way that it will be available to the next generation also. That's why there is a need of conservation of these natural resources.
- 3) Protection of Environment-** Environment protection is most important part of the sustainable development. Without adequate protection of the environment, the development process is weakened and without development, resources are insufficient for the expected investment. Most of the nations have enacted environmental protection laws to ensure sustainable development within their territories. In order to reinforce sustainable development, an effective environmental protection mechanism is needed. It is generally seen that inadequate protection of environment or its



degradation affects the poorest sections of the society most as they draw a large part of their livelihood from unmarked environmental resources such as forests, water from hand pumps, air polluted and noisy slum dwellings etc. The problem of environmental protection generally emanates from water resources, forests, agriculture, industry, energy and power etc., therefore, policy decisions in these sectors should be environmental oriented and well planned so as to ensure that there is no degradation in the natural environment.<sup>9</sup>

- 4) Precautionary Principle-** The precautionary principle seeks to ensure that a substance or human activity which may cause a threat to the environment is prevented from causing harm to environment, even if there is no conclusive scientific proof of linking that particular substance or human activity to environmental damage. Thus, precautionary principle pre-supposes that onus of proof is on the industrialist to show that his action is benign, that is not harmful to environment. The precautionary principle in the context of environmental protection is essentially about the management of scientific risk. It is a component of the concept of ecologically sustainable development and has been defined in Principle 15 of the Rio Declaration, 1992." According to this principle, "where there is threat of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation." In other words, any human activity or behaviour which bears the harmful effect to the environment, has got to be prevented at all costs.
- 5) Polluter Pays Principle-**The 'polluter pays' principle is the commonly accepted practice that those who produce pollution should bear the costs of managing it to prevent damage to human health or the environment. For instance, a factory that produces a potentially poisonous substance as a by-product of its activities is usually held responsible for its safe disposal. The polluter pays principle is part of a set of broader principles to guide sustainable development worldwide.<sup>10</sup> All the member countries participating in the Organization For Economic Co-operation and Development (O.E.C.D.) agreed to incorporate in their environmental policies the principle of 'polluter pays' so as to discourage subsidies that could be detrimental for trade. They deemed this necessary for the protection of environment and save the country from threats posed by environmental pollution in modernized industrial societies. "Polluter Pays" principle was considered to be one of the best method for prevention of environmental pollution.
- 6) Principle of Liability to help and Co-operate-** This principle has been specifically incorporated in Rio-Declaration (1992) as Principle 9 which provides that the States should co-operate to strengthen indigenous capacity building for sustainable development by improving scientific understanding through exchanges of scientific and technological knowledge and by enhancing the development, adaptation, diffusion and transfer of technologies including new and innovative technologies. Principle 10 of the Rio-Declaration further provides that environmental issues are best handled with the participation of all concerned citizens at the relevant level. Emphasizing the need for mutual cooperation in environmental matters, Principle 12 requires the States to cooperate to promote a supportive and open international economic system that would lead to economic growth and sustainable development in all countries, in order to address the problem of environmental degradation in a better way. Finally, Principle 27 of the Rio Declaration expects people and the States to co-operate in good faith and in a spirit of partnership in the future development of international law in the field of sustainable development.<sup>11</sup>
- 7) Eradication of poverty-**Poverty is perhaps the worst contributing factor for polluting the environment and causing its degradation. Developing countries are facing dilemmas such as unsustainability, and poverty. Poor people are often seen as compelled to exploit their surrounding for short-term survival and are assumed to be the ones most exposed to natural resources degradation. That's why the Brundtland Report (1987) attributed poverty as a potential cause of environmental degradation as it reduces people's capacity to use resources in a sustainable manner, which eventually brings more pressure on environment and results into its deterioration. Most of the developing countries' are facing the problem of poverty which is adversely affecting the environmental quality. The Earth Summit, 1992 also projected that elimination of poverty was utmost necessary for achieving the goal of sustainable development, particularly in the developing countries.

#### **Conclusion-**

Sustainable Development is the sustainable process of social development. The overall goal of sustainable development is the long-term stability of the economy and environment; this is only achievable through the integration and acknowledgement of economic, environmental, and social concerns throughout the decision making process. In the age of modernization and industrialization increased industrial activities worldwide requires the use of natural resources which are depleting day by day. It is also true that the need for resource conservation, efficient use of resources and environment friendly corporate policies and behaviour has now been recognized worldwide. The country needs an Environmental policy and planning, while being globally sensitive must be based on local needs.

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## **Co-operative Movement:- An Overview**

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### **Abstract:-**

The Banking system plays a crucial role in the development of the agriculture field and rural economy. The Indian Banking system is different from the central to the local level. With this regards Bank is a catalytic agent that creates opportunities for the development of the resource to speed up the tempo of economic development. Indian Banking system is a financial inclusion indicator also through District Central Banks. This Bank and the whole banking system is the major mobilizer and disbursers' financial resource. The relationship between financial inclusion and economic development is positive with a great deal of attention among rural economic development and agricultural development. Economic development and growth is a result of capital accumulation (Lewis, 1954). Capital accumulation is not only the government's function but also the function of the private sector. This could help with the private & Cooperative sector for economic growth and development. In the rural area, people are not much more literate for economically or Baking facilities, rural areas people have not much more knowledge about banking and banking awareness. District Co-operative Bank is a working property in the rural area. In Maharashtra, 54.8 percent population lived in rural areas. This is one of the undesirable consequences of the inadequacy of people with economic literacy in Maharashtra. So far as this is the basic problem of DCC Bank Today's economy is digital, the people have not access the knowledge of net banking such as RTGS, NEFT, use of ATM, Online Banking, mobile banking, etc. because of lack of education which is required for the digital economy. In India, the co-operative credit structure is also a victim of the problems of organizational weakness. Lack of organizational skills in the co-operative credit structure was also responsible for the fragmented approach to the co-operative towards finding solutions to rural problems without trying to meet all the wants of activities.

**Key Word:-** Financial inclusion, Agriculture Development.

### **Introduction:**

The Banking system plays a crucial role in the development of the agriculture field and rural economy. The Indian Banking system is different from the central to the local level. With this regards Bank is a catalytic agent that creates opportunities for the development of the resource to speed up the tempo of economic development. Indian Banking system is a financial inclusion indicator also through District Central Banks. This Bank and the whole banking system is the major mobilizer and disbursers' financial resource. The relationship between financial inclusion and economic development is positive with a great deal of attention among rural economic development and agricultural development. Economic development and growth is a result of capital accumulation (Lewis, 1954). Capital accumulation is not only the government's function but also the function of the private sector. This could help with the private & Cooperative sector for economic growth and development.

### **Objectives of the Paper:-**

- I) To Study Co-operative Movement in India.
- II) To Study Co-operative Movement in Maharashtra.
- III) To Study Progress of District Central Co-operative bank in Maharashtra.

**The co-operative movement in India:-** Indian Co-operative movement was setback before 114 years with truly the basis of domestic and social life "co-operative principals are fundamental characteristic features which determine the character of co-operation as a form of association," (B.S. Mathur ). In India After the first enacted co-operative society Act in 1904, the co-operative movement was on the threshold of large scale expansion and such societies are going to work smoothly, the year 2004 was a historical landmark in the Indian co-operative movement in India is one of the largest movements in the world, it was started with a limited spectrum of activities; (S.S. Bhosale). The government of India accepted a five-year plan, revitalization of the co-operative movement, and ensuring their viability and profitability to make them financially strong to provide greater assistance of rural credit to the farmers by increasing their loan and resources through the

mobilization of rural small savings. At present, the co-operative movement is working function as facilitators for linkage small groups and women participation with credit institutions.

**The co-operative movement in Maharashtra:-**This movement has been a pioneering sector in Maharashtra. Thereafter, the Cooperative movement began to strike roots, and Bombay state was the first to give the lead with the act 1925. The first co-operative sugar factory was started in Maharashtra in 1948 at Pravaranagar. Thereafter, the Gadgil Committee and the Saraiya Committee report came into existence in 1950 to the bank made policy for agriculture credit facilities. During this period the progress of the co-operative movement is going to the top in Maharashtra state Co-operation plays a distinct and significant role in the process of socio-economic development of the state, particularly in employing generation and social integration but initially, the movement was confined mainly to the field of agricultural credit, housing, agro-processing & making, industries, labor, transport, etc. In the year 2015, there were about 2.26 lakh co-operative societies total numbers of societies were 31561 lakhs in the year 1961 and 205753 lakhs in the year 2010. The total membership was 42 lakhs in 1961 and it was increased to 55 lakh in 2010, the working capital that means owned funds during 2010 was Rs. 205110 crores and net loans advanced were Rs. 88166 crores in 2010.

**State Level progress of District Central Co-operative Bank (Special Reference to Maharashtra State)** The economy of Maharashtra state is driven by manufacturing, international trade, contribution to the co-operative movement. In 2015 year, Maharashtra state has a 16.866 trillion US dollar state domestic production. The share of Maharashtra state in National income is higher compare with other states Maharashtra state is dominant in the co-operative movement in India. Maharashtra occupies the western and central parts of the country and has a long coastline stretching nearly 720 km along the Arabian Sea. Maharashtra is the second largest state in India in terms of population and has a geographical area of about 3.08 lakh sq. km. The population is 11.24 crore which is 9.3 percent of the total population is 11.24 crore which is 9.3 percent of the total population as per the 2011 population census. 54.8 percent population as per the 2011 population census. 54.8 percent population is residing in a rural area. The co-operative movement plays a more important role in the process of socio-economic development of the state, particularly in employment generation and social integration. However, after globalization, the co-operative sector is facing serious challenges like competition from multinationals, lack of professionalism, resources constraint, etc. (ESM). These co-operations have business growth with the help of the District Central Co-operative Bank. The number of banks decreased from 35 in 1960-61 to 26 in 1980-81 and it was further increased to 31 in the 2017-18 year due to policy one District Central Co-operative Bank in Maharashtra.

#### **Conclusion:-**

In the rural area, people are not much more literate for economically or Banking facilities, rural areas people have not much more knowledge about banking and banking awareness. District Co-operative Bank is a working property in the rural area. In Maharashtra, 54.8 percent population lived in rural areas. This is one of the undesirable consequences of the inadequacy of people with economic literacy in Maharashtra. So far as this is the basic problem of DCC Banks. Today's economy is digital, the people have not access the knowledge of net banking such as RTGS, NEFT, use of ATM, Online Banking, mobile banking, etc. because of lack of education which is required for the digital economy. In India, the co-operative credit structure is also a victim of the problems of organizational weakness. Lack of organizational skills in the co-operative credit structure was also responsible for the fragmented approach to the co-operative towards finding solutions to rural problems without trying to meet all the wants of activities.

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## **Healthy diet and Hygiene during the COVID-19 pandemic: A Social Responsibility**

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### **Abstract: -**

The provision of safe water, sanitation and hygienic conditions is essential to protecting human health during all infectious disease outbreaks, including the COVID-19 outbreak. Ensuring good and consistently applied WASH and waste management practices in communities, homes, schools, marketplaces, prisons and health care facilities will further help to prevent human-to-human transmission of the COVID-19 virus.

COVID-19 virus is transmitted through respiratory droplets or contact. Contact transmission occurs when dirty hands touch the mucosa of the mouth, nose, or eyes; the virus can also be transferred from one surface to another by contaminated hands, which facilitates indirect contact transmission. Accordingly, hand hygiene is extremely important to stop the spread of the COVID-19 virus. It also interrupts transmission of other viruses and bacteria causing common colds

The COVID-19 pandemic is causing a lot of changes in our daily lives. We are social distancing, staying home, and unable to eat out at restaurants. It can be easy to slip into unhealthy eating habits during this stay-at-home period, but with a little thought and preparation, maintaining a healthy diet doesn't have to be a routine. Good nutrition is always important, but during this pandemic, it's even more important because a well-balanced diet of nutritious foods helps support a strong immune system. Which can help us to fight COVID-19. Investing in Health, Healthy Habits and hygiene is acting smartly to prevent diseases.

Currently, people are undertaking various healthy and safe measures to avoid infection including self-isolation and social-distancing. But this cannot ensure forever health security. People may have to face sudden health mishaps. It is a situation that puts forth several complications. It may also create a difficult situation giving a tough time to the individuals and the people related to them. This paper focuses on a Social Responsibility, Importance of Healthy diet and Hygiene of Community during Pandemic to successfully overcome such a impulsive conditions. This paper is mostly based on secondary data and some observations.

**Keywords: -** COVID-19, Diet, Hygiene, Health.

### **Introduction: -**

COVID-19 pandemic is causing a lot of changes in our daily lives. We are social distancing, staying home, and unable to feast out at cafes. It can be easy to slip into unhealthy eating habits during this stay-at-home period, but with a little thought and preparation, maintaining a healthy diet doesn't have to be a routine. Good nutrition is always important, but during this pandemic, it's even more important because a well-balanced diet of nutritious foods helps support a strong immune system.

COVID-19, a disease caused by a new coronavirus, became a major worldwide human hazard that has turned into a pandemic. Coronavirus is one of the major pathogens that mainly targets the human respiratory system. In late December 2019, a group of patients were admitted to hospitals with an original finding of pneumonia of an unknown etiology. Early reports predicted the onset of a possible coronavirus outbreak called SARS-CoV-2, causing the disease COVID-19. The current widespread has been declared by the World Health Organization (WHO) as a global public health emergency.

### **Social Responsibility during COVID-19: -**

In January 2020 the World Health Organization (WHO) declared the eruption of a new coronavirus disease, COVID-19, to be a Public Health Emergency of International Concern. WHO stated that there is a high risk of COVID-19 spreading to other countries around the world. In March 2020, WHO made the assessment that COVID-19 can be considered as a pandemic. WHO and public health authorities around the world are acting to contain the COVID-19 outbreak. However, this time of crisis is creating pressure throughout the population. Our Social Responsibility during COVID-19 is as follows.

COVID-19 has and is likely to distress people from many countries, in many geographical locations. When referring to people with COVID-19, do not attach the disease to any particular civilization or nationality. Be sympathetic to all those who are affected, in and from any country. People who are affected by COVID-19 have not done anything wrong, and they deserve our support, concern and kindness.

Do not refer to people with the disease as "COVID-19 cases", "sufferers" "COVID-19 families" or "the diseased". They are "people who have COVID-19", "people who are being treated for COVID-19", or "people who are recovering from COVID-19", and after recovering from COVID-19 their life will go on with their jobs, families and loved ones. It is important to separate a person from having an identity defined by COVID-19, in order to reduce stigma.

Minimize watching, reading or listening to news about COVID-19 that causes you to feel anxious or worried; seek information only from trusted sources and mainly so that you can take practical steps to prepare your plans and protect yourself and loved ones. Seek information updates at specific times during the day, once or twice. The unexpected and near-constant stream of news reports about an epidemic can cause anyone to feel nervous. Get the facts; not rumors and misinformation. Gather information at regular intervals from the WHO website and local health authority platforms in order to help you distinguish facts from rumors. Facts can help to minimize fears.

Protect yourself and be supportive to others. Supporting others in their time of need can benefit both the person receiving support and the helper. Working together as one community can help to create unity in addressing COVID-19 together.

Find opportunities to increase positive and hopeful stories and positive pictures of local people who have experienced COVID-19.

Honor healthcare workers supportive people affected with COVID-19 in your community. Acknowledge the role they play in saving lives and keeping your loved ones safe.

At the individual level, the common denominator that initiatives most of the nutrition and dietary recommendations to fight viral infections, including COVID-19, lies within the link between diet and immunity. In fact, existing evidence highlights that diet has a reflective effect on people's immune system and disease vulnerability. It has been confirmed that specific nutrients or nutrient combinations may affect the immune system through the activation of cells, modification in the production of signaling molecules, and gene expression. Furthermore, dietary ingredients are significant determinants of gut microbial composition and consequently can shape the characteristics of immune responses in the body. Nutritional deficiencies of energy, protein, and specific micronutrients are associated with depressed immune function and increased susceptibility to infection. An adequate intake of iron, zinc, and vitamins A, E, B6, and B12 is predominantly vital for the maintenance of immune function. Therefore, the key to maintaining an effective immune system is to avoid deficiencies of the nutrients that play an essential role in immune cell triggering, interaction, differentiation, or functional expression.

**Conclusion: -**

Good nutrition is very important before during and after an infection. Infections take a toll on the body especially when these cause fever, the body needs extra energy and nutrients. Therefore, maintaining a healthy diet is very important during the COVID-19 pandemic. While no foods or dietary supplements can prevent COVID-19 infection, maintaining a healthy diet is an important part of supporting a strong immune system.

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## **Analysis of Soil Nutrients From Pimperkhed Village, Taluka Hadgaon, Dist. Nanded**

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### **Abstracts**

Soil is a main source of nutrients needed to plants for growth. Soil provides structural stability for plants and retains and relinquishes water and the nutrients necessary for plant growth. Soil analysis provides information which is important for maximizing nutrient use efficiency and agricultural productivity. Soil properties that are sensitive to change in the management can be used as indicator. In the present study it was preferred to analyse the nutrients contain in soil sample of Pimparkheda village. The five samples were collected from different sites of the study area of Pimperkheda in June 2020. The analysis of soil was carried out for the study of various parameters like Nitrogen, Potassium, Phosphorous, Magnesium, Calcium, Moisture, pH, EC, & Organic Carbon. The study revealed that all the five samples of selected area of Pimparkhed village are medium to high in mineral content. The pH of the soil samples were on slightly alkaline side, ranged from 7.10 to 8.10 but within the limit of 6.5-8.5 which is optimum for crops. The EC values ranged from 0.5ms to 0.7ms. and indicating low salinity status of the soil. OC content all the samples were of medium rating ranged from 1.2% to 1.7%. Available nitrogen ranged from 240 kg/ha to 295kg/ha; available phosphorous ranged from 21.5kg/ha to 24.0 kg/ha and samples were nitrogen rich in black soil and phosphorous is in more quantity in S4&S5 sample site. Potassium ranged from 440 kg/ha to 580 kg/ha and samples were of medium rating except one sample which is of high rating with respect to potassium.

**Key words:** Pimperkhed village, Soil quality, Micronutrients, Physico-chemical parameters.

### **Introduction**

Soil productivity encompasses soil fertility plus the inherent and management-related factors affecting plant growth and development. The productivity of soil is mainly depending upon nutrients content in it. Soil mediates many of the ecological processes that control water and air quality and that promote plant growth. Soil is one of the most precious natural resource, which requires several years to develop an inch of soil and it provides a medium for plant growth to meet our food and fiber need. Soil is main and fundamental component of agricultural activity so that it is important and necessary to understand the basic needs of soil.<sup>1,2</sup> Soil filters water, decomposes waste, stores heat and exchanges gases and hence has great bearing on environmental balance<sup>3</sup>. Soil analysis is well recognized as a sound scientific tool to assess the status of available micronutrients in soils and their relationship with various physico-chemical properties. Considerable research work has been done regarding the study of Nutrients and Physico-Chemical assessment of various types of soil in Maharashtra as well as in India have been attempted by several investigators<sup>3,4,5</sup>. Khadake P.A. reported soil analysis and its environmental impact on Nanded city of Maharashtra State<sup>6</sup>.

The status of micronutrients in soils district Bhimber and their relationship with various physico-chemical properties were investigated by Wajahat Nazif, et.al<sup>7</sup>. It is a real time to carry out the physico chemical analysis of soil because as with the increasing use of chemical fertilizer to the soil, it is difficult to control the adverse effect of the chemical fertilizer to the soil, land, animal and the human being.<sup>1,2</sup> Soil fertility and productivity are the key pillars for food production and soil quality is of equal significance in the background of soil degradation caused by many factors. Soil is a naturally occurring porous medium that supports the growth of plant and roots by retaining air, heat, water and nutrients and provides mechanical support to the plant.<sup>1,2</sup> Factors that affect the availability of soil nutrients include leaching. Soil erosion, soil pH, denitrification, volatilization, nitrogen immobilization and crop nutrient uptake. Crop growth is influenced by aerial and soil environment. Considerable research work has been done in Maharashtra as well as in India, regarding the study of Nutrients and Physico-Chemical assessment of various types of soil, A.A.Patil<sup>8</sup>, R.P.Ganorkar<sup>9</sup>, R.P.Ganorkar<sup>10</sup>. Keeping these points in view, investigation was carried out to analysis of soil samples of Pimperkhed village in Hadgaon Tahsil of Nanded district in Maharashtra, India.

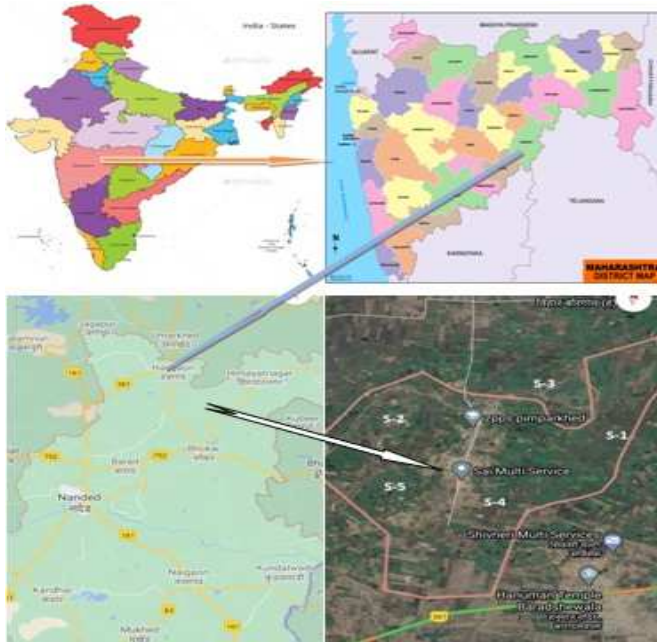


### **Material and Methods: Study Area**

Pimparkhed is a village in Hadgaon Tahsil in Nanded District of Maharashtra State, India; which is shown in Fig.-1. It belongs to Marathwada Region Aurangabad Division. Moderate rain fall in this region and well known for Banana, cotton, soya bean, and other rabi crops. The sources of water for this area is Kayadu river, well water and tube wellwater.

**Sample Collection:** Five samples were collected from the study area (farmer's field) in the month of June 2020. Soil samples were collected randomly at 5 to 15 cm depths with five plots, in well sterilized polythene pouches. Soil sample were collected from following Farmers fields -Sample-1 Mr. Nandurao Wakode's field, Sample-2 Mr. Sheshrao Bhale's field, Sample-3 Mr. Lakshamanrao Kakde's field, Sample-4 Mr. Sambhaji Kale's field. Sample-5 Mr. Vinod Sontake's field

Figure1:-Location map of Study area Pimparkhed, Hadgaon Tahasil District Nanded.



### **Physicochemical Analysis For Nutrients of Soil Sample :**

The soil sample were Collected and dried for about 24hrs.Grinded more finely. Methods use for estimation of various parameters is as fallows, like Determination of Moisture was by Weighing Method, pH by Digital pH Meter, EC by Conductometer, OC, Ca, N,P,Ca by Titration Method, Determination of Mg was done by EDTA Titration Method.Determination of Potassium (K) by FlamePhotometry.

### **Result and Discussion**

**Color of Soil :** The soil sample S1, S2, S3 were Black, S4,S5 Faint Black in color.

**Moisture :** Value of moisture contain ranges from 1.8% - 8.1%.The result

shows that only the moisture of sample S4 & S5 is less as compared to other samples.

**pH :** The range of pH is found in between 7.10 – 8.10. The sample S2,S3 are slightly more alkaline sample as compare to S1, S5 soil sample which is in medium alkaline nature and S4 is neutral in nature.

**Organic Carbon :** Organic carbon were recorded in the range of 1.20 – 1.70 %.The soil sample S1,S3 has high percentage of organic carbon. Sample S2 have moderate and sample S4,S5 has less organic carbon.

**Nitrogen :** Nitrogen content in the soil ranged from 240- 295 kg/hector. The sample S1 has high nitrogen content as compared to other sample and S5 has less nitrogen.

**Phosphorous :** Phosphorous content in the soil sample ranged between 21.5- 24.0 kg/hector. The soil sample S5& S4 has more phosphorous content as compared to other sample.

**Potassium :** Potassium content in the soil sample ranged between 440 – 580 kg/hector. The soil sample S1 have more potassium content as compared to other samples.

**Magnesium :** The Magnesium content in the soil sample ranged from 0.840 – 0.885 %. It is seen in sequence S5<S4<S3<S1<S2.

**Electric Conductance :** The Electric Conductance values varies from 0.5 – 0.7ms. It is seen that soil sample S1,S3 have more amount of Electric Conductance as compared to other sample.

**Calcium :** The Calcium content in soil sample ranges from 0.07 - 0.14 %.It is seen in sequence S1<S3<S2=S5<S4.

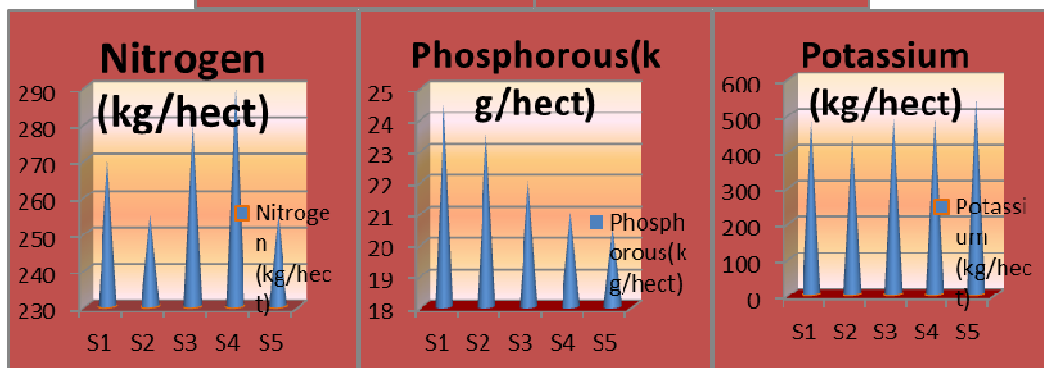
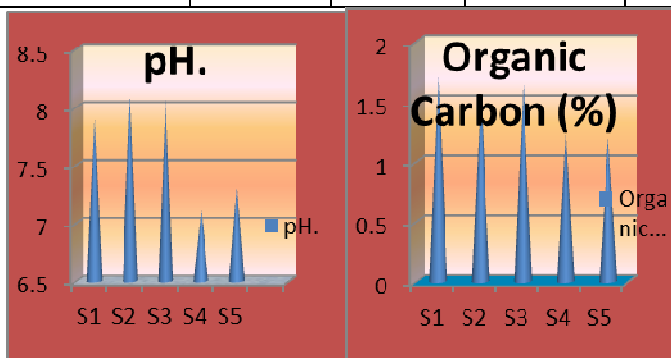
**Alkalinity :** The alkalinity was observed in the range between 750–1120mg/lit. And it is in the range S5<S4<S3<S1<S2.

**Calcium Carbonate :** The Calcium Carbonate content in soil samples ranges from 5.50-7.25 %.It is seen that soil sample S5 have more amount of Calcium Carbonate as compared to other soil samples.It is seen in sequence S3<S1<S2<S4<S5.

**Conclusion :** The analysis of soil nutrients provides necessary information to set the target of nutrient application. The soil samples are slightly alkaline and the pH is in S4<S5<S1<S3=S2 order hence the Suggestion to use of compost manure. In the soil sample S4 and S5 the magnesium is less. In the soil sample S1 phosphorous is less as compare to other sample. In the soil sample S1 and S3 the organic carbon and nitrogen is approximate high.

**Table 1 :Physico chemical parameters of soil samples.**

S.No	Parameters	S1	S2	S3	S4	S5
1	Color	Black	Black	Black	Faint Black	Faint Black
2	Moisture (%)	6.3	8.1	2.7	2.1	1.8
3	pH.	7.9	8.10	8.10	7.1	7.30
4	Organic Carbon (%)	1.7	1.55	1.65	1.30	1.20
5	Nitrogen (kg/hector)	295	275	280	255	240
6	Phosphorous(kg/hector)	21.5	23.0	22.0	23.5	24.0
7	Potassium (kg/hector)	580	450	490	450	440
8	Magnesium (%)	0.875	0.885	0.855	0.845	0.840
9	ElectroConductance(ms)	0.7	0.6	0.7	0.5	0.5
10	Calcium (%)	0.07	0.10	0.09	0.14	0.10
11	Alkalinity(mg/L)	1050	1120	950	780	750
12	CaCO <sub>3</sub> ( %)	5.70	5.90	5.5	7.10	7.25



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## **Role of Higher Education In Women Entrepreneurship In India**

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### **Abstract:**

In the article it is intended to have historical perspective of women entrepreneur in India & to make relevant suggestions. Entrepreneurial development is a must for economic development of the country. Both men & Women should undertake business activities for the country's industrial & economic development. Even though women are not by nature physically strong, they can manage business and other activities efficiently & effectively, because they can properly combine skills & emotions women have been successful in various activities. They have inborn qualities of entrepreneurship and management. The society & the Government should realize importance of strength of women and remove all obstacles in the way of women entrepreneurial development. Fortunately, Govt. has become aware of the women entrepreneurship and has taken proper steps to remove obstacles and increase women entrepreneurship in India. Govt. and society are trying to remove all the limitations in this context. Thus, women entrepreneurship must be successful for economic & social development of the country.

### **Keywords :**

Entrepreneurship, Development, Men & Women, Business, Skills, emotions, Managements, Planning, communications, Government & Society, Leadership.

### **Introduction :**

Many a University have very thoughtfully included the subject of business entrepreneurship at graduation and post graduation level. In the syllabus of many topics relating to women entrepreneurs, like challenges in future, Whether women entrepreneurs are born or made, performance of Indian women entrepreneurs and role of Govt. organizations in respect of women entrepreneurs have been included. Here, I intend to discuss the topic "Women Entrepreneurial performance in India." In Hindu religion sex discrimination has been in existence the very ancient time. Women are deemed to be weaker. Both in respect of physical strength & emotional stability. Women are given secondary citizenship. They are deprived of political & economical rights. They have been confined to kitchen & bringing up children in the home. The situation was prevalent throughout the world. on the contrary, Indian women were much better off in ancient India, as compared to women were much better off in ancient India, as compared to women in middle east and Africa countries.

In India, we observe that some elite women enjoyed high status in the society. India being a spiritual country, the people thereof did not take interest in earning money and in a massing wealth. Women were not expected to work and earn money. So quality of entrepreneurship did not develop in women.

### **Objectives of The Study:**

Following are the objectives of this article.

- i) It is intended to have a historical perspective of women entrepreneurship.
- ii) It is contemplated to throw light upon performance of women entrepreneurs in India.

### **Hypothesis of The Study :**

- i) There is lack of women entrepreneurship in India.
- ii) In modern times there is attitudinal change in women and they aspire for entrepreneurship.
- iii) Govt of India & Society in general are interested in developing women entrepreneurship.

### **Significance of The Study:**

- i) Entrepreneurial development is key to industrial and economic development of the country.
- ii) Nearly 50% of the total population of the country is women.
- iii) If men and women are the two wheels of the chariot of this world one wheel i.e. the women must not be weak.

### **Research Methodology:**

- i) It is proposed to undertake Research study of " Women Entrepreneurial performance in India."
- ii) For this purpose some successful women entrepreneurs are expected to be interviewed.

**Meaning and Definitions of Women Entrepreneurship :**

- a) By Dr. V.G. Patel -  
Once an enterprise starts, the difference between male and female must be forgotten because an entrepreneur is an entrepreneur, business is business; and profit and loss strictly depend upon entrepreneurial competencies.”
- b) By Small scale industries development commissioner-  
“ An enterprise owned and administered by a women entrepreneur having a minimum Financial interest of 51% of the share capital and giving at least 50% of the employment generated in the enterprise to women.”

**Analysis of the Study:**

**a) Schemes implemented for women entrepreneurship:**

- i) **Professional & self employed :** professions like Chartered Accounts, Lawyers, Doctors, Architects, Interior Decorators, Painters, Photographers, Commercial Artists, Coaching classes etc. can be undertaken by women entrepreneurs, similarly a woman trained in any other art of craft holding any degree or diploma from a recognized institution or technically qualified and skilled can commence her women enterprise.
- j) **Business Enterprises engaged in providing services :** - Beauty parlours, Laundries, Eating Houses, Tea stalls, Designer, Boutiques circulating Libraries, Tailoring , fashion designer sewing Machine for job work. Rope making , House delivery services, baby crèche or sishugriha. Mat making, Bakery, Pop corn machine.

**Limitation of the Study :**

There are following limitation in women entrepreneurship development.

- i) Physical abilities
- ii) Re-generation responsibility
- iii) Men Women discrimination

**Conclusion:**

It can be concluded that women are equally competent to work as business entrepreneurs. They should be provided opportunities to develop themselves. Women have inborn qualities of entrepreneur. They must not be deprived of their right to work and to achieve their ambitions. The Govt. is expected to take all steps to provide all facilities, education and training to women so as to develop them as entrepreneurs.

**Recommendation and Suggestions :**

- i) It is suggested that social workers & leaders should teach the society not to make discrimination between men and women
- ii) Ethically people should be taught to show sympathy to women business entrepreneurs and encourage them.
- iii) Universities , colleges and other education institutions should introduce special courses for women in the country.

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## **Onion Marketing Management in India**

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### **Introduction:**

It has been rightly stated, “produce or perish” in the American industrial sector. Similarly, we can say ‘Market or Perish’. In short, marketing of goods along with its production is important for economical prosperity. Developed markets are created through marketing process and it is proved after studying the Agricultural produce Market Committee functions of marketing in Nashik District.

Onion is one of the cash crops in agricultural produces. It is also perishable. Onion is an inevitable daily consumable produce by people. As a result, demand for onion is inelastic. It means even though onion supply increases and its price decreases, it does not mean that its demand will increase. The reason is that there is the problem of preserving the extra onion purchased as a result of reduction in price. So onion is purchased according to daily consumption. On the contrary, even if onion prices rise as a result of reduction in onion is not conspicuously affected and its demand remains more or less the same despite demand for onion is less elastic. It is rigid. In this view, the studies of onion marketing system attract attention.

Similarly is it observed that the supply of onion is also rigid. Onion supply depends upon its quantity of production. Farmers are compelled to sell onion at reduced in further decrease in prices. On the contrary, its price increases and probability of earning profit increases, because of perishable nature of onion and lack of scientific storage of onion. In other words, farmers cannot increase onion supply according to demand and cannot earn more profit. Onion crop is taken thrice a year. Three to four months are required to get the crop.

Nashik District is an onion producing District in Maharashtra. The Agricultural produce market committee, Vefco and National Agricultural Co-operative Marketing Federation of India Ltd. (NAFEED) promote onion export from Nashik District. State Government, have provided infrastructural facilities for enhancing onion.

Government is giving stress upon onion export management for the benefit of farmers and also in the large interest of the economy of the country.

### **Objectives of the Study:**

The aim of the article is to understand the concept of marketing management particularly in relation to export of onion from agriculture produce market, committees and other institutions, in the Nashik District. It is also intended to make suitable suggestions for those who are involved in production marketing and export of this cash crop i.e. the onion.

### **Hypothesis to Be Tested:**

- 1) Not only internal marketing but export of the cash crop – the onion is important.
- 2) Special efforts have to be made by farmers, traders and Govt. machinery for enhancing export of onion.

### **Research Methodology:**

#### **Collection of Data**

- 1) **Primary Data**
- 2) **Secondary Data**
- 3) **Selections of samples**

#### **Tools and Techniques to Be Used:**

Different tools and techniques will be used for statistical processing of primary and secondary data collected that will include classification, tabulations, digramatic representations of data collected, different types of averages like mean, median mode etc will have to be used for the study purpose.

#### **Scope of The Study :**

After passing agriculture produce market commodities act, 14 (fourteen) APMC's and money other sub markets have been set up in Nashik District. The commodities other institutions and private traders take care of onion marketing management. Now the boundaries of market have extended to other countries i.e export of onion.

#### **Limitations of the Study:**

1. It is difficult to collect information from farmers.
2. Lack of definite and stable policy of Government.

**Significance of the Study :**

India being an agricultural country, scientific marketing management of agricultural produce, particularly that of perishable commodities like onion is of paramount significance. Really the country was a food grain importer up to sixth decade. The green revolution in the country changed the phenomenon and the country became an exporter of agricultural commodities. India being second largest produces of onion in the world, attention is paid to its exports for earning foreign exchange for the development of the country.

**Analysis of The Study:**

**Significance of Onion Export Management:**

Basically, India is an agricultural country. Around independence market surplus was available for export of Agriculture product. However, the Green Revolution, introduced by Swami Nathan, enabled Indian farmers to produce sufficiently both for Domestic consumption and export. Export provides valuable foreign exchange for the economic development of the country. Onion export has earned such foreign exchange and contribution to the development.

**Historical Background:**

Even though India is agricultural country, it used to Import food grains to feed its population. It could never export traditional agriculture production except spices and high quality malmal cloth and never could think of exporting food grains and vegetables.

It is important to note that a town – Lasalgaon is famous in Asian continent in respect of onion marketing. It is the number one onion market in the continent.

**History of Apmc Lasalgaon (Estd. On 01/04/1947)**

During the year 1600 certain traders of England came together with an intention to start trading activities with eastern world They established a charter company for this purpose. They intensely desired to start trade with India. Then India was a very rich country and was called ‘Golden Land’, British traders made agreements with the King Shah Alam through the chartered company and established trading centres at Kolkatta, Kalikat and Wasai.

Despite prosperity India was divided in many states, So the cartel decided to take avail from this situation, After 1854 they captured total India and started England Parliament rule in India. They started Railway, Postal etc. services, since business searching started in India. And this was the most propitious time for Indian businesses

Lasalgaon was originated as a market place. The same situation was every where in India. But they were scattered . Despite this, the farmers were destitute because they were dependent on nature and goodwill of government. To overcome the situation, in 1939 Bombay Government started. “Agricultural produce Market Committee”. (APMC)

**Agriculture Produce Market Committees In Nashik Dist. (A.P.M.C.’s)**

Detailed information about Market Committees’s in Nashik is given in the following table :

Sr.No.	Marketing Centres	Date of Established
1.	Lasalgaon	01.04.1947
2.	Nandgaon	02.09.1948
3.	Malegaon	11.11.1948
4.	Satana	24.09.1948
5.	Ghoti	17.09.1952
6.	Nashik	21.11.1952
7.	Sinnar	27.01.1956
8.	Yeola	15.09.1957
9.	Kalwan	01.03.1971
10.	Chandwad	01.04.1982
11.	Manmad	18.07.1985
12.	Dindori	01.01.1989
13.	Pimpalgaon(B)	28.12.1995
14.	Deola	27.05.2004
15	Umrane	26-6-2012

Source : 1) A.P.M.C. Report in Nashik District 2) Govt. Record

### **Onion Exports From India:**

Following table throw light upon the quantity in tones exported and value in Rupess and also value per tone both in Rupess and Dollars. The data is from 1980 to 1998.

#### **Onion Exports From India (1988 to 1998)**

<b>Year</b>	<b>Quantity (Tonnes)</b>	<b>Value (000 Rupees)</b>	<b>Unit Value Rs/ Tonne</b>	<b>Unit Value Dollars /Tonne</b>
1988	214200	641700	2996	207
1989	214200	641700	2996	207
1990	240200	908800	3784	211
1991	370900	1495900	4033	165
1992	271900	1193600	4390	143
1993	357100	1826700	5115	163
1994	401000	2050000	5112	163
1995	351000	2310000	6581	197
1996	427000	2650000	6206	175
1997	333000	2020000	6066	163
1998	216000	1760000	8148	194

Source: [www.unctad.org/infocomm/diversification/bangkok/onion.doc](http://www.unctad.org/infocomm/diversification/bangkok/onion.doc)

Export Potential of onion : A case study of India By V.C.Mathur, Senior Scientists, Division of Agricultural Economics, Indian Agricultural Research Institute.

### **Onion Marketing And Export Management:**

In Nashik District Govt has taken appropriate steps to streamline export of agricultural commodities including onion. Internal roads fast railway trucks and airways have been introduced for fast transportation. Cold houses are provided for storage of onion, priority is given to transportation and marketing to agricultural commodities and onion. Appropriate attention is also given to simplify the complicated process of export. The Reserve Bank of India and other Nationalized Banks have been advised to simply the process of export foreign exchange. In this way all in and all out efforts are a foot at all levels to enhance export of onion.

### **Role of Govt. in Onion Export Management:**

Maharashtra Govt. has also taken lead to increase export of onion. Different institutions like Agriculture produce market committee's vefco state trading corporation centres of Nafeds have been established to promote onion exports. Banks and other financial institutions have been suitably instructed to finance freely export activities. In short all in and all out effects are a foot to increase onion export and earn foreign exchange.

### **Economic Significance of Onion:**

Onion is a cash crop. So it has importance in the life of farmers. Nashim District has been most suitable for onion crop. The Natural Condition of Nashik District is also onion supporting so many farmers take this crop.

### **Significance, relevance and Expected Contribution of the Study**

“Onion Marketing and Export Management Research with reference to APMC in Nashik District. (1998-2008) In this study it is expected to appreciate the issue of the farmers community and the my study is intended to make recommendations to solve the problems. Accordingly it is decided to make efforts in the following direction: .

- 1) To understand the needs of farmers, Merchants other middlemen marketing of onion and other agricultural produce.
- 2) To evaluate the functions & effectiveness in working of different marketing institutions and leading agricultural produce market committees.

### **Conclusion:**

Thus it can be concluded that the production of cash crop, the onion has created enthusiasm among farmers, traders, middleman, service providers, Govt. agencies to increase export of onion in the benefit of all farmers and others. The traders exporting institutions, bank and financial institutions have been playing very important role in the stream lining onion export



management and earn foreign exchange.

**Recommendations /Suggestions :**

- 1) Increase onion Production
- 2) Improvement in Infrastructure facilities
- 3) Simplifying export procedure
- 4) Guidance and Training
- 5) Establishment of Cold Storage
- 6) Reduction in Perishability of Onion:
- 7) Market Intelligence

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## **Financial, Managerial, Quality and Accreditational issues of Education in India**

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### **Abstract:**

Educational is an important aspect of human civilization. The importance of primary, secondary and higher education is understood and appreciated all over the world. The Govt and elite people of the society have taken initiative in promoting the cause of education. Many problems are faced by the society in respect of education. When the education was not widespread the rules and Govt. accepted entire responsibility. In modern times the number of learners has increased. Private educational institutions are coming up many problems regarding finance, management, quality and assessment are coming up. Govt., Management, Society and Student representatives are trying to solve the problem. Govt of India has taken appropriate steps to establish apex body like University grants commission to take care of higher education particularly in respect of Finance, Management, Quality, Assessment and Accreditations of Higher educational institutions. It is a matter of great solace that Govt. is taking great interest in improvement of abilities qualifications and competence of teachers. On this background, I would like to say that the future of higher education in India and other countries in the world is bright.

With advancement in science and technology, educational institutions have also accepted innovative functions. However education is becoming very expensive and unaffordable to lower income bracket people. Learning is becoming fortunately and integral part of every one. The ability of Govt. is not sufficient to look after higher education so private sector is coming forward to undertake education. Gradually business norms are being made applicable to the field of education.

**Keywords-** technology, educational, Finance, Management, quality, civilization.

### **Introduction:**

Human beings are different from other animals in the sense that they are rational. They have ability to learn and teach. Every religion, every creed, every colour and every section of the society living on the surface of this planet earth has realised significance of education from the very beginning of civilization.

According to the Greek Philosopher plato every human being has certain in born and God-gifted qualities. Education is nothing but invoking these qualities and to nourish and develop them. Indias President of India Dr. Sarvapalli Radhakrishnan advocated that education is not only to make people literate or to make them expert in some trade. But it is something more than that and it is generocity of mind, respect and love for human beings and the skill of living unitedly and thereby getting human heart beautiful.

Human being is endowed with power of rational thinking, His intelligence motivates his thinking and living style. A lamp can be used for providing light and at the same time it can be used to burn. Education, similarly can be used for enhancing human welfare and it can also be used for destruction. The dictum 'live and let live' is forgotten and the aim of education vitiated.

We can think of specific objective and functions of education. It aims at developing potential qualities and thereby achieve progress and create brotherhood amongst human beings.

Accordingly to education philosopher-Dr. Brown there are certain specific functions of education. They include imparting wisdom, all multisided developments and personality constructive mould to natural attitude. Enabling students to have self nourishment, to develop skill and to develop character. In this respect it is aptly said that If wealth is lost nothing is lost. If health is lost, something is lost and if character is lost, something is lost. So the educator, the teacher, and the taught must bear in mind this proverb while discharging there duty. The ultimate aim of education is the social development.

We can observe that there has been great transformation in the process of education with passage of time. The financial aspect has been changed. In the past there was no formal, structure of fees and other charges payable by the learners. The Govt in the welfare countries advocated the philosophy of free mass education. Even prior to that in the ancient past there was the concept of

Gurukul when the disciples used to go to the homes or Ashrams of the Gurus for getting education and sanskar as and particularly training in warfares running a kingdom and religious affairs. Particularly in India this system was popular. In majority of the eastern countries. Similar system was prevalent. More or less such method was followed in western countries also. However, the distinction between eastern and western educational philosophy is that the eastern education stressed the development of mind and soul and western philosophy gave weightage to material development.

In modern time the emphasis was on three Rs. i.e Reading, Writing and Arithmetic. But now the aims and objectives of education have widened. There is a very large variety of disciplines faculties and subject taught in educational institutions right from the kindergarten to the University.

**Objectives:**

The objective of this articles is to have a preview of educational activities in India as well as in other countries. It is intended to discuss the financial aspects of the educational institutions. The Financial aspects encompasses many topics like tuition fees, other fees and charges for extra curriculum and developmental activities of the Institution.

**Hypothesis to be Tested :**

- 1) Education is wide spread all over the world. Govt. is interested to increase both quantitative and qualitative aspect of education right from the primary level to University education.
- 2) Uptodate and modern techniques of management are used in management of educational institutions, The tools and techniques include part, six sigma and standard cost and variance analysis.

**Significance:**

Now education has become very important aspect of human being. Mass education must not hamper the quality of education. The Govt. of the country has to look after the financial managerial, qualitative, and accreditation issued of education in the country. The teachers, the students, parents and also Govt. agencies have to be made aware of their responsibility of improving the quality of education. It is expected that this article will bring the significance of the financial managerial quality and assessments aspects to the notice of the world of education.

**Issues of Education:**

There are certain issues relating to higher education in India. They are related to providing finance to educational institutions, management of the institutions imparting instruction in higher education. The qualitative aspects of higher education and more importantly the accreditation of colleges and universities and other instructions functioning in the country. These aspects are dealt with as follows

**Financial Aspects:**

Provisions of making adequate finance available for establishing and running educational institutes has been as basic problem. The importance of education has been appreciated by the Govt. of India. The then British Govt. provided financial assistance in the form of grants to educational institutions.

**Managerial Aspects:**

The Management of educational Institutions has been a very challenging task. Some people of foresight and wisdom took initiative to set up educational institutions in the best interest of the society at large. They begged for money to manage their institutions. In the beginning the Govt. thought to pay them grant of 35% of the expenditure and then gradually were allowed 100% grants for the expenditure.

**Quality Aspects:**

There has been continuous whoo and cry that the quality and standard of higher education has declined to be greater extent. The attendance of the student in the classes is affected. It is said that students take admission in the colleges just for enjoyment and attain tuition classes for study. Though students may attain academic excellence, the aim of all sided development of their personality is not achieved.

### **Accreditational Aspects:**

The Govt. of India has established Universities grants commission for the Purpose of sanctioning payment of grants for development to Institutions of higher education the university and colleges all over the country.

For an Institution to be eligible for grants the colleges and universities are required to be assessed and accreditational.

The guidelines for Institutions to be recognized for donations are given in the UGC Act 1956. For finding eligibility the national assessment and accreditation council has been established by the UGC. Higher education has expanded in India and there is significant increase in the number of universities and colleges. So National policy for education was accepted in 1986 and the programme of action was approved and it advocated the establishment of NAAC (The National Assessment and Accommodation Council) which was established in 1994. Its head quarters is at Bangalore.

### **Limitations:**

- 1) Subjectivity
- 2) Inadequate Financial Provisions
- 3) Human Treatment to Pupils

### **Conclusion:**

The problems of finance, Management quality and assessment have been ever increasing in the field of education. Govt. societies have been trying hard to solve the problems. Now-a-days the number of students is continuously increasing. The number and variety of courses to be taught at universities and colleges are also fast increasing. With the development of different aspects of human life. The revolution in science and technology has proved to be very advantages in the advancement of educational institutions. Thinkers and education lists are endeavouring to solve the problem about scholastic and non scholastic issues in education.

There is raising awareness about right to education. Govt. and societies all over the world are trying to provide the learners with right to excellent education. For this purpose different techniques are being innovated in respect of finance management of institutions and also about teaching, learning and evolution process.

### **Recommendation and Suggestion:**

- 1) **Continuous Innovation** : Expectation from education are increasing. So there must be continuous innovation and invention in education process.
- 2) **Meaningful Education** : Education provided must be meaningful . It must be relevant with the condition prevalent in the society.
- 3) **Affordable Education** : The cost of education should be such that all people in the society shall afford it.
- 4) **Education to excite and enthuse young minds** : The syllabi and curriculum will excite and enthuse students to achieve scholastic excellence.
- 5) **Education to become part of every one's life** : Education is directly related to every member of the society. So it should be designed accordingly.
- 6) **Technology based learning system** : There are many innovations in the world. Many gadget of viewing and hearing also printing and reprinting have been invented. They should be properly used in the process of teaching and learning.
- 7) Advanced Evaluation System 8) Teacher Enrichment 9) Avoid Privatisation 10) Right to Education 11) Responsibility of Human resource development

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## **Violence against children- A global perspective**

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### **Abstract**

Children are the weak and helpless group of the society. They are the voiceless victims at homes, school and society. Children are exploited by physically, mentally and sexually in all parts of their growth at the hands of trusted relations and people such as parents, teachers, neighbours and caretakers. Majority of children are unable to report the violence as they do not understand the nature of act for that reason many crimes against children are unreported. The discussion of the paper is divided into two parts, the first part deals with meaning, nature of violence and its kinds and the later part is explaining the mechanism that curbs the violence against children at national and international level.

**Keywords: Violence, Children, Prevention**

### **Introduction**

Violence against children in any form is intolerable. Violence seriously affect on the health and growth of the child. It also affects the families, society, and nations to great extent. The following key facts are revealed by the UNICEF<sup>i</sup> and WHO<sup>ii</sup> about the violence against children.

<b>Fact sheet -Violence against children</b>	
<b>United Nation Children Fund (UNICEF)</b>	<b>World Health Organization (WHO)</b>
Nearly 15 million teenager girls aged in between 15–19 have experienced forced sex in their lifetime.	Violence against children in all forms who are under the age of 18 years are committing by the parents or caretakers, neighbour, life partners, or strangers.
Around the 10% of children in the world are not legally protected from corporal punishment	Globally, it is estimated that up to 1 billion children aged between 2–17 years, have experienced physical, mentally or sexual violence or neglect in the past years
Out of 3 students one in aged in between 13–15 have experience of ill-treatment in the world	Violence experienced in childhood impacts on lifelong health, growth and development of carrier.
Approximately 1 in 4 children under the age of 5 in 176 million live with a mother who is a victim of close partner violence.	The target of the 2030 Agenda for Sustainable Development is aim to end of abuse, trafficking, exploitation, and all forms of violence against and torture of, children.
Almost 3 in 4 children in between the age of 2 and 4 around 300 million are often subjected to violent discipline by their caretakers.	Violence against children can be stopped around the world with sufficient efforts and protective measures.

### **Meaning of Violence**

The *World report on violence and health (WRVH)*<sup>iii</sup>, explained the violence in the following manner:

The deliberate of use of physical force or power, which endangered or existing against oneself or another person or against a group or community, that either results in or has a high probability of resulting in harm, death, emotional harm, maldevelopment, or deprivation.

### **Violence against children and its kinds**

The following are the broad classification of violence against children<sup>iv</sup>.

1. **Violence in school** – violence at school is a common type of violence and greatly affect on the conduct and character building of the children. Children are experiences many forms discriminations, verbal abuses, sexual exploitation, corporal punishments, harassment and humiliation at the hands of teachers and from the school authorities. Also many children are experiences of the culture of gang war and group fighting.
2. **Sexual violence-** As per the UNICEF data near about 120 million girls under the age of 20 year, among 1 in 10 have been forced to entered in sex or other sexual acts. In reality the actual figure may higher. Many children are sexually exploited at home, school or in society. Teenage girls who report the sex said that their first perpetrator was someone they knew or

close relative. Every year, millions of girls and boys around the world face sexual abuse and exploitation in all over the world.

3. **Violence online (Cyber-bullying)** - At present almost all children are addicted to browsing internet and playing online games on mobiles, computers, gaming hubs and television. The tech companies are violating the norms and creating the programmes for the children to attract more time on the screen. While using internet children are imitating the culture of hate speech and violent behaviour and even sometimes by provocation to self-harm and suicide. The children must be protected from the violence, expose and abuse on the social media and internet.
4. **Psychological and emotional violence-** it includes the ill-treatment given to the infants, children and teenagers by the parents, caretakers and other authorities at homes, schools and shelter homes. The psychological violence comprise of restriction on the children activities and movements, criticism, disrespect, threats and pressure, intolerance, negative response and other non-physical forms of hostile behaviour.
5. **Physical violence-** child labour is another widespread kind of violence against the children. This exploits and exposes the children physically. It adversely affects the development of the child.

### **Effect of violence**

Violence against children resulted into<sup>v</sup>:

- **Increasing the culture of criminality and gang/group war.** It increases the culture of gang war or criminal behaviour among the adolescents.
- **Death of children.** UNICEF data revealed that, top four causes of death in teenagers is using the weapons like knives and firearms. Among them 80% victims and offenders are consisting of boys.
- **Weaken brain and nervous system.** Violence against children exposes to weaken brain development and damage other parts of the nervous system at early age. Violence against children causes immaturity and results in educational and employment backwardness.
- **Health risk and negative behaviour.** Children exposed to violence are more likely attracted to use of drugs, alcohol and smoke and take part in sexual activities. They also having high experience of worry, depression, other mental health issues and include suicide.
- **Possibility to get pregnancies,** sexual violence in adolescent induce abortions, gynaecological problems, and causing sexually transmitted diseases, including HIV.
- **Inability of employment.** Children exposed to violence are likely to drop out of school, have difficulty to get a job. Later they are victims of self-directed violence.

### **Reasons for violence against children**

- Poverty and uncontrolled growth of population
- Illiteracy and lack of parental control
- Addiction to drugs and alcohols
- Suffering with disability or mental health issues
- Witnessing violence between parent
- Child and forced marriages
- Closeness with other delinquents
- Social inequalities and gender discriminatory practices
- Sex selection practices among families
- Weak and poor governmental enforcement mechanism

### **International and national instruments curbing violence against children**

The following are the International conventions<sup>vi</sup> and rules that preventing the violence against children:

- The Convention on the Rights of the Child, 1989 of the United Nation
- The target 16.2 of the Sustainable Development Goals, 2030
- Minimum Standard Rules for the Administration of Juvenile Justice, 1985 of the U N
- The Prevention of Juvenile Delinquency, 1990 guidelines of UN
- The Protection of Juveniles Deprived of their Liberty, 1990 rules of the UN
- The frame work of South Asian Initiative to End Violence against Children

### **Constitutional provisions preventing violence against children in India**

Article 24 of the Constitution prohibit the employment of children in factories, etc

Articles 39(e) the tender age of children are not ill-treated

Article 39(f) children are given opportunities and facilities to develop dignity and childhood and youth are protected against exploitation

#### **Laws prohibition violence against children**

- ☞ Abolition of selection of sex, female foeticide and infanticide under the Pre-conception and Pre-natal Diagnostic Techniques (Prohibition of Sex Selection) Act, 1994.
- ☞ Prohibition of Child Marriage Act, 2006.
- ☞ The Bonded Labour System (Abolition) Act, 1976.
- ☞ The Child Labour Prohibition Act, 1986.
- ☞ Indian Penal Code-The IPC prohibits child trafficking and punishes kidnapping, wrongful confinement, criminal intimidation, procuring minors, buying and selling of minors for immoral purposes.
- ☞ The immoral traffic prevention Act, 1986.
- ☞ Information Technology Act, 2000<sup>vii</sup>.

#### **Suggestions for curbing violence against children**

Violence against children can be effectively prevented. The following strategies are prepared by the WHO to prevent violence against children.

- Effective enforcement and implementation of laws for example, prohibition on access to alcohol and weapons
- Changing in norms that excuse the sexual exploitation of girls
- Safe and sound environments to recognize hot spots areas of violence
- Parental and caregiver support for example, training to young parents
- Sponsoring of income and economic programme such as microfinance, banning on gender disparities and encouraging gender equity training
- Response services for violence affected children and
- Providing education and life skills programmes and training to children.

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## A Comparative Study of Effects of Fartlek and Interval Training on Boxers Aggressiveness

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### Introduction:

By experiment it is proved that the various types of training enhance the physical fitness, and physical fitness improves personality, aggression is one of the effective personality characteristics. Previous research study shows aggressiveness enhances the boxer's performance. Though it is not clear which types of training is most useful for the Boxer's aggressiveness. Hence researcher done work on a comparative study between the fartlek and interval training with respect to its impact on Boxers aggressiveness.

### Objectives of the Study:

To evaluate effects of fartlek and interval training on aggressiveness of Boxers having age group 14 to 17 years. To compare effects of fartlek and interval training on aggressiveness of boxers having age group 14 to 17 years.

### Method:

Researcher randomly selected 14 to 17 years 60 boys boxers having no previous history of fartlek and interval training from Latur city. These boxers are equally divided in three groups, namely fartlek training group, interval training group and controlled group. The selected training was implemented on fartlek and interval groups for six week and the third controlled group without any types of training. Before training all groups gone through pre-test of aggression questionnaire. After six week training all groups gone through post test of aggression questionnaire. The data was computed and analyzed by ANOVA. Significant level t is fixed to  $t \geq 0.05$ .

### Statistical Analysis of Collected Data

**Table No. 1**

**Mean, standard deviation and t-value of the Run and Walk test for 12 minutes in the pre-test and post- test of the Fartlek training group.**

Sr. No.	Test	Total Students	Mean	Standard Deviation	Mean difference	t-value
1	Pre-test	30	2130.11	335.89	232.18	0.04
2	Post-test	30	2362.30	248.97		

Table no.1 shows  $t = 0.04$  which is  $< 0.05$ .  $t$  is positive but less than 0.05. Fartlek training improves performance of 14 to 17 years boxers 12 minutes run and walk test. Also it shows there is no significant difference between pre-test and post-test after the six week fartlek training.

**Table No. 2**

**Mean, standard deviation and t-value of body mass index BMI (ratio of height and weight) in the pre-test and post- test of the Fartlek training group.**

Sr. No.	Test	Total Students	Mean	Standard Deviation	Mean difference	t-value
1	Pre-test	30	28.09	1.84	0.6383	0.170
2	Post-test	30	27.45	1.71		

Table no.2 shows  $t = 0.170$  which is  $> 0.05$ .  $t$  is positive and greater than 0.05. Fartlek training improves performance of 14 to 17 years boxers body mass index test. Also it shows there is significant difference between pre-test and post-test after the six week fartlek training. Hence fartlek training significantly improves performance of body mass index amongst 14 to 17 years age group.

**Table No. 3**

**Mean, standard deviation and t-value of the Run and Walk test for 12 minutes of pre-test and post-test of the interval training group.**

Sr.	Test	Total	Mean	Standard	Mean difference	t-value
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No.		Students		Deviation		
1	Pre test	30	2163	271.82	188	0.04
2	Post- test	30	2351	213.9		

Table no.3 shows  $t = 0.04$  which is  $< 0.05$ .  $t$  is positive but less than 0.05. Interval training improves performance of 14 to 17 years boxers 12 minutes run and walk test. Also it shows there is no significant difference between pre-test and post-test after the six week interval training.

**Table No. 4**  
**Mean, standard deviation and t-value of the body mass index BMI (ratio of height and weight) of the pre-test and post-test of the interval training group**

Sr. No.	Test	Total Students	Mean	Standard Deviation	Mean difference	t-value
1	Pre-test	30	18.44	2.14	0.8793	0.103
2	Post-test	30	17.56	1.95		

Table no.4 shows  $t = 0.103$  which is  $< 0.05$ .  $t$  is positive and greater than 0.05. Interval training improves performance of 14 to 17 years boxers body mass index test. Also it shows there is significant difference between pre-test and post-test after the six week interval training. Hence interval training significantly improves performance of body mass index amongst 14 to 17 years age group.

**Table No. 5**  
**Mean, standard deviation and t-value of the test 12 min run or walk of the pre and post-test of the control group.**

Sr. No.	Test	Total Students	Mean	Standard Deviation	Mean difference	t-value
1	Pre-test	30	2085	277.46	91.2867	0.009
2	Post-test	30	2177	309.84		

Table no.5 shows  $t = 0.009$  which is  $< 0.05$ .  $t$  is positive but less than 0.05. There is no significant difference between pre-test and post-test of control group.

**Table No. 6**  
**Mean, standard deviation and t-value of this test are the body mass index BMI (ratio of height and weight) of pre-test and post-test students**

Sr. No.	Test	Total Students	Mean	Standard Deviation	Mean difference	t-value
1	Pre-test	30	18.4390	2.29	0.0810	0.008
2	Post-test	30	18.3580	2.62		

Table no.6 shows  $t = 0.008$  which is  $< 0.05$ .  $t$  is positive but less than 0.05. There is no significant difference between pre-test and post-test of control group.

**Results of The Study:**

1. T-value of fartlek training group for 12 minutes run and walk is  $t = 0.04$  which is  $< 0.05$ .  $t$  is positive but less than 0.05. Fartlek training improves performance of 14 to 17 years boxers 12 minutes run and walk test. Also it shows there is no significant difference between pre-test and post-test after the six week fartlek training.
2. T-value of fartlek training group for body mass index is  $t = 0.170$  which is  $> 0.05$ .  $t$  is positive and greater than 0.05. Fartlek training improves performance of 14 to 17 years boxers body mass index test. Also it shows there is significant difference between pre-test and post-test after the six week fartlek training. Hence fartlek training significantly improves performance of body mass index amongst 14 to 17 years age group.
3. T-value of interval training group for 12 minutes run and walk is  $t = 0.04$  which is  $< 0.05$ .  $t$  is positive but less than 0.05. Interval training improves performance of 14 to 17 years boxers 12

minutes run and walk test. Also it shows there is no significant difference between pre-test and post-test after the six week interval training.

4. T-value of interval training group for body mass index is  $t = 0.103$  which is  $< 0.05$ .  $t$  is positive and greater than 0.05. Interval training improves performance of 14 to 17 years boxers' body mass index test. Also it shows there is significant difference between pre-test and post-test after the six week interval training. Hence interval training significantly improves performance of body mass index amongst 14 to 17 years age group.
5. T-value of control group for 12 minutes run and walk is  $t = 0.009$  which is  $< 0.05$ .  $t$  is positive but less than 0.05. There is no significant difference between pre-test and post-test of control group.
6. T-value of control group for body mass index is  $t = 0.008$  which is  $< 0.05$ .  $t$  is positive but less than 0.05. There is no significant difference between pre-test and post-test of control group.

**Recommendation :**

Fartlek and interval training are most useful two improves 12 minutes run and walk test performance amongst 14 to 17 years boys boxers.

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## **A Geographical Study of Fort Tourism Centers in Pune District with the Help of Geographic information System (GIS)**

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### **Abstract**

Tourism has emerged as the fastest growing industry in the world. It accounts for 7% of capital investment and about 20 million people around the globe are employed in this industry. Now it is one of the sectors supporting to national economy. Some countries like Singapore, Hongkong, Switzerland etc have tourism based economy. Therefore it is very important industry. The present study aims at developing a GIS based for all available services and facilities offer of Fort tourist centers in Pune district.

**Key:** Tourism, Geographic information System

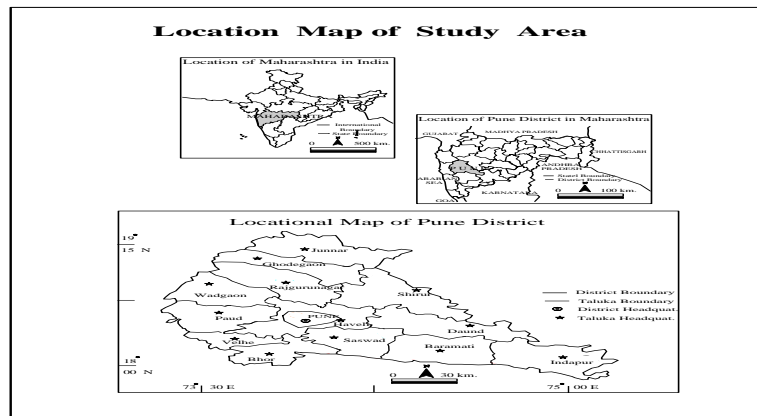
### **Introduction**

Tourism has been regarded as an economic proposition in India and has a distinct role to play as an industry. Tourism has bright future at local, national and international level as a promising industry. The Government and their agencies as well as private sector units and individuals are taking various measures to promote tourism. Promotion of tourism can contribute immensely to our economy. Many years tourism was neglected at various levels but now a day's concentrated effort are being made to improve the position and standard of tourism and for also the social benefit of the people.

Pune district is highly rich by its scenery, spiritual base and its culture but is economically backward district of the state. Tourism industry will change the future of the district and will improve the social, cultural, economic status of the district; this was the main motive behind selection of this study area.

### **Study Area**

Solapur District is located in south-eastern part of Maharashtra. It is extended from 17<sup>0</sup> 10' to 18<sup>0</sup> 32' North latitude and 74<sup>0</sup> 42' 53" to 76<sup>0</sup> 15' 47" East longitudes. The total geographical area of the district is 14895 sq.km. From the administrative point of view it is divided in three sub divisions namely Solapur, Pandharpur and Madha (Kurduwadi). The district has 1142 villages and 10 urban centers. The district is bounded by Ahmadnagar in the north, Osmanabad district to the north, the border of Karnataka and Sangali district to the South, the Satara and Pune district to the west. (Fig. 1.1)



**Fig. 1**

### **Objectives**

The Major objective of the present study is to make a geographical study of Pune district as tourist center and the following are other objectives of the study

1. To analyze the socio-economic background of the fort tourists centre.
2. To prepare new fort tourist maps of study area with adequate and updated information with the help of Geographic information System technique.

**Methodology and Database**

The data collection is based on primary & secondary sources of the data for that following methodology is adopted.

**Phase I – Pre-Field work (Data Collection)**

a) Secondary Data - It is collected from government and non government agencies, literature, information available at tourist places etc.

b) Primary Data – Questionnaire preparation and survey, Information Inventory preparation and survey.

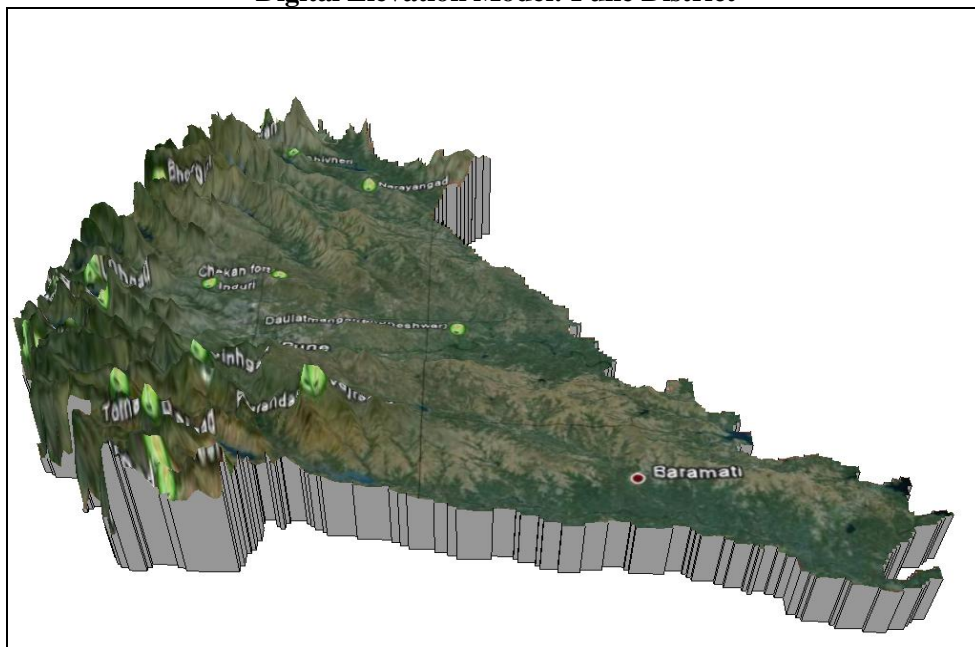
**Phase II - Field Work**

1) Visit the fort tourist places. 2) Visit to various institutes, libraries. 3) Questionnaire and inventory survey of the visited tourist places.

**Phase III - Post Field work (Laboratory Work)**

1) Scanning of maps. 2) Digitization of various layers. i.e. – roads, railways, fort tourist places 3) Attribute data entry with help of GIS software. 4) Data attachment to prepare detailed tourist map by using GIS software. 5) Preparation of various tourist maps, charts, diagrams by using GIS software. 6) Analysis of data by using appropriate statistical methods. 7) Cartographic representation of data. Integrating all above information and maps with help of GIS software, Auto CAD Map- 2000i, ILWIS- 3.2 a, Arc Map and Surfer 7.1 various thematic layers were generated.

**Digital Elevation Model: Pune District**



**Fig. 2**

**Result and Analysis**

**Fort Tourism Center in Pune District**

There are 32 forts in Pune district. Every fort has its own importance and uniqueness. There are 14 thasils in Pune district. The forts are lying in eight thasil of Pune district which includes Maval, Bhor, Khed, Mulshi, Purandar, Junnar, Velhe and Haveli. (Table 1).

**Table 1:** Classification of forts using elevation controlled sampling

S r . N o	Tahasil	Fort	Elevation (m)	Major forts selected for study
1	Maval	Induri Anghai Tung Tikona Lohgad	595 612 964 988 1016	Tung, Tikona, Lohgad

		Visapur Morgiri	1045 1052	
2	Bhor	Kavlya Rohida Kenjalgad Rareshwar	597 1095 1267 1357	Rareshwar
3	Khed	Chakan Bhorgiri	618 735	Chakan, Bhorgiri
4	Mulshi	Rajmachi Korigad Kailasgad Ghangad	692 929 944 982	Rajmachi, Ghangad
5	Purandar	Daulatmangal Sonori Vajragad Purandar	815 953 1290 1320	Purandar
6	Junnar	Narayangad Jivdhan Nimgiri Junnar Shivneri Chavand Sindhola Hadsar	820 898 980 998 998 1010 1043 1431	Nimgiri, Shivneri
7	Velhe	Rajgad Torna	1307 1358	Rajgad, Torna
8	Haveli	Sinhgad	1308	Sinhgad
<b>Total</b>		<b>32</b>		<b>14</b>

Source: Gazetteer Pune District (2011).

### Tourist Information System

Analysis is an integral part of any GIS system. It can solve many diverse situations and problems. Analysis is the process of analyzing the system and receiving the desired information. This can help in various ways.

### Tourist Information System (TIS): Tung

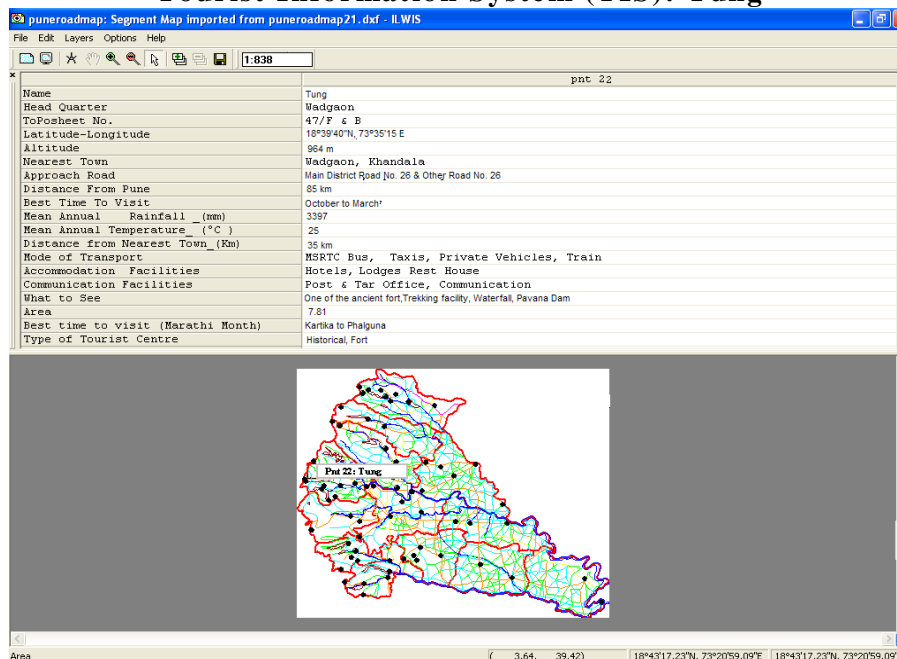
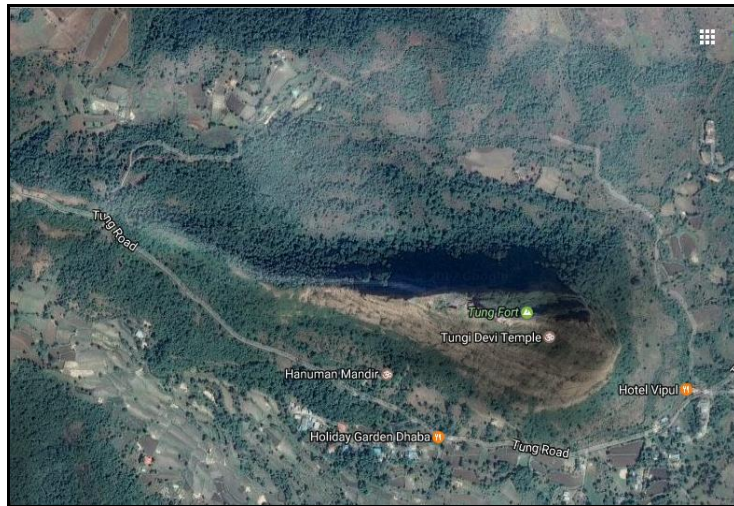


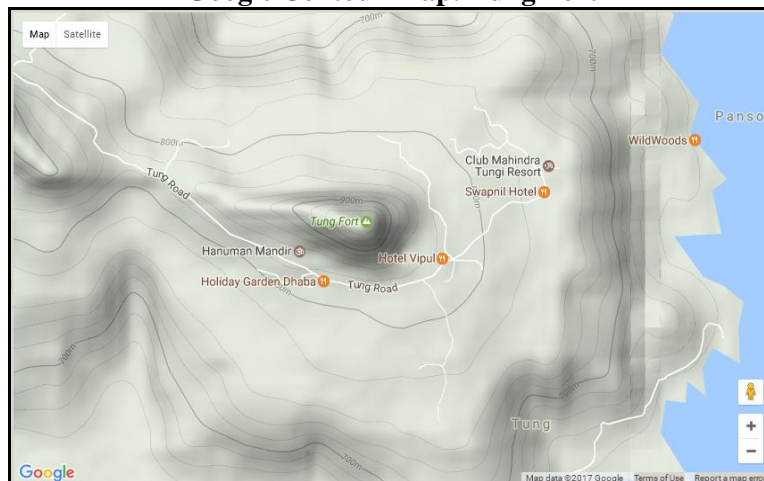
Fig. 3

Google Image: Tung Fort



Source: (Google earth May 2019) Fig. 4

### Google Contour Map: Tung Fort



Source: (Google earth May 2019) Fig. 5

### Toposheet: Tung Fort

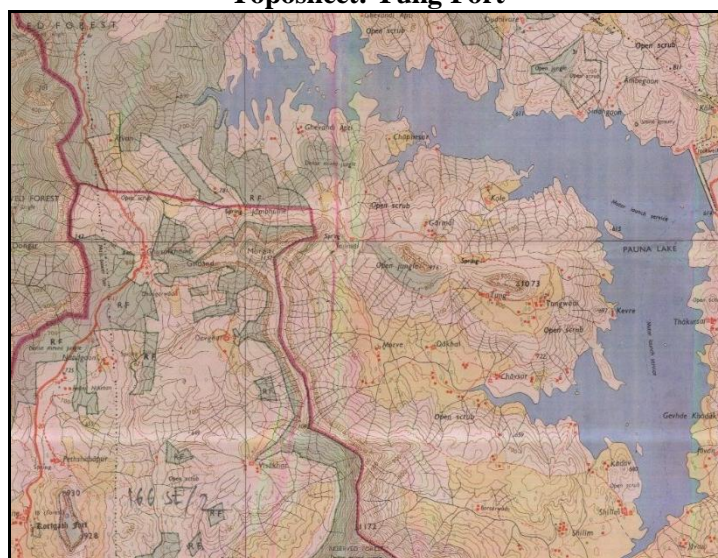


Fig. 6

### Buffer Analysis

Buffer means area of interest. Buffer identifies objects inside or outside a specified distance from an existing topology. Buffer creates polygon topology from node or network ex. creating buffer around nodes representing tourist centers. These buffered nodes then can be overlaid with network topology showing national highway, state highway, district roads and railway lines to locate all tourist centers that are near roads or railway.

#### **Short Path Trace Analysis**

Network trace analysis can be used to find the shortest path between two points, or to determine the optimal route based on value of direction and resistance. This process is known as shortest path trace analysis. In a road network of Pune district, e.g. the shortest path between any fort tourist's centers can be found out.

#### **Conclusion**

Identification of fort tourist places and their suitable locations are essential for the development of fort tourism and for long term planning of the place. It is observed from field visit that there are few places which can have enormous potential and if the potential is developed carefully and rationally then these places will be the most important tourist places in future. As far as potential places are concerned, after field work it is observed that few people only visited these fort tourist places who know about the places, but other have no any information about the places which should be published or advertised or marketing and the information should be reached to the tourists and they can visit the places.

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## **Agro-Climatic Zonation of Marathwada**

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### **Abstract:**

The agro climatic classification is nothing but an extension of the climatic classification keeping in view the suitability to agriculture. The suitability of climate for each crop is different. Because each crop has diverse biological and bioclimatic characteristic. Hence based on climatic and soil factors it is necessary to demark suitable region for crops. The rainfall is most influencing factor on vegetation types and temperature. Therefore it's controlling on selection of crops, sowing period, germination, growth, maturity and harvesting time of crops. The rainfall, temperature, soil types, vegetation cover, altitude, availability of moisture, length of growing period and evapotranspiration are the major common determinants in agro-climatic classification. This study focused on to demark the agro-climatic zones of Marathwada. The data of climatic variables is used from 1980 to 2016. In the present classification rainfall, mean temp. Moisture Index and soil type's parameters are used. All are converted in to raster and vector format and are superimposed on each other and agro-climatic regions have demarked and three major zones are observed.

**Keywords:** Agro-Climate, Marathwada, Moisture Index, zones.

### **Introduction:**

The agro climatic classification is nothing but an extension of the climatic classification keeping in view the suitability to agriculture. There are many method have been employed for climatic classification. The classification of climate is very much useful not only for geographers but also, planner, agriculturalist, meteorologist, environmentalist, climatologist and other scientists in various fields. Based on the climate farmers can decide or plan about their farm activities such as plowing, selection of crops, time of sowing seeds, taking care of plants etc. The geographers also predict the climate of region through his observation or study of vegetation, soil types, landform, wind speed and direction, amount of moisture in atmosphere, temperature, cloud condition etc. The National Commission of Agriculture (1971) classified the country into 127 agro-climatic zones. Also the Planning Commission of India have classified into 15 agro-climatic zones using various aspects. In 2004 Gouranga Kar and others have classified Orissa in 10 zones, based on moisture availability Index, evapotranspiration, length of growing period. The selection of suitable land for cultivation of certain crops is a long standing and mainly empirical issues (Kalogirou, 2002). The FAO, in 1976, 1984 and 1985 classified the agricultural potential based on soil and environmental characteristics in to five classes i.e. highly suitable, moderately suitable, marginally suitable, currently not suitable and permanently not suitable. Balungi Francis (2010), has discussed and mapped agro-climatic zone of Soroti districts of Uganda using GIS. In 2010 the Government of Maharashtra also divided state in to 9 agro-climatic zones based on vegetation, rainfall and soil types.

### **Study region:**

The Marathwada region is chosen as study region of the present research work. It belongs from Maharashtra state in India. The study region sited in upper Godavari basin which extends from 17° 35' north to 20°40' north latitude and 74°40' east to 78°19' east longitude. The study region covers 64434 sq. km. which is 20.95% of states area. Population of the region is 1.87 cores (2011). The study region has been divided in eight districts for administrative purpose with 76 tehsils. The region characterized by Deccantrap mostly found basalt rock. Major part of region covered by black to deep black soil, it formed from basalt rock. The climate of study region is typical hot and dries with high temperature. It ranges from 20°C to 40°C some time it goes more than 40°C in summer and also it falls down below 20°C in winter season.

The study region receives 771.80mm. average annual rainfall mostly from south western monsoon winds. Near about 70% rainfall receives during June to September i.e. monsoon season.

### **Objectives:**

The main objective of the present study is that to demark the agro-climatic zones of Marathwada.

### **Material and Methodology:**



The secondary sources data is used for this study. The data of Temperature, Rainfall is gathered from IMD and Hydrological Project, Nashik for the period of 37 years from 1680 to 2016. By using the Thornthwaite's PE Index the potential Evapotranspiration is computed and moisture index the moisture zones are prepared.

$$Im=100((P/PE)-1)$$

Where, Im= Moisture Index,

P= Mean annual Precipitation and

PE= Annual Potential Evapotranspiration

### Discussion:

In the present study rainfall, mean temp. Moisture Index and soil type's parameters are used. The individual layers are prepared and are superimposed on each other and agro-climatic regions have demarked.

Thornthwaite have notified that, the moisture index above 0.0 (zero) as moist climate which represented by A, B4, B3, B2, B and C2, whereas the moisture index below 0.0 (zero) as dry climate represented by C1, D and E. The following table shows the classification scheme based on moisture index and their alphabets respectively according to Thornthwaite and Mather. It is observed that the moisture index range from -21.17 to 6.77. The A'bad, Jalna, Beed, O'bad, Parbhani and Latur district represent with negative value like -21.17, -19.14, -16.16, -15.25, -3.5 and -1.52 respectively. The district are belongs to 0 to -33 Index class and represent 'Dry Sub humid Climate', with C1 letter.

**Table No. I Scheme of Moisture Index and Climatic Types<sup>4</sup>**

Moisture Index	Climatic Types	Letter	Moisture Index	Climatic Types	Letter
100 Above	Pre-Humid	A	0 to 20	Moist sub Humid	C2
80 to 100	Humid	B4	(-33) to 0	Dry Sub Humid	C1
60 to 80		B3	(-66) to (-33)	Semi-arid	D
40 to 60		B2	Below (-66)	Arid	E
20 to 40		B1			

The Nanded and Hingoli districts have positive moisture index value by 6.77 and 5.63 accordingly. It indicates that sub humid climate and represent by C2 letter.

#### a) Western Zone

The western agro-climate zone has been covered A'bad district, western part of Jalna and western part of Beed district. This zone receives 600mm to 750 mm annual average rainfall and having below 26°C annual mean temp. The region has an elevation from 221 mts. to 951 mts. from mean sea level. The soil of this region has very shallow to deep soil from 5" to 36" depth in patches form. The soil has clay, clay-loam, sandy-loam in texture with dark black, black, gray, yellowish in color. The soil has good water holding capacity and well drained condition. Considering all those characteristics the region is suitable for Jowar, Maize, Gram, Cotton and Groundnut crops. Among those Maize, Cotton, Groundnut and Jowar as fodder can be practiced during kharif season. And Wheat, Jowar as food grain and Gram can be cultivated in rabbi season. The Cotton is the major crop in kharif and Sugar cane as annual crop. The river Godavari and its tributaries and Nathsgar Dam over there is helping to supply the water to crops in rabbi season.

#### b) Central Zone

This zone having the rainfall between 600mm to 800mm average annual and 26°C to 27°C mean temp. This zone occupies eastern Jalna, western Parbhani, northwest Hingoli, Beed, O'bad and western and central part of Latur district. The average altitude of this zone is 400 mts to 951 mts from mean sea level. The soil of this region is very shallow to very deep soil. This soil have clay, clay loam, sandy loam, stony in texture and black, moderate black, red, brown, light brown in color. The soil has moderate to well drain character. Deep and moderate deep black, clay soil have rich in organic matter. Due to all characteristics this zone is suitable for kharif, rabbi and somehow summer seasons crops. In the kharif season Jowar as fodder, Bajra, Maize Arhar, Cotton, Ground nut and Soyabean crops can cultivate.

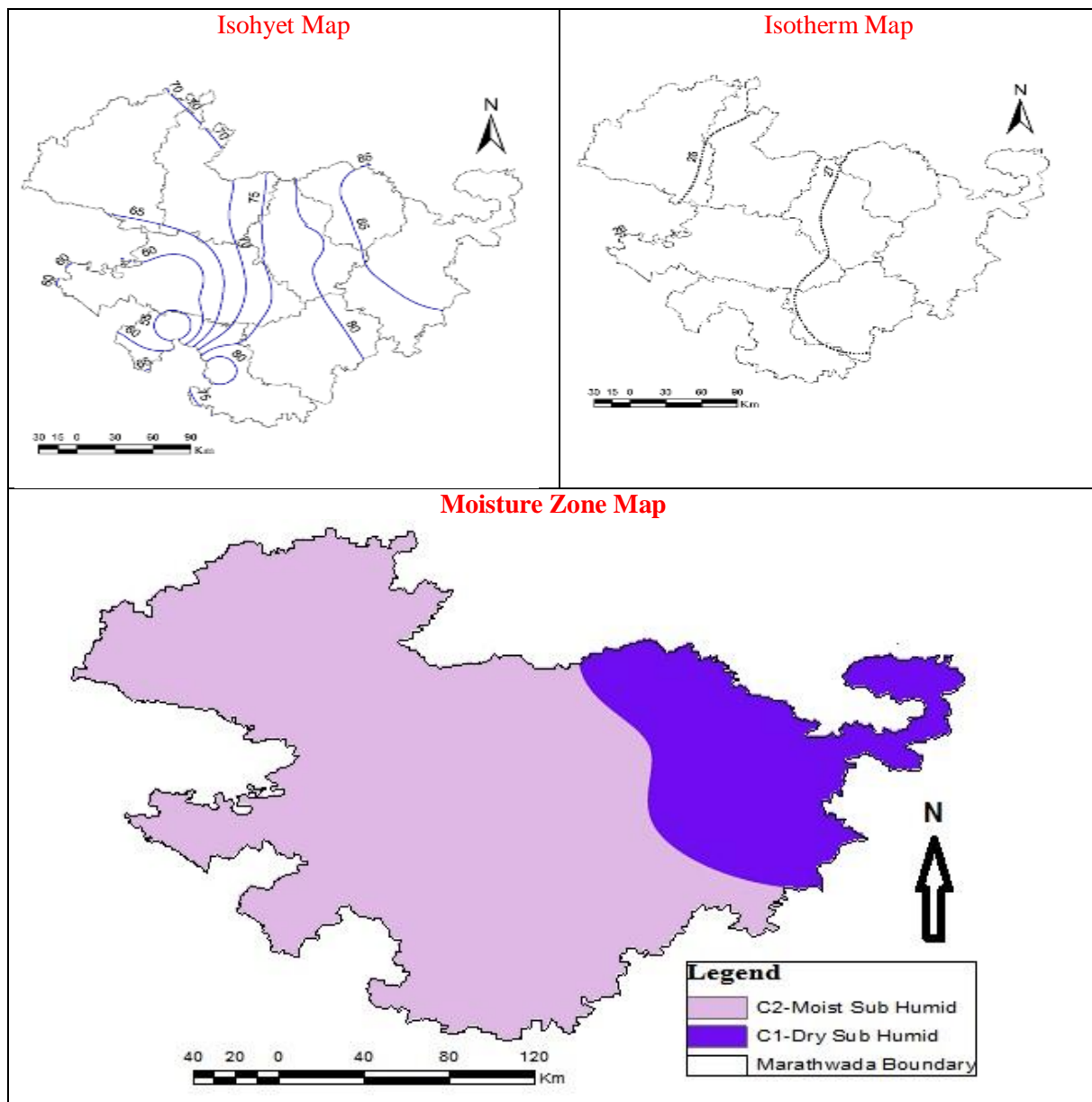


Fig.no. 1

Particularly cotton in A'bad, Jalna, western Parbhani, Hingoli and eastern Beed region. As far as Soyabeen crop concern Latur, central, north and eastern O'bad, southern Beed are suitable. Beed, Jalna and central and western O'bad are suitable for Bajra crop.

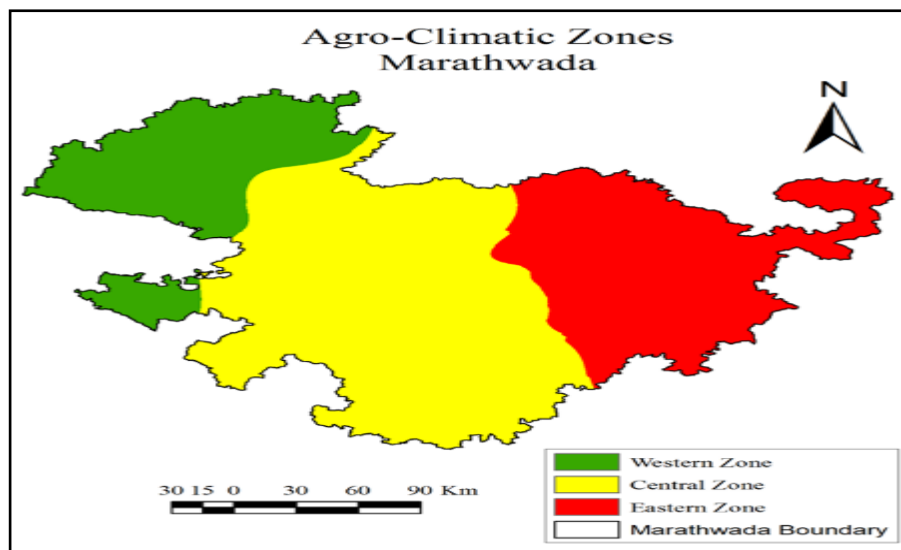
During the rabbi season Gram, Jowar as food grain, Maize crops can grow in this zone. The Prabhani, central and eastern Beed, O'bad and Latur are suitable for Jowar as foodgrain, Jalna, north Beed are suitable for maize and Latur, O'bad, Jalna, south Parbhani are suitable for gram crop.

**c) Eastern Zone**

Easter Agro-climatic zone is demarcated in eastern part of study region covers eastern Parbhani, eastern Latur, central and eastern Hingoli and Nanded district. This zone receives more than 800 mm average annual rainfall. The annual mean temperature is above 27<sup>0</sup>C. The average elevation of this zone is from 221 mts to 600 mts from mean sea level. This zone have Godavari River and its tributary basin. So the soil is very shallow to very deep soil. Basically southern, western and north eastern part covers south Hingoli, south, central and north east Nanded, north, north east and east part of Latur have occupied by very deep to moderate deep soil. North and central Hingoli and Nanded, and along the border of Latur and Nanded have found very shallow soil. So this zone is suitable for Jowar (food grain), Arhar and Cotton crops in Parbhani, Nanded and Hingoli districts. SoyabeenJowar

(hybrid), in Latur and south Nanded. On the other hand during the rabbi season Jowar as food grain, in east Parbhani, Hingoli, Latur and Gram in Latur, South Parbhani district.

Fig.no. 2



### Conclusion:

Agro climatically the Marathwada region has classified in three zones. The rainfall, mean temperature, Moisture Index and soil types are considered as parameters for classification. The layers of these parameters are superimposed and zones are demarcated. Western zone is suitable for Maize, Cotton, Groundnut and Jowar in kharif. Whereas Wheat, Jowar and Gram are in rabbi season and Cotton and Sugar Cane are as annual crops. This zone covers A'bad, western Jalna and Beed. The central zone occupied eastern Jalna, western Parbhani, northwest Hingoli, Beed, O'bad and western Latur are suitable to cultivate Jowar, Bajra, Maize, Arhar/Tur, Cotton, Groundnut and Soyabean in kharip and Gram, Jowar and Maize in rabbi. The eastern zone covers eastern Parbhani, Latur, central and east Hingoli and Nanded District. This zone suitable for Jowar, Arhar/Tur, Cotton, in Hingoli, Parbhani and Nanded. The Soyabean, Jowar (hybrid) in Latur and south Nanded in kharif and Jowar and Grams in rabbi season.

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## **Climate Change, Policies and Development**

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### **Abstract**

The UN Intergovernmental Panel on Climate Change (IPCC): its origins and mandate; its disciplinary and geographical expertise; its governance and organizational learning; consensus and its representation of uncertainty; and its wider impact and influence on knowledge production, public discourse and policy development. The World Meteorological Organization, the United Nations Environment Programme (UNEP) and the International Council for Scientific Unions could each have ended up with the responsibility for such a knowledge assessment, as for a while did the Advisory Group on Greenhouse Gases whose origins and functions were strongly influenced by non-governmental organizations This framework comprised seven elements: (1) socio-economic activity and greenhouse gas emissions; (2) carbon cycle and carbon concentration; (3) climate change and global warming; (4) impacts on ecosystems and human society; (5) adaptation; mitigation

### **Introduction :**

Climate change has emerged over the last few decades as a major issue of debate in international politics and diplomacy.. Almost all countries of the world, with the notable recent exception of the 'trumped' USA, recognise that climate change ranks high on a list of various human development issues and foreign policy agenda. The haunting threats suggest the urgent need to tackle climate change at all levels .The International Institutional and Policy Framework There has been rising awareness that something must be done, urgently, especially after the Brundtland Report of 1987 put climate change firmly on the global agenda. Global climate negotiations started systematically with the establishment of the UNFCCC in 1992 at the UN Earth Summit of Rio de Janeiro, which adopted this Framework Convention, which entered into force in 1994, and several other environmental agreements.

### **Challenges for Climate Change Policy :**

**1.Agriculture:** Agriculture will be adversely affected not only by an increase or decrease in the overall amounts of rainfall, but also by in the timing of the rainfall. Higher temperatures reduce the total duration of a crop cycle, leading to a lower yield per unit area, especially for India's wheat and paddy crops. Soil erosion, increased numbers of pests and weeds brought by climate change will also affect agriculture in India.

**2. Precipitation:** Climate change can lead to an increase in precipitation intensity and arability, and India will potentially experience a decline in summer rainfall by the 2050s

**3.Biodiversity:** Climate change is expected to exacerbate threats to biodiversity resulting from land use/cover change and population pressure. Along the coastline, marine wetlands, tropical eco-systems and species such as mangroves and coral reefs are threatened by changes in temperature, rising sea levels and increased concentrations of CO<sup>2</sup> in the atmosphere.

**4.Health:** Increasing temperatures and projected changes in the hydrological cycle will lead to an increase in temperature-related illnesses, vector-borne diseases, health impacts related to extreme weather events. Increase in coastal water temperatures would exacerbate the abundance and/or toxicity of cholera. Increased Temperatures and Extreme Events Climate change impacts will lead to an increased frequency of hot days, heat waves, droughts (declining water tables, crop failures, etc) and natural disasters resulting from cyclones

**5.Glacier Bursting :** Recently there was Glacier bursting wherein there was dangerous situation in Chomoli, Uttarakhand large number of peoples life were in danger situation.

These all challenges can be curtailed by changing the policies of government and also give more protection to those areas who have sensitive and fragile areas. The Focus must to maintain the Flora and Fauna of each area so that we can preserve conserve those areas in a special manner.

### **Theme or Idea :**

India's Policy on Climate Change This section examines how India has handled these competing issues over time. The core question remains whether India's responses to issues of climate change can be placed into an identifiable analytical framework. The text of the UNFCCC, finally adopted in 1992, provided an overall policy framework. It did not include binding obligations for

developing countries. By contrast, it recognised that developed countries were principally responsible for contributing to climate change, since their developmental activities had extended over. In July 2009, India signed the Declaration of the Major Economies Forum (MEF) on Energy and Climate, held alongside the G8 summit in L'Aquila in Italy. This required all parties to identify a global goal for substantially reducing emissions by 2050. Recently; Prime Minister Modi has added a new dimension to India's policy on climate change when he asked the concerned Ministries to formulate India's climate change policy along more practical lines. Modi himself added a new component to India's policy on climate change while addressing the United Nations Educational, Scientific and Cultural Organization (UNESCO) when he said: 'Too often, our discussion is reduced to an argument about emission cuts. But, we are more likely to succeed if we offer affordable solutions, not simply impose choices' (Ministry of External Affairs, 2015)

The Role of Makers in the Paris Agreement Notably, India played an important role in the 2015 Paris agreement. The approach of the Government Of India in the Paris negotiations was proactive and projected India now as a part of the solution. The Paris agreement saw India as part of the global leadership that actually hammered out a deal, with Modi and Obama on the phone, working together to reach viable agreements. The Indian Government then ratified the Paris Agreement at the UN headquarters in New York on 2 October 2016, significantly choosing Mahatma Gandhi's birth anniversary to demonstrate to the world that India is following the guidance of one of its greatest leaders, who 'led a life of minimum carbon footprints'

The aforementioned analyses of the changing trajectory of India's climate change discourse can now be summed up. First, India realised that it did not achieve any substantial success by merely sticking to earlier equity-focused principles. Second, the strategy of asking for aid and technology transfer from the developed world without any corresponding groundwork at home has not yielded results for India so far. Third, it is now well recognised that the issue of climate change cannot be resolved without the active support of rapidly growing economies like India. As a rapidly growing economy, India could not simply ignore the mounting pressure on the country as one of the major global polluters to take a lead role in the mitigation process. Fourth, India cannot equate herself with the LDCs of the world, given the scale and level of the country's economic growth and development. Fifth, since 2007, there has been a pragmatic shift in India's climate change policy and India is meanwhile doing reasonably well in setting up unilateral targets for mitigation of GHG emissions, particularly, after some earlier reluctance by emphasising solar energy. The consistent economic growth of India over the last few years and the potential to maintain such growth in the coming decades has brought India closer to the USA, a position replicated in China, which also now assumes global leadership in climate change matters. This changed geopolitical context of the world, compared to the early 1990s, means that India is no more willing to act as a leader of the G77 coalition of developing nations in climate change negotiations, as happened initially. Instead, India has formed a group with other fast-emerging economies to promote her national interests in climate change negotiations.

Steps for control of Climate Change :

1. Carbon sequestration : Collection of Carbon- di- oxide From Air and to convert it into solid and Liquid Form which is used as fuel.
2. Control on liberation of Methane Gas.
3. Less use of hydrocarbons so that to minimize hydrocarbon pollution.
4. Awareness programme for short term and Long term measures.
5. Strict laws implementation by Ministry of Environment and Climate Change.

**Conclusion:**

Enthused by a fairly consistent economic growth rate, India now aspires to a high seat not only in various multilateral economic forms but also in the UN Security Council. To achieve all of this, a more responsible and constructive shift in India's climate change policy has been a logical step. The realisation that this is ecologically sustainable and good for business presents further evidence that India's vision of development is not merely following 'Western' trajectories.. A large window of opportunity has thus been opened to make India a more responsible partner in the global theatre of climate change negotiations and actions. New policies must be emerged for young India as there are new challenges before India such as glacier bursting which happened in Uttarakhand where in all the habitat has been disturbed distracted and the administration have to prepare new set up for new

challenges before them . The Paris agreement long term temperature goal is to keep the increase in global average temperature below 2degrees so as to mitigate global warming. Presently on Nov 2020 , 194 states and European Union has signed the Paris agreement where in 79% of the green house gas emission have ratified to the agreement including China and India. Under the Paris agreement each country must determine , plan and regularly report on the contribution that it undertakes to mitigate global Warming and to have specific emission target .The Analysis of Intergovernmental Panel on climate change (IPCC)stated that Carbon budget based upon total carbon di oxide emission on the atmosphere versus the rate of annual emission to to limit the global warming to 1.5 degrees and nearlu 2.25 trillion tones of emitted carbon di oxide since 1870.

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## **Performance of Pradhan Mantri MUDRA Yojana in Karnataka**

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### **Abstract**

In India industries and employment generation is the main stream of the government; under this concern Pradhan Mantri Mudra Yojana launched on April 8, 2015. This is financial assistance program to serve the Micro and Small Enterprise Business. Under Micro Unit Development and Refinancing Agency (MUDRA) head, there are three categories in providing loan to the registered people for applied their Shishu, Kishore and Tarun sub-plans, these are the financial assisting program for the upliftment of the micro small enterprise business to Young Educated skilled or unskilled workers and entrepreneurs. The study tries to highlight to analyze the trends and patterns of Pradhan Mantri MUDRA Yojana in India and know the share of Pradhan Mantri MUDRA in Karnataka. Karnataka receiving very minimum accounts and it is declining year by year. Further days Karnataka people be aware of this and MUDRA Yojana give more accounts to Karnataka.

**Key words:** Karnataka MUDRA Accounts and Distribution Amount.

### **Introduction**

In India industries and employment generation is the main stream of the government; under this concern Pradhan Mantri Mudra Yojana launched on April 8, 2015. This is financial assistance program to serve the Micro and Small Enterprise Business. Under Micro Unit Development and Refinancing Agency (MUDRA). Micro Unit Development and Refinance agency Ltd. (MUDRA) is an Non Banking Financial Company (NBFC) sustaining improvement of micro enterprises sector in country. MUDRA provides refinance support to Banks/MFIs/NBFCs for lending to micro unit having loan requirement up to 10 lakh. MUDRA provide financial sustain to micro business under the scheme of Pradhan Mantri MUDRA YOjan. The other products are for developemnt support to the sector. The bouquet of offerings of MUDRA is depicted below.

Under the support of Pradhan Mantri Mudra Yojana (PMMY), MUDRA has created products/schemes. The interventions have been named 'Shishu', 'Kishore' and 'Tarun' to signify the stage of growth / development and funding needs of the beneficiary micro unit / entrepreneur and also provide a reference point for the next phase of graduation / growth to look forward to

1. Shishu : covering loans upto 50,000/-
2. Kishor : covering loans above 50,000/- and upto 5 lakh
3. Tarun : covering loans above 5 lakh and upto 10 lakh

With an objective to prop up entrepreneurship along with the new generation aspire youth, it is ensured that more spotlights are given to Shishu kind Units and then Kishore and Tarun categories. Within the agenda and overall objective of development and growth of micro enterprises sector under Shishu, Kishore and Tarun, the products being offered by MUDRA are so designed, to meet necessities of different sectors / business activities as well as business/ entrepreneur segment.

### **Purpose of MUDRA Loan**

Mudra loan is comprehensive for a variety of purposes which result in income creation and employment formation. The loans are extended mainly for:

1. Business loan for Vendors, Traders, Shopkeepers and other Service Sector activities
2. Working capital loan through MUDRA Cards
3. Equipment Finance for Micro Units
4. Transport Vehicle loans – for commercial use only
5. Loans for agri-allied non-farm income generating activities, e.g. pisciculture. bee keeping, poultry farming, etc.
6. Tractors, tillers as well as two wheelers used for commercial purposes only.

### **Objectives of the Study**

1. To analyze the trends and patterns of Pradhan Mantri MUDRA Yojana in India.
2. To know the share of Pradhan Mantri MUDRA in Karnataka.

### **Research Methodology**

This paper is mainly based on secondary Source of data, using statistical tools like percentage (%), and percentage change etc. Data collected from MUDRA website statewide annual Reports From 2015-1 to 2019-20.

### Reviews of the Study

The study reveals that Growth of MSMEs will contribute to the development of 'Make in India' initiative. Launching bank like MUDRA will hugely assistance to small manufacturing units and self-employed those in rural and urban areas. PMMY scheme will donate to the well-being of the individuals engaged in small scale industries which will definitely involve the development of the economy as a entire (Mohammad and Ishrad, 2016).the study revels bout MUDRA scheme is responsible for refinancing and increasing all types of small business activities i.e. micro-enterprise division by provide maintain to the finance institutions. In this paper the investigator has made an attempt to analyze financial performance of MUDRA plan over the last 3 years, MUDRA has address the difficulty of 'funding the unfunded' to a large range (Vishal, 2019). The study fulfilled that PMMY is a big scheme taken by the GOI. Due to it, there is a big amends in the area of microfinance. The scheme will help the weaker section, low income group and unfunded population and also will increase the struggle. Financial inclusion throughout PMMY increases the opportunities for credit requirement and refinances (Manish, 2017).

### Result and Discussion.

In India 36 States including union territories, these are having MUDRA accounts. all of these Karnataka is also one state. below analysis is completely part of Karnataka state with the comparison of India.

**Table.1. MUDRA Accounts opened under Below Heads in India Karnataka from 2015-16 to 2019-20.**

Year	MUDRA ACCOUNTS in Percentage		
	Shashi	Kishore	Tarun
2015-16	92.89	5.93	1.18
2016-17	91.93	6.71	1.36
2017-18	88.65	9.67	1.68
2018-19	86.03	11.03	2.93
2019-20	87.54	10.40	2.06

Source: PMMY Annual Report 2015-16 to 2019-20.

Above table shows that Performance of MUDRA accounts in India. Shishu case of accounts share is higher than the other accounts and declining year by year, Kishore stage accounts increasing and Tarun accounts are slightly increasing from 2015-16 to 2019-20

**Table.2. MUDRA Percentage share of accounts opened in Karnataka to the share of overall India from 2015-16 to 2019-20.**

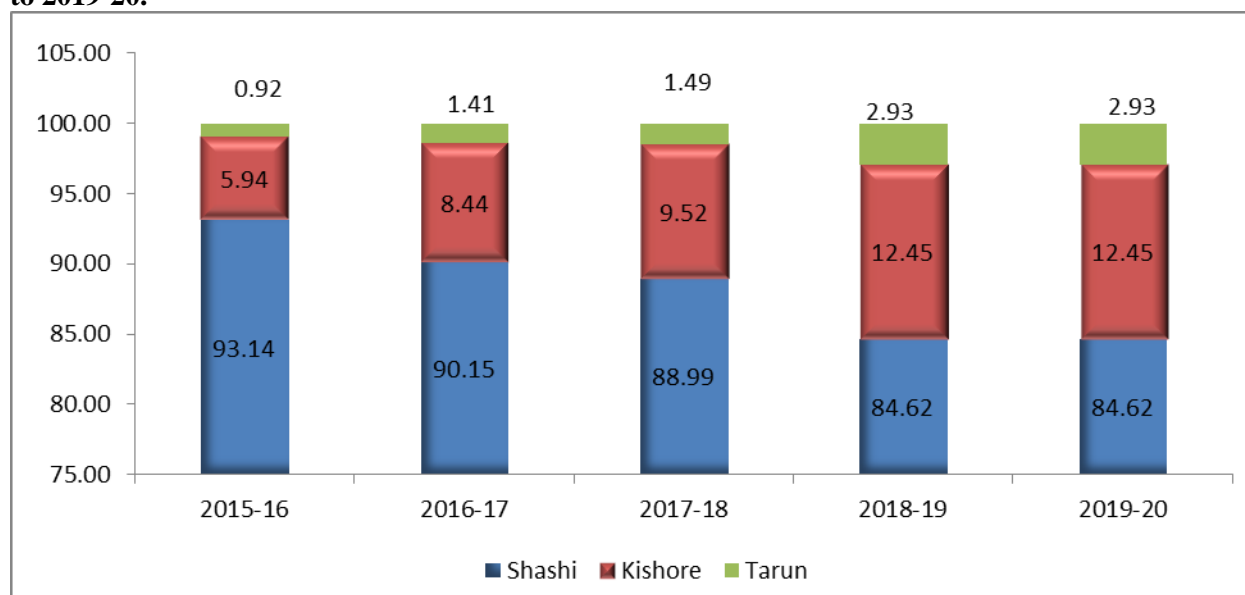
No of Accounts opened				
Year	Shishu	Kishore	Tarun	Total
2015-16	12.82	12.79	10.03	12.79
2016-17	9.72	12.47	10.25	9.91
2017-18	9.53	9.34	8.46	9.49
2018-19	9.54	10.94	9.70	9.70
2019-20	8.70	13.31	10.40	9.21

Source: PMMY Annual Report 2015-16 to 2019-20.

Above table shows that accounts opened in MUDRA Yojana , Karnataka state had percentage of accounts' from 2015-16 to 2019-20.in India Karnataka share has decreasing to total accounts share and kishore and Tarun Account share is increasing.



**Figure No.1. MUDRA Accounts opened under below Heads in Karnataka from 2015-16 to 2019-20.**



Source: PMMY Annual Report 2015-16 to 2019-20.

Above figure shows that accounts opened in Karnataka from 2015-16 to 2019-20, in this figure shishu accounts share is high compare to other accounts and it is the initial stage of accounts and declining from year to year. Kishore stage of accounts had a second highest share and it is also increasing share and last stage of accounts have small part of share in MUDRA accounts.

Below table No.3 Shows that comparison of accounts and Disbursement amount share of MUDRA Yojana, in shishu accounts highest performance in starting year that is 2015-16 but disbursement amount highest in the year of 2019-20. In kishore type of accounts are more in the year 2018-19 amount disbursement high in the year of 2017-18 and lastly Tarun accounts are more opened in the year 2018-19 amount disbursement very high in 2017-18.

**Table No.3. MUDRA Accounts opened and disbursement amount in share of percentage in India from 2015-16 to 2019-20. (Amount Rs in Crores)**

INDIA	Shishu		Kishore		Tarun	
	A/C	Disbursement Amount	A/C	Disbursement Amount	A/C	Disbursement Amount
2015-16	92.89	46.65	5.93	30.89	1.18	22.45
2016-17	91.93	47.85	6.71	29.13	1.36	23.02
2017-18	88.65	42.29	9.67	33.76	1.68	23.95
2018-19	86.03	44.79	11.03	32.03	2.93	23.18
2019-20	87.54	49.38	10.40	27.73	2.06	22.89

Source: PMMY Annual Report 2015-16 to 2019-20.

**Table No.4. MUDRA Percentage share of Disbursement amount in Karnataka to the share of India**

Year	Disbursement Amount Rs in Crore			
	Shishu	Kishore	Tarun	Total
2015-16	14.63	11.55	8.89	12.39
2016-17	9.74	10.58	9.22	9.86
2017-18	9.93	8.63	8.42	9.13
2018-19	9.62	9.78	8.51	9.41
2019-20	8.61	10.77	7.73	9.01

Source: PMMY Annual Report 2015-16 to 2019-20.

Over the table shows that disbursement amount of MUDRA accounts of Karnataka state had a share of overall India. Shishu accounts disbursement share is higher than the total disbursement amount from starting year that is 2015-16. All accounts disbursement amount declining year by year except kishore account disbursement.

**Table No.5.MUDRA accounts and Disbursement amount in Karnataka from 2015-16 to 2019-20.**

Karnataka	Shishu		Kishore		Tarun		Total	
	A/C	Disbursement Amount	A/C	Disbursement Amount	A/C	Disbursement Amount	A/C	Disbursement Amount
2015-16	93.14	55.08	5.94	28.81	0.92	16.11	12.79	12.39
2016-17	90.15	47.23	8.44	31.25	1.41	21.52	9.91	9.86
2017-18	88.99	46.01	9.52	31.90	1.49	22.10	9.49	9.13
2018-19	84.62	45.76	12.45	33.28	2.93	20.96	9.70	9.41
2019-20	84.62	45.76	12.45	33.28	2.93	20.96	9.21	9.01

Source: PMMY Annual Report 2015-16 to 2019-20.

Above table clears that share of MUDRA accounts and Disbursement of amount of the Karnataka state. Total Column shows that how much Karnataka had share in country level, it is almost equal of accounts sanctioned and amount distribution. Other shishu, Kishore and Tarun accounts are the sub categories accounts of MUDRA accounts.

**Suggestions:**

Government should aware to Karnataka people and give more chance to grow up and government should give to awareness programme regarding pradhan Mantri MUDRA scheme to development of micro and small entrepreneurs.

**Conclusion:**

Micro industries are strong local body of Indian economy. Micro business located in local area and people will get job its increase their level of income, it will automatically increase national income. In this aspect this financial assistance programme is very helpful to the entrepreneur in India. This scheme useful for establish new micro business in their own locality. Public and private banks are performance is very crucial role in giving loan to MUDRA scheme. MUDRA financial assistance scheme giving a loan to all social groups including Scheduled caste and tribes people to promote to develop micro business in the country.

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## **Geographical Study of Population Density in Western Maharashtra Region (M.S.)**

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### **Abstract:**

Population geography is sub branch of human geography, density is a major characteristics of population, its play important role in population distribution, growth as well as strain on basic facilities. In the present study an attempt has been made to analyse of population density of Western Maharashtra region according a 2011 census. The present study is based on secondary data; secondary data has been collected by district census handbook of Study region districts. The aim of the present paper is to study and analysed spatial variation of population density in Western Maharashtra region. Population density of the study region was continuously increases at 1991 to 2011, according to 2011 census the population density of western Maharashtra region was about 403 persons.

**Keywords:** Population, Density, Growth

### **Introduction:**

Population is effective resources of nation it's indicates social, economic & cultural improvement characteristics. population geography is a branch of Human Geography. Population play significant and effective role in nation development. Population topic always dynamic that's why the resource availability and utilization pattern are closely associated with socio-economic and socio- cultural development. These characteristics are mainly depending upon physical and cultural environment of the region. Population density is the number of persons inhabited per square kilometre of the area. Population growth is directly dependent on population density the population density has continuously changed in space and time with migration and varying rates of population growth. Comparatively demographic study has been included the factors of population density, pattern, composition these characteristics is significant for understanding for planning at the local and regional level.

### **Objective:**

The objective of the present paper is to study and analysed spatial variation of population density in western Maharashtra region.

### **Study Area:**

The Western Maharashtra region is located in the southern part Maharashtra state, extends between 15° 45" North to 19° 24" North latitudes and 73° 19" East to 76° 15" East longitudes. It extends about 267 km. from east to west and 357 km. from north to south. This region is bounded by Konkan region from west sides, Nagpur region from North side, Marathwada region from Northeast side, Karnataka state from south and southeast side. It covers an area of 57,235 Km<sup>2</sup>. and in the region of about with comprise five district these are Pune, Sangli, Satara, Kolhapur, Solapur and its incudes 58 tahsils.

### **Database and Methodology:**

Present paper is based on secondary data, secondary data has been collected in various sources which includes published and unpublished books, district census handbook of study regions district in 1991, 2001 and 2011, socio-economic review, statistical abstract etc. Collected data is processed and presented in the form of tabular and graphical method.

Following formula has been used to calculate population density,

$$\text{Population Density} = \frac{\text{Total population}}{\text{Total Geographical area (in Sq. km)}}$$

### **Spatial Variation of Population Density:**

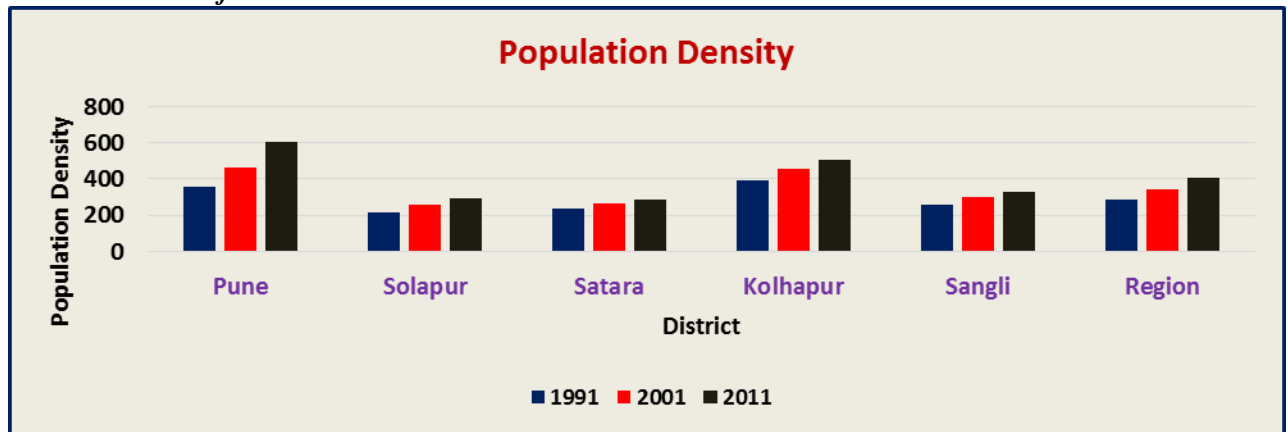
In the present study an attempt has been made to analyse of population density in western Maharashtra region of Maharashtra State; according to 1991, 2001 & 2011 census view of competitively. Table no.1. shown spatial variation of population density from 1991 to 2011. The average density of region was about 284 persons in 1991, 346 in 2001 and 403 in 2011 census, it was increased 119 people in 2011 compare to 1991 data. Spatial distribution of population density of the study of study region is diversely distributed in all over the region. In 1991 the highest density was shown in Kolhapur district with 389 persons and lowest in Solapur district for 217

persons. Kolhapur and Pune district recorded above the regional average population density of the region but remaining district recorded below the regional average.

**Table No.1. Spatial Variation of Population Density:1991-2011**

District Name	Population Density (in Sq. km)		
	1991	2001	2011
Pune	354	462	603
Solapur	217	258	290
Satara	234	268	287
Kolhapur	389	458	504
Sangli	258	301	329
<b>Region</b>	<b>284</b>	<b>346</b>	<b>403</b>

*Source: Census of India.*



followed by Kolhapur district with 458 persons and lowest density was found in Solapur district for 258 persons. In 2011, the highest density was occurred in Pune district with 603 persons and lowest density was found in Satara district. Population density of the study regions district was continuously increased at 1991 to 2011 census, Pune and Kolhapur district recorded above the regional average density well due to industrial development, better employments opportunity and educational facility and immigration while Solapur Satara and Sangli district recorded below the regional average density.

**Conclusion:**

- Average population density of the western Maharashtra region was 284 persons in 1991 and it was increased with 403 persons in 2011. It was continuously increased at 1991 to 2011 census, with 119 persons in the last three decades.
- Spatial distribution of population density of the study region was diversely distributed in all over the region.
- Pune and Kolhapur district recorded above the regional average density due to industrial development, better employments opportunity and educational facility and immigration while Solapur Satara and Sangli district recorded below the regional average density.

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## **Constitutional and Legal Provisions Concerning the Protection of Environment**

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### **Abstract:**

Environmental degradation in India has been caused by variety of factors. In the Indian scenario, environment protection, has not only been raised to the status of fundamental law of the land, but it has also been webbed with human rights approach and is now considered as a well-established fact that it is basic human right of every individual, to live in a pollution free environment with complete human dignity. The preamble to our constitution provides for a socialist society which promotes environmental protection. The fundamental duties again clearly impose duty on all citizens to protect environment. The Directive principles further are directed towards the ideals of building a welfare state. Healthy environment is one of the essential elements of a welfare state. Article 47 states that the State shall regard the raising of the level of nutrition and the standard of living of its people and the improvement of public health which includes the protection and improvement of public health which includes the protection and improvement of environment as a part of its primary duties. Article 48 – A of the constitution states that the state shall endeavor to protect and improve the environment and to safeguard the forests and wild life of the country. Part III guarantees fundamental rights which are essential for the development of an individual. A citizen cannot carry on business activity, if it is health hazards to the society or general public. The paper meticulously deals in the remedies under Article 32 and 226 and also forms a notion for the reader that knowledge of these provisions is necessary to bring greater public participation, environmental awareness amongst the masses. This study also outlines possible ways to achieve long-term environmental benefits. It is expected that the proper implementation of the proposed strategies might be helpful for the global environmental sustainability.

### **Introduction:**

The constitution of India came into force on 26<sup>th</sup> January, 1950. Originally, the constitution contains no specific provisions for environmental protection. However, certain specific provision has been incorporated by the Constitution (Forty Second Amendment) Act, 1976 and subsequent amendments. Indian Constitution is one of the very few constitution in the world, which provides for specific provision for the protection and improvement of the Environment. The primary causes for environmental pollution are industrialization urbanization, over abuse of assets, exhaustion of conventional assets, exhaustion of conventional assets and furthermore, the over population. Constitution Forty Second Amendment In 1976, the Constitution (Forty Second Amendment ) Act was passed and the provisions relating to the protection of environment for the first time were incorporated by adding a new provision Article 48- A in the Chapter, Directive Principles of State Policy. According to Article 48-A “ the State shall Endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country.” Further, a new provision Article 51-A in the form of “Fundamental Duties” was also incorporated by the 42<sup>nd</sup> Amendment. According to the sub-clause (g) of Art.51-A, “It shall be the duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living. The problem of Environmental Pollution came to know to the world, just 30 or 40 years ago. It took severe attention of the intellectuals before 30 to 40 years ago throughout the world. The environmental pollution was first recognized in the industrial and developed nations. Later on it crept to the developing / third world countries too. When the problem began growing, the Stockholm Declaration, 1972 was made by all the States of the globe. Since then this problem has been recognized, agitated not only by the intellectuals, but also by ordinary people. In fact the ordinary citizens are the aggrieved persons. Land pollution, water pollution, air pollution, traffic pollution, sound pollution, etc., spoil the good and habitat life of the people.

### **Constitutional Provisions:**

No constitution deals with a matter such as environment protection because basically any constitution contains only the rules of laws relation to the power structure, allocation, and matter of exercise. From point of view of the principles of the constitutional law the seeds of environment protection such provision could be seen in Article 47 of the constitution which commands the State to improve the standard of living and public health. To fulfill this constitutional goal, it's necessary that the state should provide pollution free environment. part -III of the Indian constitution consisting Articles 12 to 35, of the Constitution of India, gives the Fundamental Rights to the Indian Citizens. These Fundamental Rights include, right to speech, right to profession, right to assemble, right to form association, right to live, right to press, right to religion, right to education, minority rights, etc. These rights also protect the Indian citizens from the exploitations, etc. Part -IV, consisting Articles 36 to 51, of the Constitution of India, contains the Directive Principles of State Policy. These Directive Principles of State Policy give Right to work, environmental protection, equal justice, free legal aid, equal remuneration, equal distribution of the properties, etc. The main difference between the Fundamental Rights (Part III) and the Directive Principles (Part IV) is that the Fundamental Rights can be enforced before the Court of Law and special remedial mechanism is provided for their enforcement, i. e. Article 226 and Article 32 in the Constitution. According to Dr. Babasaheb Ambedkar, Article 32 is the heart of the Constitution, by which any citizen can knock the doors of the Supreme Court, if his fundamental rights are violated. Where as it is not the case of the Directive Principles. They are only directives to the State with an object to implement them in future depending upon the circumstances, and economic development in the country. Thus they are not enforceable before the Court of Law. Article 21 gives right to live. The Supreme Court interpreted his article and extended it to the environment pollution. It held that the right to live under Article 21 is very exhaustive, and it includes right to fresh air, water and environment. "which includes "Right to Wholesome Environment". This right wholesome environment has been evolved by the various decisions of the Supreme Court. Articles 48- A and 51- A were inserted in the Constitution with inspiration and direction of the Stockholm Declaration, 1972, to which India was a participant signatory. "Clean to Environment" becomes a Fundamental Right, i.e. "Right to Wholesome Environment".

### **Role of the Indian Judiciary In The Evolution of Environmental Jurisprudence:**

The supreme Court gave several Judgments pertaining to the Environmental cases in public interest litigation. It treated the news paper cuttings, as writ petitions. An ordinary inland letter or post card or written on a white paper, etc., have also been treated as writ petitions under public interest litigation by the Supreme Court in several cases. There are eminent advocates practicing in the Supreme Court and High Court who brought the grievances of the public, suffered by the environmental pollution, to the notice of the Supreme Court and High Courts. M.C. Mehta is one of the famous advocate and environmentalist. He filed several cases before the Supreme Court and High Courts respectively. The Supreme Court formulated the several principles in environmental law. Whereas the well developed countries judiciary has been adopting the Rule of Rylands vs. Fletcher (the Strict Liability), the Supreme Court propounded the new principle of "Absolute Liability" in Union Carbide and Olium Gas Leak cases. This principle has been appreciated by the jurisprudents, justices, press and public. The absolute liability is a speedy, accurate and perfect rule. It imposes a perfect liability upon the occupier. The principle of absolute liability is the result of judicial activism of the Supreme Court. The Supreme Court declared Polluter Pays Principle in several environmental cases that we have already referred. By adopting polluter pays principle, the Supreme Court imposed the maximum liability upon the industrialist who pollutes the environment. It ordered all the industrialists to pay the compensation and damages to the aggrieved persons. Polluter Pays Principle is the greatest dimension in the legal field. The Supreme Court evolved the new principle "Preventive Rules" to be adopted and followed by the industrialists to check the environmental pollution. In Coastal Regulation case. The Supreme Court gave the directions to the Central and Coastal States for the protection of the land, water and sea of India. the Supreme Court from time to time giving the new rules and adopted the new principles from time to time It has anxiety to help the people without damaging the heritage of India and without violating the principles of the Constitution of India. ."

### **The Supreme Court's Decisions:**

Although these three Articles are in three different Parts of the Constitution, their combined object is "Right to Wholesome Environment." This Right to Wholesome Environment has been resolved by the Supreme Court by its various decisions pertaining to the environmental 1) Vellore Citizens Welfare Forum vs. Union of India (AIR 1996 SC 2115) (Leather Industry Pollution Case) 2) L.K. Koolwal (Petitioner) vs. State of Rajasthan & others (AIR 1988 Raj.2) (Jaipur Municipality Case) 3) Tehri Bandh Virodhi Sangarsh Samiti and others (Petitioners) vs. State of U.P. and others (Respondents) (JT 1990 (4) SC 519 = 1992 Supp (1) SCC 44) (Tehri Dam Case) 4) The Silent Valley Case (O.P. No. 2949 & 3025 of 1970 Kerala HC) [Society for Protection of Silent Valley vs. Union of India] (Unreported) 5) Rural Litigation and Entitlement Kendra and others (Petitioners) vs. State of Uttar Pradesh and others (Respondents) (AIR 1987 SC 359) (Doon Valley Case)

#### **Sustainable Development:**

There were traditional beliefs that development and ecology are opposed to each other. If the development is wanted, the country should face with ecological imbalance and environmental pollution. Sustainable Development means that development meets the needs of the present without compromising the ability of the future generations to meet their own needs. The principle of Sustainable Development, a balancing concept between ecology and development, has been accepted as a part of the customary international law though its salient features have yet to be the international law jurists. The Stockholm Declaration, 1972 laid down this principle. Its main object was to prevent further environmental degradation and pollution, and to reverse the mother earth to its original status of environment as it was in the eighteenth and nineteenth centuries. However, it did not want to stop the development. While attaining the development, the precautionary steps should be taken for the protection of environment. For this purpose, the Stockholm Declaration propounded the new principle of "Sustainable Development Where there are several industries located in the cities or on the banks of rivers, the Supreme Court gave judgments to relocate such industries. Some of them mentioned hereunder. Therefore, the Government's actions to close down 800 factories in and around Hyderabad shall be upheld by the High Court or the Supreme Court.

- (a) M.C. Mehta vs. Union of India (Ganga Pollution (Municipalities) Case)
- (b) M.C. Mehta vs. Union of India and others (Calcutta Tanneries Matter)
- (c) M.C. Mehta vs. Union of India and others (1997) 2 SCC 353 (Taj Mahal Pollution Case)

#### **Conclusion:**

India has taken several potential measures focusing on sustainable development but neither the law nor the environment is static. The environment is changing at a quicker pace and to adjust the frequency between the degradation and protection, the laws must be altered oftentimes to address these difficulties or it must be provided new guidance by the judicial interpretation. Environment protection, has not only been raised to the status of fundamental law of the land, but it has also been webbed with human rights approach and is now considered as a well-established fact that it is basic human right of every individual, to live in a pollution free environment with complete human dignity. While attaining the development, the precautionary steps should be taken for the protection of environment. Entire globe including India will be adversely and badly affected. It has been giving such effects through out the world. If appropriate steps are not taken presently within short time, our mother earth would become as Mars. To fulfill this constitutional goal, it's necessary that the state should provide pollution free environment.

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## **A Geographical Study Natural Resources Government Policies and Schemes Impact To Sustainable Development in The Tribal Area Nashik: Maharashtra**

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### **Abstract:-**

Epistemological constructivism is generally the product of a priori knowledge and a particular interpretation of phenomena. Constructivism within the social sciences can be regarded as a foundational point of departure for purposes of scientific inquiry. A conceptual framework as product of constructivism is usually designed based on a sound theoretical framework, which lies on a much broader cognitive scale of abstraction. An analytical framework is thus forged from a conceptual framework in order to understand the potential (causal) relationships between concepts in the search for meaning. The concepts sustainable development and government are both highly complex and multidimensional. This article attempts to ring-fence the question: What does the role of overnment entail in sustainable development? To gain understanding of this role a constructivist approach is followed in which a conceptual and an analytical framework are designed for scientific inquiry.

**Keywords:** Sustainable Development, Government Policies, Natural Resources,

### **Introduction:**

The concept of sustainable development has dominated the environmental agenda in the 1990s and has been embraced by governments at all levels, most notably since the 1992 Earth Summit in Rio. The term lends itself to many interpretations, making the implementation of strategies for sustainable development fraught with difficulties. We argue that the environmental, socio-economic and political contexts of national strategies will largely determine the responses to Rio and illustrate this argument by exploring the key themes that have shaped the UK strategy for sustainable development. We conclude that despite political rhetoric and some important advances in policy, the political style of the present Government and its approach to economic management ensure that moves to instigate commitment and a continuing political process towards sustainable development remain limited to particular policy initiatives. The publication of a revised strategy on sustainable development for the UK in late 1998 will be the benchmark for how far the Government's position has moved in favour of a holistic approach to sustainable development.

### **OBJECTIVES:**

1. Make cities and settlements inclusive, safe, flexible and sustainable development
2. To provide a national framework for decision-making based on our principles of sustainable development

### **Research Methodology:**

The present research work has based on both primary and secondary data. However, primary data is the main source to meet the objectives of the study. Therefore, the correlated data has collected by conducting intensive fieldwork and questionnaire has been used for the same. During the field investigation, observation method as well as informal personal communications with some persons has made for the purpose of verification of data. Secondary data has collected from the various government offices, books, journals, newspapers and several websites etc., which have explained under references.

### **Policy Initiatives for Sustainable Development**

The Survey cites current Government of India policies in direction of achieving SDGs. These include Swachh Bharat mission, BetiBacho Beti Padhao, Pradhan Mantri AwasYojana, Smart Cities, Pradhan Mantri Jan Dhan Yojana, Deen Dayal Upadhyay Gram Jyoti Yojana and Pradhan Mantri UjjwalaYojana, among others.The Namami Gange Mission- a key policy priority towards achieving the SDG 6 - was launched as a priority programme with a budget outlay of Rs.20,000 crores for the period 2015-2020. Major components include sewerage project management, urban and rural



sanitation, tackling industrial pollution, water use efficiency and quality improvement, ecosystem conservation and Clean Ganga Fund, among others.

**Sustainable development:-**

Sustainable development means attaining a balance between environmental protection and human economic development and between the present and future needs. It means equity in development and sectoral actions across space and time, Cruz et al (2007). It requires an integration of economic, social and environmental approaches towards development. Sustainable urban development refers to attaining social equity and environmental protection in urbanization while minimizing the costs of urbanization.

**Concept of sustainable urban development:-**

UN General Assembly convened a conference on the "human environment" at Stockholm in June 1972, which came out with guiding principles on "human environment". It emphasized that man has the fundamental right to environment of quality and also that he has a responsibility towards protecting the environment for present and future generations. It also maintained that natural resources of the earth must be safeguarded for the benefit of present and future generations. About a decade later, to address the issues concerning continuing depletion of natural resources and unsustainable development, the World Commission on Environment and Development was created in 1983.

**Livelihoods of Tribes:**

Forest is the basic life supporting system of tribes. Their economy is agro-forest based which substituted with livestock and skilled labour. Based on the ecological background the economies of the hill tribes are classified into four groups namely 1) Food gatherers 2) Shifting cultivators 3) Settled cultivators 4) Pastoralists and 5) Artisans.

**Food Gatherers:**

The chenchus are known as food gatherers. Their habitats are found in the Nallamalai forest areas. chenchu population is distributed in Kurnool, Mahaboobnagar, Nalgonda, Prakasam, Ranga Reddi and Guntur districts. Forest degradation in the Nallamalai and declaration of wild life tiger project sanctuary in the zone are much reflected on the livelihood of Chenchus. The establishment of hydro-electrical power generation project at Sri Sailam also created survival problem to some of the Chenchus who were rehabilitated into the colonies. Under Chenchu Development Project, certain of the interior chenchus were rehabilitated into the colonies and allotted agricultural land to them. Literally they were uprooted from their natural environment. Now they are facing the problem of adaptability to new environment and with the new economic pursuit of agriculture. In the process certain of the chenchus become beggars, thieves and some of them taken up the profession of fire wood selling. Now the chenchus are at cross roads. The chenchus still who live in the interior forests are totally depending on the flora and fauna of forest and labour employment of Forest department. Once, they were nomads, semi nomads and now slowly adopting to sedentary life. Most of the chenchus are in transitional stage of food gathering to food production. Large majority of them are struggling hard for their survival due to scanty of food material in the forest environment. Shifting Cultivators: Khond, Konda Savara, Konda Reddi, Porja, Kolam and Gadaba tribes are largely subsisting on shifting cultivation (Podu), where as some families in other tribes also practice 'Podu' cultivation in addition to settled cultivation. The aboriginals in the tropical forest zones forced to practice this crude method of cultivation for meeting their basic prime need of food. They know how to maintain eco-friendly relations even with this method of cultivation. The practice of shifting cultivation in the Eastern Ghats forest zone is also resulting to some extent of deforestation. Actually these tribes practice it forcefully due to ecological and geographical factors, which are inter connected with the habitats and settlement patterns. The recent forest policies are against to this method of cultivation and considered as the main source of livelihood to primitive tribes, who are largely subsisting on Podu cultivation. No doubt the practice of shifting cultivation damages certain extent of forest land and creating natural imbalance which resulting to environmental degradation. Settled Cultivators: The Bagatas, Koyas, Gonds, Manne Doras, Malis, Reddi Doras, Nooka Doras and Valmiki living in the valleys and nearby streams where plain landscape prevails, have totally adopted to settled cultivation but the same tribes inhabiting near the hill tracts and interior forests are resorting to shifting cultivation. In such areas they largely subsist on dry cultivation. In general very limited extent of land is available for

wet cultivation in the Eastern Ghats. Wet cultivators usually raise the paddy crop during kharif season. However, a few of them currently growing commercial crops like turmeric, maize, tobacco, chillies, cotton, cashew, orange, ginger, Pippallu (Piper longum), different varieties of beans, etc., mixed cropping like pulses, millets and oil seeds is the dominant feature in the dry and Podu cultivation. The wet cultivators use only the freely available surface water for irrigating the crops, which they raise. They have not yet developed the water conservation attitude but they have the traditional knowledge of water resource management even in the mountains. Terrace cultivation is also seen here and there in between the two hillocks where springs flow in rainy and winter seasons. The cultivators in the forested zones are now facing the problem of soil erosion due to hill terrain and deforestation. Soil erosion problem is associated with the forest degradation. Agriculture is mainly dependent on land and rainfall, year by year there is a declining trend in rainfall due to forest deterioration. Almost all the respondents accepted that the deforestation is the major cause for decline of rainfall. In summer months most of the tribal habitats are facing very acute drinking water problem. In such settlements, the tribal women folk walk miles together to fetch potable drinking water from the hill streams and springs located at down to the hills of far away places. Scarcity of agricultural land, insufficient rainfall and lack of irrigation facilities in the habitats of settled cultivators, are also creating food insecurity to them

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water from the hill streams and springs located at down to the hills of far away places. Scarcity of agricultural land, in sufficient rainfall and lack of irrigation facilities in the habitats of settled cultivators, are also creating food insecurity to them.

**Artisans:**

They manufacture all kinds of agricultural implements, household articles etc., Even some of the Gonds, Kolams, Koyas and chenchus have taken up blacksmithy and carpentry. A few Gonds and Kolams have become good sculptors in both wood and stone. Sonar Lambadas are experts in manufacturing of gold and silver ornaments. The colourful dresses with attractive ornaments and embroidery are manufactured by themselves. Once they have manufactured gunny bags with jute by manually. Some of the Porjas, Kyas, Konda Reddis, Chenchus, Kolams and Yerukulas are good basket makers. Now only a few of them are totally depending on household industry. Occupational mobility among the artisans is basically due to non-availability of raw material in the natural environment and less demand for their products.

**Shifting Cultivation and deforestation:**

Shifting cultivation involves several steps. Firstly land is cleared by burning of the vegetation cover. Second stage soil is disturbed with hoe (*Valuva*) after the rainfall, and then crops are planted in the plot usually without any additional manuring other than that provided by the ashes of the burned vegetation. Thirdly the plot obtained is used for one or three years. The duration of cultivation depends upon local circumstances. Fourthly the plot is abandoned for a time, so that it can regain its fertility. Fifth stage, a new plot is opened for cultivation, returns to the field cleared first and repeats the cycle. The critical factors in this system are three fold. They are, availability of land, availability of labour required to produce the key crop, and the length of the growing season during which they key crop or crops may be produced or alternated with other supplementary crops.

**Conclusion:-**

Large majority of the tribals in Eastern Ghats environment still facing the problems of poverty, food insecurity due to forest degradation and scanty of food resources. Environment laws and policies are also not strictly implemented by the concerned agencies in order to maintain natural balance in tribal habitats in specific and other settlements in general. Recent Forest policies are also against to the right of the tribal on forest land and other resources. That is why forest and land disputes become very regular feature in the tribal areas of Eastern Ghats in A.P. The National Forest Policies 1952 and 1988 are a classic example of how the policies and un-thoughtful actions of the state proved to be detrimental to the interests of tribal populations, where by the age old tribal customary rights and man-nature-spirit of these forest dwellers are affected. They are made "marginal" in their own habitat with restrictions placed on the entry into their age old habitat and also "Concessions". The emerging threat of globalization is another extraneous factor that needs immediate attention.

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## **Eco-critical Perspectives in Abburi Chaya Devi's Short Story *The Woodrose***

**Dr. Manisha Gaikwad**

Assist. Professor, Dept. of English, Arts and Commerce College, Yeola

### **Abstract**

The story of Adam and Eve in the Holy Bible not only explains the divine plan of God but also exemplifies the impact of nature on human life. The harmony and balance of the nature is very delicate and intricate and directly affects to the harmony and balance of human life. The interaction between man and nature goes on ceaselessly. The theory of Eco-criticism, a recent branch of literary criticism helps us to explore the impact of nature on man and his communion with nature. Abburi Chaya Devi, the Indian Telugu short story writer wonderfully explores this impact of nature on human life through her short story *The Woodrose*

### **Introduction**

The relationship between man and nature is very ancient and goes back to the very evolution of the universe. The story of Adam and Eve in the Holy Bible not only explains the divine plan of God but also exemplifies the impact of nature on human life. The primitive man was in the vicinity of the nature and learned to live and sustain from the nature only. Nature provided him with food, shelter, and clothing. Nature even helped him to master certain tricks and techniques to discover the beauty and bounty of the nature. Even today when we have mastered science and technology the nature has not lost its significance. In an age of urbanization and industrialization the life of man seems to be impossible without nature. Therefore, we have many campaigns for the preservation of the nature. In most of the cultures nature is treated as a deity and people worship nature in different ways. Thus nature has become an inseparable part of human existence. If the nature is in danger or even some species in nature are in danger it is a threat to human existence. The harmony and balance of the nature is very delicate and intricate and directly affects to the harmony and balance of human life. This interaction goes on ceaselessly

### **Nature and Literature**

The man has been in communication with nature in different ways. Sometimes he worships nature as a goddess and sometimes shares his feeling and emotions with the nature and at the other gets inspired by the nature. This interaction goes on ceaselessly. We can cite a number of examples of man in communion with nature getting regenerated and rejuvenated through the nature. It has been an ancient practice to personify the nature and to give human attributes to it. Man has sympathized with nature as well as empathized with it. Man has been attributing all his feeling, emotions, love, fear, hatred, withdrawal and even repulsion to the nature. The great poet of the Romantic age William Wordsworth calls nature as his 'Nurse, guide and anchor of his purest thought'. In the vicinity of the nature the poet is less forlorn and isolated. He even finds the presence of God in nature and experiences the healing touch of God in nature. All the poets of the Romantic Tradition were under the impact of nature and expressed her influences in their own unique ways. Whereas, Wordsworth spiritualizes nature, S. T. Coleridge experiences the supernatural impacts of the nature. P.B. Shelley is impressed by the strength and might of the nature and John Keats is so much in love with every aspect of nature that he invites all our senses to enjoy it. In this way nature has been the center of the literary creation since many centuries. Similar type of impact of nature is seen in the Victorian poetry. *Dover Beach*, the most popular poem composed by Matthew Arnold is a nature poem. But more than that it brings out the most vital thing of the Victorian age i.e the very Victorian conflict and the compromise through the description of the exposed Dover beach. Even in American literature nature seems to be at the centre of literary creation. To the leading American Poet Walt Whitman the simple blade of grass is the symbol of equality and democracy. The American transcendentalism has its origin in the nature itself.

### **Theory of Eco-criticism**

Considering this continuous impact of nature on literature, the literary critics have developed a separate branch of literary criticism known as Eco-Criticism. The basic function of the literary theories is to evaluate and explore literature for the sake of new interpretations. The theory of Eco-criticism helps us to explore the impact of nature on man and his communion with nature. The theory of Eco-criticism is also known as Green Theory.

### **About the Writer**

Abhuri Chaya Devi, the Indian Telugu short story writer is the recipient of Sahitya Academy Award. She seems to be in deep communion with nature and attributes human feeling to the nature. In her short story *The Woodrose* she presents an emotional attachment of an old lady to a creeper of woodrose. The old woman is rejected by her daughter-in-law and being the resident of an urban area is a victim of loneliness. Abburi Chaya Devi brings out effectively the different realizations and insights that the old woman gets about the human relationship through nature.

#### **Traditional Significance of the Nature**

At the very outset the writer brings out old woman's attachment with nature. One day the old woman finds her daughter-in-law planting a seed of creeper called Woodrose. The old woman is curious to know what plant is that and then realizes that now -a- days everything is in the process of change and the old flowers are being called by new English names. She also shares with her the traditional belief that the flowers with fragrance are good and can be used for worship. These flowers can be used as a gift to visiting guest. Young girls can wear the flowers in their plates. As compared to the flower plants the plant of fruits and vegetables are less preferred especially in the dooryards.

Abhuri Chaya Devi takes a lot of efforts in the description of the woodrose plant. Basically it is a creeper. At first there are long, bell shaped yellow flowers and then from the middle of these flowers bloom other flowers like roses. The flowers have no fragrance and their color is of sandalwood. The specialty of these flowers is that they are beautiful to look at and they remain fresh for a longer period of time and don't fade if they are kept in vase for the sake of decoration. This is nothing but old woman's attempts to understand nature by analyzing it in terms of its utility

#### **Nature to highlight the Rejection**

Now the old woman remembers that how once she planted some seeds at the wall-side with the thought that there would be enough fruits for family, neighbor and relatives. The seeds sprouted beautifully but soon disappeared. The daughter-in-law and the son might have mistaken them for weeds. And then she realizes that her words are insignificant as a blade of grass. When she suggests to plant brinjals or lady's figures the most useful plants, they planted cacti the less useful plant. Thus she realizes how they neglect and reject her in all walks and by all means. She also realizes that they fight on their differences all the day long but get united when they have to say something against her. The old woman also observes the joy of the daughter-in-law in growing this creeper as against her own rejection or interference in the house.

Her efforts to maintain her existence and not allowed to be erased by the situation is suggested in her resistance to the creeper that covers the gallery and blocks her vision of the outside world. She could not see the passers-by, her only way to spend the time. She even complains about it to her daughter in law who ties the creeper tightly and directed it to the terrace clearing the vision of the old woman.

#### **Nature for Human Needs : Emotional Attachment**

When the daughter-in-law arranges some flowers in the vessels the old woman becomes curious about it. It is because by the side of yellow and red roses she has arranged roses with sandalwood colour. She finds those flowers strangely attractive. She takes them in hands and feels them dry and brittle. The daughter-in-law tells her that the flower arrangement is called as ikebana (Japanese's Word) and explains its significance as the old age and the young age side by side. Now the old woman realizes the complete significance of the woodrose creeper and becomes strangely attracted towards the creeper. Now she spends all her time in watching the creeper instead of the passersby. The whole creeper is dotted with spotted blossom. Now the old woman is waiting for its bloom.

Here Abburi Chaya Devi highlights the human need of the emotional attachment. It seems to be strange and abnormal to be all alone. The emotion attachment is very important and potent enough to give a motive for survival. The old woman waiting for the bloom of the flowers suggest her need to regenerate and create even in an old age. Since the creeper has been there the old woman seems to have a purpose in life.

#### **Nature for Psycho-Analysis**

On that particular Sunday morning when her son pulls down the creeper, the old woman resists him by imploring him that the plants with full bloom should not be pulled down. As she finds him to be determined she tries to take the help of her daughter-in-law. But ultimately the creeper is pulled down and there begins the psycho-analysis of the old woman. When the son suggests that the

creeper has spread all over the balcony and covers terrace the old woman feels as if she herself is trying to control of the house by her over-powering existence. When the son suggests that the creeper has blocked the air, the old woman realizes her suffocating presence in the house. When the son suggests that the creeper has blocked the sunlight the old woman realizes that as if she has blocked their vision like a stumbling block. And finally when he son suggest that there are biting mosquitoes in the creeper the old woman realizes that her responses and reactions have become bitter like biting mosquitoes to all the family. The woodrose plant fills her mind and enlightens with the thought that the affection between two people should not grow as thick as the dense creeper otherwise it would be cut off

**Conclusion:**

Thus with the wonderful description of the nature Abburi Chaya Devi brings home many truths about man and nature relationship. At some times man enjoys beauty and bounty of the nature. At the other nature is a companion to a man especially when man is all alone. Once the nature is our companion we can not only overcome the loneliness but we get a motive to live. One can share thoughts and emotions with nature. The woodrose creeper with blossoms is the best example of it. And at sometimes nature can lead to the wonderful insights in us giving us moral and spiritual lessons. The realization of the old woman about her role in the house is the wonderful insight that she learns from the nature which is impossible to learn from her son and any other human agency. Thus nature plays a vital role in human life sustaining us both internally and externally.

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## **Changing Cropping Pattern of Marathwada Region Special Reference to Sugarcane Crop: A Geographical Analysis**

**Dr. M. T. Musande**

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### **Abstract:**

Cropping pattern is the acreage distribution of different crops in any one year in a particular farm. It is the pattern of crops for given piece of land or cropping pattern means the proportion of an area under various crops at a point of time in a unit area or it indicates the yearly sequence and spatial arrangements of crops and follows in an area. The canal construction is an art and science of artificial application of water to agriculture and different types of uses (industrial use, drinking water etc.) to develop and increase in agriculture production. In India there are many canal and dams constructed to solve the irrigation problem in arid, semi-arid and in drought prone area. The present paper analyzes the changing cropping pattern of Marathwada region. It shows that the changing cropping pattern due to the availability of an irrigation sources like dam, well and canal. Irrigation is the single most important factor which changes the cropping pattern of area or region. In the cropping pattern area under Sugarcane crop is increased Marathwada region.

**Key words:** Cropping Pattern, Sugarcane crop, Irrigation,

### **Introduction:**

Cropping pattern is an area under various crops at a point of it changes over space and time. The cropping pattern of a region is closely influenced by the geo-climatic, socio- economic, historical and political factors. Patterns of crop land use of region are influenced of physical and human environment. The Cropping Patters in India underwent several changes with the advent of modern agricultural technology, especially during the period of the Green Revolution in the late sixties and early seventies. There is a continuous surge for diversified agriculture in terms of crops, primarily on economic considerations. (Husain Majid 2005) Since the early days of Green Revolution' there are signs of imbalance in cropping pattern. Technological changes of mid-sixties caused significant shifts, in land utilization, in favor of crops like wheat and rice at the cost of area under coarse cereals, pulses and oil seeds. This shift was the combined effect of differential rates of technological change among crops, irrigation bias of new technology causing shift, of land away from dry crops in favor of irrigated crops and the associated policy of price support system as well as market intervention by the Government for certain crops. Changes in cropping pattern are determined by factors like agro climatic conditions, irrigation resources, technological, infrastructural and institutional environment and profitability signals. (Surindra Mishra 1988) Canal irrigation has been practiced in one form or other in the arid, semi-arid and in Drought prone area. In India there are many dams and canals constructed to solve the irrigation problem in arid, semi-arid and in drought prone area. (Pawar C. T.1989).

Present research paper analyzed the cropping pattern of Marathwada region special reference to area under sugarcane crop change.

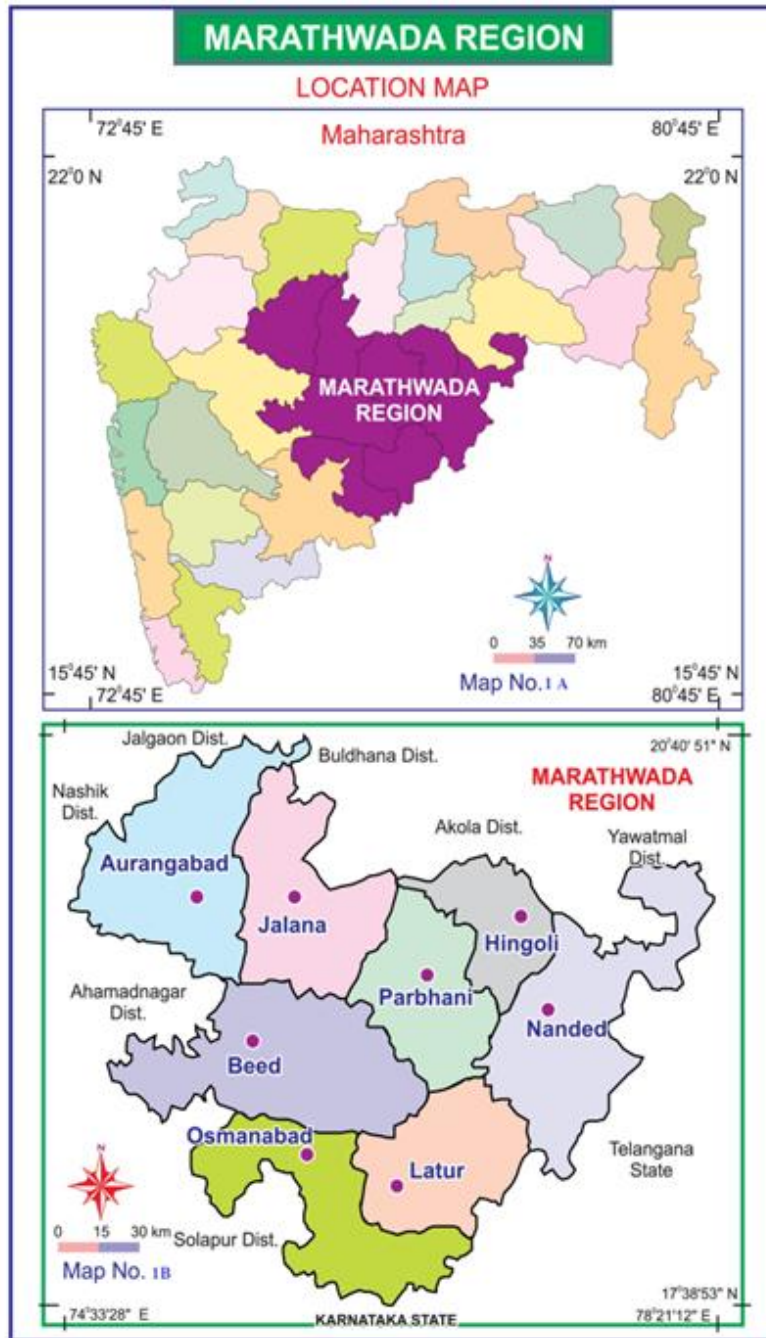
### **Study Area:**

The Maharashtra State is administratively divided into six divisions, viz. Konkan, Nasik, Pune, Amravati, Nagpur and Aurangabad. The Aurangabad division is also known as Marathwada was formerly a part of Hyderabad state. Marathwada forms the South central portion of Maharashtra with Aurangabad city being located almost at the centre of the state (*Map-I*). Marathwada is one of the most backward regions of Maharashtra state.

The Marathwada region lies in the upper Godavari basin. The absolute location of region is 17°38'53" North latitude to 20°40'51" North latitude and 74°33'28" East longitude to 78°21'12" East longitude. The study region is bounded to the north by Jalgaon, Buldhana, and Washim districts, to the north east by Yavatmal district to the east by Nizamabad and Adilabad districts of Andhra Pradesh to the south and south east by Bidar and Gulbarga districts of Karnataka state, to the west by Ahmednagar to the Southwest by Solapur and to the North West by Nasik district. Its shape is roughly triangular. East-West maximum extension of region is 394 Kilometers and North-south extension in of region is 330 Kilometers. Total Geographical area of region is 64434 Square Kilometer which is 20.95 per cent of the state and its population is 1.87 cores which is 16.66 percent of the state as per



census of 2011. Administratively study region is divided into eight districts that are further divided into 76 tahasils.



**Objective:**

The present study has following specific objectives.

1. To assess the cropping pattern of Marathwada Region.
2. To study area under Sugarcane crop in Marathwada Region.

**Data collection and Methodology:**

The proposed research paper based secondary data. The secondary data is collected from District Gazetteers, Socio-Economic Review of Marathwada Region and census etc. The data collection period is i.e. 1981-86 and 2005-10. The data processed and analyzed by using different cartographic techniques, statistical and quantitative techniques, etc.

**Interpretation and Analysis:**

Sugarcane locally called 'Oos' rank second among cash crops and 11<sup>th</sup> in cropping pattern. Sugarcane occupies an important place in the economy of the region. There are 57 sugar factories in the study region. Sugarcane requires twelve month to mature and is generally planted in the month of December-January. Sugarcane is a water loving tropical crop and requires high temperature, maximum moisture. Marathwada region has

favourable soil and climate except rainfall for sugarcane cultivation. It is grown well in areas of black Regur soil which has high moisture retreating power and where perennial sources of irrigation are available, these factors collectively determine the intensity of sugarcane cropping.

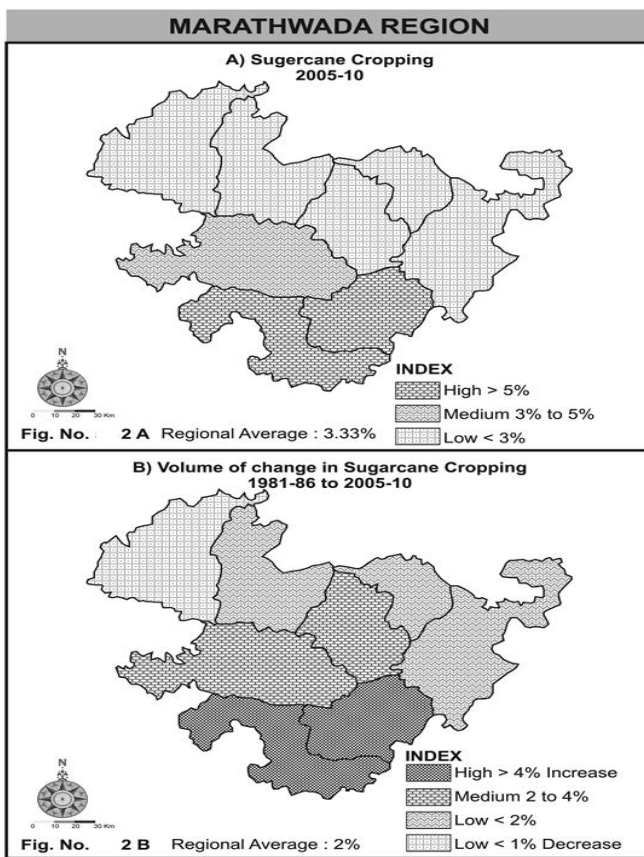
During 2005-2010, share of sugarcane is 3.33 percent in the total cropped area in the study region, which is less than the state's average of 3.84 percent. The figure 2 A reveals that the spatial distribution of area under sugarcane is very uneven, due to uneven distribution of irrigation facilities. The high proportion of area under sugarcane was in Osmanabad and Latur districts i.e. above 5 percent, due to development of surface irrigation facilities and sugar factories. The moderate proportion of area under sugarcane was in Beed district i.e. 3 to 5 percent, whereas it was low in Jalna, Parbhani, Nanded, Hingoli and Aurangabad districts i.e. < 3 percent, due to black Cotton soil in river basin and suitable climate, the farmer devoted their land to Cotton.

**Table No.1: District-wise Area in percentage under Sugarcane Crops in Marathwada Region-1981-82 to 1985-86 and 2005-06 to 2009-10**

Year	District/Region								
	Auranga- -bad	Jalna	Nanded	Osmana- -bad	Latur	Beed	Parbhani	Hingoli	Marth- -wada
1981-86	2.49	1.12	1.11	1.56	1.49	1.15	0.25	1.14	1.33
2005-10	2.37	2.1	2.27	6.47	5.51	3.95	2.26	1.85	3.33
Change	-0.12	0.98	1.16	4.91	4.02	2.8	2.01	0.71	2

*Source: Compiled by Researcher on the basis of socio-economic Review and District Statistical analysis of district of Marathwada Region 1981-82 to 1985-86 and 2005-6 to 2009-10*

During the period of investigation, area under sugarcane increased by 2 percent in the region. The figure 2 B reveals that, positive trend is recorded in 7 districts. The high increase in area under sugarcane is found in Latur and Osmanabad districts i.e. above 4 percent. The moderate increase is found in Beed and Parbhani districts i.e. 2 to 4 percent, whereas it is low in Jalna, Nanded, and Hingoli districts i.e. below 2 percent. There are negligible negative changes is recorded in Aurangabad district below 1 percent.



**Conclusion:**

The present paper concludes that the cropping pattern of Marathwada Region is changed. Due to the increase in irrigation facilities the area under cash crop is increased in Marathwada region. During 2005-2010, share of sugarcane is 3.33 percent in the total cropped area in the study region, which is less than the state's average of 3.84 percent. The high proportion of area under sugarcane was in Osmanabad and Latur districts i.e. above 5 percent, due to development of surface irrigation facilities and sugar factories.

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## **Climate Change, Policies, and Development.**

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### **Abstract**

Since the beginning of 20<sup>th</sup> Century the Intergovernmental at panel on climate change is a body composed of government delegates which were set up in 1988 jointly by two UN agencies the world metrological organized. The object of IPCC was and soils it to act in a scientific and technical advisory capacity to support discussion International conventions on climate change. This paper report details of development and standardization of spiritual intelligence scale.

### **Introduction**

Studies of the planet earth fall into four broad categories that embrace the solid lithosphere water in the liquid hydrosphere and frozen cryosphere the mainly gaseous atmosphere and the life forms of the biosphere although the study of weather and climate focused on the envelope of gases conlinuous interchange among the "Spheres", produced and integrated environment and no composonet can be understood adequately without reference to the of her. Weather the day to day state of the atmosphere consists of short term variation of energy and mast exchange within the atmosphere and between the earth and the atmosphere. Any study of climate must consider extremes in addition to mean trend fluctuations probabilities and their Variations in time and space. Climate is an active factor in the physical environment of all living things its influences on human welfare range from the immediate effects of weather energy to complex response associated with climatic change.

### **Adopt Don't mitigale**

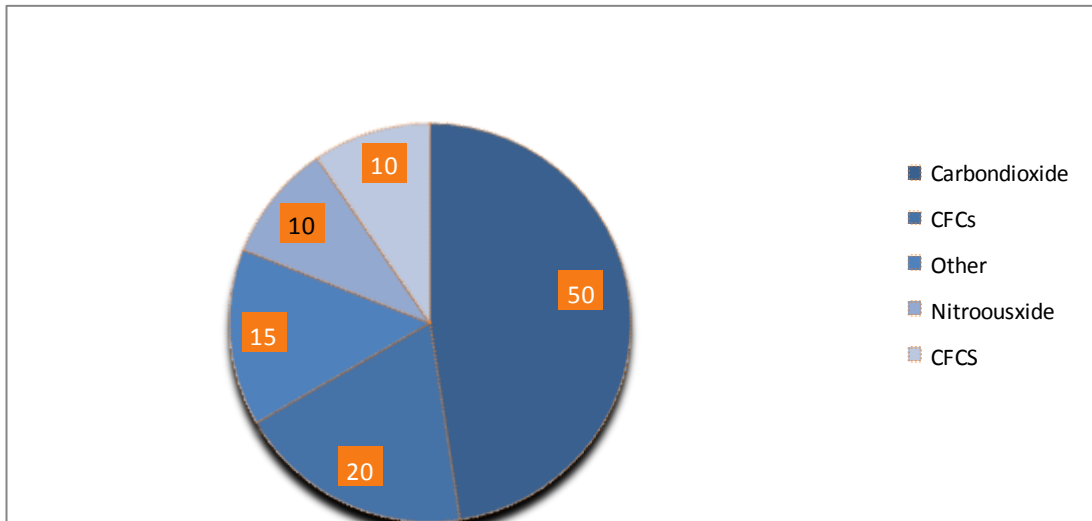
One aspect that affects the widespread branding and proliferation of magic wand to cure our climate change induced problems in its inclusion in climate change mitigations goals this tends to be merely a smokescreen to mask the hesitation of countries to decarbonizes their economies and cut down fossil few use leveraging for climate adaptations instead can generate social and livelihood co-benefits and address biodiversity loss in the build up to cop 26 many countries including the European union and china plan to reduce their emission via offsetting often by preserving replanting or growing new forest. But there is extensive scientific consensus that components of the land carbon sink such as forest and grassland cannot be relied upon to absorb as much carbon as is required. The special report on climate change and land by the Intergovernmental panel on climate change extimates the mitigation potential from reducing deforesmetion and forest degradation at between 0.4 and 5.8 gigatonnes of carbon dioxide (Co<sub>2</sub>) per year at best a sixth of annual global fossil fuel emissions by comparison the energy sector accounted for 33 giga toned of Co<sub>2</sub> is 2018 coal atonics accounted for order 10 gigatonnes the focus on natural sinks as a means to achiever not zero emission by the middle of the current century has aliverted attention from the rapid decarbunis of energy and transport systems and reduction in gross emission required to stabiles atmospheres Co<sub>2</sub> Concentrations. So cannot be seen as a panacea for climate change. The concedes that effectiveness of many be climate by higher levels of climate change. They cannot substitute emission reduction but are merely one piece of an increasingly urgent and multi sectoral response to climate crises.

The next stage is to look at the actual climate changes arising from the increased radiative forcing to start with WGI examined the result from equilibrium models in where the atmospheric con centration of Co<sub>2</sub> in doubled and the climate system allowed to came to steady state.

The report finds some indication that the never high resolution models are better at simulating present day climate and hence might be expected to be better at predicting change the general features of climate change that are common the most middles and for which we have physical explanation are porting the group deiced that there was no reason to change the value of the 2xco<sub>2</sub> climate sensitively from the range of 1.5<sup>2</sup>, -4.5<sup>0</sup>c that has been accepted some time the injustice of climate change

## To Change In Climate Forsing 2010-2020

**Ozone Could be important but is difficult to quantity Climate change equilibrium and transient**  
**The injustice of climate change**



Science has attributed climate change to the emission of greenhouse gases arising primarily from the long march to industrialization and growth of the now rich and industrialization countries of the EU, the US Australia, Canada, New Zealand and Japan. These countries have grown rich from utilizing fossil fuels, the transformation of rural ecosystem to urban cities and the exploitation of industrial agriculture. They have high income and well developed industries, infrastructures and echnologies. The developing world, long the major provider of natural resources, labor and land that fostered the industrilsation of thus rich countries, not only have not benefitted significantly from the transformation of these resources but now must bear the brunt of tries are also now the ones to sacrifice their growth potential in order to help to alter the trajectory of rising green house gases and to deal with the reality of limited atmospheric space.

The injustice of climate change therefore lies in one evident fact the impacts of climate change are real and are most urgently and most devastatingly felt in the developing countries and by the poorest men and women who are the least responsible for creating or contributing to the factors giving rise to climate change.

Climate change thus places on developed countries a central responsibility for cleaning up the atmosphere and also to provide support for the losses and damages incurred by the women and men in the developing countries provide support for their adapting to climate change as well as support the rapid transformation of developing countries' economies to a low carbon, clean energy development pathway.

### **The need for fairness, equity and democracy in climate change policy**

Fairness, equity and democracy, hence lie at the heart of global climate change protection policy, But the issues of fairness, equity & democracy also have to do with issues of gender inequality and injustice and the marginalized and heightend vulnerability of indigenous men and women. The situation of the former is the subject of this brief.

### **Gender and climate change: making the links**

Extreme weather events, rising sea levels, threats to water and food production, all have differential impacts on the lives of women and men. Women and men have different capabilities opportunities and access to resources to facilitative the adaption to changing climate which adversely impacts the availability of food, fuel and water. Women as a group, relative to men, as a group have different possibilities for recovering from frequent and intensive periods of droughts, floods and hurricanes.

**The overarching goals of fender responsive climate and development policy are to:**

- Promote and ensure gender sensitive results that improve the economic and social situation of men and women and promote women's empowerment.
- Improve the welfare impacts of adaptation and mitigation strategies on poor men and women.
- This can be achieved by setting in place processes and mechanisms that undergird an proactive gender climate mainstreaming perspective.
- In the area of climate change, actions will need to be undertaken at global and national levels to :
- Ensure women's equal participation in climate change decision making policies and their effective participation in programmed and strategy development and implementation at all levels.
- Improve the understanding of the primary role of women and men in adaptation and mitigation.
- Show how adaptation and mitigation policy impact women's and men's multiple roles : workers, producers, mother, care giver, consumers (constraints, challenges and opportunities)

**Ensure that climate change policies have gender based analytical components.**

Embedding climate focused gender analytical tools (policy focused) into global, regional and national climate protection policies.

**National climate change policies and processes**

What is the role of gender experts in the development of national climate change policies? What formal mechanisms, policies or practices for promoting gender balance and gender equality nationally broadly and with regard to climate protection are important for decision makers/stakeholders to consider?

How can gender quality issues be mainstreamed into national communication, NAPS, NAPs and NAMAs or other national climate change policies, institution and frameworks? What plans or strategies are required to address the gender specific constraints of men and women with regard to promoting adaptation, climate resiliency and mitigation?

**Conclusion**

I conclude this paper by summarizing some of the principle point which have emerged in it. First in deciding the nature of the subject a teacher, should not lose sight of the fact that the function of Geography is to provide as overall view of those natural and physical event and types of climate and how to change and what to teach including the lives of more who live on it, with a distinct emphasis upon the relationship which exist between these various force.

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## **Global Trends in Managing Human Resources in Digital Libraries**

**Dr. Prashant B Mene**

**Email:-menepashant@gmail.com.**

### **Abstract**

Technology alone cannot help bring about the required changes. Attitudes, practices, & policies need to change to benefit library and its users by the application of new technologies. The present case study of IMS, Learning resource centre has started and is in process of conducting many innovative services by creating digital libraries thus making an attempt to fulfill Dr S R Ranganathan's fourth law of Library Science. This paper addresses the issue of content in repositories, and suggests that librarians need to approach the task of content development by applying some of the procedures and skills associated with collection management within more traditional environments. It also considers the types of content that might be suitable for institutional repositories.

### **Introduction**

The new electronic era, having Internet in the forefront, is pushing libraries towards the digital environment. This has led libraries to acquire, organize and provide access to electronic resources required for their users. Information and Communication technology (ICT) applications have helped libraries in terms of space, time, and cost. In addition to these resources libraries have started using ICT in managing various housekeeping activities of the library, thereby reducing the repetitive processes involved in acquisition, cataloguing and circulation of resources, Institutional repositories and time of the users and staff.

### **Institute of Management studies, Career development and research**

Career development and research (IMS) have been in the field of management education for over two decades and is affiliated to University of Pune by AICTE. Today it has grown to become a leading centre of professional education. IMS encourages academic vigor, intellectual and sustained efforts to maximize learning. Self organized activities ranging from case discussion and field studies to industry analysis and projects help link strong theoretical resource to workplace realities

### **Management of Libraries and information services**

The core objective of the library is to support the academic program offered and the library may evolve its collection and services mainly to reflect the curriculum requirement of its user. Besides, the library designs a system to deliver its products and services to attract more users. Ultimately the library aim at bringing all its target users to the library and ensure its optimum usage.

### **Objectives:**

#### **The objectives of the study are -**

- 1) As per the fourth law of Library Science - Save the time of the reader
- 2) Economic Inter-departmental activity in managing digital libraries.
- 3) Increase the posterity of the document.
- 4) To take the library to the pedestal of ICT and changing the role of Librarianship.

### **Significance of study:**

A digital library is a collection of information that is stored and accessed electronically i.e. institutional repositories or contents. These can be combined under one common interface that deals with computers, providing a central location (library server) for accessing.

### **Barcode and CD Library**

Pop/The barcode data transfer works in perfect harmony with library databases and can be used for faster and efficient library transactions i.e. automated library. The circulation work in an automated library involves keying in a large amount of data

### **Barcode data transfer**

The information encoded on the barcodes is limited and efficient in handling of collection and for better operation of services. IMS Library use accession numbers of books, the unique information that distinguish their collection, as the vital information entity to barcode their collection. Similarly, the identification number of a user stands distinct for each member, which can be used to barcode the user's card.

### **CD Library:**

For storing, searching and retrieval of CD/DVD the IMS Library has bought CD-ROM storage system which can hold 150 CDs/ON/Ds. The unit is connected to the PC via USB cable. It is stackable for space saving. Users can manage their entire CD database along with the library software EasyLib. It is stackable for space saving. Users can manage their entire CD database along with the library software EasyLib. User may find the media by their title, content, category, remark etc. After searching the software by simply double clicking the selection from the screen, the CD library will spin and pull out the media. It is a storage and retrieval system only. It does not read disc or write to disc.

**Search Issues** - Journal Search: Use of IT (Information technology) ensure the access to the content of the Journals (search issues by key word under Indexing and Abstracting services) subscribed by IMS library is an in- house built database. The goal is to focus on collection development in digital format. !

**Introductions:** The user's requirements are specific conceptually Hence a search tool to search the content of the journal, subscribed by library, is a must that matches the keyword with the contents in the Journal /Periodical. The effectiveness of the practice is that even though the user is not aware of the title of the Periodical easily gets the information pertaining to their concept. ! .

**Operations:** When the key word is typed, the system will search for the word amongst all the titles Then it will display on screen the serial number along with the content with the details of author, title of article, abstract and pagination. Infrastructure Required - Existing Server, Clients, Windows 2000 or XP Data Entry operator for entering contents of each book for the total collection. The operation comes under indexing and abstracting services.

**TOC & E-New Arrivals:** The library sends the TOC of Journal and books via e-mail to all faculty members. The faculty and research scholars easily gets instant information for their concept by going through the result of the TOG even though they are not known to the title, author or other search options Under the current awareness service the TOC of the Journal is scanned, linked to the net and e-mailed to all the faculty of the Institute. The TOC is visible on the screen along with the serial no. which will help to track down the article of interest of the faculty. The same 'technique is used for E-New Arrivals. 1

**E-Question Paper, e-research papers, the c-news clipping and e-library:** These are the institutional repositories created by library and catering for past four years on a standalone PC and the e-library and profile on the Institutes' official website.

**The process:** Users need to use institutional or other works for different purposes and the library is able to create such a facility. The question papers are always needed by the students to study the format of the questions and weight age of the marks. So with the collaboration with computer dept. an e-question bank was created. All the papers pertaining to new and old syllabus are been scanned and uploaded for the faculty and Internet access PCs in the Institute. The copy of the same is burnt on CDs and is made available to the IMS students free of cost.

#### **Intranet:**

The primary benefit of an intranet in a library is the facilitation of information sharing various "finds of documents that can be converted in to HTML and made web accessible. Policies, procedure, forms, annual reports, programs and anything on paper can be transferred on to an intranet. An intranet can be viewed as simply a logical extension of the trend in libraries towards great connectivity.

An intranet is service, making use of the technologies of the World Wide Web (usually HTML over HTTP) to distribute information within a single organization over its internal network based on TCP/IP Protocol of the internet.

Advantages: The following are the advantages of Intranet, as,

1. Limited cost in setting up i.e. inexpensive
2. Require little maintenance and is secure.
3. Increased efficiency
4. Flexibility and versatility.

**Library application:**

Among the many the advantages following are the applications of use of Intranet in the library, viz,

1. The library institutional repositories can be transferred onto an intranet. The intranet then saves as a quick and reliable source for organizational information for posterity sake.
2. An intranet can also provide access to online data bases subscribed by the library and the free links.

**Services offered through intranet technology in IMS Library:**

The services are augmented with traditional as well as modern electronic reference sources and services to strengthen the needs of users.

- 1) 1.OPAC(Online public access catalogue)
- 2) DELNET ( Online bibliographic databases )
- 3) British library ( Inter library Loan )
- 4) Access to digital library ( Institutional repository viz. e-question paper, e-research papers, e-newspaper clippings,)
- 5) Access to e-resources (CMIE, SYSTAT, Flash news investments, www.indianjournals.com, J-Gate, www.indiastst.com [www.sagejournals.com](http://www.sagejournals.com) etc).

**Open Source Software (OSS):**

Its mission is to build better and free systems for use in libraries. It maintains a list of free software and systems designed for libraries (the physical, books-on-shelves kind), and tracks news about project updates or related issues of interest. The term Open Source is used for certain software which are developed by people for everyone to use for free. The main benefit for having an open source Content Management System (CMS) for your website is that it is free and usually distributed freely.

**Objectives of CM:**

1. Conversion from print source and creation of electronic form.
2. To make available content / information/ data through network effectively to end users.
3. To act as a retrospective tool.
4. To provide a forum for the exchange of information between providers, suppliers, and the users •
5. Library transactions wished to be carried out using the Web

**Components of CM:**

1. Data Repository The data repository is the organization of the content to facilitate access, updating and re-distribution.
2. User interface: User interface such as browser and word processor.
3. Output utility: The output utilities are filter's that take information in the data repository and format it for various publishing media.

**Content Creation:**

It is an extremely important aspect in a CMS, simply because that is what the system hinges on; content. Key features that the system provide is the ease of creating content and the ability for the user to have complete control over the content, in terms of where the content will be shown / stored on the page, what type of format it will be and what can be included within the content. The system is accommodating for different forms of content. Within its interface, Joomla has a specified content management section where the content can be created and edited ('article manage?', the title, section, publishes and category settings can be configured firstly. A text-editing box with graphical buttons is also provided for placing the content in the article; lastly, the page has a few final sections for more detailed information of the content, this includes: parameters and metadata information. Once everything is set, the page allows preview & saved by simply clicking the save button located on the page. , After this the article is automatically added onto the system and specified for the content to be published.

**Searching:**

In order to search in Joomla, there are many areas given to configure the search function, such as the details of it, what menus it will be located in, and the parameters of how the search module will look on the site. Once it is configured, the search module can



be used to search for anything within the site. Its response time is quick but it is also very picky.

**Conclusion:**

The users are searching information on their own and as such there is a great time saving. Library and information management is not an exception for this. Earlier, card catalogue was called as the "Mirror to the Library". Now in this . e of the Internet, it is the library portal that is being called as the "Mirror of the Library . Digital Library's reflects the strengths and weaknesses of the libraries very effectively. They are also the tool through which libraries are trying to reach out to the tech-savvy user. IMS Library is making consistent ril efforts to provide web-based services to their users.

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## **Impact of Information Technology on Library Services**

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### **Abstract:**

The development in the area of technology and its application to every sphere of human activity is rapidly increasing. The developments, particularly in the field of information handling, information technologies viz. computer, communication and storage technologies have facilitated collection, storage organization, processing, analysis, presentation and dissemination of information. Libraries and information centres are concerned with the process of collecting, organizing and disseminating the information to their end users have found it useful to make best use of modern sophisticated information technologies. As a result, we are now seeing more and more libraries using reprographic machines, computers, communication technologies, like telephones, facsimiles, audio and video technologies, online access to data bases, CD-ROMs Etc. Now the trends is towards "establishing a computer and communication based network of libraries for effective resource sharing. This paper discusses the need of information technology in libraries also discuss the application of IT in libraries.

**Keywords: ICT, Library Services, Impact of IT.**

### **Introduction:**

The term Information Technology is made of two terms, where both the terms have their separate meanings. The terms are Information and technology. The meaning of the combined terms Information technology is to use modern technologies in various operations of information, which makes the information more useful and important by using the new developments held in modern technologies in the operations of creation, transfer, communication, dissemination and retrieval of information. In simple words, the meaning of the same word is to use various types of recent and developed techniques & methods in providing information services in libraries as well as information centres which is being provided through computer today.

### **Definition:**

What is Information Technology?

1. According to the Webster's New Encyclopaedia, Information technology is the collective term for the various technologies involved in the processing and transmission of information. telecommunication and microelectronics. They include computing,
- 2 UNESCO defines Information Technology as "scientific technologies and engineering disciplines and the management techniques used in information handling and processing, their applications, computers and their interaction with men and machines, and associated social, economic and cultural matters.
3. According to ALA Glossary of Library and Information Science (1983), "Information Technology is the application of the computers and other technologies to the acquisition, organization, storage retrieval and dissemination of information"

### **Need of Information technology in Libraries:**

This is an era of information explosion in which large amount of information is being generated at every moment. The need for excellence in the management of current information service has never been more urgent than it is today. Consequently upon the exponential growth of information a great change has taken place in the role and responsibility of the librarians to manage information and its dissemination. Use of technology provides better ways of transmission of data or messages in the form of written records electronic, audio or video signals by using wires and other telecommunication techniques. Technology plays a vital role in information handling and resource sharing among several libraries.

### **Information storage and Retrieval**

1. Database construction,
2. Down loading/uploading
3. Online database searching
4. Indexing and abstracting
5. Current awareness service

6. SDI service

**Reference/Information Services**

- Bibliographic listings
- Library instruction etc

**Communication Technology:**

Communication technology is developing at a rapid pace. The need to communicate information very quickly and efficiently has become a central focus in our technological society. The major developments in this area are:

- Audio technology• Audio visual technology
- Teletext• Videotext
- Fax• On-line search
- Satellite technology• Tele conference
- Cellular telephones• Voice mail Box, Etc.
- E-mail• CD-ROM technology, DVD

**Reprographic Technology**

This technology includes

- Photocopying• Micro-coping
- Optical/Digital• Printing Technology
- Technical writing• Editing
- Publishing

These all above are the areas have impact on library professionals. The introduction of these Information technologies has also affected the organization and management of libraries. Access to word processing equipment and teleconferencing is fairly common place. The difficult decisions for management to select suitable products and services are made easy with the help of these modern aids.

**Applications of Information Technology in Libraries:**

Information technology helps libraries in creating database of their collections and making them available for easy to users inside as well as outside through networks. The new technologies which are highly relevant for application in modern library and information system can be grouped into the following areas.

1. Computer Technology
2. Communication Technology
3. Reprographic Technology &
4. Printing Technology

**Application of Computer Technology:**

Computer has brought a new impact on the Library and information usage. Its various fields of Library activities. Some of the areas of automation are:

> **Acquisition**

- Acquisition /Accession List
- Ordering reports
- Duplication checking
- Library holding checking

> **Serials Management:**

- Serials check-in / out and doming
- Union /holding list

> **Cataloguing/Classification**

- Catalogue card/ Label production
- On line catalogue
- Retrospective conversion

> **Circulation**

- Issue, Return, Renewals and reservation of documents
- Inter-Library loan, Overdue

> **Audio visual Management**

- AV acquisition/cataloguing
- AV inventory control etc.

> **Management**

- Accounting/budgeting
- Scheduling/Planning
- Word processing/Mailing
- Statistics/report impact on Library information science professionals. The success of a modern library is on the effective utilization of IT in all its sections.

**Conclusion:**

Technology has created many tools and techniques for library and will continue to do so in future also. Today the Library environment is changing rapidly. The new trends of Information Technology have a great infrastructure to access to the latest information. Thus the use of information technology in Library and Information centres is becoming inevitable. The following are the advantages of IT:

- Enormous speed, great accuracy and reliability:
- To reduce the cost through resource sharing:
- To control the information explosion through bibliographic control:
- To improve the quality of existing services
- To have an effective control over the entire operations:
- To avoid duplication of work:
- To facilitate wider dissemination of information products and services: and
- To participate resource sharing/ library networks.

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## पेपरलेस अर्थसंकल्प २०२१ – एक संशोधकीय अभ्यास

प्रा. गोवर्धन कृष्णाहरी दिकोंडा

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### गोषवारा :

प्रतिवर्षी प्रमाणे केंद्रीय मंत्री श्रीमती निर्मला सीतारामन यांनी भारताचा दि. १ फेब्रुवारी २०२१ अर्थसंकल्प संसदेत सादर केला. या अर्थसंकल्पाचा वैशिष्ट्य म्हणजे हा भारताचा पहिलाच डिजिटल म्हणजे पेपरलेस अर्थसंकल्प होय. यापूर्वी अर्थसंकल्प सादर करताना मोठ्या प्रमाणात कागदाचा वापर होत होता. त्यामुळे नैसर्गिक साधन संपत्तीचा मोठ्या प्रमाणात नुकसान होत होता तसेच मोठ्या प्रमाणात कागदाचा आयात करावा लागत होता त्याचे आर्थिकदृष्ट्या जे नुकसान होणार होता ते वाचले.

या पेपरलेस अर्थसंकल्पाचे सर्वात वैशिष्ट्यपूर्ण गोष्ट म्हणजे हा अर्थसंकल्प सर्व जनतेला सहजपणे सर्वांना उपलब्ध झालेला आहे. या पेपरलेस अर्थसंकल्पात नेहमीप्रमाणे पैसा कसा येतो व कसा जातो याबाबत आढावा घेतलेला. पैसा कसा व कुठे खर्च केला जाणार आहे. कोणत्या कार्यासाठी, योजनेसाठी, आणि तत्सम घटकावर किती व कसे खर्च केले जाणार हे स्पष्ट केले आहे. आपण लोकशाही गणराज्य शासनप्रणाली स्वीकारले असल्याने केंद्रात कोणाचेही सरकार असो त्यांना जनतेला देशाचे जे कारभार चालू आहे विशेषतः आर्थिकदृष्ट्या त्याबाबत कळविणे आवश्यकता असते. एकंदरीत अर्थसंकल्प हा देशातील प्रत्येक नागरिकाला माहित होणे आवश्यक आहे कारण प्रत्येक नागरिकाचा तो दैनंदिन जीवनाचा एक अविभाज्य भाग आहे.

**महत्त्वाचे शब्द :** पेपरलेस अर्थसंकल्प, प्रासिकर, स्वस्त, महाग, महसूल तूट, कर्ज, व्याज

### प्रस्तावना :

भारताचा केंद्रीय अर्थसंकल्प यास दुसऱ्या शब्दात 'वार्षिक आर्थिक लेखाजोखा' असेही म्हटले जाते. भारतीय संविधानाच्या कलम १२ अन्वये 'वार्षिक आर्थिक लेखाजोखा' सादर करणेबाबत घटनात्मक तरतूद केले असल्याने भारतीय जनतेला देशाचा आर्थिकदृष्ट्या कारभार कसे चालू आहे याचे माहिती होत असते. भारतात १ एप्रिल ते ३१ मार्च हा आर्थिक वर्ष धरल्याने देशाचा अर्थसंकल्प हा प्रतिवर्षी फेब्रुवारी या महिन्यात सादर केला जातो. फेब्रुवारी महिन्यात सादर केलेला अर्थसंकल्प हा त्यापुढील वर्षापासून सुरु होणाऱ्या आर्थिक वर्षासाठी लागू होतो. इसवी सन २०१६ पर्यंत फेब्रुवारी महिन्याच्या अखेरीस केंद्रीय अर्थमंत्री यांच्याद्वारे संसदेत अर्थसंकल्प सादर केला जात होता. अर्थसंकल्प एक विधेयक आणि विनियोजन विधेयक म्हणून सादर केला जातो.

त्यावर एक एप्रिल रोजी अंमलबजावणी होणेकरीता त्याचे लोकसभा व कालांतराने राज्यसभेचे मंजूरी घेतले जाते. यावर्षीचा म्हणजे सन २०२१-२२ चा अर्थसंकल्प हा पेपरलेस अर्थसंकल्प म्हणजे डिजिटल अर्थसंकल्प सादर केलेला आहे. यामुळे मोठ्या प्रमाणात नैसर्गिक साधनसंपत्ती वाचली आहे तसेच कागदावर होणारा आयात खर्च वाचला आहे. या अर्थसंकल्पमध्ये प्रतिवर्षी प्रमाणे पैसा कसा येतो व कसा जातो. तसेच पैसा कोणत्या घटकावर किती, आणि कसे खर्च करायचे, कोणत्या योजनेवर खर्च करायचे, कोणत्या वस्तू महाग करायचे आणि कोणत्या वस्तू स्वस्त करायचे याबाबत एक प्रकारचे लेखाजोखा मांडले जाते.

**उद्दिष्टे – १)** पेपरलेस अर्थसंकल्प वैशिष्ट्य पाहणे

२) अर्थसंकल्प २०२१ चा संशोधकीय दृष्टीने अभ्यास करणे व विविध अभिप्रायांचे दृष्टीकोन पाहणे.

**गृहीतके :** अर्थसंकल्प २०२१ चा संशोधकीय दृष्टीने अभ्यास करताना या अर्थसंकल्प २०२१ चा सामान्य नागरिकाला काय मिळावे आणि सामान्य व प्रत्येक नागरिकाच्या जीवनावर काय काय परिणाम होतो याचा अभ्यास करणे.

**संशोधन पद्धती :** उपलब्ध मूळ प्राथमिक साधनांच्या माध्यमातून संशोधकाने विश्लेषण व वर्णनात्मक संशोधन पद्धतीचा वापर करून संशोधन केले आहे.

### पेपरलेस अर्थसंकल्प २०२१ – एक संशोधकीय अभ्यास

पंतप्रधान श्री. नरेंद्र मोदी यांच्या दुसऱ्यांदा संधी मिळालेल्या पाच वर्षीय सरकारने केंद्रीय अर्थमंत्री श्रीमती निर्मला सीतारामन यांनी एकूण ३४, ८३, २३६ कोटींचा अर्थसंकल्प संसदेत सादर केला आहे. त्यांनी सादर अर्थसंकल्प पेपरलेस तथा डिजिटल द्वारे सादर केलेला आहे.

भारताच्या इतिहासात असा प्रयोग पहिल्यांदाच केलेला आहे. त्यामुळे सन २०२१-२२ चा केंद्रीय अर्थसंकल्प एक वैशिष्ट्य असलेला अर्थसंकल्प मानला जातो. हा त्यांचा तिसरा अर्थसंकल्प त्यांनी केवळ एक तास ४८ मिनिटांत सादर केला. या अर्थसंकल्पात त्यांनी ३४, ८३, २३६ कोटींचा अर्थसंकल्प सादर करताना पुढीलप्रमाणे विविध घटकांचा विचार करून सादर केलेला आहे.

केंद्र सरकार असा खर्च करणार		अर्थसंकल्पी अंदाज : २०२१-२२ (रक्कम कोटी रुपयांत)	
निवृत्तिवेतन	१,८९,३२८	नियोजन आणि सांख्यिकी	२,४७२
संरक्षण	३,४७,०८८	ग्रामीण विकास	१,९४,६३३
मोठे अंशदान	३,३५,३६१	विज्ञान विभाग	३०,६४०
कृषी आणि संलग्न उद्योग	१,४८,३०१	समाज कल्याण	४८,४६०
वाणिज्य आणि उद्योग	३४,६२३	कर प्रशासन	१,३१,१००
ईशान्येचा विकास	२,६५८	राज्यांकडे हस्तांतरित	२,९३,३०२
शिक्षण	९३,२२४	वाहपूक	२,३३,०८३
ऊर्जा	४२,८२४	केंद्रशासित प्रदेश	५३,०२६
परराष्ट्र व्यवहार	१८,१५५	नगर विकास	५४,५८१
वित्तीय	९१,९१६	अन्य	८७,५२८
आरोग्य	७४,६०२		
गृह	१,१३,५२१		
व्याज	८,०९,७०१		
आयटी आणि दूरसंचार	५३,१०८		

एकूण  
**३४,८३,२३६**  
कोटी

स्रोत : अर्थसंकल्पी दस्तावेज २०२१-२२

उपरोक्तप्रमाणे आपल्याला लक्षात येईल की, केंद्र सरकार पैसा कसा खर्च करणार आहे याचे स्पष्टीकरण केलेला आहे. याशिवाय महसूल मध्ये किती तूट आहे हेही पाहणे आवश्यक आहे.

केंद्रीय अर्थसंकल्प २०२१-२०२२		दृष्टिक्षेपात अर्थसंकल्प (कोटी रुपयांमध्ये)		
	प्रत्यक्षात (२०१९-२०)	अर्थसंकल्पी अंदाज (२०२०-२१)	सुधारित अंदाज (२०२०-२१)	अर्थसंकल्पी अंदाज (२०२०-२१)
महसुली जमा	१६,८४,०५९	२०,२०,९२६	१५,५५,१५३	१७,८८,४२४
भांडवली जमा	१०,०२,२७१	१०,२१,३०४	१८,९५,१५२	१६,९४,८१२
एकूण जमा	२६,८६,३३०	३०,४२,२३०	३४,५०,३०५	३४,८३,२३६
एकूण खर्च	२६,८६,३३०	३०,४२,२३०	३४,५०,३०५	३४,८३,२३६
महसुली तूट	६,६६,५४५	६,०९,२१९	१४,५५,९८९	११,४०,५७६
प्र. महसुली तूट	४,८०,९०४	४,०२,७१९	१२,२५,६१३	९,२१,४६४
वित्तीय तूट	९,३३,६५१	७,९६,३३७	१८,४८,६५५	१५,०६,८१२
प्राथमिक तूट	३,२१,५८१	८८,१३४	११,५५,७५५	६,१७,१११

उपरोक्त केंद्रीय अर्थसंकल्प २०२१-२२ मधील अर्थसंकल्पाचे महसूल तूट पाहिल्यास भारताचा महसूल तूट उत्तरोत्तर वाढत चालले असल्याचे स्पष्टपणे निदर्शनास येते. सदर महसूल तूट भरून काढण्यासाठी केंद्र शासनाने कोणतेही उपाययोजना केल्याचे दिसून येत नाही उलट यासाठी आंतरराष्ट्रीय स्तरावर एकूण ३६% कर्ज काढले जात आहे त्यावर मोठ्या प्रमाणात म्हणजे अर्थसंकल्पाच्या एकूण २०% व्याज द्यावा लागणार आहे. असे या अर्थसंकल्पमध्ये नमूद केलेले आहे. त्याचे पुढीलप्रमाणे चित्रातून आपणास दिसून येईल. असे जर कर्ज काढून व्याज भरणार असेल तर देश हळूहळू आर्थिकदृष्ट्या संकटात जाण्याचे चिन्हे दिसतात.



या अर्थसंकल्पात सोने-चांदी, स्टीलची भांडी, कृषी उपकरणे, नायलॉनचे कपडे, रंग, तांबे, लोखंड, विमानाचे स्पेअरपार्ट, ड्रायक्लिनिंग, पॉलीस्टरचे कपडे स्वस्त होणार असल्याचे स्पष्ट केले आहे. मोबाईल फोन, तंबाखूजन्य पदार्थ, आयात वाहनांचे पार्ट्स, एलईडी बल्ब, चप्पल, बूट, मोबाईलचे चार्जर, सफरचंद, सौर इन्वर्टर, कबुली चणे महाग होणार आहेत.

या अर्थसंकल्पात कोणतेही प्राधिकारात वाढ केलेले नाही. मागील वर्षी जसे आहे त्यानुसार कर भरावे लागणार आहे. पंतप्रधान श्री. नरेंद्र मोदी केंद्रीय अर्थसंकल्प २०२१-२२ हा 'विकासाचा विश्वास देणारा अर्थसंकल्प' असे म्हटले आहे. याउलट दैनिक सामना या वृत्तपत्राने 'खिशात नाही आणा, मला बाजीराव म्हणा' ! असा केंद्रीय अर्थसंकल्प २०२१-२२ चा खिल्ली उडविली आहे. तसेच राहुल गांधी यांनी 'लोकांच्या हातात पैसे देण्याचे सरकार विसरून गेले आहे. मोदी सरकारने आपल्या देशाची मालमत्ता धनाढ्य मित्रांच्या हाती सोपवण्याची योजना आखली आहे' असे मत व्यक्त केले आहे. उद्योगपती व व्यापारी यांनी त्यांच्या बाजूने अर्थसंकल्प सादर केल्यामुळे त्यांनी यावर्षीच्या अर्थसंकल्पाचे स्वागत केले असल्याचे विविध वृत्तपत्रातील त्यांनी दिलेल्या अभिप्रायातून निदर्शनास येते.

**निष्कर्ष :**

केंद्रीय अर्थसंकल्प २०२१-२२ पाहता पेपरलेस किंवा डिजिटल अर्थसंकल्प म्हणून सादर करून जो कागदाचा खर्च वाचवले आहे तेच सर्वात मोठे वैशिष्ट्य आहे. उपरोक्त महसूल तुटीच्या बाबत मागील तीन वर्षांचा आढावा घेतला असता या देशाला कमीतकमी खर्च व विना खर्च सरकारचे योजना कसे राबविले जावे याचे एक उदाहरण असल्याचे पेपरलेस किंवा डिजिटल अर्थसंकल्प माध्यमातून दिसून येते. केंद्र सरकारने अशा प्रकारचे प्रयोग मोठ्या प्रमाणात राबवावे यातून मोठ्या प्रमाणात आर्थिक बचत होते. बचत झालेला पैसा सामान्य माणसाच्या विविध आवश्यक योजनेसाठी वापरता येऊ शकतो. केंद्रीय अर्थसंकल्प २०२१-२२ हा सर्व सामान्य नागरिकांच्या दृष्टीने पाहता त्याचा फायद्याच्या दृष्टीने एकच आहे ते म्हणजे त्याला रु. २, ५०, ०००/- उत्पनावर कोणतेही कर भरावे लागणार नाही. याशिवाय जे वस्तू स्वस्त किंवा महाग झाले आहेत ते प्रत्येक नागरिकाला सोसावे लागणार आहे. एकंदरीत केंद्रीय अर्थसंकल्प भारतीय संविधानाच्या कलम १२ अन्वये 'वार्षिक आर्थिक लेखाजोखा' म्हणून सादर करणेबाबत घटनात्मक तरतूद केले असल्याने भारतीय जनतेला देशाचा आर्थिकदृष्ट्या कारभार कसे चालू आहे याची माहिती होणे आवश्यक आहे. अंतिमतः अर्थसंकल्प हा प्रत्येक नागरिकाचा तो दैनंदिन जीवनाचा एक अविभाज्य भाग आहे.

**शिफारस(Recommendations) :**

जसे आपल्या घराचे कोणतेही कर्ज असो तथा वैयक्तिक जीवनात आपण कोणाचेही उसने पैसे किंवा कर्ज घेतले तर सदर पैसे किंवा कर्ज फेडण्यासाठी आपण आटोकाट प्रयत्न करतो. आपण कर्जमुक्त होणेसाठी जीवनातील काही वेळ तथा काळ घालवतो तसाच प्रयत्न केंद्र शासनाने देशासाठी करावा जेणेकरून देश कर्जमुक्त होईल आणि देश पुढील काळात स्वयंपूर्ण होऊन जगात स्वाभिमानाने आपल्या देशाचे तिरंगा कायमस्वरूपी फडकत राहिल. असे माझ्या वरील संशोधकीय अभ्यासातून शिफारस करत आहे.

**संदर्भ :**

- १) अर्थसंकल्प विधेयक २०२१-२२
- २) <https://www.indiabudget.gov.in/> date 10.02.2021 time 9.30 p.m.
- ३) दि. २ फेब्रुवारी २०२१ रोजी प्रकाशित दैनिक सामना वृत्तपत्र
- ४) दि. २ फेब्रुवारी २०२१ रोजी प्रकाशित दैनिक सकाळ वृत्तपत्र
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- ६) दि. २ फेब्रुवारी २०२१ रोजी प्रकाशित दैनिक पुढारी वृत्तपत्र
- ७) दि. २ फेब्रुवारी २०२१ रोजी प्रकाशित दैनिक पुण्यनगरी वृत्तपत्र
- ८) दि. २ फेब्रुवारी २०२१ रोजी प्रकाशित दैनिक दिव्यमराठी वृत्तपत्र

## **हवामान बदलाचा महाराष्ट्रातील कृषी क्षेत्रावरील परिणाम**

**डॉ. बोबडे बबन बाबुराव**

भूगोल विभाग, महिला कला महाविद्यालय, बीड, जि. बीड (महाराष्ट्र)

### **सारांश**

मानवाचे पृथ्वीवर आगमन झाल्यापासून मृदावरण, जलावरण, जिवावरण, या घटकांत बदल करण्यात सुरुवात केली. विकासासाठी म्हणून नैसर्गिक घटकावर नियंत्रण मिळवण्याचा प्रयत्न सुरू केला म्हणजे निसर्ग चक्रात ढवळाढवळ करण्याचा प्रयत्न सुरू केला. औद्योगिक क्रांतीनंतर सतत भौतिक सुधारणा केल्या गेल्या तंत्रज्ञानाच्या साहाय्याने पर्यावरण स्वरूप बदलण्यास सुरुवात केली. औद्योगिकीकरण, शहरीकरण, साधनसंपत्तीचा अतिरिक्त वापर, याचा परिणाम पर्यावरण बदलावर झाला. विकसनशील महाराष्ट्र राज्यात अधिक प्रभाव जाणवू लागला. कारण या राज्यात मुख्य आधार शेती क्षेत्र आहे. हवामान बदलामुळे शेतीसंबंधी उद्योग यांच्याशी थेट संबंध आला. मानव व प्राण्यांना अपाय होत गेले.

### **हवामान बदल :**

पृथ्वीच्या हवामानात नैसर्गिक रित्या बदल होत असतात. पण अलीकडे या निसर्गचक्रातच बदल होताना दिसत आहेत. सुरुवातीला या बदलाची कारणे नैसर्गिक असल्याचे मानले गेले मात्र, अलकडील अनुभवावरून असे दिसते की, हवामान बदल हा केवळ नैसर्गिक बदलांचा परिणाम नसून तो मोठ्या प्रमाणात मानवाच्या निसर्गातील हस्तक्षेपामुळे घडून येत आहे. जागतिक वातावरणाच्या संरचनेत झालेला आणि नैसर्गिक परिवर्तनशीलते बरोबरच प्रदीर्घ काळासाठी अनुभवास येणारा हवामानातील बदल 'म्हणजे हवामान बदल होय'.

### **प्रस्तावना :**

प्रत्येक राज्याला हवामान बदलाचा परिणाम स्थानिक हवामानाच्या स्थितीवरती होत असतो. हे बदल 'क्लायमेट व्हेरिअबिलिटी' म्हणून ओळखले जातात. वाढते तापमान, मान्सूनच्या आगमनातील अनिश्चितता, पावसाच्या प्रमाणातील आणि वितरणातील अनियमितता यातून वातावरणाचे संतुलन बिघडत चालेले असल्याचे स्पष्ट होते. बदललेल्या परिस्थितीमुळे शेतीवर होणाऱ्या दुष्परिणामांची तीव्रता कमी करण्यासाठी ही परिस्थिती नियंत्रणात आणावी लागेल. तसेच तिच्याशी जुळवून घेण्याचेही प्रयत्न करावे लागतील. शेती आणि पूरक व्यवसाय सबळ करण्यासाठी त्यांची प्राकृतिक बदल सामावण्याची क्षमता वाढवावी लागेल यासाठी सुनियोजित प्रयत्नांची गरज आहे. हवामान बदलाचे महाराष्ट्रातील कृषीवर गंभीर परिणाम होताना दिसत आहे. कारण महाराष्ट्रातील लोकजिवनाचा कणा हा शेती व्यवसाय आहे. त्याचबरोबर महाराष्ट्राची बहुसंख्या लोकसंख्या ग्रामीण भागात राहते. अतिरिक्त लोकसंख्येची समस्या, विकासाची समस्या, त्याच बरोबर नवीन हवामान बदलाची समस्या अशा संकटांचा महाराष्ट्रातील कृषीवर परिणाम झालेला आहे.

### **अभ्यासाची उद्दिष्ट्ये :**

- 1) महाराष्ट्रातील कृषी क्षेत्रावर बदलत्या हवामानाचा परिणाम तपासणे.
- 2) हवामान बदलाचा पिकपद्धतीवरील परिणाम तपासणे.
- 3) हवामान बदलाचा कृषी व्यवसायावरील परिणाम अभ्यासणे.
- 4) कृषी उत्पादनावर आधारीत उद्योगावर झालेला परिणाम अभ्यासणे.

### **अभ्यास पद्धती :**

प्रस्तुत शोध निबंध हा दुय्यम साधन सामुग्रीवर आधारीत आहे. माहितीचे संकलन करण्यासाठी संदर्भग्रंथ, त्रैमासिके, शेतकऱ्यांच्या प्रतिक्रिया, मुलाखती विचारात घेतलेल्या आहेत.

### **अभ्यास क्षेत्र :**

प्रस्तुत शोधनिबंध हा महाराष्ट्रातील भू-भागावरील विविध कृषीक्षेत्रातील अभ्यासासाठी आहे. कारण महाराष्ट्र भू-भागावर कृषी हा प्रमुख व्यवसाय आहे.

### **विषय विवेचन :**

हवामानाचा बदलाचा कृषीवर परिणाम होणे स्वभाविक आहे. उत्पादनावर प्रत्यक्ष परिणाम होतो. तर अप्रत्यक्ष परिणाम शेतकरी वर्गावर होतो. गेल्या काही वर्षात अनिश्चित, अवेळी, अपुऱ्या तसेच अतिपावसामुळे महाराष्ट्रात मोठी नैसर्गिक



संकटे ओढवली आहेत यातून राज्याला मोठ्या आर्थिक तोट्यांना सामोरे जावे लागले. फेब्रुवारी आणि मार्च 2014 मध्ये गारपीटीच्या पराकोटीच्या आणि गंभीर घटना घडल्या. राज्यभरात 15 हजार गांवावर परिणाम झाला. मराठवाडा आणि विदर्भ भागात मोठे नुकसान झाले. राज्याच्या अनेक भागातील शिवारे पूर्णतः उद्धवस्त झाली. शिवारातील गहू, तांदूळ, मका, भुईमूग, ज्वारी, मोहरी, कांदे अशा सर्व पिकांचे मोठे नुकसान झाले. संत्री, आंबा, केळी आणि मोसंबी या बागायती पिकांवरही या घटनेचा तीव्र परिणाम झाला. खरीप हंगामामध्ये पावसात चढ-उतार होतो. त्यामुळे खरीप पिकांची उत्पादन क्षमता कमी – जास्त होणे अपेक्षित असते. परंतु धान्य पिकांच्या बाबतीत रब्बीचा हंगाम अधिक खात्रीचा मानला जातो. तशातच जर गारपीट, अतिवृष्टी, अवेळी पाऊस अशा नैसर्गिक प्रतिकूलतेला सामोरे जावे लागले तर या नैसर्गिक आपत्तीमुळे रब्बी पिकांचे सुध्दा नुकसान होते, तेव्हा एकूण अर्थव्यवस्थेवर तसेच अन्न सुरक्षेवर त्याचे तीव्र पडसाद उमटू शकतात.

2014 साली महाराष्ट्रातील गारपीटग्रस्त शेतकऱ्यांसाठी केंद्र सरकारला 844 कोटी रुपयांची मदत जाहीर करावी लागली होती. 'द एनर्जी अण्ड रिसोर्सेस इन्स्टिट्यूट' च्या अभ्यास गटाने बुलढाणा जिल्ह्यामध्ये तेथील नुकसानीचा अंदाज घेण्यासाठी थेट लोकांमध्ये जाऊन सर्व्हेक्षण केले. त्यानुसार सन 1995 आणि सन 2009 मध्ये सुध्दा याच प्रकारच्या घटना झाल्याचे लोकांनी सांगितले. परंतु सन 2014 मधील गारपीटीची तीव्रता इतकी जास्त होती की, तिची तुलना आधीच्या दोन्ही घटनांशी करता येणार नाही. हवामान बदलाचे शेतीवर वेगवेगळ्या स्वरूपात होत असतात. उदा. पाण्याची टंचाई, मान्सूनचे आगमन, दुष्काळ, पूर आणि पर्जन्य वितरणातील अनिश्चितता इत्यादी परिणाम होतात.

#### **निष्कर्ष :**

हवामानातील बदल अटळ आहेत. हवामानातील वाढत्या अनियमिततेचा थेट परिणाम अन्न सुरक्षेवर होईल. हवामान बदलाच्या शेतीवर होणाऱ्या परिणामातून भविष्यात अन्न सुरक्षेचा प्रश्न अधिक तीव्र बनण्याची शक्यता आहे. परंतु विकट हवामानाचा प्रतिकार करू शकतील अशा शेती पद्धती विकसित करणे शक्य आहे. त्यासाठी हवामान बदलाची तीव्रता कमी करण्यासाठी आणि त्याच्याशी जुळवून घेण्यासाठी योग्य धोरणे आखावी लागतील. कृषी क्षेत्र सबळ करण्यासाठी शेतीशी निगडित सर्व घटकांनी एकत्र काम करणे गरजेचे आहे. शेतीशी संबंधित आधुनिक विषयांमध्ये तरूणांना सहभागी करून घेऊन त्यांचा उत्साह वाढविण्याची गरज आहे. महाराष्ट्र राज्याच्या दृष्टीने, शेतीचे यांत्रिकीकरण, हवामान सूचनेच्या तत्प्र यंत्रणा आणि लहान व सीमांत शेतकऱ्यांना सुक्ष्म पतपुरवठ्याच्या सोयी हे काही महत्वाचे उपाय ठरतील.

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## **आधुनिक समूह संपर्क माध्यमांची उच्च शिक्षणातील भूमिका**

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### **प्रस्ताविक**

आधुनिक युगामध्ये अनौपचारिक सामाजिकाकरण्याची साधने म्हणजे समूह संपर्क साधूने होय. यात दूरचित्रवाणी, वृत्तपत्रे, नियतकालिके, आकाशवाणी व साहित्य इत्यादी साधनांचा समावेश होतो. या माध्यमांमुळे दोन देशातील, राष्ट्रातील, जिल्हातील, गावातील अंतर कमी होऊन जग जवळ आले. व्यक्ती जगातील कोणत्याही भागातील व्यक्तीशी, केव्हाही संपर्क साधू शकते. शिक्षण, उच्चशिक्षण याबाबत हवी ती माहिती संग्रहित करून घेऊ शकते. समूहसंपर्कामुळे व्यक्तीला ज्ञान आणि माहिती पुरवून तिच्या व्यक्तिमत्त्वाचा विकास झाला आहे. तसेच या साधनामुळे विद्यार्थ्यांना पडलेले प्रश्न, अडचणी, आवश्यक माहिती प्राप्त करता येते. यामुळे विद्यार्थी व्यवहार कुशल, अनुभव संपन्न व ज्ञानसंपन्न बनू शकतो तसेच समाजामध्ये धार्मिक व सांस्कृतिक बाबींचे प्रबोधन घडवून आणणे. भारतीय संस्कृतीला वेगवेगळे सण-उत्सव यांची योग्य माहिती समाजाला पुरविणे हे काम माध्यमे करताना दिसून येतात. माध्यमे प्रभावीपणे समाजाचे शिक्षण घडवून आणतात. उदाहरणार्थ प्रौढ शिक्षण, आरोग्य शिक्षण, एड्स जाणीव जागृती, पल्स पोलिओ लसीकरण माहिती याशिवाय अंधश्रद्धा निर्मूलन, रुढी-परंपरा, उच्चारन, हेही कार्य माध्यमे करतात. समाजामध्ये राष्ट्रप्रेम, विश्वबंधुत्व, समानता व राष्ट्रीय एकात्मता असे गुण विकसित व्हावेत व आदर्श आदर्श नागरिक बनावेत. यासाठी समूहसंपर्क माध्यमे सदैव प्रयत्नशील प्रभावी कामगिरी करीत असतात. संपर्क माध्यमाची उच्च शिक्षणात, वाढ, विकास व वृद्धी त्याचबरोबर गुणवत्ता वाढीसाठी सदैव मदत होत असते. कारण सर्वत्र क्षेत्रात झपाट्याने प्रगती होत आहे. याबाबतची माहिती समाजाला माध्यमे पुरवित असतात म्हणून समाज विकासात माध्यमांची भूमिका महत्त्वाची आहे

### **उद्देश**

1. समूहसंपर्क माध्यमांच्या कार्याचा अभ्यास करणे.
2. माध्यमे व शिक्षकाची भूमिका जाणून घेणे.

### **गृहितके**

1. समूहसंपर्क माध्यमे सामाजिक विकासाच्या दृष्टीने भरीव कार्य करीत आहे.
2. अध्यापन करीत असताना शिक्षक माध्यमातील माहितीचा उपयोग करीत आहे.

### **समूहसंपर्क माध्यमाची कार्ये**

आधुनिक काळात होत असलेली वैज्ञानिक प्रगतीची वाढ, विकास व वृद्धीचे दर्शन समाजापर्यंत प्रसार माध्यमे पोहोचविण्याचे बहुमोल कार्ये करीत असतात समाजशास्त्रज्ञ "ब्राउन" यांच्या मते समूह संपर्क माध्यमांचा जनमानसावर प्रभाव पडलेला दिसून येतो. या शास्त्रज्ञांनी माध्यमांचे ठळक कार्ये सांगितलेली आहे. ती अशी 1. मनोरंजन करणे 2. विविध विषयांवर सत्य व अचूक माहिती देणे 3. वादग्रस्त विषयावर विविध प्रकारचे दृष्टीकोन मांडले. याचाच अर्थ असा होतो की, जनतेला ज्ञान समृद्ध करणे व तिचा जीवनविषयक दृष्टिकोन तयार करणे या माध्यमाचा माहितीतून समाजातील जनतेला विविधांगी माहिती, ज्ञान प्राप्त होत असते

### **समूहसंपर्क साधने आणि शिक्षकांची भूमिका**

21 व्या शतकातील वैज्ञानिक प्रगती व जनसंपर्क माध्यमांचा विकास पाहता शिक्षकांना अध्यापनात संपर्कमाध्यमांचा उपयोग करावा लागतो त्यासाठी शिक्षकांनी बहुगुणी भूमिका बजावणे काळाची गरज आहे ती अशी- की शिक्षकाला आकाशवाणी दूरचित्रवाणी यावरचे शालेय कार्यक्रम त्याच्या दैनंदिन अध्यापनात मदत करीत असतात. वृत्तपत्रे, मासिके ,नियतकालिके,यांतील विविध प्रकारच्या माहितीचे पृथक्करण करून एक ज्ञानकोश तयार करू शकतात. ध्वनिनिफ्रित किंवा टेपरेकॉर्डरच्या साहाय्याने त्यांच्या अनुपस्थितीत मुलांच्या अध्ययनात खंड पडणार नाही अशी तरतूद करू शकतात.

### **समूहसंपर्क माध्यमांचा प्रभाव**

21 व्या शतकातील वैज्ञानिक क्षेत्राची दैदीप्यमान प्रगती पाहता समूहसंपर्क माध्यमांची परीणामकारकता अगर-प्रभावी, अगर-भूमिका ठळकपणे विशेष करून लोकशाही शासनावर अंकुश, कृषी, क्षेत्र, आरोग्य ,कला, क्रीडा, शिक्षण इत्यादी विविध क्षेत्रात प्रकर्षाने दिसून येते.

दैनंदिन जीवनात चांगले आयुष्य जगता यावे, आनंदी रहावे यासाठी वृत्तपत्र या माध्यमांद्वारे स्त्री व पुरुष पशुपक्षी इत्यादींच्या आरोग्यविषयक माहिती पुरविली जाते रोगावर उपाय योजना ही व्यवस्थित मार्गदर्शन करतात उदाहरणार्थ फॅमिली डॉक्टर ही पुरवणी तसेच क्रीडाविषयक वार्तापत्र क्रीडा समालोचन विविध सामने स्पर्धा बाबत माहिती प्रसारित करतात त्यासाठी विशेष कार्यक्रम आयोजित करतात तसेच शिक्षण क्षेत्राशी संबंधित माहिती, नोकरीच्या संधी, जाहिराती शैक्षणिक निर्णय, धोरणे, प्रकल्प अभ्यासक्रम व व्यवसायिक शिक्षण इ. माहिती जनतेपर्यंत पोहोचविली जाते. माध्यमे विविध क्षेत्रात आपली भूमिका परिणामकारक वजावत असतात राजकीय पक्षाचे भवितव्य प्रसारमाध्यमांच्या सहकार्यावर अवलंबून असते असे म्हणणे वेगळे ठरणार नाही

### **समूहसंपर्क माध्यमाची गरज**

स्पर्धेच्या युगात यशस्वी होण्यासाठी दैनंदिन जीवनात प्रत्येक व्यक्तीला बौद्धिक, शारीरिक, मानसिक, श्रम, केल्याने थकवा दूर करण्यासाठी मनोरंजनाची साधने कार्यालयात, घरी असणे गरजेचे आहे. वृत्तपत्र, आकाशवाणी, टीव्ही, मोबाइल, इंटरनेट इत्यादी माध्यमांमध्ये हास्यविनोद सिनेमा मनोरंजनात्मक खेळ याद्वारे मनोरंजन केले जाते. हे मनोरंजन मरगळलेल्या मनाला नवसंजीवनी, उत्साह, प्रेरणा देऊन नवचैतन्य देत असते या माध्यमांद्वारे विविध क्षेत्रांची प्रगती ,वाढ, विकास व वृद्धी कशी होत आहे. यांचे ज्ञान कल्पना आपल्याला येते तसेच विविध भाषा ऐकून आनंद वाटतो. अशा कार्यक्रमांमधून व्यवस्थापन, प्रशासन, नियोजन, समन्वय, नेतृत्व, सहकार्य, संदेश, नियंत्रण, विपणन, बँकिंग, जाहिरात, कायदा, पर्यावरण, वाहतूक, खेळ, मेडिकल, चित्रे, संगणक, कृषी, क्षेत्र, अभियांत्रिकी, संशोधन, शाळा, महाविद्यालय ,अध्ययन-अध्यापन, देवस्थान, पूर, महापूर, आपत्ती, वाहतूक, संरक्षण , वित्त, विमा, सुखः, दुःख, आनंद- इत्यादी विविध क्षेत्रातील संकल्पनेबाबत ज्ञान प्राप्त होते .

### **समूहसंपर्क साधनांवरील उणिवा/ दोष**

आधुनिक काळात समूहसंपर्क साधनाची भूमिका प्रखर व कडक, धडाकेबाज दिसून येते. अशा काळात जनतेपर्यंत सर्व बरेवाईट संदेश पोहोचविले जातात हे माध्यमे शासकीय धोरणांवर टीका करतात तसेच बातम्या प्रसारित करताना भडकपणा दिसून येतो. वाचकाची, प्रेक्षकांची दिशाभूल करून नको, त्या गोष्टींना महत्व देतात जनतेच्या भावनांना हात घालतात व भडकवितात. राजकीय क्षेत्रातील बातम्या प्रत्यक्षातील पक्षपात करताना दिसून येतात.

### **समारोप**

जागतिकीकरणाच्या प्रक्रियेत आधुनिक समूहसंपर्क माध्यमांची उच्च शिक्षणातील भूमिका अत्यंत प्रभावीपणे पार पाडत आहे. यातून विद्यार्थ्यांना अध्ययन करण्यासाठी विविध क्षेत्रांची माहिती प्राप्त होते .त्यामुळे त्यांच्या गुणवत्तेत नुसती वाढ नव्हे तर वृद्धी जाणवते. त्यामुळे विद्यार्थी स्पर्धेच्या युगातील आव्हाने सहज स्वीकारू शकतो, यात शंका नाही. समूहसंपर्क माध्यमांचा प्रभाव देशातील सर्वच क्षेत्रात जाणवतो.

### **संदर्भ ग्रंथ**

- १.दूरचित्रवाणी
- २ .वृत्तपत्रे
३. नियतकालिके
- ४.आकाशवाणी
- ५.साहित्य
- ६ इंटरनेट

## **महात्मा जोतीराव गोविंदराव फुले : राजकीय विचार**

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### **प्रस्तावना**

महात्मा फुले यांच्या कार्यामागील प्रेरणा उदात्त, मूलग्राही आणि व्यापक होती ते प्रत्येक वेळी शोषितांच्या बाजूने खंबीरपणे उभे राहिले होते. ते धर्म भेद भाव करीत नव्हते. फुल्यांच्या मनात शोषितांबद्दल खोल सहानुभूती होती. त्यांच्या सुख दुखाशी ते तादात्म्य पावलेले होते. श्रमिक शुद्राति शुद्रातील सुप्त शक्तीची त्यांना पुरे पुर ओळख पटली होती. नव निर्माण क्षमतेवर त्यांचा विश्वास होता. सामाजिक न्याय व समता यांच्या स्थापनेसाठी ही शक्ती जागृत करण्याची आवश्यकता त्यांना तीव्रपणे जाणवत होती ते जन्मभर प्रयत्नशील होते. म्हणून "सामाजिक क्रांतीचे उद्गते अग्रदूत" हा त्यांचा गौरव सथोचित आहे.

### **चरित्र**

जोतीरावाचा जन्म ११ एप्रिल १८२७ साली एका मध्यम वर्गीय शेतकरी कुटुंबात पुणे येथे झाला. त्यांचे मूळ आडनाव गोऱ्हे आणि मूळ गाव सातारा जिल्ह्यातील कटगुन नांवाचे खेडे होते. पण त्यांचे आजोबा पुण्यात स्थाईक झाले होते. पेशव्यांना फुले पुरविण्याचा व्यवसाय घरात चालत असल्यामुळे त्यांना फुले नावाने लोक ओळखू लागले. जोतीराव एक वर्षाचे होण्यापूर्वीच त्यांच्या आईचे निधन झाले सगुण क्षीरसागर नामक विधवेने त्यांना आईची माया दिली त्यांचे वडील गोविंदराव यांनी त्यांना वयाचा सातव्या वर्षी मराठी शाळेत घातले. परंतु अभ्यासक्रम पुरा होण्यापूर्वीच त्यांच्या शिक्षणात खंड पडला. शिक्षण सोडून त्यांना आपल्या घरच्या बागेत बाग काम करावे लागले परंतु त्यांची बुद्धीमत्ता पाहून त्यांच्या घराशेजारी राहणाऱ्या एका उर्दू शिक्षकांनी व इंग्रज ग्रहस्थानी जोतीरावाना पुन्हा शाळेत घालावे असा आग्रह गोविंदरावनां केला त्यांना ते पटले त्यांनी आपल्यामुलाला इंग्रजी शिक्षणासाठी स्कॉटिश मिशनच्या शाळेत घातले ही जोतीरावाचा जीवनातील महत्त्वाची घटना होती.

जोतीरावांकडे कुशाग्र बुद्धीमत्ता आणि चिकित्सक कृती होती. विद्यार्थी दशेतच ते धार्मिक, सामाजिक प्रश्नांचा अभ्यास आणि चिंतन करू लागले जोतीरावानी सन १८४७ साली सार्वजनिक क्षेत्रात प्रवेश केला शालेय शिक्षण पूर्ण केल्या नंतर नोकरी मिळवण्याचा प्रयत्न न करता त्यांनी समाज कार्याला स्वतःला वाहून घेतले.

१८४८ मध्ये सार्वजनिक कार्याला प्रारंभ केला. नंतर त्यांनी केलेले पहिले कार्य म्हणजे पुण्यामध्ये दलितानांच्या मुलीसाठी त्यांनी शाळा काढली. अशा शाळेत शिकविण्यासाठी शिक्षक मिळणे ही दुरापास्त होते म्हणून जोतीरावानी आपल्या पत्नी सावित्रीबाई यांना स्वतः शिक्षण दिले व त्या मुलींच्या शाळेच्या शिक्षिका बनल्या.

### **राजकीय सत्ता विषयक दृष्टीकोन**

समाजातील दीनदुबळ्या लोकांची दैन्यावस्थ कशी दूर करता येईल हा एकच प्रश्न जोतीरावाचा मनात कायम होता. हे उद्दिष्ट साध्य करण्यासाठी त्यांनी लोक शिक्षणाचा मार्ग स्वीकारला पण त्यांचा बरोबर राजकीय सत्ता हे समाज परिवर्तनाचे महत्त्वाचे साधन आहे याची त्यांना जाणीव होती.

शुद्रातिशूद्रांचे सामाजिक दास्य नाहीसे होऊन त्यांना राजकीय अधिकार पदे मिळाली तसेच समाजात त्यांना समान दर्जा प्राप्त होईल अशी धारणा त्यांची होती. यासाठी शासनानी पुढाकार घेतला पाहिजे असा त्यांचा आग्रह होता. तसेच शुद्रातिशूद्रांनी आपली उदासीनता आणि न्यूनगंड सोडून शासनाच्या प्रयत्नांना प्रतिसाद दिला पाहिजे. ब्रिटीश राजवट ही उदारमतवादी आणि न्यायप्रिय असल्याने कष्टकरी जनतेला आपली प्रगती साध्य करण्याची संधी आहे असे त्यांना वाटत होते.

इंग्रजी राजवटी कष्टकरी जनतेला न्याय मिळेल असे जोतीरावाना वाटत होते. परंतु हे राज्य निर्माण होण्यापूर्वी भारतातील जुन्या राजवटीचा कारभार अंदाधुंदीचा होता. त्याच्या मनमानी कारभाराला विटले होते. शेतकऱ्यांची स्थिती अत्यंत हलाखीची होती. राज्यकर्ते मात्र यज्ञयाग ब्राम्हण भोजने तीर्थयात्रा यात गढून गेले होते. प्रजेची लुटमार चालू होती या परिस्थितीत इंग्रजी राज्य आले हे लोकांना दैवी वरदान वाटले.

लोकहितवादी न्याय रानडे, तेलंग इ. विचारवंता प्रमाणेच मा. जोतीराव फुले यांचा न्याय निष्ठेवर आणि उदारमतवादावर विश्वास होता शुद्रातिशूद्रांची गुलामगिरीतून सुटका करण्यासाठी ईश्वरी योजनेने इंग्लंड आणि भारत यांचा संबंध जुळून आला आहे. अशी त्यांची धारणा होती तरी देखील इंग्रजांच्या प्रत्यक्ष राज्यकारभारात कष्टकरी जनतेवर अन्याय होतांना दिसला तेव्हा सडेतोड शब्दात ते आपले मत व्यक्त करीत असत

सामाजिक क्षेत्रात उच्च जातीची मक्तेदारी आहे ती नाहीशी झाली पाहिजे इतर जातींना त्यात जागा मिळाल्या पाहिजेत बहुजन समाजात शिक्षणाचे प्रमाण वाढले पाहिजे यामुळे योग्य ते तरुण पुढे येऊन जबाबदाऱ्या पार पडू शकतील या साठी सरकारने प्रयत्न केले पाहिजेत असा जोतीरावाचा आग्रह होता

सामाजिक सुधारणे बाबत तटस्थ वृत्तीवर जोतीरावाचा आक्षेप होता. ब्रिटीश राज्यकर्त्यांनी प्रारंभीच्या काळात समाज सुधारणा घडवून आणण्यासाठी काही कायदे केले होते सन. १८५७ च्या उठवानंतर ते या बाबत साधन बनले धार्मिक, सामाजिक क्षेत्रात आपण फार हस्तक्षेप केले तर लोकात असंतोष निर्माण होईल, या भीतीने त्याबाबत त्यांनी तटस्थेचे धोरण स्वीकारले, परंतु

सामाजिक सुधारणांबाबत सरकारने उदासीन राहणे म्हणजे हिंदू धर्म परंपरेने निर्माण केलेली विषमता आणि अन्याय तसाच चालू ठेवण्यास मदत करण्यासारखे आहे असे जोतीरावांचे मत होते.

स.न. १८७७ च्या सुमारास महाराष्ट्र राजकीय चळवळीला सुरुवात झालेली होती या कालावधीत दोन पंथांचे विचारवंत होते काही विचारवंत राजकीय सुधारणांच आग्रह धरणारे होते. राजकीय विचारवंतांच्या मते समाजाची जी अधोगती झाली ती पारतंत्र्यामुळे झालेली आहे जर आपल्याला देशाचा विकास उन्नती घडून आणावयची असेल तर राजकीय हक्क प्राप्त करून घेण्याबाबत लोकांमध्ये जागृती निर्माण केली पाहिजे तसेच आपल्या देशाबद्दलचा स्वाभिमान जागृत केला पाहिजे. यासाठी धर्म, परंपरा, इतिहास, संस्कृती या बदलला लोकांचा अभिमान जागृत करण्याच्या कार्यावर विचारवंतांनी भर दिला.

सामाजिक सुधारणांचा आग्रह धरणाऱ्या विचारवंतांच्या मते सामाजिक अधोगतीला परकीय सत्ता कारणीभूत नसून आपल्या समाजातील अनिष्ट रूढी आणि परंपरा कारणीभूत आहेत सरकारकडे राजकीय हक्कांच्या मागणी करण्यापूर्वी समाजातील अनिष्ट प्रथा, परंपरा दूर केल्या पाहिजेत तसेच समाजात आधुनिक शिक्षण व ज्ञानविज्ञानाचा मोठ्याप्रमाणात प्रसार केला पाहिजे तसेच समाज राजकीय हक्कांचा उपभोग घेण्यास समर्थ बनेल म्हणून व्यक्ती स्वतंत्र,समानता सामाजिक न्याय, बुद्धिनिष्ठता या आधुनिक सरणीचा अंगीकार समाजाने प्रथम केला पाहिजे असे मत सामाजिक सुधारणांचा आग्रह धरणाऱ्या विचारवंतांचा होते. महात्मा जोतीराव फुले हे सुद्ध सामाजिक सुधारणा प्रथम झाल्या पाहिजे ह्या मतांशी सहमत होते ब्रिटीश सरकारनेहिंदी लोकांना राजकीय अधिकार दिले तर त्यांचा फायदा अशिक्षित आणि शुद्रातिनीशूद्रांना मिळणार नाही कारण त्यांचा खरा फायदा शिक्षणात पुढे असणाऱ्या ब्राह्मण आणि तत्सम वर्गालाच मिळेल त्यामुळे हे लोक आपल्या अधिकाराचा वापर ते समाज जीवनावरील आपले वर्चस्व कायम ठेवण्यासाठी करतील असे जोतीरावाना वाटत होते म्हणून सरकारच्या मदतीने सर्व प्रथम खेड्यापाड्यात शिक्षणाचा प्रसार करावा व आपले अधिकार उपभोगण्याची पात्रता शुद्रातिनीशूद्रांमध्ये निर्माण करावी असा जोतीरावाचा आग्रह होता. महात्मा फुले यांची सत्यशोधक चळवळ सर्वांगीण स्वरूपाची होती त्यांनी धार्मिक, सामाजिक प्रश्न आणि कष्टकरी जनतेच्या आर्थिक प्रश्नांचा विचार ही चळवळी मध्ये केला होता "शेतकऱ्यांचा आसूड"या आपल्याग्रंथातत्यांनी शेतकऱ्यांच्या दारिद्र्याचे, त्यांचावर होणाऱ्या अन्यायांचे ही वर्णन केले आहे तसेच दारिद्र्य दूर करण्याचे उपाय ही सुचवले आहे. खेडे गांवातील शेतकरी आणि कारागीर यांच्या दारिद्र्याची मिमांसा करतांना ते म्हणतात पूर्वी खेडे गावात लोहार, सुतार, कोष्टी, साळी इ. कारागीर आणि त्यांचा हाताखाली काम करणाऱ्या लोक, पोटापुरते उत्पन्न मिळवीत असत व आपला चरितार्थ चालवीत असत, पण आता इंग्लंड मधील कारखान्यात तयार झालेल्या वस्तू भारतात येऊ लागल्या त्यांचा खप वाढला आणि देशी कारागिरांचे व्यवसाय बुडत आहे. याच बरोबर सतत वाढत असलेल्या लोकसंख्याचे भार शेतीवर पडत आहे. वाढत्या लोकसंखेनुसार शेत जमिनीच्या वाटण्या होत जातात. प्रत्येकाच्या वाट्याल थोडी जमीन येते उत्पन्न कमी होते. उत्पन्न कमी झाले तरी सरकारी शेतसाऱ्याचे दर मात्र तेच कायम असतात अशा परिस्थितीमुळे शेतकरी दरिद्री बनत चालला आहे.

जोतीरावांनी शेतकऱ्यांच्या अन्यायाला सरकारी नोकरशाही, सावकार यांना जबाबदार धरले. त्याकाळात सरकारी अमलदार, सावकार, वकील, न्यायाधीश, फौजदार हे सर्व वरिष्ठ वर्गातील असत. या वर्गाला शेतकऱ्या बद्दल सहानुभूती नव्हती. सरकारी नोकरशाही व कष्ट करणारा शेतकरी यांच्यात दुरावा निर्माण झाला होता. शेतकऱ्यांच्या प्रश्नांना न्याय मिळत नसे. सावकाराच्या मनात सहानुभूती नव्हती. नोकरशाही वर्ग शेतकऱ्याचे शोषण करीत असे इ. बाबद अत्यंत प्रत्ययकारी वर्णन जोतीराव नी "शेतकऱ्यांचा आसूड" मध्ये केले आहे.

समारोप

महात्मा फुले यांनी शेतकऱ्यांची परिस्थिती सुधारण्यासाठी जे उपाय सुचविले होते ते आजच्या कल्याणकारी राज्याच्या कल्पनेशी जुळणारे आहेत. समाजातील आर्थिक विषमता कमी करणे प्रत्येक व्यक्तीला किमान प्राथमिक गरजा भागतील एवढे उत्पन्नाचे साधन प्राप्त करून देणे हे कल्याणकारी राज्याचे उद्दिष्ट असते आशीच कल्पना फुले यांनी आपल्या आर्थिक विचारा मध्ये मांडलेली आहे. शेती, पशुपालन शेतकऱ्याचे उत्पन्नाचे साधन आहे. त्याची आर्थिक स्थिती सुधारण्यासाठी शेती व पशुपालन यात सुधारणा करावी त्यासाठी पाणीपुरवठा वाढविणे, चांगल्या जनावराची पेदास करणे, शेतावरील करांचा बोजा कमी करणे इ. उपाय सुचविले. जोतीरावांनी शेतकऱ्यांचे प्रश्न आत्मियतेने समजून घेऊन सरकारी अधिकारी प्रांतिक गव्हर्नर पर्यंत स्पष्ट शब्दात मांडण्याची तत्परता आणि धर्य दाखविले या मध्येच त्यांचे मोठेपण आणि लोकाभिमुख वृत्ती दिसून येते.जोतीराव हे शेतकऱ्याची गार्हाणी सडेतोड पणे समाजासमोर मांडणारे महाराष्ट्रातील पहिले विचारवंत होते.

**संदर्भ पुस्तके**

1. २१ व्या शतकाच्या विकासासाठी शिक्षण, लेखक – प्रा.ए. एस गोल्हार, प्रा. के. डी. शिंदे प्रकाशन- श्री प्रकाशन पुणे
2. आधुनिक भारतीय राजकीय विचारवंत, लेखक – डॉ. वा. भा. पाटील प्रकाशन- प्रशांत पाब्लीकेशन, जळगाव
3. शाहूंच्या आठवणी, लेखक प्रा. नानासाहेब साळुंखे प्रकाशन- वृषाली प्रकाशन, कोल्हापूर
4. दैनंदिन वर्तमान पत्रे इ.

## **डॉ.भिमराव रामजी आंबेडकर : शिक्षण विषयक विचार**

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प्रस्तावना

डॉ.भिमराव रामजी आंबेडकर यांना डॉ. बाबासाहेब आंबेडकर म्हणून ओळखले जाते. भारतीय साविधानाचे शिल्पकार भारताच्या सामाजिक, राजकीय, धार्मिक व्यवस्थेवर कायमचा ठसा उमटवणारे कृतीशील विचारवंत होते. तसेच सामाजिक, आर्थिक लोकशाही भारतात यावी यासाठी सतत धडपणारे व विचार मांडणारे व्यक्तिमत्व म्हणजे डॉ.बाबासाहेब आंबेडकर होय.

मागासवर्गीयांचा मसिहा हा त्यांच्या व्यक्तिमत्त्वाचा पैलूच अधिक सांगितला जातो. तसेच देशाची एकता यासाठी त्यांनी केलेले मुलभूत कार्य तितकेच महत्वाचे आहे. डॉ.आंबेडकर हे थोर समाजसेवक, राजनितज्ञ, प्रकांड कायदे पंडीत आणि श्रेष्ठ विचारवंत होते. स्वतंत्र बुद्धीने प्रामाण्याच्या आधारावर निर्णय घेण्याची त्यांची क्षमता उच्च प्रतीची होती. निर्भय, परिश्रमी आणि वाईट रूढी विरुद्ध दंड थोपटून उभा राहिलेला श्रेष्ठ पुरपोत्तम म्हणून इतिहास त्याची गणना करील झुंजारपणा हा त्यांच्या स्वभावाचा विशेष आहे. दीन दलित मग ते कोणत्या जातीचे असोत त्यांचे बदल त्यांना मनापासून कळवळा वाटत होता. एक जबरदस्त शक्तिप्रवाह डॉ. आंबेडकरांच्या विचारानी तयार केला. दलितात स्वाभिमान व स्वत्व त्यांनी जागविले .त्यांचे अस्तित्व म्हणजे नव्या युगाची नवी पहाटच होती.

**चरित्र**

आधुनिक काळातील एक थोर विचारवंत, झुंजार नेते, प्रभावी समाज सेवक आणि प्रकांड व घटनातज्ञ म्हणून डॉ. आंबेडकरांचा प्रामुख्याने विचार करावा लागेल. त्यांचा जन्म १४ एप्रिल १८९१ साली मध्य प्रदेशातील महु या गावी एका गरीब आणि दुर्दैवी अशा अस्पृश्य घराण्यात झाला. त्यांनी आपले सुरवातीचे शिक्षण दापोली येथे पूर्ण केले. सन. १९०० पासून प्रथम सातारा येथे आणि त्या नंतर १९०४ पासून मुंबई येथे एल्फिनस्टन हायस्कूल मध्ये त्यांचे शिक्षण झाले. त्यांचे वडील सैन्यात सुभेदार होते.

आंबेडकर हे त्यांचे मूळ गाव त्यावरून आंबेडकर हे त्यांचे नाव पडले शाळेत शिक्षण घेत असताना त्यांना अस्पृश्यजातीचे म्हणून खूपच त्रास सोसावा लागला. अनंत अडचणी आणि अपमान यास तोंड द्यावे लागले. वयाच्या सोळाव्या वर्षी सन. १९०७साली मॅट्रिक परीक्षा उत्तीर्ण झाल्यानंतर एल्फिनस्टनमहाविद्यालयात उच्च शिक्षणासाठी प्रवेश घेतला याच काळात ते विवाहबद्ध झाले. गायकवाड यांच्याकडून मिळालेल्या शिष्यवृत्तीच्या आधारे सन.१९१३ मध्ये बी.ए.ची पदवी संपादन केली सयाजीराव गायकवाड यांनी त्यांना अमेरिकेत जाण्यास मदत केली. तेव्हा त्यांनी अमेरिकेत न्युयॉर्क मधील कोलंबीया विद्यापीठात प्रवेश घेऊन एम.ए. पदवी संपादन केली. भारतातील जातीची वाढ व उत्पतीवर प्रबंध लिहिला. त्यामुळे त्यांना पी.एच.डी ही पदवी मिळाली. अमेरिकेतील शिक्षण पूर्ण झाल्यावर बडोदा येथे लष्करी सचिव म्हणून कार्य करीत असताना अस्पृश्यतेचा त्रास होऊ लागला म्हणून ती नोकरी सोडून ते मुंबईला परत आले. सन १९१७ मध्ये मुंबई येथे सिडनेहन महाविद्यात प्राध्यापकाची नोकरी पत्करली मध्यंतरीच्या काळात त्यांनी "मूकनायक" आणि "बहिष्कृत भारत" या नावाची वर्तमानपत्रे चालवली. सन. १९१८साली नोकरीचा राजीनामा दिला. व ते कायद्याचा अभ्यास करण्यासाठी लंडनला गेले. भारतात परत आल्यावर त्यांनी दलितांच्या उधार साठी त्यांनी आपले कार्य चालू ठेवले. सन. १९२०मध्ये पुन्हा लंडनला गेले. सन. १९२१ मध्ये एम.सी.सी. ची पदवी बहाल करण्यात आली. त्यानंतर त्यांनी लंडन मध्ये डी.एस.सी. ची पदवी मिळविली. भारतात परत आल्यावर मुंबई येथे बॅरीस्टर म्हणून कार्य सुरु केले. परंतु अस्पृश्यता शिक्षा असल्याने त्यांना या व्यवसायात फारशे यश आले नाही. डॉ. बाबासाहेब आंबेडकरांनी स्वतःच अस्पृश्यते विरुद्ध चळवळ सुरु केली या क्रांतीकारी चळवळी मुळेच ते अस्पृश्योधारक म्हणून प्रसिद्ध झाले. सन.१९२७ मध्ये त्यांची मुंबई प्रांताच्या कायदे मंडळाचे सदस्य म्हणून नियुक्ति झाली. सन. १९२८ मध्ये सायमन कमिशन पुढे साक्ष देऊन अस्पृश्यतासाठी स्वतंत्र मतदार संघाची मागणी केली. सन.१९३० मध्ये अस्पृश्यांचे प्रतिनिधी म्हणून इंग्लंडमध्ये गोलमेज परिषदेस उपस्थित होते.

सामाजिक सुधारणांसाठी त्यांनी "मनुस्मृतीदहन" महाडच्या चवदार तळ्याचा सत्याग्रह, काळाराम मंदिर प्रवेशासाठी सत्याग्रहासारखी आंदोलने करून जगजाग्रण केले. गांधीजींशी सन.१९३२ मध्ये करार करून अस्पृश्यांसाठी कायदे मंडळात जागा मिळवून घेतल्यात. सन.१९३५ मध्ये मुंबईच्या लॉ कॉलेजच्या प्राचार्य पदी नेमणूक झाली. सन.१९३७ मध्ये प्रांतिक निवडणुकीच्या वेळी अस्पृश्यांच्या हित रक्षणासाठी स्वतंत्र मजूर पक्षाची स्थापना केली. सन.१९४२ मध्ये त्यांची व्हाईसरॉयच्या कार्यकारी मंडळावर कामगार खात्याचे प्रमुख म्हणून नेमणूक झाली. सन.१९४६ मध्ये ते बंगालमधून घटना समिती वर निवडून आले. घटना समितीचे मसुदा समितीचे अध्यक्ष या नात्याने त्यांनी केलेल्या कामामुळे ते भारतीय घटनेचे शिल्पकार म्हणून ओळखले जातात.

भारतीय घटनेचे शिल्पकार म्हणून कोलंबीया विद्यापीठाने त्यांना डी.लिट. ही पदवी सन्मानपूर्वक बहाल केली. स्वातंत्र्य प्राप्ती नंतर त्यांनी मंत्री मंडळात कायदे मंत्री म्हणून कार्य सुरु केले. सन.१९५१ साली बौद्ध जनसंघ स्थापन केला. सन.१९५६ मध्ये नागपूर येथे बौद्ध धर्माचा स्वीकार केला. व त्यांचा मृत्यू ६ डिसेंबर १९५६ रोजी झाला आजही या विचारवंताचे विचार अमर आहे.

**शिक्षण विषयक विचार**

अ.राज्य व शिक्षण :-

डॉ. आंबेडकराना आपल्या देशातील निरक्षरता व शैक्षणिक मागासलेपणा यांची पूर्ण जाणीव होती. शिक्षण ही समाजाची अत्यंत महत्वाची गरज आहे. सामाजिक प्रगतीचे ते एक मोठे साधन आहे. हे ही ते जाणत होते. शिक्षण हा व्यक्ति च्या प्रगतीच्या व सामाजिक विकासाचा पाया आहे. शैक्षणिक प्रगती शैक्षणिक विकास यांचा जवळचा संबंध आहे. हे ते ओळखून होते. म्हणून राज्याने दलितांच्या शैक्षणिक उद्वारासाठी लक्ष पुरविले पाहिजे. अशी त्यांची मागणी होती. त्यांच्या मते शैक्षणिक सुविधा पुरवण्याची जास्तीत जास्त जबाबदारी राज्यावर आहे. तसेच शासनाने हे ही पहिले पाहिजे कि, पुरविण्यात येणाऱ्या शैक्षणिक सुविधांचा जास्तीत जास्त फायदा समाजातील सर्व वर्गांना मिळतो. यास्तव शैक्षणिक कार्यात शासकीय प्रयत्नांचे स्वागत ही त्यांनी केलेले दिसून येते.

**व.स्त्री शिक्षण आणि स्त्री स्वतंत्र**

डॉ.बाबासाहेब आंबेडकरानी समाजाच्या सर्वांगीण विकासासाठी स्त्री शिक्षणावर भर दिला. त्याचे मते स्त्रियांना शिक्षण मिळाल्यास कुटुंबाचा खरा विकास होईल.जीवनमान सुधारण्यासाठी चांगले संस्कार करून कुटुंबाला नैतिक वळण लावण्यासाठी स्त्रियांना शिक्षण देणे आवश्यक आहे.

हिंदू कोड बिलाच्या माध्यमातून त्यांनी हिंदू स्त्रियांचे कल्याण साधण्याचा प्रयत्न केला. मात्र मतभेद झाल्यामुळे त्यांनी हिंदू कोड बिलाच्या प्रश्नावर केंद्रीय मंत्रीमंडळाचा राजीनामा दिला नंतर त्यांचाच विचारावर आधारित काही कायदे भारतीय शासनाला करावे लागले. हे सर्व कायदे हिंदू कोड बिलावर आधारित होते. बाल विवाहास विरोध, विधवा विवाहास आणि आंतरजातीय, विवाहास उत्तेजन ही त्यांच्या विचाराची विविध रूपे होती.

**क.स्त्री पुरुष समानता**

डॉ. आंबेकरांचे स्त्री पुरुष समानता असावी असे आग्रही मत होते. ही समानता होण्यासाठी स्त्री शिक्षणाचा मार्ग त्यांनी सांगितला. स्त्रियांना समाजात व कुटुंबात उत्तम वागणूक व समान दर्जा मिळाला पाहिजे. स्त्री शिक्षणाने कुटुंब पुढे जाते. स्त्री अडाणी असली तर कुटुंबाची उन्नती होत नाही असे आंबेडकरांचे मत होते.

स्त्रियांनी उत्तम कपडे, दागिने, यासाठी हट्ट न धरता स्वच्छ, टापटीप असावे. गुणवत्तेवर व चारित्र्यावर भर द्यावा. मुलामुलीवर चांगले संस्कार करावेत. असा डॉ.आंबेडकरांचा स्त्रियांना उद्देश होता.

**ड.निरक्षरता**

भारतीय लोकांची निरक्षरता हा विकास, उन्नतीतील फार मोठा अडथळा आहे. ब्रिटीशांचा काळात फारच थोड्या लोकांनी उच्च शिक्षण घेतले. बहुसंख्य लोक अडाणीच राहिले. लोकशाही ही. लोकांनीच चालवयाची असते. त्यामुळे राज्य कारभाराचे आवश्यक ज्ञान व त्यासाठी शिक्षण असावे लागते. यातून डॉ. आंबेडकरानी समाजाला शिक्षणाचे महत्त्व पटवून दिले.

**समारोप**

आपल्या देशातील सर्व स्तरावरील शिक्षणाला व्यापकपणे लागू पडणारे विचार डॉ.आंबेडकरानी मांडले. शिक्षणाची ध्येये विद्यापीठ शिक्षण, नैतिक शिक्षण, व्यवसाय, शिक्षण, प्राध्यापक या संबंधी त्यांनी मांडलेले विचार हे आजही उपयुक्त आहेत. त्यांनी व्यक्त केलेल्या अपेक्षा या तर आपल्या शिक्षणाची सुधारणा करण्याचा व दर्जा वाढविण्याच्या दृष्टीने निश्चितच प्रेरक मार्गदर्शक आहेत.

**संदर्भ पुस्तके**

१.२१ व्या शतकाच्या विकासासाठी शिक्षण, लेखक – प्रा.ए. एस गोल्हार, प्रा. के. डी. शिंदे

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२.आधुनिक भारतीय राजकीय विचारवंत, लेखक – डॉ. वा. भा. पाटील

प्रकाशन- प्रशांत पाब्लीकेशन, जळगाव

३.शाहूंच्या आठवणी, लेखक प्रा. नानासाहेब साळुंखे

प्रकाशन- वृषाली प्रकाशन, कोल्हापूर

४.दैनंदिन वर्तमान पत्रे इ.

## **मूल्य शिक्षण : गरज**

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प्रस्तावना

जागतिकीकरणाच्या प्रक्रियेत विद्यार्थी स्पर्धेच्या युगात यशस्वी करावयाचा असेल तर शिक्षण, तंत्रज्ञान, संगणक, इंटरनेट याबरोबर मूल्यशिक्षण विद्यार्थ्यांत रुजविणे काळाची गरज बनलेली आहे. आधुनिक काळात उच्च शिक्षण प्रणालीत मूल्यशिक्षण एक महत्त्वाचा विषय बनला आहे. आजच्या शिक्षणामुळे विद्यार्थी फक्त कारखान्यातील कामगारप्रमाणे बनला आहे, त्यातून खरा स्वयंपूर्ण, परिपूर्ण विद्यार्थी झालेला दिसत नाही. समाजात फक्त त्याची पुस्तकी गुणवत्ता पाहिले जाते. ती परीक्षार्थी या दृष्टिकोनातून. परंतु तो माणूस म्हणून जगण्यात किती यशस्वी झाला आहे हे पाहिले जात नाही, याचा अर्थ असा की चांगुलपणा, सदाचार, संस्कार, सुसंस्कृतपणा याचा विचार केला जात नाही. यामुळे एकविसाव्या शतकातील विद्यार्थी हा परीक्षार्थी झालेला दिसतो. या शतकातील आव्हाने पेलण्यासाठी उच्च शिक्षणात संशोधन करून अभ्यासक्रमाची मांडणी करताना शिक्षण विज्ञान, कला, शास्त्र, तंत्रज्ञान व मूल्यशिक्षण, कृतीयुक्त शिक्षण, पर्यावरण, इत्यादींचा समावेश प्रामुख्याने केला पाहिजे.

जगाच्या पाठीवर मूल्यशिक्षण हे प्राचीन काळापासून दिले जाते. ऐतिहासिक कालखंडातून मुल्ये समाजमनावर रुजविण्याचे कार्य चालू आहे. प्राचीन काळातील विचार केला तर असे निदर्शनास येते की, शिक्षणाचा मूळ उद्देश सुसंस्कारित पिढी निर्माण होणे हा होता. त्यातून सुसंस्कृत, आदर्श, प्रामाणिक, गुणी, प्रेमळ, सहकार्य वृत्ती, चांगुलपणा, आदर्श नेता, आदर्श नागरिक निर्माण होणे ही अपेक्षा अगर उद्देश होता. परंतु ते आज दिसत नाही.

मानवी मनाला मानवी वाढ, विकास व वृद्धीला पैलतिरी जाण्यासाठी मूल्यांची सोबत असणे आवश्यक आहे. सामाजिक जीवनात मूल्यांना अनन्य साधारण महत्व आहे. परंतु आज मूल्यांचा विसर पडलेला आहे, तसेच समाजात भ्रष्टाचाराने कळस गाठलेला आहे. व्यक्ती व्यक्तीत जातिवादांची दरी मोठ्या प्रमाणात रुंदावत आहे. इतरांना तुच्छ लेखण्याची विषयवृत्ती बनलेली आहे. तसेच मूल्यांवर अहंपणा, स्वार्थीपणाच्या रोगांनी आक्रमण केलेले आहे. राजकारणातून माणूसपणा नष्ट होत चाललेला आहे.

2) उद्देश

१) मूल्यशिक्षणबाबत अभ्यास करणे. २) मूल्यशिक्षणाची गरज अभ्यासणे.

3) गृहीतके.

1) मूल्यशिक्षण दिले जाते 2) मूल्यशिक्षणाची गरज पुर्ण होत आहे.

4) मूल्यशिक्षण

व्यक्तीला जीवन जगत असताना ते अनिर्बंध, अमर्यादित, बेलगांम जगता येत नाही. जीवनाचे हे काही यंत्र नियम आहेत. व्यक्तीचे जीवन खाजगी व स्वतंत्र असते तरी व्यक्तीवर कुटुंब, समाज यांचा अंकुश दिसतो. तत्कालीन काळानुसार त्या व्यक्तीचे वागणे, बोलणे, चालणे, खाणे-पिणे विशिष्ट प्रकारांनीच होणे अपेक्षित असते, तसे न झाल्यास ती वर्तणूक बेशिस्त मानली जाते. कुटुंबात मुलांकडून अपेक्षा असते की, मुलांनी मोठ्यांचे ऐकावे, त्यांचा आदर करावा, सदाचाराने वागावे, "जनीं निंध ते सर्व सोडूनी द्यावे", चोरी करू नये, खोटे बोलू नये, सर्वांवर प्रेम करावे, स्वच्छता व टापटीप यांचा स्वीकार करावा, शिष्टाचाराने वागावे, दया-प्रेम-सहानुभूती सर्वांप्रती दाखवावी.

थोडक्यात असे म्हणता येईल की, सद्गुणांची जोपासना व्हावी. सद्गुण व सदाचार यांचा प्रसार मानवाच्या समाज निर्मितीपासून सुरू झाला आहे. साधुसंतांनीही याच भावनेचा प्रसार-प्रचार आपल्या भक्ती पंथाद्वारे केला, या गुणधर्माला मूल्यशिक्षण म्हटले जाते. नैतिक शिक्षण व धर्म शिक्षणही मूल्यशिक्षण देत असते, चारित्र्यसंवर्धन अर्थात मूल्यशिक्षण अंगी वागविणे हेच शिक्षणाचे प्रमुख कार्य आहे.

आधुनिक काळात सर्वत्र क्षेत्रात झपाट्याने तंत्रज्ञानाचा शोध व वापर होत असला तरी, २१ व्या शतकात सुखी भविष्यासाठी मूल्यशिक्षण अपरिहार्य आहे. मूल्यशिक्षण म्हणजे नैतिक, व्यवहारिक किंवा सौंदर्यविषयक दृष्टिकोनातून आपल्याला जी बदलांची पसंती जाणवते ते शिक्षण होय. या शिक्षणातून मूल्यांचे संस्कार केले जातात त्याला मूल्यशिक्षण असे म्हणतात. या शिक्षणात सर्व लोकांच्या सहज प्रवृत्तीमध्ये चांगले वळण लावून घेण्याची पात्रता असते. योग्य शिक्षण दिल्यास सहज प्रवृत्तीला अनुसरून जीवन जगणे शक्य होते.

मूल्यशिक्षणाची आवश्यकता / गरज



२१ व्या शतकातील आव्हाने पेलण्यासाठी मुख्ययुक्त संस्कार रुजवून शिक्षण घेतलेला सक्षम विद्यार्थी, नेता तयार होणे काळाची गरज आहे. चारित्र्यसंवर्धनाची, नैतिक शिक्षणाची अगर मुख्यशिक्षणाची आज अधिकच गरज निर्माण झाली आहे. कारण समाजात आज मूल्यांचे झपाट्याने अवमूल्यन होत आहे. दैनंदिन वृत्तपत्र उघडले की त्यात खून, मारामार्या, जाळपोळ, बलात्कार, फसवणूक, आर्थिक घोटाळे व धनदांडगे अन् सत्ता लांडगे यांचे व त्यांच्या कुटुंबीयांचे अमानुष चाळे हेच अधिकांश वाचायला मिळते. “नरेचि केला हीन किती नर” हे प्रत्यंतर येते. दिवसागणिक होणाऱ्या प्रगतीने आणि शैक्षणिक विस्ताराने माणूस खरंच 'माणूस' होतो आहे का ? की प्रगतीच त्याच्या अधोगतीची मृत्युंधरा आहे अशी शंका येते. गरीब-श्रीमंत, उच्च-नीच, शिक्षित-अशिक्षित, खेडूत-शहरी, सर्वच अनैतिकतेचा अनिर्बंध वापर करताना दिसतात, त्यामुळे आतून आणि बाहेरून समाज पोखरून निघत आहे. या घर भेद्यांना प्रथम मुख्यशिक्षणाची गरज आहे.

शिक्षणामुळे माणसाच्या ज्ञानाचा विकास होतो परंतु सर्वांगीण विकास होईल असे म्हणता येणार नाही म्हणजे मूल्याशिवाय शिक्षण हे अपूर्ण आहे असे म्हणता येईल म्हणून आपण शिक्षणाबरोबरच मूल्यही जपली पाहिजे

मूल्ये  
आजच्या परिस्थितीत प्रत्येकात मूल्ये असली पाहिजे सर्वसाधारणपणे आपणास दहा मुले दिसतात ती अशी-

१. राष्ट्रभक्ती २. राष्ट्रीयएकात्मता ३. सर्वधर्मसहिष्णुता ४. स्त्री-पुरुष समानता ५. श्रमप्रतिष्ठा ६. वैज्ञानिक दृष्टिकोण ७. सौजन्यशीलता ८. संवेदनशीलता ९. वक्तृशीरपणा १०. नीटनेटकेपणा.

वरील १० मूल्यांमधून विद्यार्थ्यांच्या विकासाच्या प्रक्रियेत त्याचा सर्वांगीण विकास साधावयाचा आणि त्यांना एक आदर्श नागरिक निर्माण करून त्यांच्यात विशिष्ट मूल्य निर्माण झाली पाहिजे,

शिक्षणातून मूल्यसंवर्धन

शिक्षणात अशी क्षमता आहे की, ते मृतवताला संजीवनी देऊ शकते. त्यासाठी उच्च शिक्षकांनी योग्य आदर्श मुलांपुढे ठेवावेत. जगभरातील नररत्नांची उदाहरणे मुलांना सांगावीत. अत्यंत प्रतिकूल परिस्थितीतून उच्च स्थानी पोहचून वंदनीय झालेले डॉक्टर आंबेडकर, डॉक्टर हॉकिंग डॉक्टर हेलन, केलर, लालबहादूर शास्त्री, इत्यादी गुणीजनांचे उदाहरण विद्यार्थ्यांपुढे ठेवून प्रतिकूल परिस्थितीतही मूल्यांची जोपासना करता येईल. तसेच सद्गुणांच्या पोषणाने नराचा नारायण होऊ शकतो हे ज्ञानेश्वरी व संतांच्या उदाहरणाने ही पटविता येऊन सदाचार हाच खरा धर्म सांगता येईल. विविध सांस्कृतिक कार्यक्रमाद्वारा ही मूल्यांची जोपासना करता येईल. भाषा, इतिहास व विज्ञान या विषयांद्वाराही मूल्यशिक्षण देता येईल. दया-क्षमा-शांती, परोपकार, समाजसेवा, सदाचार, देशभक्ती, विज्ञाननिष्ठा, समता, बंधुता, मातृभक्ती व श्रमनिष्ठा इत्यादी मूल्य जाणून शिक्षकांनीही मूल्ये समजावून देऊन विद्यार्थ्यांना आचारणात आणावयास प्रोत्साहन द्यावे.

जगात वावरणाऱ्या प्रत्येक माणसांमधून मूल्य काढून टाकली-अगर मूल्यापासून व्यक्ती, समाज दूर जाऊ लागला, तर माणूस शिल्लक राहणार नाही आणि त्यावेळी पशु धारण केलेली जंगले निर्माण होतील. ही पिढी फक्त शिक्षित किंवा साक्षर होऊन चालणार नाही तर ती मूल्य शिक्षित व्हायला हवी. आजचा विद्यार्थी हा उद्याचा सुजाण नागरिक आहे. देश आणि देशातील वैभव म्हणजे त्या देशातील माणसे होय. मूल्यशिक्षणाचे कार्य अनेक जण करतच आहेत परंतु या कार्यात निष्ठेने झोकून देणाऱ्यांची संख्या किती प्रमाणात आहे ? हे ही पाहणे आजच्या काळाची गरज आहे.

समारोप

स्पर्धेच्या युगात आपण आज विकासाच्या वेगाबरोबर जागतिकीकरणाच्या प्रक्रियेत झोकून दिलेले आहे. आपण असे म्हणतो आणि तांत्रिक प्रगती, भौतिक प्रगती यांचा पाठीमागे आपण जास्त जातो. त्यातून प्रगतीही होते आणि आर्थिक स्तर उंचावलेला आपल्याला दिसतो. परंतु हे सर्व घडत असताना तांत्रिक प्रगती होताना मूल्य हरवलेली जीवन पद्धती कधी रुजली, हेच आपल्या लक्षात येत नाही. आपल्या जीवनात जगण्याच्या सर्व सवयी बदलल्या आणि आदर्श माणूस म्हणून बनण्याऐवजी माणुसकी हीन माणूस कधी निर्माण झाला आहे हे समजले नाही. तांत्रिक प्रगती झाली परंतु माणुसकीची अधोगती झालेली दिसून येत आहे.

संदर्भग्रंथ

1. नागतोडे किरण - नैतिक मूल्य शिक्षण, विद्या प्रकाशन नागपूर
2. ठोंबरे विद्या - नीतिमूल्ये व शिक्षण, नूतन प्रकाशन पुणे
3. सहस्रबुद्धे वि.ह. - शिक्षणातून नैतिक मूल्य संवर्धन, साधना प्रकाशन पुणे

## डेलॉर्स आयोग : शिक्षण

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प्रास्ताविक :

जगाच्या स्पर्धेत टिकून यशस्वी होण्यासाठी उच्च शिक्षणातील अभ्यासक्रमात योग्य ते बदल करणे काळाची गरज आहे. कारण शिक्षणातूनच सर्वच क्षेत्रात उंच उंच भरारी घेता येते. सर्वच क्षेत्रात होणारे बदल, वापरात येणारे तंत्रज्ञान, पर्यायी वस्तुचे उत्पादन, ग्राहकांच्या बदलणाऱ्या आवडी निवडी, जगातून आपल्या मालाला येणारी जास्त प्रमाणात मागणी, वस्तूचा दर्जा टिकविण्यासाठी उत्पादक कंपनीकडून केले जाणारे सदैव प्रयत्न, यासाठी सदैव दैनंदिन होणारे बदल, यांचे संशोधन करणे अतिशय महत्वाचे आहे. परकिय चलन प्राप्तीची संधी, राष्ट्रीय उत्पादनात वाढ यातून देशाचा विकास, रोजगार वाढ, बेकारी दूर होण्यास मदत, देशाचा सर्वांगीण विकास इ. अनेक विविध मार्गासाठी शिक्षणात नवीन बदल होणे काळाची गरज आहे.

**उद्देश :** अ) डेलॉर्स आयोग पार्श्वभूमीचे अभ्यास करणे आ) शिक्षणाचे चार आधारस्तंभांचा अभ्यास करणे

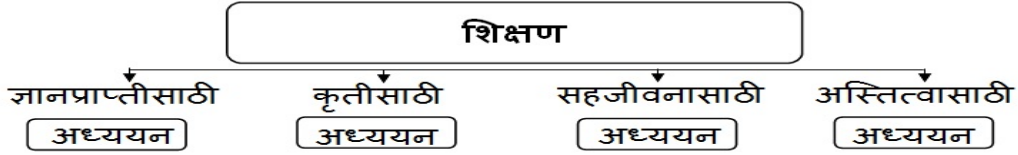
**गृहितके :** अ) डेलॉर्स आयोगाचा अभ्यास करित आहे. आ) शिक्षणाचे आधारस्तंभांचा अभ्यास होत आहे.

पार्श्वभूमी:

२१ व्या शतकाची चाहूल लागताच त्याबाबत विविध विचार, मत व्यक्त करण्यात येऊ लागले. २१ वे शतक विविध आव्हाने घेऊन अवतरले. या आव्हानांना पेलण्यासाठी शिक्षकांची भूमिका महत्वाची आहे. या शतकातील शिक्षण कसे असावे याबाबत अनेक तज्ञांचे विचार प्रवाहात येऊ लागले. १९९३ मध्ये युनेस्कोने २१ व्या शतकातील शिक्षण कसे असावे याबाबत एका आयोगाची स्थापना केली. [UNESCO: Commission on Education for the Twenty First Century] या आयोगाचे अध्यक्ष म्हणून जेक्स डेलॉर्स [Jacques L. Delors] यांची नियुक्ती करण्यात आली. त्यांचा अहवाल १९९६ मध्ये प्रसिध्द केला.

हा अहवाल 'Learning – The Treasure Within' या नावाने प्रसिध्द करण्यात आला.

शिक्षणाचे चार आधारस्तंभ



अ) ज्ञानप्राप्तीसाठी अध्ययन [Learning to know]

२१ व्या शतकातील समाज हा ज्ञानधिष्ठित समाज म्हणून ओळखला जातो.

क) ज्ञानप्राप्तीसाठी आवश्यक कौशल्य व मार्गाचा परिचय :

डेलॉर्स च्या मते, २१ व्या शतकातील विद्यार्थ्यांमध्ये ज्ञानप्राप्तीची कौशल्ये आणि मार्ग विकसित केले जावेत.

ख) ज्ञानप्राप्तीसाठी अध्ययन या स्तंभाची उद्दिष्टे :

[Objectives of Learning to know]

१) विद्यार्थ्यांना समाजात सन्मानाने जीवन जगण्यास मदत करणे

२) आपल्या परिसराचा परिचय करून देणे

३) अद्ययावत ज्ञान प्राप्त करून देणे

४) ज्ञानप्राप्तीद्वारे आनंद प्राप्त करणे

ग) ज्ञानप्राप्तीसाठी अध्ययन या स्तंभाचे फायदे :

[Merits of Learning to Know]

१) प्रत्येक व्यक्ती ज्ञानाचा कार्यकर्ता बनेल

२) ज्ञानलालसेची पूर्तता होईल

३) सतत ज्ञानप्राप्तीचा प्रयत्न केला जाईल

घ) ज्ञानप्राप्तीसाठी अध्ययन स्तंभाचा स्विकार करताना निर्माण होणाऱ्या मर्यादा :

१) सतत अद्ययावत ज्ञानप्राप्तीसाठी महत्त्व प्राप्त झाल्याने दोन पिढ्यांतील अंतर वाढेल

२) सर्वच प्रकारच्या ज्ञानप्राप्तीस महत्त्व असल्याने काही प्रसंगी सर्वच ज्ञानप्राप्ती नसल्यामुळे न्यूनगंड निर्माण होऊ शकतो.

३) सर्वच बाबतीत ज्ञानप्राप्ती करताना 'Jack of All, Master of None' अशी अवस्था निर्माण होऊ शकते.

आ) कृतीसाठी अध्ययन : [Learning to Do]

डेलॉर्स आयोगाने शिक्षणाचे आधारस्तंभ मांडतांना, कृतीसाठी अध्ययन हा दुसरा स्तंभ मांडला आहे. कृती करण्यासाठी ज्ञान आणि कौशल्य या दोन्हीचीही आवश्यकता असते. प्रत्येक व्यक्तीच्या अंगी क्षमता असतातच. या सुप्त क्षमतांचा विकास करण्यासाठी कृतीसाठी अध्ययन गरजेचे आहे. स्व-क्षमतांचा विकास झाल्याने व्यक्ती सतत काहीतरी नाविन्यनिर्मिती करण्याचा ध्यास धरेल. प्राप्त केलेल्या ज्ञानाची उपयोजनक्षमता व्यक्तींमध्ये निर्माण करायला हवी.

इ) सहजीवनासाठी अध्ययन : [Learning to Live Together]

सहजीवनासाठी अध्ययन हा शिक्षणाच्या चार आधारस्तंभांपैकी तिसरा महत्वाचा स्तंभ आहे. ऑरिस्टॉटल यांच्या पुढील ओळीवरून आपणांस या स्तंभाचे महत्व समजेल.

“Anyone can become angry, that is easy. But to be angry with the right person, to the right degree, to the right time, for right purpose & in right way, this is not easy.”



२१ वे शतक हे स्पर्धेचे शतक म्हणूनही ओळखले जाते, स्पर्धेने मानवी जीवनातील सर्वच अंगांना स्पर्श केला आहे. आज गरीब-श्रीमंत, स्त्री-पुरुष, शहरी -ग्रामीण या विविध घटकांमध्ये स्पर्धा निर्माण होऊन सामाजिक दरी वाढत आहे. स्वार्थी दृष्टीकोन, त्यातून वाढणारी सामाजिक दरी यामुळे सामाजिक संघर्ष निर्माण होत आहे. जगातील बहुतांशी राष्ट्रांसमोरचा महत्वाचा प्रश्न म्हणजे दहशतवाद. सर्वच राष्ट्र दहशतवादाचे बळी पडत आहेत. आज सर्वांनाच असुरक्षितता अनुभवयास मिळत आहे. वाढत जाणाऱ्या विविध समस्या, आव्हाने यातून प्रत्येकाच्या मनात असुरक्षितता निर्माण होत आहे. प्रेम, आपुलकी, सहकार्य, संघभावना या मूल्यांची जागा आता स्वार्थी वृत्ती घेत आहे. वाढत जाणाऱ्या स्वार्थी वृत्तीमुळे सामाजिक आरोग्यही धोक्यात आले आहे. बरीलप्रमाणे सहजीवनासाठी अध्ययन याबाबत डेलॉर्स आयोगाने आपले विचार मांडले.

ई) अस्तित्वासाठी अध्ययन : [Learning to Be]

विद्यार्थ्यांना संपूर्ण व्यक्तीमत्त्व विकास साधण्यासाठी शिक्षण देणे आवश्यक आहे. संपूर्ण व्यक्तिमत्त्व विकासामध्ये क्रियाशीलता, सर्जनशीलता, शारिरीक स्वास्थ्य, ज्ञानसंवर्धन, बौद्धिक विकास, वैचारीक विकास, व्यावहारिक कार्यक्षमता, सौंदर्याभिरूची, रसिकता, नैतिकता, आध्यात्मिकता व मानवता या सर्वांचा विकास अभिप्रेत असतो, याबरोबरच वर उल्लेखलेल्या जीवनातील सर्व पैलूंचा विकास साधला जावा. विद्यार्थ्यांच्या विकासासाठी शिक्षण अत्यावश्यक आहे. याद्वारेच ते स्वतःच्या अस्तित्वाचा शोध घेतील, शाश्वत मूल्यांचा विकास साधतील.

**समारोप :**

डेलॉर्स यांनी आपल्या अहवालामध्ये संपूर्ण जगासाठी शिक्षणाचे जे चार आधारस्तंभ मांडले आहेत, त्यांनी नक्कीच २१ व्या शतकातील शिक्षणास आधार देण्याचे कार्य केले आहे. भारतीय समाजाच्या दृष्टीकोनातूनही यांचे महत्व अनन्यसाधारण आहे. या आधारस्तंभांना अनुरूप जर शिक्षण प्रणालीमध्ये इष्ट बदल घडवून आणले आणि त्यानुसार त्यांची अंमलबजावणी घडवून आणली तर २०२० पर्यंत भारत एक महासत्ता बनणे कठीण होणार नाही. डेलॉर्स यांनी शिक्षणाबाबत मांडलेला विचार देशाच्या नव्हे जगाच्या दृष्टीने महत्वाचे आहेत. यात शंका नाही.

**संदर्भसूची**

- अ) अध्ययन व अध्यापन प्रा. गणेश चव्हाण (नित्य/नूतन प्रकाशन, पुणे)
- आ) आधुनिक शिक्षण प्रा. कुलकर्णी प्रगती प्रकाशन, पुणे
- इ) अध्ययन अध्यापनाचे मानसशास्त्र प्रगती प्रकाशन, पुणे
- ई) शैक्षणिक मूल्यमापन प्रगती प्रकाशन, पुणे
- उ) मराठी प्रथम व प्रादेशिक भाषा अध्यापक शिक्षक प्रगती, पुणे

## महाराष्ट्राच्या रायगड जिल्ह्यातील कर्नाळा पक्षी अभयारण्याच्या पर्यटकांचा समाधानाचा अभ्यास

प्रा.रविंद्र कौतिक बच्छाव

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### गोषवारा

पर्यटन हा आर्थिक, सामाजिक आणि शारीरिक विकासाचा एक प्रमुख आणि अविभाज्य भाग बनला आहे. पर्यटन उद्योग नेहमीच प्रत्येक टप्प्यात मानवाशी संबंधित असतो. समाधानी पर्यटक हे प्रसिद्धीचे सर्वात महत्वाचे आणि शक्तिशाली माध्यम आहे, तर असमाधानी पर्यटक उद्योगासाठी हानिकारक होते. पर्यटकांना चांगल्या सेवा देण्यासाठी वेळोवेळी पर्यटकांच्या समाधानाची पातळी तपासणे आवश्यक आहे. सदर संशोधनात कर्नाळा पक्षी अभयारण्याच्या पर्यटकांच्या समाधानाचा अभ्यास करण्याचा प्रयत्न केला आहे. सदर संशोधनावरून पर्यटकांचा समाधानता निर्देशांक काढला असता असे लक्षात येते की, कर्नाळा पक्षी अभयारण्यात येणाऱ्या पर्यटकांनी वाहतूक सुविधेस प्रथम स्थान दिलेले असून स्वच्छतेस शेवटचे स्थान दिलेले आहे.

**मुख्य शब्द:** पर्यटक, पर्यटन सुविधा, समाधानता निर्देशांक इत्यादी..

### १. प्रस्तावना

पर्यटन हा मानवी विकासासाठी एक महत्वाचा घटक आहे. पर्यटनात वन्यजीव, पर्वत, दऱ्या, नद्या आणि पाण्याची व्यवस्था, वन, वनस्पती आणि प्राणी, हवामान आणि हवामान, सूर्य आणि समुद्र, सामाजिक आणि सांस्कृतिक व्यवस्था आणि माणूस आणि त्याच्या क्रिया यांचा समावेश आहे. पर्यटनाच्या चांगल्या विकासासाठी सहाय्यक आणि पायाभूत सुविधा हे मूलभूत घटक आहेत. रायगड जिल्ह्यात पर्यटनाच्या संसाधनांची मोठी क्षमता आहे. पर्यटनाच्या विकासासाठी मोठ्या प्रमाणात उपयुक्त स्थळे जिल्ह्यात आहेत. भौगोलिकदृष्ट्या रायगड जिल्ह्यात भूपृष्ठ, हवामान, वनस्पती उद्यान, ऐतिहासिक लेणी, थंड हवेची ठिकाणे, सुंदर समुद्रकिनारे, धार्मिक स्थळे, पक्षी अभयारण्य, वन्यजीव, पर्यटन उत्सव, स्मारके, ऐतिहासिक किल्ले, सागरी जैवविविधता, स्वादिष्ट खाद्यपदार्थ व स्थानिक सामाजिक जीवनशैली यात बरीच विविधता आहे. हे पर्यटकांसाठी एक आकर्षक आहे. कर्नाळा पक्षी अभयारण्य हे रायगड जिल्ह्यातील एक उत्तम पर्यटन आकर्षण आहे.

### २. उद्दिष्टे

१. कर्नाळा पक्षी अभयारण्यातील पर्यटन विकासास कारणीभूत असलेल्या घटकांचे परीक्षण करणे.

२. कर्नाळा पक्षी अभयारण्यातील पर्यटकांच्या समाधानाचा अभ्यास करणे.

### ३. माहितीचे स्रोत आणि संशोधन पद्धती

सदर संशोधनासाठी, प्राथमिक आणि द्वितीयक स्रोतांद्वारे माहिती गोळा करण्यात आलेली आहे. प्राथमिक माहिती प्रत्यक्ष क्षेत्रात जाऊन गोळा करण्यात आलेली आहे. प्रश्नावली तयार करून अभ्यास क्षेत्रातील पर्यटक आणि स्थानिक लोकांकडून भरून घेण्यात आली. पर्यटक, स्थानिक लोक, पर्यटक मार्गदर्शक आणि पर्यटन संबंधित अधिकाऱ्यांची मुलाखत घेण्यात आली. द्वितीयक स्वरूपाची माहिती रायगड जिल्हा जनगणना अहवाल व जिल्हा सांख्यिकी माहिती पुस्तिका जिल्हा गॅझेटियर, तसेच प्रकाशित आणि अप्रकाशित साहित्य, प्रवास पुस्तके आणि वर्तमानपत्रांद्वारे गोळा केलेली आहे. विक्षेपणासाठी सांख्यिकीय आणि नकाशाशास्त्रीय तंत्रे वापरली आहेत. गोळा केलेल्या माहितीचे विक्षेपण तक्ते, सारण्या इ. स्वरूपात करण्यात आलेले आहे.

### ४. अभ्यास क्षेत्र

कर्नाळा पक्षी अभयारण्य महाराष्ट्र राज्याच्या पनवेल तहसीलमध्ये आहे, जे मुंबई-गोवा-मंगलोर राष्ट्रीय महामार्ग क्रमांक १७ वर आहे. हे पनवेल शहराच्या दक्षिणेस १० कि.मी. अंतरावर स्थित आहे. सन १९६८ मध्ये कर्नाळा किल्ल्याचे नाव अभयारण्य म्हणून घोषित करण्यात आले आहे. या अभयारण्याचे एकूण क्षेत्र १२.१० चौ.कि.मी असून यातील ६.६५ चौ.कि.मी क्षेत्र आरक्षित वन आहे. कर्नाळा पक्षी अभयारण्याची समुद्रापासून उंची ८५ मीटर असून येथील किल्ला ४४५ मीटर उंचीवर आहे. हे अभयारण्य मुंबईपासून ६३ कि.मी. अंतरावर आणि पनवेलपासून सुमारे १३ कि.मी. अंतरावर रस्त्याने जोडलेले आहे. हे अभयारण्य आणि किल्ला निसर्गाचे प्रेमी, पक्षी निरीक्षक, गिर्यारोहक इत्यादींसाठी अगदी सहज सहज पोहचता येईल असा आहे. कर्नाळा पक्षी अभयारण्य हे रायगड जिल्ह्यातील पर्यटकांचे मुख्य आकर्षण असून आठवड्याच्या शेवटी व सुट्टीच्या दिवशी असंख्य पर्यटक या ठिकाणी भेट देतात.

### ५. विषय प्रवेश आणि विवेचन

#### घटकनिहाय समाधानाचे स्तर:

पर्यटन उद्योग नेहमीच प्रत्येक टप्प्यात मानवाशी संबंधित असतो. समाधानी पर्यटक हे प्रसिद्धीचे सर्वात महत्वाचे आणि शक्तिशाली माध्यम आहे, तर असमाधानी पर्यटक उद्योगासाठी हानिकारक होते. म्हणून जास्तीत जास्त पर्यटकांना उत्तम सेवा देणे महत्वाचे आहे. पर्यटकांना चांगल्या सेवा देण्यासाठी वेळोवेळी पर्यटकांच्या समाधानाची पातळी तपासणे आवश्यक आहे. पर्यटकांचे समाधान निवास, स्वच्छता, पर्यावरणाची स्थिती, स्थानिक लोकांचे सहकार्य, मार्गदर्शकांचे सहकार्य, शासनाचे सहकार्य. अधिकारी, माहिती चिन्हे, माहिती केंद्र, पायाभूत सुविधा, पार्किंग सुविधा, सुरक्षा सुविधा, स्वच्छता सुविधा, वाहतूक सुविधा, अन्न व पेय सुविधा, आरोग्य सुविधा यावर अवलंबून असते. पर्यटकांना त्यांच्या समाधानाचे मुद्दे (१० पैकी) व्यक्त करण्याची विनंती करून आणि गुणांच्या आधारे वर्गीकरण केले गेले, उत्कृष्ट म्हणजे ८-१०, चांगल्यासाठी ६-८, समाधानकारक ४-६ आणि असमाधानकारकसाठी ०-४ अशी समाधानाच्या भिन्न स्तरासाठीची सरासरी मूल्ये मोजली गेली. ही मूल्ये

संबंधितवारांवारीतेनेगुणाकार केल्याने संपूर्ण समाधान उपलब्ध होते. जेव्हा संबंधित घटकांचे विभाजन एकूण वारंवारतेने करून प्रत्येक घटकाचा समाधानता निर्देशांक उपलब्ध होतो.

वापरण्यात आलेल्या समाधानता निर्देशांकाचे सूत्र

$$S_{li} = M_i N_i / N$$

जसे...,

$S_{li}$  = एका घटकाचा समाधानता निर्देशांक

$M_i$  = एका घटकाच्या विशिष्ट अभिप्रायाचे संख्यात्मक मूल्य

$N_i$  = एका घटकाचा एकूण अभिप्राय देणाऱ्या पर्यटकांची संख्या

$N$  = एकूण पर्यटक संख्या टेबल -१:वरून आपल्या असे लक्षात येते कि, एकूण ७० पर्यटकांपैकी, १० पर्यटकांनी निवासस्थान उत्तम आहे असे सांगितले आहे. ८ चांगले, २० समाधानकारक आणि ३२ असमाधानकारक आहेत. अन्न व पेय सुविधेसाठी कोणत्याही पर्यटकांना उत्कृष्ट व चांगल्या क्रमांकाचे स्थान देण्यात आले नाही कारण ११ पर्यटक समाधानकारक व ५९ पर्यटक असमाधानकारक आहेत.

तक्ता १:कर्नाळा पक्षी अभयारण्यास भेट देणाऱ्या पर्यटकांच्या समाधानता निर्देशांकाचा स्तर

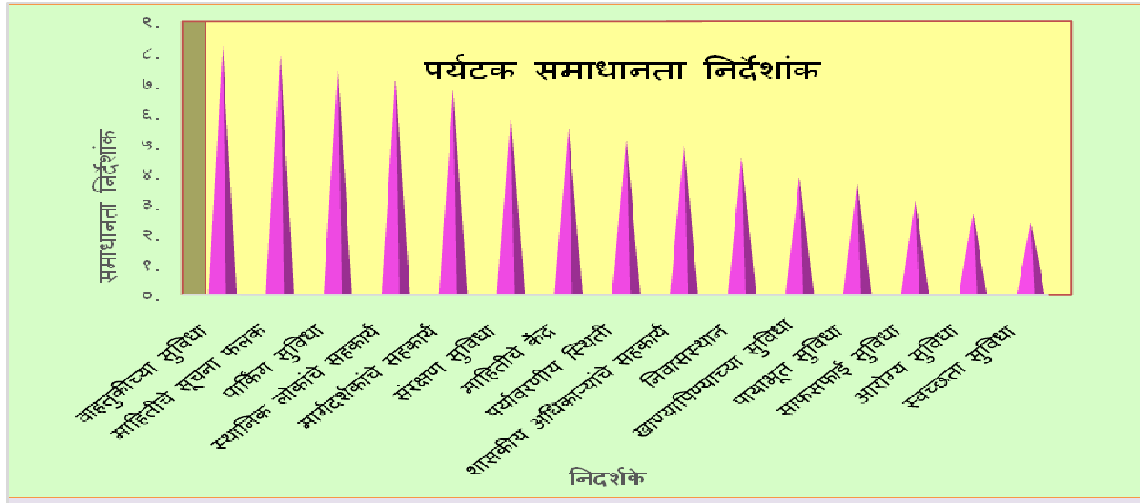
निदर्शक	उत्कृष्ट (८-१०)		चांगला (६-८)		समाधानकारक (४-६)		असमाधानकारक (०-४)		समाधान ता निर्देशांक
	पर्यटकांची संख्या	संख्या मूल्य	पर्यटकांची संख्या	संख्या मूल्य	पर्यटकांची संख्या	संख्या मूल्य	पर्यटकांची संख्या	संख्या मूल्य	
निवासस्थान	१०	८.२	०८	६.७	२०	४.९	३२	२.५	४.५
स्वच्छता सुविधा	०१	८.१	०१	६.२	२६	४.७	४२	१.९	३.१
पर्यावरणीय स्थिती	१४	८.३	०८	७.०	२२	५.१	२६	२.९	५.१
स्थानिक लोकांचे सहकार्य	२५	८.९	२०	७.७	१४	५.६	११	३.७	७.१
मार्गदर्शकांचे सहकार्य	००	८.८	००	७.६	२२	५.६	४८	३.७	६.८
शासकीय अधिकाऱ्यांचे सहकार्य	२२	८.२	१८	६.९	१८	५.१	१२	२.८	४.९
माहितीचे सूचना फलक	१२	९.४	१०	७.८	१९	५.८	२९	३.९	७.९
माहितीचे केंद्र	१५	८.४	११	७.२	२१	५.२	२३	३.१	५.५
पायाभूत सुविधा	०६	८.१	०८	६.४	२१	४.८	२५	२.१	३.८
पार्किंग सुविधा	२७	९.१	२०	७.८	१४	५.७	०९	३.८	७.४
संरक्षण सुविधा	१७	८.४	१४	७.३	२१	५.४	१८	३.४	६.०
साफसफाई सुविधा	००	००	००	००	२५	४.६	४५	१.६	७.२
वाहतुकीच्या सुविधा	३२	९.६	२२	७.९	१५	५.८	०१	३.९	८.२
खाण्यापिण्याच्या सुविधा	००	००	००	००	११	३.१	५९	४.१	३.९
आरोग्य सुविधा	०६	००	०८	००	२१	१.६	२५	४.६	२.७

स्रोत: संशोधकाने केलेले माहितीचे एकत्रीकरण आणि काढलेला निर्देशांक

तक्ता २:नुसार असे लक्षात येते कि,कर्नाळा पक्षी अभयारण्यातपर्यटकांचासमाधानता निर्देशांक मोजण्यात आलेला आहे. त्यांनी वाहतूक सुविधेसाठी ८.२, माहितीचे सूचना फलक साठी ७.७, पार्किंग सुविधांसाठी ७.४, स्थानिक लोकांच्या सहकार्यासाठी ७.१, मार्गदर्शकांच्या सहकार्यासाठी ६.८, सुरक्षिततेसाठी६.०असे क्रम दिलेले आहेत. सुविधा केंद्रासाठी ६.०, माहिती केंद्रासाठी ५.५, पर्यावरणीय स्थितीसाठी ५.१, शासनाच्या अधिकारी सहकार्यासाठी ४.९, निवाससाठी ४.५, अन्न व पेय सुविधांसाठी ३.९, पायाभूत सुविधांसाठी ३.८, स्वच्छतेसाठी ३.१, आरोग्य सुविधांसाठी २.७, आणि स्वच्छता सुविधांसाठी २.४ अनुक्रम दिलेले आहेत. यावरून आपल्या असे लक्षात येते की कर्नाळा पक्षी अभयारण्यातयेणाऱ्यापर्यटकांनी वाहतूक सुविधेस प्रथम स्थान (८.२) दिलेले असून स्वच्छतेस (२.४) शेवटचे स्थान दिलेले आहे.

तक्ता २: कर्नाळा पक्षी अभयारण्यास भेट देणाऱ्यापर्यटकांचा समाधानतानिर्देशांक आणि अनुक्रम

अ.क्र.	निदर्शके	समाधान निर्देशांक	अनुक्रम
१	वाहतुकीच्या सुविधा	८.२	१
२	माहितीचे सूचना फलक	७.७	२
३	पार्किंग सुविधा	७.४	३
४	स्थानिक लोकांचे सहकार्य	७.१	४
५	मार्गदर्शकांचे सहकार्य	६.८	५
६	संरक्षण सुविधा	६.०	६
७	माहितीचे केंद्र	५.५	७
८	पर्यावरणीय स्थिती	५.१	८
९	शासकीयअधिकाऱ्यांचे सहकार्य	४.९	९
१०	निवासस्थान	४.५	१०
११	खाण्यापिण्याच्या सुविधा	३.९	११
१२	पायाभूत सुविधा	३.८	१२
१३	साफसफाई सुविधा	३.१	१३
१४	आरोग्य सुविधा	२.७	१४
१५	स्वच्छता सुविधा	२.४	१५



आकृती क्र. १: कर्नाळा पक्षी अभयारण्यास भेट देणाऱ्या पर्यटकांचा समाधानता निर्देशांका क्रम

## **निष्कर्ष आणि उपाययोजना**

रायगड जिल्ह्यातील कर्नाळा पक्षी अभयारण्य एक संभाव्य पर्यटन केंद्र आहे. या पर्यटनस्थळांना भेट देणारे पर्यटकांचे मुख्य आकर्षण जंगल, किल्ला, पक्ष्यांचे प्रकार आणि कर्नाळा या पर्यटन केंद्रांमध्ये पर्यटकांच्या सुविधांचा जास्त विकास झालेला नाही. हे राष्ट्रीय महामार्गावर असल्याने वाहतुकीची सुविधा, माहितीची चिन्हे, पार्किंग सुविधा उत्कृष्ट आहेत. स्थानिक लोकांचे सहकार्यही चांगले आहे. सुरक्षा सुविधा, माहिती केंद्र, पर्यावरणीय स्थिती, शासनाचे सहकार्य, अन्न व पेय सुविधा, अधिकारी व राहण्याची सुविधा समाधानकारक पातळीवर पर्यटकांच्या दृष्टीने पायाभूत सुविधा, स्वच्छता, आरोग्य सुविधा, स्वच्छता सुविधा असमाधानकारक असल्याने आपल्या असे लक्षात येते की कर्नाळा पक्षी अभयारण्यात येणाऱ्या पर्यटकांनी वाहतूक सुविधेस प्रथम स्थान (८.२) दिलेले असून स्वच्छतेस (२.४) शेवटचे स्थान दिलेले आहे. पर्यटकांना आकर्षित करण्यासाठी पर्यटकांच्या सुविधांमधील सुधारणांना आणि या पर्यटन केंद्राच्या विकासाला वाव आहे.

1. पर्यटकांसाठी स्वच्छ पिण्याचे पाणी व स्वच्छतागृह निर्माण करावेत.
2. किमान प्राथमिक उपचाराच्या सुविधा उपलब्ध कराव्यात.
3. पर्यटकांमध्ये निसर्ग पर्यटना विषयी जागृती निर्माण व्हावी म्हणून छोटासा महिति दर्शक लघुपट दाखवावा.
4. कर्नाळापक्षी अभयारण्यात पर्यटकांनी प्रवेश करण्यापूर्वी त्यांना पर्यावरण संवर्धनाविषयी माहिती द्यावी.

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## **जलसंवर्धनातून शाश्वत विकास व उच्च शिक्षणाची भूमिका** **डॉ. एकनाथ दत्तात्रय वाजगे.**

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### **सारांश**

सजीवाला जगण्यासाठी लागणारा महत्वाचा घटक म्हणजे पाणी होय या घटकाला पर्याय नसून भारतामध्ये पर्जन्या व्यतिरिक्त इतर दुसरा मार्ग ही नैसर्गिक संपत्ती वाढविण्यासाठी उपलब्ध नाही. भारतासारख्या विकसनशील देशामध्ये वाढती लोकसंख्या शहरीकरणाने वेग आणि वाढत्या औद्योगिकरणामुळे पाण्याचा वापरही वाढलेला आहे त्यामुळे पाण्याची दरडोई उपलब्धताही कमी होताना दिसून येते. अलीकडच्या कालखंडामध्ये भूगर्भातील पाणी उपसण्याच्या साधनांतील प्रगती, जंगलतोडीमुळे जगलांचा झालेला -हास, विविध कारणांमुळे पर्यावरणाचे झालेले असंतुलन, शेतीच्या सिंचनासाठी वापरल्या जाणा-या पारंपरिक व पाण्याचा अतिरेकी वापर करणाऱ्या सिंचन पद्धती, अशा अनेक कारणांमुळे जलसंपत्तीवर मर्यादा आलेल्या आहेत. त्या तुलनेत पाण्याचे पुनर्भरण, भूमिगत पाणीपातळी वाढविण्याकडे केलेले अक्षम्य दुर्लक्ष्य, पाण्याचे शुद्धीकरण आणि पुनर्वापर या जलसाक्षरतेच्या विषयांकडे मोठे दुर्लक्ष्य झालेले दिसून येते. शाश्वत विकासासाठी सरकारच्या भूमिकेबरोबरच जलसंवर्धनाच्या जाणीवजागृतीची गरज आहे. शैक्षणिक स्तरावर पर्यावरण शिक्षणाचा समावेश सर्वच स्तरावर केलेला दिसून येतो. महाविद्यालयीन स्तरावर जलसंवर्धनाची जाणीव जागृतीबरोबरच कृतियुक्त कार्यक्रमातून जलसंवर्धनाची चळवळ सुरु करून शाश्वत विकासाकडे निश्चितच वाटचाल करता येईल.

### **शोध संज्ञा – उच्च शिक्षणातून जलसंवर्धन**

#### **प्रस्तावना**

मानव आणि पर्यावरण याचा घनिष्ठ संबंध आहे पर्यावरण सुरक्षित समृद्ध आणि गुणवत्तापूर्ण असेल तरच मनुष्याचे अस्तित्व कायम राहिल अन्यथा नाही. पर्यावरणामुळे मनुष्याच्या गरजा भागतात आणि मानवाकडून करण्यात आलेल्या संवर्धनाने पर्यावरण लाभान्वित होते. हे शाश्वत विकासाचे महत्वाचे अंग आहे. आपणासाठी अल्प असलेल्या सर्व प्रकारच्या नैसर्गिक स्रोतांना हानी न पोहचविता त्याचा विवेकपूर्ण उपयोग करून घेतल्यास शाश्वत विकास साधता येतो. शाश्वत विकासासाठी पर्यावरणीय घटक आर्थिक घटक, सामाजिक घटक आणि मानवी घटक या सर्वांचा विचार करावा लागतो. मानव साधत असलेला विकास शाश्वत आहे किंवा नाही याचा विचार करण्याची जबाबदारी मानवाची आहे. कारण मनुष्य आपल्या हस्तक्षेपामुळे निसर्गात बदल घडवून आणत असतो. निसर्गामध्ये मानवाची भूमिका केंद्रीत स्वरूपाची आहे. त्याच्या गरजा वैविध्यपूर्ण अमर्यादित आहे. गरजा भागविण्यासाठी मनुष्याने आपल्या पर्यावरणाचा सकारात्मक विचार केला तरच शाश्वत विकास पक्क्य आहे. वापर जर नकारात्मक असेल तर विकासाचे दुष्परिणाम पर्यावरणातील इतर घटकांनाही भोगावे लागतील.

#### **शाश्वत विकास**

"पृथ्वीतलावर येणा-या भावी पिढ्यांच्या गरजा भागविण्या इतपत पर्यावरणाची गुणवत्ता कायम राखून वर्तमान पिढ्यांच्या गरजा भागविण्याच्या दृष्टीने साधण्यात येणारा विकास म्हणजे शाश्वत विकास होय." शाश्वत विकासामध्ये सर्वसाधारणपणे नैसर्गिक साधनसंपत्ती, पर्यावरणाचा विकास, लोकसंख्येच्या गुणवत्तेचा विकास, उद्योग व्यवसायांचा विकास, तंत्रज्ञानाचा विकास या अनेक क्षेत्रातील शाश्वत व निरंतर विकासाचा जसा समावेश होतो तसाच जीवनाचा मुलाधार असणा-या पाण्याचा अर्थात जलसंवर्धनाचा विकास महत्वाचा ठरतो. प्रामुख्याने पिण्यासाठी, आरोग्य तसेच स्वच्छतेसाठी, वनस्पती संवर्धनासाठी, शेती सिंचन वा मात्सोत्पादनासाठी, खाद्यानिर्मिती औद्योगिकरण, उर्जा निर्मिती यासाठी पाण्याची सतत उपलब्धता आवश्यक आहे. सजीवांच्या शरीरात त्याच्या वजनाच्या 65 ते 70 टक्के पाणी असते. पालेभाज्यांमध्ये 95 टक्के पाणी असते. म्हणजेच सजीवांचे अस्तित्वच पाण्यावर अवलंबून आहे. पृथ्वीच्या एकूण क्षेत्रापैकी सर्वाधिक भाग पाण्याने व्यापलेला असल्याने त्यास जलग्रह म्हटले जाते. मात्र प्रत्यक्षात या जलग्रहामध्ये पिण्यायोग्य पाण्याची उपलब्धता लक्षात घेतली तर पाणी हीच मोठी समस्या असल्याचे दिसून येते. लोकसंख्येच्या वाढत्या वेगामुळे त्याचा प्रचंड ताण जैविक पर्यावरणावर पडून नैसर्गिक साधनसंपत्तीमध्ये घट होवू लागली आहे. मर्यादित नैसर्गिक संपत्तीचा अमर्यादित व अनिर्बंधपणे वापर केल्याने येणा-या पिढींसमोर नवीन समस्या मानव दिवसेंदिवस निर्माण करीत आहे. मानवी समाजाची पाण्याची गरज अनेक पटींनी वाढत चालली आहे. उर्जा निर्मिती आणि जलसिंचनासाठी उभारण्यात आलेल्या जलसिंचन धरण प्रकल्पातून घरघुती वापरासाठी पाण्याची मागणी वाढत आहे. आज निरनिराळ्या गावांना आणि शहरांना पिण्याचे पाणी पुरविण्यासाठी अशा धरणातील 35 टक्के पाणी वापरले जात आहे..

#### **जलसंवर्धनाची जागतिक सद्यस्थिती**

जागतिक पातळीवर जलसंवर्धनाचा आढावा घेतल्यास दिसून येती की पृथ्वीचा जवळपास 71 टक्के भाग पाण्याने व्यापलेला आहे. असे असले तरी पृथ्वीवरील सर्व पाणी सजीवांना उपयुक्त व उपलब्ध होवू शकत नाही. पृथ्वीवरील पाण्याच्या एकूण साठ्यांपैकी 97 टक्के पाणी हे महासागरातील क्षारयुक्त असल्याने ते पिण्यायोग्य नाही. व त्यावर प्रक्रिया करण्याचा खर्च भारतासारख्या विकसनशील राष्ट्रांला परवडणारा नाही. भूपृष्ठावर असलेल्या 3 टक्के पाण्यापैकी 2 टक्के पाणी बर्फ स्वरूपात आहे. 0.6 टक्के पाणी भूगर्भात तर 0.4 टक्के पाणी वेगवेगळ्या जलस्रोतात आहे. पिण्यायोग्य पाण्याचे नैसर्गिक वितरणही असमान



झालेले आहे. त्यामुळे काही ठिकाणी पाण्याचे सतत दुर्मिश्य तर काही ठिकाणी पाण्याचा अतिरेकी साठा दिसून येतो डब्लू. एच. ओ. च्या अहवालानुसार जगातल्या 10 टक्के नद्यांमध्ये नायट्रेटची पातळी प्रमाणाबाहेर वाढलेली आहे. असे पाणी आरोग्यासाठी घातक आहे. आशिया खंडात जलसिंचनाच्या अयोग्य पद्धती वापरल्या जातात. त्यामुळे एकूण पाणी वापरपैकी 82 टक्के पाणी जलसिंचनासाठी खर्च होते.सजिवाच्या वाढ व विकासासाठी,पालनपोषणासाठी पाणी महत्वाची नैसर्गिक साधनसंपत्ती आहे.

### **जलसंवर्धनाची महाराष्ट्रातील सद्यस्थिती**

महाराष्ट्र राज्याच्या संदर्भात महाराष्ट्रातील जलसंपत्तीची वार्षिक सरासरी नैसर्गिक उपलब्धता अंदाजे 164 अब्ज घनमीटर भूपृष्ठीय जल तर 20.4 अब्ज घनमीटर भूजल म्हणून उपलब्ध आहे. आंतरराष्ट्रीय नद्यांसंबंधातले जललवादांचे निवाडे व करार यातून निर्माण झालेल्या मर्यादांमुळे महाराष्ट्र राज्यात वापरण्यास मुभा असलेली भूपृष्ठीय जलसंपत्ती मात्र केवळ 125 अब्ज घनमीटर इतकीच मर्यादित आहे महाराष्ट्रातील आज सुमारे 55टक्के जनता शेतीवरील उपजिवीकेवर अवलंबून आहे. राज्याची सिंचनक्षमता 18 टक्के इतकी आहे त्यादृष्टीने राज्यात २०१० पर्यंत ४५१३० सिंचन प्रकल्प पूर्ण झालेले आहेत. 'जलस्वराज' आणि 'आपले पाणी 'जलयुक्त शिवार' यांसारख्या योजना जलसंवर्धना साठी महाराष्ट्र सरकारने राबविल्या आहेत.

### **भारतातील जलसंवर्धनाची गरज**

पर्जन्य हा एकमेव स्रोत पाण्याच्या उपलब्धतेचा आहे . भारतामध्ये पडणाऱ्या मान्सूनच्या पावसापैकी ९० टक्के पाऊस जून ते सप्टेंबर या दरम्यान पडतो. मात्र या दरम्यान पडणाऱ्या पावसाची नियमितता नाही. नैसर्गिक रचनेमुळे ठिकठिकाणी पडणाऱ्या पावसाच्या प्रमाणांमध्ये कमालीची असमानता आहे.भारतामध्ये पाऊस किनारपट्टी व डोंगराळ भागात अधिक, सखल मैदानी प्रदेशात मध्यम, तर पर्जन्यछायेच्या प्रदेशात कमी अशा वैविध्यपूर्ण पद्धतीने पडतो. संयुक्त राष्ट्रसंघाच्या अहवालानुसार सन 2025 पर्यंत 500 कोटी लोकसंख्येस पाण्याची कमतरता भासणार आहे. तर 270 कोटी लोकसंख्येस तीव्र टंचाईस सामोरे जावे लागणार आहे. याच सालापर्यंत पाण्याचा कमतरतेमुळे 350 दशलक्षटण अन्नधान्याचा दरवर्षी नाश होणार असल्याचे मत मांडण्यात आले आहे.अलीकडील काळात भूगर्भातील पाणी उपसण्याच्या साधनांमध्ये प्रगती झाल्याने आणि ती वापरण्यास सुलभ असल्याने भूगर्भातील पाण्याचा अमर्याद उपसा अविरत चालू आहे. परिणामी भूजलाची पातळी दिवसेंदिवस खालावत आहे.पाण्याची उपलब्धता लक्षात घेऊन पाण्याचा काटकसरीने वापर होत नाही. पिण्यापासून ते सिंचनापर्यंत सर्वत्र पाण्याचा बेसुमार वापर होताना दिसून येतो.ग्रामिण भागामध्ये सिंचनासाठी वापरण्यात येणाऱ्या पद्धती या पारंपारिक असल्यामुळे आवश्यकतेपेक्षा किती तरी अधिक पट्टीने पाण्याचा वापर होत आहे. भारतात शहरीकरणाचा वेगअधिक आहे. पिण्याच्या पाण्यासाठी व दैनंदिन उपयोगासाठी वापरले जाणारे पाणी, सांडपाणी यांच्या शुद्धीकरणाची व्यवस्था मोठ्या प्रमाणात उपलब्ध नाही.हे पाणी नदीपात्रात ओढ्यामध्ये सोडले जाते. परिणामी पाण्याचा दर्जा व उपलब्धता कमी होते.पाण्याचा निचरा होताना झालेल्या प्रदूषणाचा परिणाम पाण्यामध्ये क्षार निर्माण होण्यात होतो त्यामुळे पिण्याच्या पाण्याची शुद्धता राखणे निकडीचे बनलेले आहे.

### **शाश्वत विकासासाठी जलसंवर्धनाच्या उपाययोजना:-**

भूपृष्ठावरील गोड्या पाण्याच्या साठ्यापेक्षा भूमिजल साठा कितीतरी अधिक आहे.भूजल पातळीत वाढ करणे गरजेचे आहे. कारण हेच पाणी झर्याच्या पाझराच्या रूपाने बाहेर पडून नद्या नाले यांचा प्रवाह जिवंत ठेवते.यातूनच विहिरी कुपनलिका सरोवरे यांना पाणी उपलब्ध होते. भूजल पातळीमध्ये वाढ करण्यासाठी पावसाचे जास्तीत जास्त पाणी जमिनीत मुरण्यासाठी प्रयत्न करणे गरजेचे आहे. पावसाचे पाणी वाहून जाण्यास झाडांमुळे त्यांच्या मुळांमुळे प्रतिरोध होतो. वृक्षारोपणामुळे जमिनीची धूप थांबून वनसंवर्धनाबरोबरच जल संवर्धन घडून येण्यास मदत होते . डोंगर उतारावरून वेगाने येणाऱ्या पाण्यास वळण देऊन ते अधिक जास्त पृष्ठभागावरून कमी वेगाने गेल्यास अधिकाधिक पाणी जमिनीत मुरेल.डोंगर उतारावर समपातळी बंध घालूनही पाणी मुर्वीने शक्य आहे. नद्यांमध्ये सोडले जाणारे सांडपाणी, कचरा यामुळे निर्माण होणाऱ्या जलपर्णी यांसारख्या बाबी रोखण्यासाठी ग्रामपंचायत स्तरावर स्थानिक खाते तयार करून त्यामार्फत देखरेख व नियंत्रण ठेवून नदिच्या पाण्याचे संवर्धन करता येईल. शेतीसाठी व जलविद्युत निर्मितीसाठी नद्यांवर मोठमोठी धरणे बांधली जातात त्याचप्रमाणे नद्यांवर लहान लहान बंधाऱ्यांची साखळी निर्माण केली तर त्याचा उपयोग जलसंवर्धनासाठी अधिक प्रभावीरित्या होऊ शकेल.5) ग्रामीण भागातील पुरातन विहिरी, बारव ,तळे, ऐतिहासिक तलाव यांची स्वच्छता ठेऊन ते वापरातमध्ये आणावेत.ओढे व नद्यांमध्ये सोडली जाणारी गटारे यावरील सांडपाण्यावर प्रक्रिया करून ते पाणी इतर दुय्यम कारणासाठी वापरता येणे शक्य आहे.पाण्याची बचत करताना पाणीसाठा वाढविण्याकडेही लक्ष देण्याची आवश्यकता आहे. त्यासाठी शेतामध्ये शेततळी बांधता येईल.शेतीसाठी वापरली जाणारी पारंपारिक सिंचनपद्धत बदलून ठिबक सिंचन, तुषार सिंचन, यांसारख्या आधुनिक पद्धतीचा वापर करणे.ठिबक सिंचनाबरोबर पिकाच्या खोडाभोवती प्लास्टिक कागदाचे आच्छादन (मल्टीप्लेग पेपर पद्धत ) देवून दिलेल्या पाण्याचे बाष्पीभवन थांबून ओलावा टिकून राहण्यास मदत होईलउन्हाळ्यामध्ये शक्यतो कमी पाण्याची पिके घेतल्याने पाण्याची बचत होईल.शेततळ्यांबरोबरच गावतळ्यांचे संवर्धन केल्याने पाडया वस्त्यांमधील पिण्याच्या पाण्याची समस्या मिटेल. घरावर पडणारे पावसाचे पाणी साठविण्याची व वर्षभर ते वापरण्याचे तंत्र ज्या प्रमाणे राजस्थान सौराष्ट्रामध्ये प्रचलित आहे. त्याप्रमाणे

त्यात सुधारणा घडवून वापरात आणल्यात पावसाळ्यानंतर 6 ते 7 महिने ते पाणी वापरात येऊन टंचाईवर मात करता येईल. पाण्याचे महत्व लक्षात घेऊन या नैसर्गिक संपत्तीचे रक्षण व वाढ कशी होईल याचा सातत्याने विचार होणे गरजेचे आहे. त्यासाठी पाणी बचतीचा व त्यासाठीच्या साक्षरतेचा दृष्टीकोन वैयक्तिक आणि सामुहिक अशा दोन्ही पातळ्यांवर विकसित झाला पाहिजे.

#### **जलसंवर्धन जाणीव जागृतीमध्ये उच्च शिक्षणाची भूमिका**

१. उच्च शिक्षणामध्ये माहिती व संप्रेषण तंत्रज्ञानाचा वापर मोठ्या प्रमाणात वाढत आहे. या तंत्रज्ञानाच्या सहायाने लघुपटाची निर्मिती करून जलसंवर्धन विषयी जाणीव जागृती करता येईल

२. महाविद्यालयीन विद्यार्थ्यांना स्थानिक पातळीवर पाणी शुद्धीकरण प्रकल्प तयार करण्यास प्रोत्साहन देता येईल .

३. महाविद्यालयीन विस्तार कार्यातर्गत स्थानिक महिला बचत गटांमध्ये उद्बोधन वर्गाचे आयोजन करून घरघुती वापरासाठीच्या विविध उपाययोजनात्मक बाबींची माहिती महिलांपर्यंत पोहचविता येईल.

४. पाणी प्रदूषण ,पाणी वापर , दूषित पाण्यामुळे होणारे आजार इत्यादी बाबत पथनाटय ,पोस्टर प्रदर्शन यांसारख्या उपक्रमाद्वारे जनजागृती साधता येईल.

५. आपल्या परिसरातील पाण्याची स्वच्छता व त्यांचे व्यवस्थापन या विषयावर विद्यार्थ्यांचे गट पाडून गट चर्चेचे आयोजन करता येईल.

६. समाजामधील विविध सामाजिक मंडळे , भजनी मंडळ, कला पथक ,गणेश मंडळे ,क्रिडा मंडळे यांचे महाविद्यालयामार्फत उद्बोधनपर कार्यशाळेतून जलसाक्षरतेचा प्रसार करता येईल.

महाविद्यालयातील गळती असणारे नळ,पाईप पाण्याच्या टाक्या यांची दुरूस्ती करून पाण्याचे संवर्धन करता येईल. व त्याच बरोबर विद्यार्थ्यांसमोर आदर्श ठेवता येईल.

७. महाविद्यालयाचा समाजाशी संबंध शाळेच्या तुलनेत मोठ्या प्रमाणात येतो. परिसरातील शेतकऱ्यांसाठी महाविद्यालयात कार्यशाळेचे आयोजन करून सिंचन पद्धती , घरघुती पाणी वापर या विषयावर तज्ञांकडून मार्गदर्शन देता येईल.

८. महाविद्यालयीन स्तरावर चित्रकला स्पर्धा ,वादविवाद स्पर्धा यांसारख्या स्पर्धांचे आयोजन करून विद्यार्थ्यांमध्ये पाण्याच्या समस्येविषयीच्या जाणीवा निर्माण करता येईल.

९. पदव्युत्तर पदवी स्तरावर विद्यार्थ्यांना कृती संशोधनाद्वारे सभोवतालच्या परिसरातील पाण्याचे प्रश्न अभ्यासासाठी देऊन त्यावर उपाय शोधता येईल यामधून विद्यार्थ्यांच्या मदतीने परिसरातील जलस्रोतांची माहिती गोळा करून त्याचे प्रदूषण होऊ नये म्हणून उपाययोजना करता येईल.

१०. महाविद्यालयाच्या मुल्यांकनामध्ये NAAC या संस्थेने महाविद्यालयात वाटर हार्वेस्टिंग पद्धतीस महत्व दिले आहे. हेच प्रयोग विद्यार्थी त्यांच्या परिसरात राबवून जल संवर्धनात योगदान देतील

११. महाविद्यालयात एन. एस. एस. सारखे उपक्रम राबविले जातात. या उपक्रमातून सभोवतालच्या परिसरामध्ये डोंगर भागात समपातळी बांध निर्माण करणे, बांधारे बांधणे, चर खोदणे , यासारखे शाश्वत उपक्रम राबविता येईल.

महाविद्यालयीन स्तरावर यांसारख्या सहज सोप्या उपायांद्वारे जलसंवर्धनासाठी जाणीव जागृती घडवून आणून आणता येईल . महाविद्यालयातील विविध विभागामार्फत जलसंवर्धन विषयक अनेक कृती कार्यक्रम हाती घेऊन शाश्वत विकासाकडे वाटचाल करता येईल.

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## **जलव्यवस्थापन आणि ग्रामीण भागातील पिण्याच्या पाण्याची समस्या**

**डॉ. वाघमारे हरी साधू**

भूगोल विभाग प्रमुख, संभाजी कॉलेज (आर्ट्स, कॉमर्स व सायन्स), मुरुड. ता.जि. लातूर

### **प्रस्तावना :-**

पाणी किंवा जल ही प्राथमिक, मूलभूत गरजांपैकी प्रथम गरज आहे. जलाचे भरपूर अस्तित्व असणारा आपल्या सूर्यमालेत 'पृथ्वी' हा एकमेव ग्रह आहे. पृथ्वीचा 71 टक्के भाग जलाचा असून 29 टक्के भाग जमिनीचा आहे. त्यांतील 98 टक्के पाणी क्षारयुक्त असून उर्वरित भाग 2 टक्के गोड्या पाण्याच्या स्वरूपात आहे. त्या 2 टक्के पैकी 87 टक्के बर्फाच्या स्वरूपात अस्तित्वात आहे. सागरजल : 97.1 टक्के, हिमस्वरूप : 2.1 टक्के, भूपृष्ठजल : 0.2 टक्के, भूगर्भजल : 0.6 टक्के असे एकूण 100 टक्के आहे. यांपैकी जलाचे काही प्रमाण वाष्परूपाने वातावरणात असते, तर काही प्रमाणात सजीवांच्या शरीरात असते. यावरून असे लक्षात येते की, प्रत्यक्ष वापरास उपयुक्त पाण्याचे प्रमाण अवघे 0.9 टक्के आहे. शिवाय जगात त्याचे वितरण असमान किंवा विषम आहे. स्थानिकदृष्ट्या विचार केल्यास हे प्रमाण कितीतरी कमी असणार यात शंका नाही. या अल्प प्रमाण व विषम वितरणाने जलसमस्या व सांडपाणी म्हणून वाढत्या लोकसंख्येमुळे वाढत्या मानवी गरजांना पुरविण्याच्या दृष्टीने निर्माण व होणाऱ्या समस्यांच्या निराकरणासाठी जलव्यवस्थापन आवश्यक असते.

### **उद्दिष्टे :**

1. जलव्यवस्थापनाची व्याख्या, स्वरूप व व्याप्ती अभ्यासणे.
2. ग्रामीण भागातील पिण्याच्या पाण्याची समस्या व त्यावरील उपाय शोधणे.

### **जलव्यवस्थापन : व्याख्या, स्वरूप व व्याप्ती :**

जलाचे प्रमाण, त्याची उपयोगिता व उपभोग (प्रत्यक्ष वापर) यांचा शास्त्रीय दृष्ट्या अभ्यास करून ते योग्य प्रमाणात उपलब्ध करून देण्याच्या दृष्टीने केलेली व्यवस्था, तरतूद किंवा उपाययोजना म्हणजे 'जलव्यवस्थापन होय' दुसऱ्या प्रकारे जलव्यवस्थापनाची व्याख्या अशी करता येईल, "जलसंरक्षण संवर्धन व विकास यांची शास्त्रीय दृष्ट्या केलेली चिकित्सात्मक रचना म्हणजे जलव्यवस्थापन होय".

(अ) जलाची उपलब्धता व दर्जा (ब) गरजांचा अंदाज (विद्यमान व भावी काळासाठी), (क) जलवाटपाचा योग्य प्रकार (ड) जलव्यवस्थापनात येणाऱ्या अडचणींचा आढावा व त्यावरील उपाययोजना

### **1) जलाची उपलब्धता व दर्जा**

जागतिक स्तरावर, देश स्तरावर आणि स्थानिक स्तरावर जल उपलब्धतेचे सर्वेक्षण केले जाते. जलस्रोत, त्यांत वर्षभर उपलब्ध असणारे पाणी, ऋतूनुसार जल प्रमाणात होणारा बदल, तसेच पाण्याचा दर्जा (क्षारयुक्त की गोडे ? क्षारांचे प्रकार व प्रमाण, सूक्ष्म जीवांचे प्रमाण, त्या जलाची उपयुक्तता, इत्यादी) विचारात घेतला जातो. उदाहरणार्थ, एखाद्या नदीत स्थानिक स्वरूपात वर्षभर व ऋतूनुसार कोठे व किती पाणी उपलब्ध असते? त्या नदीला पाणी कोठून येते? पाण्याचा होणारा झिरपा, बाष्पीभवन, वहनाचा वेग, पात्राची रुंदी, धारण क्षमता, वाळूचे प्रमाण, इत्यादी बारीकसारीक गोष्टींचा सर्वेक्षणात समावेश असतो. नदीस मंद उतार असेल तर दीर्घ काळ पाणी उपलब्ध राहते, पण उतार तीव्र असतील तर पात्रात पाणी ठरत नाही, ते लवकर वाहून जाते. डोंगराळ भागांत असा अनुभव येतो. नदीप्रमाणेच नैसर्गिक तळी किंवा तलावांचा विचार होतो. काही नैसर्गिक तळी क्षारयुक्त असल्याने निरुपयोगी ठरतात. उदाहरणार्थ, महाराष्ट्रातील लोणार तळे. प्रदूषणामुळे नदी वा तळ्यांच्या पाण्याचा दर्जा खालावला आहे. भूपृष्ठीय जलसाठ्यांप्रमाणेच भूगर्भजलाचेही सर्वेक्षण करून विहीर व नलिकाकूप खोदून पाण्याची उपलब्धता केली जाते. त्यातही क्षारयुक्त वा गोडे पाणी असे प्रकार आढळतात. केवळ पिण्यासाठी वा शेती-कारखानदारीच्या दृष्टीनेच हे सर्वेक्षण वा पाहणी असते, असे नाही. जलवाहतुकीच्या दृष्टीने ही जलसाठ्यांकडे पाहिले जाते. नद्या, तळी, खाड्या, सागर यांची उपलब्धता जलवाहतुकीसही होऊ शकते. उदाहरणार्थ, गोव्यात झुआरी व मांडवी नद्यांचा उपयोग किंवा भारतातील व जगातील प्रसिद्ध नद्या व सरोवरांचा उपयोग जलवाहतूक, जलविहार, क्रीडा वा निसर्गसौंदर्याचा घटक म्हणून केला जातो. भरपूर पाण्याच्या उपलब्धतेचा भाग म्हणून गंगा-ब्रह्मपुत्रा, सिंधू, कावेरी, कृष्णा, गोदावरी, सतलज, महानदी ही भारतातील नदीखोरी; जागतिक स्तरावर अँमेझॉन, कांगो, व्हॅग-ही, सिक्वियांग, मिसिसिपी, नाईल, युफ्रायटिस व टॅंग्रीस, व्होल्गा, हार्ईन, मेकाँग, इत्यादी नद्यांची खोरी ओळखली जातात तर वाळवंटी व पर्जन्यछायेचे प्रदेश हे जलटंचाईचे प्रदेश असतात. या सर्वांचा विचार जलव्यवस्थापनेत होत असतो.

### **2) विद्यमान व भावी काळातील गरजांचा अंदाज**

प्राचीन संस्कृती नदीकाठावर विकसित झाल्या. तंत्रप्रगतीने नदी नसलेल्या भागांतही मानवी वस्त्या वाढल्या आहेत. शहरीकरण व औद्योगिकीकरणामुळे पाण्याची गरज वाढली आहे. त्यांत स्थलांतरितांमुळे भर पडते. पाणी पुरविणाऱ्या व्यवस्थापनासमोर अडचणी निर्माण होतात. दुष्काळ वा अवर्षणासारख्या आपत्तींनी त्यांत भर पडते. पाण्याचे दुर्भिक्ष निर्माण

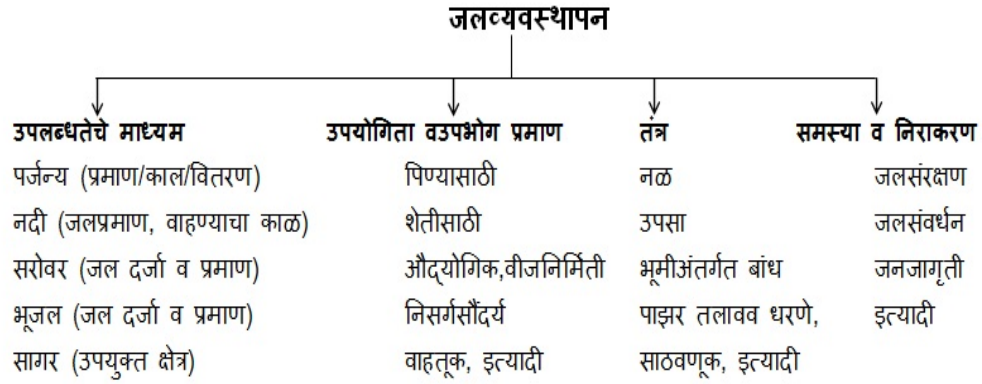
झाल्यास पाण्यासाठी संघर्ष सुरू होतात. आपल्याकडील कृष्णा-कावेरी पाणी तंटा किंवा इतर स्थानिक स्वरूपातील जलवाटप संघर्ष ही त्याची उदाहरणे आहेत. म्हणूनच विद्यमान गरजेपाठोपाठ भावी काळातील पाण्याची गरज विभागवार वा स्थानिक स्तरावर विचारात घेणे आवश्यक ठरते. नव्या तंत्रानुसार सागराचे धारयुक्त पाणी शुद्ध करून वापरण्यास मध्यपूर्व राष्ट्रांत सुरुवात झाली आहे. तसेच गंगा-कावेरी नद्या जोडण्याचा महत्वाकांक्षी प्रकल्प भारत सरकारने हाती घेतला आहे.

### 3) जलपुरवठ्याचा किंवा वाटपाचा योग्य प्रकार

स्थानिक स्तरावर उपलब्ध असणाऱ्या जलप्रमाणानुसार जलपुरवठ्यासाठी योग्य प्रकार निवडला जातो. त्यानुसार नदीवर धरणे वा पाझरतलाव बांधणे, कालवा किंवा नळाने पाणी पुरवणे, उपसा जलसिंचन, स्प्रिंकल, ठिंबक पद्धत, डबे वा कावडीने पाणी पुरविणे यांपैकी स्थानिक दृष्ट्या जी पद्धत योग्य असेल, तिचा अवलंब केला जातो. पाणी पुरविण्याचे प्रमाणही ठरवून घेतले जाते.

### 4) अडचणींचा आढावा व त्यावरील उपाययोजना

जलव्यवस्थापनामध्ये मानव ही निर्णायक शक्ती असते. अडचणी किंवा समस्या निर्माण करणारा मानव असतो व त्यावर तोडगा काढणाराही मानवच असतो. सर्व जीवांना पाण्याची गरज असते, परंतु माणसाच्या गरजा वाढत्या असतात. पूर्वी पाणी असेल तेथेच वस्ती असायची, पण आता वस्ती असेल तेथे पाणीपुरवठा करण्याचा प्रकार घडतो व जलव्यवस्थापनात समस्या निर्माण होतात. पर्जन्य हा लहरी असतो. त्याचे वितरण समान नसते. पर्जन्यप्रमाण वा कालावधीही बदलता असतो. कधी कधी दीर्घ काळ खंड पडून नव्या समस्या निर्माण होतात. अतिवृष्टीनेही जलव्यवस्थापन बिघडू शकते. जल उपलब्धतेच्या प्रमाणात मानवी प्रगतीची चौकट असेल, तर आदर्श व्यवस्थापन करता येते. आज जल उपलब्धतेनुसारी जलवाटप वा पुरवठा करण्याचा आटापिटा केल्याने जलव्यवस्थापनेचे संतुलन बिघडत आहे. भावी काळाचाही विचार करता खालीलप्रमाणे उपाययोजना करता येतील.



- विद्यमान जलसाठ्यांचा वा खोतांचा आढावा घेणे.
- नव्या जलस्रोतांचा शोध घेणे.
- पाण्याच्या उपलब्धतेनुसार लोकसंख्या, शेती व उद्योगांचे नियोजन करणे.
- जीवन पद्धतीत योग्य बदल करून जलवापरात आवश्यकघट करणे.
- पाणी वाया जाऊ न देणे.
- बाष्पीभवनाचा वेग कमी करण्यासाठी परिसरात वनीकरणकरणे. (त्यामुळे हवा थंड राहते.)
- प्रदूषण रोखणे.
- भूजलाचा जादा उपसा न करणे.
- पावसाचे घरांवर वा इमारतींवर पडणारे पाणी योग्य रीतीनेसाठवून वापर करणे. (सध्या याचा अवलंब होत आहे.)
- जलवाटपासाठी वा संरक्षण निसर्गसंवर्धनासाठी योग्य तंत्र वसाधने वापरणे.
- जनजागृती करणे.

### ग्रामीण भागात पिण्याचे पाणी समस्या

ज्या मानवी वस्तीत जास्तीतजास्त लोक प्राथमिक व्यवसायात गुंतलेले असतात, त्या वस्तीस 'ग्रामीण वस्ती' असे म्हणतात. यांत निसर्गाधारित व कच्चा माल देणारे व्यवसाय मोडतात. शेती हा प्रमुख व्यवसाय असून इतर व्यवसायांमध्ये पशुपालन, मेंढपाळ, जंगल उत्पादने गोळा करणे, मासेमारी, खाणकाम, तसेच लोहार, सुतार, कुंभार, इत्यादी कारागिरी यांचा समावेश होतो. काही वस्त्यांमध्ये 'धार्मिक स्थान महात्म्य' असते. अपुरी वाहतूक व्यवस्था, अपुरी आरोग्य व्यवस्था, मर्यादित लोकसंख्या ही ग्रामीण वस्तीची वैशिष्ट्ये दिसून येतात.

काही ग्रामीण वस्त्यांना भरपूर पाणी उपलब्ध असते, तर बऱ्याचशा ग्रामीण वस्त्यांना मर्यादित पाणी उपलब्ध होते. मैदानी प्रदेशवपठारी प्रदेशांतील नदी काठावरच्या गावांना भरपूर पाणी उपलब्ध असते, परंतु पिण्याच्या पाण्याची समस्या सर्वच ग्रामीण वस्त्यांना भेडसावते. बारमाही वाहणाऱ्या गंगा, यमुना, ब्रह्मपुत्रा यांसारख्या नद्या, किंवा भरपूर पर्जन्य असलेले प्रदेश कमी समस्या निर्माण करतात. पण हंगामी नद्या व ओढे असल्यास पिण्याच्या पाण्याची समस्या निर्माण होतेच. काही भागात नैसर्गिक तलाव असतात. उदाहरणार्थ, महाराष्ट्रात भंडारा जिल्ह्यांत (बोदलकसा, नवेगांव); चंद्रपूर भागात (ताडोबा, सिंदेवाही, असोलमेंडा) व गडचिरोली भागांतही लहान मोठे तलाव आहेत. तेथे पिण्याच्या पाण्याची समस्या कमी प्रमाणात निर्माण होते. मुख्यत्वे उन्हाळ्यात व कमी पाऊस पडणाऱ्या प्रदेशांत, वाळवंटी भागात व घाटमाथ्यांवर किंवा अति उंच पर्वत भागात पिण्याच्या पाण्याची समस्या तीव्र असते. उन्हाळ्यात बाष्पीभवन जास्त होऊन जलसाठे आटतात, पाऊस कमी पडल्यास डोंगरात झिरपा कमी होतो व नदीप्रवाहांना कमी पाणी मिळाल्याने पाणी समस्या उग्र रूप धारण करते. संपूर्ण गावाचे स्थलांतर करण्याइतकी बाईट परिस्थिती निर्माण होते. पर्वतप्रदेश व तीव्र उतारांच्या प्रदेशात नदी प्रवाह शीघ्रगतीने वाहून जातात व पाणी न स्थिरावल्यामुळे पाणी टंचाई निर्माण होते.

बहुतेक ग्रामीण भागात लोक विहिरींच्या पाण्यावर अवलंबून असतात. वीजपंप, रहाट व मोटेच्या साहाय्याने पाण्याचा उपसा केला जातो. काही हंगामी पाण्याच्या विहिरी किंवा आड असतात. तसेच काहींचे पाणी खारे असते, परिणामी पिण्याच्या पाण्याची समस्या निर्माण होते. राहुरी, औरंगाबाद विभागांतील काही गावे किंवा अगदी गुजरातच्या केंद्रशासित दीव-दमण-सिलवासा या भागात गोडे पाणी असले तरी विशिष्ट क्षार असल्याने भांड्यांवर पांढरे डाग निर्माण होताना आढळतात, असे पाणी आरोग्यास योग्य नाही. सार्वजनिक विहिरी, पायऱ्यांच्या विहिरींचा अयोग्य तऱ्हेने ग्रामस्थांमार्फत वापर होतो व पाणी पिण्यालायक राहत नाही. नारूसारखे रोग फैलावण्याची शक्यता वाढते. नदीवर, ओढ्यांवर गुरांचीवमाणसांची स्वच्छता चालते. तेथेच कपडे धुणे चालते. त्याच भागाजवळचे पाणी पिण्यासाठी घरी नेतानाचे दृश्य ग्रामीण भागात आढळते. राजस्थानसारख्या प्रदेशात अत्यंत अरुंद व खोल आड असतात. उन्हाळ्यांत त्यातील पाणी आटते. काही गावांना (उंचावर वसलेली) लांबून पाणी आणावे लागते. कोरड्या नदी पात्रांत खड्डे तयार केले जातात व मिळालेल्या झिरप्याचे साचलेले पाणी गोळा केले जाते. अशा तऱ्हेची कितीतरी उदाहरणे आपल्याला देता येतील.

हिमालय पर्वतरांगा किंवा आपल्याकडील घाटमाथे व पर्जन्येच्या प्रदेश तसेच शीघ्र उतार प्रदेश, उष्ण व कोरड्या हवामानाचे प्रदेश अशा भागांमध्ये ज्या ग्रामीण वस्त्या असतात, तेथे पिण्याच्या पाण्याची कायम समस्या असते. ग्रामीण भागांतील पिण्याच्या पाण्याची समस्या दूर करण्यासाठी पुढील उपाययोजना केल्या गेल्या आहेत किंवा भावी काळात केल्यास फायदा होऊ शकेल.

1. कालव्याच्या साहाय्याने पाणीपुरवठा.
2. नळांच्या साहाय्याने पाणीपुरवठा.
3. पाझर तलाव तयार करणे.
4. कोल्हापूर किंवा वसंत बंधारा बांधणे. (यात पुलाखाली अल्प उंचीपर्यंत नदीचा प्रवाह अडविलेला असतो.)
5. जमिनीखाली असणारे प्रवाह भूमीअंतर्गत बांधाद्वारे अडविणे.
6. योग्य अंतरावर विहिरी खोदणे किंवा नलिकाकूप खोदणे.
7. पायऱ्यांची विहीर नसावी.
8. पाण्याचा अपव्यव टाळणे, जलशुद्धीकरणाचे घरगुतीउपाय, इत्यादीबाबत जनजागृती करणे.
9. सार्वजनिक पाणवट्याची योग्य काळजी घेणे.
10. तलाव किंवा विहिरींमध्ये मासे व इतर उपयुक्त जलचरांची जोपासना करणे.

आपल्याकडे ग्रामीण जीवनाचा कारभार पाहण्यासाठी 'ग्रामपंचायती' स्थापन झाल्या आहेत. त्यांच्यामार्फत असे स्थानिक उपक्रम राबविले जातात. नगर जिल्ह्यात कोपरगावजवळ धामोरी हे अडबंगनाथांचे धार्मिक स्थान आहे. तेथे पूर्वी लांबून पाणी आणावे लागे. आता विहिरींचे पाणी टाकीत चढवून ते नळाने गावाला पुरविले जाते. 'राळेगणसिद्धी' हे दुसरे उदाहरण आहेच. येथे व्यक्तिगत पातळीवर पण ग्रामस्थांच्या मदतीने श्री. अण्णा हजारे यांनी गावाची पिण्याच्या पाण्याची समस्या सोडविली आहे. 'पाणी अडवा पाणी जिरवा' योजनेप्रमाणे ग्रामस्थांनी स्वतः पुढाकार घेऊन सहकारी व आवश्यक तेथे सरकारी मदत घेतल्यास ग्रामीण भागाची पिण्याच्या पाण्याची समस्या दूर होऊ शकेल यात शंका नाही.

**सारांश :**

जलसंरक्षण-संवर्धन व विकास यांची शाखीय दृष्ट्या केलेली चिकित्सात्मक रचना म्हणजे जलव्यवस्थापन होय. आपण जलव्यवस्थापनाचा अभ्यास हा जलाची उपलब्धता आणि त्याचा दर्जा तसेच विद्यमान गरजांचा तसेच भावी काळासाठी असणाऱ्या गरजांचा अंदाज घेऊन केला. त्यामुळे आपण जलपुरवठा तसेच अडचणी व त्यावरी उपाय ह्यासंदर्भात माहिती घेतली.

ग्रामीण भागातील पिण्याच्या पाण्याची समस्या आपण थोडक्यात जाणून घेतली. ग्रामीण वस्तीचे भौगोलिक स्थानावर ह्या समस्या कशा स्थित आहेत आणि त्यावर सर्वसाधारण उपाय काय असू शकतील हे आपण पाहिले आहे.

**संदर्भ ग्रंथ :**

- 1) पर्यावरण व परिस्थितिकी : अतुल कोटलवार, इंद्रजीत यादव
- 2) पर्यावरण : सुमंत सुभाषराव सोळंके
- 3) पर्यावरण अभ्यास : यशवंतराव चव्हाण महाराष्ट्र मुक्त विद्यापीठ, नाशिक
- 4) पर्यावरण आणि परिस्थितिकी : निरज नचिकेता

## **ओझोन वायूचा भौगोलिक अभ्यास** **प्रा.डॉ. सोमनाथ संभाजी लांडगे**

कला व विज्ञान महाविद्यालय, चौसाळा, ता.जि. बीड.

### **सारांश (Abstract)**

प्रस्तुत संशोधनाकरिता द्वितीयक स्वरूपाच्या माहिती स्रोतांचा (Secondary Sources of Information) आधार घेतला आहे. ओझोनची निर्मिती, महत्त्व आणि क्षय याचा अभ्यास करण्याचा प्रयत्न केला आहे. वातावरणाचे वर्तमान स्वरूप 500 दशलक्ष वर्षापूर्वी कॅम्ब्रियन कालखंडात स्थिर झाले. ओझोन वायूचा शोध स्कॉनबीन शास्त्रज्ञाने सन 1840 मध्ये लावला. वातावरणात ओझोनचे प्रमाण 0.00006 टक्के असून सपाटीपासून 25 ते 40 कि.मी. उंचीच्या दरम्यान ओझोनचे केंद्रीकरण झाले आहे. या भागास ओझोनांबर म्हणतात. अतिनील किरणामुळे ऑक्सिजनचे विघटन व ऑक्सिजन अणूचा संयोग होऊन ओझोनची निर्मिती होते. ओझोन थरात अतिनील किरणे शोषली जातात. त्यामुळे तापमान समतोल राखला जातो. म्हणून ओझोन थरास पृथ्वीचे संरक्षण कवच म्हणतात. मानवाने केलेले संशोधन व उपग्रहाद्वारे प्राप्त माहितीनुसार ओझोनचा क्षय होत आहे. यास जास्त परिणामकारक घटक क्लोरोफ्ल्युरोकार्बन (CFCS) हा आहे. ओझोन क्षयामुळे जागतिक तापमान वाढ, आवर्षण, हिम वितळणे, सागर जलाची पातळी वाढणे, कृषी उत्पादकतेत घट, मानवाची प्रतिकार क्षमता व रोग प्रतिबंधक शक्ती कमी होणे, वनस्पती वैविध्यता कमी होणे, सागरी परिसंस्था धोक्यात येणे या समस्या निर्माण होतील.

**बीजसंज्ञा (Keywords)** ओझोन निर्मिती (Ozone Orisin), ओझोन महत्त्व (Ozone Importance), अतिनील किरणे (Ultraviolet Rays), ओझोन क्षय (Ozone Deflation)

### **प्रस्तावना (Introduction)**

पृथ्वीभोवती असलेल्या हवेच्या आवरणाला वातावरण म्हणतात. वातावरणाचे वर्तमान स्वरूप 500 दशलक्ष वर्षापूर्वी कॅम्ब्रियन कालखंडात निश्चित झाले असावे असे हवामान शास्त्रज्ञांचे मत आहे. वातावरणाचे तपांबर, स्थितांबर, दलांबर आणि बाह्यांबर असे प्रमुख चार थर आहेत. वातावरण हे वायू धुलीकण व जलवाष्प या मुख्य तीन घटकांनी बनले आहे. वातावरणात नायट्रोजन 78.08%, ऑक्सिजन 20.99%, कार्बन डायऑक्साईड 0.03%, ऑर्गॉन 0.94%, ओझोन 0.00006%, असे वायूचे प्रमाण आहे. इतर काही वायूचे प्रमाण अत्याल्प आहे. वायूचे वातावरणातील प्रमाण सजीवांच्या दृष्टीने अत्यंत महत्त्वाचे आहे.

### **उद्दिष्ट्ये (Objectives)**

ओझोन वायू निर्मितीचे विश्लेषण करणे.  
ओझोन वायूचे महत्त्व अभ्यासणे.  
ओझोन न्हासाची कारणे शोधणे.

### **सांख्यिकीय संकलन व संशोधन पद्धती (Data Collection and Research Methodology)**

प्रस्तुत संशोधनासाठी आवश्यक माहिती व सांख्यिकी ही दुय्यम स्वरूपाची वापरली असून सांख्यिकी संकलनासाठी विविध संदर्भग्रंथ, पुस्तके, संशोधन लेख, मासिके, वर्तमानपत्र, नियतकालिके, परिसंवाद, चर्चासत्रे, परिषद, दूरदर्शन, आकाशवाणी इत्यादी संशोधन संपादनाचा (Research Sources) आधार घेतला आहे.

### **ओझोन वायूचे विश्लेषण (Analysis of Ozone Gas)**

"क्लोरीन सदृश्य उग्र वास असणारा, फिकट पिवळसर रंगाचा व ऑक्सिजनाच्या तीन अणूपासून बनलेल्या वायूला ओझोन म्हणतात."

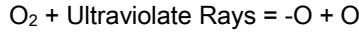
ओझोन वायूचा शोध सन 1840 मध्ये स्कॉनबीन शास्त्रज्ञाने लावला. ओझोनचे वातावरणातील प्रमाण 0.00006 टक्के असून वातावरणात ओझोन 3000 दशलक्ष टन इतका आहे. वातावरणातील सर्व ओझोन वायू एकत्रित करून पृथ्वीभोवती पसरला तर फक्त 3 मि.मी. जाडीचा थर तयार होईल. हवेच्या आकारमानाच्या 0.02 ते 0.03 दशलक्षांश ओझोनचे प्रमाण आहे. ओझोनचे वातावरणातील प्रमाण ऋतूनुसार बदलते. हिवाळ्यात प्रमाण कमी असते तर उन्हाळ्यात प्रमाण जास्त असते. वातावरणाच्या स्थितांबर थरामध्ये सपाटीपासून 25 ते 40 कि.मी. उंचीच्या दरम्यान ओझोन वायूचे केंद्रीकरण झाले आहे. या थरास ओझोनांबर म्हणतात. सन 1913 मध्ये फ्रेंच भौतिक शास्त्रज्ञ चार्ल्स फॅब्री आणि हॅनरी वुडसन यांनी ओझोन थराचा शोध लावला.

### **ओझोन वायू निर्मिती (Origin of Ozone)**

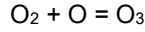
ओझोन वायूची निर्मिती नैसर्गिक व मानवी या दोन क्रियांद्वारे होते.

### अ. नैसर्गिक क्रिया (Natural Process)

80 ते 100 कि.मी. उंचीच्या दरम्यान 242 नॅनोमीटर अतिनील किरणामुळे प्रकाश रासायनिक क्रिया घडून येते. या क्रियेमुळे ऑक्सिजनचे विघटन होते व ऑक्सिजनचे दोन ऑक्सिजन अणू तयार होतात.



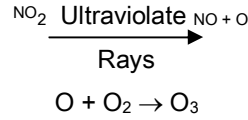
80 ते 100 कि.मी. दरम्यान ऑक्सिजनचे विघटन होत असते परंतु 30 ते 60 कि.मी. उंचीच्या दरम्यान ऑक्सिजन ( $O_2$ ) व ऑक्सिजनचा एक अणू (O) यांचा संयोग होतो. या प्रक्रियेला प्रकाश रासायनिक अभिक्रिया (Photo Chemical Reaction) म्हणतात.



ओझोनची निर्मिती समशितोष्ण व शितकटिबंधापेक्षा उष्ण कटिबंधात सर्वात जास्त प्रमाणात होते. विशेष करून उष्ण कटिबंधीय प्रदेशात स्थितांबरांमध्ये ओझोनची सर्वाधिक निर्मिती होते. या वातावरणाच्या भागापासून हवेच्या क्षितिज समांतर वहनामुळे (Circulation) काही ओझोन समशितोष्ण व ध्रुवीय प्रदेशाकडे वाहत जातो.

### ब. मानवी क्रिया (Human Process)

मानवी क्रियातून बाहेर पडणाऱ्या नायट्रोजन डायऑक्साईड वायूचे अतिनील किरणामुळे विघटन होऊन ऑक्सिजनचा एक अणू (O, Atom) तयार होतो. त्याचा ऑक्सिजन बरोबर संयोग होऊन ओझोन वायू तयार होतो. या क्रियेमुळे ओझोन वायूची निर्मिती कमी प्रमाणात होते.



## II. ओझोन वायूचे महत्त्व (Importance of Ozone)

सूर्यकिरणात UV-A (315-400 N.M.W.L.), UV-B (280-315 N.M.W.L.) व UV-C (100-280 N.M.W.L.) या तरंग लांबीचे (Way Length) अतिनील किरणे असतात. UV-A दीर्घतरंग लांबी, UV-B मध्यमतरंग लांबी व UV-C लघुतरंग लांबी या स्वरूपाची असतात. UV-A किरणे ओझोन थरातून आरपार जातात व भूपृष्ठापर्यंत जशीच्या तशी पोहचतात. ही अतिनील किरणे सजीवांना कमी प्रमाणात हानिकारक असतात. UV-B किरणे मानवासाठी हानिकारक असतात तर UV-C किरणे सजीवांसाठी अत्यंत घातक असतात.

ओझोन थरात विशेषतः UV-B व UV-C ही अतिविध्वंसक किरणे शोषली जातात. त्यामुळे तापमानात फारशी वाढ होत नाही. तापमान समतोल राखण्यासाठी ओझोन वायूची मदत होते. ओझोन वायूचा थर नसता तर अतिनील किरणे सरळ पृथ्वीपर्यंत आली असती. त्यामुळे तापमान प्रचंड प्रमाणात वाढले असते आणि पृथ्वीवर सजीवसृष्टी निर्माण होऊ शकली नसती परंतु ओझोन थरामुळे पृथ्वीवर सजीवसृष्टीचा विकास झाला. म्हणून ओझोन वायू सजीवसृष्टीच्या दृष्टीने अत्यंत महत्त्वाचा आहे. त्यामुळे ओझोन थरास पृथ्वीचे संरक्षण कवच म्हणतात. ओझोन वायूचा उपयोग पाणी शुद्धीकरण, अल्सर, शरीरातील घाण निचरा, व्हायरेसेस, कॅन्सर, एड्स यावरील उपचारासाठी प्रभावी औषध म्हणून केला जातो.

## III. ओझोन वायूचा क्षय (Depletion of Ozone)

सन 1970 मध्ये ब्रिटिश संशोधकांनी सर्वप्रथम ओझोन क्षयासंबंधी विचार मांडले. सन 1973 साली अमेरिकन शास्त्रज्ञांनी ओझोन ऱ्हासाबाबतीत मते मांडली. सन 1974-75 मध्ये अमेरिकेतील कॅलिफोर्निया विद्यापीठातील एम.मोलीना व एस. रॉलंड यांनी ओझोन ऱ्हासाविषयी विचार मांडले. मानवाने केलेले संशोधन व उपग्रहाद्वारे प्राप्त माहितीनुसार सन 1985 मध्ये दक्षिण ध्रुवावर ओझोन थरास छिद्र पडले असल्याचे निदर्शनास आणले. सन 1988 मध्ये अमेरिकेतील वर्ल्डवाच संस्था व नासा ओझोन ट्रेन्ड पॅनल यांनी प्रकाशित केलेल्या अहवालानुसार ओझोनचा क्षय फक्त ही एक नैसर्गिक वातावरणीय घटना नसून ती अंटार्क्टिकाच्या उच्च वातावरणापुरती सिमित नाही तर ती सर्वव्यापी आहे. सन 1987-88 मध्ये United Nations Environment Programme (UNEP) यांनी ओझोन क्षय कारणे व परिणाम याचा अभ्यास सुरु केला. ओझोन वायूचा क्षय हा मानवी व नैसर्गिक घटकामुळे होतो. प्रामुख्याने क्लोरीन, फ्ल्युरिन, अमोनिया, नायट्रिक ऑक्साईड, सल्फर डायऑक्साईड, नायट्रोजन डायऑक्साईड, हायड्रॉझायल, नायट्रोजन ऑक्साईड, ब्रोमीन, ब्रोमोक्लोरोकार्बन, क्लोरोफ्ल्युरोकार्बन, क्लोरीन मोनोक्साईड, क्लोरीन डायऑक्साईड या प्रदूषकामुळे ओझोन वायूचा क्षय होतो. क्लोरोफ्ल्युरोकार्बन व हॅलोन यावर चालणारे रेफ्रिजरेटर, एयरकंडीशनर, स्प्रे, कैन डिस्पेन्सर, संगणक, झेरॉक्स मशिन, हेअर ड्रायर्स, आगरोधक उपकरणे, कितकनाशक, रंग,



औषध, रसायन निर्मिती मशिनरी इत्यादी उपकरणे कार्यरत असतात किंवा खराब झाल्यानंतर वरील वायू वातावरणात सोडले जातात. त्यामुळे ओझोनचा ऱ्हास होतो. क्लोरीन अणू एवढे सक्रिय असतात की, एक क्लोरीन अणू ओझोनच्या एक लाख अणूंचे विघटन करतो. United Nations Environmental Protection Committee ने CFCS व हॅलोजनयुक्त वायुमुळे ओझोनची 90 टक्के हानी होते असे सूचित केले. कारखान्यातून जलयुक्त गंधक, जेट, कंकार्ड व सुपरसॉनिक विमानातील इंधन ज्वलनातून नायट्रोजन ऑक्साईड, क्लोरोफ्ल्युरो मिथेन, सल्फर ऑक्साईडस, कार्बन, हायड्रोकार्बन्स हे वायू वातावरणात सोडले जातात. यामुळे ओझोनचा क्षय होतो. रॉकेट व अवकाशयान उड्डाणाच्या वेळी क्लोराईडस सोडले जातात. त्यामुळे ओझोनचा ऱ्हास होतो. नैसर्गिक क्रियाद्वारे ओझोनचा क्षय कमी प्रमाणात होतो. ऑक्सिजनची निर्मिती, गतिक क्रिया (Dynamic Mechanism), सौरडाग, ध्रुवीय मेघ निर्मिती, ज्वालामुखी उद्रेक, सेंद्रिय पदार्थांचे विघटन यामुळे अनेक वायू वातावरणात सोडले जातात यामुळे ओझोनचा ऱ्हास होतो. क्लोरीन व ब्रोमीन यांचे निर्मिती स्रोत उत्तर गोलार्धात मध्य अक्षांश प्रदेशातील औद्योगिक क्षेत्र असून सुद्धा ओझोन थराला छिद्रे अंटार्क्टिकावर पडले आहेत. कारण मध्य अक्षांश प्रदेश औद्योगिक क्षेत्रातील तपांबरातून क्लोरीन व ब्रोमीन वायू स्थितांबराकडे वाहत जातात. नंतर हे वायू हवेच्या क्षितिजसमांतर हालचालीमुळे दक्षिण ध्रुवीय प्रदेशातील अंटार्क्टिका क्षेत्राच्या व उत्तर ध्रुवीय प्रदेशातील आर्क्टिक क्षेत्राच्या वर स्थितांबराकडे वाहत जातात. त्यामुळे याचे परिणाम स्वरूप म्हणून अंटार्क्टिका व आर्क्टिक क्षेत्राच्या वर ओझोन थरास छिद्रे पडले.

#### **IV. ओझोन क्षयाचे परिणाम (Effects of Ozone Depletion)**

साधारणतः एक टक्का ओझोनचा क्षय झाल्यास पृथ्वीपर्यंत पोहोचणाऱ्या अतिनील किरणांमध्ये तीन टक्के वाढ होते. ओझोन क्षयाचा परिणाम वातावरण, मानव, सजीवसृष्टी, सागर, कृषी, पर्जन्य, मृदा, वनस्पती इत्यादी घटकांवर होत असलेला दिसून येतो. ओझोन क्षयामुळे अतिनील किरणे जास्त प्रमाणात पृथ्वीपर्यंत येऊन वातावरणाच्या एकूण तापमानात वाढ होईल आणि जागतिक तापमान वाढ (Global Warming) होऊन हवामानात मोठ्या प्रमाणात बदल होतील. जलचक्र मंदावणे, पावसाची अनिश्चितता, वाष्पीभवनाचा वेग वाढेल, धूर व धुके जास्त प्रमाणात निर्माण होतील, वाऱ्याची गती व दिशा बदलेल, आम्ल पर्जन्याचे प्रमाण वाढेल व जंगल आणि जल परिसंस्था धोक्यात येईल, हिम वितळण्याच्या प्रमाणात वाढ होऊन सागर जलाची पातळी वाढेल, सागर किनारे जलमग्न होतील. ओझोन क्षयाचा परिणाम मानवी आरोग्यावर होईल, मानवाची नैसर्गिक प्रतिकार क्षमता आणि रोग प्रतिबंधक शक्ती कमी होईल, यामुळे त्वचा रोग, डोळ्यांचे विकार, श्वसनाचे आजार, अकाली वार्धक्य, नपुसकत्व, जनुकीय बदल, शारीरिक व्याधीत वाढ इत्यादी परिणाम होतील. ओझोनच्या ऱ्हासाचा परिणाम प्रकाशसंश्लेषण क्रिया, जल वापर क्षमता, रोग प्रतिकार शक्ती, मृदा शुष्कता इत्यादीवर होऊन वनस्पतीची वाढ खुंटेल व उत्पादन क्षमता कमी होईल. त्यामुळे वनस्पती प्रकार, घनता, विविधता, कृषी उत्पादकता व उत्पन्नात घट होईल. अतिनील किरणांचा परिणाम प्रामुख्याने टोमॅटो, कोबी, बटाटे, फ्लॉवर, सोयाबीन, गहू, मका, तंबाखू व काही फळझाडांवर होतो. अतिनील किरणांचा परिणाम सागरीय वनस्पती प्लवंग, मासे, जीव-जंतू, प्रवाळ किटक, कवचधारी जीव, प्राणी इत्यादीवर होऊन पुनरुत्पादन क्रिया मंदावणे व वाढ कमी होणे यावर होईल. यामुळे अन्न निर्मिती मंदावेल आणि सागरी किनारी प्रदेशातील लोकांच्या अन्नाचा प्रश्न गंभीर होईल.

#### **निष्कर्ष व सूचना (Conclusion and Suggestions)**

##### **निष्कर्ष (Conclusion)**

1. वातावरणात ओझोन वायूचे प्रमाण अत्यल्प 0.00006 टक्के असून हा वायू सजीवसृष्टीचे संरक्षण कवच आहे.
2. ओझोन वायू ऱ्हासात नैसर्गिक घटकापेक्षा मानवी घटक जास्त परिणामकारक आहेत. विशेष करून क्लोरोफ्ल्युरोकार्बन, हॅलोनस, नायट्रोजन ऑक्साईड या हॅलोजनिक वायूचा प्रामुख्याने समावेश होतो.
3. ओझोन क्षयामुळे पर्यावरण व पारिस्थितीकीय व्यवस्था यात असमतोल निर्माण होऊन नैसर्गिक आपत्तीच्या प्रमाणात वाढ होईल व जीवसृष्टी नामशेष होईल.
4. अतिनील किरणांचा परिणाम मानव, वनस्पती, पिके, पशू-पक्षी यांच्यावर होऊन प्रतिकार क्षमता, रोग प्रतिबंधक शक्ती, जनुकीय बदल, पुनरुत्पादन व अन्न निर्मिती क्रिया मंदावणे यावर प्रभाव पडेल.

##### **सूचना (Suggestions)**

1. ओझोन वायूच्या संवर्धनासाठी राष्ट्रीय-आंतरराष्ट्रीय, शासकीय-प्रशासकीय व सामाजिक पातळीवर जनजागृती करणे गरजेचे आहे.
2. ओझोन वायूच्या ऱ्हासास कारणीभूत घटकांचे उत्पादन व वापर यावर कडक निर्बंध घालणे आवश्यक असून राष्ट्रीय व आंतरराष्ट्रीय पातळीवरील विविध करारांचे काटेकोर पालन व अंमलबजावणी करणे गरजेचे आहे.

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## ग्रामीण विकासाचे बदलते स्वरूप

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### प्रास्ताविक

प्रत्येक गावात लोकशाहीचे राज्य असावे यासाठी ग्रामपंचायतीची स्थापना करण्यात आली गावाच्या सर्वांगीण विकासासाठी ग्रामपंचायत हे एक स्वयंपूर्ण अधिकार असलेली संस्था आहे हे सर्वांनी समजून घेणे महत्वाचे आहे दरवर्षी वित्तआयोगाव्यतिरिक्त राज्य आणि केंद्र शासनाच्या अनेक ग्रामविकासाच्या योजना जाहीर होतात. आशा ग्रामविकास योजना वित्त आयोगातील विषय आणि उपलब्ध होणारानिधी याची सखोल माहिती ग्रामसेवक, सरपंच, ग्रामपंचायत सदस्य आणि गावातील प्रमुख व्यक्तीना असणे गरजेचे आहे यातूनच ग्रामविकासाचा शाश्वत आराखडा तयार करता येतो. प्रत्येक ग्रामपंचायत दरवर्षी ग्रासभेत विकास कामाची यादी बनवून उपलब्ध निधी नुसार ठराव मंजूर करते गेल्या काही वर्षातील ग्रामविकासाची संकल्पना म्हणजे रस्ते, गटार, मंदिर, पटांगण, बंधारे, भित,पूल बांधणी अशी झाली आहे या समजुती मुळे ग्रामीणभाग आज ही विकासाच्या दृष्टीने मागे पडला आहे दुस-या बाजूलाआणणा हजारे यांचे रायगणसिद्धी, पोपटराव पवार यांचे हिरवे बाजार, भास्कर पेरे-पाटील यांचे पाटोदा आणि चंद्रकांत दळवी यांचे निढळ या सारखी गावे ग्रामविकासाचे विविध पुरस्कार मिळून दिशादर्शक गावे म्हणून पुढे आले आहेत या बाबत प्रत्येक ग्रामपंचायत सदस्य यांनी विचार करावा करण या गावांनी फक्तभौतिक स्थरावर विकास केलेला नाही तर गावातीलसुशिक्षित युवा आणि अनुभवी वर्गाचे संघटन करून भौतिक सामाजिक नैसर्गिक आणि आर्थिक अशा चार ही स्थरावर गावाला नवीन दिशा दिली आहे.

### उद्दिष्टे :-

१. ग्रामीण भागाचा सर्वांगीण विकास झाला आहे.
२. लोकशाही विकेंद्रीकरण तळा पर्यंत पोहचले आहे.
३. ग्रामीण जीवनाच्या सामाजिक, राजकीय, आर्थिक जीवनाचा स्थर उंचावला आहे.
४. ग्रामीण विकासमध्ये स्वयंस्फुटीने सहभाग वाढला आहे.

### गृहीतके :-

१. ग्रामीण स्थरावरील मानवी निर्देशक युवक नेतृत्व आणिस्वयंमव समाज विकासाबाहलचाडोळसपणा वाढला आहे.
२. ग्रामीण स्थरातील शिक्षण, आरोग्य,स्वच्छता, जलव्यवस्थापन आदी संदर्भात अनुलाग्रह सकारत्मक बदल दिसून आला आहे
३. पर्यवरनसर्वधनास सुरवात झाली.

### संशोधन पद्धती

या संशोधन निबंधामध्ये दुय्यम सामग्रीचा वापर केला असून या मध्ये संदर्भग्रंथ, शोधप्रबंध, तसेच मासिके वृत्तपत्रइंटरनेटचावापर करून अभ्यास करण्यात आला आहे.

### विषय विवेचन

#### अपेक्षित शाश्वत ग्रामविकास

##### १.सामाजिक विकास

समाजसंघटन कौटुंबिक, संस्कार, शिक्षण, आरोग्य, कला, क्रीडा, महिला आणि समाजातील विविध घटकांचे बळकटी करून समाज एकजूट आणणे गरजेचे आहे या मुळे भौतिक आर्थिक आणि नैसर्गिक विकासाठी मदत होते.

##### २. भौतिक विकास

रस्ते, गटार, बंधारे, पूल, वीज, स्वच्छतागृहेपाणीपुरवठा इत्यादीसुविधांची उभारणी करून सामाजिक नैसर्गिक आणि आर्थिक विकासाला हातभार झाला

##### ३.नैसर्गिक विकास

गावातील निसर्ग म्हणजे शेती, नदी, ओढे, तलाव, डोंगर, कडे, गवताळ व खुरटे रान, गायरान, देवराई, देवस्थान व मालकी क्षेत्रातील मोठी-लहान झाडे आणि त्यावरअवलंबून असण्या-या मधुमाशा, पशु, पक्षी, कीटक, सरपटणारे उभयचर प्राणी यांचे सहसंबंध व महत्व समजून घेऊन जेव विविधता समिती मार्फत संवर्धन त्याचा फायदा गावाच्या सामाजिक भौतिक आणि आर्थिक विकासाठी

##### ४.आर्थिक विकास

ग्रामीण भागातील आर्थिक विकास हा सर्वात जास्त शेतीव पूरक व्यवसायावर अवलंबून असलेला त्या साठी गावातील एकूण क्षेत्रातील जास्तीत जास्त क्षेत्र चांगल्या प्रकारे शेती खाली अनल्यास गावातीलप्रत्येक कौटुंबाचे आर्थिक दृष्ट्या बळकटी करण होईल जे ग्रामविकासाला मदत करते

या चार विषयातील समान विकास हा गावाच्या सर्वांगीण प्रगतीला चालना देतो विकास कामासाठी पंचायत समिती, राज्य शासन, केंद्र शासनाच्या अनेक योजनांचा निधी उपलब्ध असतो यासाठी ग्रामपंचायती मार्फत ठराव आणि अर्ज सदर करण्याची गरजआहेयासाठी अभ्यासू मंडळी, ग्रामविकासातील सामाजिक संस्था निश्चतपणे मदत करू शकतात

### **निष्कर्ष**

ग्रामीण भागामध्ये विविध विकासाच्या योजनामुळे समाजाचा आर्थिक व सामाजिक विकासघडून आलेला आहे. पूर्वीच्या असलेल्या दारिद्र्याच्या प्रमाणात फरक पडलेला दिसून येत आहे स्वतंत्र्याच्या वेळी दारिद्र्यप्रमाण 48% होते तर १९९१ ला 35% आहे तर २००१ ला २७% आढळून आले.

### **संदर्भ**

१. वॉटरशेड ऑर्गनायझेशन ट्रस्ट
२. शर्मा हरिश्चंद्र (१९७५-७६) भारत में स्थानिक शासन का इतिहास कॉलेज डेपो जयपूर
३. खंडारे संजय (२०१५) "पंचायतराज संस्था आणि विकासाच्या योजना
४. आग्रोवन (२०२१)

## दिव्यांगांच्या हक्कां विषयीचा कायदा, २०१६

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प्रस्तावना

मानव समाज हा अजूनही मानवतेला मुकलेलाच आहे. प्राचीन काळात आमच्या देशासह अनेक देशात अपंग बालकांना कड्यावरून लोटून देण्यात येत होते वा पंचांच्या साक्षीने मारण्यात येत होते. मानवाकडेसुद्धा एक उपयुक्त प्राणी म्हणून पाहण्यात येत होते, जन्मतः च निकामी असणारे मुलं वा पुढील आयुष्यात वा वृद्धापकाळी निरुपयोगी झालेली व्यक्ती हे समाजावरील ओझं म्हणूनच त्यांच्याकडे पाहिले जाई. बौद्ध, जैन, लिंगायत व शीख धर्माने सामाजिक अपंगांच्या वतीने बंड केले या धर्माच्या व परदेशातून आलेल्या इस्लाम व ख्रिश्चन धर्माच्या अनुयायींना आपल्या सेवाधर्मात शारिरीक अपंगांच्या सेवाही स्थान दिले व त्यांना मानवी अधिकार प्राप्त करून दिले. याच पुढच पाऊल म्हणजे १९६२ साली मुंबईच्या सामाजिक कार्यकर्त्या दिव्यांगत कमलताई निंबकर यांनी प्रथमतः या देशात जागतिक अपंग दिन पाळून त्यांच्या वेदनांना आंतरराष्ट्रीय पातळीवर वाच्या फोडली. १९६५ च्या आसपास संयुक्त राष्ट्र संघाने अपंगांच्या प्रश्नांकडे लक्ष देण्यास सुरुवात केली. १३ डिसेंबर २००६ रोजी संयुक्त राष्ट्रसंघाने अपंग व्यक्तींची हक्काची सनद जाहीर केली व सर्व सदस्य राष्ट्रांना त्याची अंमलबजावणी करण्याची विनंती केली. आपल्या देशाने प्रस्तुत कायद्यान्वे ही अंमलबजावणी केलीली आहे. हा कायदा म्हणजे अपंगांच्या हक्काचा कायदा १९१६, हा या देशात २६ डिसेंबर २०१६ पासून जारी करण्यात आला आहे. दिव्यांगांच्या हक्काविषयीचा हा कायदा कसा अस्तित्वात आला हे आपण ह्या शोधनिबंधमध्ये जाणून घेऊया.

उद्दीष्टे

१. दिव्यांग व्यक्तीच्या हक्कांविषयीच्या कायद्याबद्दल माहिती करून देणे.

२. दिव्यांग व्यक्तीच्या पार्श्वभूमीची माहिती समजून घेऊया.

व्याप्ती

१. दिव्यांग हक्कांविषयीचा कायदा दिव्यांग व्यक्तीचा पुनर्वसनासाठी बनवलेला आहे.

२. ह्या कायद्यात सर्व दिव्यांग व्यक्तींच्या व्याख्या व त्यांचे दिव्यांग प्रकार स्पष्ट केलेले आहेत.

मर्यादा: ह्या कायद्यात फक्त एकूण २१ दिव्यांग व्यक्तींच्या व्याख्या व त्यांचे दिव्यांग प्रकार स्पष्ट केलेले आहेत.

महत्व:

'बेल्जीयम' मध्ये एका दगडी कोळशाच्या खाणीत मोठा स्फोट झाला. बरेच कामगार जमिनीत गाडले गेले. अनेकांचे हात पाय तुटले, काहींची स्मृती गेली तर काहींना कर्णबधिरत्व आले. ही दुर्दैवी घटना १९५९ साली घडली. या अपघातात डागावलेलाना श्रद्धांजली वाहिन्यासाठी एक सभा आयोजित करण्यात आली होती. त्यात अपघातात अपंग झालेल्यांच्या समस्या समाजापुढे मांडाव्यात असा ठराव मंजूर झाला. १९७५ च्या सुमारास संयुक्त राष्ट्र संघाने अपंगांच्या प्रश्नांकडे लक्ष देण्यास सुरुवात केली. १९८१ मध्ये या संघाने हे वर्ष जागतिक अपंग वर्ष मानून साजरे करावे असे सदस्य राष्ट्रांना कळविले. याच काळात सध्या अस्तित्वात असलेल्या अपंगांच्या कायद्याची बीजे रुजली आहेत असे मानण्यात येते. भारतात १९६२ मध्ये अपंगांच्या क्षेत्रात काम करणाऱ्या मुंबईच्या प्रसिद्ध सामाजिक कार्यकर्त्या कै. कमलाबाई निंबकर यांनी प्रथम अपंग दिन साजरा केला जातो ("जागतिक अपंग दिन") ३ डिसेंबर ला साजरा केला जातो. हळूहळू हा दिवस आपल्या देशात साजरा होऊ लागला रोटरी इंटरनॅशनल या संस्थे तर्फे भारतात पोलिओ निर्मूलनाची मोहीम याच वेळी सुरु झाली या पाठोपाठ लोकांना प्रवासात विशेष सवलती द्याव्यात, नोकरीत आरक्षण द्यावे असे विचार पुढे येऊ लागले. अपंग कोणाला म्हणावे? याची व्याख्या तयार झाली याच वेळी आशियन राष्ट्रांची चीन मध्ये एक परिषद झाली या परिषदेत एक आयोग स्थापन करण्यात आला बऱ्याच चर्चेनंतर इ.स. २००० च्या आत अपंगांसाठी खास कायदे करून त्यांच्या अंमलबजावणी करण्यासाठी आयोगाच्या सदस्यांकडून लेखी हमी घेण्यात आली.

संसदेच्या हिवाळी अधिवेशनात 'राईट्स ऑफ पर्सन्स विथ डिसेबिलिटी बिल - २०१४' हा बहुप्रतिक्षित कायदा प्रथम राज्यसभेने व नंतर लोकसभेने मंजूर करून देशातील अडीच कोटीपेक्षा जास्त दिव्यांगांना दिलासा दिला. देशात दिव्यांग व्यक्तींची संख्या २०११ च्या जनगणनेनुसार २.२१ टक्के आहे. जागतिक बँकेच्या एका अहवालात 'भारतामध्ये अपंग हा सर्वाधिक दुर्लक्षित घटक' असल्याचे नमूद करण्यात आले होते. त्याचीच परिणती म्हणून की काय, भारताला स्वातंत्र्याप्राप्तीनंतर तब्बल

४८ वर्षांनंतर म्हणजेच १९९५ मध्ये 'अपंग व्यक्ती (समान संधी, हक्कांचे संरक्षण व संपूर्ण सहभाग) विधेयक १९९५' हा कायदा अस्तित्वात येऊन अपंगांच्या हक्कांना प्रथमच कायद्याचे स्वरूप आले व संरक्षण प्राप्त झाले. त्यातील तरतुदींना अनुसरून पुढे १९९९ मध्ये अपंगांच्या आर्थिक विकासासाठी चालना देण्यासाठी 'राष्ट्रीय वित्त व विकास निगम' या महामंडळाची स्थापना करण्यात आली. त्याचप्रमाणे आत्ममग्न, मानसिक विकलांग, सेरेब्रल पाल्सी व बहुविकलांग प्रवर्गांच्या सर्वांगीण विकासासाठी व त्यांना आधार देण्यासाठी 'नॅशनल ट्रस्ट'ची स्थापना करण्यात आली. दिव्यांगांना शासकीय/निमशासकीय नोकऱ्यांमध्ये ३ टक्के आरक्षणाची खऱ्या अर्थाने अंमलबजावणी १९९५च्या कायद्यानंतरच सुरु झाली. १९९५च्या कायद्यामध्ये जवळजवळ १२० वृत्ती असल्याचे निदर्शनास आले व त्यामुळे या कायद्याची प्रभावीपणे अंमलबजावणी होत नसल्याचे दिसून आले. परिणामी कायदा होऊनही जास्तीत जास्त दिव्यांग व्यक्ती या कायद्याच्या लाभापासून वंचितच राहिल्या. उदाहरणार्थ नोकरीत ३ टक्के आरक्षण असूनही कायद्यातील पळवाटांमुळे व कायद्याची अंमलबजावणी न करणाऱ्यांवर कोणत्याही शिक्षेची अथवा दंडात्मक कारवाईची तरतूद नसल्यामुळे गेल्या २० वर्षांत आरक्षणाचा बॅकलॉग पूर्ण होऊ शकला नाही. तीच गत स्थानिक स्वराज्य संस्थांमध्ये असलेल्या ३ टक्के आरक्षित निधीची झाली. सर्व स्थानिक स्वराज्य संस्थांनी आपल्या उत्पन्नाच्या ३ टक्के निधी अपंगांसाठी राखीव ठेवण्याची तरतूद असूनही गेल्या २० वर्षांत असंख्य ठिकाणी निधी राखून ठेवण्यात आला नाही व जिथे राखीव निधी ठेवला तिथे तो खर्च करण्यात आला नाही. अशा एक नव्हे अनेक तरतुदी कागदावरच राहिल्या व खऱ्या अर्थाने ज्या तळागाळातील गरीब, गरजू अपंगांना शासकीय योजनांचा लाभ मिळावयास पाहिजे होता त्यांना पाहिजे त्या प्रमाणात तो मिळू शकला नाही.

यादरम्यान सन २००७ मध्ये भारताचे 'UN CONVENTION ON THE RIGHTS OF PERSONS WITH DISABILITY' (UNCPRD) या अपंगांच्या हक्कविषयक जागतिक जाहीरनाम्यावर प्रथम स्वाक्षरी केली व हा जाहीरनामा तत्त्वतः स्वीकारला. या जाहीरनाम्यातील तरतुदांना अनुसरून नवीन कायदा करणे त्यामुळे केंद्र शासनाला क्रमप्राप्तच होते. त्यादृष्टीने केंद्र शासनाच्या सामाजिक न्याय व अधिकारिता मंत्रालयाने सन २०१० मध्ये डॉ. सुधा कौल यांच्या अध्यक्षतेखाली नवीन कायद्याचे प्रारूप बनविण्यासाठी समिती स्थापन केली. सदर समितीने दि. ९ फेब्रुवारी २०११ रोजी कायद्याचे प्रारूप केंद्र शासनाकडे सादर केले. केंद्र शासनाने त्यावर देशभर विविध ठिकाणी कार्यशाळा घेऊन अपंग पुनर्वसन क्षेत्रातील तज्ज्ञ, कार्यकर्ते, संस्था, संघटना यांची मते मागविली. त्यानंतर प्रथमतः ७ फेब्रुवारी २०१३ रोजी त्यावेळचे सामाजिक न्यायमंत्री मल्लिकार्जुन खरगे यांनी राज्यसभेत हे विधेयक मांडले. दरम्यान राज्यसभेने हे विधेयक पुनर्विचारासाठी व संशोधनासाठी लोकसभेच्या स्टँडिंग कमिटीकडे पाठविले. श्री. रमेश बयस यांच्या अध्यक्षतेखालील स्टँडिंग कमिटीने आपल्या अभिप्रायांसह विधेयक ७ मे २०१५ रोजी 'राईट्स ऑफ पर्सन्स विथ डिसेबिलिटी - २०१४' या नावाने हे विधेयक केंद्र शासनाच्या सुपूर्द केले. केंद्र शासनाने नुकतेच १४ डिसेंबर २०१६ रोजी सदर विधेयक राज्यसभेत सादर करून मंजूर करून घेतले व त्यानंतर दोनच दिवसांनी १६ डिसेंबर २०१६ रोजी लोकसभेत हे विधेयक मांडण्यात आले व लोकसभेनेही आपली संमती दिली. या विधेयकातील सर्वात महत्त्वाची तरतूद म्हणजे अपंगत्वाची व्याख्या विस्तृत करण्यात आली आहे. १९९५च्या कायद्यामध्ये केवळ ७ प्रकारचे अपंगत्व ग्राह्य समजण्यात आले होते. मात्र २०१४च्या या नवीन विधेयकात तब्बल २१ प्रकारच्या अपंगत्वाचा समावेश करण्यात आला आहे. यामध्ये ऑटिझम, स्पेक्ट्रम डिसऑर्डर, अंधुक दृष्टी, अंधत्व, सेरेब्रल पाल्सी, कर्णबध्दीर, हिमोफेलिया, कुष्ठरोगमुक्त रुग्ण, बौद्धिक विकलांग, मानसिक आजार, मस्क्युलर डायोस्ट्रोफी, मल्टिपल स्वोरोसिस, शिक्षणातील विशिष्ट विकलांगता, बोलण्यातील व भाषेतील विकलांगता, अॅसिड हल्ल्यामुळे आलेली विकलांगता, पार्किन्सन्स आजार, थॅलेसेमिया, बहुविकलांगता, क्रोनिक न्युरॉलॉजिकल स्थिती, लोकोमोटर डिसेबिलिटी, सिकलसेल आजार इ.चा समावेश आहे.

सदर कायदा हा १९९५च्या अधिनियमाला पूर्णपणे अधिग्रहित करेल. म्हणजेच २०१४चा कायदा अस्तित्वात आल्यानंतर १९९५चा कायदा पूर्णपणे रद्दवातल होईल. किमान ४० टक्के किंवा त्यापेक्षा जास्त अपंगत्व असणारांनाच या कायद्यातील तरतुदींचा लाभ घेता येईल. मानसिक आजार असलेल्या व्यक्तींच्या बाबतीत जिल्हा न्यायालयांना दोन प्रकारचे पालकत्व एक अंशतः पालकत्व व दुसरे पूर्णतः पालकत्व देण्याचे अधिकार राहतील

सरकारी व निमसरकारी नोकरीतील आरक्षण ३ टक्क्यांवरून ४ टक्क्यांपर्यंत वाढविण्यात आलेले आहे. तसेच खासगी क्षेत्रातही ४ टक्के आरक्षण मिळावे म्हणून केंद्र व राज्य सरकार प्रोत्साहन देईल. अशा प्रकारे खासगी क्षेत्रातही नोकऱ्यांचे द्वार अपंगांसाठी खुले झाले आहे. दिव्यांग व्यक्तींना शिक्षण, प्रशिक्षण व स्वयंरोजगार उपलब्ध करण्याची हमी सदर विधेयकात आहे. त्यासाठी सर्व अनुदानित उच्च शिक्षणसंस्था, शिक्षण व प्रशिक्षण संस्थांमध्ये किमान ५ टक्के जागा राखीव ठेवण्यात येतील. तसेच

स्वयंरोजगारासाठी अल्प व्याजदराने कर्ज दिले जाईल. केंद्र व राज्य शासनाने अपंग स्त्रिया व मुलांचे हक्क अबाधित ठेवण्यासाठी विशेष उपाययोजना कराव्यात. तसेच दिव्यांगांच्या कार्यक्षमतेचा पुरेपूर उपयोग करण्यासाठी तशी वातावरणनिर्मिती करावी अशीही तरतूद विधेयकात आहे. सदर विधेयक पारीत झाल्यापासून पाच वर्षांच्या आत सर्व सार्वजनिक इमारती, हॉस्पिटल्स, पोलिंग बुथ, वाहतूक व्यवस्था अडथडामुक्त म्हणजेच अपंगांच्या सोयीची करण्यात येईल. यापुढे कोणतीही सार्वजनिक इमारत अपंगांसाठी सुयोग्य/अडथडाविरहित केल्याशिवाय त्याचे ताबापत्र देण्यात येणार नाही.

अपंगांचे प्रश्न व समस्या हाताळण्यासाठी केंद्र व राज्य शासन राष्ट्रीय व राज्य सल्लागार समिती स्थापन करेल. तसेच प्रत्येक राज्यांत जिल्हास्तरावर समित्या राहतील. ह्या समित्या केंद्र व राज्य शासनाचे अपंगविषयक धोरण तयार करतील. अडथडामुक्त वातावरणनिर्मिती, योजनांची प्रभावी अंमलबजावणी व भेदभावविरहित व्यवस्था निर्मितीकरिता आवश्यक त्या उपाययोजना करतील. अपंग व्यक्तींच्या बाबतीत त्यांच्या अपंगत्वाच्या आधारे कोणताही भेदभाव करता येणार नाही. अपंगत्वामुळे त्यांच्या व्यक्तीस्वातंत्र्यावर कोणतेही बंधन लादता येणार नाही. सदर कायद्यातील तरतुदींचा भंग करणारी व्यक्ती शिक्षेस पात्र राहिल. दिव्यांगांसोबत भेदभाव केल्यास सहा महिन्यांपासून दोन वर्षांपर्यंत तुरुंगवास आणि रु. १०,००० पासून पाच लक्षपर्यंत दंडाची तरतूद सदर विधेयकात आहे.

**सारांश :**

आपल्या समाजात दिव्यांग व्यक्तींचा आपण स्वीकार करायला हवा. त्यांचं अस्तित्व आपण स्वीकारून त्यांना त्याच कायदा म्हणजे हक्क हे द्यावेत. सर्वसामान्य माणूस म्हणून तुम्ही ही जगू शकता अशी भावना ह्या व्यक्तीमध्ये रुजवू. प्रत्येक व्यक्ती मध्ये प्रत्येक गुण हे दडलेले असते त्या गुणांचा शोध म्हणजे आपल जीवन आहे. उदाहरणार्थ. स्टिफन हार्किंग्स हे एक विश्व प्रसिद्ध ब्रिटानी भौतिक विज्ञानी, ब्रामण्ड विज्ञानी, लेखक होते. असे प्रत्येक व्यक्ती मध्ये प्रत्येक गुण आहेत. हे गुण आपण शोधूयात आणि हक्काचं अमलबजावणी हे करूयात.

संदर्भ

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## जागतिक पर्यावरण संरक्षण आणि भारत

प्रा. डॉ. एस. के. फोले

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गोषवारा :

पर्यावरणाच्या प्रत्येक घटकामध्ये क्रिया-प्रतिक्रिया घडत असतात. पर्यावरणाचा मानवावर आणि मानवाचा पर्यावरणावर थेट परिणाम होत असतो. पर्यावरण मानवाला पोषक दोषक स्थिती निर्माण करते आणि मानव पर्यावरण संतुलित प्रदुषित करू शकतो. पर्यावरण मानवाला अधिकाधिक पोषक वातावरण देण्याचा प्रयत्न करते तर माणूस पर्यावरणाला दुषित करतो या समर्थक-विरोधक भूमिकेमुळे पर्यावरणाचे संरक्षण करणे आवश्यक आहे.

प्रस्तावना :

मानव व त्यांच्या सभोवताली असणारे पर्यावरण यांचा अतिशय घनिष्ठ संबंध आहे. पर्यावरण शुद्ध ठेवण्यासाठी मानव व पर्यावरण यांचे संतुलन कायम ठेवणे आवश्यक आहे. मानवाने औद्योगिक क्रांती, विज्ञान आणि तंत्रज्ञानातील प्रगतीने विकासाचे शिखर गाठतांना व्यक्तिवादाला प्राधान्य दिले, त्यामुळे मानवाची प्रगती झाली. मानवाने स्वार्थी हव्यासासाठी पर्यावरण संरक्षणाकडे पाठ फिरवली. इतकेच नव्हे तर स्वार्थासाठी निसर्गाचा समतोल बिघडविला, पर्यावरण असंतुलन निर्माण केले, अलीकडच्या काळात पृथ्वीवरील पर्यावरणाचे दिवसेंदिवस मोठ्या प्रमाणावर प्रदुषण होत आहे. जर याचप्रमाणे पर्यावरणीय प्रदुषण होत राहिले तर अनियंत्रित विकासाचा परिणाम पृथ्वीच्या संतुलनाला धोका पोहचवेल हे सजीव सृष्टीच्या व पर्यावरणाच्या दृष्टीने घातक आहे. त्यातून मानव प्राण्याचे अस्तित्व ठिकून राहिल की नाही असा प्रश्न निर्माण होतो. मार्गरेट मिड या विचारवंताने असे म्हटले आहे की, जर पर्यावरण नसेल तर मानव समाज नसेल. म्हणून पर्यावरणाचे रक्षणाकरिता शाश्वत विकासाकरिता पर्यावरण प्रदुषण संरक्षणासाठी जनजागृती करण्याची गरज निर्माण झाली आहे.

प्रदुषणास कारणीभूत घटक :

डॉ. जोसेफ मायलर यांनी म्हटले आहे की, 'हिरव्या कुरनांचे वाळवंट करणारा, पवित्र नद्या दुषित करणारा दुसरा तिसरा कुणी नसून माणुसच आहे.' वरील वाक्यावरून पर्यावरणाच्या ज्ञासास मनुष्य अधिक प्रमाणात जबाबदार आहे. मानवी क्रिया प्रक्रियांमुळे निसर्गावर ताण वाढत आहे. जेव्हा मानव निर्मित पर्यावरणीय प्रभावाचा निसर्गनिमित्त पर्यावरणीय घटकावर त्याचा परिसीमेपलीकडे प्रभाव पडतो तेव्हा प्राकृतिक तत्त्वे कुंठीत होऊन त्यांची स्वनियंत्रण क्षमता ज्ञास पावते व पर्यावरणाची अवनती होते. पर्यावरणाची उपेक्षा मानवाकडून होऊ लागते तेव्हा पर्यावरण प्रदुषण सुरु होते. लोकसंख्या वाढीमुळे जंगलतोड, औद्योगिक विकास, नागरीकरण, कृषी क्षेत्राचा विकास व विस्तार यातून अधिक उत्पादन वाढीसाठी रासायनिक खते, किटकनाशके यांचा वापर, अतिपशुधन वृद्धी व चराई, तंत्रज्ञानाचा व तांत्रिक साधनांचा गैरवापर, नैसर्गिक साधनांचा, उर्जेचा अतिरिक्त वापर, वाहतूक व दळणवळण, अंधश्रद्धा, वैज्ञानिक दृष्टीकोनाचा अभाव, स्थलांतरण, युद्धे, मोठी धरणे, पर्यटन, ठाकाऊ कचरा, ई कचरा, कारखान्याचे विषारी सांडपाणी, अणु प्रकल्प व अणु चाचण्या यामुळे जागतिक तापमान वाढ, वाळवंटीकरण, ओझोनच्या थराचे क्षरण, वन्यजीव ज्ञास, नैसर्गिक साधन संपत्तीचे शोषण, ठाकाऊ घण पदार्थांचे प्रदुषण, हवा, माती, जल, ध्वनी, सागरी, औष्णिक, किरणोत्सर्गी प्रदुषण होऊन पर्यावरण घातक अवस्थेत पोहचले आहे.

पर्यावरण प्रदुषण समस्येने संपूर्ण जगासमोर उग्र रूप धारण केले आहे. जगाचे तापमान सध्या सरासरी २.५ ते ३.७६ अंश सेल्सिअसने वाढत आहे. सध्याचे दुष्काळ भारतामध्ये काश्मीर व चेन्नईत झालेली अतिवृष्टी, म्यानमार देशात नर्गिस नावाचे चक्रीवादळ, अल निनोचे संकट, अमेरिकेत जंगलात लागलेली आग, उत्तर कोरीयाने केलेली हायड्रोन बॉम्बची चाचणी, जपानमध्ये वारंवार होणारा भुकंप व येणारी त्सुनामी, २०१५ हे वर्ष सर्वाधिक तापमानाचे वर्षे म्हणून गणले जाणे, चीनमध्ये आज काळ्या धुक्याचे थैमान घातले. अशा सर्व घटकांचा विचार केल्यास पर्यावरण प्रदुषणावर वेळीच उपाय योजना केल्या नाही तर पर्यावरणाच्या ज्ञासासोबतच मानवी सृष्टीचा विनाश देखील त्याच गतीने होणार यांत शंका नाही.

पर्यावरण प्रदुषण संरक्षणात जागतिक स्तरावरून झालेले प्रयत्न :



आज पर्यावरण संरक्षण जाणीव ही जागतिक बनली असून प्रत्येक राष्ट्र पर्यावरण संरक्षणासाठी पुढे येत आहे. त्या अनुषंगाने जागतिक पातळीवर विविध उपक्रम राबविले जात आहे. त्याचाच भाग म्हणून ५ जून १९७२ मध्ये स्टॉकहोम या शहरात आंतरराष्ट्रीय स्तरावर पहिली पर्यावरण विषयक जागतिक परिषद आयोजित करण्यात आली. या परिषदेत पर्यावरणीय प्रदुषण, औद्योगिक व रासायनिक दुष्प्रतिकरण, हरितग्रह वातावरणीय बदल, ओझोन वायू क्षय, आम्लपर्जन्य, सागरी परिसंस्थांचा असमतोल अशा विविध पर्यावरणीय समस्यांचा ऊहापोह झाला. पर्यावरणाचे संरक्षण आणि संवर्धनातून मानवासह अखिल सजीव सृष्टीच्या भविष्यासाठी सर्वांनीच एकत्रितपणे झटण्याची गरजही आहे असे प्रतिपादन करण्यात आले.

पर्यावरणाच्या सर्वांगीण संतुलनासाठी विविध परिषदा आतापर्यंत घेण्यात आल्या. त्यामध्ये हवामान बदलासंबंधी नैरोबी घोषणा-१९८२, ओझोन संरक्षणासंबंधी मॉंट्रॅल ठराव-१९८७, पर्यावरण व विकासासंबंधी ब्राझिलची राजधानी रियो-डीजानरो येथील वसुंधरा परिषद-१९९२, हरित वायू उत्सर्जन व प्रमाण कमी करण्यासाठी क्योटो प्रोटोकॉल-१९९७, ग्लोबल वॉर्मिंगवर चर्चा करण्यासाठी बाली परिषद-२००७, जागतिक तापमान वाढी संदर्भात कोपेनहेगन परिषद-२००९ आणि ३१ डिसेंबर २०१५ रोजी फ्रांसची राजधानी पॅरिस येथे हवामान विषयक परिषद पार पडली. संयुक्त राष्ट्रांने आयोजित केलेल्या आणि बारा दिवस चाललेल्या या परिषदेला १५० देशांचे प्रमुख उपस्थित होते. या परिषदेत जागतिक हवामानातील विपरीत बदल रोखण्यासाठी जगाचे सरासरी तापमान वाढण्याचा वेग २ अंश सेल्सिअस पेक्षा कमी ठेवण्याचे उद्दिष्ट ठरविण्यात आले.

भारतातील जागतिक पर्यावरण संरक्षण :

भारतात पर्यावरण संरक्षण व पर्यावरण संवर्धनासाठी स्वातंत्र्य पूर्वकाळापासून प्रयत्न करण्यात येत असून त्यादृष्टीने अनेक कायदे व यंत्रणा निर्माण केल्या आहे. इ.स. १९७२ मध्ये भरलेल्या पर्यावरण परिषदेपासून ते आतापर्यंत च्या सर्व पर्यावरण परिषदेमध्ये भारताने सहभाग घेतला.

भारताच्या राज्यघटनेतच पर्यावरण संरक्षणाची तरतूद केलेल्या काही मोजक्या राष्ट्रांपैकी भारत हे एक अग्रगण्य राष्ट्र आहे. भारतीय राज्यघटनेच्या अनुच्छेद ४८ नुसार पर्यावरणाचे रक्षण करण्याचे शासनावर बंधन टाकण्यात आले आहे. त्यामध्ये पर्यावरणाचे प्रदुषण टाळणे, होणाऱ्या प्रदुषणाला नियंत्रित करणे व त्याचा समतोल राखून त्यात सुधारणा करण्यासाठी कायदे करणे हे राज्याचे कर्तव्य आहे. तसेच भारतीय राज्यघटनेमध्ये ५१-अ व ४८-अ हे अनुच्छेद समाविष्ट करण्यात आले. त्यापैकी ५१-अ नुसार पर्यावरणाचे रक्षण करणे हे भारताच्या प्रत्येक नागरिकाचे कर्तव्य आहे.

पर्यावरण प्रदुषण संरक्षण विषयक कायदे :

१) वन्यजीव संरक्षण कायदा-१९७२ : वन्यजीवांचे संरक्षण व्हावे यासाठी हा कायदा पारित करण्यात आला. यामध्ये जंगलातील वन्य जीवांचे संरक्षण व संवर्धन करणे, वन्यप्राणी व पक्षांच्या शिकारी संबंधी कायदा, वन्य प्राण्यांच्या व्यापारासंबंधी याची तरतूद केलेली आहे.

२) जल प्रदुषण, प्रतिबंध व नियंत्रण कायदा-१९७४ : या कायद्यामध्ये पर्यावरण प्रदुषणाला आळा घालण्यासाठी केंद्रीय प्रदुषण मंडळ व राज्य स्तरीय जल प्रदुषण मंडळाची स्थापना करण्याची तरतूद करण्यात आली. तसेच जल प्रतिबंध आणि जल प्रदुषण नियंत्रणासंबंधी सल्ला देण्याची काम केल्या जाते. या कायद्याने पाण्याची स्वच्छता व शुद्धता धोक्यात आणणाऱ्यांना रुपये १०,००० पर्यंतचा दंड किंवा ३ महिन्यांचा कारावास किंवा दोन्ही शिक्षा केल्या जातात. या कायद्या अंतर्गत सामान्य नागरिक, कारखाने व शासन या सर्वांना गुन्हेगार ठरविता येऊ शकते.

३) वन संवर्धन कायदा-१९८० : पर्यावरणाचे असंतुलन आणि न्हास होऊ नये यासाठी मानवी अस्तित्वासाठी पोषक आहे. जंगलाची तोड पर्यावरण बिघडविण्याच्या मुख्य कारणापैकी एक आहे. हे लक्षात घेता जंगलाचे रक्षण करण्यासाठी हा कायदा करण्यात आला आहे.

४) वायु प्रदुषण, प्रतिबंध व नियंत्रण कायदा-१९८१ : या कायद्याने वायु प्रदुषणाचा अर्थ, प्रदुषणाची कारणे, तसेच त्यावर नियंत्रक उपाययोजना सांगितल्या आहे. वायु प्रदुषण रोखणे, इंधन व स्फोटके, ज्वलनशील पदार्थ यांच्यावर बंदी घालण्यासाठी तरतूद, हवेची गुणवत्ता व ग्राहकता टिकविणे हे या कायद्याचे उद्दिष्ट्य आहे.

५) पर्यावरण संरक्षण अधिनियम कायदा-१९८६ : पर्यावरणाचे रक्षण करण्याच्या उद्देशाने भारत सरकारने इ.स. १९८५ मध्ये पर्यावरण संरक्षण कायदा संमत केला. या कायद्याने उल्लंघन करणाऱ्यास सात वर्षे तुरुंगवासाची शिक्षा शिवाय एक लाख रुपये दंड भरावा लागेल.

पर्यावरण बदलाविषयी पॅरीस परिषद-२०१५ :

पॅरीस येथे पर्यावरण बदलासंबंधीच्या कराराविषयी जागतिक पातळीवर सर्वपक्षीय परिषद ३१ डिसेंबर २०१५ रोजी झाली. या परिषदेत भारताचे पंतप्रधान नरेंद्र मोदी यांनी वाढत्या जागतिक तापमानाला विकसित राष्ट्रे अधिक उत्तरदायी असून त्यांनी या संदर्भात पावले उचलणे आवश्यक असल्याचे सडेतोड वक्तव्य केले. भारताने वायु उत्सर्जनावर नियंत्रण ठेवण्यासाठी हे स्पष्ट केले की, २०२२ पर्यंत सौर ऊर्जा जवळपास १०० गिगावॅटपर्यंत वाढवण्यात येईल तर पवन ऊर्जेच्या क्षमता सुद्धा ६० गिगावॅट पर्यंत वाढविण्यात येईल,

भारताने असेही आश्वासन दिले आहे की, वायु उत्सर्जनाच्या तीव्रतेविषयी २००५ च्या पातळीपेक्षा २०३० पर्यंत ३३ ते ३५ टक्के घट करण्यात येईल. भारताला औष्णिक ऊर्जेच्या आवश्यकतेची जाणीव आहे, भारताने त्यासाठी कार्बनसिंक प्रस्तावित केला आहे. म्हणजे जेवढ्या प्रमाणात कार्बनचे उत्सर्जन होईल तेवढ्या प्रमाणात जंगले वाढवली जातील. शेवटी पंतप्रधान मोदी यांनी महात्मा गांधी यांचा संदर्भ देऊन म्हटले आहे की, आम्ही पृथ्वीच्या कल्याणाचे विश्वस्त म्हणून भूमिका पार पाडण्यासाठी आलो आहोत, आगामी पिढ्यांची आम्हाला काळजी आहे.

निष्कर्ष :

१) जागतिक पर्यावरणाचे संतुलन राखण्यासाठी विकसित, विकसनशील राष्ट्रांनी पर्यावरण संरक्षण करणे गरजेचे आहे.

२) पर्यावरणीय प्रदूषणाने पृथ्वीवरील जीवसृष्टीचे संतुलन बिघडले आहे.

३) पृथ्वीवरील तापमानात दिवसेंदिवस वाढत होत असल्यामुळे ओझोनचा स्तर कमी होत असून अल्ट्रा व्हॉयोलेट किरणाद्वारे मानवी जीवनावर विपरित परिणाम होत आहे.

४) सर्व प्रमारणचे प्रदूषण हेच पर्यावरणाच्या न्हासाचे प्रमुख कारण वाटते.

५) पर्यावरण म्हणजे पूर्वजांकडून मिळालेली आणि निसर्गाने प्रदान केलेली अनमोल देणगी असून त्यांच्या संरक्षणात मानवी जीवन व सजीव सृष्टीचे हित सामावलेले आढळते.

६) पर्यावरण प्रदूषणात मानवी संस्कृती आणि सभ्यतेचा विध्वंस आढळून येतो.

७) जागतिक पातळीवर पर्यावरण प्रदूषण नियंत्रणासाठी भारत हे राष्ट्र कार्यक्षम असले तरी ईआए च्या नव्या मसुद्यामुळे परिणाम होण्याची शक्यता नाकारता येत नाही.

संदर्भ :

१) Environment Pollution, T. Katyal, M. Satake

२) Environmental Science, M.R. Khan

३) पर्यावरण शिक्षण, उषा मिश्रा

४) पर्यावरणशास्त्र, डॉ. विठ्ठल घारापुरे

५) पर्यावरणाचे प्रदूषण व नियंत्रण, वि. प. गुप्ते ६) दैनिक लोकसत्ता, १० फेब्रुवारी २०२१

७) दैनिक लोकमत, १२ ऑगस्ट २०२०

## **मराठवाड्यातील जलसिंचन आणि जल सिंचनावर आधारित आर्थिक विकास**

**प्रा. डॉ. चार एस. जी.**

भूगोल विभाग, जयक्रांती कला व वाणिज्य वरिष्ठ महा. लातूर

देशाचा आर्थिक विकास कृषि म्हणून कृषी व्यवसायाचे महत्त्व अनन्य साधारण आहे. भारताच्या आर्थिक विकासासाठी व दीर्घकाळ टिकणाऱ्या विकासासाठी पायाभूत सुविधांचा विकास करणे अत्यावश्यक आहे. शेती, उद्योग, व्यापाऱ्यांच्या विकासावर देशाची प्रगती अवलंबून असते. तर औद्योगिक विकासाकरिता श्रमपुरवठा, व्यवस्थापन, वीज बँक व्यवस्था, बाजारपेठेच्या सुविधा, वाहतूक व दळणवळणाच्या सोयी, किंवा आधारभूत संरचना असे म्हणतात. या सुविधा जितके अधिक गतीने उपलब्ध होतात तितक्या अधिक गतीने अर्थव्यवस्थेचा विकास होतो. पायाभूत सुविधा हा फार अत्यंत प्राचीन काळापासून ही संकल्पना आहे. आधुनिक कालखंडात तंत्रज्ञानाच्या क्षेत्रात झालेल्या प्रचंड प्रगतीमुळे अर्थव्यवस्थेतील पायाभूत सुविधांचे महत्त्व अनेक पटींनी वाढले आहे.

भारत देश हा एक कृषीप्रधान देश म्हणून ओळख साऱ्या जगाला आहे. म्हणूनच भारताच्या आधारभूत संरचनेमध्ये जलसिंचनाला विशेष असे महत्त्व आहे. जलसिंचनामुळेच शेतीचे उत्पादन वाढविणे व आधुनिक पध्दतीने शेती करणे शक्य होते. आजच्या आधुनिक पध्दतीने शेती करणे शक्य होते. आजच्या आधुनिक युगात तरी पाण्याचा वापर पेयजल, घरघुती उपयोग, उद्योगधंदे आणि सिंचनासाठी, वाढतच असून लोकसंख्या वाढीमुळे देखील पाण्याचा दरडोई वापर मोठ्या प्रमाणावर वाढला आहे. परंतु पाणी उपलब्धतेचे प्रमाण पूर्वी इतकेच राहिले आहे. मराठवाड्या सारख्या कृषि प्रधान प्रदेशाच्या विकासात तरी पाण्याचे महत्त्व अनन्य साधारण आहे. परंतु निसर्गाने मराठवाड्याला पाण्याचे दोन हात राखूनच केलेले दिसते. सर्व जग, आपला भारत देश, महाराष्ट्र राज्य आणि राज्याच्या इतर विभागाच्या तुलनेत मराठवाड्यात पाण्याची उपलब्धी अत्यंत कमी आहे. एकूणच मराठवाड्याचा विचार केला तर मराठवाड्यातील जलसिंचनाची स्थिती कशी आहे ? या बाबीचा आढावा प्रस्तुत शोधनिबंधात घेण्यात आलेला आहे.

अध्ययनाची उद्दिष्टे

- 1) मराठवाड्यातील आर्थिक स्थितीचा अभ्यास करणे.
- 2) मराठवाड्यातील जलसिंचनाची स्थिती अभ्यासणे.
- 3) जलसिंचनामुळे कृषी क्षेत्रात झालेल्या बदलाचा अभ्यास करणे.

अभ्यास पध्दती

प्रस्तुत शोधनिबंध हा मराठवाड्यातील आधारभूत संरचनेमध्ये जलसिंचनाच्या भूमिकेचा अभ्यास केलेला आहे. मराठवाड्यातील जलसिंचन क्षेत्राच्या वाढीमुळे कृषीक्षेत्रात झालेल्या बदलाचा आढावा घेण्याचा हा एक प्रयत्न आहे. जलसिंचनाच्या बाबीतील समस्या / अडचणी जाणून घेण्याचा प्रयत्न केलेला आहे. प्रस्तुत शोधनिबंध दुय्यम साधनसामुग्रीवर आधारलेला आहे. त्यात विविध पुस्तके, महाराष्ट्र जलसिंचन अहवाल, नियतकालिके, वर्तमानपत्रातील लेख, मासिके इ. चा आधार घेवून शोधनिबंध तयार केला आहे.

मराठवाड्यातील सर्व जिल्हे राहणीमानाच्या गुणवत्ते संदर्भात खालच्या स्तरावर असल्याचे दिसते. त्यात वंचितता निर्देशांक, मानव दारिद्र्य निर्देशांकाचा समावेश होतो. दरडोई उत्पन्ना संदर्भात जालना जिल्ह्याचे दरडोई उत्पन्न राज्य सरासरीच्या फक्त ४९ टक्के आहे. तर औरंगाबाद जिल्हा वगळता इतर जिल्ह्यांचे ५२ ते ५७ टक्के आहे.

मराठवाड्यातील सिंचन

महाराष्ट्राच्या तुलनेत मराठवाड्याचे सिंचन क्षेत्र केवळ १२.४३ टक्के आहे. म्हणजे मराठवाड्याचे सिंचन क्षेत्र महाराष्ट्राच्या सरासरीपेक्षा जवळपास ०५ टक्के कमी आहे. मराठवाड्याची शेती ही मान्सूनवर अवलंबून आहे. मराठवाड्यातील सिंचन हे दोन भागांमध्ये वर्गीकृत केले आहे.

अ) प्रकल्पनिहाय सिंचन

भारताप्रमाणेच महाराष्ट्र व मराठवाड्यातील ग्रामीण जीवनाचा व अर्थव्यवस्थेचा प्रमुख आधार शेती आहे. शेतीसाठी आवश्यक असलेला घटक म्हणजे जलसिंचन. शेतीचे उत्पादन वाढविण्यासाठी पावसावर अवलंबून राहण्याऐवजी जलसिंचन

सुविधांचा विस्तार इ गाल्यास त्याचा अनुकूल परिणाम दिसून येतो. मराठवाडयामध्ये प्रकल्पनिहाय जलसिंचन हे पुढिल तक्त्यावरून दिसून येते.

मराठवाड्यातील प्रकल्पनिहाय निर्मित सिंचन क्षमता दर्शविली आहे. मराठवाडा विभागात एकूण प्रकल्पांची संख्या ही ८३४ असून अंतिम सिंचन क्षमता १२१३.६२ हजार हेक्टर ठरविण्यात आली होती. जून २००३ अखेर मराठवाडा विभागातील निर्मात सिंचन क्षमता ८३३.१८ हजार हेक्टर इतकी होती, तर २००२-३ मधील प्रत्यक्ष सिंचित व १२७.५३ हजार हेक्टर असल्याचे आढळते. यावरून असे लक्षात येते की, मराठवाडयातील मोठ्या प्रमाणात क्षेत्र हे प्रकल्पातील पाण्याद्वारे सिंचित होते.

ब) ठिबक व तुषार

मराठवाड्यातील भुगभांतील पाण्याच्या पातळीमध्ये दिवसेंदिवस होत असलेली बट आणि पावसाचा अनियमितपणा यामुळे उपलब्ध पाण्याच्या साठ्याच्या काटकसरीने आणि नियोजनबद्धवापर कल अधिकाधिक क्षेत्र सिंचनाखाली आणण्याच्या उद्देशाने तुषार व ठिबक सिंचन पद्धतीचा अवलंब केल्यामुळे पाण्याच्या बचती व्यतिरिक्त पिकाच्या उत्पादनात व प्रतीत सुधारणा, जमीन सुधारणा, जमिनीची धूप कमी होणे व जमीन चिबड न होणे इ. फायदे अपेक्षित आहे. ठिबकसिंचन योजनेअंतर्गत राज्यात सिंचनाखाली आलेल्या क्षेत्राची विभागनिहाय विगतवारीखालील प्रमाणे-

ठिबक व तुषार सिंचन पद्धतीखाली राज्यात मार्च, २००५ अखेरपर्यंत सिंचनाखाली असलेल्या ३.१८ लाख हेक्टर क्षेत्रापैकी सर्वात जास्त क्षेत्र नाशिक विभागात आहे. (४३, ४० टक्के) त्या खालोखाल पुणे, औरंगाबाद आणि अमरावती या तीन विभागात अनुक्रमे २५.०३ टक्के, १६.१४ टक्के आणि ९.७३ टक्के इतके क्षेत्र सिंचनाखाली आहे. कोकण व नागपुर विभागात मात्र ही टक्केवारी अनुक्रमे २.१४ व २.७६ टक्के असल्याचे दिसून येते.

मराठवाड्याच्या कृषी क्षेत्रात झालेला बदल

भारतीय अर्थव्यवस्थेमध्ये कृषी अर्थव्यवस्थेचे स्थान सर्वात वर आहे. वातावरण आणि मान्सूनच्या सतत बदलामुळे देखील कृषी व्यवस्थेमध्ये फार मोठे बदल होत आहेत. कृषी उत्पादन लक्षात घेता, केंद्र सरकार व राज्य सरकार देखील मोठ्या प्रमाणावर शेतकऱ्यांना अर्थसहाय्य करत असलेले दिसून येते. आधुनिक शेती मध्ये वाढते उत्पादन खर्च व विपारी किटक नाशकांचा वापर यामुळे सामान्यता शेतकरी जैविक शेतीकडे वळलेले दिसून येतात. मराठवाडयातच नव्हे तर पुर्ण भारतामध्ये पाण्याची टंचाई उद्भवण्यास सुरुवात झालेली आहे. त्यामुळे पिकांना योग्य तेवढे व किफायदशीर पाणी देण्याच्या दृष्टिकोनातून सुक्ष्म सिंचनाकडे शेतकऱ्यांचा कल हा अधिक असलेला दिसून येतो. मराठवाडयातील शेती कोरडवाहू शेती पद्धतीने केली जाते. एकूण पिकाखालील क्षेत्राच्या १५ टक्के जमीनसाठी ओलीताची सोय उपलब्ध आहे. जवळजवळ ८५ टक्के क्षेत्रावर कोरडवाहू शेती केली जाते. मराठवाड्यातील काही प्रमुख पिकांच्या उत्पादन व उत्पादनतेचा आढावा घेतला असता असे दिसून येते की, सर्वात जास्त उत्पादन हे कडधान्य व कापसाचे घेतल्या जाते. त्या पाटोपाठ सोयाबीन व ज्वारी या पिकांचा क्रमांक लागतो. वरील सर्व पिकांच्या उत्पादकतेचा महाराष्ट्राच्या उत्पादकतेशी तुलना केली असता, मराठवाडयातील पिकांची उत्पादकता ही कमी असलेली दिसून येते. पिकांची उत्पादकता वाढविण्याच्या दृष्टिकोनातून मोठ्या प्रमाणावर जलसिंचनाच्या सुविधा निर्माण करणे अत्यंत आवश्यक आहे.

निष्कर्ष

मराठवाडयाच्या ग्रामिण संरचनेत अनेक घटक महत्वाचे असले तरी, जलसिंचन हा घटक महत्वाचा आहे.

- 1) मराठवाडयाचा मानव विकास निर्देशांक हा राज्य सरासरी (०.५८) पेक्षा कमी असलेला दिसून येतो. दरडोई उत्पन्नाच्या बाबतीत विचार केला तर मराठवाडयाचे दरडोई उत्पन्न हे राज्याच्या सरासरी दरडोई उत्पन्ना पेक्षा कमी असलेले दिसून येते.
- 2) नैसर्गिक साधन संपत्तीच्या बाबतीत मराठवाडा विभाग फारसा संपन्न नाही. तर उद्योजकता व मनुष्यबळ या संदर्भात ही मराठवाडा इतर प्रदेशांच्या तुलनेत खुप मागे आहे.
- 3) मराठवाडयातील पर्जन्यमान हे निरनिराळ्या जिल्ह्यात निरनिराळे दिसून येते. आणि पर्जन्याच्या कालावधीमध्येही तफावत दिसून येते. त्यामुळे त्याचा पिक उत्पादनावर परिणाम दिसून येतो.

- 4) सन २००२ ते ०३ या वर्षामध्ये मराठवाडयात प्रकल्पांद्वारे प्रत्यक्ष सिंचित क्षेत्राखाली १२७.५३ हजार हेक्टर येत असले तरी एकूण पिकांखाली येणाऱ्या क्षेत्रफळांपेक्षा ते कमी असलेले दिसून येते.
- 5) मराठवाडयातील शेती ही ८५ टक्के कोरडवाहू पध्दतीने केली जाते. पिकांच्या उत्पादकतेच्या बाबतीमध्ये देखील फारसी वाढ झालेली दिसून येत नाही. वरील निष्कर्षावरून असे स्पष्ट होते की, मराठवाडयातील आधारभूत संरचनेमध्ये सिंचनाचे योगदान महत्वाचे असलेले दिसून येते. मराठवाडयातील मोठ्या प्रमाणात शेती ही कोरडवाहू असल्यामुळे आधारभूत संरचना भक्कम करण्याच्या दृष्टिकोनातून शाश्वत सिंचनाकडे वाटचाल करणे अत्यंत आवश्यक आहे. त्यासाठी मोठ्याप्रमाणावर प्रयत्न होणे गरजेचे आहे.

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## نظم سوامیرام تیرتھ: ایک تجزیاتی مطالعہ

ڈاکٹر محمد سمیع الدین

علامہ اقبال کا شمار اردو کے بلند ترین شعراء میں کیا جاتا ہے بلکہ اردو شعراء کی سرفہرست میں ان کا نام شامل ہے۔ انہوں نے رنگ و نسل وغیرہ کے امتیازات اور قوم وطن کے تعصبات کے خاتمہ کے لئے شاعری کو ذریعہ بنایا۔ زیر نظر نظم سوامی رام تیرتھ اس کی ایک عمدہ مثال ہے۔ یہ نظم جنوری 1907ء کے "مخزن" میں شائع ہوئی تھی۔ سوامی رام تیرتھ کا اصل نام تیرتھ رام تھا لیکن سوامی رام تیرتھ کے نام سے مشہور ہوئے ان کی پیدائش 22 اکتوبر 1873ء کو ضلع گوجرانوالہ کے ایک گاؤں مرالی وارا میں ہوئی۔ وہ ذات کے گوسائیں برہمن تھے ان کے والد کا نام ہیرا نند تھا اور ان کا گھرانہ نہایت ہی غریب تھا سوامی کچھ ہی دن کے تھے کہ ان کی والدہ کا سایہ سر سے اٹھ گیا۔ اور انہوں نے اپنی تعلیم کی ابتداء پانچ برس سے شروع کی۔ ابتدائی تعلیم اپنے گاؤں سے حاصل کی اور گوجرا نوالہ کے ایک ہائی اسکول سے میٹرک میں کامیابی حاصل کی پھر مشن کالج لاہور میں داخلہ لیا یہ زمانہ انہوں نے مشکلات سے بسر کیا۔ کہا جاتا ہے کہ وہ صرف ایک آٹھ یومیہ اپنے کھانے پر خرچ کرتے تھے۔ تین پیسے دوپہر کے وقت اور ایک پیسہ شام کے وقت۔ سوامی رام تیرتھ غیر معمولی حافظہ رکھتے تھے اور ان کے مزاج میں درویشانہ رنگ کوٹ کوٹ کر بھرا ہوا تھا انسانی ہمدردی، بھائی چارگی، محبت و اخوت ان کے رگ و پے میں پیوست تھی۔ بی اے کے امتحان میں ان کا خاص مضمون علم ریاضی تھا اور وہ اس مضمون میں مہارت رکھتے تھے۔ بلکہ امتحان میں تیرہ سوال میں سے صرف نو سوال کے جواب مطلوب تھے لیکن انہوں نے پورے تیرہ کے تیرہ سوالات کے جوابات لکھ دئے اور پورے علاقہ میں اول مقام حاصل کیا۔ وہ گورنمنٹ کالج لاہور سے ایم اے (ریاضی) پاس کیا اور اس کالج کے پرنسپل نے ان کا نام ای۔ اے۔ سی کے لئے بھیجنا چاہتے تھے۔ جب اس بات کا علم سوامی رام تیرتھ کو معلوم ہوا تو بے اختیار اشک بار ہو گئے اور پرنسپل سے کہہ دیا کہ میں نے علم کسی عہدے یا منصب کو حاصل کرنے کی غرض سے نہیں کیا بلکہ میں خدا کے بندوں کی خدمت کرنا چاہتا ہوں۔ انہوں نے کچھ دنوں تک سیالکوٹ مشن ہائی اسکول میں ٹیچر کے خدمات انجام دیئے اور اسی اثناء میں مشن کالج لاہور میں علم ریاضی کے پروفیسر تقرر عمل میں آیا۔ اسی زمانے میں سوامی جی کے تعلقات اقبال سے پیدا ہوئے۔ سوامی جی حب الوطنی اور خدا پرستی کی تعلیم کو عام کرنا چاہتے اور یہی نظریہ بھی اقبال کا تھا جس کی وجہ سے علامہ اقبال اور سوامی رام تیرتھ میں دوستانہ ماحول تھا۔ بالآخر سوامی جی نے 1899ء میں ملازمت سے استعفیٰ دے کر اپنی زندگی اہل بند کے لئے وقف کر دینے کا فیصلہ کر لیا۔ اس فیصلہ سے بعض لوگوں نے انہیں رام پاگل ہو گیا کہنے لگے جب اس بات کی اطلاع اقبال کو ہوئی تو وہ کہنے لگے اگر رام پاگل ہے تو پھر اس دنیا میں عقل مندی کا کہیں وجود ہی نہیں۔ بالآخر سوامی جی کو رام کی محبت کا غلبہ حاوی ہو گیا اور انہوں نے ملازمت، بیوی بچوں اور عزیز واقارب کو چھوڑ کر سیاسی اختیار کر لی اور رام تیرتھ نام رکھ لیا۔ 1902ء میں انہوں نے جاپان ہوتے ہوئے امریکہ گئے دو سال وہاں مقیم رہے اور مصر ہوتے ہوئے واپس لوٹ آئے ان پر رام کی محبت کا غلبہ اس طرح چڑھا تھا کہ وہ ہفتوں بارہ دری کا مران (کنارے دریائے راوی) میں عالم محویت میں ڈوب جاتے تھے اور کبھی کبھی دریا کے کنارے کنارے اپنے محبوب کو ڈھونڈتے ہوئے نکل جاتے تھے۔ ان دنوں ان کی رام بھکتی کا اتنا شہرہ ہوا کہ لاہور کے بڑے بڑے دولت مند مرد و خواتین ان کے پاؤں کو اپنی آنکھوں سے لگا لیتے تھے۔ ہردوار ضلع سہارنپور کے پاس پہاڑوں میں سکونت اختیار کر لی تھی۔ 17/ اکتوبر 1906ء کو سوامی رام تیرتھ دریائے گنگا میں نہانے کی غرض سے اترے اور یکا یک پیر پھسلا اور پانی میں بہنے لگے تیرنے کی بہت کوشش کی مگر کامیابی حاصل نہیں ہوئی اور دریائے گنگا میں غرق ہو گئے۔ تین دن بعد ان کی لاش ملی جسے ان کی عقیدت مندوں نے بڑے ادب و احترام کے ساتھ نذر آتش کر دیا۔ اس زمانے علامہ اقبال و لایت گئے ہوئے تھے جب ان کو سوامی جی کی وفات کی خبر ملی تو اپنے دیرینہ دوست کی یاد میں یہ نظم خراج عقیدت کے

طور پر لکھی۔ یہاں سوال یہ پیدا ہوتا ہے کہ اقبال نے ہندو پر کیسے نظم لکھی۔ دراصل دونوں کا مسلک عشق ہے سوامی جی کہتے ہیں ایشور اللہ بھگتی سے مل سکتا ہے اور اقبال یہ کہتے ہیں کہ اللہ محبت سے مل سکتا ہے تو دراصل دونوں ایک ہی مسلک پر عمل پیرا ہیں۔ سوامی رام تیرتھ نے ویدانت پر عمل کر کے دنیا کو دکھا دیا کہ جب تک انسان عشق الہی میں نہیں ڈوبتا اس کو خدا کی معرفت حاصل نہیں ہو سکتی اقبال نے اس نظم میں خود اس بات کا اعتراف کیا ہے:

اے کھولا کس ادا سے تو نے راز رنگ و بو

میں ابھی تک ہوں اسیر امتیاز رنگ و بو

دراصل اقبال اور سوامی جی دونوں مسلک وحدت الوجود کے قائل ہیں وحدت الوجود دراصل تمام موجودات کو خدائے تعالیٰ ہی کا ایک وجود ماننا اور ماسوا کے وجود کو محض اعتباری سمجھنا ہے۔ سوامی جی نے اپنی زندگی میں جو کچھ کہا اس پر سختی سے عمل کر کے دکھایا۔ علامہ اقبال کی یہ نظم بہت مشکل تو نہیں ہے مگر اقبال نے اس نظم میں وحدت الوجود کے بعض رموز و نکات کو پیش کیا ہے یہ نظم دراصل غور و فکر کی متقاضی ہے مگر غور سے پڑھنے کے بعد سمجھ میں آجائے گی۔ اقبال اس شعر کے ساتھ اپنے دوست سوامی جی کو خراج عقیدت پیش کرتے ہیں۔

ہم بغل دریا سے اسے قطرہئ بیتاب! تو

پہلے گوہر تھا، بنا اب گوہر نایاب تو

مندرجہ بالا شعر سے ہم اندازہ لگا سکتے ہیں کہ اقبال کو سوامی جی سے کتنی محبت و چاہت تھی اقبال اس شعر میں کہتے ہیں سوامی جی نے وفات نہیں پائی بلکہ اپنی روح کو دریا میں غرق کر کے خدا سے ملنے کا راستہ نکال لیا اس شعر میں اقبال نے ویدانت کی بنیادی تعلیم بیان کر دی ہے۔ ویدانت کیا ہے دراصل عشق الہی کا نام ویدانت ہے یعنی ایشور (اللہ) کی محبت میں ڈوب جانا اور مجنونانہ کیفیت طاری ہونا یہی کیفیت سوامی جی میں پائی جاتی تھی۔ اس لحاظ سے سوامی جی نے ویدانت پر پورا عمل کیا۔ اقبال کے نزدیک سوامی گوہر نایاب ہیں اس نظم کا اور ایک شعر دیکھئے کس طرح سے اقبال سوامی جی کی فکر کو پیش کیا ہے:

اے کھولا کس ادا سے تو نے راز رنگ و بو

میں ابھی تک ہوں اسیر امتیاز رنگ و بو

مندرجہ بالا شعر سے ہمیں پتہ چلتا ہے کہ سوامی جی نے اپنے طرز عمل سے اس بات کو عیاں کیا ہے کہ اس دنیا کی کوئی حقیقت نہیں ہے بلکہ یہ ساری دنیا ایک دھوکہ ہے اگر کسی کا وجود برقرار رہے گا تو صرف ایشور (اللہ) کا۔ لہذا ہمیں یہ یقین کر لینا چاہیے کہ اللہ کے سوا کوئی شے موجود نہیں اور مرد عورت، ہندو مسلم دوست دشمن، پھول کانٹے وغیرہ کے امتیاز کو بھلا دینا چاہیے بلکہ ان تمام چیزوں کو اللہ نے تخلیق کیا ہے۔ سوامی جی نے ذات پات کے فرق کو مٹانے کی تبلیغ کی ہے۔

مٹ کے غوغاز زندگی کا شورش محشر بنا

یہ شرارہ بچھ کے آتش خانہ آزر بنا

نفی ہستی اک کرشمہ ہے دل آگاہ کا

لا کے دریا میں نہاں موتی الا اللہ کا

مندرجہ بالا اشعار سے معلوم ہوتا ہے کہ جب انسان کی موت واقع ہو جاتی ہے مگر اس کی سوچ و فکر باقی رہ جاتی ہے اور اس کے خیالات کو لوگ اپنا کر اپنی زندگی کو سنوارتے ہیں اور یہی وجہ ہے کہ انسان مرنے کے بعد بھی اس دنیا میں انمٹ نقوش چھوڑتا ہے اور بالآخر وہ واصل خدا ہو جاتا ہے۔ اگر کوئی شخص اللہ تعالیٰ سے ملنا چاہتا ہے تو یا اس کی یہ خواہش ہے تو وہ پہلے اپنے آپ کو مٹادے تب اسے قرب الہی حاصل ہوتا ہے۔ جب کوئی سالک اپنی ہستی کو عشق الہی کی آگ میں جلا کر فنا کر دیتا ہے تو اسے فنا کے بعد نئی زندگی حاصل ہو جاتی ہے کیونکہ فنا ہی بقاء ہے لہذا کچھ حاصل کرنے کے لئے کچھ کھونا پڑتا ہے اور کھونے کے بعد ہی کچھ حاصل ہوتا ہے اس مشقت کے بعد ہمیں پتہ چلتا ہے کہ جسے ہم ڈھونڈ

رہے ہیں وہ خود میرے اندر پوشیدہ ہے یعنی میرا خدا بہر حال اقبال نے اس نظم کے حوالے سے سوامی جی کے خیالات کو ان کی فکر کو پیش کیا ہے۔

چشم نابینا سے مخفی معنی انجام ہے  
تھم گئی جس دم تڑپ، سیماب سیم خام ہے  
توڑ دیتا ہے بت ہستی کو ابراہیم عشق  
ہوش کا داروہے گویا مستی تسنیم عشق

مندرجہ بالا اشعار میں علامہ اقبال فرماتے ہیں جو لوگ نابینا یعنی حقیقت سے ناواقف ہیں وہ زندگی کے رموز و نکات سے آگاہ نہیں ہوسکتے انسان کا معاملہ تو یہ ہونا چاہیئے کہ وہ ہمیشہ عشق الہی کی آگ میں جلنا اور تڑپتا رہے اگر تڑپ والی کیفیت ختم ہو جائے تو وہ سیماب نہیں بلکہ سیم خام بن جائے گا اور اگر روح عشق کی صفت سے زائل ہو جائے تو روح اپنی ذات کے تقاضے سے محروم ہو جائے گی یعنی اپنا وقار کھو دے گی۔ علامہ اقبال کی نظم میں فنا کا مطلب ہر گز یہ نہیں کہ اپنی جان قربان کر دو بلکہ ان کی نظر میں اپنے آپ کو عشق الہی میں غرق کرنا ہے فنا دراصل تصوف کی اصطلاح ہے جس کے معنی ہیں اپنی تمام خواہشات کو خدا کی مرضی کے تابع کرنا تب کہیں وہ مطیع کا مل بن جاتا ہے قرب الہی اس وقت حاصل ہوگا جب اپنی ہستی کو خدا کے لئے فنا کر دیں اقبال کے نزدیک عاشق کا انجام فنا نہیں بلکہ مسلسل بے چینی و اضطرابی ہے۔

علامہ اقبال نے اپنی پوری شاعری میں سب سے زیادہ لفظ عشق پر زور دیا ہے وہ عشق ہی تھا جو ابراہیم نے بتوں کو توڑا یعنی عشق کی بدولت ہی سالک اپنی ہستی کو خدا کی مرضی میں فنا ہے۔ جو شخص اللہ رب العزت کی محبت میں سرشار ہو جاتا ہے وہی شخص اپنی حقیقت سے آگاہ ہو جاتا ہے عشق الہی واحد ذریعہ جس کی بدولت انسان کامیابی حاصل کرتا ہے اگر یہ نہ ہوتو وہ محرومی ناکامی کا شکار ہو جاتا ہے۔ دراصل عشق الہی میں غرق ہونے والا شخص رشوت خوری، حرام کاری، غیر منکو حہ عورت سے اجتناب کرتا ہے اور اپنی نفس امارہ کو مات دیتے ہوئے اپنی مرضی کو خدا کی مرضی میں فنا کر دیتا ہے۔  
ڈاکٹر دانش حسین خان اپنے مضمون اقبال کی شاعری میں بندوستان کے عظیم غیر مسلم شخصیات میں لکھتے ہیں:

“سوامی رام تیرتھ جیسی شخصیت سے علامہ اقبال بہت متاثر تھے۔ عطیہ فیضی کے نام لکھے گئے بیسوں نظموں میں بندوستان کے کسی اور شخص کا نام نہیں لکھا ہے بلکہ صرف سوامی رام تیرتھ کا ذکر آیا ہے۔ اقبال کے خودی کے فروغ میں سوامی رام تیرتھ کی تعلیمات کا بھی اثر رہا ہے۔”  
(اردو ریسرچ جرنل جولائی۔ ستمبر 2015ء صفحہ

نمبر 64)

علامہ اقبال کی یہ نظم فکر و عمل کی دعوت دیتی ہے لہذا دور حاضر کا یہ تقاضہ ہے کہ سوامی رام تیرتھ اور علامہ اقبال کے خیالات کو اپنی زندگی کا حصہ بنالیں۔



## محب کوثر ایک منفرد غزل گو

ڈاکٹر عبدالرحیم ملّا۔

MGVC آرٹس، کامرس اینڈ سائنس کالج مدے بہال

اسسٹنٹ پروفیسر صدر شعبہ اردو

ضلع وجئے پور (کرناٹک)

مظفر حنفی اپنی مرتبہ کتاب "روح غزل" کے مقدمے میں لکھتے ہیں۔ اردو میں اصناف سخن کے عروج و زوال کی داستان بھی بڑی دلچسپ ہے۔ قصیدہ گوئی کبھی فنکار کو "ملک الشعراء" عطا کرتی تھی اور اس کے گھر میں زر و جواہر کی بارش کرتی تھی۔ اب یہ عالم ہے کہ قصیدہ داخل نصاب ہو کر رہ گیا ہے۔ یادش بخیر میر کے زمانے تک بگڑا شاعر مرثیہ گو کہلاتا ہے۔ پھر اس صنف سخن کے دن خدا نے پھیر دئیے لوگوں نے دیکھا کہ بڑے بڑے حکمران ریاست دبیر اور انیس کی مجلس میں شرکت پر فخر محسوس کرتے تھے اور عوام میں دبیر کے انداز بطور فیشن اختیار کئے جاتے تھے۔ آج کل پھر مرثیہ ترقی معکوس کر کے مجالس عزاء تک سمٹ گیا ہے۔ مثنوی کا حال بھی کچھ ایسا ہی ہے۔ البتہ زمانے کے گرم و سرد سے اگر کوئی صنف سخن بے نیاز و آزاد رہ سکتی ہے تو وہ غزل ہے۔ غزل ہر دور میں اردو شاعری کی کسوٹی اور آبرو رہی ہے اور اسی غزل کے شاعروں میں محب کوثر کا بھی شمار ہو تا ہے۔ جن کا تعلق سرزمین حضرت بندہ نواز گلبرگہ (کرناٹک) سے ہے۔ محب کوثر زائداز نصف صدی سے شعر کہہ رہے ہیں۔ ان کا شمار جنوبی ہند کے کہنہ مشق شعراء میں ہوتا ہے۔ اب تک ان کے چار شعری مجموعہ شائع ہو چکے ہیں۔ دو مرتبہ وہ کرناٹک اردو اکیڈمی کے رکن رہ چکے ہیں۔ حکومت کرناٹک نے انہیں "راجیواتسو" کے باوقار ایوارڈ سے نوازا ہے۔ محب کوثر نے تقریباً ہر صنف سخن میں طبع آزمائی کی ہے مگر طبیعت کا میلان غزل سے متعلق ڈاکٹر علی احمد جلیلی نے محب کوثر کے دوسرے شعری مجموعہ "سود و زیاں" کے پیش لفظ میں رقم طراز ہیں۔ محب کوثر جب اپنے مخصوص انداز میں غزل کے عشقیہ یا دیگر موضوعات کو برتتے ہیں خواہ وہ ہم کو وہ گل کی ٹھنڈی چھانوں میں لے جائیں یا صحرا کی تپتی دھوپ سیر کرائیں۔ ہر دو صورتوں میں ان کا اظہار ذاتی ہوتا ہے۔ جہاں تک محب کوثر کی غزلوں کی لفظیات کا سوال ہے۔ فکر و خیال لاور جذبات و تجربات کی مناسبت سے محب کوثر نے غزل کی موروثی زبان کے ساتھ اپنی نئی ترکیبیں بھی تراشی ہیں۔ نئے استعارات کو جنم دیا ہے تاکہ خیال کے اظہار میں ان کے معاون ہوں۔ اس میں محب کوثر کے چند شعر ہیں۔ جو نئی تراکیب سے مزین ہیں۔

جھانکتی ہے مایوسی ذہن کے دریچوں سے

سوچ کر مکانوں کی کھڑیاں بدل ڈالو

میں نے دیکھے ہیں محبت کے زمانے کوثر

میری آنکھوں میں اسی دور کی بینائی ہے

ہمیں موسیٰ صفت ہو کر ہی دریا پار کرنا ہے

اگر فرعونیت ہوگی تو لشکر ڈوب جائے گا

تمہاری یاد کے سائے بھی اب نہیں ملتے

غموں کی دھوپ میں دوہرے عذاب رکھتا ہوں

محب کوثر نے غزل کو پامال اکتساب زمینوں کو نظر انداز کرتے ہوئے زیادہ تر نئی

زمینوں پر طبع آزمائی کی ہے۔ یہ زمینیں ان کی اپنی ایجاد کردہ ہیں۔ جہاں سے ان کے اسلوب

میں نئے پن کا احساس ہوتا ہے۔ چند شعر ملاحظہ ہوں۔

مہر و وفا، خلوص نصابیوں میں قید

انسانیت تو صرف کتابوں میں قید ہے

بکھر گئے ہیں فضائوں میں پیاس کے ٹکڑے

زمانہ جوڑ رہا ہے گلاس کے ٹکڑے

ڈاکٹر سیدہ جعفر نے بھی محب کوثر کی شاعری پر تبصرہ کرتے ہوئے ایسے ہی چند اشعار کا حوالہ دیا ہے کہ موجودہ انسان کی خودداریت اور مرعوبیت کے حوالے سے جس موثر انداز سے خیال کو باندھا ہے ملاحظہ ہوں۔

دنیا کے خدائوں سے جو مرعوب ہوئے ہیں  
سچ بات بھی کہنے کی جسارت  
نہیں کرتے

ٹھہرا کے چلے آئے خوددار طبیعت ہے  
ہم ان کی عنایت کو خیرات  
سمجھتے ہیں

تمہارے شہر کی ہر شئے بدل گئی ہے  
جب بھی شعور و فکر کا سورج رہا طلوع  
سے ڈر گئے

ڈاکٹر عنایت صدیقی لکھتے ہیں کہ باشعور شاعر جب غزل کہتا ہے تو عصری سگے کھنکنے لگتے ہیں۔ ایسا معلوم ہوتا ہے کہ گیت دوڑنے لگے ہیں وقت اور سانپ نے سازش کر لی ہے۔ راہیں ڈسنے لگی ہیں۔ طنز کیسا کٹیلا ہو جاتا ہے۔

”حالات میرے خیر سے جب بھی سنور گئے  
کتے ہی خیر خواہوں کے چہرے اتر گئے  
تم سود و زیاں کی زد پہ ہے اس دور کی غزل  
بازار فن سے کیا سبھی اہل ہنر گئے  
تم اپنے نام ہی کر لو ثواب جتنے ہیں  
ہمارے حق میں لکھا دو عذاب جتنے ہیں  
میں اپنے واسطے کانٹے اٹھا کے رکھ لوں گا  
تمہاری نذر کروں گا گلاب جتنے ہیں

کوئی فنکار خلائوں میں جنم نہیں لیتا۔ وہ اپنے عہد، ماحول اور روایات کی پیداوار ہوتا ہے۔ چنانچہ محب کوثر نے بھی اپنی شاعری کے لئے مواد ان ہی سرچشموں سے حاصل کیا ہے اور اپنے فن کو نکھار، سنوار کر اور خوب سے خوب تر بنا کر پیش کرنے کی قدیم شعری روایات سے مدد لی ہے۔ اس عہد کا خلفشار، تہذیبی شکست و ریخت اور اس دور کے ماحول کا کرب ان کے اشعار میں زریں لہروں کی شکل میں موجود ہے۔ غزل کے مطالبات کو خوب سمجھے ہیں۔ ان کی لطافت اور نزاکت سے آشنا ہیں۔ محب کوثر غزل کے پیکر میں زمانے کی تیزابیت کو اپنے لہجے کی توانائی کے ساتھ بے ساختہ انداز میں سموتے ہیں۔ مثلاً۔۔۔

میں نے ترکِ محبت کی قسم کھائی ہے  
خوشا کہ چاند ابھی بدلیوں سے جھانکے گا  
شہر کے آرائشی ماحول میں  
تصور ان کو ہر دم ڈھونڈتا ہے  
دن گزارے گا بہر حال تیرے کوچے میں  
بھری محفل سے اٹھ کر جو گئے ہیں  
رات آجائے تو دیوانہ کدھر جائے گا

ڈاکٹر غیاث صدیقی لکھتے ہیں۔ یہ بار شعور شاعر جب غزل کے شعر کہتا ہے۔ تو عصری سگے کھنکنے لگتے ہیں۔ ایسا معلوم ہوتا ہے کہ گیت دوڑنے لگے ہیں۔ وقت اور سانپ نے سازش کر لی ہے۔ راہیں ڈسنے لگی ہیں۔ طنز کیسا کٹیلا ہے۔ کوئی بھی فنکار خلائوں میں جنم نہیں لیتا۔ وہ اپنے عہد ماحول اور روایات کی پیداوار ہوتا ہے۔ چنانچہ محب کوثر نے بھی اپنی شاعری کے لئے مواد ان ہی سرچشموں سے حاصل کیا ہے اور اپنے فن کو نکھارنے، سنوارنے اور خوب سے خوب تر بنا کر پیش کرنے کے بے قدیم شعری روایات سے مدد لی ہے۔ محب کوثر کا رنگ تغزل ایک منفرد حیثیت کا حامل ہے۔ جو انہیں اپنے ہم عصر شعراء سے علاحدہ کرتا ہے۔ جس سے محب کوثر نے اپنی شناخت بنائی ہے۔ ذیل کے چند اشعار پیش ہیں۔ جس سے اندازہ ہوگا کہ محب کوثر نے عام روش سے ہٹ کر غزل کو وقار و معیار عطا کیا ہے۔ چند شعر پیش ہیں۔

میں نے ترکِ محبت کی قسم کھائی ہے  
خوشا کہ چاند ابھی بدلیوں سے جھانکے گا  
شہر کے آرائشی ماحول میں  
تصور ان کو ہر دم ڈھونڈتا ہے  
دن گزارے گا بہر حال تیرے کوچے میں  
دل منور ہے اسکی یادوں سے  
قدموں کی چاپ دور سے آتی ہے بار بار  
کہنہ مشق شاعر پدم شری بیکل اتسابی نے لکھا ہے۔ محب کوثر ایک کہنہ مشق شاعر ہیں۔  
وہ غزل کے مطالبات کو خوب سمجھتے ہیں۔ اس کی لطافت و نزاکت سے آشنا ہیں۔ ان کے یہاں  
روایتوں اور کلاسیک رویے کا احترام اور عصری تقاضوں کا اہتمام ہے۔ ان کے کلام میں  
برجستگی کے ساتھ معنوی حسن کا اظہار پختگی اور شگفتگی ایک جان دو طالب نظر آتی ہے۔  
محب کوثر نے نعت گوئی میں خوب طبع آزمائی کی اور جو کچھ کہا ہے وہ پورے اخلاص و  
احترام اور پوری احتیاط سے کہا ہے۔ بہت سارے اشعار ایسے ہیں جن میں انہونے نئے زاویے  
نکالے ہیں۔ ممتاز ادیب و افسانہ نگار امجد جاوید نے محب کوثر کی شاعری کا تنقیدی تجزیہ ان  
ہی کے غزل کے ایک مصرعہ "صدف کی آنکھ سے موتی نکالنے والے" محب کوثر کے  
عنوان سے بڑی تفصیلی سے کیا ہے۔ محب کوثر نے آغاز میں ایک حمدیہ قطعہ درج کیا ہے۔  
خدا وندا میں تیرے نام سے آغاز کرتا ہوں  
تیرا بندہ ہوں تیری رحمتوں پر ناز کرتا ہوں  
فقط تیری مدد اور استعانت کے بھروسے پر  
مجھے اڑنا نہیں آتا مگر پرواز کرتا ہوں  
محب کوثر کا یہ قطعہ عالمی شہرت پا گیا ہے۔ تقریباً ہر ناظمِ مشاعرہ ان ہی دو اشعار سے  
مشاعرہ کا آغاز کر رہا ہے۔ اس مجموعہ میں ایک حمد باری تعالیٰ ہے جس کے اشعار میں  
انفرادیت اور جدت ہے۔

سر مغرب چھپا لیتا ہے آخر کون سورج کو  
زمانے کو نوید صبح گاہی کون دیتا ہے  
کبھی نظروں میں بھر دیتا ہے وسعت سارے عالم کی  
کبھی ہم کو متاع کم نگاہی کون دیتا ہے  
محب کوثر نے روایتی فرسودگی سے گریز کرتے ہوئے نئی غزل کے آنگن میں قدم رکھا ہے۔  
اور نئے بن سے اپنا راستہ جوڑ لیا ہے۔ غزلوں کے چند اشعار ملاحظہ فرمائیں۔  
بے جہالت کا تماشہ علم کے بازار میں  
رحم کے قابل ہے دانائی کسے آواز دوں  
میں نے دیکھے ہیں محبت کے زمانے کوثر  
میری آنکھوں میں اسی دور کی بینائی ہے  
محب کوثر نے پابندِ نظمیں بھی کہی ہیں۔ نظم "طالب علموں کی دعا" ایک خاص انداز  
اور تاثر رکھتی ہے۔ تقدس مآب حضرت سید شاہ محمد الحسینی صاحب قبلہ سجادہ نشین بارگاہ  
بندہ نواز پر کہی گئی مسدس محترم سجادہ صاحب کو حقیقی تہنیت ہے۔ گجرات کے خونی  
فسادات پر "گجرات جل رہا ہے" کے عنوان سے سیدھے سادے انداز میں پُر اثر نظم بھی اس  
مجموعہ میں شامل ہے۔ الغرض محب کوثر غزلوں، نعتوں، نظموں اور قطععات کہنے پر یکساں  
قدرت حاصل تھی۔ انہیں القصہ مختصر محب کوثر نے زندگی کے تفکر کو بھی غزل بنایا ہے۔  
زندگی اور حالات سے آنکھیں ملا کر غزل کہنے کا سلیقہ و شعور رکھتے ہیں۔ آج کے اس دور  
قحط الرجال کو غزل کا چراغ محب کوثر بڑی مضبوطی سے تھامتے ہوئے دارفانی سے  
۲۰۱۹ء میں الوداع کہا۔ آج بھی قومی مشاعروں میں ان کی گرزدار آواز کو ہم سوشل میڈیا کے

ذریعہ ان کے مشاعروں میں نظامت و کلام سنتے ہیں تو سنتے ہی رہ جائے۔ میں ڈاکٹر عبدالرحیم  
اے۔ مٹلا۔ محب کوثر پر یہ مقالہ لکھ کر ایک چھوٹی سی خراج عقیدت پیش کر رہا ہوں۔ شکریہ۔

## کیفی اعظمی - انسانی دنیا کا شاعر (ڈاکٹر باجرہ پروین اسٹنٹ پروفیسر سیکیاپ اے- آر- ایس انعامدار ڈگری کالج برائے خواتین وئے پور کرناٹک)

کرشن چندر نے کیفی اعظمی کے متعلق کہا تھا کہ

"وہی شخص ایسی شاعری کرسکتا ہے جس نے پتھروں سے سر ٹکرایا ہو اور سارے  
جہاں کے غم اپنے سینے میں سمیٹے ہوئے ہو"

بلاشبہ یہ بات کیفی اعظمی پر پوری طرح صادق آتی ہے - کیفی اعظمی 1943 کے  
آس پاس کانپور میں پیدا ہوئے- کیفی کے 3 مجموعے شائع ہوئے- ایک جھنکار" دوسرا  
"آخر شب" تیسرا مجموعہ آوارہ سجدے کے نام سے شائع ہوا جس پر ساہتیہ اکیڈمی نے  
انعام سے بھی سرفراز کیا-

انہوں نے اپنے ایک شعری مجموعہ کے پیش لفظ کے عنوان ایلیا اہرن برک کا ایک قول  
لکھا ہے کہ

"ایک ادیب کے لئے یہی ضروری نہیں کہ وہ ایسے ادب کی تخلیق کرے جو مستقبل کی  
صدیوں کے لئے ہو- اُسے ایسے ادب کی تخلیق پر بھی قدرت ہونی چاہئے جو صرف ایک  
لمحے کے لئے ہو اگر اس لمحے میں اُسکی قوم کی قسمت کا فیصلہ ہونے والا ہو"  
کیفی اسی لمحے کہتے ہیں-

ایک دیارات کی آغوش میں جلنے لگا  
تیرگی پاس کی کافور ہوئی جاتی ہے-  
ناخدا جوڑ کے سر بیٹھے والے ہیں ادھر  
اور ادھر سانس اکھڑنے لگی طوفانوں کی  
موج کشتی کی تلے چور ہوئی جاتی ہے-

پھر وہ کہتے ہیں

یہ گفتگو نہیں ہے بگڑنے بننے کا مرحلہ ہے  
دھڑک رہا ہے فضا کا سینہ کہ زندگی کا معاملہ ہے  
یہ تیرگی ہجوم کب تک ، یہ یاس کا اژدہام کب تک  
نفاق و غفلت کی آڑ لے کر جئے گامردہ نظام کب تک

یہی تو وہ گرانقدر لمحے ہیں جو کسی بھی قوم کی زندگی میں بار بار نہیں  
آتے- اور ایسے موقعوں پر شاعر کے دل کی دھڑکن ، وسیع عوم کے دلوں کی دھڑکی  
باز گشت بن جاتی ہے اور شاعر کے قلم سے انقلاب بولنے لگتا ہے تو وہ ادب پیدا ہوتا ہے  
جس کو کچھ نقاد بھلے ہی ادب عالیہ نہ سمجھتے ہیں- وہ عوام کے دلوں میں اور  
انقلابات کی تاریخ میں ثبت ہوجاتا ہے کیفی کی اس دور کی شاعری ایسا ہی ادب ہے-

کیفی اعظمی کے کلام کا تیسرا مجموعہ "آوارہ سجدے" ایک کیفیاتی تبدیلی کا مظہر ہے جہاں کیفی کی رومانیت، انقلابی، حقیقت بندی اور انسان دوستی اظہار کا ایک نیا پہلو اختیار کر لیتی ہے۔

کیفی نے خود کہا ہے کہ  
"شاعر کا تخلیقی عمل اسی جدوجہد کا ایک غیر محسوس حصہ ہوتا ہے۔ اور شاعر ایک نظم کی تعمیر و تکمیل کے مرحلوں میں ہی کچھ سے کچھ ہوجاتا ہے۔ شاعری کا ایک مقصد شخصیت کی تکمیل بھی ہے۔  
جھنگار اور آخر شب کی تعمیر و تکمیل کے مرحلوں سے گذر کر کیفی کچھ سے کچھ ہو گئے اور آوارہ سجدے کے ایسے مکمل شاعر بن گئے جن کی تکمیل کا پتہ خود ان کی شاعری سے لگا یا جا سکتا ہے۔ آوارہ سجدے کے کلام اور جھنگار اور آخر شب کے کلام میں جو فرق محسوس ہوگا وہ اگر ایک طرف کیفی کے شعری فن کے ارتقاء کی نشاندہی کرتا ہے تو دوسری طرف اس زبردست فرق کا بھی ایک فنکارانہ اظہار کرتا ہے جو جھنگار اور آخر شب کے زمانے اور بعد کے زمانے اور پھر آج کے دور کے درمیان ہے۔

میری نظر میں آوارہ سجدے کی بہترین نظم ہر اعتبار سے ابن مریم ہے اس میں کیفی عیسیٰ مسیح کے ایک بت کو دیکھتے ہیں جو راستے میں لگا ہوا ہے۔ اور پھر ان کے ذہن میں عیسیٰ مسیح ایک علامت کی طرح ابھرتے ہیں۔ علامت قربانی اور قربانی ایمان اور انسان کے لئے۔

کیفی نے غزلیں بھی کہیں ہیں اور غزلوں میں بھی رومانی روایت اور عصری حقیقتوں اور انسان کی حیات افروز جدوجہد کا امتزاج بھی ان کے یہاں پایا جاتا ہے۔ غزل کے چند اشعار

میں ڈھونڈتا ہوں جسے وہ جہاں نہیں ملتا

نئی زمین کا نیا آسماں نہیں ملتا

نئی زمین نیا آسماں مل بھی جائے

نئے بشر کا کس کچھ نشاں نہیں ملتا

وہ تیغ مل گئی جس سے ہوا ہے قتل مرا

کسی کے ہاتھ کا اس پر نشاں نہیں ملتا۔

نظم عورت انہوں نے لکھی ہے عورت کے احساسات کی بڑی ہی خوبصورت تصویر کشی کے لیے ان کا ماننا ہے کہ عورت کو ہوا بدلتا ہے رخ بدلنا ہے ہواؤں کا رخ موڑنا ہے نزاکت سے محبت سے وہ کہتے ہیں۔

تو فلاطون وا رسطو تو ہے کو زہرہ و پروین

تیرے قبضہ میں ہے گردوں تیری ٹھوکر میں زمین

ہاں اٹھا جلد اٹھا پاٹہ مقدر سے جیسی

میں بھی رکنے کا نہیں وقت بھی رکنے کا نہیں

لڑکھڑائے گی کہاں تک کہ سنبھلنا ہے تجھے

اُٹھ میری جان میرے ساتھ ہی چلنا ہے تجھے

کیفی رنجِ والِم کا شکار بھی ہوئے زندگی سے مایوس بھی ہوئے۔ لیکن اُن کے  
یہاں اُمید کا دیا ہمیشہ جلتا رہتا ہے لکھتے ہیں۔

رات جو موت کا پیغام لئے آئی تھی  
بیوی بچوں نے میرے  
اُس کو کھڑکی سے پرے پھینک دیا  
اور جو وہ زہر کا اک جام لئے آئی تھی  
اس نے وہ خود ہی پیا  
صبح اتری جو سمندر میں نہانے کے لئے  
رات کی لاش ملی پانی میں

یہاں "بیوی" علامت ہے اُن اعلیٰ اقدار کی جو کیفی کی زندگی کا اثاثہ ہے۔ اور  
بچے خوش آئندہ مستقبل کی علامت ہیں کھڑکی امید ہے۔ رات بیماری ہے تو صبح صحت  
کی بشارت ہے۔  
کیفی اعظمی اس راہ کا مسافر ہے جو اپنی منزل کی خبر رکھتا تھا۔ مگر یہ  
مسافر راستے میں ہی کہیں کھو گیا ہے مگر اُسکی انقلابی شاعری ایک مشعل کی  
حیثیت رکھتی ہے۔ ترقی پسندوں کے لئے ایک آگے چلنے والی ایک ایسی حقیقت سے جس  
سے کسی کو انکار نہیں ہو سکتا۔ جن کے بارے میں میں میر کے الفاظ میں اتنا ہی کہنا  
چاہونگی۔

مت سہل ہمیں جانو پھرتا ہے ، فلک برسوں  
تب خاک کے پردے سے انسان نکلتے ہیں۔

## اُردو صحافت کا ابرومسند رفیع بھنڈاری

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کھینچو نہ کمانوں کو نہ تلوار نکالو

جب توپ مقابل ہے تو اخبار نکالو

شہر بیجاپور ریاست کرناٹک کا تاریخی و تہذیبی شہر ہے جہاں سے علم و فن کے ایسے ایسے نابغہ روزگار ہستیوں نے اپنی اپنی لیاقتوں کا لوہا منوایا ہے بایں وجہ مورخ مجبور ہے ان کے بغیر بیجاپور کی تاریخ رقم نہیں کی جاسکے گی ان ہی کے شمار ادب نواز و صاحب قلم و قرطاس اشخاص میں عالی جناب رفیع بھنڈاری کا نام ایک روشن ستارے کی مانند جلوہ گر ہو کر چہار دہنگ عالم میں اپنی نامہ نگاری کے انمٹ نقوش چھوڑے ہیں۔

رفیع بھنڈاری سنجیدہ، شاہستہ کم آمیز، فطرتاً پر خلوص اور ملنسار واقع ہوئے ہیں ان کے اخلاق و عادات میں کسی قسم کی بناوٹ تضح تکلف کا شائبہ تک نہیں۔ شریف النفسی ادب نوازی آپ کو وراثے میں ملی ہیں آپ کی گوئے شمار خوبیوں میں ایک خاص خوبی یہ ہے کہ وہ منافقت کے قائل نہیں روبرو تحسین اور پیٹھ پیچھے برائی کی لعنت سے پاک ہیں موصوف نے عمر عزیز کے 37 سال میدان صحافت کی شہواری میں گزارے لیکن نہ تو اپنے اصولوں سے سمجھوتا کیا اور نہ حکومت وقت سے مراعات حاصل کرنے کی کوشش کی وہ ہمیشہ ملی سیاسی مذہبی بے اعتدالی کے خلاف قلم اٹھایا ہے۔ موصوف نے اپنی نامہ نگاری کے ذریعہ اُردو صحافت کو نیا مزاج عطا کیا ہے صحافت کا مقصد آپ کے نزدیک ملک و ملت کی بے لوث خدمت ہے یہ بات روزہ روشن کی طرح عیاں ہے کہ انہوں نے اسے کبھی کمائی کا ذریعہ نہیں بنایا۔ آپ بہت نڈر ہے باک ہے و خوف نامہ نگار ہیں اور حق بات ہر حال میں کہہ کر رہتے ہیں چاہے کچھ بھی ہو جائے قوم و ملت کے مسئلے پر وہ کوئی سمجھوتا یا نرمی کے قائل نہیں وہ اپنی نامہ نگاری کے ذریعہ سماج کے اندر پھیلی ہوئی برائیوں کو دور کر کے اسے پاک و صاف بنانے کی کامیاب کوشش کی ہے۔ آپ ہمیشہ شہرت پرویگنڈے سے دور رہکر صحافت کی خاموش خدمت کی ہے۔ موصوف شہر بیجاپور کے پہلے ایسے نامہ نگار ہیں جنہوں نے آزادی کے بعد مسلسل 37 سال سے سالار اخبار بنگلور کے ذریعہ سماج کے اندر صحافتی شعور کو بیدار کیا ان کی سرگرمیوں سے ایسا لگتا ہے کہ جیسے صحافت اور وہ دونوں ہی لازم و ملزم ہیں یہی وجہ ہے کہ سالار اخبار خاص طور پبلی ایڈیشن نہ صرف شہر بیجاپور کے لئے بلکہ اُس کے اطراف و اکناف علاقوں میں بھی یکساں مشہور و معروف ہیں۔ آپ کی ادبی علمی صحافتی سماجی اور اُردو خدمات کے لئے کئی انجمن ادارے اور ریاستی حکومت نے انہیں اعزازات و انعامات سے نوازا ہے۔ بقول پروفیسر عبدالغفار شکیل سابق صدر کرناٹک اُردو اکاڈمی نے آپ کی گرانقدر صحافتی علمی خدمات کے اعتراف میں رطبہ لسان ہے۔



بقول پروفیسر عبدالغفار شکیل:

“عزیز القدر جناب رفیع بھنڈاری دانشور صحافی کی  
گرانقدر علمی ادبی صحافتی خدمات کی دل سے قدر  
کرتا ہوں پچھلے کئی برسوں سے روزنامہ سالار کے  
بہترین نامہ نگار ہیں اعلیٰ تعلیمی مسائل کا حل  
تلاش کرنے میں آپ کو خصوصی دلچسپی ہے شعبہ  
اُردو و فارسی کرناٹک یونیورسٹی کو تقویت پہنچانے  
میں نمایاں رول ادا کیا ہے کرناٹک اُردو اکادمی بنگلور  
آپ کی بے لوث خدمات کا اعتراف کرتے ہوئے اُردو کا  
نفرنس کے موقع پر آپ کو ایوارڈ اعزاز دیتے ہوئے بہت  
خوشی محسوس کر رہی ہے۔”

پروفیسر الغفار شکیل صاحب کے اس اقتباس سے آپ کی بے شمار اُردو و صحافتی  
خدمات کا اندازہ لگایا جا سکتا ہے یہ شعر آپ کی شخصیت پر صادق آتا ہے۔

آپ نے اخلاص سے کی خدمت اُردو ادب  
رنگ محنت لائی ہے اب فکر و کاوش کے سبب  
اب حکومت سے ملا ہے اعلیٰ ایوارڈ  
خادم اُردو پہ گویا ہو گیا ہے فضل رب

صحافت کو انہوں نے ایک فکری وقار صداقتی معیار اور پاکیزگی عطا کی  
بایں وجہ وہ صحافی کی حیثیت سے ایک اہم مقام کے مستحق ہیں خاص طور پر  
سالار اخبار کے ذریعہ جو خدمت کی ہے اُس کو اہل کرناٹک کبھی فراموش نہیں  
کر سکتا۔ آپ کی صحافتی خدمات کو دیکھتے ہوئے محترم عالی جناب ڈاکٹر جلیل  
تتویر صاحب فرماتے ہیں۔

“سینئر صحافی رفیع بھنڈاری صحافت کی پتھرلی راہوں پر تقریباً 37 سال سے اپنے  
تلوے لہو لہان کر رہے ہیں انہیں مستقل مزاجی اور صحافت کے تئیں خود سپردگی  
میں کبھی لغزش نہیں آئی”

موصوف بڑی خوبیوں اور بے پناہ صلاحیتوں کے حامل ہیں آپ اُردو کے بہت بڑے  
شیدائی ہیں خبروں کی صورت گری کے علاوہ سرخیوں میں بھی ندرت پیدا کرنے کی  
کوشش کرتے ہیں۔ رفیع بھنڈاری صاحب کی ابتدائی تعلیم اُردو میں ہوئی اس کے  
بعد آپ کا تعلق انگریزی و کٹری زبان سے زیادہ رہا لیکن اخبار میں لکھتے رہنے اور  
مطالعہ کے ذوق نے ان کو اُردو زبان کا ماہر بنا دیا۔ اُردو زبان سے جنون کی حد تک  
لگاؤ رکھتے ہیں۔ اسی لئے وہ اُردو زبان کے فروغ کے لئے کام کرنے والے اداروں جیسے  
کرناٹک اُردو اکادمی بنگلور اور قومی کونسل فروغ اُردو زبان نئی دہلی سے بھی  
وابستہ ہیں۔ ان اداروں کی جانب سے اُردو کے فروغ کے لئے جو بھی خدمات کی  
جاتی رہی ہیں رفیع بھنڈاری صاحب نے اس میں برابر مصروف رہتے ہیں۔ آپ کی  
اُردو کے تئیں محبت پر یہ شعر صادق آتا ہے

فکر و احساس کی خوشبو کے لئے زندہ ہوں  
دل میں جلتے ہوئے جگنو کے لئے زندہ ہوں

جانے لوگ کس کس کے لئے جیتے ہیں  
میں جو زندہ ہوں تو اُردو کے لئے زندہ ہوں

رفیع بھنڈاری ہر وقت کچھ نیا کرنے کی جستجو میں رہتے ہیں اصولوں پر سختی سے کاربند رہ کر کسی مصلحت کے سبب بھی سمجھوتہ پر گز نہ کرتے انہیں اُردو سے والہانہ عشق ہے انہوں نے ہر اس قوت کا ڈٹ کر سامنا کیا جو اُردو زبان کے خلاف تھی ہمیشہ اُردو کی حمایت میں پیش پیش رہتے ہیں۔

رفیع بھنڈاری کی زندگی عمل پیہم استقلال خود اعتمادی کی ایک زندہ مثال ہے جو صحافت کی دنیا میں قدم رکھنے والوں کے لئے مشعل راہ ثابت ہوسکتی ہے۔ موصوف کی زندگی جدوجہد لگن جفاکش اور محنت سے عبارت ہے۔ اُن کی صحافت کا یہ امتیازی وصف رہا کہ انہوں نے اپنے عزائم کو کبھی پست نہیں ہونے دیا بلاشبہ انہیں اپنی صحافتی صلاحیتوں کا اندازہ ہونے کے ساتھ صحافتی اخلاص اور اصول پرستی کا مکمل احساس ہے کبھی بھی آپ نے اپنے اصولوں کے خلاف اپنے قلم کا استعمال نہیں کیا وہ کسی بھی قد آور شخصیت کی خوشامد نہیں کی۔

موصوف سچی لگن جدوجہد کے ساتھ صحافت کے میدان میں مختلف تجربات کرتے ہیں ہمت مردان مدد خدا کے مثل صحافت نے ان کا قد و قامت بلند سے بلند تر کر دیا۔ بیجاپور کنڑا اور انگریزی اخبارات کا علاقہ ہے جتنی اہمیت کنڑی و انگریزی زبان کے صحافیوں کو دی جاتی ہے اتنی ہی اہمیت رفیع بھنڈاری کو حاصل ہے غیر مسلم بھی آپ کی صحافت کی دل سے قدر کرتے ہیں۔ صحافت کی وادیوں میں ایسی مثالیں بہت کم ملتی ہیں جنہوں نے جدوجہد کے ساتھ اپنے خون پسینے کی کمائی سے اُردو صحافت کی خدمت کی۔

آپ صحافت کے فکر و شعور اور نظر کو دور رس اور عمیق بنایا مشاہدہ کی توانائی اور سنجیدہ علمی ذوق نے آپ کو اعلیٰ صحافی کی راہ پر گامزن کیا ہے۔ رفیع بھنڈاری کی صحافتی زندگی کا تذکرہ نامکمل رہے گا اگر ان تحریکات کا ذکر نہ کیا جائے جو موصوف نے چلائیں ان میں خصوصی طور پر قابل ذکر اُردو کی تحریک ہے جس کے فروغ کے لئے انہوں نے اپنے صحافتی تجربے سے بھرپور کام لیا اُردو کے لئے دستخطی مہم سے لے کر اسکولوں میں اُردو کے رواج کی ہمہ لسانی فارمولے میں اُردو کو شامل کرنے کی کامیاب کوشش کی۔ اور اُردو کو دوسری زبان بنانے کی مہم میں نہ صرف ان کا اخبار بلکہ وہ خود بھی شامل رہے۔ آپ شہر بیجاپور کے پہلے صحافی ہے جنہوں نے کافی طویل عرصہ سے صحافتی خدمات میں اپنے آپ کو جوڑے رکھا وہ سلسلہ تا حال بھی جاری ہے۔

رفیع بھنڈاری ریاست کرناٹک کے ان چند صحافیوں میں سے ہیں جو ایک تعلیم یافتہ ذی شعور و مجسمہ اخلاص پیکر حسن اخلاق متین و سنجیدہ انسان ہیں جن کی صحافتی خدمات سے ایک بڑا طبقہ فیضیاب ہو رہا ہے۔ آپ ایک صحافی کی حیثیت سے اُردو اخبار سالار کا نہ صرف و قاربلند کیابلکہ اسے غیر معمولی مقبولیت بھی عطا کی کسی مسئلے پر اعتدالی اور توازن کا دامن انہوں نے ہاتھوں سے نہیں چھوڑا اخبار کو بلیک میلنگ یا استحصال کا ذریعہ نہیں بنایا۔

صحافتی اقدار کو بلند اور استحکام بخشنے میں کوئی کسر اٹھانہ رکھی آپ ایک ایسے وقت صحافت کے شعبہ سے وابستہ ہوئے جب کہ لوگوں میں صحافتی شعور کا فقدان تھا۔

رفیع بھنڈاری نے قومی یکجہتی کے پرچم کو ہمیشہ بلند رکھا آپ کی نامہ نگاری کی اہم خصوصیت یہ ہے کہ آپ کسی بھی خبر کو اس وقت تک اخبار کی زینت نہیں بناتے جب تک وہ خبر قوم کے لئے فائدہ مند نہ ہو ان کی رپورٹنگ پڑھتے ہوئے ایسا لگتا ہے جیسے وہ منظر ہماری آنکھوں کے سامنے چل رہا ہے۔ صحافت کے معیار میں جو گراؤ مسلسل آرہی تھی اور بالخصوص اردو صحافت کا جو غالباً رجحان بن چکا تھا رفیع بھنڈاری نے اسے بالکل الگ خالص صحافتی مزاج کو برقرار رکھا اور عصری مسائل کو نہایت ہی پاکیزہ جذبہ کے ساتھ موثر طور پر پیش کرنے کی کامیاب کوشش کی ہے۔ اس کی وجہ یہ تھی کہ انہوں نے عصری مسائل کے تجزیہ میں کبھی بھی مصلحت کو راہ نہ دی بلکہ صحافت کے فرائض پوری توانائی کے ساتھ انجام دیتے آ رہے ہیں۔

رفیع بھنڈاری اردو اور اردو صحافت کے فروغ اور بہتری کے لئے ہمیشہ فکر مند رہا کرتے ہیں لیکن اس سلسلے میں خود اہل اردو کی بے حسی سے بہت نالاں رہے جس کا اظہار وہ اپنی تقریروں کے ذریعہ اکثر کیا کرتے ہیں ایک کامیاب اور مصروف صحافتی زندگی گزارنے کے بعد آپ کو اللہ نے عمرہ کی سعادت بھی نصیب کی یعنی صحافتی اور دنیاوی اعزاز کے بعد انہیں دینی اعزاز سے بھی اللہ نے سرفراز فرمایا۔ الغرض موصوف ایک تجربہ کار صحافی ہیں جنہوں نے صحافت کے تقدس اور حرمت کو بحال میں بحال رکھا۔

## اردو افسانہ ایک جائزہ-

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اکیسویں صدی نے ایک افسانہ نگار کے لیے دنیا کو جتنا غور طلب بنایا ہے، اس سے پہلے دنیا اتنی غور طلب نہ تھی فیصلے، نظریے، سیاسی اور اخلاقی اصول، اخلاص، پیار، محبت، رشتے ناطے سب سائنس اور سیاست کی بڑھتی ہوئی طاقت نے بدل

بدل ڈالے ہیں ہندو پاک کے رشتے ہمیشہ بنتے بگڑنے کی مثال پیش کرتے ہیں تو کشمیر کے علاوہ فلسطین، عراق، بوسنیا و چینچینیا کے مسائل آج بھی جوں کہ توں ہے۔ اس پس منظر میں ہم دیکھتے ہیں کہ اردو افسانہ صرف واقعات کی عکاسی ہی نہیں کرتا بلکہ کہ وہ غلط نظام، نا انصافی اور ظلم کو مٹانے کی جدوجہد میں حصہ بھی لیتا ہے

افسانہ نگاری کا فن غزل کا فن ہے رمز و ایماں اس کی جان ہے۔ یہ مفروضات پر نہیں بلکہ حقیقی محور کے گرد گھومتا ہے۔ اس میں واقعات کی ترتیب زندگی کی بصیرت سے حاصل کی جاتی ہیں اس طرح افسانہ زندگی کا آئینہ پیش کرتے ہوئے اپنے عہد کی آواز بن جاتا ہے

ہر دور میں ادب اپنی تہذیب کی زلفیں سنوارنے کا فریضہ انجام دیتا ہے۔ یہ تہذیبی کشش ہی ہے جو ساری دنیا کے لکھنے پڑھنے والوں کو ایک دوسرے کے قریب لا رہی ہے نتیجے میں فکشن اور شاعری نئے انداز تحریر اور نئے موضوع سے ہمکنار ہو رہے ہیں۔ اب ضروری ہو گیا ہے کہ موجودہ دور کے مسائل اور آنے والے دور کی الجھنوں کا حل نکالا جائے اور سائنس اور سیاست سے مایوس دنیا کو ادب اور آرٹ کے ذریعے امن پسندی کا پیغام دیا جائے۔ انصاف کے راستے نکالے جائیں اور زمانے میں سچائی کو عام کیا جائے اس سلسلے میں وضاحت ضروری ہے کہ ہندوستان میں عہد حاضر کی سچائی کا جتنا واضح روپ افسانوں اور ناولوں میں ہے، وہ کسی تاریخ کی کتابوں میں بھی نہیں ملتا اور نہ کسی سیاسی لیڈر کی تقریروں میں یہ سچائی پائی جاتی ہے گلوبلائزیشن کے بہانے فاشزم کے بڑھتے ہوئے سائے ہوں کہ سائنس اور سیاست کی دہشت، انسان کی فکری اور جذباتی نا آسودگی ہو کہ اس کی شخصیت کا داخلی انتشار، اقدار کی شکست و ریخت ہو کہ صنعتی معاشرے کے مسائل، ماضی کی روایات کی بازیافت ہو کہ ملک کی گنگا جمنی تہذیب کا بکھراؤ، ہند ایرانی تہذیبی قدروں کا زوال ہو کہ فرد کی تنہا اور بے سروسماں زندگی کا کرب، ترقی پسندوں کی تحریروں کا دور شباب ہو کہ جدیدیوں کا ردِ عمل، اردو افسانے نے تخلیقی بصیرت کے سہارے حسیت کے رنگ ہمیشہ بکھیرے ہیں اردو افسانے کے فروغ اور اس کے مقام کے تعین کے سلسلے میں مغربی افسانوی ادب سے ہمارے اردو ادب کے افسانہ نگاروں نے بہت چیزیں حاصل کیں نفسیاتی گہرائیوں میں ڈوبی ہوئی

کردارنگاری جنسی جذبے کی تسکین شعور کی رو کا نظریہ انسانی محبت کا جذبہ ، معاشرتی نظریہ، نئے اشارے کنائے، اظہار خیال کا زیادہ بامعنی اور پرتاثر طرزنگارش یہ تمام چیزیں مغربی افسانوی ادب کی دین ہیں۔ ہمارے افسانہ نگاروں نے مغرب کے طرز کا اثر تو لیا لیکن انہوں نے مشرقی طرز کو بھی نہیں چھوڑا جس کے نتیجے میں مشترکہ طرز افسانہ نگاری وجود میں آئی اور صنف افسانہ کی دلکشی میں اضافہ ہوا ہر زبان کے کلچر میں کہانی کی مقبولیت ہے اسی طرح اردو کلچر میں بھی اس کا چلن ہے کبھی کہانی لمبی داستان کی شکل میں تھی پھر زمانے کی ترقی کے ساتھ ساتھ اس میں بھی تبدیلی آتی گئی جدید سائنسی تکنیک نے بھی بڑھاوا دیا اور پرنٹ میڈیا نے بھی اس کا بھرپور ساتھ دیا۔ اردو کلچر کہانی سے خوب آشنا ہے لیلیٰ مجنوں، شیریں فریاد، طوطا مینا، علی بابا چالیس چور اور سیکڑوں داستانوں نے اردو کے سامع اور قاری کو اس کا عادی بنا دیا۔ نسل در نسل یہ داستانیں سنائی گئی پڑھی گئی اور چھوٹے پردے/ بڑے پردے پر دیکھیں بھی گئیں۔ ہر عمر میں کہانی پسندوں کی کمی نہیں رہی اب سوال پیدا ہوتا ہے کہ مختصر کہانی اردو زبان میں کب شروع ہوئی جواب ہے کہ جب سے پرنٹ میڈیا کی شروعات ہوئی تبھی سے لیکن ٹھیک ٹھیک زمانے اور وقت کا تعین مشکل ہے اس سلسلے میں ناقد ، مورخ بھی قیاس آرائی ہی کر سکتے ہیں۔ شروع شروع میں جو داستان بیان کی جاتی تھیں یا لکھی جاتی تھیں ان میں ترجموں کی ایک علاحدہ اہمیت تھی۔ غیر ممالک زبانوں میں موجودہ داستانوں کے ترجمے جوں کے توں اردو زبان میں لیے گئے یا پھر کلچر بدل کر انہیں اپنایا گیا۔ اور جب داستانوں کا دور ختم ہوا اور ناول کا دور شروع ہوا تو بھی ابتدا میں ترجموں سے ہی کام چلایا گیا اور جب افسانوں کا دور شروع ہوا تب بھی غیر ممالک زبانوں اور مواد تکنیک کو استعمال کیا گیا۔ اس طرح اردو قارئین کی فطری ضرورتیں تو پوری ہوتی رہیں لیکن مانگے کے اُجالے سے۔ بعد میں تخلیقی عمل شروع ہوا اور اردو میں افسانہ کا جنم ہوا ، پھر یہ پھلتا پھولتا تناور درخت ہوا ، پھل ، پھول ، اُگ گئے اور اسطرح \_ افسانوی چمن آباد ہوا

مختصر افسانے کی جائے پیدائش امریکہ اور یورپ بتائی جاتی ہے۔ یہ بات انیسویں صدی کی ہے یورپی قلمکاروں کے اثرات اردو کے قلم کاروں پر بھی پڑے۔ جس کا اثر بیسویں صدی کے پہلے دیے میں لکھے ہوئے افسانوں میں بھی دیکھا جا سکتا ہے۔ اس سلسلے میں مشہور ترقی پسند ناقد احتشام حسین نے اپنے ایک مضمون میں لکھا تھا" کے اردو افسانے کی نشوونما بیسویں صدی سے ہوتی ہے وہ اس بات کو بھی تسلیم کرتے ہیں کہ افسانے کا ارتقاء انیسویں صدی میں امریکہ اور یورپ میں ضرور ہوا لیکن اردو میں مختصر افسانے کے آنے آنے بیسویں صدی کا آغاز ہو گیا۔ اس کا ثبوت ابتدائی دور کے افسانہ نگاروں کے ہاں ملتا ہے۔ کبھی مواد کی شکل میں تو کبھی تکنیک کی شکل میں تو کہیں پیت اور پلاٹ کی صورت میں۔ یہ بات پریم چند سے کچھ پہلے اور پریم چند کے کچھ ہم عصروں کے پاس ملتی ہے کافی غور و فکر اور تحقیق کے بعد اس بات کو تسلیم کر لیا گیا کہ خالص تخلیقی اردو افسانے کی

شروعات پریم چند سے ہوئی۔ پریم چند وہ افسانہ نگار تھے جنہوں نے اردو افسانے میں روح پھونکی۔ افسانے کی ہیئت قائم کی کئی طرح کے افسانے لکھ کر انہوں نے یہ بتایا کہ افسانے میں زندگی کے معاملات اور معمولات کی ہر بات سلیقے سے بیان کی جاسکتی ہے۔ پریم چند کی صلاحیتوں کو لوہا مانا گیا یا ان کے افسانوں کی تقلید کی گئی۔ اعظم کریلوی، علی عباس حسینی اور سدرشن نے پریم چند اسٹائل کے بہت ہی اچھے اور بیٹل افسانے لکھے۔ ان سب کے افسانوں میں زیادہ تر دیہات کا ماحول، مسائل ہوا کرتے تھے اور دیہاتی کردار غالب تھے، اسی دور میں فضل حق قریشی اور حامد اللہ افسر نے مسلمانوں کے متوسط طبقہ کو موضوع بنا کر بہت خوبصورت افسانے لکھے پریم چند کے دور سے ان سے پہلے والے دور کی رومانیت اور فرضی ماحول اور کرداروں کے افسانوں کا چلن ختم ہو گیا۔ گویا حقیقت نگاری کا دور شروع ہو گیا۔ پریم چند نے آخری سانس تک افسانے کے فن کو اپنائے رکھا اور آنے والی نسلوں کو ان کے افسانوں نے تحریک بھی دی اور گرما یا بھی۔ تکنیک کے نئے نئے انداز بھی ان کے پاس ملتے ہیں ترقی پسند تحریک کے قلم کاروں نے پریم چند کو بہت اہمیت دی، انہیں رہبر بھی مانا لیکن یہ بات بہت ہی اہم ہے کہ سلطان احمد جوش اور راشد الخیری نے مغرب پرستی کے رجحان کے خلاف بہترین مقصدی افسانے لکھے اور ادھر سجاد حیدر یلدرم نے رومانیت سے بھرپور افسانوں کی مثال قائم کی۔ یہ دور سماجی بیداری کا دور تھا جنگ آزادی کی تحریک سے لے کر ہندوستان کی آزادی تک افسانوی ادب میں پر شباب رہا اسی دور میں مجنوں گورکھپوری اور عظیم بیگ چغتائی نے انگریزی ادب کے افسانوں کے ترجموں میں نام کمایا

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