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TO ASSESS THE NATURAL AND CULTURAL NAME OF RURAL SETTLEMENT IN RAIGAD DISTRICT

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Abstract

We can get different ideas in the name of the place of residence research region. Includes natural features, cultural features in location, and political influence of various events in the past. In the Aryan times when settlements originated include Pur, Ward, Tanda, Ti etc. the beginning in their names. These are the words emphasize the influence of Hindu descent, the political background as well as homeless nations. Prefix and suffix in number names for resolving reflects relationships with natural and cultural objects. Natural features such as plants, animal, watercourse, earth structure etc. while under the cultural factor include God-Goddess, Caste, Human name and post etc. Main objective of this paper is To Assess the Natural and Cultural Name of Rural Settlement in Raigad District. In this Research Paper use secondary data were collected from a district census handbook of Raigad district, district statistical abstracts of Raigad district

Keywords: *1. Rural Settlement, 2. Place Name, 3. Natural Name, 4. Cultural Name.*

Introduction:

We can get different ideas in the name of the place of residence research region. Includes natural features, cultural features in location, and political influence of various events in the past. In the Aryan times when settlements originated include Pur, Ward, Tanda, Ti etc. the beginning in their names. These are the words emphasize the influence of Hindu descent, the political background as well as homeless nations.

Prefix and suffix in number names for resolving reflects relationships with natural and cultural objects. Natural features such as plants, animal, watercourse, earth structure etc. while under the cultural factor include God-Goddess, Caste, Human name and post etc. Start with residential names such as Nagar, city, gram, Khede, pur etc. appeared in Sanskrit. These are the hallmarks of the Aryan time settlement. That's right Ganj (Marketplace), Bazar (Weekly or Daily) Aabad (Accommodation) etc. The word abode with suffixes comes from the Islamic empire. Suffix once the prefix in the name of the agreement shows the features as well the importance of space. Such as DI, LI, ALI etc. words from Pali name. Pali means to live on a mountain or hill.

Objective:

To Assess the Natural and Cultural Name of Rural Settlement in Raigad District

Database:

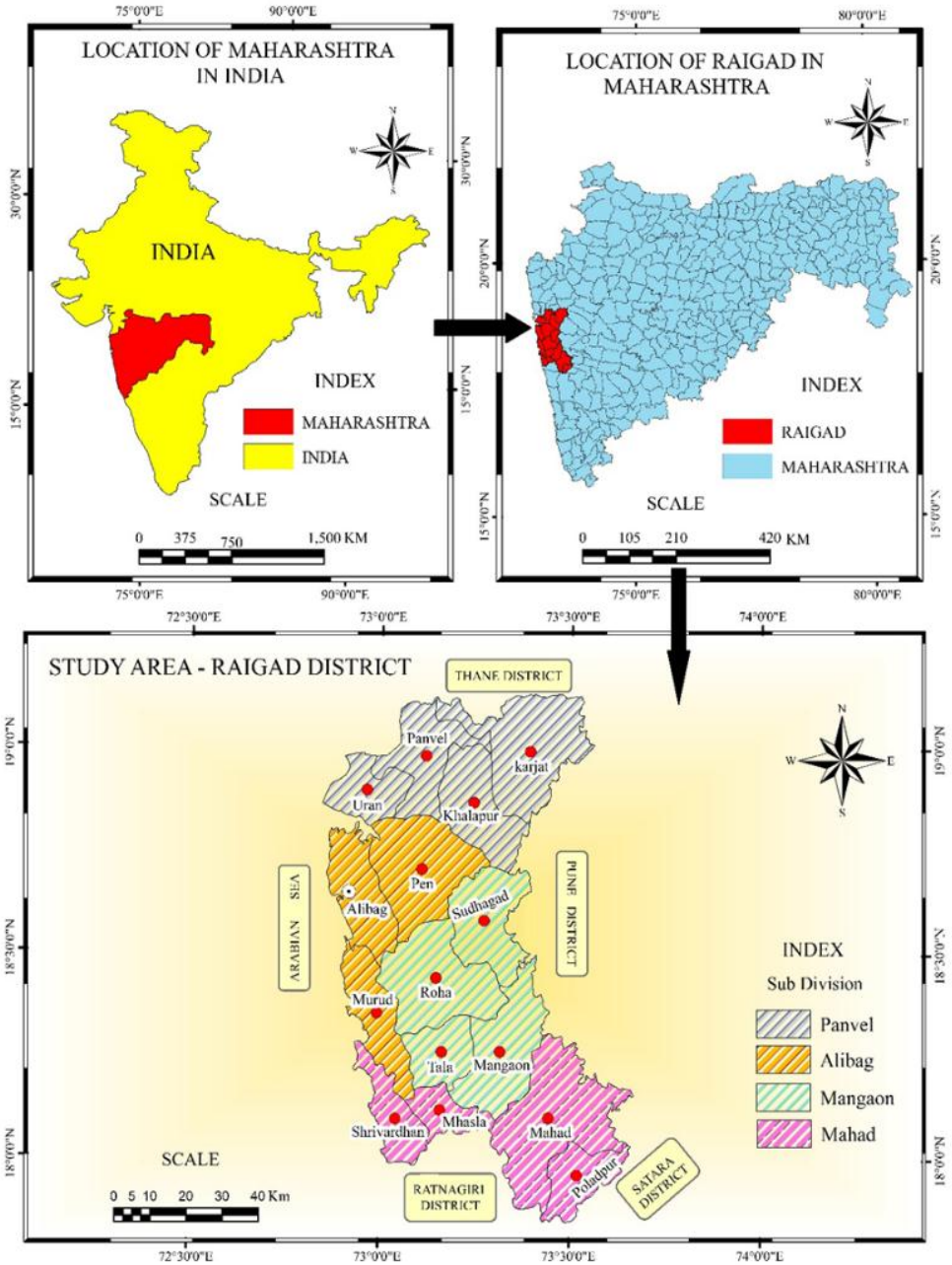
In this Research Paper use secondary data were collected from a district census handbook of Raigad district, district statistical abstracts of Raigad district, books, journals, the Internet and Topooseets.

Study Area:

Raigad is a coastal district, extends from 70^0 51' to 19^0 8' North latitudes and 72^0 51' to 73^0 40' East longitudes. Raigad district situated on the west coast, it is one of the district of

Konkan region, slightly extended in the north-south direction and long indented coastline. The district accounting one-fourth area of Kokan region in Maharashtra state. The region is bounded by the Mumbai harbor in the Northwest, the Thane to the North, the Pune region to the east, the Ratnagiri district to the south, the Satatar to the east and the Arabian Sea to the west. The area of study region has 7152 square kilometres (2.32 percent) in Maharashtra state. The north-south stretch of the district is 160 kilometres while east-west is 50 kilometres. The length of coast is 240 kilometres. Raigad district is the largest district in the Konkan region which includes the 15th tehsils namely Uran, Panvel, Karjat, Khalapur, Pen, Alibag, Murud, Roha, Tala, Sudhagad, Mangaon, Shrivardhan, Mhasla, Mahad and Poladpur.

Raigad District Location Map



Name is based on the Plants:

There are 994 names of rural settlement associated with natural or environment related factors. Out of these 994 in Raigad district 271 are associated with environment factors and 295 names are related to human. In Raigad district based on natural factors the names of the rural settlement are found it the name is based on the Plants in the field of study, so it turns out that. Out of 994 names based on physical factors in field of study. The highest proportion of rural settlement based on plants found in Poladpur 23 plant name settlement and the names of the lowest plants based rural settlement are found in Panvel, karjat, and Roha respectively 14 rural settlement like plant names for example- Biri Bk, Borichi, Jui, Ambeghar, Chinchavali, Karle, Dhotre, Dadar, Pimpalgaon etc.

Table Natural and Cultural Name of Rural Settlement in Raigad District

1	**Uran**	20	11	9	3	11	2	23	79	7.95
2	**Panvel**	14	9	10	3	6	3	25	70	7.04
3	**Karjat**	14	8	6	5	7	5	19	64	6.44
4	**Khalapur**	21	6	3	7	9	7	23	76	7.65
5	**Pen**	15	9	6	6	5	4	16	61	6.14
6	**Alibag**	19	6	7	4	7	6	20	69	6.94
7	**Murud**	21	12	8	3	11	5	15	75	7.55
8	**Roha**	14	4	5	2	6	3	17	51	5.13
9	**Sudhagad**	19	7	6	2	9	2	20	65	6.54
10	**Mangaon**	16	9	8	5	8	4	19	69	6.94
11	**Tala**	17	8	7	3	7	1	17	60	0.6
12	**Shrivardh**	19	3	3	3	3	6	18	55	5.53
13	**Mhasla**	19	6	5	4	4	8	16	62	6.24
14	**Mahad**	20	5	8	3	6	3	21	66	6.64
15	**Poladpur**	23	6	7	3	6	1	26	72	7.24
Total		271	109	98	56	105	60	295	994	100
%		27.26	10.96	9.85	5.63	10.56	6.03	29.67	100	

Source: Compiled by Researcher

Name is based on the Animals:

Name of the total rural settlement based on animals in the study area 109 (10.96 %) The highest proportion of rural settlement based on Animals found in Murud 12 Animals name settlement and the names of the lowest plants based rural settlement are found in Shriwardhan respectively 3 rural settlement like animals names for example- Bokadvira, Koral, Nagzari, Vichumbe, Wanghani, Dhamni, Maral etc.

Name is based on the Water/River:

Name of the total rural settlement based on Water/River in the study area 98 (9.85 %) The highest proportion of rural settlement based on Water/River found in Panvel 10 name settlement and the names of the lowest Water/River based rural settlement are found in respectively Khalapur and Shrivardhan 3 rural settlement like Water and river names for example- Kharghat etc.

Name is based on the Landscape: In the study region Name of the total rural settlement based on Landscape in the study area 56 (5.63%) The highest proportion of rural settlement based on Landscape found in Khalapur 7 name settlement and the names of the lowest Landscape based rural settlement are found in Roha and Sudhagad respectively 2 rural settlement like animals names for example- Dongari, Karal, Ariwali, Dharni etc.

Name is based on the Religious/cast:

Name of the total rural settlement based on Religious/cast in the study area 60 (6.03 %) The highest proportion of rural settlement based on Religious/cast found in Mhasla 8 name settlement and the names of the lowest Religious/cast based rural settlement are found in respectively

Tala 1 rural settlement like Religious/cast names for example- Hanuman, Koliwada, Deoghar, Deotali, Mahajane, Devichapada, Shivansai, Shivkar, Wani, Bhoighar, Vitthalwadi etc.

Name is based on the Human Name:

In the study area related to Human Name of the total rural settlement based on Human Name in the study area 295 (29.67%) The highest proportion of rural settlement based on Human Name found in Poladpur 26 name settlement and the names of the lowest Human Name based rural settlement are found in respectively Murud 15 rural settlement like Human Name names for example- Harishchandra, Panje, Bamangaon, Apte, etc.

Conclusion:

This geographical analysis proves that name of a rural settlement is effected by natural factors, cultural, environmental, place and conditions these factors also plays a role. Name of an inhabitant proves its evolution and reveal its natural environmental features in the past. Names of an inhabitant are affected by natural factors they also are affected by natural factors. We could get instruction and information if we study geographical analysis of names of rural settlement. It is also helpful in studying geographical as well as cultural features.

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INDIA'S PERSPECTIVE ON THE 'REGIONAL COMPREHENSIVE ECONOMIC PARTNERSHIP' AGREEMENT

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Abstract
India's decision to leave negotiations on the Regional Comprehensive Economic Partnership (RCEP), the largest trade pact in history, in November 2019 was a major setback for advocates of regional economic unification. India decided to leave the RCEP draught committee after being a member since the inception in 2011, claiming the lack of attention paid to several of its main concerns. India further issued a warning that the nation's manufacturing, agricultural, and dairy sectors may suffer as a result of lax regulations and a decrease in customs fees. India, meanwhile, has cut itself off from a trading bloc that affects more than 2.2 billion people and contributes 30% of the world economy by refusing to take part. This is often considered as a loss for India both economically and strategically. India's decision to withdraw raised serious questions about the feasibility of the 16-country RCEP as a solution and the logic of the suggested course of action. The Indian administration gave many explanations for the nation's exit from the RCEP, but some analysts also saw it as a missed chance for India to join a significant trade bloc in the region. Based on these circumstances, this paper seeks to provide a general overview of the RCEP agreement and investigate a number of factors that might have influenced India's choice to withdraw from the agreement. This paper also aims to explore the consequences of India's withdrawal from the RCEP and India's prospects after the RCEP.

***Keywords**: India, RCEP, ASEAN, Free Trade Agreements (FTAs), China, Japan.*

Introduction

The regional comprehensive economic partnership (rcep) is a multilateral free trade agreement (fta) between australia, china, japan, new zealand, south korea, and the asean member countries of brunei, cambodia, indonesia, laos, malaysia, myanmar, the philippines, singapore, thailand, and vietnam. The rcep concept was first formally introduced in february 2011 at the 18th asean economic ministers meeting. During the 19th asean summit in november 2011, asean leaders adopted the asean framework for rcep, emphasizing that asean will build a regional comprehensive economic partnership based on the principles of the asean charter, in order to maintain asean's centrality and proactive role in its regional cooperation framework. In addition to possessing all the features of a free trade area, the rcep also covers additional industries like services, investment, public procurement, intellectual property rights, e-commerce, and others. 25 percent of the global gdp, 30 percent of global trade, 26 percent of global fdi, and 45 percent of global population are generated by the rcep-affected countries. Thus, the rcep overtakes the european union (eu), the united states-mexico-canada agreement (usmca), and the comprehensive and progressive agreement for trans-pacific partnership to become the largest free trade agreement in the world.

The rcep intends to become the largest trade pact since the world trade organization (wto) was established, with participation from over one-third of the global gdp and more than half of the world's population. It includes the first agreement that was struck between china,

india, south korea, and japan. The reduction of tariffs is one of the main goals of the accord, which also aims to establish the largest free trade zone in the world. It might serve as a linchpin for the multilateral trading system, thereby easing the flow of trade and helping to unify the regulations of the several east asian ftas. The rcep includes provisions to boost transparency, speed up trade and investment, and promote member nations' participation in global supply chains. In compared to the other mega-regional trade deal, the trans-pacific partnership (tpp), it implies a desire to develop a regional involvement that is more concentrated and integrated. In addition to that, it intends to make it possible for the participating members to profit from increasing economic participation and collaboration with one another.

India and the rcep

The rcep, frequently referred to as the "largest" regional trade agreement to date, was initially being negotiated by 16 countries, including asean members and countries with which they have dialogue partnerships and free trade agreements (ftas), such as australia, china, south korea, japan, new zealand, and india. The rcep was established to facilitate the distribution of goods and services from each of these countries throughout the region. India was expected to sign this deal since the commencement of negotiations in 2013, but in november 2019, it decided not to. Next year, in november 2020, ten asean member states and five of asean's dialogue partners, excluding india, signed the rcep agreement.

However, before the rcep, india has already ratified bilateral fta with asean, japan, malaysia, singapore, and south korea, and is currently negotiating an fta with australia, among other nations. This shows that india recognizes the value of ftas in helping it become a part of the world's supply chains. The benefits, on the other hand, have not always been obvious; reports indicate that india's exports to fta partners and non-partner countries have grown at the same rate. One of the lowest rates in asia, according to the asian development bank (adb), only 5 to 25 percent of india's international trade is reportedly facilitated through preferential commercial agreements. The adb found that a number of issues, including as complex rules of origin criteria, a lack of understanding of ftas, higher compliance costs, and administrative delays, deter exporters from adopting preferred routes. Clearly, india's viewpoint on the rcep has altered as a result of this experience. Additionally, a significant impact would be had on indian local enterprises as a result of the planned contract, which would have exposed them to industries from countries driving the rcep process.

The 'big' exit: reasons and implications

In november 2019, india decided not to sign the rcep agreement for a variety of economic and geopolitical reasons, including the fact that it currently has trade deficits with the bulk of the rcep members, disagreement over the requests india made of the rcep, and a sino-centric influence.

India proposed auto trigger and snapback measures during 2019 negotiations in bangkok to protect domestic industries from cheaper imports. These steps would be taken promptly toward the partner countries if indian imports exceeded a specific threshold. This applied to australia, new zealand, and asean for plantation products and dairy products. This issue lacked unanimity.

The secretary (east) from the indian ministry of external affairs said india still has major core concerns after the summit. The secretary mentioned that india's decision to renounce membership reflected its judgement of the world and the agreement's justice and balance. Also, indian prime minister narendra modi remarked at the conference, "the rcep resolution doesn't reflect the original spirit, outcome, and guiding principles". India made various ideas for more equity and balance, but they were ignored. The rcep's guiding principles and objectives promised a thorough and balanced resolution and equitable economic development. The prime minister said he

was inspired by the decision's impact on india's most vulnerable populations.

Furthermore, trade agreements are frequently made so that both sides can economically benefit from one another. In the case of india, ftas have worsened the country's trade balance because evidence reveals that other partners have reaped unfavourable benefits from them. Indian exports have become more competitive on a worldwide scale during the past 20 years, but ftas have ensured that import growth has outpaced export growth. The results of niti aayog's investigation of how well india performed in ftas showed that total exports to fta countries did not surpass total exports to the rest of the world. India now has 14 regional trade agreements (rtas) in force, while another 12 are being negotiated. What's more, prior ftas with asean, south korea, and japan have all significantly boosted the trade deficit. India's trade deficit with 11 rcep members for the fiscal year 2019 demonstrates that trade agreements require giving trading partners access to those markets as well as gaining access to those markets. Due to india's poor track record in ftas and failure to negotiate a fair trade agreement in the past, policymakers in india were concerned about a possible widening of the trade imbalance post-rcep.

Still, many economists fiercely opposed india's exit, arguing that it was not in its best interests. They mentioned that in addition to losing out on market access in sectors like pharmaceuticals and information technology services where it has a competitive advantage, india was also forfeiting the possibility to shape the trade architecture of one of the regions with the highest rates of economic growth in the world. As the rcep participants gained privileged access to one another's markets, experts also emphasized the danger of trade dispersion away from indian goods and services. In a world where production is organized around supply chains, india's exit would be detrimental to both its enterprises and its consumers. As a result of being unable to receive more affordable and diverse inputs at favourable tariff rates, firms would lose their ability to compete and consumers would no longer have access to cheaper imports. India would no longer be a viable place for foreign investment since foreign companies producing in india would not have the same access to the rcep market as companies in signatory nations.

Future of india with the rcep

While it recovers from the pandemic and works to rebuild in 2022, the question is how india perceives its position in the post-epidemic asia pacific and what its future is in relation to the rcep. Along with domestic socioeconomic and political constraints, other considerations include the severity of india's geopolitical confrontations with china. The current internal reform movement in india is founded on the idea of atmanirbhar bharat (a self-reliant india). The stated goal of this agenda is to expand indian manufacturing in sectors like electronics and solar cells. If these adjustments are successful and a high-growth trajectory powered by manufacturing is realized, india may be more confident in its ability to compete in the global market.

Even while critics assert that the push for a self-sufficient india is just another disguise for protectionism, a self-assured india might reappear at the rcep negotiation table. Even while negotiating this conglomeration of ftas may be easier, india must understand that a single deal cannot progress trade in the same way as a multilateral pact with the reach of the rcep. The dragon in the room is of cource, china. The fact that china is india's second-largest trading partner and that trade is still breaking records, despite the worries of certain china specialists in india over china's geopolitical objectives in the region, highlights the disparity between india's economic and political reality. Not by itself, india. The quad security accord includes the participation of australia, japan, and the united states.

In their capacity as the rcep participants who recognize its economic benefits, they are resolving geopolitical issues with china. The other option is for india's economy to keep expanding modestly. This is possible if the

government keeps up its import-substitution programmed atmanirbhar bharat, which did not succeed in promoting growth before 1991 and is not expected to do so today. Production-linked incentives are likely to be poorly administered, favouring favoured businesses and inhibiting economic growth. The unorganized sector, where the pandemic had the biggest impact on employment, could suffer from increased policy uncertainty if it hinders farm reforms, discourages foreign investment, and prevents the revival of micro businesses. A slow economy may put additional pressure on an election-conscious government to turn home,

Conclusion

India has been given time to change its mind because the rcep cannot be fully implemented without india's participation. India, the only country in south asia that is a member of the south asian free trade area (safta) and has a fta with asean, would have served as the entrance point for other rcep member countries in the south asia region through multilateral commercial accords. India may currently have lost out on the chance to get access to a sizeable share of the markets in north and southeast asia, and vice versa. Nevertheless, the effectiveness leading it to embrace a fanatical nationalist agenda and put all of its hope in bilateral ftas. India may veer to the west if border issues with china deepen. With the eu, the uk, canada, israel, and the southern african customs union, india is aiming to sign free trade agreements. However, these economies are either negligible or dispersed far from india. The gravity model of global trade predicts that prospects with these nations won't be as favourable as those of the rcep. India might be better suited rejoining the rcep negotiations because an fta with the eu or perhaps the us will have tighter labour, environmental, and investor protection rules.

of not signing the rcep should be assessed in terms of how well india is able to match its foreign trade policy objectives (2021-2025) with those of "atmanirbhar bharat", capitalize on the 'make in india' initiative, and gradually reduce its trade deficit with the rcep member countries in the years to come. It is great that india has a way to participate in cooperative projects through the rcep while it is a candidate for membership as well as a fast-track accession option should it chose to do so in the future. Those who support globalization can always hope that india will benefit from these options.

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ECO-CRITICISM IN ENGLISH LITERATURE AND ISSUES OF SUSTAINABLE DEVELOPMENT:-A STUDY IN NEXUS

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Abstract:-

This is a descriptive and theoretical research paper dealing with the issues of ecology and sustainable development reflected in English literature. Qualitative research approach is used to ponder over the topic of nature writing and its projection. Environmental problems are multifaceted and it appears in literary discourses as well. Besides government, language and literature also play a vital role in creating awareness and reflecting environmental crisis throughout literary discourses. Since olden times, ecological factors and sustainable development concerns are depicted in literature. English language and literature play a cardinal role in education as well. Eco-criticism or green studies are the field where the writers introspect on the different aspects of ecology and sustainable development. Ecocriticism investigates the relation between humans and the natural world in literature. It deals with how environmental issues, cultural issues concerning the environment and attitudes towards nature are presented and analyzed. One of the main goals in ecocriticism is to study how individuals in society behave and react in relation to nature and ecological aspects. Eco-criticism is an application of ecology and ecological concepts to the study of literature. Literature advocates to 'Save the Earth' from human encroachment. The area of eco-criticism consists of fiction, non-fiction, travel writing, memoirs, regional literature, political documents, global warming agendas etc. Ecocritics suggest possible solutions for the correction of the contemporary environmental issues, sustainable development and examine how literature treats the subject of nature in various ways.

Keywords: *- Eco-criticism, sustainable development, ecology, literary discourses.*

Introduction:-

Literature in relation to environment is nowadays at the cutting edge of research in academia. Ecocriticism, a study of literature with a focus on environmental justice, is a popular stream of research throughout the world. Exploration of nature and sustainable development has been a rising trend in literature. The scholars and critics have been pondering over the ecological balance, which is, an essence for civilization. The manner people are committing violence against nature indicates that the world is going to face challenges to sustain. In the face of deforestation, decrease of rivers, decline of greeneries, rise of unplanned cities, carbon emission, and unabated pollution of environment around the world, civilization is at risk. The people in various countries have already started experiencing imbalances in their everyday life, the case which is the impact of injustice to environment. Scholars in different fields of study are addressing the issue of environmental injustice in their own ways, and in case of literary studies, ecocriticism has already drawn attention of critics and scholars of literary studies. Many writers and poets from various parts of the world show how people treat nature and cause damage to sustainability of civilization throughout their literary discourses. Drawing on the recent trends and development of research on ecocriticism, this paper briefly analyses a number of texts to highlight the relation of

literature to environment, sustainable development, especially focusing on the impact of environmental injustice on the sustainability of civilization and environment.

Background of the Study:-

There are many intellectual and critical theories or movements which focus on the contemporary issues. Eco-criticism is result of new consciousness regarding environmental issues reflected in literature and in non-fictions. 'Eco Criticism is the study of the relationship between literature and the physical environment.' The ecocritics raise the important environmental problems that humankind faces. It is an interdisciplinary approach to observe the relationship between literature, environment and sustainable development. Eco-criticism is a new field in literary studies: the study of literature with a special attention to the significance of nature in literature. It is the scholarly study of nature writing, "Green Writing or Green Studies". Eco-criticism is one of the most recent schools of literary theories, emerging in the mid-1990. Eco-criticism is a study of human–nature relations in literature, Non-fictional prose, film and other cultural expressions. William Rueckert has first coined this term "eco-criticism" in 1978. William Rueckert, in his 1978 essay *Literature and Ecology: An Experiment in Eco-criticism* first coined the word 'eco-criticism' focusing the use of environmental concepts to the study of literature. According to him, eco-criticism means "the application of ecology and ecological concepts to the study of literature". The postmodern world of literature was affected by the scientific discoveries as well as technological development. As a result, the human civilization was totally affected by the problems of environment or ecology. Eco-criticism was first commenced by the publication of two influential works, both published in 1996, the first work: *The Eco-criticism Reader* edited by Cheryll Glotfelty and Harold Fromm, the second work: *The Environmental Imagination* by Lawrence Buell. The book, *Association for the Study of Literature and the Environment,* pays particular attention to the representation of the natural world and how earth is represented as a commodity.

Aims and Objectives of the Study:-

The present research paper has following objectives:-

1. To establish the relationship of language and the Global Education for Sustainable Development, and the importance of literature in this relationship in general.
2. How is the setting of the play/film/text related to the environment?
3. How are animals represented in this text and what is their relationship to humans?
4. How is nature empowered or oppressed in this work?
5. What cultural attitudes are reflected towards nature by the writer?

Three Stages In The Development Of Eco-Criticism:

1. The first stage in the development of eco-criticism is concerned with the representation of nature in literature. It includes the study of nature in work of art as utopia, wasteland, paradise, tourist spot and place of salvation-Symbolic representation of nature.
2. The second stage of eco-criticism is about recovery of nature writing and ecologically oriented texts. It re-studies the masterpieces of literature having vast themes of environment and ecology.
3. The third stage is about putting theories of environment and ecology to create awareness about the dying earth.

Several scholars have divided Eco-criticism into two waves, recognizing the first as taking place throughout the 80s and 90s. The first wave gave importance on nature writing as an object of study. The primary concern of the first-wave eco-criticism was to "speak for" nature. The second wave is particularly modern. It examines how **Pastoral** and **Wilderness is presented through the work of art. Example: - '*The Waste Land*' by T.S. Eliot.**

Reflection of Environmental Issues In Literature:

The historian Arnold Toynbee recorded the effects of human culture or civilization upon the land and the nature in his book, *'Mankind and Mother Earth'* (1976). In Indian literature, Ramachandra Guha, the most important environmental historian has discussed environmental issues in his book, *'Nature, Culture, and Imperialism'* (1995). Ecofeminism, the nature writing by female writers, is the byproduct of this eco-criticism. In 1915, Thomas Hardy has faithfully portrayed the picture of nature and ecological problems of the time in his poem, *"The Breaking of Nations"*. Tennyson's *"Locksley Hall"* describes the effects of technological change on the ecology having 'Wessex' as the geographical setting. In the movie, *"The Inconvenient Truth"*, an ex-American president Al Gore deals with the burning issues of global warming and global cooling. The romantic poetry is full of environmental reflections about the nature. Thomas Gray's *"Elegy Written in a Country Churchyard"* is the best example of Nature Writing.

Ecocritical perspectives are realistically reflected in the writings of Nobel Laureate Rabindranath Tagore. His *'Rakta Karabi'* and *'Muktadhara'* are the major examples of ecocritical texts where he denounces human atrocities against nature. His ecocritical poems include *"The Tame Bird was in a Cage"* (The caged bird has even forgotten how to sing) and "*I plucked you Flower"* are about the nature's responses towards man's atrocities to nature. Anita Desai's *'Fire on the Mountains'* is a good example of ecocritical text dealing with the problem of animal killing, population explosion, moral degradation of man -all causing a threat to the ecology symbolized by frequent fire in the forest. Kamala Markandaya's *'Nectar in a Sieve'* represents nature as a destroyer and preserver of life. The novelist here has shown how the evils of industrialization spoil the sweet harmony of a peasant's life. Arundhati Roy's *'The God of Small Things'* is a portrayal of exploitation of nature, by human beings in the name of progress and modernization which is a dominant theme of the novel. The authoress here has shown her keen awareness of today's pressing environmental issues. The novelist in this novel has raised her voice for the environment, which is now under a great threat of pollution. In this novel, she not only exposes the massive degradation of nature but also reflects on the reason behind its dehumanization. Ruskin Bond's '*No Room for a Leopard'* presents the pathetic condition of the animals after deforestation. *'The Tree Lover'*, *'The Cherry Tree'*, *'All Creatures Great and Small'* and many others are all about the chain which binds man and nature, as in the chain of the ecosystem, showing interdependence. In her *'The Inheritance of Loss'* the novelist shows how Kanchenjunga pays for the brutality of human aggression. Ecocriticism here gets a political dimension in the novel when an un-estimated loss occurred due to Nepali insurgency causing a lot of damage to human life, animals and the serene beauty of nature. Amitav Ghosh's *'The Hungry Tide'* is a powerful ecocritical text as the novel underscores environmentally and socially oppressive system harboured by humans. The delta of the Sundarbans has been presented as the destroyer and preserver of life. This novel faithfully depicts the state sponsored terrorism to evict the dispossessed Bengali Refugees settled at Marichjhapi. In her *'Stolen Harvest'*, a nice example of ecocritical text, Bandana Shiva (an Indian environmental activist turned ecocritic) denounces the bio-piracy of the west in the name of patents from the poor countries. Thus, she shows that colonization is not a matter of the past; it is still very much alive. According to her, industrial agriculture has not produced more food; it has destroyed the diverse sources of food. Thus, she gave a neocolonial dimension to ecocriticism. Suresh Frederick in his article *'Suicidal Motive'* studies animals and birds like squirrels and sparrows who usually love to live near human habitation and help in ecological balance.

American writing celebrates nature through ecocriticism and the British ecocritics seek to warn us of environmental threats emanating from

governmental, industrial, commercial, and neo-colonial forces. Jonathan Bate's *'The Song of the Earth*' argues that colonialism and deforestation have frequently gone together. His 'Romantic Ecology' re-evaluates the poetry of William Wordsworth in the context of pastoral tradition in English. Here Bate explores the politics of poetry and argues that Wordsworth is the earliest of ecocritics. Raymond William's *'Country and the City'* shows a striking contrast between the country and city life. William here represents country life as the hub of modernity, a quintessential place of loneliness. Lawrence Coupe's '*The Green Studies Readers'* is a comprehensive selection of critical texts which addresses the connection between ecology, culture, and literature.

Eco-Critics Raise Questions Such As:

1. How is nature represented in the novel/poem/drama/story/essay & other non-fictions?
2. What role does the environmental setting play in the structure of the novel/drama?
3. How natural disasters are portrayed in the works of art.
4. Ecocritics believe that human culture is related to the physical world or nature.
5. Eco-criticism assumes that the entire life and environment is interlinked.
6. They apply the issues of growth, energy and natural resources, environmental balance and imbalance, mutability, sustainable development and atomic or nuclear war threats, population explosion, garbage dump and pollution.

Function of Ecocritics:-

1. The ecocritics read available literature and study them through the green lens.
2. They seek to explore the nature writings to find out ecological implications in them.
3. They assess the symbiosis between man and nature
4. They try to find out a solution for the contemporary environmental crisis.
5. They plead for a sustainable development.
6. They expose how nature is being affected by human culture.
7. They make an attempt to understand the wider significance of nature in an age of environmental crisis.

Practical Application of Eco-Criticism in Literature & Popular Culture:-

1. "I Wandered Lonely as a Cloud" and 'The Prelude' by William Wordsworth (1850) records his evolving understanding of Nature.
2. Emerson's first short book 'Nature' published in 1836 is reflective essay on the impact upon him of the natural world.
3. Rime to the Ancient Mariner (Killing of Albatross) - S.T. Coleridge
4. London-poem by William Blake-effects of modernity on nature
5. 'Earth Song'- by Michael Jackson
6. Lord of the Flies- William Golding's novel
7. 'The Axe'-Short Story by R.K. Narayan
8. Jurassic Park-Movie/Novel- Michael Crichton
9. King Kong- movie
10. 'A Living God' short story by Lafcadio Hearns on real incident of Tsunami. (This story portrays how nature as almighty (Tsunami) tests the courage of man.

Conclusion:

To conclude, it is discovered that nature writing or eco-criticism is not simply about nature but also and often especially, the human relationship with nature, the study of the relationship between literature and the physical environment. It studies the natural aspects with reflective mind rather than philosophical attitude. They depict the dangerous environmental damages throughout their texts and suggest the possible ways of compensating nature and its sustainable development. It is found that eco-criticism is an "earth-centered approach" to literature. It believes that "human culture and literature is connected to the physical world, affecting it and affected by it". Eco-criticism is interdisciplinary which refers to the collaboration between natural scientists, writers, literary critics, anthropologists,

historians, and more. It is recommended that further research study should be initiated on how literature and language can enhance the sustainability in the society as well as how literature plays a vital role in nation-building. Summing up, the English Language and Literature is an indispensable tool for national unity, integration and global communication. It plays a pivotal role in the attainment of sustainable developmental goals. English language and literature helps in economic empowerment; it is the avenue to sustainable development. English being the language of nationalism, it plays a significant role in almost all spheres of human endeavour, be it in education, politics, the judiciary, administration, economics, religion, government, popular culture, business and legislation. Therefore, literature, more or less, interconnects the human world with nature and provides the lessons of sustainable development.

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STUDIES ON EFFECT OF SLAUGHTERING AGE ON PROTEIN AND FAT COMPOSITION OF GOAT MEAT (CHEVON)

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Abstract
This article consists of a chemical analysis of goat meat to study the relationship between goat meat of different ages. It deals with the study of the chemical properties of goat meat in terms of protein and fat content. Goat meat processed in accordance with local sales conditions at a butcher's shop was identified and investigated for the period 2021-22. Protein and fat content of meat. From the results obtained, it can be concluded that goat meat slaughtered at an old age may have significant advantages in reducing the quality and quantity loss of the final product, and that differences are also found in the meat of animals according to age.

Key words*: Goat meat, protein, fat content*

Introduction

Meat is an important post-mortem edible ingredient derived from live animals used as food by humans. All muscle tissue in meat contains high amounts of protein and is considered an adequate source of vitamin B6, vitamin B12, phosphorus, niacin, zinc, choline, riboflavin, selenium and iron. Goat meat is a major meat source in developing countries, but it is less popular in Western countries. However, thinking about goat meat is changing because eating lean meat that is low in fat and cholesterol has health benefits. Goats are of economic importance as animals in developing countries, such as regions of Asia and Africa, where more than 95% of the goat population is kept (Chowdhury and Mutalib, 2003).

The demand for goat meat is growing rapidly. (Stankov et al., 2002). Thanks to health-conscious people, seagulls are an ideal food. (Johnson et al. 1995; Carlucci et al. 1998). Goat meat is easily digestible and tastes good, so consumption is rapidly increasing (Lesiak et al., 1997). Goat meat has a special place in the diet for a number of reasons. In terms of nutrition, preferences, prestige, religion, tradition and availability in almost every community in the country (Dahnda, 2001). In general, fish and other seafood have also been an important part of the human diet since ancient times. However, cattle, buffalo, sheep and goats are the main sources of red meat in Asian countries. Goat meat is undoubtedly one of the staples of red meat in the human diet.

Materials and Methods

Meat Sample Collection: A total of 30 goat meat samples I-e. (10 in each category) randomly selected from the local ballistic jam meat market. All registrations were grouped by age at slaughter according to butcher information and certified with an A code (12 months, age). During boneless meat samples. All samples were delivered to the laboratory of Eshwant Mahavidyalaya Nanded, Department of Dairy Sciences. Total Protein Content: Protein content was determined according to the method described in AOAC (2000).

A sample (2 g) was leached using a Micro-Kjeldhal fire extinguisher in the presence of catalyst (0.35 g copper sulfate and 7 g sodium/potassium sulfate), where sulfuric acid (20-30 ml) was used as an oxidizing agent and distilled water. diluted (250 ml). The diluted sample (5 ml) was distilled into a 40% NaOH solution using a Micro-Kjeldhal distillation unit that vapor distilled through 2% boric acid (5 ml) containing bromocresol green indicator for 3 min.

Ammonia entrapped in boric acid was determined by titration with 0.1N HCl. Hydrochloric acid. The percentage of nitrogen was calculated using the following formula:

$$N\ (\%) = \frac{1.4\ (V1 - V2)\ x\ \text{normality of HCl}\ x\ 250}{\text{Weight of sample taken}\ \times\ \text{volume of diluted sample}}$$

V_1= titrated value , V_2 = blank sample value

While protein percentage was determined by conversion of nitrogen percentage to protein by using conversion factor (6.25) assuming that all the nitrogen in meat was presented as protein i.e.

Protein percentage = N% x CF.

Total Fat Content:

Total fat (TF) was extracted in a Soxhlet extraction apparatus as described in AOAC (2000). The Soxhlet extractor was installed with a reflux condenser and a pre-dried and weighed distillation flask. A dried meat sample (2 g) was collected in a skim extraction nozzle and placed in an extraction unit (soxhlet). Then, 150ml of ether was poured into the extraction flask, a refrigerator was attached, and the solvent was slowly boiled on an electric heater. Extraction was carried out for 6 hours. the decision is The following formula

$$:\text{Fat}\% = \frac{W1-W2}{W3} \times 100$$

W1 = weight of empty distillation flask

W2 = weight of distillation flask + Fat

W3 = weight of sample taken

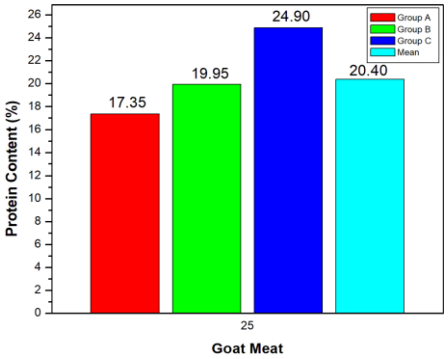
Results and Discussion

3.1 Protein content:

Protein content in goat meat was analyzed, and results are depicted in Fig. 2. Protein content varied between 16.20-18.50% in goat meat of group A, 18.63-21.27% in group B meat and 21.20-24.60% in group C goat meat. Result further showed that the protein content in group A meat (average 17.35±0.68%) was lower as compared to group B and group C meat (average 19.95±0.80% and 24.90±0.91%, respectively). The overall average protein content in goat meat ranged between 16.20-24.60% (mean,20.40±0.64%).

It was further observed that protein content was statistically (AOV) different ($p<0.001$) in different age groups of goat meat. However, LSD comparison of means at rejection level of 0.05 revealed that the average protein content in meat of group B and group C goat was not significantly different ($p>0.05$) from each other. While mean of protein content in meat of group A meat was significantly lower ($p<0.05$) from the meat of other groups (B and C) goats. Meat of goat slaughter at the age of >12 revealed remarkably high protein content

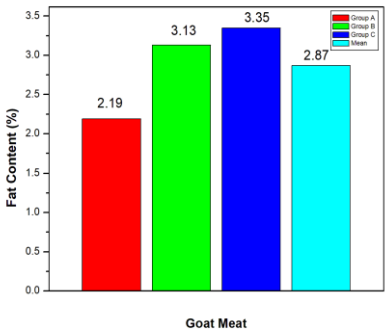
3.2 Total fat content:



(20.30±0.91%) compared to meat of goat slaughter at the age of 9 m, (18.43±0.80%) and are at the age of <6 m, (15.31±0.68%).

These results are in agreement with results of Madruga *et al*. (2006) who reported the significant effect of slaughter age on protein content of goat meat. They further reported that meat of goat slaughter at >11 m, age was better in chemical composition compared to meat of goat slaughter at the age of <6 m and 9 m, age.

However, there was no significant difference in proximate protein content between Longissimus dorsi and bicep femoris of goat meat. Niedziolka et al. (2006) reported the similar trends of protein content of goat meat as observed in present study.



3.3 **Fat content:**

Fat content in goat meat was examined, and results are presented in Fig. 3. A wide variation in fat content within three groups of goat meat was observed. Fat content in goat meat of group A ranged between 1.88 and 2.5%, in group B between 2.76 and 3.5% and in group C between 3.10 and 3.6%. Furthermore the result showed that the fat content in goat meat of group C was highest (3.35±0.17%) followed by group B (3.13±0.18%) and group A (2.19±0.24%). It was further observed that the fat content was statistically (AOV) different ($p<0.001$) in three groups of goat meat. However, LSD (0.05) comparison of means revealed that the average fat content in goat meat of group A was significantly lower ($p<0.05$) from meat of other groups; while means of group B and group C were not significantly different ($p>0.05$) from each other.

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EDUCATION INEQUALITY IN THE CONTEXT OF DEMOGRAPHIC DIVIDEND IN INDIA: DISTRICTS OF WEST BENGAL, INDIA- A CASE STUDY

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Abstract
This paper attempts to start investigating regional variations in educational outcomes across the districts of West Bengal, taking into account selected educational infrastructural parameters that play a predominant role in effective human spermatogenesis, with the goal of better understanding the impact of the demographic dividend in the context of India's growth prospects. A composite education inequality index has been estimated here based on some selected parameters and applying principal component analysis (PCA) technique. Inequality study has been done to find out regional variation in education to highlight the importance to ensure social justice and equity in education.

Key Word: *Human Capital, Education Inclusivity, Social Infrastructure*

Introduction and Rationale for the Study

Economic development of any country necessitates economic resources and human capital. To put it another way, human capital has been seen not just as an important driver of economic growth and poverty reduction, but also as an ultimate development goal to enhance human freedom (Squire 1993, Ravallion and Chen 1997, Schultz 1999, Sen 1999). The growing global focus on the Millennium Development Goals (MDGs) has further emphasised the significance of making real progress in key indicators of education and health.(Baldacci, Clements, Gupta and Cui 2008). My present study is mainly concentrated on educational aspect considering some selected parameters pertaining to both elementary and higher education in India.Human development relies on education, which is both a constituent and a means. Life expectancy, infant mortality, nutritional condition, poverty, and fertility are all affected. For example, higher education is anticipated to play a role in civic education and the construction of human capital for contemporary industries, agriculture, the service economy, and even the molding of human capital's reproduction. According to the NSSO Survey conducted in 2004-05, a large percentage of West Bengali kids drop out of school after the eighth grade. The state's literacy rate was 565 out of a total population of 1,000 adults and teenagers. When compared to the average for India, Kerala and Assam had ratios of 727 and 663 people per thousand in the same age range in 2004-05, respectively, which is on the high end. Either way, for the most majority of students, college is no longer a top priority; instead, they begin looking for work as soon as they finish their secondary schooling. It's also possible that there are supply-side bottlenecks that need to be addressed immediately once in order to reduce the drop - out rates.

Objectives of the study

The following research objectives have been chosen in this study because of the importance of education infrastructure as a driving factor for economic and social development.:

1. For the purpose of comparing the districts of West Bengal in terms of their EI index (calculated using Principal Component Analysis for two time periods and based on four major

EI criteria for both primary and higher education), 2001 and 2011.

2. Determine whether or whether districts are converging or diverging in terms of overall EI parameters over time at 10-year intervals from 2001 to 2011 by using Generalized Entropy class of inequality measure (with weight of the distribution α=2).

Methodology

District level Education Infrastructure Index (EII) for 2001 and 2011 has been constructed by applying the Principal Component Analysis (PCA). For construction of the Education Infrastructural Index (EII) for the districts of West Bengal four parameters have been chosen. These are as follows:

1. Number of Primary Schools per lakh of eligible age-cohort (6- 11 yrs.) [X_1]
2. Number of Primary Teachers per lakh of eligible age-cohort (6- 11 yrs.) [X_2]
3. Number of Students enrolled per lakh of eligible age-cohort (6- 11 yrs.) [X_3]
4. Number of colleges (both degree colleges and colleges of technology under WBUT) per lakh of eligible age-cohort (18- 22 yrs.) [X_4]
5. For the construction of EII, we used the PCA technique where PCA is the construction of new variables (PC_j) called principal components (PC_i) that are linear combinations of the X's and artificial as well as orthogonal in nature from a set of variables (i=1, 2, 3.....k) (Pett et al, 2003; Johnson et al, 2006). The standardised values of the original Xs have been evaluated using PCA.

$$PC_1=a_{11}Z_1 +\ldots\ldots\ldots\ldots\ldots\ldots + a_{14}Z_4\ldots\ldots\ldots\ldots \quad (1a)$$

$$\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots$$

$$PC_4=a_{41}Z_1 + a_{42}Z_2+ \ldots\ldots\ldots\ldots\ldots\ldots+a_{44}Z_4\ldots\ldots\ldots\ldots \quad (1d)$$

Here, Z_i is the standardized value ofY_i and PC_j=Principal Component of j-th indicator, j=1,2..4.

and a_{ij} = r (PC_j, Y_i) = Jth original variable/parameter Factor Loading on Ith PC. r (PC_j, PC_i) = 0; i≠j.

The EII for a given district was created using equation (2) and (3) only two PCs were retrieved using Kaiser Normalization and Scree Test criteria .

$EII=[\omega_1.(PC_1)+\omega_2.(PC_2)]$ ……(2) where, $\omega_1= \lambda_1/(\lambda_1+ \lambda_2)$ and $\omega_2= \lambda_2/(\lambda_1+ \lambda_2)$. PC_1=first principal component and PC_2=second principal component. λ_1 and λ_2 are corresponding weights of PC_1 and PC_2.

For studying inequality in education infrastructure, the present paper uses three variables namely Student-Teacher Ratio, Student-School Ratio, and Teacher-School ratio (at elementary education level) and student-college ratio, villages having colleges(%), graduates(%), diplomas (%)(in higher education level).

The inequalities are investigated using the Generalized Entropy Class of Measures (GE2), with GE (2) equal to ½ of the squared coefficient of variation (CV). This indicator is more sensitive to the distribution's upper tail (Litchfield 1999).

$GE (2) = (½)*CV^2$

Data Source

District level secondary data for West Bengal for various years has been used in the present study. The Statistical Abstract of West Bengal—various topics has been used to gather data. Annual Report of the Bureau of Applied Economics and Statistics—relevant problems; the District Statistical Handbooks published by the Ministry of Education District census reports for 2001 and 2011 are also included in the Economic Review..Technological college data released by WBUT.

Results and Discussion

The current research focuses on social infrastructure, geographical disparities, and discontent.. Here disparity among the districts has been measured in terms of inequalities in social infrastructure provisions through primary and higher education over time. It then tries to find out the intensity of the mentioned deficiency in governance by studying the trends in different inequalities (whether convergent or divergent) and assessing the relative positions of the districts in terms of public provisions.

Relative Position of the Districts of West.Bengal (a)terms of EII:

At two points in time (2001 and 2011), we used the "Principal Component Analysis" approach to estimate the EII for the 17 districts..The values of Education Infrastructure Index (EII) over time at 10-year intervals reveal that Nadia is consistently holding the number one position over time among the districts of West Bengal. Hooghly,Nadia, Haora, Puruliya and Bankura are consistently among the top five districts of the state.Among the lower ranked districts, South 24 pargana, Dakshin Dinajpur and Purba Mdinipur are worse than the others.Some districts like Uttar Dinajpur, Puruliya, Nadia, Murshidabad had managed to improve their relative position over time; where as some districts like North 24 parganas, Koch Bihar, Darjeeling deteriorates over time in respect of their relative position
.

Table 1: EII across the Districts of WB in 2001 and 2011(Respective Ranks are in Parenthesis)

DISTRICT	EII-2001	EII-2011
Bankura	492.1305(7)	699.9654(4)
Bardhaman	481.0996(8)	670.5479(9)
Birbhum	472.5278(9)	657.6992(11)
Dakshin Dinajpur	186.7398(18)	261.4106(18)
Darjiling	546.602(2)	684.3184(7)
Haora	535.0734(3)	687.3725(6)
Hugli	558.4153(1)	704.9103(2)
Jalpaiguri	438.0721(11)	609.0195(12)
Koch Bihar	492.4716(6)	677.4573(8)
Maldah	444.9479(10)	658.3933(10)
Murshidabad	429.0718(12)	689.7729(5)
Nadia	516.5532(4)	711.4021(1)
North 24 Parganas	277.4725(14)	380.3347(15)
Pachim Medinipur	316.8797(13)	391.7107(13)
Purab Medinipur	267.7608(16)	335.7456(16)
Puruliya	507.7482(5)	704.7507(3)
South 24 Parganas	226.7888(17)	330.028275(17)
Uttar Dinajpur	271.643(15)	382.0483(14)

Source: Author's Estimation

The student-teacher ratio marked high and acute inequality in two time points in GE (2) indicating disparity in both the lower and upper tails of the distribution. The student to school ratio also marked acute disparity during the same period in all the GE measures. The study period reveals that inequality in the ratio of teacher to school marked relatively high inequality in all the measures of general entropy class during the period again inequality is increasing over time from 2001 to 2011.This calls for serious policy attention.

Table 2:Inequality Trends in Primary Education Infrastructure in terms of Student Enrolment, Teacher Number and Primary School over time from 2001 to 2011

Parameters	Periods	GE (2)
Student-Teacher Ratio	2001-02	0.838088
	2009-10	0.034572
Student-School Ratio	2001-02	0.771242
	2009-10	0.051881
Teacher-School Ratio	2001-02	0.016489
	2009-10	0.031483

Source: Authors' Estimation

It is found that in GE(2) measure overall inequality in terms of two outcome variables like number of graduates and diplomas in eligible age group is falling over time which is good. But regional imbalance is aggravating across the districts in terms of the percentage of villages in the districts having colleges which should be addressed to reduce the disparity

.Table 3:Inequality Trends in Higher Education Infrastructure and outcome variables in terms of college availability, Number of Graduates and Number of Diplomas over time between 2001 and 2011

Parameters	Periods	GE (2)
Student-college Ratio	2001-02	0.12409
	2009-10	0.12605
Graduate of eligible age group	2001-02	0.079845
	2009-10	0.075718
Diploma of eligible age group	2001-02	0.018788
	2009-10	0.009241
Villages having college	2001-02	0.15437
	2009-10	.243351

Source: Authors' Estimation

Conclusion:

Despite the fact that we've made significant progress in literacy and education since Independence, we still have a long way to go before we reach our ultimate objective of universal primary education for all people. The Government of West Bengal has introduced a mid-day meal programme in order to promote the receptivity of children to education, particularly among children from the less fortunate parts of society.

Another idea for raising enrollment in elementary schools is to initiate medical treatment drives in schools at regular intervals that account for children' different conditions of health. In order to get the higher return major focus should be given on the development of the elementary education system as the process of human capital accumulation starts from the very child hood. At the same time, a lack of educational quality at the elementary and secondary levels has a detrimental impact on students' academic achievement, their productivity, and their involvement in higher education. A significant increase in public funding for the construction of social infrastructure connected to elementary and secondary education is highly recommended. A number of initiatives should also be bolstered so that suitable actions may be made to reduce regional disparities in the supply of educational facilities at the disaggregate level. One of the corrective solutions is the disbursement of a development grant. Keeping in mind the needs and priority, the district administration can use cost effective method in implementing different programs relating to those parameters. In order to strengthen as well as for proper implementation and execution of different developmental programmes, some incentive mechanism can be introduced. The present paper is an attempt towards achieving inclusive growth and to ensure equity in respect of some infrastructural components of both primary and higher education across the districts of West Bengal.

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HISTORICAL BACKGROUND OF NORTH MEDIEVAL THAGADUR NADU: A STUDY

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Abstract

This paper focuses on Historical Background of North Medieval Thagadur Nadu. The English word 'history' comes from the Greek historia (inquiry or investigation). History is essentially a discipline that inquiries into the experiences of people who lived in the past. Historians often classify the past by dividing it into different periods. Labels are convenient, but they should be meaningful and consistent, and it is necessary to be aware of their limitations. Medieval period is an important period in the history of India because of the developments in the field of art and languages, culture and religion. Also, the period has witnessed the impact of other religions on the Indian culture. Beginning of Medieval period is marked by the rise of the Rajput clan. This period is also referred to as Postclassical Era. Medieval period lasted from the 8th to the 18th century CE with early Medieval period from the 8th to the 13th century and the late medieval period from the 13th to the 18th century. During the Sangam age, apart from the great rulers of Chera, Chola, and Pandiya Kingdoms, many chieftains were ruling in the Tamil country . Among these chieftains, the most celebrated chieftains were Adiyaman Neduman Anji and his son Pohuttu - Elini of Tagadur (Dharmapuri), who ruled practically over all the Baramahal region. The present Krishnagiri district of Tamil Nadu comes under North Medieval Thagadur Nadu. Archeological evidence confirms the presence of human habitats during the Paleolithic, Neolithic, and Mesolithic epochs. Various rock paintings and rock carvings of the Indus Valley civilization and Iron Age seen in this district support the historical significance of this district.

Keywords: *Thagadur Nadu, Medieval, Chieftain, Painting*

Introduction

Medieval period is an important period in the history of India because of the developments in the field of art and languages, culture and religion. Also, the period has witnessed the impact of other religions on the Indian culture. Beginning of Medieval period is marked by the rise of the Rajput clan. This period is also referred to as Postclassical Era. Medieval period lasted from the 8th to the 18th century CE with early Medieval period from the 8th to the 13th century and the late medieval period from the 13th to the 18th century. Early Medieval period witnessed wars among regional kingdoms from north and south India whereas late medieval period saw the number of Muslim invasions by Mughals, Afghans and Turks. By the end of the fifteenth century European traders started doing trade and around mid-eighteenth century they became a political force in India marking the end of Medieval period. But some scholars believe that start of Mughal Empire is the end of Medieval period in India. The Krishnagiri district is historically significant. Archeological evidence confirms the presence of human habitats during the Paleolithic, Neolithic, and Mesolithic epochs. Various rock paintings and rock carvings of the Indus Valley civilization and Iron Age seen in this district support the historical significance of this district. 'Eyil Nadu', 'Murasu Nadu,' and 'Kowoor Nadu' were

the names given to the hearts of Krishnagiri, Hosur, and Uthangarai, respectively. The Krishnagiri area was known as "Nigarili Chola Mandlam" and "Vidhugadhazhagi Nallur" during the Chola dynasty. It was known as "Nulambadi" under "Nulamba" control, according to historical records. For individuals who died in the quest of adventure, hero stones were constructed.

Objectives : An attempt is made to focus on the Historical background of North Medieval Thagadur Nadu, i.e., the present Krishnagiri district of Tamil Nadu. And also, to trace the various monuments and forts in Medieval Thagadur Nadu.

1. To understand the concepts of Medieval period of India
2. To understand the concepts of North Medieval Thagadur Nadu.
3. To know the early history of North Medieval Thagadur Nadu

Methodology

This historical study uses analytical and explanatory methods. And the remarks and data were gathered from the scholarly works available by means of books, periodicals, and seminar papers.

Historical background of Ancient India

Writing history involves the selective compression of time; recency has a decided priority. Only a fraction of the number of pages given to the contemporary period of less than two centuries are devoted here to tracing the formation of Indian civilization, from about 7000 BCE to 500 CE. This is often the case for general histories and the practice may be justified on the grounds that for writer and reader alike the more recent is often more familiar as well as better documented. In addition, the historian of the present necessarily applies the tools and methods peculiar to his or her own time. All of this suggests that books of history could be read from the present backwards to the past, in the way they are implicitly framed if not actually written.

Historical background of Ancient Tamil Nadu: The history of Tamil Nadu from the sixteenth century to the eighteenth is eventful with political developments which had far-reaching consequences. It was a significant period in which non-Tamil rulers ruled the country which ultimately led to the establishment of foreign rule. The early medieval age is also defined by new states and religious ideologies. Evidence of these political and religious changes dates from the time of the Gupta kings, beginning in the fourth century. That theirs was considered a classical age for near contemporaries is suggested by the practice of some succeeding dynasties of dating inscriptions in accordance with the Gupta era, but for many modern historians the Guptas were special because many practices and ideas that were to distinguish Indian society for the next thousand years are traced to the time of their age. Indeed, the medieval millennium can be demarcated by the widely separated reigns of two kings: Samudragupta, 335 – 75 CE, and Krishnadevaraya of Vijayanagara, 1509 – 29. Each represented a model in his own age and within his own dynastic tradition, as well as in the judgement of modern historians.

Historical Background Medieval Thagadur Nadu

During the Sangam age, apart from the great rulers of Chera, Chola, and Pandiya , Kingdoms many chieftains were ruling in the Tamil country . Among there chieftains the most celebrated chieftains were Adiyaman Neduman Anji and his son Pohuttu - Elini of Tagadur (Dharmapuri), who ruled practically over all the Baramahal region. A small portion on the west formed the Kongu and was at this time under the Cheras, the Adiyaman himself belonging to this family. Latar on the Cheras conquest extended to the Kongu provinces and the Kollimalaies.

The Krishnagiri Taluk was formerly a place of military importance. The old peta which lies close to the durgam is much cramped and presents the aspect of an old India town. The ancient history of Krishnagiri is unknow. But it springs suddenly into importance in the Mysore wars. In the first Mysore war (1767-1769) the British armies marched through the region of Krishnagiri were

they had been engaged by Hyder Ali's forces at Kaveripatnam. The British armies were defeated by Hyder Ali and they were forced to retreat to Fort St. George. Krishnagiri is a historically and culturally important center. There is a fine picture of square hill with a strong fortress, which was once capital of historical importance of the Baramahal , It played a vital role in Mysore wars fought between Mysore and British rule . Emperor Tippu Sulthan, 'the Tiger' has admitted their fortress made it a military center. The Great Maratta ruler Shivaji had a stay here on his way to Gingee and here is a Maratha settlement near Krishnagiri even today.

Once Akbar Basha came from the north and camping west of Krishnagiri besieged the fort which was defended by Krishna Raja, the siege was prolonged for six months during which Akbar suffered heavy loss. He began to despair of success and prayed to Allah, who appeared to him in a dream and told him that there were two religious' men in his camp who were capable of leading a successful attack on the fort. The two Fakirs, Syed Basha and Syed Akbar undertook the attack on the fort on a Friday, but lost their heads at an early stage of the fight. The headless trunks, however, continued the fight driving the enemy in confusion before them till they reached the summit where the mother of Krishna Raja, seeing the portend and exclaimed "What Do headless bodies fight".

At this sound the trunks fell and were buried in the solid rock by a supernatural agency. The heads were buried below the hill, but the grave has never been covered with a proper tomb; as all who attempted to erect monuments were warned to desist in their attempts. The people of this area are having firm belief of eradication of any epidemic. Whenever an epidemic breaks out a collection of sugar in a made from all people of all caste and offered over the grave.

Syed Basha Mountain

The fort built in Syed Basha Mountain is noteworthy. It was built by the Nawab of Arcot and has with stood many attacks by Haider and Tippu Sultan. It is a picturesque lofty hill fort and on the summit of the hills are ruined magazines and a cutcherry of the kiladar. During the great Sepoy Mutiny of 1857, the fortifications and reservoirs had been dismantled. The growth of Krishnagiri was restricted due to mountain fort and tank on the western side.

Medal of Louis XVII

An interesting link with the past in preserved in a medal of Louis XVI was granted to Meer Ghulam Ali, who subsequently became the district munisif of Krishnagiri. He appears to have been employed in the phantom admiralty established by Tippu and accompanied Muhammed Usman in 1781 on an embassy to the court of Louis XVI. The embassy remained at Paris for a few years being received with due honours, but departed without effecting Tippu's object. Meer Ghulam received from the ill - fated king a handsome medal which on one side contains the King's head and that of Marie Antoinette on the reverse. The medal has been found in the possession of his grandson Mr. Muhammed Habibulla Sahib, Khan Bhadur, a distinguished gentleman of Krishnagiri and the Mittadar of Bevuhalli.

Importance of the Town Old Pet

The town consists of Krishnagiri proper, the old town and new suburb called Daulatabad, where the Government offices are situated. This last was built under the auspices of Munro and Graham, the first assistant collectors of the district. The present public bungalow was their residential Quarters. The town is commanded by a precipitous hill fort rising 800 feet above it. Such were its capabilities for defense that it was never carried by assault. It contained many residences occupied by the officers of the garrison of the fort, but all vestiges at these buildings have long since disappeared except for the Travelers bungalow near the Chinna Earl. It was formerly the house of captain Henry Smith, Commander who died in the explosion of 1801. The Garrison is now called Gremes House.

New Pet

The new town Daulatabad , has broad streets and is well planned .The founder Lakshmana Rao is said to have built the Vishnu and Hanuman temples at the east and the west end of the Agraharam where he built his own house , which is now in ruins and cheeked with prickly pear. These and the half-filled wells on its site harbour vipers, and their half-ruined walls in the midst of inhabited quarters give cover to thieves at night and serve as the latrines by day. Lakshman Rao's descendants are not built on them or sell the sites.

As there is a belief among them that their illustrious ancestors had buried treasure under it and that to part with it would be disastrous to the family. A portion of the old taluk office building is occupied by the village Chavadi, and the sub registrar office is built on a part of the site, though the rest of the old building is in ruins. A deep tank, well reverted with stone, near the Hanuman temple and called the Rayar tank after Lakshmana Rao who built it. once supplied water to this part of the town but it has become neglected now.

The western half of the taluk is drained by the Pennaiyar and the Markanda - nadi and the eastern half is traversed by the Sandur, Mattur and Bargur rivers and merges in to the level plains of Uttankarai and Tiruppatur taluks. The Panchayat headquarters of panchayat union, Tahsildar, Deputy Registrar of co - operative societies and District agriculture officer is having their offices in this area. There are two boys' high schools, a girl's high school and a training school for women.

There are two Scheduled caste hostel and two hospital and maternity centres are run by the panchayat and the private agencies of the Krishnagiri town. Ex - Servicemen have constructed a soldier's club which is running a co - operative canteen for the benefit of their members who engaged in running lorries and buses, Tamarind and beedi are sent in large quantities from these places through the lorry transports.

The Krishnagiri town is between Hosur Industrial town and Dharmapuri District Head Quarters, Though Dharmapuri has been declared as District Head Quarters all the improvements are simultaneously going on in Moreover, other than the Krishnagiri town also. the Judicial Court, District Revenue Department Employment Office, and other District head offices are located in Krishnagiri town. Our Hon'ble Chief Minister's Constituency, Bargur is the neighbour town.

Which is nearly 23 K.M. away from the Krishnagiri. This historically famous place Krishnagiri which has very great historical background in the olden days is also playing a vital role not only in the local administration but also in the economic position of this region. The historical importance of present-day Krishnagiri, as well as the potential for future expansion in education, economics, and tourism, necessitated the creation of a distinct district. The Government of Tamil Nadu established Krishnagiri as the 30th district. On February 9, 2004, five taluks and 10 blocks were separated from Dharmapuri district to form Krishnagiri district. As the first Collector of Krishnagiri District, Thiru. Mangat Ram Sharma, I.A.S. has presided over the post.

Conclusion

Historical influences have made a sting impact on the people. The stone inscriptions of North Medieval Thagadur Nadu shed information on the people's social lives, beliefs, customs, and rituals, as well as the region's political history. They are an extremely valuable source of information for recreating the region's history, notably throughout the ancient and mediaeval periods. Thus, the contribution of North Medieval Thagadur Nadu plays a vital part to the larger heritage of Tamil country.

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MARGINALITY AND RESISTANCE OF DALIT WOMEN IN BAMA'S SANGATI

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Abstract

The Dalits are a widespread but distinctive cultural and social community in India, who are treated unequally in daily life because of the lowest status accorded to the Hindu social order. In the Indian caste, class and patriarchal system, Dalit feminist discourse incorporates writings of Women, who have articulated their remonstration against the oppressive power structures. Women writers, such as Bama have penned down their excruciating experiences of being a female subaltern to subvert the phallocentric domination in society. She focusses on the various problems of Tamil Dalit women. In this complex and convoluted social set-up, Dalit women also found themselves marginalized in double ways: as a Dalit and as a woman. This double marginal status was accorded to them in literature too, which eventually propelled Dalit women to write about their experiences. This article mainly concentrates on the marginality and resistance of Dalit women in Bama's Sangati. Though they experienced frequent threats and menaces of rape, sexual assaults, physical violence and damage at work places in public arena, the Dalit womenfolk tried to prevail over the economic difficulties. The twofold pressures of caste and gender consign Dalit women particularly in far more demoralized prevailing conditions than their male counterparts. While sexual harassment, menace or fact of rape by upper castes or the police is a well-recognized form of repression faced by Dalit women, what is less recognized is that the Dalit men subject their womenfolk to equally violent, sexually debasing conduct. The position of women in a Dalit community is far more susceptible than that of non-Dalit women in our society. Their impecunious economic condition only adds extra fuel to fire as further misery to their dominated position. According to Bama, a Dalit woman suffers from double marginalization than any castes. Dalit women face mental torture and violence at home from their husbands. Apart from experiencing frequent threats and menaces of rape, sexual assaults, physical violence and damage at work places in public arena. Husbands beat up Dalit women without any specific reason. Dalit men who themselves are marginalized by the upper-class land owners in turn marginalize their womenfolk at homes as the entire Dalit community is also under the reigning patriarchal system. Therefore, Bama captures the double marginalization suffered by the Dalit women. Sangati does not stop with just an analysis of the plight and sufferings of Dalit women. In spite of all their sufferings and oppression, Dalit women consider themselves more privileged than the upper caste women. Through Sangati, we get to hear the inner voices of the Dalit women. Within their own circles, Dalit women ridicule the upper caste women. Bama, through the resistance of the Dalit women, tried to transform the stigmatized identity of these women into an assertive individual and thus articulates a social change.

Key Words: *Dalit, marginalization, resistance, subaltern, oppression, patriarchy*

The etymology of the term 'Dalit' can be traced to the root 'dal' in Sanskrit, which means split, break, crack or crushed. Dalit came to indicate to oppressed, exploited and downtrodden. The Dalit Literature exposes the persecution and exploitation that Dalits continue to face in the hands of the higher caste forces. The Dalits are a widespread but distinctive cultural and social community in India, who are treated unequally in daily life because of the

lowest status accorded to the Hindu social order. The present usage of the term Dalit is attributed to the 19th-century social reformer Mahatma Jotirao Phule (1826–1890), who used it to describe the outcastes and untouchables as the oppressed and exploited people by the dwija castes. This article mainly depicts the Marginality and Resistance of Dalit Women in Bama's *Sangati*.

Dalit women are most inclined to ferocity from the caste-class-gender axis through untouchability, labour control, gender control and control on Dalit women's sexuality, which defines their everyday hierarchy relations with higher class dominant men and women, as well as with Dalit men. In the Indian caste, class and patriarchal system, Dalit feminist discourse incorporates writings of Women, who have articulated their remonstration against the oppressive power structures. "*Dalit Feminist Theory* attempts to provide a more complete picture of gender-based inquiry and attempts to fill this unfortunate gap in so-called Third World feminism" (Arya and Rathore 2). In an attempt, as well as in literature, women writers, such as Bama have penned down their excruciating experiences of being a female subaltern to subvert the phallocentric domination in society. She focusses on the various problems of Tamil Dalit women, with detailed reference to her novels. While Dalits in general are oppressed on the basis of caste, the problems of Dalit women are compounded, since they suffer not only on the basis of their caste but also on the basis of their gender.

In *Sangati,* Bama, discussed the double oppression of Dalit women, and simultaneously emphasized the courage and fortitude of Dalit women to fight against the probabilities in their life. As an exponent of Dalit Feminism, Bama has found in her novel, *Sangati,* the right space to eloquent the travails and anguishes of Dalit women. It is not only illuminating the bitter reality of the social ills challenged by a Dalit woman, but also brings to light the inner strength and fortitude of Dalit women. Particularly Dalit women have enormous strength and vigor to bounce back against all odds. It emphasizes the inherent liveliness and the indomitable spirit of Dalit women against oppression. As Bama herself writes in the Preface to the book:

In *Sangati*, many strong dalit women who had the courage to break the shackles of authority, to propel themselves upwards, to roar (their defiance) changed their difficult, problem–filled lives and quickly stanched their tears. *Sangati* is a look at a part of the lives of those women who dared to make fun of the class in power that oppressed them. And through this, they found the courage to revolt. (*Sangati* vi)

'*Sangati*' means 'news', and the book is full of interconnected events - the everyday happenings in the Dalit community. Bama states the purpose of writing the book here:

My mind is crowded with many anecdotes; stories not only about the sorrows and tears of Dalit women, but also about their lively and rebellious culture; their eagerness not to let life crush or shatter them, but rather to swim vigorously against the tide; about the self-confidence and self-respect that enables them to leap over their adversaries by laughing at and ridiculing them; about their passion to live life with vitality, truth and enjoyment; about their hard labour. I wanted to shout out these stories. (*Sangati* ix)

By reporting the news, happenings, and events in the lives of various Dalit women, *Sangati* lives up to its name. Bama chronicles Dalit women's difficulties, setbacks, and frustrations, as well as their achievements, joys, and perseverance. The narrator, who begins as a little girl, grows compassionate as a result of the countless tragedies that occur around her. She emphasizes the importance of rebelling at this hour and calls for action against crimes committed against girls and women in her society. In the majority of the stories, the struggle and triumph are discussed. Whether it's the story of the narrator's daring grandmother Vellaimma Kizhavi, a single mother who pawned the sacred symbol of her marital status, her thali, to feed her children, Marriamma's story of having to return to work soon after puberty, or

Katturaasa's mother who bore her son while cutting grass, the narrator's grandmother Vellaimma Kizhavi.

Dalit women found themselves marginalized in two ways in this intricate and convoluted social structure: as Dalits and as women. This double marginal status was also provided to Dalit women in literature, prompting them to write about their experiences. Because sexual exploitation by upper caste men is rampant, Dalit women are forced to live in a hazardous and insecure situation. The storey of Mariamma, the narrator's cousin, is an example of Dalit women's sexual assault in their communities and their inability to resist it. Kumarasami, a landlord from the upper caste, makes sexual attempts to Mariamma. Mariamma, however, as a Dalit, will never be able to express her frustration and anger with this degrading gesture. "He's upper caste as well. How can we even try to stand up to such people?" Are people going to believe their words or ours?' And so, they went together, picked up the bundle of firewood, sold it, and then went home (20). A Dalit woman is a Dalit among Dalits. A Dalit man faces oppression by the upper castes. They are suppressed and dominated. Once he returns home, he rules his family. His pent-up anger and frustration are taken on the women in the family. ". . . they still control their women, rule over them and find their pleasure. Within the home, they lay down the law; their word is scripture" (59). Dalit women on the other hand, suffer in the public and private domains.

Sangati does not stop with just an analysis of the plight and sufferings of Dalit women. In spite of all their sufferings and oppression, Dalit women consider themselves more privileged than the upper caste women. Through *Sangati,* we get to hear the inner voices of the Dalit women. Within their own circles, Dalit women ridicule the upper caste women. They are ecstatic to be able to swim and bath in the pond, while higher castes women are restricted to the house's wells. "They are all scaredy-cats. They can't swim at all, that's the truth. They stay at home, get a couple of buckets of water which they dip into and pour over themselves little by little. God knows how they manage to bathe in such small, small amounts of water. How different it is to go right under the water like this." (116)

Dalit women also take great pride that they are financially independent and capable of doing the toughest of jobs. "Ask these upper caste women to do the work we do – to transplant paddy in the wet fields, to do the weeding, to reap the grain and carry it home. You'll see soon enough. They'll give it up in no time and go and lie down" (114-115).

Mariamma is sexually harassed by a high-caste landlord while returning from work with a head load of firewood. When she protests and runs away, leaving her bundle behind, the landlord approaches the Parai panchayat and lodges a complaint that, 'Mariamma and her cousin, Manickam were found in a compromising position at his field' (21). The headman promptly calls a meeting of the panchayat of Parai community. The panchayat meeting could be attended only by men. The Dalit women only crowd around and overhear something from a distance. The men, frequently, abuse them for being "too forward" and drive them away, at time, using sticks. They shout at the women, "Are you out of your mind? What are you moping about here where men have gathered to discuss? Go back home, the lot of you!" (23). Even old women are not allowed to speak up. They keep their women out of any form of participation concerning decision-making or community-oriented activity. The compulsory absence of women from Dalit panchayat is a manifestation of patriarchal functioning of Dalit men in the context of women- connected issues, especially pertaining to their sexuality. Mariamma is called in but her authentication is hardly respected.

The men conclude that the Mudalali must be right and that Mariamma should acknowledge her misdemeanor or else she would be heavily fined. When Kaliamma, who followed Mariamma on her return journey from work intervenes that Mariamma had left long before Manickam and joined

Kaliamma and others, a bunch of men swoop upon her and abuse her, "You slut! Leave this place, hey women! How many times shall we drive you off?" (25). Women are violently silenced at this Dalit panchayat. They are given no opportunity to protect themselves or to be a witness. One woman's suspected sexual transgression is construed as the entire community's embarrassment: "This is a great dishonor to our Jati," says the headman (22).

In its treatment of Dalit women, the all-male panchayat replicates the upper castes' discriminating, oppressive, and repressive attitude toward Dalits. It undermines their self-esteem, physically eliminates them, silences them, and excludes them from decision-making, even on problems directly related to their well-being. The women of the Parai Cheri are shown to jumble together at a distance, suspended over the margins, far-flung from the centre where the men hold court. Mariamma's father decides to marry her off to Manickam after a few months as she is unable to get a groom from the village following her disgrace at the panchayat meeting. Manickam, a drunkard, gambler and a jailbird over his connection in illegal brewing of liquor turns into a regular wife-beater after the marriage. Mariamma suffers violence both at the hands of her father and her husband. Her battered body bears eyewitness to the repressively hegemonic control of Dalit women by the men of their community.

According to Bama, a Dalit woman suffers from double marginalization than any castes. Dalit women face mental torture and violence at home from their husbands. Apart from experiencing frequent threats and menaces of rape, sexual assaults, physical violence and damage at work places in public arena. Husbands beat up Dalit women without any specific reason. Dalit men who themselves are Marginalized by the upper-class land owners in turn marginalize their womenfolk at homes as the entire Dalit community is also under the reigning patriarchal system. Therefore, Bama captures the double marginalization suffered by the Dalit women.

The predicament of most of the characters in *Sangati* is also an awfully miserable because they are underprivileged and female. Women work like dogs but cannot afford to buy wheat and milk-powder from the priests, and look at the good luck that falls upon those pigs. They are wage-earners like their male-counterparts but earn less than their men folk. Though they earn they do not have their own rights to spend the money. In the language of Holmstrom: "Woman are presented in the novel *Sangati* as wage earners as much as men are, working as agricultural and building- site labourers, but earning less than do yet the money that men earn is their own to spend as they please, whereas women bear the financial burden of running the family, often singly" (xvii).

Dalit women have very few potentials of empowering themselves in a society that keeps them out of power, privilege and decorum of identity that are granted, even if, to a limited extent, to women of other castes or class. Dalit women however show signs of enormous skill for endurance and contest. They not only dodge the restraining code forced upon them by upper castes or their own men folk, they even confront or destabilize the same. They outshine in music and rhythm as it is a part of their basic physical movement. Every characteristic of their life is render into songs by the women. They adopt singing as a strategy to break complimentary from the exhaustion of hard labour, to commemorate important milestones in a woman's life, to contribute and mark their existence in social or religious functions where, by and large, they are kept away from the glare of publicity.

Bama's *Sangati* has pioneered a Dalit Penniyam, a Dalit feminist perspective in Tamil as well as it is uniquely placed in contributing both to the Dalit movement and to the women's movement. In *Sangati,* Bama simultaneously represents the dominated existence, the resilience and dauntless spirit of Dalit women. The book renders a

positive identity to Dalit women, highlighting their inner strength and vigour. It celebrates the grit and determination of the Dalit women to stamp their existence in a male dominated, caste structured society. "The ideals Bama admires and applauds in Dalit women are not the traditional Tamil 'feminine' ideals of acham (fear) naanam (shyness) madam (simplicity, innocence) payirppu (modesty) but rather courage, fearlessness, independence and self-esteem" (Holmstrom xix) and Bama celebrates her admiration with pride, and urges her community to fight for liberation, drawing sustenance from these inborn qualities.

The Dalit women, perhaps, are powerful and emotional as they countenance problems such as doing hard labour to look after their family. They are subjected to embarrassment and sexual harassment in the hands of not only their men, but also those of other castes. In fact, they are trying to prevail over the economic difficulties, experiencing exploitations in the hands of upper caste men and women. Bama, through the resistance of the Dalit women, tried to transform the stigmatized identity of these women into an assertive individual and thus articulates a social change.

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THE STRUCTURAL CHANGES DUE TO INCREASING TEMPERATURE OF NANO NIKEL DOPED SODIUM A ZEOLITE

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Abstract:-
Nickel doped zeolite NaA was procured form standard material supplier agency. The structural and morphology of the nickel doped zeolite NaA material ware characterized by range of experimental techniques, such as X-ray diffraction, Thermogravimetric and differential thermal analysis. The Nickel doped Zeolite NaA fine Powder were crushed with agate mortar. The effects of temperature for structural changes of nikel doped zeolite were observed that temperature is increased then structural changes are detected.

Keywords:- *Zeolite NaA, XRD, TG-DTA, etc.*

1. Introduction

Zeolites are three-dimensional, microporous, crystalline solids with well-defined structures that surround aluminium, silicon, and oxygen in their regular framework; cations and water are located in the pores. The silicon and aluminium atoms are tetrahedrally coordinated with each other through shared oxygen atoms. Compositionally, zeolites are similar to clay minerals (W.M. Meier et.al 1999). More specifically, both are alumino-silicates.

They differ, however, in their crystalline structure (J. Rouguerol et.al. 1994). Zeolites are divided into two categories: natural and synthesized groups. In the last decade, zeolites have been gaining great attention and proved very useful in a wide range of applications. The natural zeolites are commonly used to remove heavy metal in water and wastewater treatment (E. Erdem 2004). Mostly, the synthesized zeolites are more valuable than the natural one. Zeolites are inorganic crystalline structures of alumino silicates with uniform pore sizes of molecular dimensions; these are molecular sieves with channel diameters that range from 0.3 to 1.0 nm. The interconnected channels at molecular dimensions allow the selective passage of different species of molecules with different kinetic diameters (Katsumi Kaneko 1994).

2. Materials and Methods:-

In the present work nickel doped zeolite NaA Powder had been crushed in agate mortar for prepared to the x-ray diffraction method (XRD) and Thermal Differential Analysis. Crystallinity and the phase purity of the nickel doped zeolite NaA sample was identified from the x-ray diffraction with the help of rigaku miniflex using CuKα radiations of wavelength λ = 1.5418A˚ in the 2θ range from 20˚ to 80˚. The thermal properties of nickel doped zeolite NaA study was conceded out in the temperature range 40˚C to 800˚C to examine the phase change and the thermal information of the sample material.

3. Results And Discussion

3.1 X-ray Diffraction Studies

XRD pattern of the nickel doped zeolite NaA sample is presented in fig.1 the obtained diffraction pattern was similar and matched zeolite NaA (PDF 00-039-0222). Additional Peaks 46 and 69 are representing doped nickel material (A.R. Loiola et.al. 2012).

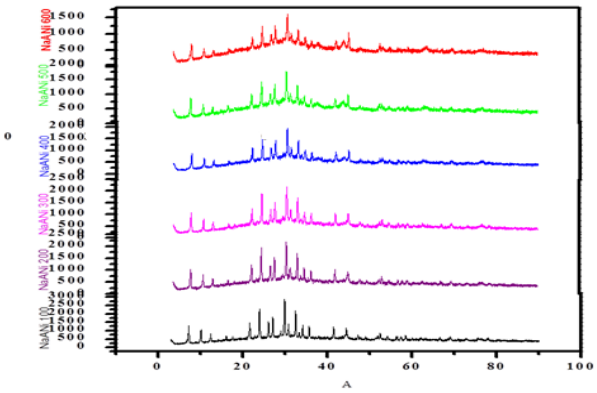

Fig 1. XRD pattern of Nickel doped zeolite NaA Sample Material for 100 ˚C to 600 ˚C.

3.2 Thermogravimetric analyses TG/DTA

fig 2. Shows the thermal analysis curve TG-DTA up to 800˚C for nickel doped zeolite NaA. The TG curve for extent temperature is about 120˚C. This suggests that the impregnated sample goes to additional thermal transformation at higher temperatures. TG curve shows that the mass loss happens in two stages. First is in the temperature range 25 to 100˚C and stage second is in 100 to 800˚C. For stage first, mass loss reached ~17.5 % and occurred at faster rate. This stage is associated with endothermic DTA event related to removel of water (Maryam Ghasemietal et.al 2016). During second stage mass loss continued to occur but at a reduced rate, which resulted in an additional ~5% loss no DTA peak was associated to this event. The total mass loss up to 800˚C for nickel doped zeolite NaA reached ~22.5%.

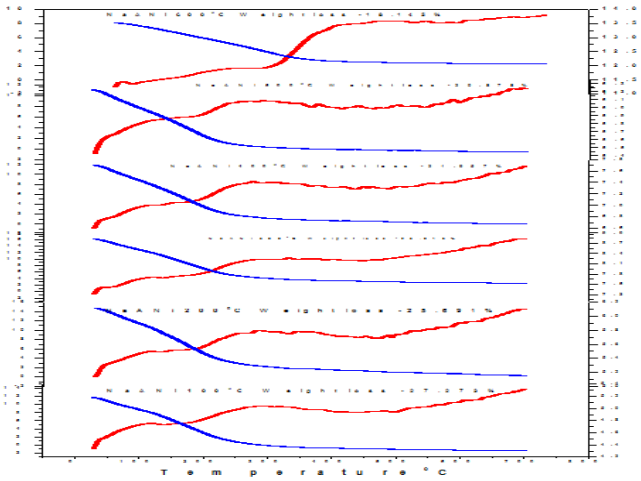

Fig 2. TG/DTA Curve for nickel doped zeolite NaA Sample Material for 100 ˚C to 600 ˚C

4. Conclusions

XRD pattern matched with JCPDS 00-039-0222. The XRD pattern shows that doped nikel at higher temperature is disappearing and structural changes observed. TG-DTA shows the nickel doped zeolite NaA material is thermally stable and shows material weight loss near about 22.5%. The temperature is increased to higher 500 ˚C to 600 ˚C then Structural changes of nikel doped zeolite NaA material and weight loss of materials is decreased.

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PHYTOCHEMICAL STUDIES IN LEAF DRUG ALOCASIA INDICA (LOUR.) SPACH

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Abstract

Alocasia indica (Lour.) Spach commonly known as Kasalu is belonging to family Araceae. Its leaves are medicinally exploited to treat several diseases and disorders. Phytochemical studies in this leafy drug are carried out to standardize it. The phytochemical studies include details of characters of leaf powder like colour, odour, taste, Alkaloids, Anthraqinone, Iridoids, Saponins, Steroids, Tannins (Qualitative) and dry matter, bulk density, nitrogen, Water soluble nitrogen, crude protein, crude fat, crude fiber, total ash, acid insoluble ash, acid soluble ash, water insoluble ash, water soluble ash, calcium, reducing sugar, total sugar, non-reducing sugar, cellulose, gross energy, phosphorus, extractive values in 10 solvents (Quantitative). The above parameters can be applied to standardize this leaf drug.

Key words- *Phytochemical studies, Alocasia indica (Lour.) Spach, standardize.*

Introduction

*Alocasia indica (*Lour.) Spach is stout perennial herb with short stem and broad leaves. Leaaves are medicinally exploited to treat several diseases and disorders like or has various properties like digestive, demulcent, emollient, tonic, diuretic, simple purgative, wound healing, skin disorders, joint swellings, earache (Naik, 1998), aundice, rheumatic arthritis, antifungal, anti-inflammatory, anti-leprotic,, anasarca, abdomen and spleen diseases (Shantabi et al., 2014), Antibacterial, Antioxidant, Antioxidant, Anti-diabetic, Anti-hyperlipidemic, Hepatoprotective, Anti-inflammatory, Analgesic, Anti-diarrheal, Anthelmintic (Romeo C. Ongpoy, 2017). During present investigation an attempt was made to standardize the leaves of *Alocasia indica (*Lour.) Spach by using some phytochemical parameters.

Materials and methods

The leaf samples were collected from the medium sized authentically identified plant species from different localities of Marathwada. The leaves were removed carefully by hand pricking without damaging the plants. The leaves were collected in polythene bags and brought to the laboratory within 2-5 hours. The leaves were initially dried in shade and later in oven at 60^{o}C till constant weight, then made in to fine powder and stored in sealed plastic container for further analysis (Sadasivam and Manickam, 2008). The phytochemical analysis was carried out using standard procedures.

The phytochemical parameters obtained from studies are useful to standardize leaf drug *Alocasia indica (*Lour.) Spach. The phytochemical studies include details of characters of leaf powder like colour, odour, taste, dry matter, bulk Density, nitrogen, water Soluble Nitrogen (WSN), crude protein, crude fat, crude fiber, total ash, acid insoluble ash, acid soluble ash, water insoluble ash, water soluble ash, calcium, reducing sugar, non-reducing sugar, total sugar, cellulose, extractive values, gross energy, phosphorous etc..

Results

Phytochemical characters of leaf powder

Table 1 Physical characters

Sr. No.	Character	Expression
1	Colour	Faint green
2	Odour	Astringent
3	Taste	Aromatic

Table 2 Qualitative phytochemical characters

Sr. No.	Character	Expression
1	Alkaloids	+
2	Anthraqinone	-
3	Iridoids	-
4	Saponins	+
5	Steroids	+
6	Tannins	+

Table 3 Quantitative phytochemical characters

Sr. No.	Character	Expression %
01	Dry Matter (DM)	16.5
02	Bulk Density	0.322 mg/cm^3
03	Nitrogen (N)	2.01
04	Water Soluble Nitrogen (WSN)	1.625
05	Crude Protein (CP)	12.56
06	Crude Fat (CFat)	11.2
07	Crude Fibre (CF)	16.55
08	Total Ash (TA)	6.85
09	Acid Insoluble Ash (AIA)	0.45
10	Acid Soluble Ash (ASA)	6.4
11	Water Insoluble Ash (WIA)	1.2
12	Water Soluble Ash (WSA)	5.65
13	Calcium (Ca)	3.624
14	Reducing Sugars	1.25
15	Non Reducing Sugars	0.457
16	Total Sugars	1.707
17	Cellulose	15.9
18	Gross Energy (GE)	4.1 Kcal/gm
19	Phosphorus (P)	0.16

Table 4 Extractive values

Sr. No	Solvent	Extractive Value
01.	Extractive value in Water	21
02.	Extractive value in Acetone	2.3
03.	Extractive value in Butanol	2.9
04.	Extractive value in Chloroform	2.1
05.	Extractive value in Diethyl Ether	3.5
06.	Extractive value in Ethyl Alcohol	8.1
07.	Extractive value in Methanol	19.3
08.	Extractive value in Petroleum Ether	1.1
09.	Extractive value in Propanol	4.7
10	Extractive value in Toluene	1.7

Discussion

All above mentioned characters were found to be diagnostic to find adulteration in the leaf drug *Alocasia indica* (Lour.) Spach. The parameters like faint green colour, astringent odour, aromatic astringent taste, presence of Alkaloids, Saponins, Steroids and Tannins give preliminary idea about authenticity of drug (Tables 1 & 2) while quantitative chemical parameters like dry matter 16.5 %, bulk density 0.322 mg/cm^3, Nitrogen 2.01 %, 1.625 % water soluble nitrogen, crude proteins 12.56 %, crude fats 11.2 %, crude fibers 16.55 %, total ash 6.85 %, acid insoluble ash 0.45 %, acid soluble ash 6.4 %, water insoluble ash 1.2 %, water soluble ash 5.65 %, Calcium 3.624 %, reducing sugar 1.25 %, non-reducing sugar 0.457 %, total sugar 1.707 %, cellulose 15.9 %, gross energy 4.1 K cal/ gm, Phosphorous 0.16 % (Table 3) together can be exploited for making certain that raw material is genuine for predicting quantum of adulteration. The extractive values in Water 18 %, Acetone 2.3 %, Butanol 2.9 %, Chloroform 2.1 %, Diethyl Ether 3.5 %, Ethyl alcohol 8.1 %, Methanol 19.3 %, Petroleum ether 1.1 %, Propanol 4.7 %, Toluene 1.7 % are conclusive parameters (Table 4).

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A GEOGRAPHICAL STUDY OF RURAL SETTLEMENT PATTERNS IN UMARGA TALUKA OF OSMANABAD DISTRICT

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Abstract:
Umarga taluka of Osmanabad district is a geographically very important taluka located in the Balaghat mountain range, i.e. situated on the border of Karnataka and Maharashtra. Rural settlements of many shapes such as triangular, rectangular, circular, square, arrow-shaped, polygonal, semi-circular can be seen in Umarga taluka. This has been studied in the said research paper.

Keyword: *geometrical shape, Patterns, environment, semi-circular.*

Introduction:

The geometrical shape or appearance that a settlement takes is called settlement layout. E.g. There are many specific shapes like linear format, rectangular format, star format etc. That particular shape of settlement is called a pattern. While studying the pattern of rural settlements in Umarga taluka, it is found that some factors have a direct and indirect effect on it. Primarily, various elements of the geographical environment as well as man-made, historical and economic factors are studied while studying the settlement patterns in accordance with the built purpose of the settlement. Settlement patterns are variable and can be seen in association with colony development, with many Rural Settlement being irregularly shaped.

Objective:

The above research essay has been prepared keeping the following objectives in mind.

1) To examine how geographical factors influence the pattern of rural settlements in Umarga Taluka.
2) To study in detail the patterns of rural settlements in Umarga Taluka.

Research Methods and Data Collection:

The information obtained for the present research work is of primary and secondary data. Survey, interview, questionnaire, observation etc. have been used to get the primary information. Usmanabad district gazette, tourism booklet, various reference books, Indian topographical maps, Google Earth and various landmarks etc. have been taken as basis. Indian Topographic Map No. 56C/13, 56C/14, 56C/10, 56C/6, 56C/5, 56B/8, /12 and 56C/9 have been used for Umarga Taluka.

Field of Study:

Umarga taluka is found in the east south direction of Osmanabad district. Umarga taluka extends from 17^{0}38'27" N to 18^{0}02'10" N latitude. So the longitude extension is 76^{0}24'30" east longitude and 76^{0}47'17" east longitude. Umarga taluka is bordered by Ausa taluka on the north, Nilanga taluka on the northeast, Basavakalyan taluka on the east and Aland taluka on the south, Lohara taluka on the west.

The area of Umarga taluka rural area is 998.63 square kilometers. Umarga taluka has an average height of 591.05 meters above sea level. Umarga taluka is known as the major watershed of Godavari river basin and Bhima river (Krishna river) basin. Umarga taluka has five revenue circles namely Umarga, Murum, Mulaj, Narangwadi, Dalimb as per the information of year 2020.

According to this revenue board, the said research essay has been studied.

Subject Description:

Primarily, various elements of the geographical environment as well as man-made, historical and economic factors are studied while studying the patterns of settlements when they correspond to the intended purpose of the settlements. Settlement patterns are variable and can be seen in relation to the development of settlements. Many settlements appear to be of irregular shape.

Geographical factors i.e. land elevation, slope, river flow, agricultural area, coastline are also seen to affect the settlement patterns. Among the economic factors, agricultural systems, animal husbandry, markets, mining, fishing is seen to affect the patterns of these settlements. At the same time, the factors such as protection, forts, coasts in the historical component, roads, canals, religious places etc. in the cultural component also have an effect on the size and patterns of rural settlements in Tuljapur and Umarga talukas.

Analysis of Rural Settlement Patterns:

In order to study the patterns of rural settlements in Umarga taluka, the directional maps of India and neighboring countries, i.e. the topographical map of the Survey of India and Google Earth, have been studied and the patterns of the rural settlements are found as follows.

Linear Pattern:

Studying the rural settlement patterns of Umarga taluka shows that many rural settlements fall into these linear type patterns. The following rural settlements can be seen in linear pattern while studying the Indian Topographic Map No. 56C/9 and 56C/10, Google Earth. Palasgaon, Gunjoti, Sangvi Bh., Nagral, Gunjotiwadi etc.

in Umarga revenue circle, Kolsur, Jagdalwadi, Narangwadi revenue circle in Mulaj, Kaddora, Kalnimbala etc. in Dalimb revenue circle, Supatgaon, Rampur, Balsur are rural settlements with linear pattern.

Circular/Spherical Pattern:

Turori, Chandkal, Hippargarao, Handral, rural settlements are found in circular pattern in Mulaj revenue circle. Kasagi is the only rural settlement found in the Umarga revenue circle. Bhuyar Chincholi in Dalimb revenue circle and Alur in Murum revenue circle are found in circular/round pattern.

Semi-circular Pattern:

Mane Gopal is a semi-circular village situated on the left bank of Benitura river in Umarga taluk. So the Ekondi Jagir settlement is also seen to be semi-circular in shape. Yeli, which is located on the national highway, can be seen to be a semi-circular layout.

Rectangular Pattern:

These rectangular derived settlements can be seen in different mandals of Umarga taluka. In Umarga revenue circle, the rural settlement of Dagad Dhanora on the right bank of river Benitura is rectangular in shape. Also, Murli, Kunthekur, Ambarnath, Tugaon, rural settlements in Murum Revenue Circle are rectangular in shape, and in Narangwadi Revenue Divisioncircle, Babalsur, Bori, Kavtha and villages are also rectangular in shape. Also, the shape of the rural settlement Dabka is also rectangular in shape and this is the only rural settlement found in the Mulaj Revenue circle.

Square Pattern:

While studying the rural settlements in Umarga taluka, the villages of Chirewadi, Matola, Nimbala in Narangwadi revenue circle have square Pattern. Whereas in Murum revenue mandal Acharya Tanda Dalimb revenue mandal Mahalingaraiwadi and Umarga revenue mandal Ekondiwadi are the only rural settlements that have got squarepattern.

Polygon Pattern:

While studying the Google Earth website of rural settlements of Umarga taluka, the pattern of rural settlements like Madaj, Samudral in Narangwadi revenue mandal and Sangvi Bhikar in Umarga revenue circle appears to be polygonal in shape.

Triangular Pattern:

Triangular pattern can be seen in various revenue circle of Umarga taluka, including Ashta Jahangir, Malgiwadi, Guruwadi, Talmod, Kadamapur, Trikoli and Umarga revenue circle in Mulaj revenue circle, Kasagi, Kader and Dalimb in Umarga revenue circle, Jakekurwadi and Dalimb in Narangwadi revenue circleand Kaldev Nimbala in Narangwadi revenue circle. According to the existing geographical structure, a triangular shape or shape has been obtained.

Arrow Pattern:

The only settlement in Umarga taluka which has seen arrow-shaped pattern is Korala, a rural settlement in Dalimb revenue circle.

Star Pattern:

Chincholi Jahangir and Gugalgaon rural settlements in Umarga taluka are similar to a star pattern. settlement of this format (size) are not found in other revenuecircle.

Special shape Pattern:

In Umarga taluka, the rural settlements of Diggi, Kunhali have got a U-shaped layout. Where as Davalmalikwadi a rural settlement can be seen to have a T-shaped layout.

Amorphous Pattern:

While studying the patterns of rural settlements in Umarga taluka, while studying the landmarks of Indian Topographic Map and Google Earth, the patterns of rural settlements of Bedga, Kolsur, Narangwadi, Jakekur, Aurad, Sundarwadi, Koregaon, Karali, Bhusani, Ekurga, Wagdari, Kesarjawalga are are formless.

These settlements have not acquired any clear shape. Hence these colonies can be called amorphous derived settlement.

Conclusion:

As Umarga taluka is located in the plateau region above the Balaghat hill range, while studying the rural settlement patterns in Umarga taluka, it is found that some geo-cultural factors have a direct and indirect effect on it. The pattern of settlement is variable and settlements are seen in relation to development and many rural settlements are irregularly shaped.

Prof. Dr. Satish D. Gavit

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OPEN SOURCE SOFTWARE FOR LIBRARY MANAGEMENT : AN OVERVIEW

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Abstract:
In today's modern age. it has became very difficult to get an accurate library material in shortest period of time. But in the age of computerization the use of software in the library has increase, which has led to accuracy and speed in the work. But it is difficult for private libraries because of financial trouble. This research paper is designed for open source selection. There is a lots of software in the market but this research paper discusses exact software that is perfect for your library.

Keywords : *Open source software, Management, Library, Library Management, Koha, Cloud etc.*

Introduction :

At the Ancient period the library was only available in the royal palaces. It was not reached for the general public. In the age of computerization new discoveries seems to have changed the nature of libraries. The number of books in library is increasing rapidly innovative schemes are being implemented in the library to the readers. The use of various software in the library has increased to provide reader with accurate information in less time. But most of the software's are expensive, small libraries are having trouble for purchasing it. As a solution to this, the use of open source software in libraries began to increase. The term open source was coined by a group to describe a computer system, which was in direct opposite to independent system organization and ethical thinking behind it. They wanted an alternative name for their free commercial use of the computer system. The group consisted of Christion Peterson, Tod Anderson, Lari Ogastin, John Hall. etc. At a meeting in Palo Alto Peterson suggested the name of open source for this source in 1998. Nets Cape provided the source of its Navigator browser system. License Torvaldsne approved it in the next day and supported time in the phil lyrics general Series. Harge formal organizations such as appache emerged to support open sources. It was helped to develop community open source such as Appache framework and Appache HT Server.

Open Source :

Open source is an Ideology. If the resources of the computer system are free to be shared and modified freely it is called open source system. The open source principle is that the computer software, computer structure and documents are allowed to be used freely by anyone.

Library Management :

The library is a science of management. The library is managed to find books or sources of information in timely and proper manner. A library is not just collection of books. It is important to manage the collected books. Due to the systematic arrangement of the library, the readers con get the book immediately, so the library management and readers time is not wasted in finding book. Good management leads to better preservation and conservation of the library books, books are not destroyed. If the management is knowledgeable, the library collects high quality books, so reader can get high quality books. Books lists, computers systems and other modern

facilities can be made available to the readers due to good management. The library can be expanded by adopting number of ways such as books exhibition, advertising the library etc. It is an important to have a good library management.

Different types of library management system :

Today the library management system is deeply entrenched .There are a wide range of library management system option in the market. Some library management systems have been working their system for years. The different types of library management system are as follows :

1. Premium
2. Shareware
3. Cloud
4. Freemium
5. Open source

1. **Premium :**
   In this case the library management system is designed with excellent features. However due to the high cost factor, it is difficult to say whether many libraries of organizations will be able to afford commercial products.
2. **Shareware :**
   This system can be used in the library for limited period of time. But if the systems feel right and you have to pay for the continuation. It is a difficult for the libraries with low budgets to get this system.
3. **Cloud :**Cloud software can be used without the permission of the library. But this system controlled by third party and such parties demand cost.
4. **Free premium :**
   In this case, the software version allows users to test the software for a period of time at zero cost. The free trial period can range from a few weeks to few months.
5. **open Source :**
   The code that is available for people to use, copy, modify and distribute is called on open source library management software system. The main advantage of open source library management software is that it can be obtained and downloaded freely. It can be free for unlimited time or some may come with limitations.

Library Management Open Source Softwares :

Library management open source softwares are bellows :

1. Koha
2. Evergreen
3. Bibliotech
4. Opals
5. Openbiblio
6. Invenio
7. PMB
8. Newgenlib
9. etc.

A. Koha :

Koha is one of the most advanced free and open library management system introduced in 1999. Today it is used thousand of libraries around the world. This software is known for its excellent features. It is very useful software for all types of libraries.

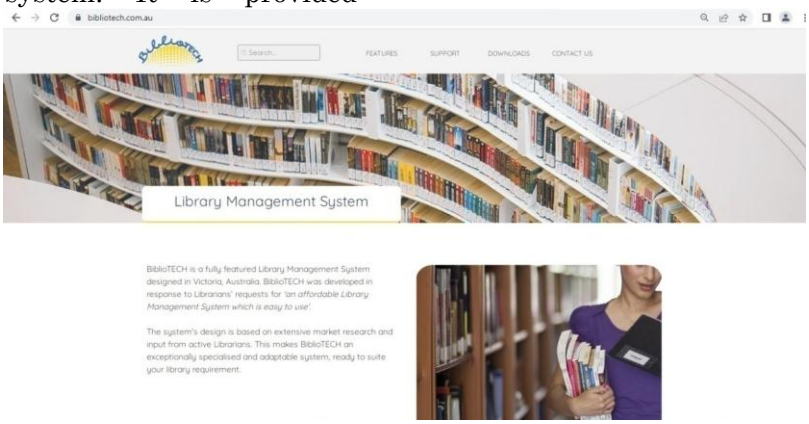
B. Evergreen :

The software was first developed by Georgia public library system in 2006. It is an open source and free management software used by 2000 libraries around the world. This software is widely used.

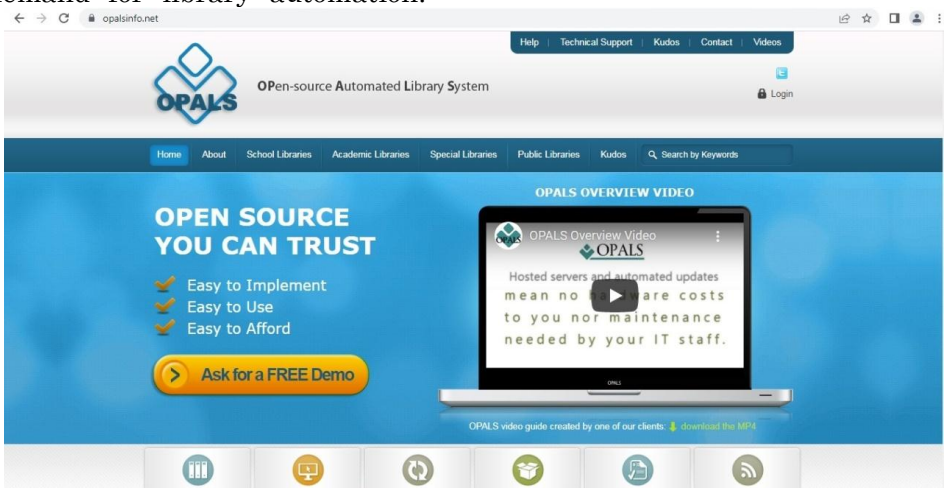
Evergreen is one of the best standardized library management software.

C. Bibliotech :

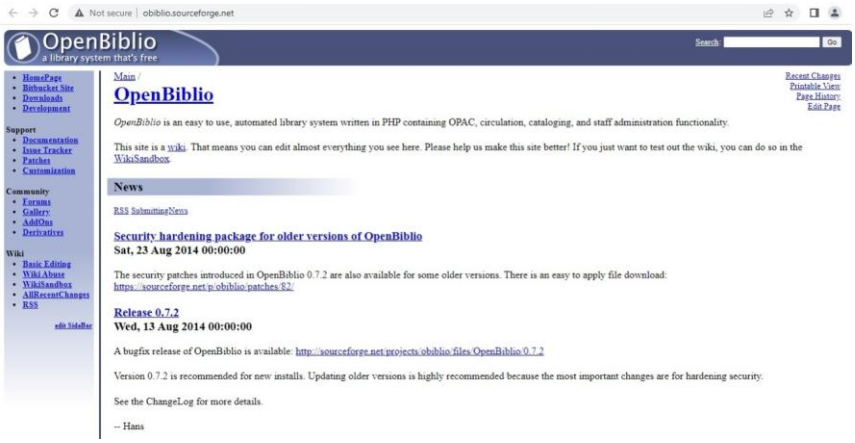
It is a free and open source library software. Many small and large libraries have adopted a profession library management system. It is provided various facilities such as cataloguing for books, magazines, journals, videos etc. This system can be powerful tools for all types of libraries.



D. Opals : Today's modern age due to the good features of this system has the highest demand for library automation. This is very easy to apply and use in the library.

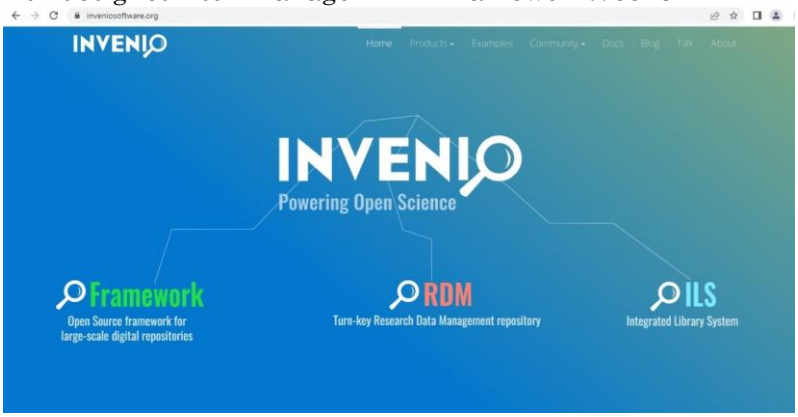


E. Openbiblio: This library automation system is very easy to use. It is available in open tools and open source technology.



F. Invenio :

This is one of the most secure, free and scale base open automation software. This software is designed to manage millions of records. This software is most flexible, cable of handling many types of records with a modern framework.7654321



G. PMB :

PMB is another free library management system. The Software is currently used near about 2000 libraries. The PMB 4.2 version was a huge success. It is very use simple software to support for modern interface. The system is being updated as per requirement of the time. The system also includes a document management tool.

H. Newgenlib :

The system has been developed with users at the center. This is an ideal system for a small or large library. The system is very efficient and very easy to mange. This software complies with international standards

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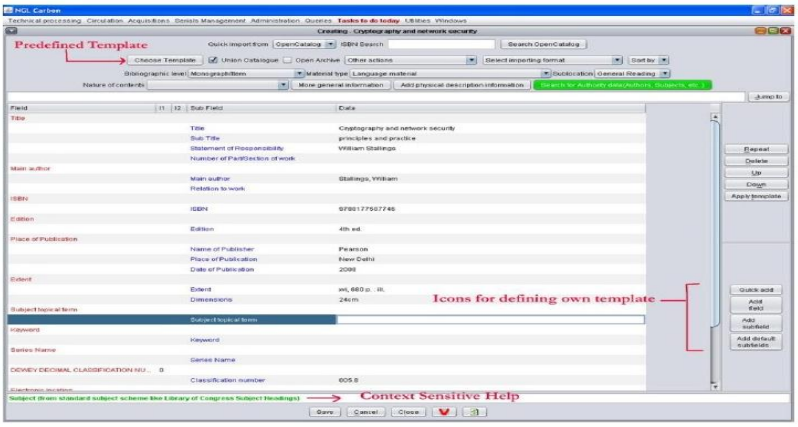

Comparison of these software :

S.NO	SOFTWARE NAME	RELEASE DATE	WRITTEN IN	COST	OPEN SOURCE	FEATURES						
						Cataloging	*Circulation*	*Reporting*	*Digital Asset mgnt*	*OPAC*	*Acquisitions*	*Serial Mgmnt*
1	KOHA	Initial release: Jan 2000	Perl	FREE	YES	YES	YES	YES	NO	YES (advanced)	YES	YES
2	EVERGREEN	Initial release: Sep 2006	C, Perl, XUL, JS	FREE	YES	YES	YES	YES	YES	YES	YES	YES
3	BIBLIOTEQ	Initial release: 2007	PostgreSQL, SQLite	FREE	YES	YES	YES	YES	NO	NO	NO	YES
4	OPENBIBLIO	Initial release: 2002	PHP	FREE	YES	YES	YES	YES	YES	YES	NO	NO
5	INVENIO	Stable release: June 2018	Python, JavaScript	FREE	YES	YES	YES	YES	YES	YES	YES	YES
6	PMP	Initial release: Oct 2003	PHP	FREE	YES	YES	YES	YES	YES	YES	YES	YES
7	OPALS	Initial release: 2002	Perl, Java	FREE	YES	YES	YES	YES	YES	YES	NO	NO
8	NEWGENLIB	Initial release: Mar 2005	Java	FREE	YES	YES	YES	YES	NO	YES	YES	YES

Advantage of library management software :

Today, in the age of computerization various types of software are used in all libraries. This simplifies the management process of the entire library.

1. To automate the functioning of the library.
2. To reduce the cost of library for Information sharing.
3. To Create Database
4. To minimize mistakes.
5. To control and eliminate inconsistencies. etc.

Advantage of open source software :

1. To reduce the cost of software.
2. The cost of online software is low while the offline high.
3. Low hardware costs.
4. Being an online server you can use this software at minimum cost.
5. No maintenance costs.
6. Offline software is expensive to purchase for the first time. It has to pay annual maintenance charge (AMC) every year. This type is online software it's free.

Limitations on the use of open source software :

1. Lack of personal support
2. Less options
3. Planning in not guaranteed

Conclusion :

Considering the use of this open source software there are a large number of software available in the market today. But most of the software is private and lot of costs .Due to this financial difficulty of this library and updating of the library take time. So the doors of open source software for libraries are open.

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AN UNTOLD STORY OF INDIAN WOMEN COSTUMES - DRAPE TO PRE STITCHED SAREE

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Abstract *–*
Any country is identified by its geographical location, population, political system, ethnicity and cultural environment. Along with all these elements of identity, India is particularly known for its cultural identity on the world stage. In cultural identity, especially the costumes here have a different identity of their own.Most of the people in costume take pride in linking the saree with the Indian culture. Saree is a very special garment associated with Indian culture. In Asian countries like Sri Lanka, Nepal, Bangladesh and Pakistan, including India, there is a practice of wearing sari by women. The popularity of sarees has increased so much today that even big fashion designers are organizing saree special modeling events abroad.

Keywords *- India traditional attire, saree, Drape garment, weaving cloth, unstitched garment*

Introduction

Saree is the main garment of Indian women costume. Whether it is to be decorated on Karva Chauth, Teej or any other cultural festival, then without a sari, the makeup of women is not complete. It is a piece of unstitched cloth about 5 to 6 yards long, which is worn by draping over a blouse or choli and shadow. By wearing a sari, every girl is seen as a complete woman, in which respect for culture, devotion to duty and culture is reflected. Saree is mostly worn by women in marriages, pujas and other functions. Wearing a sari brings out a different look of every woman.If we look at the history of the saree, it is mentioned in the Vedas. The first mention of the word Sari is found in Yajurveda. At the same time, according to the code of Rigveda, it has been said that the wife has to wear a sari at the time of Yagya or Havan. Gradually it became a part of Indian tradition and even today the saree is India's own identity.From mythological times, this garment, showing respect for women, was so long that it was easily considered enough to completely cover the body of women and protect them. The history of sarees is very old and memorable. Since ancient times, sari has been considered a part of Indian women's makeup and wearing sari on many special occasions is also considered auspicious. Saree is not only the dress of Indian women but also a symbol of Indian culture for them. The art of tying a saree is called draping. You must have seen women tying a saree in only one way, whereas there are more than 100 ways to tie a saree. The method of tying a saree generally adopted by women is called Nivi Drape. Saree is one such garment which does not require any kind of cutting and stitching. It is simply tied in different draping styles.

Origin of Saree

Some historians believe that the art of weaving cloth came to India from the Mesopotamian civilization during 2800-1800 BC. Although the contemporary Indus Valley Civilization was familiar with cotton fabrics and used nappies as textiles, some cotton remains have been found from Sindh during archaeological surveys, but the evidence of the art of weaving has not been found so far. When the Aryans arrived in India after 1500 BC, it was for the first time that they used the word cloth, which meant a piece of leather wearable for

them (2). Over time, this style of wearing a length of cloth around the waist, especially for women, and the cloth itself came to be known as nivi. Therefore, we can say that the simple nappy-like cloth worn by the women of the Indus Valley Civilization was an early precursor to the many luxurious saris of India (3). After that, there has been a change in the way of wearing sarees from Maurya to Sunga and then from Mughal period to British period, such as in Maurya and Sunga period, rectangular sari cloth was used which covered only the lower part of the body of women. was covering After that gradually the length of the garment increased; And then a revolutionary change took place in the Mughal period, such as the art of sewing this garment was perfected.(5).

Literary Evidence of Saree

This Indian dress (saree), prevalent from the mythological period to the present day, has survived various changes. This Indian dress, the longest, has been considered a symbol of self-defense of a woman since the time of the mythological text Mahabharata.In the Mahabharata period, when Duryodhana tried to rip off Draupadi in a gathering, Lord Krishna himself saved the honor of Draupadi's identity by making Draupadi's sari too long. Since that time, the sari has been considered a symbol of respect and protection of the woman. Some great man spent the agony of misery in Chir Haran in this way.According to Sanskrit, the literal meaning of sari is 'strip of cloth'. In the Buddhist literature called Jataka, women's clothing of ancient India has been described with the word 'Satika'. The development of the choli is derived from the ancient word 'stanapatta' which was used to refer to the female body (4).According to Rajatarangini composed by Kalhana, the choli was prevalent in the Deccan under the royal order of Kashmir. The Kadambari by Banabhatta and the ancient Tamil poem Silappadhikaram also describe women wearing saris.

Variety of Sarees and Wearing Methods

There are many ways of wearing a saree depending on the geographical location and traditional values and interests. Kanjeevaram sarees, Banarasi sarees, Patola sarees and Hakoba sarees are prominent among the different styles of sarees. Chanderi, Maheshwari, Madhubani printing of Madhya Pradesh, Coral silk of Assam, Bomkai of Orissa, Bandhej of Rajasthan, Gathoda, Patola of Gujarat, Tassar of Bihar, Katha, Chhattisgarhi Kosa silk, Silk sarees of Delhi, Jharkhandi Kosa silk, of Maharashtra Paithani, Kanjeevaram of Tamil Nadu, Banarasi sarees, Tanchi, Jamdani, Jamvar of Uttar Pradesh and Baluchari and Kantha Tangal of West Bengal are the famous sarees.This garment, worn in different ways in different states of India, presents a wonderful specimen of the traditional dress of India. According to the traditions prevailing in different parts of the country, the standard of living and the geographical location there, the sarees there also differ.

Let us know about the history of the saree, the way it is worn in different states and its manufacture.

Tamil Nadu-

South Indian sarees are famous for the heavy quality of their silks . At one time sarees were sold by weight . Though these are woven all over the state. the surces made in Kanjeevaram and Kalakshetra need a special mention . These sarees are woven in a small temple town of Kanchipuram near Mahabalipuram . These sarees are known over the world for exquisite quality of their silks , Kanjeevaram sarees luxus extures and the contrasting borders . Since the color borders and the pallus are different from the fields , these are usually woven separately and the interlocked together through weaving . It takes about 10-12 days to weave an ordinary sarce while 20 days may be taken to weave a little heavier sarees. The sarees may have overall patterns in gold and silver , woven with jacquard loom or dobby woven gold and silver border Very intricate designs of birds , human and animal figures may be woven . Other common motifs are sun , moon , peacocks , chariots , swans , lions , parrots , coins , mango , jasmine and

trellised leaves . Most of the times, these sarees have a distinctly woven temple design in its pallus. The colors used are very bright contrasts in red , maroon , blue , yellow , green , pink , purple , white and off white colors shot effect in the field may be produced by changing the color of the weft . These sarces have a great export market as well . Kalakshetra sarees : Kalakshetra sarees are similar to the Kanjeevaram sarees but these are made in silk as well as cotton. The saree have wide variation borders , ranging from 4 to half a yard , essentially , the sarees were made only in silk for making bharatnatayam dresses . The designs may be made in gold , silver or using cotton or silk yarns . The colors used are same as in Kanjeevaram sarees. However, these sarees may even have horizontal or vertical lines or checks in the field. Several other places in Tamil Nadu are also famous for making handloom sarees , the outstanding being Salem , Armi and Karaikuddi Sarees with contrasting borders are woven in all these places the difference being in count of yarns used and the fabric count.


(Kanjeevaram & Kalastera saree)

Maharashtra- Paithani is the wedding saree used by certain communities of Maharashtra. The saree is woven in Paithan village near Aurangabad . It has a zari warp with different colors of weft which give a shot effect. Highly stylized designs and motifs inspired from mughal paintings are woven in the borders and elaborate the pallu of the saree . Peacocks , flower vases , swans parrots etc. are made in the pallu which are outlined with rosettes. The whole of the pallu is made in gold tissue with these designs . The borders have stylized trellised designs or repeats of the same motifs as the ones used in pallu . The border and the pallu may be woven separately and attached to the saree later . Since the designs are very elaborate and difficult to weave the graphs of these are kept underneath the yarns while weaving saree. The process being laborious it takes 2-3 months to make a saree. The background of the saree is made in magenta , yellow , blue and turquoise while the borders may have magenta , pink , turquoise , sea green back ground with designs made in Indian pink , blue , orange , green etc.


(Paithani saree)

Madhya Pradesh-

Chanderi is the most famous saree of Madhya Pardesh, woven in Chanderi, very near to Gwalior. The saree is woven on a pit loom. Its outstanding feature is the gauze like texture. Though made in cotton, the saree is transparent and gives the look of organza sarees.

Very fine cotton threads are used to weave the saree . The pallu of the saree had simple lines but now panels of Kalka motifs can be seen in this . Use of gold and silver threads is also made for designing. The border was demarked by contrasting colors and might have had lines of zari .

The field usually has gold coin (madellion) motif known as asharafi . Colors used are bright yellow and green , yellow and red , sea green and red etc ... but now all types of colors are being used . Sometimes the warp is in cotton and the weft is in silk . It is known as Garabhrashmi. Yardage fabrics are also woven. Maheshwarl - This is another famous saree of Madhya Pradesh that is woven is Maheshwar , situated on the banks of river Narmada . It is made in cotton and is marked by the reversible border .

It can be worn from either side. It has a distinct pallu - 5 stripes, three colored and two white alternatively running along the width. Each of the white stripes has four lines of the black / contrasting color inserted into it .

The body is plain, striped or may have medallion motifs. Different type of Maheshwari sarees are;

1. Chanderkala- The plain sarees are called chanderkala .
2. Baingani- are the ones having blackish violet warp and chocolate weft .
3. Chandtare - sarees have lengthwise stripes in two colors.
4. Parbi - Checquard pattern.

(Chanderi & Maheshwari saree)

Karnataka –

Irkal is a famous saree of Karnataka . It originated in village Irkal. These saree purely made in cotton or may have cotton in the warp and silk weft . These days rayon and polyester are also being used.

The sarees have contrasting borders and pallus . The border supports two or three rows of zari motifs- rudraksh being the most popular motif . Dobby weave is used for making the borders. The saree has mainly three types -

Shot - warps in black and weft in some other color to give a shot effect. Rasta - The field of the saree has straight lines symbolizing a path way. Chokta - Small squares about 1/ 2 " x 1/2 " are woven in the field of the saree .

The contrasts in the saree are stark such as red and blue , yellow and blue ; red and green and red and yellow etc usually worn with khan blouse having dobby designs

.

(Irkal saree)

Bengal- Jamdhani is the famous Dacca saree of Bengal, which is made in tapestry weave. The base fabric is fine muslin on which designs are made in specific areas with the help of small shuttles fitted with colored or gold / silver extra weft slightly thicker then the warp and the weft . This gives a slightly raised effect to the design. Designs are floral in nature with the borders made up of trellised bells. Field is filled with butties which may be repeated in the pallu. Jamdhani sarees are given different names according to the placement of designs mainly Buttidar - floral sprays scattered all over the surface Beldar - having trellised design ; floral motifs form a regular network ; Jamavar - overall , elaborate pattern . Initially , the sarees were made on a white off white or grey , light blue and fawn backgrounds with blue , red , maroon , multicoloured designs . Now many types of colors are used but red and green remain the favourite. The sarees are heavily priced. These days apart from West Bengal, Jamdhani are also woven in Tanda in UP. Baluchar saree -it named after the village Baluchar in Murishidabad district of West Bengal These sarees are well known for their outstanding pallus . The field of the saree has a plain weave. The borders and pallus are made by using extra weft yarns . The field may have butties. The background colors may be dark and rich - maroon or red , purple or chocolate brown , the only exception being off white . Designs on these are made using golden yellow or silver white silk which gives the effect of a golden or silver zari thread . However, zari threads are never used for balucharies. The most outstanding feature of the saree is its 2^1 - 3 wide pallu, which has a paneled design. The pallu is subdivided into rectangles, one inside the other.

(Baluchari saree)

Banarasi saree - The beautiful silk saree prepared by weaving in Banaras silk sarees by mixing zari designs with weaving is called Banarasi silk saree. This traditional work has been going on for centuries and is world famous. Once pure gold zari was used in it, but in view of the rising price, the work of fake shiny zari is also in full swing. Many types of samples are made in these. These are called 'motifs'. Many types of motifs have been practiced, but some of the major traditional motifs which are still maintaining their Banarasi identity, such as Buti, Buta, Koniya, Bel, Jal and Jangala, Jhalar etc.Banaras is the main center of Banarasi sarees. Banarasi sarees are also made in Mubarakpur, Mau, Khairabad. It can be assumed that this textile art came to India only with the arrival of the Mughal emperors. This art was used for making Patka, Sherwani, Turban, Safa, Dupatta, Bed-sheet, Masand etc. Since sarees were more prevalent in India, different types of designs were put in the sarees such as Bel, Booti, Aanchal and Koniya etc. by handloom artisans from Iran, Iraq, Bukhara Sharif etc. In those days silk and zari threads were used. Cotton was used in the warp and weft in the weft, as a result of which the cloth became very soft and fuzzy. In the past, saris were made from the map, the net. After that Dabi

and Jaccard were used, which can be considered as a departure from tradition and now it can be considered as developed in the form of power-loom. Most of the artisans who make Banarasi sarees are Muslim-Ansari. Poet Kabir was also a weaver. The buyers of this saree are Gujaratis, Marwaris, Rajputs and people from responsible families. Banarasi sarees were used since ancient times especially by brides and newly married women in marriage ceremonies and this tradition continues till date. In 2017, The Banarasi saree was worn by Bollywood actress Anushka Sharma at her wedding reception


(Banaras saree)

Gujarat -Patola of Gujarat Patola is the most renowned of the sarees made in this technique. Patan village in Gujarat was well known for weaving Patolas though only a few weavers families now practice this , craft . It was customary for well off Gujaraties to present a Patola saree in their daughter's trousseau. But now a days these sarees have become extremely expansive and are rare to come by. Patola are made using silk weft and warp. The weaving of patola saree is very slow and labourious taking 4 to 6months to weave one saree. It also increase the cost of the saree

.


(Patola saree)

Ikkats of Orissa - The sarees made in Orissa by using resist dyed yarn are known as ikkats. These are made both in cotton as well as silk . The main motifs used in ikkat include deer , fish , elephant temple top , conch shell , ducks , and petalled flower. The use of zari threads is not made in ikkat at all The colors used are red maroon yellow green white black and purple. These sarees usually have contrasting borders The most popular design placement and color combination is red border attached to an off white (tussar) saree having a plain field Though woven all over Orissa , Cuttack , Pun , Balasore and Sambalpur are especially well known for ikkat saree.


(Ikkats saree)

Andhra Pradesh- Yarn dyed resist is also produced in village Pochampalli near Hyderabad. The quality of of the work produced and colour combination used in this make it quiet from the ikat and the patola. Though the motives used here include diamonds and several other geometrical shapes , these can be easily distinguished from ikkat because of their large and elongated sizes. The colors used in Pochampalli sarees are very bright - yellow , purple , royal blue , magenta , red, green, black and white Pochampallis are woven both in silk and cotton. In silk , these have rows of dobby woven with zari in the border while the pallu may have several rows of plain woven zari Cotton sarees may have border designs outlined with rows of threads woven in plain weave.


(Pochampalli saree)

Rajasthan - Rajasthan is the largest producer of silk, kota, cotton, woolen cloth sarees in India. That's why Kota sarees are made the most here. You will easily find many types of Kota sarees in the markets of Rajasthan. But it would be better if you buy only sarees made of Kota cotton. You can try a variety of designer sarees in Kota Cotton. Let us tell you that Kota cotton cloth is a bit light and shiny. You will feel light after wearing it.Lahariya & Bandhani sarees are also very popular in Rajasthan, but in these traditional sarees, sarees with Lahariya print are also very much liked by women. Especially during the Teej festival season, all women like to wear Lahariya and bandhani Saree. That's why this saree is found in almost every woman's wardrobe. The best part is that the fashion of these both sarees is never out-dated.

Power Dress - sometimes,Saree is not only drape garment for anyone. It is also superlative ultimate powerful dress for women in politics in India . It is dress code and Symbol for political women leaders. From Indira Gandhi the First female prime minister, West Bengal Chief Minister Mamata Banerjee, Jayalalitha former Chief Minister of Tamil Nadu, India's Minister of Women and Child Development, Smriti Irani's etc everyone's favourite outfit is saree. Later there choices are tuned into current fashion conversations.

Revolution of Indian saree draping style;

Saree is such an outfit, which is worn in almost all the states of our country and the way of wearing saree is different in every state. This is the reason why you can get different looks by wearing a saree in many ways. Nowadays many new trends of wearing saree are in fashion.

1. **Pant Style**: This style of saree is very much liked by girls. In this style too, you

can use jeans, shorts, cigarette pants or jeggings instead of petticoats. To wear it, hold the corner of the sari and tuck it into pleats. Put a pin afterwards. In this style, vertical plates of the pallu have to be made. This type of draping of saree not only gives you a modern look, but you also feel quite comfortable in it. Bollywoood actress Rekha is seen in a pant style saree at Sonam Kapoor's reception


(Pant style saree)

2. **Cut Shoulder Draping**: This style of saree gives a very elegant look. If you want to go to a party then you can carry this style. For this, first tie the saree in a simple way. Then bring the pallu from behind and take it directly on the shoulder. After this set the pallu with the help of a Saree is one such garment which does not require any kind of cutting and stitching. It is simply tied in different draping styles.big belt. This style gives a very beautiful look. Actress Kareena Kapoor & Shilpa Shetty is seen in a cut shoulder style saree at Kapil Sharma show

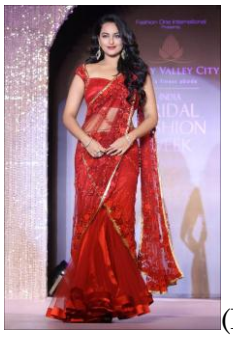

(Cut shoulder draping saree)

3. **Bengali style**: To wear a Bengali sari, first tuck one edge of the sari on the right side. Then make big pleats and set them well. Now make pleats of pallu and pin up the pallu on the left shoulder. Then bring the corner of the pallu forward and pin it on the right shoulder. You can wear a Bengali saree in many ways, such as instead of pinning the pallu on the right shoulder, leave it like this. Actress Jacqueline Fernandez is seen in a Bengali saree in Genda, Phool Song.


(Bengali style saree)

4. **Lehenga style saree** : To wear this lehenga saree, first tuck one edge of the saree on the right side. Then make pleats of the sari around the waist, so that the sari looks like lehenga. Now make pleats of pallu and pin up the pallu on the left shoulder. Actress Sonakshi Sinha draped a lehenga style saree in Dabangg movie

5. .

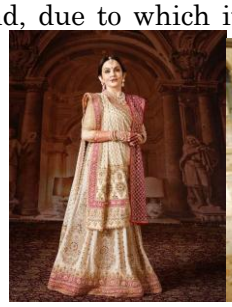


(Lehenga style Saree)

6. **Bollywood Style** - If you want to wear Bollywood style saree, do not keep the pleats of the saree too wide. You will also look stylish in thin pleats and this will also make your figure high light. Yes, women with heavy body should not wear Bollywood style saree. Actress and model Mouni Roy and other Bollywood actresses have been seen many times in saree style.



(Bollywood style Saree)

7. Rajasthani Style – Rajasthani saree is mostly heavy and more net. It is like a Gujarati saree by the way. The pallu of a Rajasthani style saree is taken straight towards the hand, due to which it is also called straight palla saree. Nita Ambani mostly wears Rajasthan style saris. Even in the TV serial Yeh Rishta Kya Kehlata Hai, all actresss like Hina Khan,Lataa Saberwal wear Rajasthan style saris.



(Rajasthani style saree)

8. Fish Cut Style – Fish Cut Style Saree is mostly for those who are thin. Her figure is perfect fit and slim in this saree which looks very attractive. This style saree is thin at the top and spread slightly from the bottom. It is very easy to wear this saree is mostly worn in the party. First this Style Brahmachari Movie 1968, Song Aaj Kal Tere Mere Pyaar Ke Charchain was worn and seen by actress Mumtaz. Secondly Priyanka Chopra has worn this sari style in Teri meri kahani, apart from this, this style has been shown from Naagin movie to TV Seral
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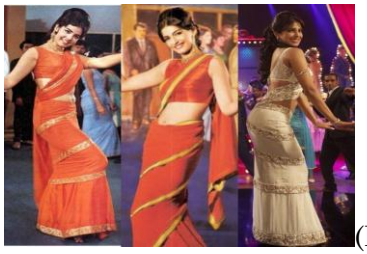
(Fish cut style saree)

10. Dhoti style -To drape a dhoti style saree, wear tights or leggings instead of a petticoat. Now hold the saree from behind and leave 2 meters on your left and the rest on your right. Make the left pin over the right, overlapping both ends in the center. Then bring the right side of the saree from behind and make pleats from the pallu. Now place the pallu on your left shoulder and secure it with a pin and then take the plates towards your waist and pin it in the middle. Take the remaining 2 meters of fabric from inside the loop. Then make plates using the ends and release them back after securing them with a safety pin. Grab these plates and bring them between your legs and tuck the plates back in the middle. Then make pleats using the remaining fabric in the front and tuck them into the center front. You will look very stylish in this saree giving a modern look.prinyka chopra & Deepika Padukone wore dhoti style sari in Bajirao Mastani movie song "pinga" and sonam kapoor wore dhoti style sari in award function.


(Dhoti style saree)

11. Front Pallu Style This is the Gujarati style of wrapping your saree. Here instead of wearing the pallu from front to back, bring it on your right shoulder from back to front. This is a very ethnic way to wear your saree. You can wear your saree in this style in traditional events. From Indian politician Smriti Irani, Nita Ambani to Actress Aishwarya Rai, many big celebrities were seen in a front pallu style saree.


(Front pallu style saree)

Times of Pre stitched saree

It also known as ready to wear saree. It was started by Indian famous designer Anamika Khanna in the 2000s, she had many foreign customers who had a lot of interest towards Indian clothes and they loved wearing sarees very much but they found it difficult to tie sarees, hence people's problems the designers made pre-stitched sari styles to solve.

Advantages of Pre stitched saree

1. This saree is not worn traditionally. This saree comes ready in the form of a skirt. The plates also come pre-stitched. It is very easy to wear this saree. You just have to set the pallet according to your

choice. There is also a time saving, women are feeling very comfortable in wearing this saree. Till now the most time taken to set the plates and pallas was the wearing of any traditional saree. Both these problems are solved by this ready-to-wear.

2. Saree comes in many fabrics This saree is more preferred in fabrics like georgette, chiffon and satin. The price is decided according to the design and fabric.
3. Boutique also prepares, Some women even get their ready-to-wear sarees ready from the boutique. Buying clothes of her choice, giving designs and getting them ready by the designer. In this way, the saree is prepared at a lower price than the market.
4. There are many benefits of this saree, it is very less comfortable for those women who do not know how to tie or drape the saree properly.
5. This saree is very useful for all those women whose culture or surrounding saree is not worn much.
6. By wearing this type of saree, today's young girls keep themselves attached to Indian culture and traditions.

Disadvantage - This type of disadvantage is that once it is stitched in the style, then you will not be able to open it and tie it in any other saree style .

Conclusion –

Saree, Indian traditional dress that is now famous around the globe with the advent of the latest breed of fashion designers, bollywood celebrities, movies , music , Internet and textile world. It is sign of Indian heritage, this garment is being liked by women since ancient times. Saree is considered a symbol of simplicity, respect and coolness of Indian woman. Changes in fashion keep happening but saree is one such garment in India which is best for every season, every occasion. There are varied changes in the design and style of sarees but the craze of wearing sarees among women has not diminished. You can adopt a stylish and fashionable look in saree. Saree gives competition to the fashion of the world. Even after being in the oldest outfit, the trades of sarees undergo changes from time to time. Nowadays people carry sarees with a modern touch. Whether there is a puja recitation at home or a party in the office, a wedding occasion or a meeting, women everywhere can wear the saree according to the occasion and get the most effective look.Even though gowns, skirts and lehengas are increasing the pride of parties today, it cannot be ignored that the saree is a very special garment. Women wearing it in the party are more noticed. The special moments associated with them are also remembered by the people for a long time.

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PROSPECTS AND CHALLENGES IN THE IMPLEMENTATION OF NEP - 2020

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Abstract:
For the sustainable development of India, it is imperative to provide quality and modern education to all to lead the world in the areas of economic development, social justice and equality, scientific progress, national integration, and preservation of Indian culture. To provide good quality education opportunities to all the future of our country depends on its capacity. Goal 4 (SDG4) of the Sustainable Development Action Plan (SDG4) adopted by India in 2015 includes the 'Global Education Development Action Plan', aimed at "ensuring inclusive and equal quality education for all and promoting sustainable learning opportunities for all" by 2030. Is about to do. To achieve this, the entire education system is essential needs to be redesigned. Only then can all the important goals and objectives of the Sustainable Development Action Program 2030 be achieved. The National Education Strategy 2020 is the first such education policy of the 21st century that can easily address important developmental issues in the country. The stated objective of this policy is to create a quality and practical education system that will make India a global knowledge superpower.

Keywords : *The structure of school education, new formula, New Teaching Method, Language, vocational education, and child psychology, Interdisciplinary education, Rules regarding examination, new progress book for students, what does it take to become a teacher? Ph.D. rule, A single governing body, Charges / fees by the government.*

Introduction:

Former ISRO chief K. A committee chaired by Kasturirangan has drafted a 'New Education Policy 2020' and announced it in India. Earlier in India, first National Education Policy in 1968, Second National Policy in 1986, then formation of 'National Education Policy Action Plan' committee under the chairmanship of Acharya Ramamurthy in 1992, 86th Amendment in 2002, then Right to Education Act in 2009. Attempts have been made to bring about various changes and innovations in this education policy. But in the true sense of the word, after 34 years, an innovative and modern 'New Education Policy 2020' has been announced in the country. Under the new Education Policy 2020, radical changes have been made in the structure of school and higher education. Education courses have been taken out of the framework of different disciplines and made interdisciplinary and coordinated. This simply means that higher education can now be completed by taking both engineering and music subjects at the same time. According to the new education policy, scientific approach will be developed in school children and importance has been given to impart necessary skills for the 21st century.

The Plan & Procedure of New Education Policy-2020:

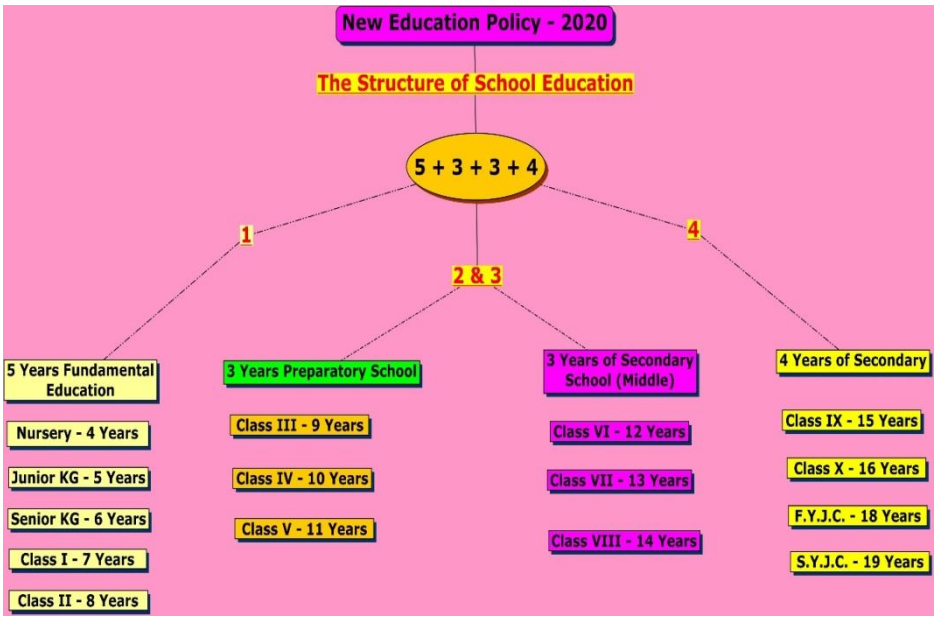
Under the New Education Policy 2020, radical changes have been made in the structure of school and higher education. Education courses have been taken out of the framework of different disciplines and made interdisciplinary and co-ordinated. This simply means that now, one can complete higher education by pursuing both engineering and music at the same time. According to the new education policy, scientific approach will be developed among the school students

and importance has been given to imparting essential skills for the 21st century.

New Structure of School Education, New Formula:

According to the provisions of this policy, students in the age group of 3 to 14 years have come under the ambit of Right to Education Act. Earlier this age group was 6 to 14 years.

The structure of school education will now be 5 + 3 + 3 + 4.



How will education be delivered?

According to the above new formula of education, you must have noticed that Anganwadi has now been added to primary education. Education in the age group 3 to 8 will be considered as basic education and child friendly education and curriculum will be developed for it. Anganwadi schools will be linked with pre-primary classes. Efforts will be made to link pre-primary schools with primary schools wherever possible. Where existing Anganwadis and pre-primary schools fail to implement the new curriculum, new independent pre-primary schools will be set up with all facilities and necessary facilities for intellectual, mental, and physical development of the child between the ages of 3 and 6 along with education. For children aged 3 to 8, learning will be done through activities, games, and flexibility. Efforts will be made to impart basic literacy and numeracy in children till the completion of pre-primary education.

Language Preference: -

Three language system of education will be introduced after class VI. In which local language will be preferred. In regions where Hindi is not spoken, Hindi language education will be given preference, while in Hindi speaking regions, any other recognized Indian language will be given preference. Now students up to class V will be taught only mother tongue, local language, and national language. Remaining subject though it is English will be taught as one subject.

Vocational Education: -

Vocational education will be included in school education. Five hours of extra education per week under the "National Education Programme" will be provided to the gifted children in schools and remedial education will be provided during and after regular school hours for children who are behind the expected ability.

The student teacher ratio will be kept at 30:01 to ensure proper attention to each student.

Libraries and reading rooms will be set up in public places and schools all over the country to give priority to reading and the growth of knowledge through it.

Child Psychology: -

A social worker and a psychologist should be appointed in each school to monitor the attendance and mental status of the children, and to maintain continuity.

It is also necessary to provide the necessary infrastructure to the schools to achieve the desired goals.

Interdisciplinary Education: -

The new education policy proposes a four-year course by combining 9th to 12th, abolishing the branch-wise distinction of Arts, Commerce and Science, and making it a total course of 8 semesters, with Language, Mathematics and Science as compulsory subjects and any other subject of your choice. Students can choose.

Promotion of Indian Languages, Arts, and Culture: -

The promotion of Indian arts and culture is important not only for the nation but also for the

individual. Cultural awareness and expression are among the major competencies considered

important to develop in children, to provide them with a sense of identity, belonging, as well as an appreciation of other cultures and identities. It is through the development of a strong sense and knowledge of their own cultural history, arts, languages, and traditions that children can build a positive cultural identity and self-esteem. Thus, cultural awareness and expression are important contributors both to individual as well as societal well-being.

Online and Digital Education: Ensuring Equitable Use of Technology

National Education Policy 2020 recognizes the importance of leveraging the advantages of technology while acknowledging its potential risks and dangers. It calls for carefully designed and appropriately scaled pilot studies to determine how the benefits of online/digital education can be reaped while addressing or mitigating the downsides. In the meantime, the existing digital platforms and ongoing ICT-based educational initiatives must be optimized and expanded to meet the current and future challenges in providing quality education for all.

Professional Education: -

Preparation of professionals must involve an education in the ethic and importance of public purpose, an education in the discipline, and an education for practice. It must centrally involve critical and interdisciplinary thinking, discussion, debate, research, and innovation. For this to be achieved, professional education should not take place in the isolation of one's specialty. Professional education thus becomes an integral part of the overall higher education system. Stand-alone agricultural universities, legal universities, health science universities, technical universities, and stand-alone institutions in other fields, shall aim to become multidisciplinary institutions offering holistic and multidisciplinary education. All institutions offering either professional or general education will aim to organically evolve into institutions/clusters offering both seamlessly, and in an integrated manner by 2030.

Direct PhD now: -

Flexibility has also been introduced in higher education and interdisciplinary subjects can be studied together in colleges and universities. Education can be stopped at any stage. The marks of that education will be retained, and further education can be taken after some time. For students who want to do research, there will be a 4-year course. After that there will be no need to do M.Phil., one can directly take admission for PhD. Otherwise, degree can be taken in 3 years.

A single governing body: -

This is a major decision taken in the new national policy. At present, different regulatory bodies are functioning for different courses in higher education, instead there will be a single regulatory body (except for law and medical disciplines). Like America, a National Research Institute will be established in India to give importance to researchers and improve their quality. Not only science but also research in sociology will

be financially supported. The standard of higher education in the country will be taken to international level.

It will increase communication with students from foreign quality educational institutions and educational exchange can also take place. This will lead to a coherent education system. Financial support will be provided to various critical elements and components of education, such as ensuring universal access, learning resources, nutritional support, matters of student safety.

Fees will be fixed by the government:

The Union Ministry of Education has set a target of starting at least one multidisciplinary interdisciplinary college in every district by 2030. Until now, the degree was taken by taking the subjects of a single branch, now the degree will be completed by taking the subjects of multiple disciplines simultaneously. Not only universities but also colleges will have multi-disciplinary courses so the fees will be fixed accordingly. Similar conditions are to be fixed for charging fees of government as well as private educational institutions. Fees will be fixed within that framework and a ceiling will also be put on the fees. This will give great relief to the parents. In the education system, quality and equality and integration are paramount, it will be possible to make up for it by making major improvements.

The Challenges of 'New Education Policy - 2020': -

Although the new education policy has many diverse merits, some potential risks or drawbacks must be noted.

1. Education may be privatized – the PPP model of education sector will ultimately fall into the hands of corporates and monies.
2. Old educational institutions in the country will be closed and new institutions will be established.
3. The number of foreign universities will increase, and this will create a kind of specialized education sector (SEZ).
4. All levels of reservation will be banished
5. Poor and backward students will not get tuition fee concession
6. Malpractices in teacher recruitment will increase
7. In this policy, there is no mention about the appointment, salary, service protection, promotion, and pension etc. of teachers, professors, and other employees.
8. Poor students in rural and remote areas are likely to be excluded from school and vocational education due to inadequate resources.
9. The current public (Government - Centre and States) expenditure on education in India has been around 4.43% of GDP. It is not possible to say for sure how much more will be added.
10. It cannot be said for sure that this new policy will get proper and complete response from all levels in India.
11. The size of the school education system, and the higher education system is also very large. Bringing together all the stakeholders at the state, district, and taluka levels to implement this new education policy is going to be a very difficult task. Creating a sense of shared responsibility and ownership among the diverse stakeholders at the state and district level will be a major challenge for the Ministry of Education.
12. K. As pointed out by the drafting committee headed by Kasturirangan, India's education system is underfunded, and the entire system is based on bureaucracy and the environment is hostile to new ideas and growth potential in the education system.
13. The existing organizational structure and system of the Ministry will have to undergo a major overhaul.
14. This policy will largely depend on the cooperation between the Center and the States. Its implementation largely depends on the active cooperation of the States.

Conclusion: -

The new education policy will help develop the capabilities and skills of 21st century students to fulfil their aspirations and goals. Through this policy, it will be possible to improve the quality of

students, develop them holistically, enhance technological knowledge, make students self-reliant and accelerate their economic development. Also, this policy will preserve, promote, and respect Indian culture. There will be knowledge and skill creation, enhancement of research and effective use of technology. As this policy is up to date, it will help to make learning lively, enjoyable, and practical for the students. Although many changes in this policy seem noble, revolutionary, modern, and effective and appropriate in the age of information technology, the reality is that the real success of this policy will depend on the test of time to come.

The New Education Policy 2020 is certainly a guiding document. Considering the new challenges of the new age, the policy aims to address diverse educational needs, structural disparities and prepare students for the future. Along with this, the most challenging task of facing many crises in the education system is also to be completed through this policy. In a way the implementation of the new education policy has now become a very important part, this policy will play an important role in creating a new India and a future ready youth generation.

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NEED AND USE OF TECHNOLOGY IN PUBLIC LIBRARIES

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Abstract

Public libraries are the only institution which can help to adjust with the current trends to the majority of the population. Everyone can use it without racial judgement. Its library is related to the society. It is on the library, religion, politics and individuality. The responsibility of providing the service to the public library is of the State Government. The services and collections they provide should be based on local needs, which should be assessed regularly. The public library has the children, young adults and adults' groups. Now some of the public libraries are using 'E-Granthalaya' library automation software. The software provides Web OPAC interface to publish the library catalogue over internet E-Grnathalaya provides LAN/WEB based data entry solution for cluster of public libraries on networks were a common data base can be created with union catalogue.

Introduction

The public library is meant to provide free, neutral, information, knowledge, performing and motivation to the society. The local independence society or the government-established library or most of which is spent by the government. It is managed or governed by the Governing Council. Everyone can use it without racial judgement. Its library is related to the society. It is on the library, religion, politics and individuality. The responsibility of providing the service to the public library is of the State Government. Many types of services are provided by it. Such as the circulatory library service, helpful services in the field of adult education, child library services etc. The public library provides leadership to the youth in the various chances available to the profession and the people associated with different professions who have advanced knowledge of that subject.

Objectives of Public Library

1. Public library supplies the right information to the right reader at the right time for their users keeping pace with the tremendous changes in all walk of life.
2. Public libraries are the only institution which can help to adjust with the current trends to the majority of the population.
3. Public Library provides the information to the common people rapidly and in-depth.
4. Public library makes the domestic and International trade successful by supplying the manufacturer.

Need of Public Library

Public libraries are locally based services for the benefit of the local public and should deliver public information services. The services and collections they provide should be based on local needs, which should be assessed regularly. Without this discipline the public library will get out of touch with those it is there to serve and will, as a result, not be used to its full possible. Librarians should, therefore, be aware of the changes in society arising from such factors as social and economic development, demographic change, differences in the age structure, levels of education, patterns of employment and the emergence of other educational and cultural providers.

Indentifying Users

The public library has to aim to serve all peoples and groups. An individual is never too young or too old to use a library. The public library has the following groups.

• People at all ages and at all steps of life:
— children
— young adults
— adults.
• Individuals and groups of people with special needs:
— people from different values and ethnic groups including original people
— people with infirmities
— stormbound people
— institutionally limited people
• Institutions within the wider public network:
— educational, cultural and voluntary and organizations in the public
— the business public
— the governing body of the parent organization

Library Automation

Now some of the public libraries are using 'E-Granthalaya' library automation software. It is developing by National Informatics Center (NIC) to provide support installation, training and up-gradation to public libraries through it centers at State and districts in India. It works for in house activates well as user services. The software runs in windows and can work either in stand-alone or in client server mode. The software provides Web OPAC interface to publish the library catalogue over internet E-Grnathalaya provides LAN/WEB based data entry solution for cluster of public libraries on networks were a common data base can be created with union catalogue.

Information on how technology can be used in libraries to solve problems.

- Development of technology and its impact on the acquisition, storage and transmission of information
- Increase in price
- Increase publication
- Information explosion
- Reduced library budgets
- To serve the interest and demand of the readership

Advantages of Computerization In Public Libraries

1. Saves librarian and staff time.
2. A list of new books can be kept and ordered wherever required.
3. List of journals, magazines coming to the library, due date, etc. can be known.
4. To obtain information about unreturned books and its readers and to maintain information about overpayments made to them.
5. Keeping track of which reader has which book.
6. Where is the Q book, it is easily known?
7. It is easy for the librarian to keep track of the exchange of books.
8. To know the sections of library books subject wise, author wise.
9. To know the information about the total number of books in the library.
10. Computers can help in many ways to maintain proper organization and administration in a library.

Advantages of Computerization

1. Saves the reader time.
2. The book is quickly searchable.
3. Information about some of the books, if not all the books in the library, can be obtained through the interlibrary. So both time and money will be saved.
4. Some periodicals can be read from the internet sitting in the library. A-Journal
5. If the computers in the library are connected to the Internet, the reader can access information from around the world, and also himself can provide information to others.
6. Some well-known libraries have created their own websites, through which a reader sitting in one library can get information about the books of another library.
7. Useful for career guidance.
8. he coming new generation will be able to know about the lifestyle and work of the old generation.
9. E-magazine can be read online. Others can also be used.

Conclusion

Acquiring knowledge is very important in today's times. Every section of the society like children, youth and old people need knowledge, children and youth can get education from school and

college, but old people must use public library, if they want to get any new knowledge in modern age, they need technology. have to use, which they can get information only through public library. Public libraries are very important to satisfy their diverse interests and curiosities. In this changing world, new things are constantly coming up, which can be known through technology. For every public library needs to have a rich library with technology as well as physical facilities.

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"IMPACT OF TARUNOTSAVA-2022 ON CAREER BUILDING AND STREAM SELECTION: A STUDY OF KV BILASPUR"

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Abstract
The present study was conducted with a view to know the impact of Tarunotsav 2022 on Career Building and Stream Selection by students of Kendriya Vidyalaya Bilaspur, Raipur Region. The present study was conducted using class room interaction and telephonic method. The instructional and interview pattern was designed for the purpose of data collection and the same were conducted personally on randomly basis with the students of vidyalaya. A total 59 students were interacted and telephonically contacted; out of which 54 were answered back (91.5 %). On the basis of mentioned methodology, the data has been analyzed and tabulated. All the results have been presented in the form of tables. For the data analysis percentage technique has been adopted. The study also aims to identify the level of satisfaction with the documentary sources of school library and its services. Finally, concludes with some of the important suggestions which may suppose for the better implementation of this programme aimed for class 11 going students in future.

Key Words: *Tarunotsav-2022, Library Media Centre, Kendriya Vidyalaya Bilaspur, User Satisfaction, Documentary Sources and Services, Career Building, Stream Selection*

Introduction

Tarunotsava Programme is a unique program initiated by the Kendriya Vidyalaya Sangathan (KVS). Under this program, the school tries to utilize the long gap after class 10th board exam in engaging students in various activities such as Career Guidance, Stream Selection, Arts and Crafts, Promotion of Reading Habits, Languages, Sports and games. **The basic aim of** this scheme is to develop an institutional mechanism to keep class tenth students connected with studies and aware with the help of proposed sessions by the experts and in house internal speaker's sessions, book reviews. In order to overcome disconnection due to this gap these sessions are highly beneficial for 11th going students. By launching the "Tarunotsava" program, Kendriya Vidyalaya Sangathan (KVS) tries to keep up the interest of students towards the school, academics and associated co-scholastics areas.

Tarunotsava Programme Features and Objectives

Primary Objectives and features of the Tarunotsava program are as follows:

1. Tarunotsava is **a month-long program** including various activities to keep the students meaningfully engaged with the school.
2. Students can enroll in this program by submitting a proper NOC undersigned by the parents.
3. By parent's permission, students who appeared for the class 10th exam will be able to engage themselves in activities such as language skill improvement, hobbies/ skills, focus, and personality development, career guidance, enhancement in reading habits.
4. The Tarunotsava program will enable students in selecting stream of his/her choice.

Activities under Tarunotsava by KVS

The activities of "Tarunotsava" are usually include

Career Guidance and Stream Selection: The sessions involve Guest Lectures from the eminent fields such as Scientists, Doctors, Group Captain – Sainik Board, Advocate, Authors, In house Teachers, IAS officers, Traffic Police Officer and famous academicians. These sessions enable students in selection of right stream of their choice.

Language Enhancement: These activities aim to improve the language skills of the students. This will help in enhancing their writing skills.

Skill development: The students are also encouraged to participate in various hobbies and skill development activities including drama, film making, sports, etc. This enables students to identify their strength.

Concept Boosting: The session based on different subjects enhance their concept in all subjects like Commerce, Humanities, Science, Maths, etc.

Objectives

The main objective of the study is to find out the purpose, activities and outcome of "Tarunotsav" at KV Bilaspur (Raipur Region).

The present study has following aims and objectives:

1. To determine the outcome of Tarunotsav 2022
2. To know the purpose of Tarunotsav
3. To identify the type of activities during Tarunotsav;
4. To find out the level of satisfaction during Tarunotsav
5. To identify impact of "Tarunotsav" in finding "stream selection" among students
6. To offer suggestions and recommendations related to Tarunotsav 2022.

Hypothesis: The following hypotheses were framed for this study:

1. Great Impact of Guest Lectures and Library Teacher's session on career building
2. Great Impact of "Tarunotsav" in finding "stream selection" among students
3. Great Impact of "Tarunotsav" in enhancement of Life skills and language skills
4. Great Impact of "Tarunotsav" in enhancement of Reading Habits through Book Reviews during sessions

Scope and limitation of Study

The present study is a form of user study designed to bring within its confines only students studying in KV Bilaspur (Raipur Region), their information requirements, information-seeking behavior, their reading habits and the existing library facilities available. Thus, the scope of the study is limited to the students of class 11 going students studying in KV Bilaspur (Raipur Region)

Methodology

Research method is the foundation of any research project carried out for a systematic study of the problem and hence for this study, the following methodology has been adopted. The present study was conducted using class room interaction and telephonic method. The instructional and interview pattern was designed for the purpose of data collection and the same were conducted personally on randomly basis to the students of Vidyalaya. A total 59 students of class 11 going students were interacted and telephonically contacted; out of which 54 were answered back (91.5%). On the basis of mentioned methodology, the data has been analyzed and tabulated. All the results have been presented in the form of tables. For the data analysis percentage technique has been adopte

Analysis and Interpretation of Data:

Respondents	**nteractions made**		**teractions responded**		**Response (%)**
	Male	**Female**	**Male**	**Female**	
Senior Secondary students (11th)	24	35	21	33	91.5
Total	59		54		91.5

Table 1: Distribution of respondents. As table indicates the response was 91.5%. The respondents were contacted through class room interactions and through interview. The respondents include the class 11 going students.

Great Impact of Guest Lectures and Library Teacher of Vidyalaya on career building

Respondents	**Impact of Guest Lectures on Career Building**			
Parameters	**Excellent**	**Good**	**Average**	**Poor**
Responses	**57**	**02**	**NIL**	**NIL**

Table 2: Data analysis reveals respondents rated excellent impact (96.6%) of Guest Lectures and guidance by Library Teacher of Vidyalaya on their career building during "Tarunotsav 2022**"**

How often do you require career guidance at this stage?

Respondents	**Do you require career guidance at this stage**			
Parameters	**Often**	**Every Time**	**Rarely**	**Every Time**
Responses	**31**	**28**	**NIL**	**NIL**

Table 3: Data analysis reveals respondents require career guidance most often (31) and every time (28). They have been highly benefitted by the Guest Lectures and Internal speaker such as Librarian of Vidyalaya.

Great Impact of "Tarunotsav" in finding "stream selection" among students

Respondents	**Impact of "Tarunotsav" in finding "stream selection"**			
Parameters	**Strongly Agree**	**Agree**	**Strongly Disagree**	**Disagree**
Responses	**53**	**06**	**NIL**	**NIL**

Table 4: Data analysis reveals respondents strongly agreed (89.8%) on "Stream Selection" through the guidance during "Tarunotsav 2022".

Great Impact of "Tarunotsav" in enhancement of Life skills and language skills

Respondents	**Impact of "Tarunotsav" in in enhancement of Life skills and language skills**			
Parameters	**Strongly Agree**	**Agree**	**Strongly Disagree**	**Disagree**
Responses	**51**	**08**	**NIL**	**NIL**

Table 5: Data analysis reveals respondents strongly agreed (86.4%) on "enhancement of Life Skills and Language Skills" through the guidance during "Tarunotsav 2022".

Great Impact of "Tarunotsav" in enhancement of Reading Habits through Book Reviews during sessions

Respondents	**Impact of "Tarunotsav" in enhancement of Reading Habits through Book Reviews during sessions**			
Parameters	**Strongly Agree**	**Agree**	**Strongly Disagree**	**Disagree**
Responses	**57**	**02**	**NIL**	**NIL**

Table 6: It shows that this session helped students to promote their reading habits immensely through book reviews during "Tarunotsav 2022**".**

Do you satisfied with current action plan of Tarunotsav of KV Bilaspur

Respondents	**Do you satisfied with current action plan of Tarunotsav**			
Parameters	**Satisfied**	**Very Satisfied**	**Dissatisfied**	**Very Dissatisfied**
Responses	**12**	**47**	**NIL**	**NIL**

Table 7: Data analysis clearly shows that students attended "Tarunotsav 2022" were very satisfied with the implementation of related activities during sessions.

Suggestions:

The following suggestions may incorporate while preparing action plan for future "Tarunotsav".

1. More application of ICT based utilities may be applied for taking "Tarunotsav classes".
2. Experts may be invited from filed like sports and games and other miscellaneous subjects.
3. Language aspect may be appended.
4. Outcome

The following outcome emerged with the session of "Tarunotsav 2022":

1. Students were able to opt subjects as per their interest.
2. Students updated their existing knowledge.
3. Students knew about setting long term goal.
4. Students knew about mind mapping.
5. Students enhanced their life skills.
6. Students were able to enhance their reading and writing skills through book reviews.
7. Students were highly benefitted with Career Counseling Sessions.

Conclusion

Tarunotsava Programme utilized the long gap after class 10th board exam in engaging students in various activities as mentioned.

By launching the "Tarunotsava" program, Kendriya Vidyalaya Sangathan (KVS) tries to keep up the interest of students towards the school and academics. These activities focused on improving the language skills of the students. This will not only help them in class 11th but also in the future in becoming a professional. Career Guidance and Counseling **helped** the students deciding what they want to become in the future.

The students are also encouraged to participate in various hobbies and skill development activities including drama, film making, sports, etc.. Due to planned session during "Tarunotsav 2022" the following qualitative aspects emerged:

1. Students were able to opt subjects as per their interest
2. Students updated their existing knowledge
3. Students knew about setting long term goal
4. Students knew about mind mapping
5. Students enhanced their life skills
6. Students were able to enhance their reading and writing skills through book reviews
7. Hence, Students were highly benefitted with these planned Career Counseling and other above mentioned Sessions.

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CHANGING AGRICULTURAL LANDUSE AND CROPPING PATTERN FOR SUSTAINABLE DEVELOPMENT: A TEMPORAL ANALYSIS OF MAHARASHTRA

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Abstract:-

Maharashtra has a diverse and unique physiography as well as wide variety of agro-climatic conditions. The availability of huge land, soil and water resources provide enough scope for the growth and development of agriculture and associated various crops. So, attempt is made here to analyse the changes in the agricultural landuse of Maharashtra from 1971-72 to 2018-19. Subsequently, changes in cropping pattern are discussed in similar way. The study reveals that the area under various categories has observed the rising trends of transformation with exception of net area sown. Net area sown is decreased due to development in industrial sector, urbanization and infrastructure facilities. The overall picture related to major crops has generally shown an upward trend with regard to area under major crops with some exception. The area cultivated under Soybean has tremendously increased from 1990-91 to 2018-19. The oilseeds like Groundnut and Other oilseeds have declined sharply. For sustainability in food grains and other crops, it is essential to bring waste areas under agricultural operations.

Keywords: *Agricultural Landuse, Cropping Pattern, Temporal Analysis*

Introduction:

Maharashtra is one of the leading agricultural states of India. About half of the state's population is directly or indirectly engaged in agricultural sector. Agriculture is the main source of its livelihood. It has been playing an important role in the socio-economic development of the rural masses. Approximately 18.2 per cent of the state income comes from the agricultural sector. Maharashtra has achieved a growth of 26.92 per cent in agricultural production of all crops over the preceding year 2019. In fact it is remarkable while considering the growth in area of only 2.63 per cent. In fact, Maharashtra is a state with diverse and unique physiography as well as wide variety of agro-climatic conditions. The availability of huge land, soil and water resources provide enough scope for the growth and development of agriculture and associated various crops including food grains. But the increasing growth of population along with widespread poverty has generated enough pressure on the available natural resources and ultimately it led to degradation of environment (G.S. Chauhan & R.S.Sangwan, 2007).

Agricultural landuse is a portion of area used to grow different crops during the agricultural year. In other words cropping patterns are the extent to which the arable land under different agricultural activities can be put to use (Singh and Dhillon, 1987). In this paper, attempt is made here to analyse first the changes in the agricultural landuse of Maharashtra from 1971-72 to 2018-19. Subsequently, changes in cropping pattern are discussed in similar way against the backdrop of slowly increasing area sown more than once and lower level of net sown area.

Objective:-

The main objective of this paper is to analyse changes in agricultural land use and cropping pattern of major crops during 1971-72 to 2018-19.

Data collection and Methodology:

The present study is based on secondary data source. In order to meet the objective the relevant information and data regarding agricultural landuse and area under major crops are collected from Commissionerate of Agriculture, GoM., Director of Economic & Statistics, DAC & FW GoI., National Bank for Agriculture and Rural Dev., Mumbai (NABARD) through internet by browsing the related websites. Collected rough data are processed through tables and computed for discussion. On the basis of these, results are made.

Study Region:

The designated study area, Maharashtra, is approximately situated between 15^0 44' and 22^0 6' North latitude and from 72 ^{0} 36' and 80^0 54' East longitude with an area of 3, 07,713 sq.km. comprising about 9.36 per cent area of total geographical area of India and 9.28 per cent population of India. It is third in terms of area and second largest populous state after Uttar Pradesh in India. Climatically, Maharashtra has tropical monsoon climate with hot, dry, humid, rainy and cold in winter season. Existing immense agro-climatic diversities often provide the suitable criteria to grow a large variety of agricultural crops as well as horticultural crops.

In the recent decades, the state has observed very rapid a very rapid and drastic population growth and presents a very complex problem ridden scenario. Virtually, the total population of the state was 5,04,12,235 in 1970-71 which has substantially increased to 11,23,72,972 in 2010-11 more than doubled. According to Unique Identification Adhar India, updated 31, May, 2020, by mid of year 2020 the projected population is 12,31,44,223. Simultaneously, the density of population has also increased from 129 to 365 persons per sq.km. during the period 1971 to 2011. Out of total population 53 per cent population is basically engaged in agricultural and its allied activities and suffering from a number of problems viz., poverty, unemployment, diseases, malnutrition and hunger including safe drinking water facilities.

Discussion:-

Agricultural Landuse Pattern:

The existing land use pattern of Maharashtra is very dynamic in nature and it is rather full of challenges and opportunities including many inconsistencies in their land utilisation. Certain parts of Maharashtra are very feasible to raise food crops and some are not suitable for various species and vegetation crops. So, different types of agro-climatic regions offer varied types of land use pattern. It is needful to understand the entire land use pattern and occurrence changes therein to get the overall results of crop production and productivity and the related problems. Land use system of the state presents a very typical and unique picture while dealing with its various categories. It has been evidently found that the land use pattern has perceptibly changed a lot and has got a new dimension in the last five decades and ultimately it indicates that the area under different categories and subcategories have increased and on the other hand, in some of the categories the related area has decreased tremendously.

Table no. 1 indicates that the net sown area has decreased from 18242 thousand hectares to 16889 thousand hectares during 1970-71 to 2018-19. Simultaneously, the area sown more than once has recorded an increase of more than five times from 1156 thousand hectares to 6346 thousand hectares during the period of 1970-71 to 2018-19.

Table no. 1: Land Utilisation of Maharashtra (1970-71 to 2017-18)

(Area in '000' Ha.)

Category	1970-71	1980-81	1990-91	2000-01	2010-11	2018-19
Net Area Sown	18242	18299	18567	17844	17406	16889
Area sown more than once	1156	1834	3295	3775	5769	6346
Total cropped area	19398	20133	21862	21619	23175	23235
Total irrigated area (in	8.4	12.3	15.2	17.8	17.9	19.5

%)						

Source: i) Commissionerate of Agriculture, GoM Economic Survey of Maharashtra 2019-20
ii) Director of Economic & Statistics, DAC & FW GoI, Agricultural Statistics at A Glance 2020. **iii)** National Bank for Agriculture and Rural Dev., Mumbai (NABARD).

Another important category has also observed the same trends of transformation and the total cropped area has increased from 19398 thousand hectares to 23235 thousand hectares during the last five decades. Moreover, the area under irrigation also got new dimension and has gone through almost the similar phase of transition and the total irrigated area was 8.4 per cent to total cropped area (1970-71) which has further increased to more than double and it was registered 19.5 per cent in 2018-19. Hence, the overall result depicts that the area under various categories has observed the rising trends of transformation with exception of net area sown. Net area sown is decreased due to development in industrial sector, urbanization and infrastructure facilities.

Area under Major Crops:

Table no. 2 and Figure no. 1 depicts that, the area under major crops has increased during last fifty years. In almost all the major crops area under the some crops has gone up. Area under wheat crop was recorded 812 thousand hectares in 1970-71 which has increased to

Table no. 2: Maharashtra: Area under major crops
(Area in '000' Ha.)

Crops	1970-71	1980-81	1990-91	2000-01	2010-11	2018-19
A. Total Cereals	10320	10976	11136	9824	8985	7660
i) Rice	1352	1459	1597	1512	1516	1484
ii) Wheat	812	1063	867	754	1307	1081
iii) Jowar	5703	6469	6300	5094	4060	3173
iv) Bajra	2039	1534	1940	1800	1035	745
v) Other Cereals	414	451	432	664	1068	1177
B. Total Pulses	2566	2715	3257	3557	4198	4312
i) Tur	627	644	1004	1096	1302	1357
ii) Gram	310	410	668	676	1438	1952
iii) Other Pulses	1629	1661	1585	1785	1458	1003
Total Foodgrains	12886	13691	14393	13382	13023	11973
C. Total Oilseeds	1718	1780	2826	2559	3628	4335
i) Groundnut	904	695	864	490	395	297
ii) Soyabean	0	0	201	1142	2729	4075
iii) Other Oilseeds	814	1085	1761	927	504	168
D. Other Crops						
i) Cotton	2750	2550	2721	3077	3942	4261
ii) Sugarcane	167	258	442	595	965	1163

Source: i) Commissionerate of Agriculture, GoM Economic Survey of Maharashtra 2019-20
ii) Director of Economic & Statistics, DAC & FW GoI, Agricultural Statistics at A Glance 2020.

1081 thousand hectares in 2018-19. In case of rice too, the area has increased up to a sizeable mark and it has increased from 1352 to 1484 thousand hectares in the last fifty years, whereas the area under the Jowar and Bajra have decreased drastically in the same period. But the area possessed by the total pulses has touched the mark of 4312 thousand hectares in 2018-19. Area under Gram has increased from 310 to 1952 thousand hectares during five decades. The area under cash crop like sugarcane has also increased more than six times from 167 to 1163 thousand hectares and is followed by cotton.

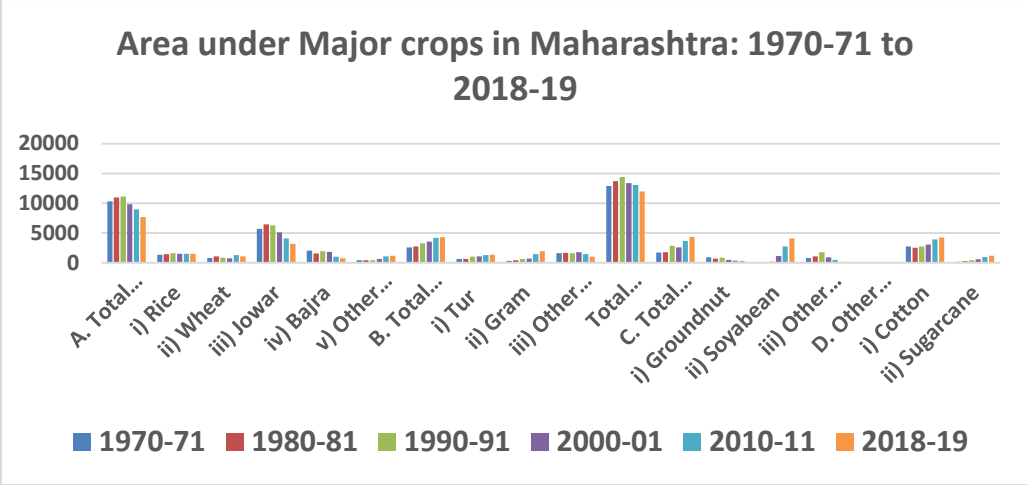

Figure 1: Area under Major crops in Maharashtra during 1970-71 to 2018-19

However, the latest agricultural scenario depicts that area under food grains has marginally declined from 13023 thousand hectares in 2010-11 to 11973 thousand hectares in 2018-19. While the area cultivated under Soybean has tremendously increased from 201 thousand hectares in 1990-91 to 4075 thousand hectares in 2018-19. The share of the Soybean was 94 per cent in total oilseed area of the state. The oilseeds like Groundnut and Other oilseeds have declined sharply from 904 to 297 thousand hectares and from 814 thousand hectares in 1970-71 to 168 thousand hectares in 2018-19 respectively. The overall picture related to major crops has generally shown an upward trend with regard to area under major crops with some exception.

Conclusion

Agriculture and its allied activities has occupied a significant place in state's economy of Maharashtra. It has undoubtedly played an important role in the state's economic development and also improved the socio-economic conditions of the rural based masses. Land use system of the Maharashtra presents a very typical and unique picture while dealing with its various categories. It has been evidently found that the land use pattern has perceptibly changed. The study reveals that the area under different categories and subcategories have increased and on the other hand, in some of the categories the related area has decreased tremendously. The overall result depicts that the area under various categories has observed the rising trends of transformation with exception of net area sown. Net area sown is decreased due to development in industrial sector, urbanization and infrastructure facilities.

The overall picture related to major crops has generally shown an upward trend with regard to area under major crops with some exception. The area cultivated under Soybean has tremendously increased from 1990-91 to 2018-19. The share of the Soybean was 94 per cent in total oilseed area of the state. The oilseeds like Groundnut and Other oilseeds have declined sharply. To maintain sustainability in food grains and other crops, it is essential to bring waste areas under agricultural operations.

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CHANGES IN THE CASTE SYSTEM IN POST-INDEPENDENCE INDIA

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Abstract :
Indian society is based on the caste system, class system, and patriarchy. The social system created by caste system traits such as caste heredity, birthright occupation, interracial marriage, inequality of caste-based on caste superiority, bread restriction, caste segregated and excluded settlements and caste system regulation and punishment by caste panchayat, gender inequality created by capitalism They have formed the Indian society. The development of post-British capitalist economics within the framework of caste patriarchy destroyed caste homogeneity and started its disintegration through class division, but the caste framework is still intact today. The outward features of the castes mentioned above are still impenetrable and the caste system is operating in a somewhat flexible or highly resilient form in the changing conditions. The capitalist development process and the constitutional law have pierced almost all of the above externalities in the caste system. Yet they are not destroyed. The symptoms of caste heredity, caste hierarchy, and caste segregation and exclusion are just as strong today. Today, however, its form is not only a caste system but also a form of class struggle against the patriarchy.

***Key world**: Indian society, caste system, social system, caste hierarchy*

Introduction :

The Indian caste system is the basic system of Indian society. This system developed in ancient India and is believed to have changed further in medieval times, modern pre-modern times, and modern times. Major structural changes in this system are believed to have taken place during the Mughal Empire and the British Empire. To overcome this, reservations were created in today's Indian society at the political, educational, and social levels. The caste system is made up of two different concepts, the caste system and the caste system are two different methods used for the analysis of this social stratification.

The present caste system is a product of many changes in Indian society towards the end of the Mughal period and the beginning of the British period. Many powerful individuals and groups emerged during the last days of the Mughal Empire. He had gained the strength to stand on the side of Rajshahi, Dharmamartand, and Brahmin, this social change helped to create these caste identities in many non-caste groups. This same social transition during the British period was transformed into a stable caste system in the administrative system brought by the British. Between 1860 and 1920, the British began to differentiate Indian society at the caste level, from which they laid the foundation for giving administrative posts and functions only to the upper castes.

As a result, there was widespread opposition in the 1920s and the British had to change their policy. And then the British started taking people from lower castes for some positions in government jobs and a few percent of the total posts and started making reservations. After India's independence, several changes took place in which the Government of India prepared a list of Scheduled Castes and Scheduled Tribes, and accordingly,

caste-based reservations were applied in respect of government jobs and education. Since 1950, the Government of India has enacted several laws and social initiatives to improve the social and economic conditions of lower caste groups. These educational, governmental reservations, and other facilities were inherited by the people belonging to a particular caste and these services could not be provided by the beneficiaries to anyone else. Discrimination at the caste level is not only outlawed under Article 15 of the Indian Constitution but is also monitored by various agencies of the Government of India by collecting information on incidents of communal violence.

Objectives of the research study:

1. To study the meaning of caste
2. To study caste characteristics
3. Studies on the transformation of the caste system in post-independence India

Research Methodology :

A secondary method of data collection has been studied to study this research. Based on various books, edited texts, newspapers, etc.

The meaning of caste :

The word caste is derived from the root 'Jat' which means 'to be born'. From this caste becomes a social group formed based on birth. The English word is derived from the Portuguese word meaning 'ethnicity'. The Portuguese used the word in this sense. In this sense, a caste is a group based on the idea of heredity. But many scholars have proved that caste is not an indicator of ethnicity. Moreover, a caste system is a very complex organization and it has many features or aspects. Not all of them can be fully understood or derived from this word.

Definition of caste :

1) Majumdar B Madan - Caste is a closed class.
2) Charles Cooley - When a class is based entirely on heredity, we can call it caste.
3) Dr. Venkatesh Ketkar, caste has two characteristics. A) Membership of a particular caste is granted only to persons born of that caste. B) Strict social rules prohibit its members from marrying persons outside their caste.
4) Prof. Mukherjee - Caste is a dynamic system based primarily on birth, dividing society into different segments and it imposes minimal restrictions on its members regarding food, marriage, business, and social affairs.
5) E. A. Blunt - Caste is an intermarriage group or a collection of intermarriage groups. Zilla has a common name, whose membership is genetic; Which imposes certain restrictions on the social interactions of its members. Adopts a common traditional occupation and claims the same origins or is generally considered to shape a homogeneous community.
6) Green-caste is a system of social stratification in which a person can't change his social status in principle. The status that a person acquires at birth lasts till death. A person's occupation, place of residence, way of life, personal contact, area of choice of marriage mate, a family of friends, etc. are determined by birth. Also, it is considered inferior for people of higher caste to have physical and social contact with persons of lower caste. The caste system is protected by law and has the consent of religion.

Characteristics of the caste:

Since it is difficult to give a satisfactory definition covering all the characteristics of the caste, Dr. Hutton, N. K. Dutt, and Dr. Ghurye have tried to explain the nature of the caste without explaining its characteristics. The features are as follows

Caste-based birth:

A person's caste is determined by birth and it lasts till death. Caste determines a person's social status (status and role) and cannot be changed. Also a person's business from birth i.e. from caste, marriage partner. Lifestyle, areas of social contact are also determined. There are definite caste rules in this regard. These panchayats ruled those who did not follow caste rules. Naturally, individuals would give more importance to caste control than community control. Therefore, instead of creating

communalism in the mind of the individual, narrow casteism was created. Due to this caste loyalty, each caste became independent and distinct from other castes. And based on caste, Indian society was divided into several continents. This is what Dr. Ghurye called a fragmentary division of society.

Hierarchical structure:

As the caste system is a system of social stratification, it has a hierarchical structure or hierarchy based on a sense of superiority. That is, some castes are considered superior, some are considered inferior and some are considered moderate. In the caste system which is the basis of the caste system, the status of Brahmin was considered to be the highest, followed by Kshatriya, followed by Vaishya, and the lowest status of Shudra caste. Even in the caste system, the status of Brahmin was considered the highest and that of Shudra the lowest. However, there is no certainty about the quality of other species. Some of these breeds claim to be superior to others. E.g. In Maharashtra, there are differences between Kunbi, Sonar, Teli, Koshti, and Thakur, Yadav, Patel, Rajput, Jat, etc. in North India.

In South India, the Kammalan caste considers itself superior to the Brahmins. Just like caste, sub-caste or sub-caste also has a feeling of superior inferiority.E.g. The Brahmin caste is the best but it also has some sub-castes and the 'Kirwan' sub-caste is considered to be the lowest. The 'Panchal' sub-caste of the carpenter caste considers itself superior to other sub-castes. The Chambhar caste of the untouchable caste considers itself superior to the Mahar caste while the Mahar caste considers itself superior to the Manga. Thus each caste and sub-caste has a hierarchical structure based on a sense of superiority.

Privileges and Disqualifications:

In the caste system, many privileges and privileges have been granted to the superior castes, especially the Brahmin castes, while many disqualifications have been imposed on the lower castes, especially the untouchable castes. The Brahmin was considered to be the best, the most revered, and the most adored. Considering Brahmins as 'Bhudevs', Brahmins were killed. Instead of saluting the salutations of others, the Brahmins only gave blessings and the rights of study, teaching, priesthood, Vedmantra, etc. were given to the Brahmins. After that other special castes were given some special rights and privileges.

Untouchable castes, on the other hand, were denied the right to life and many disqualifications were imposed on them. E.g. Untouchables were forbidden to build houses in upper-caste settlements, to enter their water bodies, temples, cemeteries, to hear and recite Vedmantras, to take education, to wear high heels, footwear, umbrellas, gold ornaments, etc. The shadow of the untouchables was also considered ugly. That is why during the Peshwa period in Pune, the untouchables were not allowed to walk on the highway when the shadow was far away. He also forced them to tie pots around their necks to prevent them from spitting on the streets. In Gujarat, the untouchables had to carry animal horns to show that they are untouchables. In Punjab, Bhangra had to shout that he was coming. Privileges and disqualifications thus created huge social inequality in Indian society.

Lack of business freedom:

In the caste system, a traditional occupation of each caste was determined and the individual was required to do business of his caste. Freedom to choose or change the business of your choice was denied. Feelings of superiority and purity were associated with various occupations. Occupations of superior castes were considered high and sacred, while occupations of inferior castes were considered inferior and impure. Prohibited lower castes from doing higher caste business. Although each caste has a specific occupation, the same occupation is found in many cases.E.g. Occupations like agriculture, trade, military service, etc. are found in various castes.

Restrictions on Marriage:

A caste is an intermarriage group. It is found that a person is strictly

restricted from choosing his mate according to his caste. Declared marriage to a person belonging to a caste. Sub-castes of the same caste also follow the rule of intermarriage. This rule is consistent with the principle that caste membership is born.

The spirit of maintaining ethnicity seems to be behind this rule. Of course, analog marriage (marriage of upper-caste men and lower caste women) and reverse marriage (marriage of upper-caste women and lower caste men) were exceptions to the rules of intermarriage. However, analog marriage was considered inferior while pratilom marriage was considered forbidden. Therefore, the observance of intermarriage became almost mandatory. Today, interracial marriage is legal, but the majority of people are seen marrying people of the same caste.

Restrictions on eating and drinking and social interaction:

There are some caste restrictions on which caste a person should accept food and water from, which person should sit in a row and eat. Generally, the upper castes consider it forbidden to accept food and water from the hands of the lower castes and to sit and eat on their page. This varies from region to region. E.g. Some upper castes in North India accept cooked food from dairy castes. However, they do not accept raw food (food made in water). In Maharashtra, upper castes do not accept foods made by lower castes (rice, bread, poli, etc.) but rice and pulses. These are called dry rations. The lower castes, however, gladly accept any kind of food from the upper castes. Restrictions on social contact are as common as eating and drinking. The upper castes consider it forbidden and inferior to have close physical and social contact with the lower castes. There are also rules for a person of lower caste to always treat a person of higher caste politely, keeping a certain distance from him. E.g. In South India, it was customary for an untouchable caste 'Tiya' to stay 12 steps away and 'Ilayan Vashanarayan' 24 steps away to deal with a higher caste. This is called 'following in your footsteps. This is a step towards social interaction between castes, i.e. a person needed to observe the limits.

Aadhaar of Dharma:

The caste system is supported by Hindu Dharma. All the above rules of the caste system were inculcated in the minds of the people based on religion. Dharmapalan decided to follow the caste rules. The doctrine of karma and reincarnation in Hinduism was based on caste rules. In the present (present) life, as a result of the auspicious deeds of the previous life, the upper and lower castes are born, respectively. In the present life, a person who faithfully follows the rules of his caste inculcates in the society the philosophy that he gets a higher caste in the next life. Therefore, caste turmoil took root in the minds of the people and they followed the caste rules faithfully for centuries.

The above characteristics of the caste belong to the traditional Indian society. In modern times, Western culture and education, industrialization, urbanization, capitalist economy, advanced means of communication, social reform movement, democratic values, provisions in the constitution and progressive laws, etc. The above characteristics of the caste are beginning to change due to the impact of the decline. Some caste rules have been abolished and some rules have become very relaxed. As a result, the influence of the caste system on Indian society, especially on the industrial-civil society, has been greatly diminished. However, the influence of caste on rural society is still strong.

Changes in the caste system in post-independence India :

In modern times, industrialization, urbanization, advanced means of transportation and communication, social laws, social movements, rural development programs, panchayat state system, etc., are gradually changing the caste system in rural areas. The nature of this transformation is as follows:

Importance of earned status:

In the caste system, the status of a person is determined from birth i.e. from caste and it could not be changed. The situation is somewhat similar in rural areas today. But that is slowly changing.

Her social status and prestige are beginning to be determined based on her performance. If a person of a lower caste acquires power, wealth, higher education voluntarily, the tendency to respect him is increasing. Also, just because a person is born into a higher caste does not mean that the social status and status of a foolish and incompetent person will be considered superior.

Loosening of rules regarding eating and drinking and social contact:

Rules regarding caste eating and drinking and social contact are gradually relaxing. The caste rules regarding touch-untouchable, superior-inferior, superior, sovale ovale, shivashiva are not as stomped as before. The educated rural generation has disobeyed this rule. The hotel in the village is open to people of all races. Due to piping, caste water bodies have been destroyed. Due to the growing population, caste has become a thing of the past when people build houses outside the village. As a result, people of different castes have started building houses next to each other in the extended area of the village. Social contact between people of different castes is increasing. However, the rate of inter-caste marriage is still high. Interracial marriage is still considered taboo in rural areas.

Freedom of business:

In the past, each caste had a specific business and the same business was obligatory for individuals. Today, this bond has come to an end. People can choose the business of their choice. With the awakening of the lower castes due to education, they have started abandoning the Baluta system. Even the Balutedar castes who do their traditional business prefer to take cash instead of working for grain. In the past, the business of the lower castes was considered unholy. Even today, the idea of impurity is receding. Rural people have started doing any socially acceptable business without giving any thought to caste. E.g. Dairy, animal husbandry, sheep rearing, poultry rearing, weaving, brickwork, etc.

Abolition of caste panchayats:

In the past, there were 'caste panchayats' of most castes to see whether the people follow caste rules or not. These panchayats were punishing those who broke the caste rules. Today these panchayats have been destroyed. Their rights and duties have been transferred to the state. Instead of caste panchayats, the behavior of rural people is being controlled by law, police, courts, etc.

Difference between caste and religion:

In the past, caste was considered to be created by God. Today, with the spread of education in the rural areas, the influence of the ideology that caste is God-created, as a result of auspicious karma in the past, births in higher and lower castes are gradually diminishing. Especially the educated rural youth have started rejecting this ideology. Casteism: Although earlier caste discrimination and untouchability were decreasing, today casteism is increasing in the village. There is a growing tendency to reorganize based on caste to serve the interests of our caste. Panchayat rule has contributed to the rise of casteism and racial divisions. Panchayat elections are being contested based on caste. The tendency to vote by caste is on the rise.

Conclusions:

Thus the caste system seems to be changing today. But the pace of change is slow. Although the old caste rules have been destroyed or relaxed, the caste system has not been destroyed. The rule of caste-intermarriage is still followed in the village. Untouchable caste highly educated government employees do not get higher caste house rent in the village. Injustice against the untouchables is on the rise. In many villages, untouchables are not allowed to enter the temple of Savarna. Village politics is still played on caste. As a result, caste conflict is increasing.

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SYNERGIZING TECHNOLOGY: THE NEW NORMAL OPPORTUNITIES AND CHALLENGES IN MOBILE ASSISTED LANGUAGE LEARNING (MALL)

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Abstract:
Mobile assisted learning is an increasing mode of learning evolution in the 'new normal' scenario. Personal computers and laptops are substituted by the technologically advanced smartphones. The scope of mobile phone extends to the principal fact that, the device is so easy to handle at 'anywhere anytime', which makes the user available whenever he was required. Thus the process of e-learning existed in the pre pandemic situation will be substituted under a single umbrella of 'm- learning'. Accessibility of small mobile electronic devices is one of the most important factors in popularity and success of mobile assisted language learning. Particularly in a vast and developing country like India provides cheaper and wider opportunities in language pedagogies. The rising context demands the learning management system with the furtherance of technological developments enable the leaners to seek new opportunities for the language learning. This paper aims to introduce some of the most advanced and easiest ways of learning language with the aid of Mobile phones. The study also focuses on the compatibility of Mobile Assisted Language Learning (MALL) in the rural areas.

Keywords*: MALL, m- learning, language pedagogy, learning management system.*

Introduction

The Out break of Covid19 Pandemic has unleashed the global crisis that affected every nook and corner of the world in an unprecedented way. This resulted the complete shutdown of each sector and particularly the educational sector could also not be exempted from it. Along with the changes that happened across the globe, the process of teaching-learning has taken novel steps to resume the educational system. The study mainly focuses on the paradigm shift of language learning in a technological advanced new normal scenario. In this global world, English language learning is an inevitable part for securing employability and for higher educational opportunities. This pandemic era witnessed many challenges in the teaching- learning process especially in the teaching of foreign languages like English. The Pandemic crisis substitutes the normal way of teaching learning system to 'e Learning ' and further to 'm- learning'. Developing countries like India has achieved a great change in the educational system as the mobile assisted learning is comparatively cheaper and compatible. This paper aims to discuss the possibility of Mobile Assisted Language Learning (MALL), its present opportunities and challenges.

What is Mobile Assisted Language Learning?

Mobile Assisted Language Learning (MALL) is language learning that is assisted or enhanced through the use of a handheld mobile device. MALL is a subset of both mobile learning and computer assisted language learning. The popular mobile assisted language learning devices are:

1. Cell phone / mobile phone, smart phone in particular those based on IOS and Android.
2. MP3 and MP4 which are capable of storing and playing audio, images and video files.

3. Personal Digital Assistant (PDA), which have the facility to connect with the internet.

MALL supports the learner with high compatibility, whenever the learner is required and able to access the learning materials and teaching facilities anywhere at any time.

Advantages of Mobile Assisted Language Learning

MALL is the cheapest and easiest way of language learning and is very prevalent in the present scenario. The pandemic crisis has frozen the regular mode of teaching-learning process, the mobile learning or 'm- learning' substituted to a new way of getting access for the students to restart their learning. Mobile learning is very popular among the world and the countries like India has an extensive growth of mobile assisted language learning in the 'new normal' era. This study mentions some of the advantages of MALL below:

Access Anywhere and Anytime

The technological advancements of small smart phone devices cater the needs of the learner with minimum requirement of the internet facility. Thus, it can be accessed from anywhere in the world at anytime.

Reduce Distance

The main advantage of language learning is it reduces the distance between the learner and the tutor (resource person). For example, "Inverted Coconut" is a WhatsApp group (and YouTube channel) which provides assistance to the English language learning in both Malayalam and English Languages. The resource Person is from USA, and the learner from any remote area of Kerala could be possible to keep in touch with her, only with the minimum requirement of an Internet connection. The same content can access to any Malayalee learner to improve his/her English language from anywhere in the world. Distance is not a challenge in mobile learning.

Content Diversity

Unlike the regular class room language learning system, 'm- learning ' provides a huge variety of content which could be access simultaneously, while the learner is attending the online class. The learner is provided with multiple sort of subjects or topics accessible from the different corners of the world in their finger tips.

Enhance Confidence

Mobile assisted learning helps to learner to improve his confidence by individual learning platform or by the influence of variety of learning management system. The audio, visual and text formats help the language learner to clarify his doubts individually, and enhance confidence gradually.

Test Yourself

Many language learning groups and apps provide ample opportunity to test one's knowledge whether it is related to communication skills or with language learning modules. The learner could easily correct himself at the time of attending the test. Mobility and flexibility are the other advantage of MALL. In addition to the above advantages, the learner is motivated and engaged by getting individual attention and multi-level learning platform. The learner also can access content and communicate with the instructors and classmates from any location. In this world, the learner is more comfortable in using personal electronic gadgets and it could help the learner to focus on its freedom of movement and the interaction with technology. The learner develops better study habits and time management for his language proficiency.

Disadvantages of Mobile Assisted Language Learning

Small Screen

The size of the smart phone perhaps become a big disadvantage, as it causes strenuous effort for reading and typing. The learner feels discomfort with the small size devices if he has to attend prolonged classes and assignments.

Lower Level Thinking

The mobile apps consists of dictionaries, translators and flash cards reduce the logical thinking and creative skills of the learner and it automatically lead to be addicted with the device without using natural thinking capabilities.

Distracted Learning : Mobile learning courses can drain batteries quickly and struggle in areas of poor connectivity,

leading to an unintentionally fragmented learning experience that reduces engagement. Lack of standardisation: Device compatibility issues may arise as there is a lack of standardisation in smart-phones.

Hardware and software Issues

Unlike computers and laptops, mobile phones have limited capacity of internal storage and also may cause drain or low battery while using continuously. This may lead to learning distractions also.

The Rising Opportunities of Mobile Assisted Language Learning

The Economic Times (San Francisco) recorded that, 'with a rise in Smartphone ownership globally, China has the highest number of Smartphone users, 1.3 billion, in 2018, followed by India with 530 million users'. As per The Indian Express Report (2018) currently the number of Smartphone users in India is in between 300-400 million. Out of about 650 million mobile phone users in the country around 300 million have Smartphone. In the next year or so two out of three Indian mobile users are expected to upgrade their phones and the number of smart phone users may rise up to 433 millions. It is reported that the number of internet users in India is expected to reach 450-465 million with an overall internet penetration around 31 per cent in near future.

The COVID-19 pandemic has greatly affected the normal mode of teaching learning system and pave way for the technological alternatives. The people from the rural areas of India were not capable of buying laptops or personal computers for their children to continue their studies. Accordingly, during the crisis period of Educational systems, 'm learning ' plays a pivotal role in resuming the teaching learning process. The rise of Mobile Assisted Language Learning (MALL) received an effective outreach among the English language learners. The existing e- Learning system shifts to m-Learning, as it is more comfortable for the learners anywhere at any time.

Learning a language is one of the most rewarding things one can do. There are a lot of ways to learn or improve our skills in a particular language, from attending classes to self-learning. This paper introduces some of the best English language learning apps at free of cost:

Hello English

This is one of best English language learning apps anyone looking to improve their English. Hello English covers all the aspects of language learning, including vocabulary, translation, grammar, spellings, spoken, and reading skills. However, you should already be able to understand basic English structure and alphabets, the app can't help you learn English from scratch. When you'll first launch the app, you'll have to select your native language to continue. There are 22 languages supported, and make sure you choose the right one as the app will work in your native language from here.

Duo lingo

If you want to learn English from scratch, then this is the app you are looking for. Duolingo uses interactive games to help you learn up to 23 different languages, including English. For beginners, the app focuses on helping you learn verbs, phrases, and sentences. Although advanced users can also improve their language by completing writing, speaking, and vocabulary lessons.

Ling be

This is a community-based app where people help each other and share their native language. It connects you with real people on call that are native in the language you are looking to learn. Lingbe has a language exchange system. To get talking minutes to learn a foreign language, you'll have to first talk with someone in your native language and help them learn it. So it's basically a give and take app where you are both the teacher and the learner. Overall, it's a fun way to make friends, learn cultures, and learn a new language.

Awabe

A completely free app that helps you learn over 4000 common phrases and vocabularies. The app works completely offline and there is tons of data to improve your English. The app offers translations, audio and video lessons, and a bunch of

language learning games. You'll also get daily speaking, listening, and memorizing tests that ensure your skills stay fluent.

Cambly

Cambly connects English learners from all over the world with private, native-English-speaking tutors. Teachers can pick their hours and designate their specialization, such as "IELTS practice" or "Intermediate Level Tutoring" in their profile. Cambly is convenient and super easy to use. You don't need to have any teaching experience and downloading the app is free.

Sentence Master Pro:

Sentence Master Pro is one of the more interesting English learning apps. It is an interactive, English learning app that progressively guides the user through language study in real-world, immersive contexts.

Challenges of MALL

The integration of technology and learning especially language learning is an opportunity to improve the quality of teaching and learning and to expand access to learning opportunities. It is crucial to note that in developing countries, because of the limitations and difficulties in having various learning materials and textbooks, classes are chiefly teacher-centred and the students just listen and show no critical thinking, creativity, reflection, interaction, and self-directed learning. Furthermore, it can be argued that technological advancements have created huge gaps and disparities between students of developed and developing countries.

Developing countries passively adopt technology as standard products which have been developed in industrialized countries and which can be handily employed immediately. Nevertheless, the effective use of technologies needs much more than mere installation and application of systematized knowledge (Davison, Vogel, Harris, & Jones, 2000).

It is crystal clear that in the upcoming future the whole processes of learning would become IT-oriented and the use of MALL might become an internationally accepted trend in ELT across the nations regardless of any space-specificity. In spite of the fact that many research studies have been conducted in different developing countries especially the EFL contexts such as Iran and some Arab and African countries, the matter of implementing and embedding MALL in educational systems of such nations has remained a controversial debate and is still at the level of theory rather than practice.

Beyond a shadow of doubt, the implementation of MALL in developing countries is a challenging task and one of the most critical issues is adapting to the change from traditional learning towards MALL. It is hard to expect that people create such a new learning situation for learners through the use of mobile devices. There are myriads of differences between the learning context of MALL and the traditional classroom contexts and this issue has made it a demanding job to convince people to abandon the traditional ways and stick to an IT-based learning.

Another challenge that exist in the application of MALL is the difficulties and pitfalls in the manageability and the methods of assessment and evaluation of learning processes. In the traditional ways of learning, there existed different pre-figured methods for assessment and evaluation of learners' learning, for example essay writing, multiple choice tests, and other written examinations. On the contrary, in MALL the process of learning is usually personally initiated and structured and as a result it is not possible to totally and exactly determine when and where the learning may occur and what the final upshot of the learning process might be.

It may also be demanding to measure the progress of learning if it happens across multiple contexts through the use of a variety of mobile devices. Yet another cognitive challenge that exists in MALL is the inadequate text and content display of mobile devices for learning.

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THE FUNDAMENTAL CHALLENGES IN SOCIAL SCIENCE RESEARCH IN INDIA

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Abstract
In India, the history of social science research has been turbulent. According to the most recent numbers from India's HRD ministry's website, social science research in India has grown in recent years. In 2018, there were 200 institutions in India with more than 300 social science departments. Although the majority of NGOs and policy research initiatives do not have a long-term interest in research and the quality of their work is not yet established, some have produced specific development-focused research outputs. As a result, the focus of this paper is on recognising the major challenges that social science research faces in India.

Keywords: *Social Science, Social Science Research.*

Introduction:

In India, the history of social science research has been turbulent. Throughout the colonial period, the processes of modern education, the construction of universities, and the academic interests of Indian intellectuals in writing about issues affecting the people of the country directly led to the development of social science research in India.

Prior to India's independence, the majority of social science research took place at universities. However, after India attained independence, a slew of new research institutes sprouted up, contributing to the progress of social science research. According to the most recent numbers from India's HRD ministry's website, social science research in India has grown in recent years.

In 2018, there were 200 institutions in India with more than 300 social science departments. Although the majority of NGOs and policy research initiatives do not have a long-term interest in research and the quality of their work is not yet established, some have produced specific development-focused research outputs. The purpose of this essay is to identify the major challenges that social science researchers in India encounter.

Social Science and Social Science Research:

Before we can define social science research, we must first define social science. The social sciences are the study of individuals and their social and behavioural environments. According to the first chapter of the Encyclopedia of Social Sciences, social sciences are "those mental and cultural disciplines that deal with the behaviours of the individual as a member of a group," according to Edwin, R. A. Selegnian.

Social sciences, as we know them now, are still in their infancy. Philosophy, like many other branches of study, was the genesis of the concept for social sciences. What is now known as social sciences was previously known as "social discipline," but as time passed and the impact of the scientific method on our way of life became clearer, the term "social discipline" was replaced with "social sciences".

In general, it is impossible to create clearly defined boundaries for the Social Sciences such as Sociology, Economics, Anthropology, History, Psychology, Political Science, and so on. This is because every human endeavour has several sides.

As a result, the social sciences are linked to the natural and social sciences, as well as the arts and other disciplines. Social sciences study the structure and characteristics of human groups, as well as how people interact with one another and with other groups in their environment. When we speak about social science research, we mean research conducted by social scientists in accordance with a predetermined strategy. Social science study refers to any scientific investigation into human interaction and behaviour that sheds light on components of cognition and behaviour that are social in some way. Social scientists investigate a wide range of social issues using a variety of methodologies. The behaviour of people in society is methodically explored in social science research with the purpose of building a corpus of useful theory. Social scientists use their research to try to explain aspects of human behaviour, interpersonal interactions, and the social world.

An Overview of Social Science Research in India:

The following two forces dominate social science research, according to the fourth review committee of The Indian Council of Social Science Research, New Delhi:

(a) an interest in learning about how society works in all of its social, cultural, political, and economic aspects, as well as an understanding of the impacts on these elements; and

(b) the practical requirements of policymakers and managers in the public and private sectors for reliable information and expert analysis. The committee believes that the depth and scope of both of these were severely limited in the pre-Independence era due to the scarcity of universities and other academic institutions, which were the principal centes of intellectual study at the time. The government's information and analysis requirements were relatively low. The government's role in encouraging social and economic development was considerably expanded in the years following independence. It also witnessed the spectacular rise of modern industrial and commercial organisations. Political tensions and public interest in problems of public policy and its social repercussions resulted in the formation of an economy and society. All of this increased the demand for knowledge and research on developmental issues. In the 1950s and 1960s, great efforts were made to stimulate research, develop, and restructure the statistics system. A number of new universities have departments for instruction and research in several social science subjects.

The Planning Commission initially took the lead in (a) involving social scientists (mostly economists) from the university system in the development of plans and monitoring their implementation and impact; and (b) encouraging and supporting academic research in universities through a variety of projects on a wide range of topics. Government agencies began to be more interested in establishing or expanding specialised institutions under their authority. Furthermore, they began supporting departments within pre-existing universities and organisations to conduct research on certain issues. Since then, the number of university departments and research organisations devoted to the social sciences has skyrocketed.

The University Grants Commission launched a programme to support Centres of Advanced Studies in university departments with exceptional faculty, as well as Special Assistance Programs to nurture and support promising university departments in various social sciences in order to strengthen their research capabilities. These activities, in addition to sponsoring the formation and extension of social science faculties in universities and colleges, are part of a larger picture. The financing for research doctorates and postdoctoral fellowships has grown. Recently, UN agencies, foreign government aid agencies, international financial institutions, and private foundations have shown a rising interest in financing socioeconomic Social Science research. Development and policy

challenges are addressed by government departments and public sector organisations.

This has resulted in spreading non-governmental "research" organisations, and commercial consulting firms and NGOs are becoming more prevalent in surveys and "research." This movement has gained traction as the economy has gradually liberalised and globalised. Over the last two decades, social science study has grown to cover disciplines pertinent to the nation's current socioeconomic and political situation. According to the latest recent figures on the website of India's HRD ministry5, social science research in India has grown dramatically over the last several decades, and there are 200 universities in India with more than 300 social science departments as of 2018.

Many research institutions have conducted numerous studies in fields related to equitable and sustainable development, including the Institute of Economic Growth (IEG), the Centre for Developing Societies (CDS), the Madras Institute of Developing Societies (MIDS), and the Centre for Policy Research (CPR). Urbanization and poverty research have also grown in importance. Academic institutions, research organisations, and non-governmental organisations (NGOs) have performed research that has moved feminist studies and women's and gender studies in new directions. Environmental study has traditionally focused on indigenous knowledge systems. Despite the fact that industrial growth and the difficulties it presents are a prominent area of research, agriculture and rural development remain a priority for both scholars and policymakers. The concept of "inclusive development" has emerged as a critical concern.

Constraints in Indian Social Science Research:

In developing countries such as India, social research is at a critical point. Despite the fact that the country conducts the most research in the region and is well ahead of other South Asian countries, there are significant inequality in the quantity and quality of research activity and output across the country. Some top universities in major cities foster academic research cultures that value multidisciplinary collaboration, peer evaluation of knowledge production, and engagement in internal and external intellectual networks and learned societies. Many of these universities have nationally and internationally renowned scholars on their faculties. However, the majority of universities do not conduct research that satisfies the requirements of the international academic community, nor have they greatly advanced the country's social science research, whether theoretical or applied and policy-focused. The standing of social research in India differs from that of wealthier nations. According to Saravanavel6, this is because:

1. In India, societal problems are significantly more prevalent and complex than in Western countries. 2. A country like India cannot afford to sponsor social research since money needs in other areas of life are more essential and require immediate attention than research. 3. It is difficult to raise extra research funds because of a vicious spiral of poverty, capital formation, taxation, and so on. 4. The majority of Indian researchers lack access to cutting-edge research techniques.

5. There is virtually no infrastructure in India's universities and research organisations to create trained and qualified social researchers on short notice. 6. The number of skilled, trained, and committed social research personnel is already far insufficient to study and research social problems. Etc. Shamita Sharma7 identified six such issues in Indian social research, which can be summarised as follows:

i. The dominance of Western intellectual heritage in Indian studies. The effect is felt not only in the application of western "concepts, theories, and methods of study," but also in the themes of study. As a result, many subjects of importance to India were not thoroughly researched. ii. Because the majority of Indian social scientists are elites, study concerns "seen by them" take priority over those of the

masses. In India, there is a lack of representation from the general public in social science research. It is difficult to reflect women's difficulties and problems in social science research. iii. The concentration of social science research in cities and its absence in rural areas. iv. The overemphasis on economic issues, as well as economists' control over other disciplines, has resulted in a gap in the growth of social scientific research in India. Interdisciplinary research remains a key concern since social science research remains discipline-specific.

In India, most social science research is supported by the government or international organisations. The reliance of social scientists on outside assistance limits their autonomy. The ICSSR has aided the progress of social science research by granting scholars autonomy and flexibility. v. The brain drain of highly educated Indians seeking better possibilities such as job, wages, and living circumstances, as well as a suitable academic atmosphere, has an impact on social science research in India. Apart from the foregoing, other issues have been discovered that are hurting social science research, notably at the university level. Problems such as a lack of faculty in social science disciplines, as well as the use of vernacular languages as the medium of instruction at the post-graduate level, have also had an impact on social science research, as it is unclear whether "serious research scholars" will be produced from such institutions of learning. ICSSR also highlighted a dearth of "incisive and creative analytical investigations; inadequate quality of research proposals; and a dearth of skilled researchers."

Problems with Structure:

1) Lack of sufficient institutional support and financing is one of the underlying problems of social science research in India. The Government of India and its organisations, such as the Indian Council for Social Scientific Research (ICSSR) and the University Grants Commission, subsidise the majority of social science research in India (UGC). While India has a greater academic legacy in the arts and social sciences, the country's higher education funding increase is focused on science and technology. There has been a notable growth in the number of non-state funders of social research in India since the mid-1990s. While this percentage is currently considered quite modest in comparison to the government, it is a quickly rising field. However, there is no complete or precise data on how much money these organisations provide to social science research in India. The diversity and breadth of players in this area, as well as extensive duplication of work among various organisations, make estimating the amount of money spent on research by these agencies very impossible.

2) The second issue is the establishment of a fast developing private and business enterprise sector, which has created a new demand for social science research in sectors such as business management, commerce, marketing, media, and others. This has had a harmful impact on traditional social science disciplines. New actors have entered the research area to do specialised purpose and mission-oriented research, such as business bodies, industrial associations, NGOs, and private trusts. They improve the research capacities of social scientists and frequently drive the finest of them out from the university system, contributing to internal brain drain.

3) The third issue is the autonomy of social science research in the face of political influence. Major research programmes and financing for politically charged themes like religion, caste, ethnicity, and so forth are politically steered.

4) Even within the many social science disciplines, multidisciplinary approaches are rarely applied, and economics dominates the policy research sector.

5) While universities and publicly sponsored research institutions conduct the majority of social science research, university administration is not research friendly, and there are no incentive mechanisms - either financial or professional - to encourage professors to conduct research. Because of their poor

quality, the majority of PhD theses at regional universities cannot be published.

6) Language is another issue in Social Science Research. Most provincial colleges employ a regional language as the medium of teaching up to the undergraduate level, but English is used as the language of communication in most postgraduate education and practically all advanced research (with the exception of language studies). A huge majority of students struggle to make the shift due to the critical vocabulary of discipline and interdisciplinary research being performed predominantly in English. Much of the main study is carried out in the field dialects and languages. Unlike in the natural sciences, social science research, particularly in subjects where description and the written essay are key, necessitates a command of the English language.

Conclusion:

Because concerns and obstacles related with social science research exist to this day, establishing social science research in India has not been an easy task. One of the primary causes of varied research quality is a lack of proper institutional support. Even if a few Indian social scientists have excelled in the global social science community, the majority of institutions have yet to make an impression on the global academic landscape. Research organisations hire new university graduates but make few investments in expanding their research capacity.

Applied research organisations and consulting firms are becoming increasingly acceptable career possibilities, although these organisations prefer to generate policy papers or briefs rather than academic articles in refereed journals. Although universities and publicly funded research groups perform the majority of social science research, neither the university administration nor professional or financial incentives exist to encourage professors to conduct research. Despite the fact that most NGOs and policy research efforts, such as think tanks, do not have a long-term interest in research and the quality of their work is not yet established, some of them have produced specific development-focused research products.

As a result, how we approach these concerns will influence the future path of social scientific research.

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PHYTOSOCIOLOGICAL ANALYSIS AND SPECIES DIVERSITY OF HERBACEOUS LAYER IN SALIYATOLI

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Abstract
The objective of the current study is to investigate the phytosociological characteristics and therefore the diversity patterns of herbaceous plants in Saliyatoli. The study was conducted in selected two vegetation sites. Phytosociological deals with plant communities their composition and development and therefore the relationship between the species within them. During the study period a complete of 10 species representing 10 families were recorded. The distribution pattern revealed that 80.2% species showed aggregated distribution while 10.2% were randomly distributed. The herbaceous flora of the realm indicated its importance jointly of the productive range region. The very best similarity was recorded between site 1 and site 2 (62.28%) and therefore the lowest (40.72%) between site 1 and site 2.

Keywords: *Importance Value Index, Species diversity, Aggregation, Diversity index, Saliyatoli, Herb.*

1.Introduction

Saliyatoli is a small village in Jashpur district of Chhattisgarh State India. Therefore the paper proper to make a detailed phytosociological survey was carried out to analyze the structure, composition, distribution and diversity of herb vegetation in Saliyatoli. The present work is based on botanical excursions undertaken by author from (2019-2020). Phytosociological analysis of natural vegetation is recognized as a efficient and appropriate method to select out useful plant species from natural communities.

2. Research Methodology

2.1 Study sites_: Saliyatoli the eastern most Jashpur district of Chhattisgarh is situated between 20º 2' at north latitude to 23º 16' at north longitude and 83º 28' at least longitude, covering an area of 5322.67sq km. the the altitude of Jashpur upper ghat is 1000m above sea level. The temperature range is form 10ºc in winter to 2ºc in summer the total annual precipitation in between 1200, 2396mm.

2.2 Survey : Several field investigation have been conducted on explore the ethnobotanical knowledge of the tribe of this area. The villages were visited in different seasons to avail the plant resources in their flowering conditions.

2.3 Sampling and collection : During the first phase of the study periodic survey were conducted the phytosociological analysis of herbaceous vegetation was carried out on the monthly basis at one study sites.

3. Result

A maximum of 14 herb species were recorded from all the study sites during present investigation belonging to 10 families. A maximum number of 14 herb species were recorded at the site 1. The research analysis of data as presented in Table 1 revealed that at site 1 the density and importance value index was the highest in the month of June for Clover as 70.1 and 96 followed by Henbane 40.2

and 58.49 respectively. In the month of November Clover have 49.8 and 99.65, 97 density and IVI followed by *Ricinus communis* as 18 and 46.21 (Table 1). The important value index of herb species of this site revealed that Clover were the least dominant.

Table 1 – Phytosociological attributes of herb at site 1

S. No.	Genera			J	U	N	E				N	O	V	E	M	B	E	R	
		F	A	RF	D	RD	A	RA	IVI	F	A	F	D	RD	A	RA	IVI	A	F
. 1.	*Acanthus montanus*	4.21	4.9	2.5	5.9	7.6	4.9	5.8	6.98	2.9	3.8	4.1	2.53	3.7	2.6	4.1	2.53	5.85	5.89
. 1.	*Asysasia gangetica*	2.4	4.5	2.6	3.7	2.8	4.1	2.53	5.89	4.21	4.9	2.5	5.9	7.6	4.9	5.8	6.98	2.9	3.8
. 2.	*Aloe vera*	2.4	4.5	2.6	3.7	2.8	4.1	2.53	5.89	4.21	4.9	2.5	5.9	7.6	4.9	5.8	6.98	2.9	3.8
. G	*Gmelina arborea*	5.7	8.6	4.7	8.8	6.98	2.2	3.7	4.21	4.9	2.5	5.9	7.6	4.9	4.1	2.53	5.85	5.89	3.8
. 3.	*Hypostes vertillaris*	4.1	2.53	5.89	4.21	4.9	2.5	4.1	2.53	5.89	4.9	2.5	5.9	7.6	4.9	4.9	2.4	4.5	2.6
. 4.	*Hyoscyamus niger*	2.6	3.8	2.8	4.2	2.53	5.89	4.5	40.2	3.8	2.8	3.4	4.3	2.6	3.2	2.8	58.4	2.53	5.89
. 5.	*Justicia insularis*	2.4	4.5	2.6	3.7	2.8	4.1	2.53	5.89	4.21	4.9	2.5	5.9	7.6	4.9	5.8	6.98	2.9	3.8
. 6.	*Nelsonia canescens*	3.7	2.6	4.1	2.53	3.7	2.6	4.1	2.53	2.2	3.7	2.6	4.1	2.53	5.5	7.6	4.9	5.8	6.9
. 7.	*Phaulopsis imbricata*	3.4	4.3	2.6	3.2	2.8	4.8	2.53	5.89	4.21	4.1	2.5	5.5	7.6	4.9	5.8	6.9	2.9	3.6
0. 8.	*Papaver somniferum*	4.4	4.5	2.2	3.7	2.6	4.1	2.53	5.89	4.2	4.9	2.6	5.9	7.5	4.9	5.8	6.95	2.8	3.2
1. Ri	*Ricinus communis*	5.5	7.6	4.9	5.8	2.5	2.2	3.7	18	4.1	4.2	2.5	5.8	4.5	2.6	3.8	46.	3.7	2.7

						3						3	9				21		
12.	*Sida cordifolia*	3.2	2.8	4.8	6.98	2.2	3.7	2.7	5.3	4.2	2.6	3.8	2.8	4.2	2.53	5.89	4.5	4.8	2.2
13.	*Salvia officinalis*	5.9	7.6	4.9	5.8	6.98	4.1	2.53	2.2	6.8	3.76	4.8	2.8	4.2	2.53	5.89	4.5	2.76	4.81
14.	*Trifolium albopurpureum*	5.3	4.2	2.6	3.8	2.8	4.2	2.53	49.8	4.5	4.8	2.2	5.7	8.6	4.7	8.8	99.6	2.2	3.7

Note: F= frequency, RF- Relative Frequency, D=Density, RD- Relative Density, A= Abundance, RA- Relative Abundance, and IVI- Important Value Index.

4. Discussion

Phytosociology is the branch of science which deals with plant communities their composition and development and the relationship between the species within them. The research analysis of data reveled that a maximum of 14 herb species were recorded form the study sites belonging to seven family .

5. Conclusions

The herbaceous diversity of the study area was found to be Represented by 10 plant species belonging to 10 genera under 07 families. The primary conclusion is that there is low grazing pressure and moderate human impact on normal distribution of herb species which may cause reduction in herbaceous community in next few decades in the forest ecosystem.

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AN EXPLORATION OF NEW PERSPECTIVES IN FRENCH FEMINISM

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Abstract

The present research paper sheds light on and deliberates the new perspectives offered by French feminists such as Helen Cixous, Luce Irigaray, Julia Kristeva, Christine Delphy, Monique Wittings, and Colette Guillaumin. The French feminists gave a new theoretical orientation and direction to feminist movement in twentieth century by providing new insights. Their work is based on the new developments and theoretical perspectives of post structural thinkers such as Jacques Lacan, Jacques Derrida, Foucault and Louis Althusser. The female body is at the centre in the writing of French feminists. Language is also a main concern in their works. The new discoveries and theories in psychoanalysis largely influenced and shaped their works. Their main contention is that the man and the women experience the world quite differently and women need a different style of writing and a new language to express their perceptions of the world. Ecriture feminine is one the major contribution of French feminists.

Key words: *Post structural theories, ecriture feminine, essentialism, language, psychoanalysis, French feminism, phallocentric, Feminist movement*

The term feminism has wide spread implications which has social, political, economic, literary and philosophical dimensions. Some scholars feel that feminism concerns with every sphere of life that touches women's lives. Feminism has developed rapidly in ninetieth and twentieth century all over the world, but still it is evolving and growing rapidly with each passing day encompassing knowledge and discoveries from other discipline of knowledge. As the movement of feminism developed further and further, its scope got widened encompassing various concern that touched women's lives. At the initial stage it was a movement that fought for women's rights, women's equality and independence. In the beginning it was known as women liberation movement which sought equal rights for women at par with men. In the initial stages very few women were vocal for their right, but this scenario changed with the publication of Mary Wollstonecraft's seminal book *Vindication of the Rights of Women*. The book laid down the theoretical foundation for the feminism and gives an impetus to the women's rights movement. Many women came forward, became vocal, talked about and discussed their rights. Another important figure in the early development of feminism is John Stuart Mill. His book *The Subjection of Women* published in 1869 is also considered as one of the foundational books of feminism. When the book was published in 1869, women do not have any legal rights. They ere subjugated in everywhere in the world. J.S. Mill advocated for complete equality for women in all spheres of life be it social, economic, political or cultural.

The development of feminism is generally described in terms of waves or phases. We are now in the fourth wave of feminism out of four waves considered by the feminist and scholars. This classification of feminism in phases acquires significance because each of these waves achieved some specific goals for

women. The main focus of first wave of feminism was to get equal rights for women in all spheres of life irrespective of cast, reed or race of the woman. As stated earlier women didn't have any economic, political or legal rights nor were they allowed to take any profession. Their world was limited to the four walls of the house. The highlight of the first wave of feminism is the women suffrage movement in the many parts of the world. As a result of women suffrage movement, women got Right to Vote in many parts of the world. The second wave of feminism began after the Second World War and the focal point of this wave was to put an end to discrimination against women in all fields of life. One of the seminal books published in second wave was Simone de Beauvoir's *The Second Sex*. The book talked about socialisation of women and how they are assigned gender specific roles. She said that one is not born but rather becomes a woman. The third wave of feminism began in 1980.

The scope of this wave was very wide compared to previous two waves. As mentioned above the feminism gradually became an international movement as it incorporated various diverse fields and disciplines. There were various schools of feminism based on concerns, interests, race, sexuality and nationality. There is British feminism, Anglo- American feminism, black feminism, lesbian feminism and French feminism. As discussed earlier the first to phase of feminism sought equal rights for women in all the spheres of life, but later on there arose various groups within feminism such as Black feminism, lesbian feminism based on sexual inclination, theoretical perspective etc. We find that these different schools and sub groups within feminism tried to put forward their theories and concepts of female/ feminine nature. As a result the feminism became more theoretical and intellectual.

Alice Jardine used the term French feminism in 1982. The term French feminist is used for three French feminist Helen Cixous, Luce Irigaray and Julia Kristeva in the beginning, but letter on it included other French women theorists such as Christine Delphy, Monique Wittings, Colette Guillaumin and many others. These French feminist were largely influenced by the postmodern writing, post structural theories and new discoveries in anthropology, psychoanalysis and linguistics. They also extensively used this new finding and discovery of postmodernist and post structural scholars and thinkers in their writings. Peter Barry in his book *Beginning Theory* elucidates the concerns of French feminists in contrast to Anglo-American theorists in following words.

In contrast to the Americans the work of French feminists is more overtly theoretical, taking at its starting point the insights of major poststructuralists , especially Lacan, Focault and Derrida …….. Indeed the French theorists often deal with concerns other than literature: they write about language, representation and psychology as such ….(Barry, 125)

They gave a new direction to the feminism with a solid theoretical framework. The term French feminism is not used to denote nationality; rather the term is used to denote a group of thinkers who share some common theoretical concerns. One more common trait among these scholars is that they all wrote in French language. They also largely used and interpreted and reinterpreted the theories of psychoanalysis by Sigmund Freud and Jacques Lacan. As we know the feminist in second wave of feminism fought for equal rights for women. They reexamined the gender roles and socialization of women and social institutions from the perspective of women.

They wanted to create a less misogynistic society. Contrary to the activism of the feminists in the first wave, the works of the French feminists are more philosophical and intellectual in nature. As result we find extensive use of post structural theory in the work of French feminist, particularly the post structural theories of language and psychoanalysis play an important role in the French feminism. Their work is based in linguistic constructionism where in

language create subjects and ideas. Language interrogate the subjects and asks them to take a position in the society. Their work is also founded on essentialism. The French feminist have also used Jacques Derrida's deconstructionist theories and post psychoanalysis theories and psycho-linguistic theories.

The French feminist lay emphasis on psychology and primarily use theories of psychoanalysis for the analysis of literature. They believed that the structure of language is primarily patriarchal. As we all know Sigmund Freud and Jacques Lacan's theories of psychoanalysis are based on language. So in the French feminism psychology and language merge in each other. French feminists believe that patriarchal language is used to portray woman as a symbol in a semiotic system. This aspect shows that language itself is sexiest. Another implication of sexiest language is that Western literary theory and criticism tends to be phallocentric which gives more importance to the male writing and tends to neglect and relegate women's writing in background. French feminist try to subvert phallocentrism in western literary theory and criticism. They try to break conventional male stereotypes of sexual difference. Their study of language as male centred and phallocentric is very important because language is used to construct and disseminate such stereotypes. They want to subvert such construction in language and use language to create a positive image of women in literature. They believe that there is separate women's language and women writer should use this specific women's language. Raman Selden explains the emphasis given by French feminists on language in their works in his book *A Reader's Guide to Contemporary Literary Theory* in these words:

French feminist theoreticians in particular, in seeking to break down conventional male constructed stereotypes of sexual differences have focused on language as at once the domain in which such stereotypes are structured , and evidence of the liberating sexual differences which may be described in a specifically 'women's language;(Selden, 141)

They believe that women's language is characterized by loose, digressive sentences. In patriarchal, phallocentric language the language itself is used refer to women as a sign in a semiotic system. This concept is developed by feminist and used to explain how women's status is constructed, developed and communicated in the patriarchal society. French feminist critics have also largely used Simone de Beauvoir's concept of 'other'. This concept indicates that women are perceived as other of man. The concept of other is used to indicate binary oppositions in society. In this binary operation of man /woman, man is at the centre and women at the periphery in patriarchal society. The concept tries to inculcate that women are inherently weak and passive. So they are other of man. Simone de Behaviour points out that Western society are totally male dominated and phallocentric. In this patriarchal society women are considered as second sex, the other. Woman is defined in relation to man and not man in relation to woman. The society considers the man as essential and as central and woman as inessential and secondary.

Ecriture Feminine is a French term generally used for women's writing. This term refers to the style of writing which is considered as unique to women. The term is generally associated with French feminism and more specifically with French feminist critic Helen Cixous. Cixous says that woman writers have always to work on the two levels. One of these levels is literal level while another one is metaphorical level. Women writers and feminist critics have to assume various roles. They sometimes assume defensive masculine roles and other times assume fully feminine roles and sometimes they combine both masculine and feminine roles. The most important principle of ecriture feminine is that women should write a new female text. Edgar and Sedgwick concisely and lucidly explain the term ecriture feminine in their

book *Cultural Theory: Key Concepts* in following words:

A form of writing and reading that resists being appropriated by the dominant patriarchal culture. It is argued, developing on the psychoanalysis of Lacan, that patriarchal culture privileges a hierarchal way of thinking grounded in a series of oppositions (Edgar & Sedgwick.102-103)

Ecriture feminine appeals the woman to write with female body. Another aspect is that French feminism gives more importance to languages and literature rather than to sociology history or politics. They were keenly interested in the making/formation of psyche/psychology of an individual. They try to find out how a subject is constructed by language and other social institutions.

The main thrust of ecriture feminine is to construct a new style of writing that could better express women's emotions and experience. The women should use a different language specific to their gender and body. The practitioners of ecriture feminie oppose the binary oppositions created by patriarchal society such as male / female, self / other, he / she etc. which tend to relegate women to a secondary position. The language based on these binary oppositions is not a suitable medium for women to express their emotions and experience. This new style of writing and language freed from clutches of patriarchy and binary oppositions will provide a suitable medium for women to express themselves. This new language would create a better self image of women as they are freed from the barriers and disadvantages of language created by men. The women must write about her and her innermost feeling in the feminine text. Helene Cixous insists that Women must write about herself and her body. She emphasizes that women must put her into the text, world and history. Lucy Irigaray compares and makes association between feminine language and female body. She says that one main purpose of feminine language and ecriture feminine is to show that women experience the world differently than men and they need a different language to express their perceptions. She says that patriarchal society priorities man's experiences by erasing sexual differences. The concept of ecriture feminine focuses on the female body. The French feminist believe that the body is at the root of difference between man and woman.

Conclusions

French feminist gave a new orientation in twentieth century. They also provided a solid theoretical framework to feminist movement by using post structural theories. There emphasis was on women's perceptions of the world and finding a suitable medium of expression exclusively for women. Some of their concepts didn't find favour with other feminists, but there contribution to feminist theory was novel and original.

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"SUSTAINABLE AGRICULTURE IN INDIA"

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Abstract
. Agriculture plays a crucial role in the development of the Indian economy. It accounts for about 19 per cent of GDP and about two thirds of the population is dependent on the agriculture sector. Sustainable agriculture allows us to produce and enjoy healthy foods without compromising the ability of future generations to do the same. The key to sustainable agriculture is finding the right balance the need for food production and the preservation of ***environmental ecosystem****. Sustainable agriculture also promotes economic stability for farms and helps farmers to better their quality of life. Agriculture continuous to be the biggest employer in the world with 40% of the world's population working in it.*

Introduction:-

A large proportion of the population in India is rural based and depends on agriculture for a living. Enhanced and stable growth of the agriculture sector is important as it plays a vital role not only in generating purchasing power among the rural population by creating on-farm and off-farm employment opportunities but also through its contribution to price stability. Agriculture plays a crucial role in the development of the Indian economy. It accounts for about 19 per cent of GDP and about two thirds of the population is dependent on the sector.. In India, although the share of agriculture in real GDP has declined below one-fifth, it continues to be an important sector as it employs 52 per cent of the workforce. The growing adult population in India demand large and incessant rise in agricultural production. But per capita availability of food, particularly cereals and pulses, in recent years has fallen significantly. As a result, slackening growth of agriculture during last decade has been a major policy concern.

Meaning of Sustainable:-

The word sustainable has become very popular in recent years. We want to achieve the growth or development but the development of every sector will be sustainable. Sustainable development means it is a pattern of resources use that aims to meet human needs while preserving the environment so that the needs can be meeting not only in present but also for generations to come.

The term was used by Brundtland commission "Sustainable development meets the needs of the present without compromising the ability of future generation to meet their own needs."

Sustainable Agriculture:-

Sustainable agriculture is the production of plants and animal products , including food in a way that uses farming techniques that protect the environment, public health, communities and the welfare of animals. Sustainable agriculture is the system of raising crops for greater human utility through utilization of resources with better efficiency without disturbing imbalance or polluting the environment The goal of sustainable agriculture is to meet societies food and textile needs in the present without compromising the ability of future generations to meet their own needs.

Objectives:-

1. To study the meaning of Sustainable
2. To study the sustainable agriculture in India

3. To discuss about methods and importance of sustainable agriculture in India .

Research Methodology:-

The paper is based on mainly secondary data such as relevant books, journals and internet i.e. Google.

Sustainable Agriculture in India:-

Sustainable agriculture meets the needs of the present without compromising the ability of future generation to meet their own needs. While we are misusing the resources in a very vital manner, which is not good for the present generation and as well as to the future generation. 'Future Generation' is mainly related to the environmental problems of resource consumption and pollution and their distribution over long time horizons. Sustainable agriculture is necessary for survival of and our present generation as well as coming generation. We have to think about how to improve the quality of agriculture of both current and future generations while safeguarding the earth's capacity to support life in all its diversity. Sustainable development is a way of thinking by which we can secure our present and future generation. The right to development means the right to improvement and advancement of economic, social, cultural and political conditions that can be improved the global quality of life. In simple sustainable agriculture means 'development of agriculture that meets the needs of the present without compromising the ability of future generations to meet their own needs.'

We liberalized our economy and make our market global such as think locally and act globally. Our static economy changed viable. Various changes taken place. Every day there is a change so that the world markets become competitive. Revolutionary changes taken place such as close economy to open economy, regulated economy to deregulated economy.

Sustainable agriculture allows us to produce and enjoy healthy foods without compromising the ability of future generations to do the same. The key to sustainable agriculture is finding the right balance the need for food production and the preservation of **environmental ecosystem**. Sustainable agriculture also promotes economic stability for farms and helps farmers to better their quality of life. Agriculture continuous to be the biggest employer in the world with 40% of the world's population working in it.

Methods of Sustainable Agriculture:-

Crop Rotation :- Crop rotation is one of the most powerful technique of sustainable agriculture. Its purpose is to avoid the consequences that come with planting the same crop in the same soil for years in a row. It helps to solve the pest problems, as many pests prefer specific crops. Rotation of crops breaks the reproduction cycle of pests.

Permaculture:- Permaculture is a food production system with intention, design and smart farming to reduce waste of resources and ceate increased production efficiency.

Cover Crops:- By planting cover crops such as clover or oats, the farmer can achive his goals of preventing soil erosion, suppressing the growth of weeds and enhancing the quality of the soil. The use of cover crops also reduces the needs for chemicals such as fertilizers.

Soil Enrichments:- Soil is a central component of agriculture ecosystems. Goods soil can increase yields as well as help create more robust crops.

Natural pest predators:- In order to maintain effective control over pests, it is important to view the farm as an ecosystem as opposed to a factory. For example many birds and other animals are in fact natural predators of agricultural pests. The use of chemical pesticides can results in the indiscriminate killing of pest predators.

Bio intensive Integrated pest management:- Integrated pest management (IMP) is an approach which essentially relies on biological as opposed to chemical methods

Policulture farming:- This technique is similar to crop rotation that tries to mimic natural principles to achieve the best yields. It involves growing multiple crop species in one areas.

Agro forestry:- Agro forestry has become one of the power full tools of farmers in dry regions with soils susceptible to desertification. It involves the growth of trees and shrubs amongst crops or grazing land, combining both agriculture and forestry. Trees have another important role that maintains the favourable temperature, stabilizes soils and soil humidity, minimises nutrient runoff and protects crops from wind or heavy rain.

Better water management:- The first step in water management is the selection of the right crops. Local crops that are more adaptable to the weather conditions of the region are selected. Crops that do not demand too much water must be chosen for dry areas. There should be well planned irrigation system.

The application of rain water harvesting system by storing rainwater can be used in drought prevailing conditions.

Benefits of sustainable Agriculture:

1. Contributes to environmental conservation
2. Saves energy for future
3. Public health safety
4. Prevents pollution
5. Prevents air pollution
6. Prevents soil erosion
7. Reduction in cost
8. Biodiversity
9. Sustainable live stock management
10. Beneficial to animals
11. Economically beneficial for farmer.
12. Social equality
13. Beneficial for environment.

Conclusion:-

Sustainable agriculture is a vision and a way of thinking and acting so that we can secure the resources and environment for our future generation. It is clear that environmental degradation tends to impose the largest costs on those generation that are yet to be born. Future generations are disadvantaged with regards to present generations because they can inherit an impoverished quality of life. We can only improve sustainable agriculture when it will put an emphasis on involving citizens and stakeholders.

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A GEOGRAPHICAL STUDY OF SHEEP FARMING IN LATUR DISTRICT

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Abstract

The sheep is an important economic livestock species contributing greatly to the agrarian Indian economy, especially in arid, semi-arid and hilly areas. They play an important role in the livelihood of a large number of small and marginal farmers and landless laborers engaged in sheep rearing. Sheep's are mostly reared to obtain meat and wool as commercial goods. Sheep skin and wool is used by a number of rural based industries as raw material. Sheep manure is an important source of organic fertilizer for increasing soil fertility. The aim of present paper is to assess growth, distribution and changes in Latur district of Maharashtra. The entire investigation is based on field observation and secondary sources of data obtained from Scio-Economic review and District Statistical Abstract and livestock census hand book. The study concludes that from last a decade number of sheep population is decreased in throughout the district. The distribution of sheep population in Latur district is uneven. Where Dhanagars community is high in number engaged in this occupation, there sheep distribution is also high in number i.e. Jalkot, Nilanga, and Chakur tahsils. This decrease in sheep population is mostly confined with the tahsils were irrigation, agriculture technology adoption of modern cash crops and fruit crops with modern technology and commercial attitudes has been practiced i.e. Latur, Ausa, Udgir, and Shirur Anantpal tahsils ***etc.***

Keywords: *Sheep, Urbanization, Agriculture Development, irrigation facilities, fodder, water, Dhanagars.*

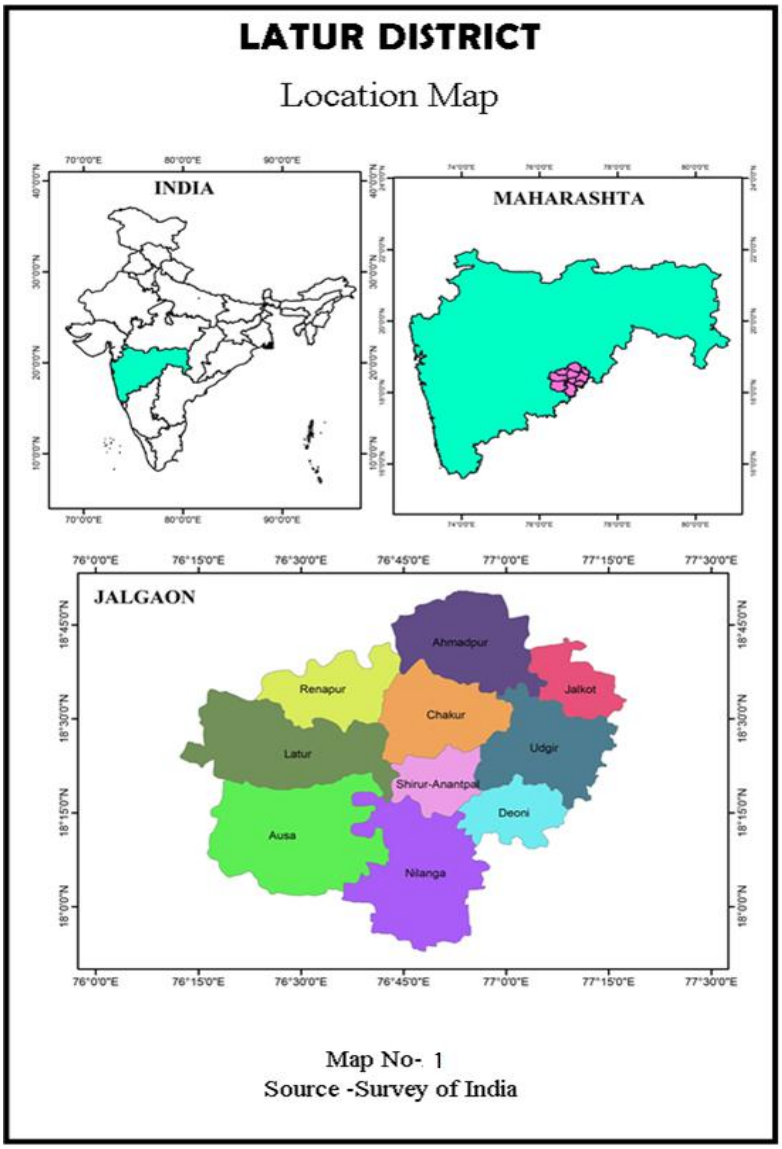
Introduction:

In Latur district 71 percentage of people occupation is farming. In 2011 census 68.17 percentage people were living in villages and they were depended upon the income gained by the farming for their livelihood. But climatically Latur district is located in drought prone area. Soil of the district is comparatively of lesser quality, irrigation facilities are less, short and thorny forest patches etc. due to this reasons in the district less development of agriculture is found. So the people in the district engaged in the sheep farming for their livelihood. In other hand sheep possess a special ability to thrive on nature grasses and, except during certain physiological stages of life, do not need to be given any supplemental feed. In fact there is no substitute for sheep as a class of livestock for utilizing waste land or weeds from the field. As well as in the study region there are large number of small holder and landless labourers. Out of them many have adopted sheep rearing occupation as a means of life and some are doing this occupation with their family members to get additional income from wool, manure and marketing by sheep's. Here, I have attempted to take review of sheep population and its present situation in Latur district.

Study Region:-

Latur district is one of the most important districts in Marathwada region of Maharashtra state. The study of animal husbandry is very new concept. Many farmers and agricultural laborers have

been engaged in animal husbandry occupation in Latur district. Latur districts economy is mostly depends on agriculture and agriculture is much related to animal husbandry occupation. Latur district is located in the South-East part of the Maharashtra state and it lies between 17^0 52' North to 18^0 50' North Latitudes and 76^0 12'East to 77^0 18' East Longitudes. It is bounded by North Beed and Parbhani districts and North-East Nanded district, on the South-East and South to the Karnataka slate and on the North-West, West and South bounded by Osmanabad district. For the administrative purpose Latur district divided into two revenue divisions Latur and Udgir. In the Latur district 10 tehsils like then Latur, Ausa, Udgir, Renapur, Chakur, Ahmadpur, Devani, Nilanga, Shirur Anantpal and Jalkot. Devani, Shirur Anantpal and Jalkot these three tehsils are newly created. Total geographical area of Latur district is 7157 sq. km. Out of Total geographical area of Maharashtra it covers 2.39 percent (Map No. 2.1& 2.2). Latur district. Separated from Osmanabad district on 16th August 1982. The Manjra, Manyad, Terna, Tawarja, Gharni and Lendi river basins are very useful for agricultural and number of animals are less in this area. The major portion is flat in the tehsils Latur, Ausa, Nilanga, Renapur and Deoni tehsils hence it support to high concentration of agriculture. There are 5 towns and 922 villages are habited and 23 villages are inhabited as per 2011 census.



Map No- 1
Source -Survey of India

Objectives:

Following are the specific objectives of the present investigation.

1. To study the geographical determinants of Sheep's in the study region
2. To take an account of Sheep's in the study region.
3. To study the growth, distribution and changes of Sheep's population in the study region.

Data Source And Methodology:

Present study is based on field observation and secondary source of data. The secondary sources of data obtained from the Socio-Economic review and district Statistical abstract of Latur district. District census handbook and livestock census hand book. 2007 sheep's population data obtained from the Zilla Parishad Pashu Sanvardhan Khate Z.P. Latur. Collected data is processed and presented in the forms of tabular and graphical. Tabular form using statistical techniques, such as the growth and changes of sheep population will be calculated with the help of following formula.

Where,

GRC = Growth Rate and Changes

P2 = Second values or Numbers

P1 = First values or Numbers

The density of sheep population is calculated with own idea, the formula given below.

$$D = \frac{T.A.}{Area\ (F+CE+F+N)}$$

Where,

D =Density ofsheep population

T.A. =Triennial average of sheep population

F =Forest land CECultivable waste exclude fallow.

F=Fallow land

N Net shownarea.

To calculate the tehsil wise density of sheep we have considered land use categories of F, CE, F and N land. Because sheep are reared on these lands or fodder grass etc. are made available as a sheep feeds from these land.

Analysis:- India has 65.69 million sheep as per 2012 livestock census and ranks sixth in the world. The involvement of sheep through export of meat is 8 per cent of the total export value of agricultural and treated food products. Sheep skin in the form of leather and leather products is also exported. Sheep make a valuable involvement to the livelihood of the economically weaker sections of the society.

Table No: 1 Distribution of Sheep in Latur District

Tehsils	1997		2003		2007		2012		Changes	
	No	%	No	%	No	%	No	%	No	%
Latur	6624	12.23	4189	9.38	4839	12.40	2014	5.61	-4610	-69.60
Renapur	1894	3.50	1060	2.37	1469	3.76	1488	4.14	-406	-21.44
Ahmadpur	7496	13.84	2455	5.50	1668	4.27	1852	5.16	-5644	-75.29
Jalkot	0	0.00	5948	13.32	4199	10.76	7129	19.86	7129	100
Chakur	4248	7.84	5127	11.48	4472	11.46	5288	14.73	1040	24.48
Shirur Anantpal	0	0.00	2515	5.63	1662	4.26	1395	3.89	1395	100
Ausa	9246	17.07	5050	11.31	5967	15.29	2732	7.61	-6514	-70.45
Nilanga	12669	23.39	8373	18.74	6018	15.42	6651	18.53	-6018	-47.50
Devani	0	0.00	4435	9.93	3512	9.00	3044	8.48	3044	100
Udgir	11992	22.14	5516	12.35	5224	13.38	4308	12.00	-7684	-64.08
District	54169	100.00	44668	100.00	39030	100.00	35901	100.00	-18268	-33.72

Source: 1. Socio-Economic Review and District Statistical Abstract. Latur District. 2001, 2005, 2010, 2015.

2. Livestock censes 1997,2003,2007,2012.

Sheep in the district are shown In the Table-3.1 indicate. In the year1997, (table-3.1) there were 54169 (100%) Sheep in the district and in the 1997 the highest number of Sheep were recorded 12669 (23.39%) in the Nilanga tehsil and lowest Sheep 1894 (3.50%) in the Renapur tehsil and remaining tehsils Latur 6624 (12.23%), Ahmadpur 7496 (13.84%), Ausa 9246 (17.07%), Udgir 11992(22.14%) Sheep in this tehsils and not recorded Sheep in the Jalkot, Shirur Anantpal, Devani tehsils. In the year 2003, (table-3.6) there were 44668 (100%) Sheep in the district and in the 2003 the highest number of Sheep were recorded 8373 (18.74%) in the Nilanga tehsil and lowest Sheep 1060 (2.37%) Renapur in the tehsil and remaining tehsils Latur 4189 (9.38%), Chakur 5127 (11.48%), Ausa 5050 (11.31%), Udgir 5516 (12.35%), Jalkot 5948 (13.32%) Shirur Anantpal 2515 (5.63%), Sheep in the tehsils.

In the year 2007, (table-3.6) there were 39030 (100%) Sheep in the district and in the 2007 the highest number of Sheep were recorded 6018 (15.42%) in the Nilanga tehsil and lowest Sheep 1469 (3.76%) in the Renapur tehsil and remaining tehsils Ahmadpur 1668(4.27%), Chakur 4472 (11.46%), Udgir 5224 (13.38%), Jalkot 4199 (10.46%), Renapur 1469 (3.76%), Latur 4839 (12.40%) Sheep in the tehsils.

In the year 2012, (table-3.6) there were 35901 (100%) Sheep in the district and in the 2012 the highest number of Sheep were recorded 7129 (19.86%) in the Jalkot tehsil and lowest Sheep 1488 (4.14%) in the Renapur tehsil and remaining tehsils Ahmadpur 1852 (5.16%), Chakur 5288 (14.73%), Latur 2014 (5.61%), Udgir 4308 (12%), Nilanga 6651 (18.53%), Shirur Anantpal 1395 (3.89%), Ausa 2732 (7.61%) Sheep in the tehsils. In the year of 1997 to 2012, (table-3.6) there were decrease 18268 (33.72%) Sheep in the district and in the 1997 to 2012 the highest number of Sheep were decrease 5644 (75.29%) in the Ahmadpur tehsil and lowest decrease Sheep 406 (16.31%) in the Renapur tehsil and remaining tehsils, Nilanga 6018 (47.50%), Latur 4610 (69.60%), Ausa 6514 (70.45%), Udgir 7684 (64.08%) and Devani 3044 (100%), Jalkot 7129 (100%), Shirur Anantpal 1395 (100%) Chakur 1040 (24.48%) increase in the tehsils.

Conclusions:-

In the year of 1997 to 2012, there were decrease 18268 (33.72%) Sheep in the district and in the 1997 to 2012 the highest number of Sheep were decrease 5644 (75.29%) in the Ahmadpur tehsil and lowest decrease Sheep 406 (16.31%) in the Renapur tehsil.

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A COMPARATIVE STUDY OF RAW SILK PRODUCTION TRENDS BETWEEN INDIA AND WEST BENGAL

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Abstract
Sericulture is one of the oldest cottage industries in India and plays an important role in improving the socio-economic conditions of rural areas. Sericulture is an important cottage industry not only in India but all over the world. Currently, China and India are the major producers of raw silk, together they produce about 95% of the world's total raw silk each year. In India, there are more or less 26 states producing silk and among these states West Bengal is one of the major states. The study aims to provide trend analysis of silk production in West Bengal. In this case, comparative features of silk production trend between India and West Bengal have been revealed. In this study we find that the growth rate of silk production in West Bengal is very slow. Total silk production in India is growing at the rate of 6% per annum but in West Bengal it is growing at the rate of only 2%. The trend of silk production in West Bengal is much behind compared to India.

Keywords: *Sericulture, Silk production, India, West Bengal*

Introduction

India is replete by different types of folk culture. India has several traditional cultures that have been around since time immemorial and one of these traditional cultures is natural silk production. The whole process of silk production is called sericulture. Sericulture is one of the major and oldest cottage industries in India. There is no emphatic and accurate information about when and where silk originated. All information available so far about the origin of silk and various research studies prove that the first silk originated in China. At present, silk is in convention almost all over the world and more than twenty countries are currently involved in silk production. At present China and India are the largest producers of raw silk. China produces about 76% of the world's average annual silk production and India about 20%. A total of four types of silk are mainly produced in the world namely mulberry, tasar, eri and muga. Among these four types of silk, the production of mulberry silk is the highest. Sericulture is a rural cottage industry hence its economic importance is immense. Millions of people in many rural areas of India are earning their livelihood from this industry.

Objective of The Study

1. In this study we have analysis of the raw silk production trends in India
2. In this study we have analysis of the raw silk production trends in West Bengal
3. In this study we have compared raw silk production trends between India and West Bengal.

Methodology

To fulfil the objective of this study we have collected raw silk production data from 2011-12 to 2020-21 of India and West Bengal. Our study based on secondary data and the secondary data collected from various published article, annual report and website. Various statistical tools have been applied to analyse the collected data like mean, standard deviation (S.D), coefficient of variance (C.V), compound average growth rate (CAGR) and average growth rate (AGR).

Silk Production in India

Sericulture is one of the oldest rural cottage industries in India. There is no

exact information about when this cottage industry appeared in India, but it has been practiced in Indian civilization since ancient times. Silk is an integral part of Indian culture and hence sericulture industry has a special importance in Indian culture. At present, India is the second largest producer of raw silk after China. India produces about 20% of the world's total silk production. A total of four types of commercial silk are produced in the world namely mulberry, tasar, eri and muga and among these four types of silk, Mulberry silk is the most produced. India is the only country in the world where these four known commercial silks are produced. Among these four types of silk in India, Mulberry silk is more than 70%, tasar silk is about 8%, eri silk is about 20% and muga silk is about less than 1% are produced. In India almost 26 state are involved with silk production. Mulberry is a very popular silk in India and every silk producing state is more or less involved in mulberry silk production. Although almost every state produces mulberry silk, but the major mulberry silk producing states are Andhra Pradesh, Karnataka, Maharashtra, Tamil Nadu and West Bengal. In India Karnataka ranks first in the production of mulberry silk and Karnataka produces about 44% of the total mulberry silk production in the country. Eri silk is the second largest produced silk in India after Mulberry silk. About 11 states in India are more or less associated with eri silk production and among them the major eri silk producing states are Arunachal Pradesh, Assam, Manipur, Meghalaya, and Nagaland. The state of Assam ranks first in the production of eri silk in India and this state produces about 70% of the total eri silk production. Tasar silk is the third largest produced silk in India. About 14 states in India are more or less associated with tasar silk production and among them the major tasar silk producing states are Bihar, Chhattisgarh, Jharkhand, Odisha and West Bengal. The state of Jharkhand ranks first in the production of tasar silk in India and this state produces about 76% of the total tasar production. About 7 states in India are more or less associated with muga silk production and among them the major muga silk producing states are Arunachal Pradesh, Assam and Meghalaya. The state of Assam ranks first in the production of muga silk in India and this state produces about 82% of the total muga production. In the table below shown the trends in silk production in India over the past few years.

Table 1: Raw silk production in India from 2010-11 to 2019-20 Unit: Metric ton

Year	Types of silk					
	Mulberry	Tasar	Eri	Muga	Total	AGR
2010-11	16,360	1,166	2,760	124	20,410	0
2011-12	18,272	1,590	3,072	126	23,060	12.98
2012-13	18,715	1,729	3,116	119	23,679	2.68
2013-14	19,476	2,619	4,237	148	26,480	11.83
2014-15	21,390	2,434	4,726	158	28,708	8.41
2015-16	20,478	2,819	5,060	166	28,523	-0.64
2016-17	21,273	3,268	5,637	170	30,348	6.40
2017-18	22,066	2,988	6,661	192	31,906	5.13
2018-19	25,344	2,981	6,910	233	35,468	11.16
2019-20	25,239	3,136	7,204	241	35,820	0.99
Mean	20,861	2,473	4,938	168	28,440	
S.D	2882.86	728.69	1652.52	43.13	5158.85	
C.V	13.82	29.47	33.46	25.72	18.14	
CAGR	5%	12%	11%	8%	6%	

Source: *http://texmin.nic.in/sites/default/files/Raw-Silk-Production-Statistics_1.pdf*

Silk Production In West Bengasl

West Bengal is one of the major states in India in terms of silk production and this state produces about 7% of India's total silk production. West Bengal

produces all four types of silk and among the four types of silk, West Bengal produces the largest quantity of mulberry silk. About 98% of total silk production in West Bengal is mulberry silk and followed by tasar (1.62%), eri (0.25%) and muga (0.008%). About 16 districts of West Bengal are directly and indirectly involved in silk production. Among these districts, the mulberry producing major districts are Malda, Mushidabad and Birbhum and the tasar producing major districts are Bankura, Purulia, Birbhum, Paschim Midnapore and part of Burdwan and the eri producing major districts are Jalpaiguri and 24-Paganas and major muga producing major districts are Cooch Bihar and Jalpaiguri. In the table below shown the trends in silk production in West Bengal over the past few years

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Table 2: Raw silk production in West Bengal from 2010-11 to 2019-20 Unit: Metric tons

Year	Types of silk					
	Mulberry	Tasar	Eri	Muga	Total	AGR
2010-11	1885	41	9.0	0.25	1935.25	0
2011-12	1924	43.96	11.6	0.23	1979.79	2.30
2012-13	2018	43.76	7.2	0.26	2069.22	4.52
2013-14	2030	42	7	0.18	2079.18	0.48
2014-15	2450	43	6	0.27	2499.27	20.20
2015-16	2351	34	6	0.21	2391.21	-4.32
2016-17	2524	37	4	0.2	2565.2	7.28
2017-18	2540	35	3	0.19	2578.19	0.51
2018-19	2365	25	4	0.16	2394.16	-7.14
2019-20	2262	30	3	0.08	2295.08	-4.14
Mean	2234.9	37.47	6.08	0.20	2278.66	
S.D	249.93	6.45	2.76	0.06	244.42	
C.V	11.18	17.22	45.45	27.68	10.73	
CAGR	2%	-3%	-11%	-12%	2%	

Source: Annual report of Central Silk Board, Govt. of India, 2011-12 to 2020-21

Through the tables 1 and 2, an attempt has been made to show the comparative difference in raw silk production trends between India and West Bengal. Among the four types of silk, mulberry silk is more predominant in India and West Bengal. West Bengal produces only 10.71% of the total mulberry silk produced in India every year. The rest of the silk is produced in relatively small quantities, which are almost negligible. During this period, the production of Mulberry silk in India increased by 54.27% and in West Bengal by 20%.It is clear that during this time, the growth rate of Mulberry Silk production in West Bengal is lower than that of India. In terms of mulberry silk production, India's compound average growth rate is 5% and West Bengal's compound average growth rate is 2%.

That is, mulberry silk production increased by 5% per year in India during this period and by 2% in West Bengal. West Bengal produces only 1.54% of the total Tasar Silk produced in India every year. During this period the total production of tasar silk in India has increased but the continuity of growth is not very satisfactory. On the other hand, the production of tasar silk in West Bengal has steadily declined. During this time period, the production of Tasar silk has increased by 12% per year in India whereas the production of Tasar silk in West Bengal has decreased by 3% per year. The production of Eri and Muga silk in West Bengal is very small relative to India. West Bengal produces only 0.13% and 0.12% of total Eri and Muga silk production in India. During this time period, the total production of Eri silk in India has increased steadily, but the opposite is seen in West Bengal, where the production of Eri silk has declined steadily. At this time period, the

production of Eri silk in India has increased by 11% per year and in West Bengal it is reduced by 11% per year. In the case of Muga silk production, it is observed that the production of Muga silk in India has increased by 8% per year whereas in West Bengal it has reduced by 12% per year. Comparison between India and West Bengal in terms of gross silk production it shows that the total silk production in India has increased by 43.02% during this time period and 18.59% for West Bengal. In terms of growth in silk production, it can be said that total silk production in India has increased by 6% per year and in West Bengal it has increased by 2% every year.

Conclusion

Sericulture industry is a traditional culture of India and Bengal is world famous for this traditional industry. Silk industry is the pride of rural Bengal but at present West Bengal silk industry is slowly losing its heritage. Although the amount of silk production increased during this study, but it was not satisfactory. Besides, the compound average growth rate of silk production in West Bengal is significantly lower. During this period the total silk production in West Bengal increased but the production of Muga and Eri silks declined steadily. If the production of Muga and Eri silk decreases in this way, the existence of Muga and Eri silk will disappear from West Bengal in future. Finally, silk industry is a traditional culture of West Bengal, so to preserve this tradition, the trend of silk production in West Bengal should be increased and for this the government should take appropriate developmental and multifaceted schemes.

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UTILIZATION OF QR CODES IN LIBRARIES

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This paper discusses the application of QR codes, particularly in libraries. Quick Response code is the official name of the QR code. The barcode and QR code technologies are identical. Barcode technology and QR code technology differ in that the former can handle information only in a horizontal direction while the latter can manage it in both a horizontal and vertical direction. The usage of QR code technology to communicate with end consumers is very common. The primary usage of QR codes by libraries is to advertise their services. Many libraries now use QR code technology to give patrons instant access to their resources.

Keywords *QR Code, QR Code Reader, Barcode Technology*

Introduction:

We are all aware that people use powerful technologies in their daily lives, including their mobile smartphones. Between December 15, 2013, and January 15, 2014, 470 volunteers who used smartphones and tablets for research purposes. It was revealed that 85% of people claim that their mobile device plays a vital role in their daily lives (Salesforce 2014). Voice communications dominate on mobile devices. These gadgets provide their customers with a variety of services in addition to the voice communication capability. There is a vast selection of mobile phones available today that are relatively inexpensive and have a variety of capabilities. They are equipped with cameras and can run Windows or Android. ICT has altered the way that libraries are thought about. Libraries buy electronic journals, magazines, CDs, DVDs, and other media. Libraries now offer internet services, reference services, and a circulation system based on RFID technology. The European nations have recently begun implementing QR codes for their existing library systems. The technology that can deliver to the user the data contained in a code is the QR coder. Quick Response Codes (QR Codes) are two-dimensional pictures that can be scanned by the camera on a smartphone to cause the device to open a webpage or show an image, video, or piece of text (Kumar, Chikkamanju and Mamtha 2014).

What a QR Code

QR Code is a quick response code is referred to as a QR code. It is a two-dimensional bar code that software for reading QR codes can read with ease. In 1994, the Denson Wave-Toyota Motors subsidiary made its initial debut. Mobile phones and other devices with a QR code reader are examples of devices that can read QR codes. The text that makes up a QR code is then utilized by a mobile device to carry out an action. Among other things, codes can be made to call, text, send an email, store a vCard to a mobile device, link directly to a URL, and perform other operations (Whitchurch 2011). There are various data limitations for QR codes, including a maximum of 7,089 numeric characters, 4296 alphanumeric characters, and 2953 binary characters (8 bits).

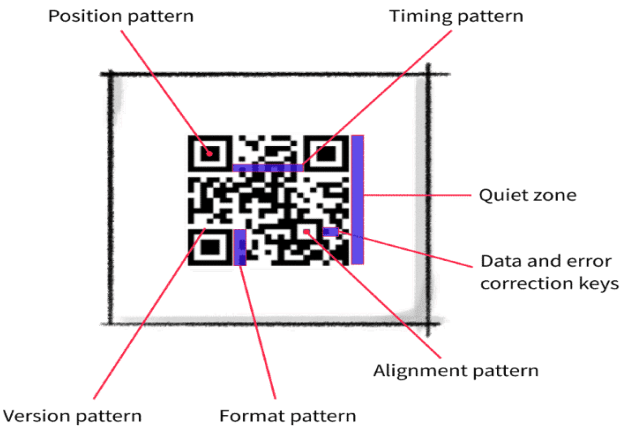
Literature Review

The use of QR codes for marketing purposes is on the rise. The mobile phone can read the embedded information (Sahu and Gonnade 2013). Any print material has a QR code attached to it (Kumar, Chikkamanju and Nayak 2014). In terms of providing instruction, promoting their services, and linking patrons/financial supporters to inform about library

contents, QR (Quick Response) codes are two-dimensional graphics that have the potential to fundamentally transform and improve library services. According to Naik et al. (2015), using a QR code in conjunction with a smartphone's built-in QR scanner is a much simpler approach to retrieve information. Users do not need to commit the important web addresses to memory.

Workings of QR Code

A two-dimensional square barcode known as a QR code is made up of several black square dots on a white background. There are primarily four types of data that can be encoded into information or transmitted through supported extensions: numeric, alphanumeric, byte or binary, and kanji. The algorithm finds the three different squares at the corners of the image and, using a smaller square near the fourth corner, normalises the image's size, orientation, and viewing angle. The tiny dots are then transformed to binary integers, and an error-correcting code is used to verify their correctness (Wave 2011).



Advantages of QR codes

1. One may build the QR code for nothing utilising free software.
2. The information included within the code can be accessed extremely quickly.
3. The QR code is simple to read
4. The flexibility of a QR code is inherent.
5. No particular expertise is necessary
6. Additional technology is not necessary
7. Increased customer satisfaction
8. Saves paper and is environmentally friendly

Constraints of the QR Code

1. Lack of familiarity between users and people
2. A scanning device is required. You must have a device that supports the QR code scanning feature in order to access the information contained in the QR code.
3. Scanning the QR code's contained code requires time.
4. A QR code reader programme is required.
5. An internet connection is required.

Elements of QR Code

For a QR code to function, there are five fundamental components. These components are the Data Area, Pattern, Alignment, and Timing patterns.

Paflern: A QR Code's three large squares in the corners are utilised to specify size, position, and angle.

Adjustment Paflern: It is employed to alter the distortion of the QR code.

Pace Paflern: the design is composed of modules in black and white. The central coordinate of each cell in the QR code is found using this technique.

Quiet Area: It is a QR Code component. The QR code is located in a margin space, which is how it gets found. It serves as a calm zone and has four cells.

Data Field: This component has the ability to fix errors. It keeps information converted to binary digits 0-1. It is an array of columns and rows.

Website, software, and reader for QR codes:

There are a variety of free programmes on the market for making QR codes, as well as readers for PCs and mobile devices. Here are some illustrations of readers and software:

Website/software:

1. GoQR.me
2. QR Mobilize
3. QR Stuff
4. Z Xing
5. Snap Maze
6. RACO
7. Sparq Code
8. QR-Code Studio
9. Code two
10. QR Code Generators

QR code readers

1. Neo Reader,
2. Tap Media's QR Reader
3. i-nigma

Apps for iPhone QR Code Reader

1. The Scan Life (Free)
2. Quick Mark
3. Optiscan
4. Barcode (free)

Free QR Code Reader Apps for Android

1. Barcode Reader (Free) o Shop Aware (Free)
2. The Scan Life (Free)
3. Over Quick Mark (Free)

Apps for reading QR codes on Windows Phone 7

1. The Bee Tag (Free)
2. The Quick mark (Free)
3. Stripes

Using QR Codes the library

Different companies use QR codes in a variety of ways for their own needs, such as advertising and selling items. The library uses it as a medium to connect users with the papers and information they're looking for. The libraries of the twenty-first century are entirely automated and are aware of user needs. Beyond physical limits, they always strive to offer their users first-rate services. The use of QR codes in libraries is widespread overseas. Below are a few well-known libraries' names:

1. Library at Lafayette College
2. Syracuse University Learning Commons Library
3. Community Library of Half Hollow Hills
4. Library for Contra Costa County
5. Public Library of Topeka & Shawnee County

With the development of ICT and increased technological literacy among the populace, QR codes are now widely used. As a result, QR codes can be found on CD-ROMs, library books, journals, tickets for events and transportation, vCard information, commercial tracking, product/loyalty marketing, and in-store product labelling. Thus, depending on the situation, a QR code can be used in a number of different ways. Giving users a succinct message is the primary goal of QR codes. The QR code can be used in a library setting in a variety of ways.

1. To provide the user with directions, quick facts, and information about necessary paperwork.
2. To publicise the library's offerings
3. Establish links to all of the library's resources
4. To make a link to a virtual tour of the library's many areas.
5. To display videos, audios, and webpages at library displays
6. Text messages are sent via QR code for contact and reference services.
7. information for both library users and library personnel

Conclusion

The emergence of numerous technologies has greatly increased the difficulties libraries face today. Modern technology, such QR codes, necessitates modifications in how information is handled in libraries. Using a QR code would give the user quick access to the most relevant and important information about the library. Therefore, library personnel must set up user awareness initiatives, orientation programmes, etc. to effectively use QR codes within the user community.

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IRRIGATION METHODS FOR AGRICULTURAL DEVELOPMENT – AN ECONOMIC STUDY

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Abstract
Irrigation is the life blood of agriculture. To get a good yield, there must be adoption of an effective irrigation method. In recent years situation becomes critical so it is important to give more emphasis on irrigation to development of agricultural sector due to frequent droughts, climate change, irregular rain and floods. According to the International Water Management Institute (IWMI), worlds 1/3rd of the population will face the water scarcity by 2025. Agriculture sector consumes nearly 80% of the water resources. So the development of the agriculture and GDP growth rate is interdependent on the utilization of available water resources. The sustainable agriculture need to accelerate the productivity of farmland and irrigation with balancing water utilization with maximum potential. It is also important to focus on water use efficiency with appropriate crop choice and farming practices. In Indian context, facilitating the efficient irrigation and effective crop diversification are the key factors to promote the sustainability in agriculture. The problem of low productivity is also tackled by the improvement of proper irrigation facilities. Timely and adequate moisture supply is a sin- qua- non in modern agricultural practices and its success linked with the irrigation channels. This paper seeks to know the different agricultural irrigation methods and to study the different irrigation methods followed by the farmers and the problems facing the farmers about irrigation methods. For this purpose data has been collected from primary as well as secondary sources. Collected data should be analyzed with some of the statistical tools to arrive the conclusion and suggestions.

Keywords: *Irrigation, Agriculture, Sustainability, Monsoon, Crop diversification.*

Introduction

Various types of irrigation techniques differ in how the water obtained from the source is distributed with in the field. In general, the goal is to supply the entire field uniformly with water, so that each plant has the amount of water it needs, nether too much nor too little. Irrigation means the artificial application of water to partially meet the crop evapo-transpiration requirements. It is essential for sustaining crop productivity in many regions of the country mainly because of the rainfall is inadequate. Irrigation is everything in India; water is even more valuable than land because when water applied to land, it increases its productivity at least 6fold and render grate extents of land productivity otherwise would produce nothing or next to nothing. But still Indian agriculture continues to be a gamble of monsoon. The sprinkler and drip irrigation technique is water savings, cost effective and efficient in comparison to surface irrigation through flooding system.

Objectives

1. To study the different irrigation methods followed by the farmers.
2. To know the problems faced by the farmers about irrigation.

Hypotheses

H_0: There is no association between size of land holding and problems faced by the farmers on irrigation.

H_1: There is an association between size of land holding and problems faced by the farmers on irrigation.

Statement of the Problem

Irrigation is the pertinent aspect of agricultural activity. Without water facility, no agricultural activity can be carried out. In a country like India, where water is the scare resource of agriculture, has to be utilized intelligently. Various modern types of irrigation have introduced in alternative to traditional channel irrigation. Modern irrigation methods tend to focus upon utilization of scares water for maximum benefits. Apart from that type of agricultural land, quantity of available water, crop grown and nature of fertilizer used becomes significant for selection of irrigation method.

Methodology

On the view of study the above mentioned objectives the data has been collected from primary and secondary sources. Primary data collected with the help of a well-structured interview schedule prepared for the purpose. Out of total growers in Sagar Taluk of Shivamogga district, 50 agriculturists were chosen under convenient sampling method. And secondary data collected through various published sources. The collected data have been analyzed and interpreted with the statistical tool to draw the conclusion.

Types of Irrigation

Various types of irrigation techniques differ in how the water obtained from the sources, is distributed with the field. In general, the aim is to supply the entire field uniformly with water, so each plant has the amount of water it need with sufficient quantity.

Surface Irrigation

In surface irrigation systems water moves over and across the land by simple gravity flow in order to wet it and infiltrate into the soil. This is divided into furrow, border-strip and basin irrigation. It is also called flood irrigation when irrigation results in flooding of the cultivated land.

Localized Irrigation (Micro Irrigation)

Localized irrigation is a system where water is distributed under low pressure through a piped network in a pre-determined pattern, and applied as small discharge to each plant or adjacent to it.

Drip Irrigation

It is also called as trickle irrigation. It functions as the name of this irrigation exhibits that water is delivered at or near the root zone of plants, drop by drop. This method can be the most efficient method of irrigation, if managed properly. Since evaporation and runoff are minimized. This process is also known fustigation.

Sprinkler Irrigation

In this irrigation, water is piped to one or more central location within the field and distributed by overhead high-pressure sprinkler or guns. Highly pressure sprinklers that rotate are called router.

Manual Irrigation using Buckets or Watering Cans

This system has low requirements for infrastructure and technical equipment but need high labor inputs. In some of the African countries it is found that irrigation is made through using water cans.

Data Analysis

Table 1: Socio-economic Profile of Agriculturists

Variable	Response	Number of respondents	Percentage
Age	Below 20	-	-
	20-40	30	60
	40-60	12	24
	60 and above	08	16
Education	SSLC	28	56
	PUC	13	26
	Graduate	09	18
	Post Graduate	-	-

Acres of land	Below 2 acre	18	36
	2-4 acres	14	28
	4-6 acres	11	22
	6 and above	07	14
Types of crop	Sugar cane	17	34
	Areca nut	21	42
	Ginger	12	24

Source: Primary Data

Out of the respondents, 60 per cent are belongs to 20 to 40 age group, and 24 per cent are 40 to 60 age group. Out of respondents 56 per cent are completed SSLC and 28 per cent were owned 2 to 4 acres of land. Majority of the farmers are growing areca nut and sugarcane in the study area

Table 2: Information related to Irrigation Practices

Variable	**Response**	**Number of respondents**	**Percentage**
Method of irrigation	Natural	-	-
	Artificial	23	46
	Both	27	54
Types of irrigation adopted	Micro sprinkler	19	38
	Drip	22	44
	Jet	09	18
Initial investment	60000-30000	02	04
	30000-20000	21	42
	20000-10000	27	54
Monthly maintenance	500-1000	25	50
	1000-5000	14	28
	5000-10000	11	22
Satisfaction level	Highly satisfied	19	38
	Satisfied	15	30
	Average	12	24
	Dissatisfied	04	08
Problems	Lack of finance	13	26
	Shortage of water	08	16
	Irregular power supply	11	22
	Equipment's problem	08	16
	Labor problem	10	20

Source: Primary Data

Out of the total 54 per cent of the respondents are adopted both natural and artificial method of irrigation. Majority of the respondents uses the drip irrigation and 54 percent of the respondents are initially invested rupees 20000 to 10000. Out of the total 38per cent of the respondents are highly satisfied with their irrigation method. Majority of the respondents are facing the problems of lack of finance, irregular power supply and labor problems.

Hypothesis Testing

$\chi 2 = \Sigma\{(Oi - Ei)^2/Ei\}$, O = Observed frequency, E = Expected frequency

Degrees of Freedom = (r – 1) x (c-1) = (5-1) x (4-1) = 4x3 =12

Table value at 5% level of significance is 21.026

Since, the calculated x^2 value (**14.10**) is smaller than the table value (**21.026**) at

5per cent level of significance, it can be inferred that "***there is no association between size of land holding and problems faced by the farmers on irrigation"*** is accepted**.**

Suggestions

1. Need to prepare proper planning for water management and increasing irrigation efficiency through new farming practices.
2. Water management is necessary to balance the increasing demand for water by growing population as well as to increase agricultural productivity with excessive use of water.
3. The creation of new irrigation schemes by the governmental agencies helps to farmers to get aware about efficient use of water resources.
4. It is important to give demonstrations to effective use of technology and suitable use of irrigation equipments.
5. Training is needed to farmers to know the relationship of water and cost.

Conclusion

For irrigation of agriculture it is inevitable to plan act and evaluate effectively and efficiently of water. As the ground water level is continuously decreasing due to under utilization of water resources, it has become the responsibility of an agriculturist to act wisely. Along with the intension of producing good yield the agriculturist need to use water consciously. In other word he has to feed water as per the requirement of the land. This intension has given rise to think about various methods of feeding water which are named as irrigation. The method of irrigation chosen by an agriculturist should have two fold effects namely-good yield and saving of water. It is clear from the study that the respondents are using micro sprinkler method which is more convenient and cheaper by cost but they are facing an intensive power problem. To promote this type of irrigation the government apart from supplying free electricity, need to provide quality in power supply. If these facilities are provided to the farmer with at most care, definitely productivity will be more as well as result in protection of water resources for the future generation.

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CHANGES IN CROP COMBINATIONS IN LATUR DISTRICT 1993-94 TO 2013-14

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Introduction :

The study of spatio-temporal transformations in crop combinations is very useful for future agricultural planning. Crop combinations study should be useful for agricultural market development, for the development of agro-based industries. The study of crop combinations study is also useful to find out the crop combinations regions and planners can plan properly for sustainable agricultural development. Many agricultural geographers, economists studied the crop combination regions of different part of the world. Many agricultural geographers like Weaver (1954)[1], Sing Jasbir & Dhillon S.S. (2006)[2], Majid Hussain (2007)[3], Scott (1957)[4], Barrau J. (1961)[5], Coppock (1960)[6], Jonasson (1968)[7], Fafiullah (1956)[8], Morgan & Munton (1969)[9], Doi (1959)[10], Thomas (1963)[11] used their methods for the calculations of crop combinations for different regions of the world.

Significance of the crop combination study :

1. Crop combinations study always useful for the development of agriculture in a particular region. It is also useful for sustainable development.
2. With the study of crop combination regions, agricultural area can be divided in agricultural region which are very useful for administrators and planners.
3. The study of crop combination is very important for rotation of crops and to increase per hectare yield.

Study Area :

Latur district is one of the most important district in Marathwada region of Maharashtra state. Latur district lies between $18^0 05'$ north to $19^0 15'$ north latitudes and $73^0 25'$ east to $77^0 25'$ east longitudes. Latur district covered an area of 7371.9 sq.kms. and with five towns and 945 villages. Latur district is very important for agriculture.

Physiography :

There is very close relation between relief and agriculture. In the world or in our country agriculture is developed as per relief. The topography of Latur district is made by plateau region. In the basins of Manjra, Terna and Manad there is some plane area and nearly 70% of the area is covered by plateau region. Physiography is one of the dominate parameter of physical environment and its impact on pattern and density or agriculture is immense. Physiographical Latur district is divided into three major divisions. There are hilly region, plateau region and plane region.

Soils :

Very deep black, deep black and shallow black soil is found in Latur district. Most of the area is made by plateau and rivers banks made by deep alluvial soils. Manjra and Terna basins covered most of the part of Latur district.

Climate :

The annual average rainfall is between 789 to 864 millimeters. The average rainfall is less than 800 millimeters. Summer is very hot and dry winter is cool and dry and rainy season is humid in total Latur district. The

agricultural activities are very related to climatic conditions.

Objectives of the study :

Followign are the main objectives of the study.

1. To study the crop combinations of different talukas of Latur district for the period 1993-94.
2. To study the crop combinations of different talukas of latur district for the period 2013-14.
3. To study the changes taken place in crop combination in different talukas of Latur district during the period 1993-94 to 2013-14.

Methodology :

Weavers method has been applied for the calculations of crop combination regions of different talukas of Latur district. Minimum deviation method of crop combination of weaver has been applied for the calculation of crop combination. Talukawise crop combination is calculated and it is shown by the choropleth maps. The changes in crop combination for the period 1993-94 to 2013-14 have been plotted in different talukas of Latur district.

Data has been collected from secondary sources. Secondary data collected from office of the Agricultural commissioners, Govt. of Maharashtra Pune and Socio-Economic Reviews and District Statistical Abstracts of Latur district region for the year 1993-94 and 2013-14.

Results & Discussion :

The geographical investigation and agricultural which purports to select various crops of agricultural elements to be studied collectively in an area may be formed as combination analysis. The combination analysis was originally introduced into geographical research by Weaver John C. (1954) in his outstanding study of crop combinations in Mid-western limited states. Singh Jasbir and Dhillon S.S. (2006) In addition, the technique can also be applied to identify and locate areas sharing a significant proportion of single agricultural elements or crop at higher rank, such as the significant rice or producing areas of India. As such, it can be termed as regional distribution analysis. The principle of combination analysis thus promises to be an important tool of statistical studies in various fields of geography, particularly in agricultural geography.

"The study of crop combination regions constitutes important aspects of agricultural geography as it provides a good basis for agricultural regionalization." (Majid Hussain 2007)

In recent years the concept of crop combination has engaged the attention of geographers and agricultural land use planners. The studies made so far in this field range in approach from topical to regional and vary in extent from small areas of minor political units to be entire country.

Here in this study very suitable crop combination method of Weaver has been applied for different takulas of Latur district for the period 1993-94 to 2013-14.

As per the calculations of Weaver's method in 1993-94, 14 crop combinations have been recorded and 2013-14 there were 9 crop combinations have been observed in total Latur district. Out of the 14 crop combination in 1993-94 the crop cotton, mug, vegetables, fruits and fibre not observed in 2013-14 and soyabean, sugarcane, kardi and udid crops newly recorded in the combination. The rank of jowar, maize and gram has been constant in both the period.

Table No. 1: **Change in Number of Crops in the Combination In Latur district.**

Name of Talukas	**Weaver's method**			
	1993-94		**2013-14**	
	No. of crops	Name of the Crops	No. of crops	Name of the Crops
Latur	16	Jowar, Sunflower, Tur, Udid, Sugarcane, Mug,	7	Soyabean jowar sugarcane gram udid tur and wheat

		Wheat, Gram, Rice, Sesame, Kardi, Groundnut, Linseed, Other Oilseeds, Fruits & Vegetables		
Renapur	15	Jowar, Sunflower, Tur, Udid Sugarcane, Wheat Mug, Gram, Sesame, Kardi, Rice, Groundnut, Bajra, Condiments & Spices, Other Fiber	8	Soyabean jowar sugarcane mug gram udid tur and wheat
Ahmedpur	12	Jowar Sunflower Tur Udid Sugarcane Mug Wheat Gram Sesame Kardi Rice Other Oilseeds	9	Soyabean jowar maize sugarcane mug gram udid tur and wheat
Jalkot	15	Jowar Sunflower Tur Udid Sugarcane Mug Wheat Gram Sesame Groundnut Kardi Rice Other Oilseeds Linseed Other fiber	9	Soyabean jowar sugarcane maize mug gram udid tur and wheat
Chakur	15	Jowar Sunflower Tur Udid Sugarcane Mug Wheat Gram Linseed Sesame Rice Kardi Other Oilseeds Other Fiber Groundnut	8	Soyabean jowar sugarcane kardi sunflower gram udid and wheat
Shirur Anantpal	12	Jowar Sunflower Udid Gram Tur Kardi Mug Groundnut Rice Maize Wheat Sugarcane	10	Soyabean jowar sugarcane kardi sunflower maize gram udid tur and wheat
Ausa	13	Jowar Sunflower Udid Gram Tur Kardi Mug Groundnut Rice Wheat Bajar Sugarcane Other Oilseeds	10	Soyabean jowar sugarcane kardi sunflower maize gram udid tur and wheat
Nilanga	15	Jowar Sunflower Udid Gram Tur Kardi Mug Groundnut Wheat Rice Bajar Sugarcane Sesame Other Oilseeds Linseed	10	Soyabean jowar sugarcane kardi sunflower maize gram udid tur and wheat
Deoni	13	Jowar Sunflower Udid Gram Tur Kardi Groundnut Mug Wheat Rice Bajar Sugarcane Sesame	10	Soyabean jowar sugarcane kardi sunflower maize gram udid tur and wheat
Udgir	12	Jowar Sunflower Udid Gram Tur Kardi Groundnut Mug Wheat Rice Bajar Sugarcane	10	Soyabean jowar sugarcane kardi sunflower maize gram udid tur and wheat
Total	14	Jowar, Cotton, Bajra,	9	Soyabean jowar sugarcane

District		Tur, Udid, Mug, Wheat, Gram, Sunflower, Sugarcane, Maize, vegetables, fruits, fiber		kardi sunflower maize gram udid and wheat

Table No. 1 indicates that the transformations in number of crop combinations in different talukas of Latur district. Out of the 14 crop combination in 1993-94 the crop cotton, mug, vegetables, fruits and fiber not observed in 2013-14 and soyabean, sugarcane, kardi and udid crops newly recorded in the combination. The rank of jowar, maize and gram has been constant in both the period.

Sixteen crops combination has observed in Latur taluka during 1993-94 to 2013-14 periods. During the period 2013-14 seven crops combination has observed. There are soybean, jowar, sugarcane, gram, tur, udid and wheat

Fifteen crops combination has observed in Renapur during 1993-94 to 2013-14 periods. During the period 2013-14 eight crops combination has observed. These are soybean, jowar, sugarcane, tur, gram, wheat, udid and mug.

Twelve crops combination has observed in Ahmedpur during 1993-94 to 2013-14 periods. During the period 2013-14 nine crops combination has observed. There are soybean, Jowar, sugarcane, tur, gram, wheat, udid, mug and maize

Fifteen crops combination has observed in Jalkot during 1993-94 to 2013-14 periods. During the period 2013-14 nine crops combination has observed. These are soybean, jowar, sugarcane, gram, tur, Wheat, udid, mug and maize

Fifteen crops combination has observed in Chakur during 1993-94 to 2013-14 periods. During the period 2013-14 eight crops combination has observed. These are soybean, jowar, sugarcane, gram, tur, wheat, udid and maize

Twelve crops combination has observed in Shirur Anatpal during 1993-94 to 2013-14 periods. During the period 2013-14 ten crops combination has observed. These are soybean, gram, jowar, tur, sugarcane, udid, wheat, mug, kardi and sunflower.

Thirteen crops combination has observed in Ausa during 1993-94 to 2013-14 periods. During the period 2013-14 ten crops combination has observed. These are soybean, gram, jowar, tur, sugarcane, udid, wheat, mug, kardi and sunflower.

Fifteen crops combination has observed in Nilanga during 1993-94 to 2013-14 periods. During the period 2013-14 ten crops combination has observed. These are soybean, gram, jowar, tur, sugarcane, udid, wheat, mug, sunflower and kardi

Thirteen crops combination has observed in Deoni during 1993-94 to 2013-14 periods. During the period 2013-14 ten crops combination has observed. These are soybean, gram, jowar, tur, sugarcane, udid, wheat, mug, sunflower and kardi.

Twelve crops combination has observed in Udgir during 1993-94 to 2013-14 periods. During the period 2013-14 ten crops combination has observed. These are soybean, gram, jowar, tur, sugarcane, udid, wheat, mug, kardi and sunflower.

Conclusions :

Spatio-temporal transformations in crop combinations as per the weaver's method have been observed in different talukas of Latur district. In total Latur district slight transformations were recorded in crop combinations of both the period. The crop combinations were decreased from 14 to 9 crops during the period 1993-94 to 2013-14. Major changes were observed in Latur taluka. There were 16 crops in the combination in 1993-94 and after twenty years there were 7 crops combinations were observed. In Ahmedpur crop combinations were changed from 12 to 9 crops. In Renapur 15 crops to 8 crops combinations were recorded. Crop combination is transforming in total Latur district.

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USE OF LOCAL TRANSFORMATION OF LIE GROUPS TO OBTAIN GENERATING FUNCTIONS OF ZONAL POLYNOMIAL

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Abstract
The object of the present paper is to use local transformation of lie group to obtain generating functions for biorthogonal polynomial $Z_n^{\alpha}(x,k)$ defined by Konhauser.

Key Words: *Zonal polynomial, Lie group, Local transformation.*

1. introduction

The orthogonal polynomial play an important role in the theory of approximation, Quening, coding and other branches of applied mathematics, where the polynomial functions occur as weight function.

Now a days group theoretic method for obtaining generating functions have received much attention. L. Weisner [1955, 1959] made a significant study in this direction. He has derived a method for obtaining generating functions for sets of functions, which satisfy the certain conditions, Hermite, Bessel, generalized Lagurre and Gegenbauer functions. The method followed to construct a partial differential equation from the ordinary differential equation by giving suitable interpretation to the index of parameter of the special function under consideration and then finding a non trivial continuous transformation group which is admitted by the partial differential equation.

W. Miller [4] and E. Mcbride [1] represent the Weisner method in a systematic manner. The primary tool of Miller's method is to deduce multiplier representation of local Lie group and representation of Lie algebra by generalized Lie derivatives. Special functions occur as matrix elements and basis vector corresponding to multiplier representation of local Lie group

The Lie product is given by $[\alpha,\beta] = \alpha\beta - \beta\alpha$ for $\alpha,\beta \in sl(2)$. The basis elements for the Lie-algebra of the special linear group sl (2):

$$J^+ = \begin{pmatrix} 0 & -1 \\ 0 & 0 \end{pmatrix}, J^- = \begin{pmatrix} 0 & 0 \\ -1 & 0 \end{pmatrix}, J^3 = \begin{pmatrix} \frac{1}{2} & 0 \\ 0 & -\frac{1}{2} \end{pmatrix} \quad (1.1)$$

Which satisfies the commutation relations

$$[J^3,J^+] = J^+, [J^3,J^-] = J^-, [J^+J^-] = 2J^3 \quad (1.2)$$

from a basis for sl(2).

The object of the present paper is to obtain some generating functions of Zonal polynomial $Z_n^{\alpha}(x,k)$ using Local transformation of Lie groups. The method followed is different from the methods given earlier.

Derivatives of Generating Functions

In the year 1967 Konhauser (3) defined the biorthogonal Zonal polynomial $Z_n^{\alpha}(x,k)$ of nth degree as:

$$Z_n^{\alpha}(x,k) = \frac{\Gamma(kn+\alpha+1)}{n!}\sum_{j=0}^{n}(-1)^j\binom{n}{j}\frac{x^{kj}}{\Gamma(kj+\alpha+1)}, Re(\alpha) > 1 \quad (2.1)$$

$$= \frac{(1+\alpha)_{kn}}{n!}\,{}_1F_k\left[-n; \frac{1+\alpha}{k}; \frac{2+\alpha}{k}; \ldots\ldots; \frac{k+\alpha}{k}; \left(\frac{x}{k}\right)^k\right] \quad (2.2)$$

on putting k = 1, [2.2] reduces to Lagurre Polynomial Rainwhile [2] :

$L_n^{\alpha}(x) = \frac{(1+\alpha)_n}{n!}\ {}_1F_1[-n; 1+\alpha; x]$ (2.3)

The following relations involving Zonal polynomial obtain with the help of differential recurrence relations given by Konhauser [3] using Weisner method are:

$\left[xy\frac{\partial}{\partial x} + y^2\frac{\partial}{\partial y} + (a-x+1)y\right] g_n(x,y) = (kn-k+2)g_{n+1}(x,y)$

$\left[xy^{-1}\frac{\partial}{\partial x} - \frac{\partial}{\partial y}\right] g_n(x,y) = (-kn-k+a+1)g_{n+1}(x,y)$

where $g_n(x,y) = Z_n^{\alpha}(x,k)\, y^{kn-k+1}$

For Local transformation of groups we can choose the following differential operators:

$\Re = xy\frac{\partial}{\partial x} + y^2\frac{\partial}{\partial y} + (a-x+1)y$ (2.4)

$M = (x^2-1)y^{-1}\frac{\partial}{\partial x} - x\frac{\partial}{\partial y}$ (2.5)

Now

$$[\Re, M] = \Re M - M\Re$$

$$\Re M = \left[xy\frac{\partial}{\partial x} + y^2\frac{\partial}{\partial y} + (a-x+1)y\right]\left[(x^2-1)y^{-1}\frac{\partial}{\partial x} - x\frac{\partial}{\partial y}\right]$$

$$= (a-x+1)x\frac{\partial}{\partial x} - (a-x+1)y\frac{\partial}{\partial y} + x^2\frac{\partial^2}{\partial x^2} - y^2\frac{\partial^2}{\partial y^2}$$

$$M\Re = \left[(x^2-1)y^{-1}\frac{\partial}{\partial x} - x\frac{\partial}{\partial y}\right]\left[xy\frac{\partial}{\partial y} + y^2\frac{\partial}{\partial y} + (a-x+1)y\right]$$

$$= (a-x+1)x\frac{\partial}{\partial x} - [2+(a-x+1)]y\frac{\partial}{\partial y} + x^2\frac{\partial^2}{\partial x^2} - y^2\frac{\partial^2}{\partial y^2} - (a+1)$$

so $\Re M - M\Re = 2X$

where $X = \left[y\frac{\partial}{\partial x} + \frac{(a+1)}{2}\right]$

Hence $[\Re, M] = 2X$ (2.6)

Similarly,

$[X, \Re] = X\Re - \Re X = \Re$ (2.7)

$[X, M] = XM - MX = -M$ (2.8)

Above relations are identical with the commutation relations

$$[J^+, J^{-1}] = 2J^3$$
$$[J^3, J^+] = J^+$$
$$[J^3, J^{-1}] = -J^{-1}$$

and satisfies the following basis elements for the Lie-algebra of the special linear group sl(2)

$$J^+ = \begin{pmatrix} 0 & 1 \\ 0 & 0 \end{pmatrix}$$
$$J^{-1} = \begin{pmatrix} 0 & 0 \\ 1 & 0 \end{pmatrix}$$
$$J^3 = \begin{pmatrix} \frac{1}{2} & 0 \\ 0 & -\frac{1}{2} \end{pmatrix}$$

Thus, the operator generate a Lie algebra isomorphic to sl (2), Lie algebra of SL(2).

These operators generate the Lie algebra of generalized Lie derivatives of a local multiplier representation of T^{α} sl(2). now computing the multiplier α, we have

$[T^{\alpha}(\exp cJ^+)f](x,y) = (1-cy)^{-\alpha-1}\exp\left\{\frac{-cxy}{1-cy}\right\} f\left[\frac{x}{1-cy}, \frac{y}{1-cy}\right]$ (2.9)

$[T^{\alpha}(\exp bJ^{-1})f](x,y) = f\left[\frac{xy}{y-b}, y-b\right]$ (2.10)

(2.9) and (2.10) determine T^{α}completely,

Generating Function

I. Applying the local multiplier representation $T^{\alpha}(\exp cJ^+)$ on

$$f(x,y) = Z_{kn-k+1}^{\alpha}(x,k)y^{kn-k+1}$$ (2.11)

we have

$$[T^{\alpha}(\exp cJ^{+})f](x,y) = (1-cy)^{-\alpha-1}\exp\left\{\frac{-cxy}{1-cy}\right\} f\left[\frac{x}{1-cy},\frac{y}{1-cy}\right] \quad (2.12)$$

On the other hand we have

$$[T^{\alpha}(\exp cJ^{+})f](x,y) = \sum_{p=0}^{\infty}\frac{C^p}{p!}\,\Re^p\, f\,(x,y) \quad (2.13)$$

so from (2.11), (2.12) and (2.13), we have

$$(1-cy)^{-\alpha-1}\exp\left\{\frac{-cxy}{1-cy}\right\} Z^{\alpha}_{kn-k+1}\left(\frac{x}{1-cy},k\right) y^{kn-k+1}\,(1-cy)^{-(kn-k+1)}$$

$$= \sum_{p=0}^{\infty}\frac{C^p}{p!}\,\Re^p Z^{\alpha}_{kn-k+1}(x,y)y^{kn-k+1}$$

$$= \sum_{p=0}^{\infty}\frac{C^p}{p!}\,(kn-k+2)_p Z^{\alpha}_{kn-k+1+p}(x,y)y^{kn-k+1+p}$$

where $\Re[Z^{\alpha}_{kn-k+1}(x,y)y^{kn-k+1}] = (kn-k+1+1)Z^{\alpha}_{kn-k+1+1}(x,k)y^{kn-k+1+1}$

and

$$\Re^p[Z^{\alpha}_{kn-k+1}(x,k)y^{kn-k+1}] = (kn-k+2)_p Z^{\alpha}_{kn-k+1+p}(x,k)y^{kn-k+1+p}$$

so $(1-cy)^{-\alpha-1}\exp\left\{\frac{-cxy}{1-cy}\right\} Z^{\alpha}_{kn-k+1}\left(\frac{x}{1-cy},k\right) y^{kn-k+1}\,(1-cy)^{-(kn-k+1)}$

$$= \sum_{p=0}^{\infty}\frac{C^p}{p!}\,(kn-k+2)_p Z^{\alpha}_{kn-k+1+p}(x,k)y^{kn-k+1+p}$$

putting c=1, we have

$$(1-y)^{-(\alpha+1+kn-k+1)}\,\exp\left\{\frac{-xy}{1-y}\right\} Z^{\alpha}_{kn-k+1}\left(\frac{x}{1-y},k\right) = \sum_{p=0}^{\infty}\frac{(kn-k+2)}{p!}\,Z^{\alpha}_{kn-k+1+p}\,(x,y)y^p \quad (2.14)$$

putting kn-k+1=0, we have, the first generating functions as:

$$(1-y)^{-\alpha-1}\,\exp\left\{\frac{-xy}{1-y}\right\} = \sum_{p=0}^{\infty} Z^{\alpha}_{p}(x,k)\,y^p \quad (2.15)$$

II. Again applying the local multiplier representation $T^{\alpha}\,(\exp b\ J^{-})$ on

$$f(x,y) = Z^{\alpha}_{kn-k+1}(x,k)y^{kn-k+1} \quad (2.16)$$

We have

$$[T^{\alpha}\,(\exp b\ J^{-})f](x,y) = f\left[\frac{xy}{y-b},y-b\right] \quad (2.17)$$

on the other hand we have

$$[T^{\alpha}\,(\exp b\ J^{-})f](x,y) = \sum_{p=0}^{\infty}\frac{b^p}{p!}M^p\,f\,(x,y) \quad (2.18)$$

from (2.16), (2.17) and (2.18), we have

$$Z^{\alpha}_{kn-k+1}\left(\frac{xy}{y-b},k\right)(y-b)^{kn-k+1} = \sum_{p=0}^{\infty}\frac{b^p}{p!}M^p\ Z^{\alpha}_{kn-k+1}\,(x,k)\,y^{kn-k+1}$$

$$Z^{\alpha}_{kn-k+1}\left(\frac{xy}{y-b},k\right)\,(y-b)^{kn-k+1} = \sum_{p=0}^{\infty}\frac{b^p}{p!}(-kn+k-\alpha-1)_p Z^{\alpha}_{kn-k+1-p}(x,k)y^{kn-k+1-p} \quad (2.19)$$

where

$M[Z^{\alpha}_{kn-k+1}(x,k)y^{kn-k+1}] = (-1)(kn-k+\alpha+1)Z^{\alpha}_{kn-k}y^{kn-k}$

and

$M^p[Z^{\alpha}_{kn-k+1}(x,k)y^{kn-k+1}] = (-kn+k-\alpha-1)_p Z^{\alpha}_{kn-k+1-p}y^{kn-k+1-p}$

putting b = 1 in (2.19), we have

$$Z^{\alpha}_{kn-k+1}\left(\frac{xy}{y-1},k\right)\,(y-1)^{kn-k+1} = \sum_{p=0}^{\infty}\frac{(-kn+k-\alpha-1)_p}{p!}\,Z^{\alpha}_{kn-k+1-p}(x,k)y^{kn-k+1-p}$$

or

$$(1-t)^{kn-k+1}\, Z^{\alpha}_{kn-k+1}\left(\frac{x}{1-t},k\right)=\sum_{p=0}^{\infty}\frac{(-kn+k-\alpha-1)_p}{p!}\; Z^{\alpha}_{kn-k+1-p}(x,k)t^p \qquad (2.20)$$

where t = 1/y

The second generating function.

III. Let $G\,(x,t)=\sum_{q=0}^{\infty}c_q Z_q^{\alpha}\,(x,k)t^q$

Putting t = ty, we have

$$G(x,ty)=\sum_{q=0}^{\infty}c_q Z_q^{\alpha}\,(x,k)y^q t^q$$

Now, operating both sides with $T^{\alpha}(\exp cJ^{+}), L.H.S.\ of\ (2.21) becomes$

$$T^{\alpha}(\exp cJ^{+})G\,(x,ty)=(1-cy)^{-\alpha-1}\exp\left\{\frac{-cxy}{1-cy}\right\}G\,\left\{\frac{x}{1-cy},\frac{ty}{1-cy}\right\}$$

On the other hand, R.H.S. of (2.21) becomes

$$\sum_{p,q=0}^{\infty}\frac{C^p}{p!}\,c_q\Re^p Z_q^{\alpha}\,(x,k)y^q t^q$$

$$=\sum_{p,q=0}^{\infty}\frac{C^p}{p!}\,c_q\,\frac{(q+p)!}{q!}Z_{q+p}^{\alpha}\,(x,k)y^{q+p}t^q$$

$$=\sum_{p,q=0}^{\infty}c_q c^p\,\binom{q+p}{q}Z_{p+q}^{\alpha}\,(x,k)y^{q+p}t^q$$

$$=\sum_{p=0}^{\infty}\sum_{q=0}^{p}c_q c^{p-q}\,\binom{p}{q}Z_p^{\alpha}\,(x,k)y^p t^q$$

Equating L.H.S. and R.H.S. we have

$$(1-cy)^{-\alpha-1}\,\exp\left\{\frac{-cxy}{1-cy}\right\}G\,\left\{\frac{x}{1-cy},\frac{ty}{1-cy}\right\}=\sum_{p=0}^{\infty}\sum_{q=0}^{p}c_q c^{p-q}\,\binom{p}{q}Z_p^{\alpha}\,(x,k)y^p t^q$$

Put c=1, we have the following bilateral generating function:

$$(1-y)^{-\alpha-1}\,\exp\left\{\frac{-xy}{1-y}\right\}G\,\left\{\frac{x}{1-y},\frac{ty}{1-y}\right\}=\sum_{p=0}^{\infty}\sum_{q=0}^{p}c_q\,\binom{p}{q}Z_p^{\alpha}\,(x,k)y^p t^q \qquad (2.22)$$

The third generating function.

Special Cases

I. Putting K = 1 in (2.14), we get

$$(1-y)^{-\alpha-1-n}\,\exp\left\{\frac{-xy}{1-y}\right\}L_n^{\alpha}\,\left\{\frac{x}{1-y}\right\}=\sum_{p=0}^{\infty}\frac{(n+1)p}{p!}\,L_{n+p}^{n}\,(x)y^p \qquad (3.1)$$

which is generating function of Laguerre polynomial given by Mcbride [1, p.36, (3)].

II. Putting k = 1 in (2.15), we get the familiar generating function

$$(1-y)^{-\alpha-1}\,\exp\left\{\frac{-xy}{1-y}\right\}=\sum_{p=0}^{\infty}L_p^{\alpha}\,(x)y^p$$

Rainville [2, p. 211, (9)].

III. Putting k = 1 in (2.20), we have

$$(1-t)^n\,L_n^{\alpha}\left(\frac{x}{1-t}\right)=\sum_{p=0}^{\infty}\frac{(-n-\alpha)p}{p!}\,L_{n-p}^{\alpha}(x)t^p$$

Which is generating function given by Mcbride [1, p.35, (1)] by Weisner method.

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STUDY OF MICROALGAE FROM STAGNANT WATER RESERVOIR OF AMALNER, DISTRICT JALGAON, M. S.

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Abstract:
Tade lake of Amalner is a stagnant water reservoir. Lake water is used by local peoples for domestic purposes. Stagnant water sometimes become green colour due to growth of microscopic algae. Stagnancy favours the growth of algae. Microalgae like members of Cyanophyceae,Chlorophyceae,Bacillariophyceae and Euglenophyceae are generally found to grow planktonic in such water reservoirs. Tade lake water is screened to observe microalgae responsible for giving green colour. Twenty algal taxa has been recorded from lake water. Growth of algae become serious concern and may result in biological pollution of any water reservoir.

***Key Words**: Microalgae,Stagnant water reservoir, Tade lake,Amalner*

Introduction:

Tade lake is situated near famous Mangal Graha temple of Amalner, Disrict Jalgaon, Maharashtra State. Location 20°00'05" Latitude 75°39'30" Longitude.It is more than 100 year old reservoir, 1500 meter wide and 750 meter long having 10000 square meter catchment area. Previously it was known as Talepura talav. Algae of various water bodies of North Maharashtra were studied by many workers. Barhate and Tarar (1981) studied algal flora of river Tapi as well as Cyanophyceae of Khandesh. Bhoge and Ragothaman (1986) studied Cyanophyceae from Jalgaon region. Nandan and Aher (1999) worked on algal flora of fish pond in Dhule. Mahajan and Nandan (2004) worked on BGA of Hartala lake of Jalgaon. More *et al* (2005) studied the algal diversity of Panzara river of Maharashtra. Nandan and Aher (2005) has studied algal diversity of Haranbaree dam and Mausam river of Maharashtra. In present preliminary study, twenty taxa of microalgae from Tade lake is described with taxonomic enumeration.

Material and Method:

Water was collected weekly from different sites. Microalgae from Tade lake water was studied during year 2017-2018. The lake water was collected with broad mouth collector diving tangentially through surface water layers and funnelled in collection bottle. Water samples with microalgal growth were preserved in 4% formalin. Taxa were observed and identified by standard monograph and relevant literature like (Sarode and Kamat 1984, Desikachary1959, Philipose 1967)

Observation:

Systematic account

Class:Cyanophyceae

Order: Chroococcales,

Family:Chroococcaceae

1] *Microcystis stagnalis* Lemn.

Colonies spherical, small, cells loosely arranged spherical,1-2 µ diameter blue green, colonial mucilage indistinct.

2] *Chroococcus turgidus* Var. ***maximus*** (Nygaard)

Cells in group of 2-4, blue green, 18-22 µ diameter, sheath colourless, thick, colony 40-55 µ size.

3] *Merismopedia aeruginea* Breb.

Colonies 4-32 celled, cells 4-4.5 µ broad, blue green in colour, cells closely packed.

4] *Arthrospira platensis* (Nordst.) Gom.

Trichomes 6-8 µ broad, little attenuated at end, cells broadly rounded. Trichomes regularly spirally coiled, spirals 27-34 µ broad. Forms shows little variation in dimensions.

5] *Phormidium fragile* Gom.
Trichomes constricted at cross walls, attenuated at ends 1.2-2 µ broad pale blue green,1.2 µ long, apical cell acute conical.
6] *Oscillatoria tenuis* Ag ex Gom.
Trichomes fragile, slightly constricted at cross walls, 4.9-5 µ broad, apical cell slightly bend, cells 3-3.5 µ long blue green.
Class:Bacillariophyceae
Order:Pennales
Family:Fragilariaceae
7] *Cyclotella meneghiniana* Kuetz.
Valves discoid 11-20 µ in diameter, large central field, finely punctate, striae 9-10 in
10 µ thick.
8] *Fragilaria intermedia* Grun.
Valves 74-88 µ long, 6-8 µ broad, linear with parallel margins, ends tapering, rounded rectangular in girdle view, striae 10-11 in 10 µ distinct.
9] *Fragilaria leptostauron* Ehr. Hustedt
Frustules attached together to form long chain, broadly rectangular in girdle view, valves 8-9
µ long, 3-3.5 µ broad, striae 8-10 in 10 µ thick.
10] *Synedra ulna* (Nitz.) Ehr. Var. *subaequalis* Grun.
Valves 200-225 µ long, 7-7.5 µ broad, long linear with constricted ends, subcapitate, striae 9-10 in 10 µ distinct.
11] *Navicula rhynchocephala* Kuetz.
Valves 40-45µ long, 7-8 µ broad, lanceolate with rounded capitate ends, raphe thin and straight, striae punctuate 14-15 in 10 µ.
12] *Navicula cryptocephala* Kuetz.
Valves 40 µ long 9-10 µ broad lanceolate, rounded ends, raphe thin straight, striae slightly convergent 10-12 in 10 µ.
13] *Cymbella tumidula* Grun.
Valves 40-45 µ long, 8-10 µ broad, asymmetric lanceolate, dorsal margin convex , ends constricted rounded, raphe thick, eccentric, punctuate distinct, striae 10-12 in 10 µ.
14] *Gomphonema constrictum* Ehr. Var. *indica* Gandhi
Valves 40 µ long 10-11 µ broad, clavate with constricted broadly rounded apex, raphe straight, central area rhomboid, axial area narrow, striae 10-12 in 10 µ radial.
15] *Gyrosigma acuminatum* (Kuetz) Rabh.
Length 195-205 µ, breadth 30 µ ,striae 18-20 in 10 µ, longitudinal line less frequently occurred.
16] *Pinnularia dolosa* Gandhi
Valves 85-90 µ long, 15 µ broad, linear tumid in middle with slightly swollen broad rounded end, central pore present, bent, striae 9-11 in 10 µ thick.
Class:Chlorophyceae
Order:Zygnematales
Family:Desmidiaceae
17] *Scenedesmus dimorphous* (Turp.) Kuetz.
Colony of 4-8 cells arranged in single or double alternate rows, cells fusiform 3-6 µ broad, 16-25 µ long.
18] *Scenedesmus quadricauda* (Turpin) Breb.
Colony 4 celled, long terminal cell with long spine, cells ovoid to cylindrical, 4-5 µ broad, 10 µ long, spine 13 µ long.
19] *Pediastrum duplex* Meyen
Colony 32 celled, cells 6-8 µ in diameter, free floating.
Class:Euglenophyceae
Order:Euglenales
Family:Euglenaceae
20] *Phacus orbicularis* Hub.
Length with tail 76 µ, breadth 55 µ with striations, body elliptic with more or less flattened in optical view, disc like chromatophores.

Summary and Conclusion:

Tade water reservoir was screened for to study microalgae harbouring in it. It is one of the stagnant domestic water reservoir. Observations were made to record taxa belonging to Cyanophyceae, Chlorophyceae, Bacillariophyceae and Euglenophyceae. Twenty microalgal taxa was described with taxonomic features. Cyanophyceae represented by six taxa, Bacillariophyceae represented by ten taxa, Chlorophyceae represented by three taxa while Euglenophyceae represented by single genus. Commonly occurring genera was *Microcystis*, *Arthrospira*,*Chroococcus* and *Merismopedia* from Cyanophyceae, *Synedra, Fragilaria* and *Navicula* from

Bacillariophyceae and *Scenedesmus* from Chlorophyceae.

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A CONCISE REVIEW ON ENVIRONMENTAL MANAGEMENT AND SUSTAINABLE DEVELOPMENT

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Abstract
Careful management of the available resources is necessary for sustainable development so that even future generations can use and benefit from them. Environmental, economic, and socio-political aspects are three key influences on sustainable development. The effective management of natural resources, the eradication of poverty, consumption patterns that lead to sustainable production, and investment policies that are appropriate are only a few of the elements required for sustainable development. Waste management is an important aspect of the urban infrastructure since it ensures environmental and human health protection. Learning environmental planning techniques is the aim of the curriculum.

Keywords: *Sustainable development, Waste management, Resources.*

Introduction

Human activity is necessary for environmental management and sustainable growth. The ecosystem is maintained and sustainable development results from man's effort to meet his requirements while appropriately managing the environment. On the other hand, irresponsible use of natural resources by humans will harm the environment. The eventual outcome will be a general decline in population welfare, as well as poverty and famine, deforestation, pollution, and resource depletion. Waste management is one of the world's most pressing environmental issues. Solid waste generation rates have increased as a result of human activities and changes in lifestyles and consumption patterns.

Waste management is also practised in order to recover resources. Solid, liquid, gaseous, or radioactive wastes can all be managed, with distinct procedures and fields of knowledge required for each. Collection, transportation, pre-treatment, processing, and ultimate residue abatement are all part of a typical waste management system. Different sorts of garbage can be handled independently. Waste management, according to early researchers, is one of the public infrastructures that is based on a certain form of physical infrastructure to supply products or services, and it is similar to the electricity, natural gas, and water sectors in this regard.

Content

The waste management practises of developed and developing countries, urban and rural locations, and residential and industrial producers are all different. In urban regions, local government bodies are typically responsible for non-hazardous residential and institutional garbage, whereas the generator is typically responsible for non-hazardous commercial and industrial waste[1,2]. Recycling rates for household garbage in most developed nations were in the low single digits by percent in the 1980s, when recycling became recognised as important for both environmental and resource management reasons. Over the last 20 years, modern western waste management systems have restored recycling rates. Many developing nation towns seek to have modern waste management systems with high recycling

rates of clean, source separated materials [3].

The following aspects of waste management have to Be considered properly: (As shown in Figure 1)

1. Source reduction
2. Onsite storage
3. Collection and Transfer
4. Processing Technique
5. Disposal

Figure.1. Steps in Waste Management

Waste management methods

Conventional parameters cannot easily classify and assign different waste products to distinct classifications. Researchers have proposed and developed some novel strategies. Nowadays, not all trash are classified in the same traditional category, necessitating the same elimination technique. It is extremely difficult and impracticable to set up and operate separate waste management systems for different types of wastes, especially in businesses where the types of wastes are so diverse [4,5].

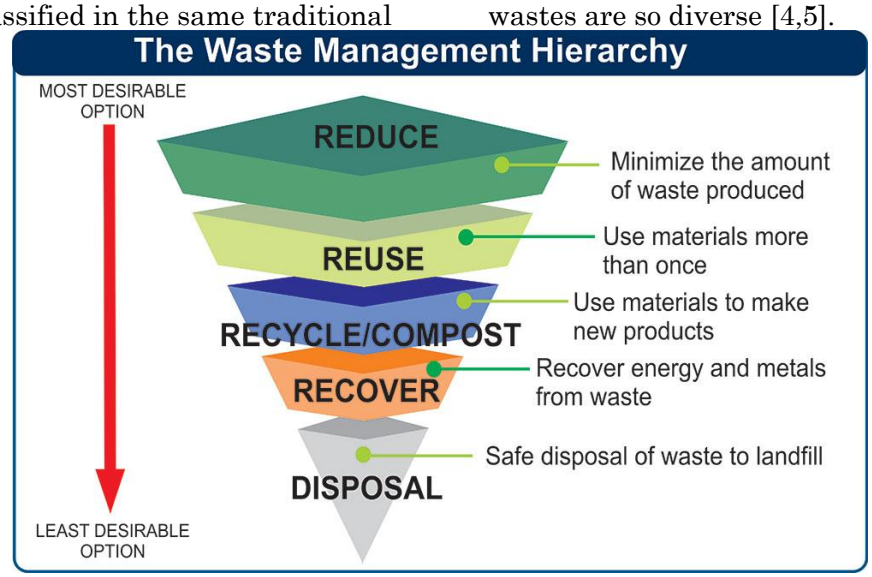

Figure.2. Hierarchy in Waste Management

Different waste management procedures are utilised depending on the deposition and kind of trash. They can differ from person to person, location to location, period to time, and country to country. They are as follows:

Recycling

Recycling is not only good for the environment, but it also has a significant financial advantage for both individuals and the economy as a whole. Recycling is ideal since it decreases the amount of

effort required to create a product appropriate for consumption. Not everything, of course, can be recycled. Plastics, paper, and glass are the most commonly recycled materials. Recycling necessitates work on the part of all parties involved, including you! Professionals in charge of garbage disposal will constantly strive to promote recycling as much as feasible. Quality bin rental businesses will always sort rubbish into recyclable and non-recyclable categories.

Landfill

A landfill, on the other hand, is more like a securely sealed storage container. To safeguard the environment from dangerous contamination, a landfill is designed to prevent degradation. Even organic wastes like paper and grass clippings decay slowly at a landfill when they are deprived of oxygen and water. Municipal Solid Waste Landfills (MSWLs) are landfills that accept a diverse range of municipal and industrial trash. Mechanical qualities of MSW, such as strength and compressibility, are affected by waste composition, mechanical properties of deposited components, water concentration, and decomposition. In most nations, burying rubbish to dispose of it in a landfill is still a prevalent practise. Disused quarries, mining voids, and borrow pits were frequently used as landfills [6].

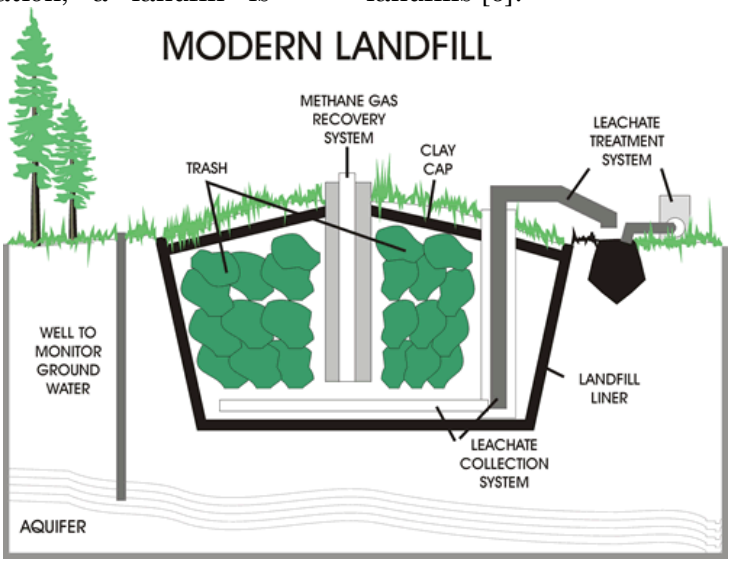

Figure.3. Modern Landfill Plant

A landfill that is well-designed and managed can be a sanitary and relatively economical way to dispose of garbage. To keep odour, methane, and liquid penetration levels under control, landfill techniques require constant maintenance. Even in a country with such vast expanses, there are dangers. Methane and other gases can be created and rise to the surface, posing serious difficulties if not adequately managed. To avoid such problems, strict safety precautions must be followed.

Thermal Treatment: Incineration

Incineration is a disposal method that involves combustion of waste material. Incineration and other high temperature waste treatment systems are sometimes described as "thermal Treatment". Incinerators convert waste materials into heat, gas, steam, and ash. When garbage is handled through incineration plants, the mass of the waste is reduced by 95 to 96%. It can be a viable option in areas where there is a scarcity of land. It may be used in all types of weather. Furthermore, the energy generated can be put to other uses. Because there is no decay, there is no unpleasant odour or methane, and the heat kills the hazardous germs and chemicals. Modern incinerators include a computerised monitoring system that allows them to troubleshoot most problems using a computer [7,8].

Plasma Gasification

To transform carbon-based materials into fuel, this waste management technique uses highly ionised or electrically charged gases termed plasma within a tank. It is a

new technology that converts incinerator ash or chemicals into non-hazardous slag to handle hazardous waste. Toxin chemicals such as dioxins, NOX, furans, and sulphur dioxide cannot form due to the high temperature and absence of oxygen. The entire waste processing is environmentally friendly, transforming solid or liquid wastes into syngas.

Waste to Energy (WtE)

To protect ourselves and the environment against non-recyclable objects, we need a reliable disposal mechanism. Waste materials are used to generate heat or power in this method of disposal. It can be useful for disposing of non-recyclable waste by turning them to heat, fuel, or power. Carbon emissions can be reduced by reducing the demand for fossil fuels.

Composting

Composting is a natural process that breaks down organic waste and turns it into rich manure that can be used to improve the quality of the soil in your garden. It is inexpensive, simple, and virtually risk-free. Rather than dumping organic garbage in the trash and having it dealt with by waste removal companies, set it aside and mix it all together over time. That's all there is to composting!

Biogas Technology

Anaerobic digestion (AD) is the process of converting organic matter directly to biogas, which is a mixture of mostly methane and carbon dioxide with tiny amounts of other gases like hydrogen sulphide. Methane is the primary component of biogas, which is utilised for cooking and heating in many households. The biodigester, also known as a biogas plant, is a physical structure that is used to create an anaerobic environment that promotes different chemical and microbiological processes that result in the decomposition of input slurries and the creation of biogas, primarily methane. The first methane digester plant was built at a leper colony in Bombay, India, in 1859. Most of the biogas plants utilize animal dung or sewage [9-11]. After proper gas purification, biogas can be utilised as a fuel for engines, gas turbines, fuel cells, boilers, industrial heaters, and other activities, as well as for chemical manufacture.

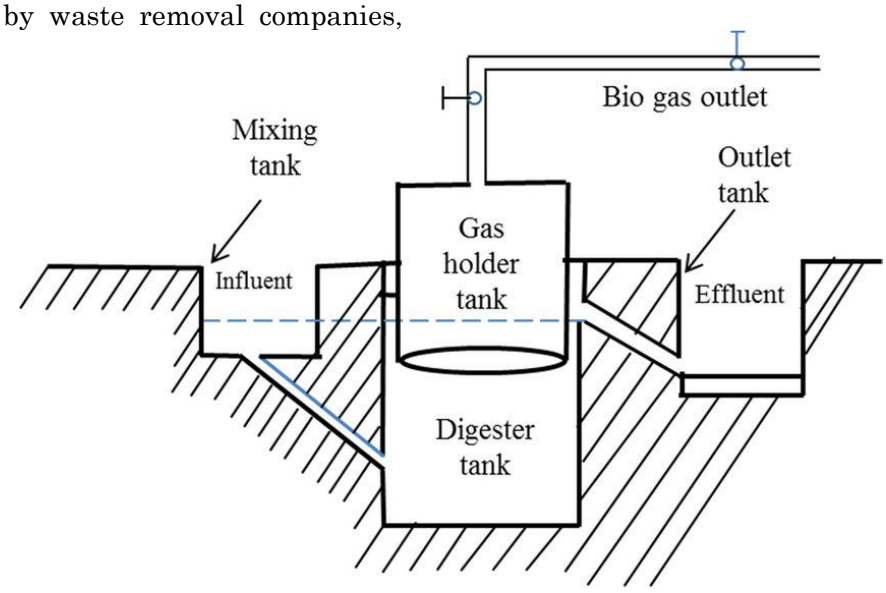

Figure.4. Schematic of a Biogas Plant

Treatment or stabilisation of biodegradable materials prior to landfilling can be achieved using a combination of anaerobic digestion and aerobic composting.

Conclusions

Promoting a high-quality waste management system not only improves social, economic, and environmental efficiency and supports sustainable development, but it may also assist in resolving the dual problem of resource scarcity and environmental degradation. Poor waste management can generate major environmental issues like an unpleasant odour and the risk of explosion

in landfills, as well as groundwater contamination via leachate percolation. Unsuitable waste management procedures also waste resources and energy that could be recycled or created from a considerable portion of solid trash. Three major issues confront the world today: (1) rising fuel prices, (2) climatic changes, and (3) air pollution. Renewable energy is a viable alternative because it is clean and safe for the environment. To maintain environmental, economic, and social development principles, waste and recycling management strategies should be prepared prior to the start of any building project.

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IMPACT OF CLIMATE CHANGE ON AGRICULTURE IN DEVELOPING COUNTRIES

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Abstract
The effect of climate alternate on agriculture will help to make clear the belief of the trouble and quantify the impact, contributing to the method of sustainable livelihoods. This take a look at uses the Ricardian approach to explore the implications of weather trade on agriculture within the North western region of Vietnam by taking farmer adaptations under consideration. The largest regarded monetary effect of weather exchange is upon agriculture due to the dimensions and sensitivity of the sector. Warming reasons the greatest damage to agriculture in developing countries normally due to the fact many farms inside the low latitudes already undergo climates which are too hot. This paper critiques numerous research that measure the size of the effect of warming on farms in growing countries. Even although edition will blunt some of the worst expected consequences, warming is predicted to motive massive damages to agriculture in developing countries over the subsequent century

Keywords: *climate, change , agriculture , developing , countries*

Introduction

Climate exchange is probably to make contributions considerably to meals lack of confidence inside the future, with the aid of increasing meals expenses, and decreasing food manufacturing. Food may additionally become greater highly-priced as weather change mitigation efforts growth electricity charges. Water required for food manufacturing can also grow to be extra scarce due to increased crop water use and drought. Competition for land may also boom as sure areas turn out to be climatically flawed for production. In addition, extreme climate events, related to climate change can also cause surprising reductions in agricultural productivity, leading to rapid rate will increase. For instance, warmth waves inside the summer of 2010 brought about yield losses in key manufacturing areas including: Russia, Ukraine and Kazakhstan, and contributed to a dramatic boom within the fee of staple foods. These rising costs compelled growing numbers of neighborhood human beings into poverty, supplying a sobering demonstration of the way the influence of climate change can bring about meals lack of confidence. The consensus of the Intergovernmental Panel for Climate Change (IPCC) is that sizable weather alternate has already happened since the Nineteen Fifties, and that it's possibly the global imply floor air temperature will increase with the aid of zero.4 to two.6°C inside the 2d half of of this century (relying on destiny greenhouse gasoline emissions). Agriculture, and the wider meals production machine, is already a first-rate source of greenhouse gas emissions. Future intensification of agriculture to compensate for reduced production (partly resulting from climate change) alongside an growing demand for animal products, should similarly increase these emissions. It's anticipated that the demand for cattle products will grow by way of +70% between 2005 and 2050.

The importance of information the continued effect of weather change on agriculture is frequently underestimated. Domestic coverage issues require that climate alternate be factored into improvement sports which are motivated through the weather and weather. At the

identical time, medical reviews of the immediacy of the effect of weather trade and the extent of weather vulnerability are crucial to the method of country wide negotiating positions at international weather-alternate negotiations. An early and equitable worldwide agreement on weather trade is beneficial to much less-evolved nations, but the query of how a lot delay by way of advanced nations they can tolerate in this problem is of vital strategic hobby to them.

Much of the priority approximately weather exchange stems from inferences primarily based on hooked up and ongoing technology, in place of from direct evidence of its modern-day effect. We therefore provide a brief account of strategies of estimating the future effect of climate variability on agriculture. Additionally, in the case of India, we offer a summary of the clinical evidence for expected biophysical and different factors of the impact of climate change on agriculture (see annotated bibliography). The financial impact of weather change, specifically for less-developed countries and particularly in sectors like agriculture, is of paramount importance. Existing estimates of such monetary impact, but, are even more tenuous than those of bodily impact. We in brief describe and examine some prevalent techniques of estimating the monetary effect of climate trade on agriculture. The unimpeded boom of greenhouse fuel emissions is elevating the earth's temperature. The results encompass melting glaciers, extra precipitation, more and more extreme weather events, and moving seasons. The accelerating pace of weather alternate, mixed with international populace and earnings increase, threatens food security everywhere. Agriculture is extraordinarily at risk of weather alternate. Higher temperatures sooner or later lessen yields of ideal crops whilst encouraging weed and pest proliferation. Changes in precipitation styles growth the likelihood of brief-run crop failures and long-run manufacturing declines. Although there might be profits in some plants in a few regions of the world, the overall affects of weather alternate on agriculture are expected to be poor, threatening worldwide food protection. Populations inside the developing world, which are already prone and food insecure, are probable to be the most severely affected. In 2005, nearly half of of the economically lively population in developing countries—2.5 billion people—depended on agriculture for its livelihood. Today, 75 percentage of the arena's terrible live in rural areas.

This Food Policy Report gives studies outcomes that quantify the climate-exchange impacts noted above, assesses the results for food safety, and estimates the investments that might offset the bad effects for human nicely-being.

Design and implement good overall development policies and programs.

Given the current uncertainty approximately region-unique outcomes of weather alternate, good improvement guidelines and programs also are the exceptional weather-alternate version investments. A pro-growth, pro-terrible improvement schedule that supports agricultural sustainability also contributes to meals safety and climate-exchange edition in the growing world. Adaptation to weather exchange is simpler while people have more resources and perform in an monetary environment that is bendy and responsive.

Increase investments in agricultural productivity.

Even with out weather exchange, extra investments in agricultural technological know-how and technology are had to meet the needs of a global population predicted to reach nine billion via 2050. Many of these people will live in the developing world, have higher incomes, and preference a extra various food regimen. Agricultural technology- and generation-based totally solutions are crucial to satisfy the ones needs. Climate alternate locations new and greater difficult demands on agricultural productivity. Crop and farm animals productiveness-improving studies, which include biotechnology, can be essential to help triumph over stresses due to weather exchange. Crops and livestock are needed

that are doing reasonably well in more than a few manufacturing environments rather than extremely nicely in a narrow set of climate situations. Research on nutritional changes in food animals and modifications in irrigation-control practices is wanted to lessen methane emissions.

Reinvigorate national research and extension programs.

Investment in laboratory scientists and the infrastructure they require is wanted. Partnerships with other country wide systems and global facilities are part of the answer. Collaboration with local farmers, enter providers, traders, and customer groups is also critical for powerful improvement and dissemination of domestically appropriate, value-effective techniques and cultivars to help revitalize communications among farmers, scientists, and different stakeholders to meet the demanding situations of climate change.

Improve global data collection, dissemination, and analysis.

Climate alternate will have dramatic effects for agriculture. However, sizable uncertainty stays about in which the results might be finest. These uncertainties make it tough to transport ahead on policies to fight the effects of climate trade. Global efforts to gather and disseminate records on the spatial nature of agriculture want to be bolstered. Regular, repeated observations of the floor of the earth via faraway sensing are crucial. Funding for country wide statistical programs must be expanded that will satisfy the mission of tracking worldwide trade. Understanding agriculture–climate interactions properly sufficient to support variation and mitigation activities based totally on land use requires predominant upgrades in facts series, dissemination, and evaluation.

Objectives of the Study

1. To study on Increase investments in agricultural productivity.
2. To study on Reinvigorate national research and extension programs.

Research Methodology

Studies with Aggregate Data

Empirical monetary researches of agriculture in developing nations have been rare due to the absence of appropriate information. Existing economic statistics in many nations simply became no longer dependable. For example, cutting-edge estimates of the amount of cropland in Africa range via a thing of (Lotsch, 2006).

The first financial research of weather exchange focused on Brazil and India precisely because both of these international locations stored exact agricultural information (Mendelsohn & Dinar, 1999; Kumar & Parikh, 2001; Mendelsohn et al., 2001). Using the Ricardian method advanced by way of Mendelsohn et al. (1994), those research tested the common net revenue (India) and land cost (Brazil) in every district or municipio, respectively. Net sales measured in rupees in line with hectare in line with yr became used in India become used due to the fact land values had been now not to be had there. In wellknown, land values are less complicated to examine because they mirror the long term productiveness of the land. Net revenues capture the once a year productiveness and may be prompted with the aid of many factors which might be ordinary to a given 12 months such as the weather. In the India take a look at, only internet sales in line with hectare turned into available and in order that turned into used as the dependent variable. In Brazil, each internet sales and land value have been available and each were tested. However, the land price facts brought about extra regular and vast consequences. One must be careful in evaluating land values to internet revenues to take into account that land values are the present value of all future net revenue. In fashionable, land values are approximately 20 times larger than annual internet sales. The coefficients on a regression with land price are therefore anticipated to be approximately 20 times larger than a comparable regression using net revenues.

The Ricardian research in Brazil and India discovered that agriculture in each

nation would be sensitive to even modest warming. Because the Ricardian technique takes variation under consideration, those first analyses suggested that there might be residual harm in those nations despite version. Even marginal will increase in temperature could result in reductions in average net revenue and land value. The analyses additionally revealed, but, that now not every farm in those international locations might be affected the identical. The moist japanese area of India would mildly benefit from warming whereas the dry western area of India might go through large damages. The southeastern location of Brazil might advantage whereas the Amazonian and northeastern place of Brazil would be hurt.

One exciting technical question posed through studying agriculture in developing countries is that existing weather may be hard to degree. Although climate stations take correct recordings of climate through the years (climate), the stations are regularly broadly dispersed and focused in towns. Farms, due to the fact they are positioned in rural settings, may be pretty remote from the closest weather station. The Ricardian studies consequently relied on assets of weather statistics. Temperature turned into measured the use of satellites. The gain of satellites is they can take direct measurements of the entire earth, specifically of temperature. One of the disadvantages of satellites is they cannot measure the whole thing of significance, especially precipitation. In order to acquire precipitation measures, it becomes important to interpolate between climate stations. This combination changed into determined to provide the most dependable climate.

Another subject matter that becomes investigated in that research changed into whether or not farms have been extra responsive to weather normals or climate variance. The weather normal is the suggest weather over a 30 year duration. The weather variance is the interannual variation around that imply over that same length. Studies that have tested each normals and variance have observed that each measure is vital. Increased interannual variance in spring and summers reduce land price. Increased interannual variance inside the iciness, however, increases land value. Whereas farmers can adapt to located changes in winter climate via planting distinctive plants and converting the timing of the subsequent developing season, there are fewer modifications that may be made at some stage in the growing season to the climate that unfolds.

Data Analysis

Impact Studies with Individual Farm Data

The absence of neighborhood monetary records is a severe hindrance to engaging in climate research in maximum growing international locations. One way to conquer this drawback is to accumulate facts on man or woman farms across a huge range of climate zones. This section describes a new wave of studies this is primarily based on samples of farms collected exactly to observe climate alternate. The sampling become designed to study international locations in extraordinary weather zones and to choose farms inside every USA. Across a wide variety of climate zones. The survey tool become designed to degree annual internet sales in locations without land markets and land values while viable. The tool accumulated statistics approximately the selections that farmers made: This plants to plant, which farm animals to elevate and which inputs to purchase. Data turned into amassed approximately inputs, outputs and expenses (see Dinar, et al., 2008 for a duplicate of the survey tool). This data changed into blended to estimate gross revenues and charges. Net sales had been calculated by means of subtracting fees from gross revenues. Information from different sources became gathered on weather, soils and other manage variables after which merged with the economic information.

The first set of impact research with person farm statistics become undertaken in Africa. The GEF and World Bank financed a take a look at of 11 African international locations (Burkina Faso, Cameroon, Egypt, Ethiopia, Ghana,

Kenya, Niger, Senegal, South Africa, Zambia and Zimbabwe).

A survey device become designed and tested for Africa. Teams from each country amassed statistics the usage of this device across a extensive range of African weather zones. Over 10 000 farmers were interviewed approximately their cattle and crop incomes, costs and farming picks. The financial facts became matched with weather records from satellites and climate stations. Soils statistics turned into accumulated from FAO (2003).

A Ricardian analysis was undertaken to measure the impact of climate on present day net revenues. In many places in Africa, land markets had been not sufficiently fashioned to provide land values. Three regressions are displayed in Table 1. The first regression indicates the relationship between net revenues and weather and soils for all farms. The 2d regression appears at most effective dryland farming. The third regression appears at most effective irrigated farms. All 3 regressions monitor that both temperature and precipitation play a position in determining internet sales in keeping with hectare. All 4 seasons are vital and the impacts of every season are special. The climate effects are nonlinear. The climate coefficients aren't the identical in each regression. Climate has a one of a kind impact on dryland as opposed to irrigated farms. Other variables that are essential include the waft of water into the district, the dimensions of the farm, the elevation, availability of strength and numerous soil kinds

Table 1: African regression of crop net revenue of all farms, rain-fed farms, and irrigated farms with regional dummies

Variable	All farms	Rain-fed	Irrigated
Winter temperature	−173.6**	−106.7	−93.5
Winter temperature squared	6.1**	3.9*	4.9
Spring temperature	115.1	−82.8	58.7
Spring temperature squared	−5.0**	−0.3	−4.1
Summer temperature	173.9**	198.6**	827.5**
Summer temperature squared	−1.9	−3.2*	−13.1*
Fall temperature	−98.1	−92.4	−824.2*
Fall temperature squared	1.1	1.5	15.3*
Winter precipitation	−2.9*	−1.9	5.8
Winter precipitation squared	0.0**	0.00	0.00
Spring precipitation	3.5*	3.6**	−10.6
Spring precipitation squared	−0.001	−0.011*	0.091*
Summer precipitation	3.4**	1.9*	21.4**
Summer precipitation squared	−0.012**	−0.005	−0.086**
Fall precipitation	−0.5	−0.6	−14.7**
Fall precipitation squared	0.0055*	0.0053*	0.0586**
Mean Flow	9.4**	−5.4	8.8**
Farm area	−0.1**	−0.3**	−0.0**
Farm area squared	0.0*	0.0**	0.0*
Elevation	0.035	−0.0009	0.229
Log(household size)	22.9	10.1	62.4
Irrigate(1/0)	237.5**		
Electricity (1/0)	66.6**	47.7**	233.2*
Eutric Gleysols—*Coarse, Undulating*	−631**	−287**	−540
Lithosols and Luvisols—*Hilly to Steep*	−387**	−156**	−1147**
Orthic Luvisols—*Medium, Hilly*	−2181**	−1959**	
Chromic Vertisols—*Fine, Undulating*	−1180**	−1006**	−1719**
Chromic Luvisols—*Medium to Fine, Undulating*	−295**	−241**	
Cambic Arenosols	1633**	1726**	
Luvic Arenosols	−482**	−188**	
Chromic Luvisols—*Medium, Steep*	−2153		−6157**
Dystric Nitosols	214		7051**
Gleyic Luvisols	−199**	−154**	
Rhodic Ferralsols—*Fine, Hilly to Steep*	1428**		3212
Calcic Yermosols—*Coarse to Medium, Undulating to Hilly*	1071**	148	
West Africa dummy	136**	208**	−285
North Africa dummy	457**		675*
East Africa dummy	−186**	−154**	−361
Heavy machinery dummy	51.8**	55.5**	−60.8
Animal power dummy	10.4	49.3**	−185.5**
Constant	−388	1081	−549
N	8459	7238	1221
R2	0.4	0.2	0.3
F	63.6	32.4	46.3

Table 2: Marginal climate impacts on African crop net revenue

Annual	Africa regression	Irrigated regression	Rain-fed regression
Temperature ($/ha/°C)	–28.5**	+35.0	–26.7**
Precipitation ($/ha/mm/mo)	+32.8**	+38.2	27.0**

Table 3: Two equation model of climate impacts on African livestock

	Value of stock of livestock ($/farm)		Net revenue per unit of stock	
Variables	Coefficient	T-stat.	Coefficient	T-stat.
Intercept	12460	1.86	1424	6.72
Temperature × small[1]	–1049	–1.71	–49.9	–2.53
Temperature sq × small[1]	28.2	2.10	0.55	1.28
Precipitation × small[1]	–103	–2.98	–13.41	–12.05
Precipitation sq × small[1]	0.47	2.60	0.07	13.17
Temperature × large[1]	1351	7.15	14.90	2.43
Temperature sq × large[1]	–42.8	–7.21	–0.50	–2.59
Precipitation × large[1]	–7.62	–0.20	–2.67	–2.19
Precipitation sq × large[1]	–0.32	–1.47	0.01	1.07
Log household size	–2240	–4.55	10.57	0.66
Electricity dummy	4960	7.13	219.5	9.72
Population density	126.6	2.77	11.55	7.96
Population density sq	–2.13	–4.21	–0.12	–7.79
% Muslim	–4508	–3.02	–31.75	–0.75
% Grassland	22952	10.58		
R-squared	0.20		0.20	
Observations	4763		4763	

Notes: 1 Climate variables were multiplied by farm size dummy to measure farm size specific climate impacts. From Seo and Mendelsohn, 2008a.

In order to examine consequences throughout nations, neighborhood foreign money values had been all converted to USD using foreign exchange charges. Examining the marginal impact of warming, Table 2, a one diploma (C) boom in temperature could lessen common net sales consistent with hectare through −$28 (or −6%). Looking at just dryland farmers, the marginal temperature impact is −$27 (−eight%).

Finally, looking at irrigated farms, the marginal temperature impact is +$35 (+three%). Warming is harmful to rain-fed farming but absolutely beneficial to irrigated farms. The marginal impact of a 1 cm/mo increase in precipitation is to growth farm net sales with the aid of +$33 (+7%) on average. Net revenues on rain-fed farms increase through +$27 (+eight%) and on irrigated farms they growth through +$38 (+three%). Rain-fed and irrigated farms each benefit (lose) if rainfall increases (falls). In addition to reading vegetation, the African look at additionally examined the internet sales from cattle.

The amount of land used for cattle is hard to degree due to the fact most farmers graze their animals on not unusual land. Instead of analysing net revenue in keeping with hectare, the livestock analysis examines internet revenue in step with farm. This decision is broken down into picks. First, the farmer should decide how many animals of each kind to own. This is a stocking query. The stock is calculated with the aid of multiplying the range of animals instances the average market rate for each species. Note that the farmer does no longer manipulate the fee in line with animal. The stocking query depends at the net sales consistent with unit animal. This ratio is the yearly net revenue in line with greenback of stock owned. The greater effective is the stock, the higher is this ratio and the more stock the farmer is going to want to personal. In order to estimate this model, a -degree regression is anticipated. The cost of farm animals owned is first regressed on weather and other site traits. The fraction of grassland inside the district (an environment degree) identifies the choice. In the second

regression, a profit according to animal is regressed on climate and a few manipulate variables. The model additionally distinguishes between small and massive farms. Size, in this case, was determined by means of the price of cattle owned.

Climate variables had been interacted with a dummy variable for small and large farms for you to estimate their individual climate sensitivity. The consequences of this two stage model are shown in Table 3. Climate variables are considerable determinants of both how many animals farmers own as well as the net revenue in keeping with unit stock. The weather coefficients for small and massive farms aren't the identical. The weather response is nonlinear. Smaller households, a decrease percentage of Muslims, strength, higher population densities and grasslands all led to higher shares. Larger families, a decrease percentage of Muslims, better populace densities and grasslands all brought about better earnings according to unit stock. The position of some of these control variables together with the percentage of grasslands are smooth to interpret—they mirror the productiveness of the ecosystem for animals. Other control variables are greater tough to interpret. For example, it isn't clean whether strength increases the productivity of animals or whether it is correlated with a lacking variable which include proximity to towns that make large shares extra profitable. Similarly, it isn't always clean why the percentage of Muslims is enormous in those regressions.

Conclusion

This paper describes several new studies that measure the monetary impact of climate trade on agriculture in developing countries. The research affirm some in advance hypotheses and show that different hypotheses had been fake. The studies generally verify the speculation that tropical and subtropical agriculture in growing nations is more climate touchy than temperate agriculture. Even marginal warming reasons damages in Africa and Latin America to plants. Crops are also sensitive to modifications in precipitation. In semi-arid locations, elevated rainfall is useful. However, in very wet locations, increased rainfall may be dangerous. If climate scenarios grow to be fairly hot and dry, they may cause a number of harm to farms in low range nations. However, if climate eventualities come to be exceptionally slight and moist, there may be most effective modest damages and perhaps even useful results. The magnitude of the damage relies upon greatly at the climate situation. Small farmers aren't necessarily extra susceptible than large commercial farmers. The cattle look at in Africa found that small family incomes could upward push with warming whereas industrial incomes could fall. Small cattle farmers have many alternatives to interchange vegetation and farm animals that seem to lead them to much less inclined than commercial cattle operations which might be greater specialized. The examine in South America located that small farmers are not any much less sensitive to warming than huge farmers. Within growing international locations, small farmers can be less susceptible than commercial farmers. Irrigation appears to be a completely powerful tool to counteract the damaging outcomes of either warming or drying. The incomes of irrigated farms are usually less at risk of warming than rain-fed farms and may even increase with warming. For example, irrigated farms in Africa and China are plenty less at risk of warming than rain-fed farms in the ones identical international locations. However, it's far critical to understand that irrigation is limited by way of the provision of water. If climate exchange reduces water materials and will increase water demand, water may also end up scarcer. Farmers may additionally nicely find that they can't pay for or achieve the water they might want to irrigate. Farmers can be compelled to switch from irrigated to rain-fed acreage. It could be very essential that analyses of agriculture in regions relying upon or thinking about irrigation have a look at watershed control as part of their evaluation of the agriculture zone. There were some

pioneering research of weather and water however they are nevertheless rare (Strzepek et al., 1996; Hurd et al., 1999; Howitt & Pieneer, 2006; Lund et al., 2006). The analysis in this paper examines the weather sensitivity of present day farms. In order to challenge the influences of climate inside the destiny, it is necessary to mission how agriculture will exchange over time. It is destiny farms a good way to revel in future climates. Technical change, improved capital, improved get right of entry to and feasible adjustments in policy ought to all be taken into consideration. How will climate trade have an effect on these destiny farms? Finally, it's far critical to be aware that the impacts of weather exchange aren't going to be the same for every growing us of a or even for each vicinity interior a rustic. The analysis indicates that the influences will rely greatly on contemporary local climate, how climate locally adjustments, and different situations of each location inclusive of marketplace get right of entry to and soil conditions. Some developing international locations with temperate climates might also nicely gain from warming. Some nations may discover they obtain needed rains inside the future climate scenario. Some international locations may also nicely have excellent substitutes for modern sports that keep them from critical harm. Other international locations could be a great deal less lucky. They may additionally suffer huge temperature increases, lose needed rain, or be not able to adapt. It is critical when addressing programs to assist countries with climate alternate to take note of what specific issues they're having and what movements could provide the best long-time period comfort.

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MEANING OF FOREIGN POLICY AND FOREIGN POLICY APPROACHES

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Abstract

When India gained independence in 1947, its founding fathers expected it to become a major international role, increasing normative behaviour in terms of both aims and means. However, India's founding fathers were unable to put their big policy plans into reality, such as the 1946 Asian Relations Conference, which called for an institutional structure to protect Asia from the cold war. Minor agreements on educational collaboration were reached at the Asian Relations Conference (Gonsalves, 1991). Sixty years later, India's new policymakers see the country as a "growing power" that is beginning to align global aims and methods in order to achieve the best outcomes for its inhabitants while also strengthening normative standards for inter-state and multinational behaviour. India's sustained 8-9 percent growth rate over the past decade, combined with the Indian government's proactive diplomacy during that time, has enabled Indian policymakers to give context and substance to the normative principles advocated by their predecessors – a development that one leading Indian analyst describes as "crossing the Rubicon" from idealism to pragmatism (Mohan, 2003), and another as "India Unbound" (Das, 2002).

Introduction

Both expressions emphasize the depth of the leap. To to Morgenthau's formulation (Morgenthau, 1982), Indian policymakers used to promote principles divorced from political realities, but now they aim to blend normative values with national interest. The transformation is difficult, and as is common in the early stages of policy change, the conceptual shift in approach has outrun the implementers: the majority of desk officers and/or their superiors who decide policy on a case-by-case basis. India is striving to respond to the new circumstances by pursuing its goal of being a significant power in the future. Since its independence in 1947 until the 2000s, India has been a reluctant participant in the international arena. With the start of the 2010s, however, India has metamorphosed itself into a dynamic actor and has switched from denying to affirming its status as a major power.

Definition Of Foreign Policy

A foreign policy is a set of pre-determined tactics for managing a country's relationships with other countries that are created and implemented in a systematic manner. They are well-structured rules that govern international political activities. Foreign policy, according to Hermann, is the behaviour of states. "The system of operations evolved by communities for influencing the performance of other countries and for adjusting their own activities to the international environment," according to George Modelski. It is important to note that Modelski only included as key objectives of foreign policy those elements of policy that try to influence governments' current behaviour. "Foreign policy consists of decisions and actions, which affect to some extent interactions between one state and others," explains Joseph Frankel. By this, foreign policy refers to a collection of initiatives taken within a country's borders in response to forces operating outside the country's borders. It entails the creation and implementation of a system of concepts that regulate how states deal with one another in order to

protect and promote their national interests.

"A State's Foreign Policy would be all of its contacts with the external environment," Padelford and Lincoln remark. As a result, Foreign Policy is the ultimate outcome of a state's process of translating its broad goals and interests into specific courses of action in order to achieve its objectives and protect its interests."

Indian Foreign Policy Basic Principles

While keeping the core objectives of India's foreign policy in mind, some principles have been chosen and implemented to achieve these goals. Some of these ideas are outlined in Article 51 of the Indian Constitution's Directive Principles of Policy. 24 The promotion of international peace and security; cordial ties with other countries; respect for international law and international institutions such as the United Nations; and, lastly, the peaceful settlement of international conflicts are among these principles. India's foreign policy ideas and objectives are inextricably intertwined. These principles have stood the test of time and are embedded in international law as well as India's foreign policy. Some of these principles are discussed below.

Panchsheel25 :

Indian policymakers recognized the relationship between peace and development and humanity's survival. Given the devastation caused by two world wars, they concluded that a lasting international peace was required for a nation's progress. Social and economic progress are likely to be pushed to the background without global peace. Thus, Nehru, the father of Indian foreign policy, prioritized world peace in his policy planning. According to him, India wants peaceful and good relations with all nations, particularly the major powers and its neighbors. He supported adherence to five guiding principles known as Panchsheel while forging a peace agreement with China. Panchsheel was signed on April 28, 1954, and has since become a guiding concept in India's bilateral relations.

1. Territorial integrity and sovereignty are respected by both parties.
2. Non-aggression towards one another.
3. No interference in each other's personal affairs of countries .
4. Mutual advantage and equality v. Harmonious coexistence

These Panchsheel ideas were later incorporated into the Bandung Declaration, which was signed in 1955 in Indonesia during the Afro-Asian Conference. They are the foundational ideas of nonalignment, and they continue to influence India's foreign policy.

Policy of Non-Alignment26

The most essential element of India's foreign policy is non-alignment. Its basic tenet is to retain foreign policy independence by refusing to join any military alliance formed by the United States and the Soviet Union after WWII, which became a significant feature of cold war politics. Non-alignment is not the same as neutrality, non-intervention in foreign affairs, or isolationism. It was a vibrant and upbeat concept. It proposes taking an independent stance on international matters based on the merits of each case while also refusing to submit to the dominance of any military force.

Keeping away from military alliances and superpower blocs was thus a fundamental requirement for foreign policy independence. Many developing countries in Asia, Africa, and Latin America supported India's nonalignment strategy because it allowed them to maintain their foreign policy independence in the face of Cold War pressures and tensions. India was a driving force behind the Non-Aligned Movement's popularisation and consolidation (NAM). In 1947, India hosted the Asian Relations Conference in New Delhi, led by Nehru, to establish the concept of Asian solidarity. In 1949, India organised another Asian Relations Conference on the issue of Indonesian independence, as India remained firm against colonial domination in other nations. The meeting established ten basic principles of international relations, including five Panchsheel principles. The leaders agreed to collaborate on colonial

liberation, peace, and cultural, economic, and political collaboration amongst emerging countries.

The policy of Resisting Colonialism

Racism, Imperialism India was a victim of both colonialism and racism, and as such was opposed to both in any form. Colonialism and imperialism are seen as a danger to international peace and security by India. In 1946, India was the first country to submit the topic of apartheid to the United Nations. India advocated for Indonesia's independence and convened the Asian Relations Conference to do so. In 1964, 14 African countries were freed from colonialism thanks to India's sustained efforts through the NAM and other international forums. India made genuine attempts to eradicate South Africa's apartheid scourge. NAM established the Africa Fund (Action for Resisting Imperialism, Colonialism, and Apartheid) in 1986 on India's initiative to assist frontline states who were victims of South African aggression for supporting the fight against Apartheid. India contributed significantly to this fund. The end of racial discrimination in South Africa in 1990 was a huge win for Indian policy.

Peaceful Settlement of International Disputes

India's foreign policy is defined by its unwavering belief in the political solution and peaceful resolution of international conflicts. This principle is enshrined in the Indian Constitution, the Directive Principles of State Policy, and the United Nations Charter. India has taken a leadership role in resolving the Korean conflict and has backed negotiated solutions to the Palestinian issue, the Kashmir crisis, boundary conflicts with neighbouring nations, and other disputes and issues. At the moment, India supports a peaceful resolution of the Iranian nuclear crisis, as well as the challenge of a democratic rise in the Middle East. India has consistently opposed foreign military participation in international disputes.

Support for UN, International Law, and Equal World Order

India holds a high regard for international law and/or the United Nations' ideals of sovereign equality and non-interference in the internal affairs of other countries. India has backed the United Nations' disarmament efforts. India presented a very ambitious nuclear disarmament agenda to the United Nations in 1988. Despite the fact that the other UN members rejected this proposal, India remains devoted to the goal of universal disarmament today. India has contributed significantly to world peace by assisting in the decolonization process and actively participating in UN peacekeeping missions. India has advocated and supported Security Council reform to make the Council's makeup more realistic and democratic.

Indian Foreign Policy Phases

The international order's very structure is experiencing significant change. Various geopolitical events can be criticized for this.

1. USA's unilateralism under America First policy.
2. Re-balancing of the global economy: The rise of China, India etc.
3. Return of old empires: Resurgence of Russia, Iran or Turkey.
4. Geopolitical Flux in the Middle East: Crisis in Syria & Afghanistan, Reign of terrorism by Islamic State of Iraq and Syria (ISIS).
5. Africa which was earlier called the lost continent is now being called as the continent of hope.
6. Technology, connectivity and trade are now the new notions of power.
7. Climate change is a factor, with the opening of an Arctic passage among others contributing to geopolitics (a sea route from the Pacific Ocean to the Atlantic ocean, through the Arctic Ocean).

India must learn from its foreign policy since independence in order to prepare for the difficult road ahead in this moment of geopolitical transition.

Indian foreign policy can be broken down into six distinct phases:

1.The first phase (1947-62): Optimistic Non-Alignment

1. This time period is defined by the establishment of a bipolar world, with camps led by the US and the USSR.

2. During this phase, India's goals were to protect its democracy, rebuild its economy, and maintain its integrity.
3. One of the first countries to be granted independence was India. As a result, it was only natural for India to take the lead in the drive for a more fair world order in Asia and Africa.
4. In order to achieve this, India was instrumental in the formation of the Non-Alignment Movement (NAM) (1961), which marked the pinnacle of Third-World cooperation.
5. However, the 1962 conflict with China not only brought this period to a close, but also significantly affected India's position on the NAM.

2.The second phase (1962-71): Decade of Realism and Recovery

1. In the 1962 battle, India made pragmatic security and political judgments.
2. In the interest of national security, it went beyond non-alignment, signing a now-forgotten defense deal with the United States in 1964.
3. India faced external pressures on Kashmir (Tashkent agreement 1965) came from the United States and the United Kingdom.
4. Both India and Pakistan committed to withdraw all armed forces to pre-war locations, reestablish diplomatic relations, and resolve economic, refugee, and other issues as part of the Tashkent agreement.
5. The deal, however, did not include a no-war pledge or any acknowledgement of Pakistan's aggression in Kashmir (as Pakistan was an ally of the US).
6. As a result, India began to lean toward the Soviet Union.(USSR)

3.The third phase (1971-91): Greater Indian Regional Assertion

1. When India liberated Bangladesh in the 1971 India-Pakistan conflict, it demonstrated a spectacular deployment of physical power. However, it was a particularly difficult period since the US-China-Pakistan axis that had formed at the time posed a severe danger to India's regional power ambitions.
2. After performing a peaceful nuclear explosion test in 1974, India was sanctioned by the US and its allies (Pokhran I).
3. Furthermore, the fall of the Soviet Union, India's close ally, and the economic crisis of 1991 forced India to reconsider its domestic and foreign policy fundamentals.
4. The Gulf War (1991-1992), the disintegration of the Soviet Union (1991), long-term economic stagnation, and internal unrest all collided in 1991, resulting in a balance of payment crisis.

4.The fourth phase (1991-98): Safeguarding Strategic Autonomy

1. The creation of a unipolar world (dominated by the United States) prompted India to rethink its foreign policy.
2. This desire for strategic autonomy was focused on ensuring the country's nuclear weapons capability (Pokhran II 1998).
3. During this time, India increased its engagement with the United States, Israel, and ASEAN countries.

5. This fifth phase (1998-2013): India, a Balancing Power

1. During this time, India progressively developed the characteristics of a balancing power (against the rise of China).
2. The nuclear agreement between India and the United States reflects this (123 Agreement).
3. At the same time, India could unite with China on climate change and trade, while simultaneously strengthening ties with Russia and assisting in the development of BRICS into a significant global platform.

6. The sixth phase (2013-until now): Energetic Engagement

India's policy of non-alignment has evolved into multi-alignment in this stage of transitional geopolitics. Furthermore, India is now more conscious of its own potential as well as the world's expectations of it.

1. One factor is that India is one of the world's main economies.

2. The importance of India's talent in developing and maintaining global technology is projected to increase over time.
3. India's desire to shape crucial global negotiations (such as the climate change conference in Paris) is also significant.
4. Through its approach to the Indian Ocean Region (SAGAR initiative) and the wider neighbourhood, India has been able to express itself beyond South Asia (Act East policy and Think West policy).

Models/Approaches Of Foreign Policy

In foreign policy analysis, there are five main models. The rational actor, bureaucratic politics, and organisational process models, as well as the inter-branch politics and political process models, were all developed by foreign policy analyst and scholar Graham Allison and outlined in his book, The Essence of Decision: Explaining the Cuban Missile Crisis. To successfully examine foreign policy as a whole, international relations professionals must first determine the relative strengths and limitations of each model, as well as the ways in which one approach has the potential to address the shortcomings of the others. For the study of foreign policy, there are numerous approaches/models.

The models/approaches are as follows.

Rational Actor Model

In the scientific tradition of social sciences, rationality is a cornerstone. It provides a theoretical framework for generalizable assertions and, in some situations, predictive judgements. The methodological commitment to a particular form of rationality—that is, a rationalist model of decision-making—is intended to be an innovation aimed at improving its analytical and predictive powers. Political science, economics, psychology, and sociology all have proponents who believe in different forms of this method. (Zey, 1998, p. 1)

The Rational Actor Model (RAM) is a decision-making tool for foreign policy. It is based on a realist viewpoint. The state is viewed as a unified actor. The decision of foreign policy decision makers is seen as a governmental decision. Every actor in the Rational Actor Model is assumed to be rational. Foreign policy decision-makers are rational actors. In foreign policy, top leaders, advisors, and ministers form an elite group that makes decisions. Rationality is defined as "consistent, value-maximizing decision without explicit constraints," as described by Graham Allison. When an actor chooses the best alternative to achieve his or her goal, he or she is acting logically. rational decision maker begins by recognising a problem. The decision maker then attempts to resolve the issue. Solving the challenge entails achieving national interest in general. The rational decision maker establishes a national goal and explores several methods for achieving it. As a result, the advantages, disadvantages, and consequences of various alternative policy options are assessed (cost benefit analysis). The actor then ranks alternative options according to their utility. The top choices are less expensive and more beneficial, whereas the bottom choices are more expansive and less beneficial. The decision maker then selects the best alternative choice that optimizes utility while also serving the national interest. This is referred to as optimal selection. This is how rational actors work, as Greg Cashman demonstrated in 1993.IFA (International Affairs Forum) The rational actor model is the most extensively used foreign policy analysis method. This approach implies that the principal actor in foreign policy is a rational person who can be trusted to make well-informed, calculated judgments that maximize the state's perceived value and benefits. The rational actor model uses individual state-level interactions between nations and government conduct as analytic units; it assumes that policymakers have access to comprehensive knowledge for optimal decision making, and that actions done throughout time are consistent and coherent. The rational actor's decision-making process involves four basic steps: identifying the problem, defining desired objectives, evaluating the ramifications of alternative policy choices, and ultimately

making the most reasonable decision to maximize beneficial results.

Bureaucratic Politics Model

Unlike the rational actor model, which considers the state as a single actor, the bureaucratic politics model considers decisions made by a number of autonomous, competing entities inside a given state. Each of these distinct entities brings its own set of values to the table, as well as its own vision of what is best for personal, corporate, and national interests. Each side tries to achieve its own objectives, therefore any collective action is based on successful negotiations and a final agreement among all parties. The relative power and degree of influence of each other player in the group, for example, might influence each party's decision-making and how it achieves its objectives. Each party has opposing viewpoints and desired outcomes related to an array of issues, and success in achieving certain goals may require other parties to make certain concessions, resulting in decisions that are often seen as more beneficial to one side than the others. Additional factors that impact decision making include the degrees of importance of certain goals and the political values each party represents. The increasingly partisan nature of U.S. politics provides an excellent example of this model in action. The bureaucratic politics approach is often touted as an explanation as to why states sometimes act irrationally. However, some argue the model doesn't account enough for highly concentrated power held by certain entities, such as the executive branch in U.S. governance. It is also seen as very U.S.-centric and difficult to apply in the context of other styles of government.

Organizational Process Model

Unlike the two previous theories, the organisational process model sees government as a collection of powerful groups working together rather than a single political entity. This model looks at how foreign policy decisions are made within the constraints of bureaucracy, where actions can only be performed with proper authorisation and obedience to the chain of command, as well as established processes and standard operating procedures. Here, government officials assign minor aspects of a crisis to committees, departments, and other bureaucratic institutions that support the government, rather than dealing with the crisis as a whole. Critics frequently complain that this approach restricts people's ability to act, resulting in a lack of understanding and alternate viewpoints. The organisational process model can potentially reduce an organization's total flexibility. However, by establishing a consistent process for particular conditions with predictable, measurable outcomes, this approach has the potential to expedite decision-making. To put it another way, the organisational process model anticipates the measured pace of bureaucratic operations and aims to develop protocol that can be quickly implemented in the event of a crisis.

Inter-Branch Politics Model

In that it involves independently defined groups or entities, the inter-branch politics model is analogous to the organisational and bureaucratic process models. The inter-branch politics model, on the other hand, evaluates acts and their effects based on the combined efforts and cohesiveness of diverse organisations, as well as their progress toward accomplishing collective goals. The bureaucratic and organisational institutions within and outside governments do not work in total independence, according to Tan Qingshan, a political science professor and Director of Asian Studies at Cleveland State University, who first developed the idea

Political Process Model

Roger Hilsman created the political process model of foreign policy analysis in his book The Politics of Policymaking in Defense and Foreign Affairs. According to Hilsman, the foreign policy decision-making process involves a huge number of actors, mostly focused in the White House and Congress, but also at other levels of government. The political process model, like the bureaucratic politics model, emphasises negotiating and the presence of many power centres attempting to achieve their own goals,

which can be in conflict or agreement with those of others. This paradigm, however, varies from the bureaucratic politics model in that it places a greater emphasis on the individual participants and their personal aspirations and perspectives on international politics.

One of the most important factors in determining and explaining decision-making, according to Hilsman, is each political actor's individual ideology. However, some argue that the model is too similar to bureaucratic politics to make a significant addition to the field of foreign policy analysis. Foreign policy analysis is required to increase our overall understanding of government and political decision-making processes on the international stage. Each approach to diplomacy has its own set of potential drawbacks and benefits, and each emphasises the importance of the political actors and structures involved, as well as how they collaborate to achieve their foreign policy objectives.

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ISSUES AND CHALLENGES OF DIGITALIZATION OF BANKING IN RURAL AREAS

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Abstract:
Now a days the moderation is taking place which is we are living in the modern era called "Digitalization". Government of India is also announced that digital India programs with a view to achieve the digital society empowerment and to gain the knowledge about the economy digitalization are playing a very important role in the banking area and various sectors. Digitalization is an important in banking system, it plays a major role in promote the financial services and it helps to give a butter services to customers with a view that to gain the opportunities to satisfy the customer needs in future. Banking sectors is attaining the enormous growth in the current year, by motivating for generating more capital formation, because of digitization of banking. Now a day's India banking system is growing towards moderation. This are also has the various issues and challenges in the rural area.

Key words: *Digitalization, Rural, Banking, Growth, issues.*

Introduction:
India is a developing country, so the digitalization is play a important role in the various sector of the country. In this twenty first century the world is full of digitalization. This digitalization is important part for developing country not only country but also for the human life: we cannot not accept without this digitalization the present world is depends on digitalization in various sectors but the banking sector is not carrying to it.

The country banking system is system of development in various sectors for the monetary helping hand, bank will provides to supplementary sectors and to motivate for money arrangements. Now days our country is one of the rapidly development counties in the globe but it is straggly back for the application of digitalization to banking sector. If the digital is taken place it will lead a revolution in the economy but the bank have to take some important steps for the digit in rural area there is a some population not having the banks account even through the some implementation of programs by the central government. Digital is very important for rendering the quality of service to the rural areas which are not having monetary assistance. This paper is told about the issues and challenges of digitalization in rural areas.

Digital banking sector
There are various digital banking services which are provided by the banks to its customers some of them are- National Electronic Fund Transfer, Real Time Gross Settlement, Debit and Credit Cards, Mobile Banking, Inter Bank Mobile Payment System etc., Implementing these services in rural areas of India are not that easy from banks perspective as there are various issues and challenges needed to be addressed.

Importance of Digitalization of rural banking
Digitalization of rural banking is very helpful in financial inclusion and helps the economy to grow faster with the development of all other sectors. Some of

the significances of digitalizing rural banking are-

1. Increases efficiency: Digitalization of banking increases the efficiency which should banks and also the transaction will be easy.
2. Fast and furious: Digitalization helps in reduces the time for the purpose of transaction and also helps to increase flow of funds
3. Huge scope: Digitalization of banking has a huge scope in the way of people coverage.
4. Improves the quality: Digitalization will improve the quality of service of the banking sector
   Compared to traditional banking
5. Less human error: Digitalization of banking maintains proper records of transactions and thereby reduces the human error.
6. Environment friendly: As digitalization of banking saves paper and trees it is more of environment friendly
7. Increases Investment: Digitalization of banking leads to quick and easy access to various banking services and thereby increases the investment activities in the country.

Issues and challenges in Digitalization of rural banking

1. The literacy rate is low in rural India compared to urban India:

For the use of digital banking service needs education the rural population has lack of literacy of which is the greatest challenge in implementation of digitalization to rural banking.

2. Lack of infrastructural facilities:

Digitalization of rural banking sector has also includes the infrastructure development. In this they concentrated on the infrastructure, electricity and communication and network

Less number of people using smart phones:

The number of people in rural area using smart phone is very less which is the big hindrance in implementation of digitalization of rural banking

3. Lack of banking habits among rural people:

Majority of the people in rural area do not have access to banking because of the lack of banking awareness and lack of financial literacy.

4. Network issues in rural areas:

There is a problem of communication networks because of which there is lesser digital payments in rural areas which needs to be addressed.

5. Lack of financial literacy:

The financial literacy among rural people is very less, because of which people are not aware of different kinds of making payments

6. Cash economy:

Rural India mainly depends on cash than digital cash to meet their daily need as the transaction happens mainly with help of cash or barter form.

7. Volume of transaction:

The volume of transaction in rural area is very less because of lesser demand for the goods and low level of income.

8. Customer resistance to new technology:

The rural people do not change so easily in the case of usage o f technology, as lack of awareness on usage of digital banking services

9. Cost of financial services:

The cost of providing financial service is too high in rural area because of lack of infrastructural facilities and low volume of transaction in rural area.

Objectives

1. To analyze various issues and challenges in implementation of digitalization in rural banking.
2. To analyze the factors influencing the Digitalization of rural banking- such as Communication networks, education, occupation, income, gender, socio-economic status.
3. To analyze what needs to be done and what has been done in digitalization of rural banking

To analyze probable areas which need to focused for implementing digitalization of rural banking and helping in making India a digital India.

Methodology:

The present paper study is based on the secondary data which is collected by

books, articles and journals. This paper is based on the theoretical background

Review of literature:

Raghavendra Nayak (2018) their study entitled "A conceptual study on Digitalization of banking issues and challenges in rural India" in this article the expressed about the issues and challenges faced by the rural population because of the digitalization in the banking sector. The main objective of this paper is to analyze the needs to be done in digitalization in rural banking and also to analyze the factors influencing the digitalization of rural banking such as communication, network, education, occupation, income, gender, socio-economic status. By implementation of digitalization in rural banking helps proper collection of tax. Shubhangi sudrashan zende (2021) their study entitled "Digitalization in India prospect and challenges" in this article the author says about Digitalization, digital India and the social impacts. The data is collected in descriptive qualitative and support by literature, data collective used interview and observation, in this study mentioned about the digitalization project in India which is introduced by the government that is digital locker facility BHIM app, MY GOVT, e- sign, e- hospital. The banking sector development is national scholarship portal, Bharat generation and the GOVT has made many apps to make digital India. Frances and zabala aguay and beata slusauzyk (2020) their study entitled "Risk of banking services digitalization: The practice of diversification and sustainable development goals". They expressed about the global banking eco system, operational risk and also the diversification of risk, creating the banking platform to increase the customer they need the social factors and the development of new digital information technologies. It has made to attract the investment and electronic banking service. J. Shifa .Fathima (2019) their study entitled " digitalization revolution in the Indian banking sector ", in this article the main research objective to study the evolution of digitalization in Indian banking and about the scope and progress, and also what the digitalization e was adopted in this study is ATM, Tele banking, ECS, EFT. The reasons for banks adopting Digitalization is for the development of new technologies, the change of customer expectation and challenges involved is rural banking is attaining APP perfection, cyber crime, technology's upgrading, spearheading with innovation and delivering quality at speed.

Discussion:

This conceptual paper highlights mainly on the implementation of digital banking in rural India and various issues and challenges need to be faced in implementing. This paper also stresses the importance of usage of digital banking services in rural area and thereby contributing to the growth of the country. Digitalization of banking is very important for the development of the country and for financial inclusion. Capital formation depends mainly on the savings of the people and investment activities. Because of lack of awareness among rural people on the digital banking services and lack of required facilities for the usage of digital banking services the saving rate is less and because of lesser saving habits the investment activity also reduced which is the main reason for the backwardness of rural India.

As the majority of the rural people are not literate in case of handling and usage of tools such as basic internet or computer programs, so it is difficult to teach and make them understand. So there is more need of creating awareness among the students who are the future of rural India. The banking sector must reach out to the schools and colleges where the students can understand it easily and convey it to their family members like making payment of electricity bills, transferring funds and different kinds of online payments and thereby helpful in implementing the digitalization to rural banking.

Conclusion:

With the implementation of digitalization to rural banking we can bridge the gap between rural and urban area as it promotes higher level of

investment activities. Digitalization helps in maintaining the records of transactions which can be easily accessed by the customer and banker. It is also helpful for the government in implementing various plans and reaching out to the people, the best example for this is DBT (Direct Benefit Transfer) through bank accounts, which reduces the leakage of government funds. The implementation of a secure Digital India will need to adopt an end to end approach like never before. As a nation, we shouldn't let security concerns undermine the growth potential of India. Digitalization is helpful in taking India towards corruption free country in the world and also helps in anti-money laundering and proper collection of taxes. This Digitalization process will ensure transparency in the Government and at the same time will curb the menace of corruption, which is the road block in the progress of the country. The Government should make extra efforts to literate the citizens and make aware of the benefits and uses of Digitalization.

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MORPHOMETRIC ANALYSES OF KOLAR RIVER BASIN, CENTRAL INDIA

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Abstract

Morphometric analyses of Kolar river basin has been carried out with various aspects. The linear, areal and relief aspects of Kolar river basin suggest that river basin has elongated shape with impermeable sub-surface, low infiltration and fine drainage texture. Values of ruggedness number fall in higher range; hence basin is more susceptible to erosion. Morphometric values infer that the Kolar river basin has, sparse vegetation cover, high relief. Present study has confirmed the prevalence of dendritic drainage pattern, highest of 6th order stream and linear relationship between stream order and stream number. This also suggests that the runoff is low and lower degree of dissection. With high values of overland flow, water will take more time to enter the stream. Values of Hypsometric Integral (HI) confirmed that the Kolar river basin is of mature stage. Hence area is less prone to flooding. High bifurcation value of suggest that, the 3rd, 4th and 5th order stream have strong structural control over them. Elongation ratio values verify that basin is tectonically active.

Keywords: *Morphometry, Asymmetry Index, Tectonic activity, Kolar river basin, Kanhan basin, Basalt.*

Introduction

In a river basin, surface runoff, accumulation and percolation of water is governed by the geological and geomorphological features of the basin area (Christopher et al. 2010). GIS and remote sensing techniques are used to analyze and interpret the morphological characteristics of the basin (Waikar and Nilawar 2014). Drainage analysis interprets the vital information related to groundwater potential, management of ground and surface water resources, soil erosion and its conservation, effective plans for watershed prioritization and environmental studies. Lithology, slope and climate determine the development of the eco system on basin scale. Geological and geomorphic history of drainage basin is obtained from morphometric analysis (Strahler, 1957).

In the present study the linear, areal and relief attributes for Kolar river basin falling under the Kolar river basin which has deccan trap basaltic region, has been studied in detail. Evaluation of stream behavior, lithological analysis and drainage analysis using morphometric setting are used to establish the inter-relationship between different drainage attributes.

Rational of Study:

Morphometric analysis is very helpful for identification of suitable site for the construction of dam, tectonic activity and flood risk assessment.

Objectives:

Main objective is to carry out the morphometric analyses and to identify flood risk and tectonic activity.

Hypothesis:

It is expected that the analyses will gives indication about the tectonic activity of basin.

Study area

The Study area is located at north-eastern part of Maharashtra state in Nagpur District. Kolar river basin is drained into Kanhan river basin which is a sub basin and catchment of Wainganga river. This river basin is spread in survey of India topographical sheet numbers 55 K/11, 55 K/12, 55 K/15, 55, K/16, 55 O/3 and 55 O/4. River basin lies between

Latitude 21°10'0"-21°30'00" and Longitude 78°40'00"-79°10'00" (Fig. 1). Study area is having regional geological formation from Proterozoic to Recent formations (Katpatal et al., 2014).

Materials and Methods

Survey of India toposheets were used to trace the Kolar river basin manually. In this, drainages of different orders in Kolar river basin were manually traced. Lengths of 1st to 6th order were measured the drainage map of watershed.

Simultaneously, with the help of Arc-GIS software of the vector module of Erdas software 10.5 and Digital Elevation Model, drainage was digitized. Drainage map was prepared from Digital Elevation Model. Numeric values of manual traced drainage map and GIS data results were compared and verified. By using this data, further calculations were carried out.

Results and Discussion

Morphometric Analysis:

In morphometric analyses, linear, areal and relief aspects were calculated. On the basis of the obtained data from stream order and stream lengths, quantitative drainage analysis was worked out. These aspects were calculated by using mathematical formulae (Horton, 1945).

The stream order was calculated using the method proposed by Strahler's (1964). Drainage network of Kolar river basin is analyzed as per laws of stream ordering (Strahler 1964).

Linear aspects

Linear aspects of the basins were characterized by the topographical characteristics of stream segments. In this, stream order (U), stream length (Lu), mean stream length (Lsm), stream length ratio (Lur), bifurcation ratio (Rb) etc were included (Strahler, 1952; Pareta and Pareta, 2011).

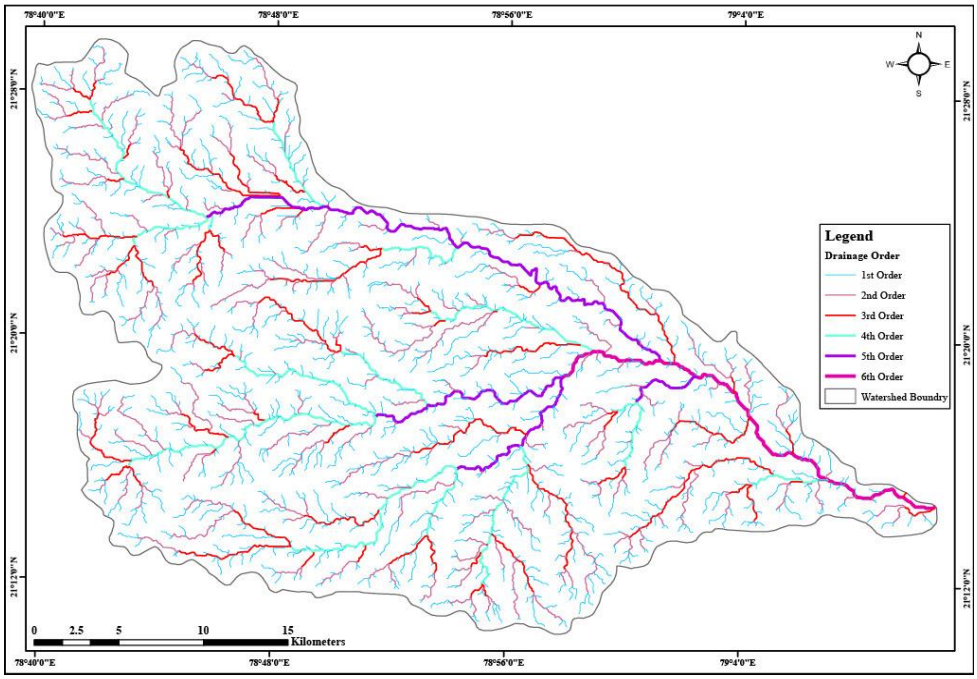

Fig. 1: Drainage map showing different order of streams in watershed Kolar river basin

Table 1: Linear Parameter of Kolar river basin

Stream Order (U)						Bifurcation ratio (Rbm)					
1	2	3	4	5	6	I/II	II/III	III/IV	IV/V	V/VI	Mean
1302	276	66	16	4	1	4.71	4.18	4	4	4	4.2

Table 2: Linear Parameter of Kolar river basin

Stream Order (U)	Mean Stream Length (Lms)	Stream Length Ratio (RL))
1	0.60	-

2	1.39	2.32
3	3.07	2.21
4	7.59	2.47
5	16.76	2.21
6	29.17	1.74

U: Stream order, Nu: Number of streams, Rb: Bifurcation ratios, Rbm: Mean bifurcation ratio*, Nu-r: Total Number of streams used in the ratio, Rbwm: Weighted mean bifurcation ratios

In calculation of linear aspects, Strahler's classification system (1964) is used. According to this Kolar river basin is 6th order basin (Table 1). In Kolar river basin, maximum number of streams of 1st order were observed. Steep decrease in values of 1st order to 2nd order stream is observed. With increasing order of streams, decrease in number of streams is detected.

Computation of the stream length was done on the basis of law proposed by Horton 1945 (Table 2). Total stream length of 1st order steam is highest and it gradually decreases as there is increase in stream order. Mean Stream Length is calculated by dividing the total length of stream of an order by the number of streams of that order. In general, the mean stream length of stream increases with increase in order of streams. It reveals size of components of a drainage network as well as its contribution to watershed surfaces (Strahler, 1964). In Kolar river basin, mean stream length ranges between 0.6 to 29.17km (Table 2). The values of the Stream Length Ratio vary from 1.74 to 2.47 for Kolar river basin (Table 2).

Stream length ratio for Kolar river basin decreases from 2nd order to 3rd order. From 3rd order to 4th order it increases, however for higher order it decreases. In Kolar river basin, values of bifurcation ratio ranges 4 to 4.71 which fall under higher range of bifurcation values. High bifurcation value of suggest that strong structural control.

Aerial aspects

The length of the Kolar river basin is 59.82 km, total area is 1017.63 sq. km, perimeter is 172.53 km, Width is 25.03 Km. The stream length and basin area are associated by a simple power function. The length area relation of the basin is 89.27. (Pareta and Pareta, 2011) Stream frequency of Kolar river basin is 1.64 km^2. Lower values of stream frequency indicate that the runoff is low and lower degree of dissection. Hence area is less prone to flooding (Pareta and Pareta, 2011). Value of length of overland flow for Kolar river basin is 1.58 km. Due to higher value of overland flow, rain water will take more time to enter into the stream. Therefore, in case of higher rainfall there would be significant volume of surface run off to stream discharge.

Value of constant of channel maintenance is 0.32km^2/km. Lower values of the 'C' indicate that the channel capacity may not enough to carry higher discharge resulting from the bigger drainage area. Lower values of 'C' in the basin reduces length of overland flow indicates rapid water discharge. Study shows that a value for drainage density of Kolar river basin is 3.16 km/km^2 which is high. Values infers that the Kolar river basin has impermeable sub-surface, low infiltration, fine drainage texture, sparse vegetation cover, high relief (Strahler 1964, Reddy et al., 2011). Drainage texture for Kolar river basin is 9.65 which fall under category of very fine texture (Smith 1950).

Value of texture ratio is 7.55 which are moderate in nature. Value of elongation of ratio of Kolar river basin is 0.6, which shows basin is elongated with slight tectonic activity. In Kolar river basin infiltration number is 5.18 which is a high value. This indicates that basin has higher run-off indicating the rocks are impermeable. Circularity ratio for the Kolar river basin is 0.43 which indicates that the basin is elongated basin with dendric drainage pattern.

Relief aspects

In morphometric analyses, linear and areal aspects are two-dimensional

analysis. Relief aspect is considered as third dimensional aspect. Basin Relief is important factor to understand the flow direction and extent of drainage. It also signifies the extent of denudation processes undergone within the river basin.Relief aspect studied for Kolar sub-basin are basin relief, relief ratio, relative relief, and ruggedness number. Kolar river basin has a relief of 342 m. Value is relief ratio for Kolar river basin is 5.72. Kolar sub-basin has a relief of 342 m. Ratio between height and length of basin which is dimensionless. Relief ratio indicates intensity of an erosional process. Value is relief ratio for Kolar sub-basin is 5.72. Ruggedness number indicates the structural complexity of terrain and intensity of susceptibility of a basin to erosion. Ruggedness number of Kolar river basin is 1.08 which is high and indicates the basin is more susceptible to erosion (Pareta and Pareta, 2011). By using DEM data, hypsometric integral curve was calculated which is 0.48. This value confirms that basin is in mature stage and susceptible to geomorphic environments for debris flow (Xiang et al. 2015).

Conclusion:

Detailed morphometric analysis of Kolar river basin and its sub-watersheds is carried out using ASTER-DEM data on Arc-GIS 10.3. Morphometric parameters were enumerated for Kolar river basin indicate area is tectonically disturbed. Lower values of stream frequency shows that the runoff is low and lower degree of dissection therefore area is less prone to flooding. Due to higher values of length of overland flow, rainwater will take more time to reach the streams which lowers the risk of flood.

Drainage texture for Kolar river basin falls under category of very fine texture. Infiltration number falls in range of values which tells that the basin has impermeable rock formation. Elongation ratio value falls under category of tectonically active basins hence; elongation ratio values indicate the tectonically active basin. Bifurcation ratio values of some sub-watersheds has stated strong tectonic activity resulting into structural disturbances Morphotectonic analysis of Kolar river basin verified that the basin is tectonically active.

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FUNGAL DISEASES IN SOME FOREST NURSERIES OF BULDANA DISTRICT, MAHARASHTRA STATE (INDIA)

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Abstract

In this survey we were focussed on ten plant species which are generally raised in forest nurseries across Buldana region of Maharashtra state of India. The survey was completed in between duration of the five months i.e., from September 2019 to February 2020 in multiple times. The main purpose of our study in this research was to find the seedling or nursery diseases of the targeted common tree species. The plant species in this were Acacia auriculiformis, Aegle marmelos Albizia lebbeck, Azadirachta indica, Cassia fistula, Dalbergia latifolia, Delonix regia, Gmelina arborea, Tectona grandis and Terminalia bellirica. The Common Fungal infections we recorded were includes seven different pathogenic fungi which were caused less or more infection level in different plant species. From this infection study we measured total percentage of diseased seedlingsof each forest plant species. Out of all these observations noted that the highest rate of infection in Tectona grandis. The lowest rate was recorded in Albizia lebbeck. The average percentage of the diseased seedlings were 29.13%. The commonly recorded pathogenic mycoflora includes Alternaria alternata, Curvularia, Fusarium, Phoma glomerata, Colletotrichum, Phomopsis and Pseudocercospora. To find out remaining fungal diseases in same plant species along with various geographical and variety of climatic conditions regions creating scope for future studies.

Keywords *- Forest, Nursery, Diseases, fungal, pathogenic, mycoflora*

Introduction

The forest provides man with wood, fuel, feed, and minor forest products while also preserving soil and water, regulating climate, providing food and shelter for wildlife, and meeting man's aesthetic and recreational needs. Plants and the environment have a close interaction. Due to the species' innately modest growth rates and the mixed composition of the natural forest, not all species are necessarily useful. Understanding the causes and mechanisms of a disease epidemic is one of the important topics of the forest department. Particularly in plantations, where a disease epidemic could result in catastrophic losses due to abrupt environmental changes. The observation of the forest nursery under such circumstances serves as a model for understanding ecological metamorphosis. Different types of diseases, including Damping off, Root Rot, Stem Rot, Leaf Curl, Wilt, Canker, Rust, Decay, etc., can be found in forest nurseries. In the current study, we found that fungal pathogens in trees were the cause of distinct and widespread diseased issues in forest nurseries in the Buldana district of Maharashtra (India).
The importance of seedling health has increased, significantly broadening the range of Phyto-sanitary procedures. The method for producing seedlings has been standardised, and growing media appropriate for the plant species have been established. Under the conditions of nature, tree seeds germinate and trees grow quickly. In natural forests or

plantations, these tender young seedlings and young trees are subjected to unfavourable dry season circumstances and fierce competition from other species. In their crucial juvenile stage, forest nurseries may give seedlings the best care and attention, resulting in the production of healthy, vivacious seedlings. In many circumstances, nursery-grown seedlings are necessary for successful regeneration since degraded areas do not have the right conditions for natural vegetation or direct seeding. Until they are ready to be planted, tree seedlings are cultivated in a controlled environment called a forest nursery. It might be a little, unofficial agreement or a sizable business operation. One of the biggest issues facing nursery managers is maintaining the seedling crops in a tropical climate. If prompt action is not taken, disease concerns may arise one after another during this time, potentially destroying the entire seedling crop. The seedlings in forest nurseries may be managed rigorously because their maximum growth time is 200 days.

Materials and method

In the Buldana district of Maharashtra, forest nurseries were surveyed for disease in five different five nurseries in five different tehsils i.e., Khamgaon, Motala, Chikhali, Buldana, and Nandura. This survey was conducted in between September 2019 to February 2020. Disease specimens were collected and brought to the lab for the isolation and identification of the pathogenic organisms. Disease incidence, severity, and spread were recorded using a disease grading scale. To prevent aerial contamination, samples of seeds and leaves from plants and trees were obtained from nurseries and carried to the lab in polythene bags. For the purpose of isolating mycoflora associated with leaves, the International Seed Testing Association's (1966) suggested Agar plate method was used. Surface leaf fragments were first disinfected with sodium hypochlorite solution containing 0.01 percent, followed by a sterilized water wash. These were cultured in Petri dishes with PDA medium for 7–10 days at 24–25 0C. Colonies of microbes growing on leaves were isolated and characterized. After being stained with cotton blue, spore slides were made and placed on glass slides. The slides were inspected under a microscope, and the book Introduction to Fungi by Webster & Weber was used to identify the causative fungus (2007). Some types of Fungicides were screened against important fungal pathogens using standard techniques and most effective fungicides at appropriate dosage were recommended and applied in the nurseries for controlling the respective disease(s). Observations on the effect of chemical treatments against diseases were recorded from the nurseries. General nursery management practices followed in each nursery were recorded and data on growing media used, their composition and pH were also collected.

Results and discussion

Disease survey conducted in forest nurseries located at different parts of the district revealed that forest seedlings are almost free from soil-borne fungal diseases like damping-off, collar rot and wilt irrespective of the conducive climatic conditions prevailed in the nurseries. However, most of the species raised in forest nurseries suffered from one or the other foliage diseases, mostly incited by air-borne inoculum of pathogens, the severity of which varied from nursery to nursery depending on the nursery management practices and prevailing environmental conditions. The common nursery pathogens like Rhizoctonia solani, Cylindrocladium spp., Fusarium spp. and Pythium spp.

which cause various diseases at different growth phases of seedlings were seldom recorded in root forest nurseries. R. solani, the most potential pathogen in forest nurseries which exists in different Anastomosis groups (Mohanan 2001) and having a wide host range was not encountered in the forest nurseries during 2021 and 2022. The details on the diseases affecting the seedlings Acacia auriculiformis, Aegle marmelos, Albizia lebbeck, Azadirachta indica, Cassia fistula, Dalbergia latifolia, Delonix regia, Gmelina arborea, L. Tectona grandis L.,

Terminalia bellirica their causal agents are given in Table 1.

Sr. No.	Host Plant	Pathogenic fungi
	Acacia auriculiformis	*Alternaria alternata, Curvularia, Fusarium*
	Aegle marmelos	*Phomopsis, Phoma ,Alternaria*
	Albizia lebbeck	*Colletotrichum capsica*
	Azadirachta indica	*Fusarium*
	Cassia fistula	*Curvularia, Phoma glomerata*
	Dalbergia latifolia	*Colletotrichum, Phomopsis*
	Delonix regia	*Phomopsis*
	Gmelina arborea	*Pseudocercospora*
	Tectona grandis	*Phomopsis glomerata*
	Terminalia bellirica	*Phomopsis*

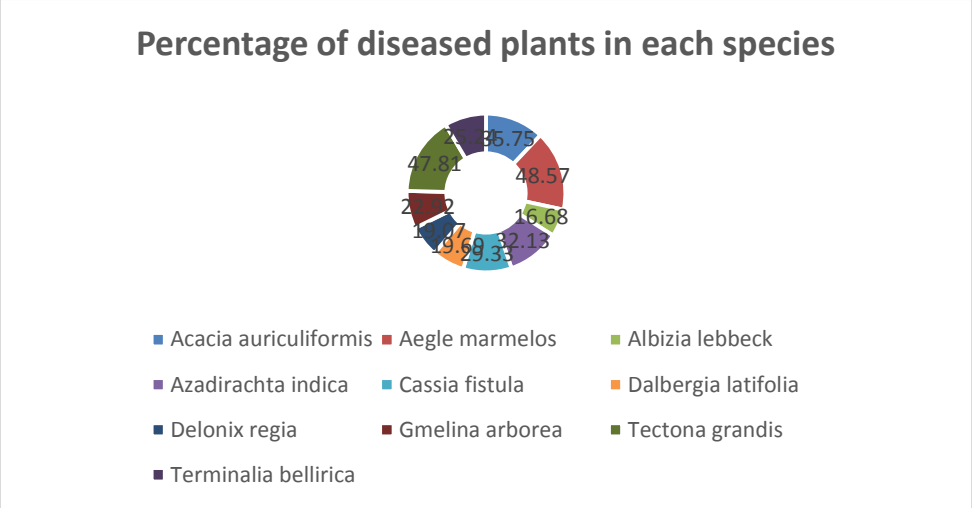
Table -1 Host Plant and Pathogenic fungal found on it

Seedling congestion was found to be the major factor for the incidence and spread of foliage diseases. Pathogens like Colletotrichum, Alternaria alternata, Phoma glomerata, Phomopsis were found associated with the foliage diseases of seedlings. In general, severity and spread of foliage diseases caused by most pathogens was low in all the nurseries, except the foliage blight caused by P. glomerata. The pathogen was found widespread in nurseries and caused severe foliage infection in teak. In teak seedlings, P. glomerata caused severe damage to the seedlings. In teak, the pathogens cause dark greyish brown necrotic lesions on foliage, usually at the margin and tip of the leaves or at the base of the petiole which coalesce and spread to the entire leaf lamina. The infected leaves show an upward curling and become brittle and withered. The disease also affects the leaf petiole and seedling stem. Severe infection leads to seedling blight. In Cassia fistula, the pathogen caused severe leaf blotch which led to defoliation and seedling mortality.

Sr. No.	Host Plant	Total No. of plants observed in all Forest Nurseries	Diseased Plants Recorded from Total Observed	Percentage of diseased plants (%)
	Acacia auriculiformis	3480	1244	35.75
	Aegle marmelos	1890	618	32.70
	Albizia lebbeck	3267	545	16.68
	Azadirachta indica	6573	2112	32.13
	Cassia fistula	5643	1655	29.33
	Dalbergia latifolia	4672	920	19.69
	Delonix regia	3964	756	19.07
	Gmelina arborea	2845	652	22.92
	Tectona grandis	5423	2593	47.81
	Terminalia bellirica	2643	667	25.24
Total		**40400**	**11762**	**29.11**

Inoculum of most of the nursery pathogens activates in presence of a

susceptible host under conducive edaphic and environmental factors. However, in Most of the soil-inhabiting, disease causing fungi subsist mainly on dead organic materials and the presence of surplus, readily available nutrients in organic compostin root trainer cells makes less competition among the pathogens for the nutrients and thus least attractive for infection of seedlings. The compost prepared from forest weeds is the major constituent of the growing medium in forest nurseries and is very resistant to environmental stress persisted in the compost and contributed to the development of disease.



In the nurseries of Madhya Pradesh, 14 fungal infections were briefly described by Harsh et al. (1989) as the source of foliar diseases. R. solani induced foliar infections in forest nurseries, according to Mehrotra (1990). Maji et al. (2012) noted that foliar diseases such as powdery mildew, leaf rust, *Myrothecium* leaf spot, and *Pseudocercospora* leaf spot were present in some mulberry types. Most of the soil-borne diseases were excluded from the nurseries (Mohanan 2000). In India's New Forest, Dehra Dun, Uttar Pradesh, noted leaf blight, a novel disease of *Ailanthus excelsa* Roxb. was affected by a leaf spot and top dying illness that Dadwal *et al.* (2012) reported as being brought on by *Colletotrichum dematium*. The infection of *Alternaria* species on leaves of *Azadirachta indica* found in some plants (Singh *et al* 2017).

Conclusion

In forest nurseries, foliage infections caused by air-borne fungal pathogens affect the seedlings and seedling congestion may be the primary influencing factor for the incidence and spread of the disease. Among the fungal pathogens causing foliage infection, *Colletotrichum, , Phomopsis* sp., *Phoma glomerata* and *P. eupyrena* are the important ones. Though, the new technology offers production of high-quality healthy planting stock, application of proper fungicide(s) at proper time is required to control the foliage diseases. Otherwise, mild foliage infection may flare up and cause severe damage to the seedling crops.

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A COMPARATIVE ANALYSIS OF MOTOR FITNESS COMPONENTS AMONG HIGH SCHOOL STUDENTS

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Abstract

Motor fitness gives capacity for activities. motor fitness has been considered one of the most crucial requirements of sports performance. the stronger the motor fitness, the better the physical endurance and precision of the movement will be. Participants' primary sources of data collection were used for this research. Data were acquired via a field survey of randomly selected secondary school students from Shikaripura taluk. One hundred and forty participants from 05 schools were selected for this study i.e., Seventy boys and seventy girl's participants. The study found that there was a disparity between boys and girls high school pupils of Shikaripura taluk, Shivamogga district, of Karnataka state. Girls in high school are better in only one selected motor fitness balance. The boy's high school are better than girls in speed, agility, power, and strength, but there is no difference in the selected motor fitness component endurance. This disparity in the result is evident because of the nature of lifestyle, and environment.

Keywords: *Illinois Agility, Burpee, Stork Balance Stand, And Medicine Ball Throw.*

Introduction

Every person on earth aspires to be physically fit so that they can perform their daily tasks or activities. Individuals engage in a variety of activities, including competitive sports and sedentary office work. These people's levels of motor fitness are influenced by the nature of the work and vice versa. A person may not do much to lengthen his life, but he can try to make it as fulfilling as possible. For someone who wants to live a full and productive life, motor fitness is where he can thrive the most. The inquiry must come first to thoroughly investigate the desirable aspects of fitness. who or what is fit? The question "be it warm, be it serenity, be it a pleasant existence, or be it a hard existence" must be answered before we can intelligently prepare. The child who has matured into a man can only fill a position that requires no more of him than he already is capable of. Almost all sports activities require some level of fitness, and meeting acceptable sports standards largely rely on it. The fundamental element that is crucial for improved performance is fitness. Capacity for activities is provided by motor fitness. One of the most important prerequisites for athletic performance has long been thought to be motor fitness. The more physically fit a person is, the more precise their movements will be and the better their physical endurance.

The Research Problem

The study's objective was to compare the chosen motor fitness components between high school boys and girls in the Shikaripura taluk. Shivamogga district of Karnataka.

The Study's Hypothesis

It was anticipated that high school students in the Shikaripura taluk, would differ in their levels of the specified motor fitness components.

Necessity of The Study

1. It could be used to assess the motor fitness of high school students of Shikaripura Taluk.
2. It aids in developing a suitable physical education curriculum for students to

improve their motor skills as well as a suitable physical education curriculum for both high school boys and girls.

Techniques and Materials

For this study, the major sources of data collection were the participants themselves. A field survey of randomly chosen secondary school pupils from the Shikaripura taluk produced the data. One hundred and forty participants selecting 70 school boys and 70 school girls from two schools were included in the study.

Tools: Field assessments and data collection on the following motor fitness components were done.

Sl No	Motor Fitness Components	Tests
1.	Speed	30-meter fly start
2.	Agility	Illinois agility test
3.	Power	Vertical jump test
4.	Endurance	Burpee test
5.	Strength	Medicine ball throw
6.	Balance	Stork balance stand test

Procedure: Before the administration of every investigation, all disciplines were given guidelines to follow while creating their tests.

Analysis of Statistics

The statistical study made use of the MS Office Excel tool to calculate the mean, standard deviation, and the t-test. Gender and ethnicity were compared by using the t-statistic. It was decided that the 0.05 level of significance would be the criterion.

Conclusion and Results

We performed t-tests to look at the data we had collected, and the results are displayed in the tables below.

Table:01 Indicates the difference in speed between high school boys and girls in terms of mean, standard deviation, and "t" value.

Sl. No.	Participants	N	Mean ± S D	't' value
1.	Boys	70	4.66 ± 0.61	4.54*
2.	Girls	70	5.08 ± 0.74	

The aforementioned table displays the average speed, standard deviation, and "t" values for high school boys and girls. Since it is higher than the table value, the "t" value displayed in the table was deemed important. The outcome is consistent with the researcher's hypothesis.

The agility of high school boys and girls is shown in Table 2.

Sl. No.	Participants	N	Mean ± s d	't' value
1.	Boys	70	19.47 ± 2.82	10.76*
2.	Girls	70	23.23 ± 1.65	

The mean, standard deviation, and "t" values for high school boys' and girls' agility are shown in the above table. Since it is higher than the table value, the 't' value displayed in the table was deemed important. The outcome is consistent with the researcher's hypothesis.

The power between high school boys and girls is shown in Table 3.

Sl. No.	Participants	N	Mean ± s d	't' value
1.	Boys	70	2.17 ± 0.82	2.81*
2.	Girls	70	1.90 ± 0.36	

The mean value, standard deviation, and "t" values of power between high school boys and girls are displayed in the above table. Since it is higher than the table value, the "t" value displayed in the table was deemed important. The outcome is consistent with the researcher's hypothesis

The endurance among high school students is shown in Table 4.

Sl. No.	Participants	N	Mean ± s d	't' value
1.	Boys	70	8.63 ± 2.98	0.71
2.	Girls	70	8.98 ± 3.29	

The average, standard deviation, and "t" values for high school boys' and girls' endurance are shown in the above table. Since it is higher than the table value, the "t" value displayed in the table was deemed important. The outcome does not support the researcher's theory.

The strength between high school boys and girls is shown in Table 5.

Sl. No.	Participants	N	Mean ± s d	't' value
1.	Boys	70	4.73 ± 0.95	2.10*
2.	Girls	70	4.33 ± 1.30	

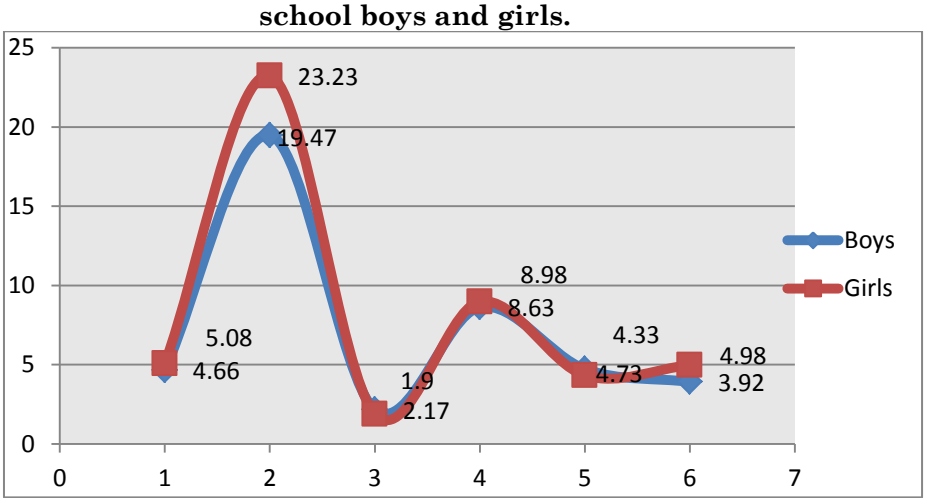
The mean value, standard deviation, and "value of strength between boys and females in high school" are shown in the table above. Since it is higher than the table value, the "t" value displayed in the table was deemed important. The outcome is consistent with the researcher's hypothesis

The balance between high school boys and girls is displayed in Table 6.

Sl. No.	Participants	N	Mean ± s d	't' value
1.	Boys	70	3.92 ± 1.67	2.52*
2.	Girls	70	4.98 ± 2.62	

The mean value, standard deviation, and "t" value of the gender balance in high school are shown in the above table. Since it is higher than the table value, the "t" value displayed in the table was deemed important. The outcome is consistent with the researcher's hypothesis.

Figure:1 Shows the mean values of specific motor fitness components for high school boys and girls.



Conclusions:

The following results were reached within the constraints of the current investigation. According to the survey, there are differences between high school students in the Shikaripura taluk and Shivamogga district of Karnataka state who are male and female. High school girls excel in just one particular motor fitness balance. In terms of high school speed, agility, power, and strength, boys outperform girls, but there is no difference in the chosen motor fitness component endurance. The character of lifestyle and environment is evident in the difference in the outcome.

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A REVIEW ON RECENT DEVELOPMENTS AND FUTURE RESEARCH DIRECTION ON DETECTION OF DIABETIC RETINOPATHY BY USING DIGITAL IMAGE PROCESSING, MACHINE LEARNING AND DEEP LEARNING

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Abstract:
Diabetes is a chronic disease in which a person's body either does not respond to insulin released by the pancreas or does not create enough insulin. Diabetics are at a higher risk of developing a variety of eye disorders over time. Diabetic retinopathy(DR) is one such disease, which refers to the bursting of blood vessels in the retina as Diabetes increases. It is regarded to be the major cause of blindness since it arises without presenting any symptoms in its early stages. It is critical to identify and diagnose DR patients as soon as possible in order to receive the appropriate medical care. People have recognised the promising future of AI and healthcare integration due to the growth of artificial intelligence(AI) and the gradual commencement of AI research in the medical field in recent years. For example, the hot deep learning discipline has showed tremendous promise in disease diagnosis and drug response prediction. The accuracy of medical disease prediction has steadily improved, as has the performance in all aspects, from the initial logistic regression model to the machine learning model and eventually to the deep learning model of today. Several significant studies on the detection of diabetic eye disease have previously been published. This review looks at three aspects of diabetic eye disease detection: i) Image Processing Techniques, ii) Machine Learning Approaches. iii) Methods of Deep Learning in detection of Diabetic Retinopathy. In addition, performance measures and deep learning's future direction are addressed, with the goal of providing vital insight into research communities, healthcare professionals, and diabetic patients.

Keywords: *Diabetic Retinopathy, Image Processing, Machine learning and Deep learning techniques.*

I. Introduction

Human Eye

The human eye as shown in figure 1 is a specialised sense organ that receives and relays visual images to the brain. Without a doubt, sight is the most important sense we have. Vision takes up more brain space than hearing, taste, touch, and smell combined. There are two core parts in our eyes. The first is the iris of the eye, which is not visible to the naked eye, and the second is the retina of the eye, which is visible to the naked eye.

Below is a list of the various parts of the eye.

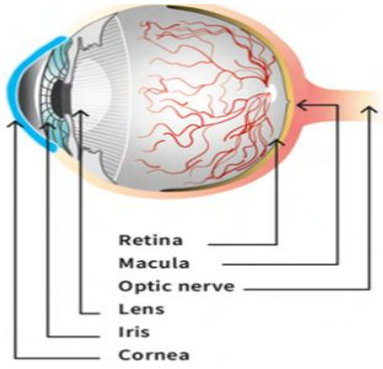

Figure 1: The Human Eye.
Source: adapted from WHO (2019a)[51]

1. The **cornea** is the transparent coating that protects the eye's front surface. It's a translucent connective tissue that lets light into the eye when combined with the lens.
2. The **macula** is a part of the eyeball. The fovea is covered by the macula, which is a pigment (the central location on the retina). The macula is designed to absorb blue and ultraviolet light and act as a protective filter over the foviea. Individual differences in colour vision are caused by this pigment, which differs from observer to observer.
3. **Iris** is shaped like an annulus and is a circularly arranged muscles that enlarges the pupil which is a dark hole in the iris's centre.
4. The **lens** is suspended on the ciliary body and has the ability to bend, causing the refractive index to change. The eye will be unable to accommodate if the lens loses its capacity to focus.
5. Light-sensitive cells are found in the **retina,** which is the inner layer of the eye. It shows the image in a similar way that a camera does.
6. The **optic nerve** contains several nerve fibres that enter the central nervous system.

7. Diabetic Retinopathy Overview

8. Diabetic Retinopathy is a disorder that affects the retina and is caused by diabetes. Uncontrolled diabetes can cause a variety of visual complications, including cataracts, glaucoma, ocular surface diseases and diabetic retinopathy, the most common and serious of which is diabetic retinopathy. By 2050, the number of diabetic retinopathy patients in the United States is expected to reach 16.0 million, with 3.4 million of them suffering from vision-threatening problems. In DR cases, the retina can grow abnormal blood vessels, causing it to haemorrhage or scar, resulting in irreversible vision loss or blindness. Strict glycemic control and early detection and appropriate management is the key to halt the progression of the disease. As shown in figure 2, DR gets classified into Non Proliferative and Proliferative Diabetic Retinopathy.

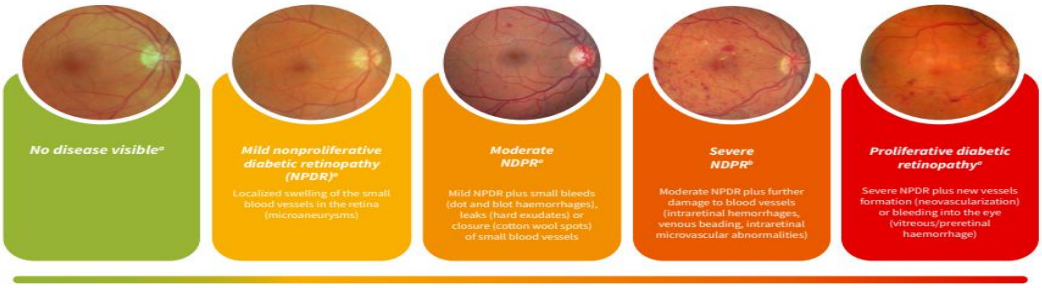

Figure 2: Classification of Diabetic Retinopathy.
Source: International Council of Ophthalmology (2017)[52]

Non Proliferative Diabetic Retinopathy(Npdr):

1. **No retinopathy:**No retinal lesions.
2. **Mild NPDR:** A few microaneurysms, retinal haemorrhage, and hard exudates • Moderate NPDR: Retinal haemorrhages (approximately 20 medium-large per quadrant) in 1-3 quadrants + cotton wool patches.
3. **Severe NPDR:** one of the 4-2-1 rules must be completed.
4. Rule 4-2-1:Moderate IRMA in one or more quadrants, Severe haemorrhages in all four quadrants, Venous beading in two or more quadrants.
5. **Proliferative Diabetic Retinopathy(Pdr):**
6. **Mild to moderate PDR**: NVD or NVE insufficient to meet high-risk characteristics
7. **High risk PDR:**

1. NVD greater than ETDRS standard photograph 10A (about 1/3 disc area).
2. Any NVD with vitreous hemorrhage.
3. NVE greater than 1/2 disc area with vitreous hemorrhage.

The following are the major objectives of this study:

1. To examine performance estimation criteria such as classification accuracy, sensitivity, and specificity, which are essential to test the efficiency of the DR detection technique.
2. To compare and discuss several existing DR identification methods based on Image Processing, Deep Learning, and Machine Learning techniques, taking into account DR features.
3. To explore some of the future scope and issues that future researchers in the field of DR diagnosis will have to encounter.

II. Image Processing Techniques In Dr Detection

Medical image analysis is incredibly important in today's healthcare. The technique of taking images of body parts for medical purposes such as identifying or investigating disorders is known as medical imaging. As a result of breakthroughs in image processing technology, it is fast evolving. For visualisation enhancement, images are subjected to a number of picture preparation procedures. Once the images become brighter and sharper, a network may extract more salient and unique information. The following are some of the most common medical picture operations: (image enhancement, noise removal, segmentation, localization, detection, feature extraction, classification, visualization, and much more). Some of the image processing approaches used by researchers in DR detection are listed in the Table-1.

Table-1: Image preprocessing techniques employed in Diabetic Retinopathy detection

GCE	HE	ROI	CLAHE	CE	Re	Au	GSC	BVS	IR	IC	GF	References
✓	✓	✗	✗	✓	✓	✗	✗	✗	✗	✗	✗	Shaharum et al (2019)
✗	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	Abbas et al (2017)
✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	✗	Ran etal.(2018)
✗	✗	✗	✗	✗	✓	✗	✓	✗	✗	✗	✗	Sahlsten et al .(2019)
✓	✓	✗	✗	✗	✓	✗	✗	✗	✗	✗	✗	Sisodia et al. (2017)
✗	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	Antal et al. (2014)
✗	✗	✓	✗	✗	✓	✗	✗	✗	✗	✗	✓	Mansour et al (2018)
✗	✗	✗	✗	✗	✓	✓	✗	✗	✗	✗	✓	Quellec et al. (2017)
✗	✓	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	Hemanth et al. (2020)
✗	✓	✗	✗	✓	✗	✓	✗	✗	✗	✗	✗	Pires et al (2019)

Legend: GCE = Green Channel Extraction, HE = Histogram Equlization, ROI = Region of Interest, CLAHE = Contrast Limited Adaptive Histogram Equlization, CE = Contrast Enhancement, Re = Resize, Au = Augmentation, GSC = Grayscale Conversion, BVS = Blood Vessel Segmentation, IR = Image Rotation, IC = Illumination Correction, GF = Gaussian Filter.

III. Machine Learning Techniques In Dr Detection

Machine learning is a fascinating area of computer science and engineering research. It is considered a branch of artificial intelligence since it motivates computers to learn from data in order to accomplish particular tasks in the same way that people do, and its algorithms employ sample data, referred to as "training data," to develop prediction models without the need for programming. i.e., if a machine learning algorithm is applied to a set of data (in this case, fundus images) and some information about these data (in this case, blood vessels), the algorithm system can learn from the training data and use what it has learnt to produce a prediction. If the algorithm system improves its performance by optimising its parameters so that more test cases are diagnosed properly, it is said to be learning that task. Speech recognition, robotics, pattern recognition, natural language processing, data mining, share market prediction, Computer-Aided Diagnosis (CAD), autonomous vehicle navigation, and product recommendations are just a few of the domains where machine learning is now being used. Some of these jobs were previously impossible, but with to recent developments in machine learning, they are now possible. When it comes to diabetic retinopathy, the lack of symptoms in the early stages of the disease makes detection difficult. Traditionally, physicians used retina imaging features to classify DR cases in eye disease prediction. However, machine learning makes it easier by using training and test data to predict different forms of disease. Experts' ML approaches to DR detection are listed in the Table-2.

Table-2: Machine Learning Techniques in Diabetic Retinopathy Detection.

S.No	REFERENCE	ML METHOD	PERFORMANCE MEASURE
1	Malik Bader et al (2021)	Restricted Boltzmann Machines (RBM) Model	Accuracy = 89.47%
2	Revathy et al (2020)	Support vector machine, K nearest neighbour, Random forest, Logistic regression, Multilayer perceptron network.	Accuracy = 82%
3	Praba et al (2020)	SVM	Accuracy = 84%
4	Ashraf et al (2019)	DCNN	Accuracy = 98% Sensitivity = 97%
5	FarrikhAlzami et al (2019)	Random Forest	Accuracy = 80%
6	N. H. Harun et al (2019)	LevenbergMarquardt (LM) and Bayesian Regularization (BR)	Accuracy = 72%
7	Adem et al (2019)	Particle Swarm, SVM and Linear Classifier	Sensitivity = 96.7% specificity = 94.1% Accuracy = 91.4%
8	Qomariah et al (2019)	SVM	Accuracy = 92.4%
9	Kumar et al (2018)	contrast limited adaptive histogram equalization (CLAHE), Support vector machine (SVM).	Sensitivity = 96% specificity = 92%
10	Chetoui et al (2018)	Local Energy-based Shape Histogram (LESH)	Accuracy = 90%
11	Somasundaram et al (2017)	Ensemble classification	Sensitivity = 89% specificity = 80%
12	Osman et al (2017)	Naïve Bayesian, SVM	Accuracy = 90% Accuracy = 79%
13	Xiao et al (2017)	DiaRetDB1 Rule-based and ML methods	Sensitivity = 93.3% specificity = 88%

S.No	REFERENCE	ML METHOD	PERFORMANCE MEASURE
14	Choudhury et al (2016)	Fuzzy C	Accuracy = 94%
15	Shahab et al (2016)	Drive and Stare	Accuracy = 94% Accuracy = 95%
16	Asra et al (2015)	Illumination equalization and SVM	Accuracy = 94%
17	Sangwan et al (2015)	Sequential minimal optimization algorithm (SMO)	Accuracy = 92%
18	Priya et al (2013)	PNN ,Bayes Classifier	Accuracy = 87.69% Accuracy = 90.76%
19	Handayani et al (2013)	SVM.	Accuracy = 90.75%
20	Wong Li Yun et al (2008)	Backpropagation algorithm, Neural network classifier.	Sensitivity = 90%

IV. Deep Learning Techniques In Dr Detection

Deep learning applied to medical imaging has the potential to be the most game - changing technology. This method employs deep neural network models, which are a type of neural networks that provide a better approximation to the human brain using advanced mechanisms than simple neural networks. The usage of a deep neural network model is implied by the phrase "deep learning." The neuron, a term inspired by the study of the human brain, is the basic computational unit of a neural network.

It accepts many signals as inputs, combines them linearly using weights, and then passes the combined signals via nonlinear processes to form output signals. Most researchers anticipate that deep learning-based applications will replace humans over the next 15 years, and that intelligent robots will not only do the majority of diagnoses, but will also help predict sickness, prescribe medicine, and lead therapy. Deep learning will not only assist in the selection and extraction of features, but will also assist in the construction of new ones; Image capture and interpretation are critical for accurate illness diagnosis. Traditional learning approaches are unreliable due to the large diversity in data from patient to patient. Deep learning has progressed in recent years due to its capacity to navigate difficult and large data sets.

It's gaining traction in a number of industries, including medical image analysis, where it's expected to generate more than half a trillion dollars in revenue by 2024. As a result, it will receive more financing for medical imaging by 2024 than the entire analytic sector did in 2020. As a result of this phenomenal achievement in the industry, deep learning researchers are attempting to predict diabetic retinopathy using DL algorithms. In the Table-3, a few of the DL Methods in DR Detection articles are discussed.

Table-3: Deep Learning Techniques in Diabetic Retinopathy Detection.

S.NO.	REFERENCE	DL METHOD	PERFORMANCE MEASURE
1	Alyoubi et al(2021)	CNN and YOLOV3 Model	Accuracy = 89% Sensitivity = 89% Specificity = 97.3
2	Maryam Monemian(2021)	Red-lesion extraction using CNN.	sensitivity = 0.87 specificity = 0.88
3	Mazlan et al.(2020)	E-Ophtha Multilevel thresholding and multilayer perceptron.	Accuracy = 92.28%
5	Mohamed Shaban et al (2020)	DNN Model	Accuracy = 88% Sensitivity = 87%

S.NO.	REFERENCE	DL METHOD	PERFORMANCE MEASURE
			Specificity = 94%
6	Samuel et al.(2019)	Vessel Segmentation using DNN Model	Sensitivity, Specificity, AUC = 0.8282, 0.8979, and 0.8655
7	Noushin et al(2019)	Classification using CNN Model	Sensitivity = 0.8.
8	Rehman et al(2019)	CNN models	Accuracy = 93.46%,
9	Gao et al (2019)	Inception V-3	Accuracy = 88.72%
10	Li et al (2019)	Deep CNN, SVM	Accuracy = 86.71%
11	Nikhil M N et al(2019)	DNN, Alexnet	Accuracy = 80%
12	Wang et al(2018)	Inception Net V3	Accuracy = 63.23%
13	Ardiyanto et al(2017)	DEEP DR Net	Accuracy = 95.71 Sensitivity = 76.92
14	Gargeya et al(2017)	data-driven deep learning algorithm	AUC = 94%
15	Takahashi et al(2017)	AI disease-staging system	Accuracy = 81%
16	KeleXuet al(2017)	CNN model	Accuracy = 94%
17	Prentasi et al(2016)	Deep convolutional neural networks	Accuracy = 78%
18	Shan et al(2016)	Deep convolutional neural networks	Specificity = 88% Accuracy = 87%
19	Pratt et al(2016)	CNN Model	Sensitivity = 95% Accuracy = 75%
20	Tan et al (2017)	Patch-based seven-layers CNN	Sensitivity =75.37 Specificity = 96.94
21	Gabriel et al (2017)	VGG16	Accuracy = 83.68% % Sensitivity = 54.47% Specificity = 93.65%

V. Performance Metrics for Classification in Dry Detection

In the field of health informatics, data used in clinical therapy is classified as having no disease or having the disease, and the same is true for DR detection. The following parameters are examined to determine whether an approach is correct and the table 4 describes formula for the performance metrics.

- TP = overall amount of true identifications as with the disease
- FP = overall amount of false identifications as with the disease
- TN = overall amount of true identification as with no disease
- FN = overall amount of false identification as with no disease.

Table -4 Performance Metrics for Classification

Performance metric	Formula	Description
Classification accuracy	Acc = $\frac{(TP+TN)}{(TP+TN+FP+FN)}$ *100	Section of true results, both TP and TN, within the total number of examined.
Sensitivity	SE = $\frac{TN}{TP+FN}$	Section of positives, both TP and FN, that are

		appropriately identified
Specificity	SP = TN / TN+FP	Section of negatives, both TN and FP, that are appropriately identified

VI. Discussion and Future Research Direction

From the ANN, which was inspired by the human neuronal synapse system in the 1950s, to deep learning technology, AI has shown the ability to outperform humans in various visual and aural identification tests, indicating its potential for use in medicine and healthcare, particularly in medical imaging. Deep learning technology could be used in a variety of ways in medical imaging to reduce the burden on clinicians, improve the quality of the healthcare system, and improve patient outcomes. Even though past studies have yielded numerous promising results, there are a few challenges that must be addressed before deep learning may be used in medical imaging: Currently, the physician is dealing with an increasing number of complicated readings. This makes it difficult to complete reading assignments on time and deliver accurate reports. Deep learning, on the other hand, is projected to aid radiologists in making more precise diagnoses by providing a quantitative analysis of suspected lesions, as well as cut down on time spent in the clinical workflow. Certain aspects of this field should be improved, such as determining the Optic Disc(OD) boundary, which is difficult in two-dimensional retinal images due to blurred edges. Extraction of blood vessels is a challenging task. The Optical Nerve Head(ONH) structure varies by subject. As a result, there is no single technique that can solve all of these issues. More efficient techniques for the detection of DR detection-related structural and retinal alterations are still needed. Because diabetes mellitus is becoming more common, demand for diabetic retinopathy screening stages is booming.

Creating more robust DL models While deep neural networks have already showed great promise in the fields of medical imaging, further refinement and creation of more effective deep neural networks will be difficult. Another option is to boost computational power by expanding the network's capacity while avoiding the risk of over-fitting. Another option is to use a separate object-based model instead of an image-based model. For example, if researchers want to detect a specific eye deformity (exudates alone), they may create a deep convolutional neural network that only learns about exudates and ignores other defects. Object-based identification is said to be more effective than image-based identification. Training using the bare minimum of data for learning, DL software typically uses a large number of retinal fundus images. In terms of precision, a limited training set may not give adequate results. There are four solutions available. To begin, use a variety of improvement techniques such as rotating, moving, cropping, and colour adjustment. Second, to retrieve training data, use feeble learning techniques. Third, research reveals the use of a Generative Adversal Network (GAN) for training generation, allowing the DL architecture to be trained with more robustness and different features. Furthermore, data augmentation is an excellent answer for this because it increases the quantity of small-class samples. Apart from dataset problems, there are algorithmic modifications that can be applied to increase the performance of DL models.

VII. Conclusion

Several diabetic-related health issues have become more prevalent in recent years around the world. Diabetes-

related DR can lead to blindness, so it's important to get a diagnosis as soon as possible. The traditional method of detecting DR entails a visit to an ophthalmologist for an assessment and diagnosis, which is time-consuming and costly. DL has emerged as a promising research region, with outstanding results in the field of image processing, particularly in DR recognition. Several computerised works are being resolved using innovative and sophisticated DNN(Deep Neural Network) frameworks. Reduced reliance on human power, screening costs, and concerns about intra- and intergrader variability are all advantages of using DL-based approaches in DR-screening. Despite the fact that the importance of DL is growing, and many positive outcomes in its study are reaching new heights, there are still obstacles to overcome. The automated diagnosis of a DR image has two primary obstacles: technical variability in the imaging method and patient-to-patient variability in clinical indicators of illness. This review study gives an in-depth look at the current state of the art in Diabetic Retinopathy diagnosis methods. A comprehensive analysis of relevant papers was done to attain this purpose. After the final selection of relevant records, following the inclusion criteria and quality assessment. The studies have been analysed from the perspectives of Image preprocessing techniques, Machine learning techniques and deep learning techniques. Furthermore, we anticipate that in the future, our assessment can be broadened to create a complete and up-to-date overview of the fast evolving and complex subject of Diabetic Retinopathy detection.

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FISHERMEN AROUND MAKANI RESERVOIR, MAHARASHTRA SOCIO – ECONOMIC STATUS

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Abstract
Production of fish from reservoir waters can be increased through scientific sharing of fish production practices. Adoption of this approach will have the effect of promoting the socio-economic status of the related rural population by providing employment opportunities to them. Proper utilization of reservoir water resources will increase national fish production. Although many reservoirs are available in the country, they are not utilized for the development of fisheries, aimed at welfare and development of fisher communities to improve their economic standards. The socio – economic status of reservoir -dependent fishermen can be studied by using certain parameters such as their dwelling places and ownerships, educational status, kind of occupation as fishermen, full or part time, age, experience in fisheries, training, total family income, expenditure, sources of fishery-related information etc. In fisheries, social status of fishers is relatable to interactions with each other, either as individuals or as groups. This form of interaction is related to socio-economics of the concerned, regarded as depicting their relative status in the line. Socioeconomics are a common combination encountered in the field of planning and developmental work. Socio - economic studies begin with a detailed description of socio- demographic characters of population.

Introduction

In the fisheries sector, socioeconomic surveys had been conducted by various agencies and research workers in different regions of our country to study one or the other problems of fisher community. Some of the workers in the line in Maharashtra are Desai and Baichwal (1960) Choudhary (1989) Rout P.K. and Das S.K. (1992), Sakhare V.B.(2003), Sathiadas R. and Pannikar K.K. (1988), and Siddiqui(1996). This is no published report on the socio-economic status of fishermen around the Makani reservoir, Makani, Taluk. Lohara of Osmanabad District. (M.S.) India. In order to fill up this gap, a study has been conducted by the authors in the year 2008. The highlights of the study are as presented here under.

Study Area: Makani reservoir, Makani is located in the Osmanabad District of Maharashtra State. The reservoir was constructed on Terna River, which originates from Terkheda. The catchment area of Makani reservoir is 1,787 sq. km. The mean water depth of the reservoir is 10 m. This reservoir is generally shallow. However, it has some deep zones. The reservoir water is used for agriculture, drinking purposes and for fish raising.

Materials and Methods

The present investigation deals with the socio-economic status of fishermen around Makani reservoir. A questionnaire was standardised to collect data on the socio-economic status of fishermen. It mainly focuses on average fish catch by a fisher per capita per day and the monthly per capita income earned by him. The fishers have been personally contacted for gathering information on economics of operations. Information has been also gathered from the records of the District Fishery Development Office.

Results and Discussion

For the Study of the socio-economic status of fishermen around Makani reservoir, the following parameters were used.

Family Size and Caste: The size of the familles was noted to be on a some what higher average, with 5 to 8 persons per family. The fishers belong to Bhori, Banjara and other backward classes.

Housing: 63% of the fishers are dependent on the reservoir fisheries . They live in permanent (Pucca) houses, although 31% of them live in medium sized houses (kutcha) and the remaining (6%) of them live in huts.

Educational Status:

While the study area has good educational facilities, there is, however, a notable extent of illiteracy prevalent due to economic conditions that are below general average. The percentage of illiteracy is assessed to be 25. Among the literates, 43% studied upto high school level, followed by those who studed up middle school level (19%), and by those who came up to predegree level (16%), primary level (13%), and graduate level upto 8%.

Occupation:

The standard of living and earning of the people of the area is linked to their occupations. On an average, 80% of the population are engaged in agriculture, while 10 percent are dependent on fisheries, and 5% each are in business and service lines.

Age: Age is another important factor of socio-economics of a community. The present study had revealed that 50 % of the people belonged to middle age group followed by 35 percent in an younger age group and 15 percent of an older age group. Young and middle age groups were seen to be having greaterinterest in fishing.

Experience: Experience in fishing sector, as in other fields, is an age dependent factor. Young people have less of experience than the middle age group while middle age group have lesser experience than the old age group. Young and middle age groups work in fisheries field under the guidance of older people who guide them well.

Social Participation :

The fisher community of Makani participate in village welfare projects and in village festivals (Makani Festival), in the activities of social institutions like cooperatives, and in educational activities etc, Near about 70% of the people actively participate in social work.

Training:

Training is an effective tool of transfer of technology. Even though training programmes are being organised by FFDA and other agencies, the fishermen are reluctant to undergo training under these programmes due to wage loss, lack of time and also due to lack of incentives. According to Mohendrakumar (1996) majority of fishermen did not receive training in reservoir fishery development practices. Thus, the number of trained respondents in Makani was 20% only.

Total Family Income:

Most of the fishers belong to below poverty line (BPL)category. Employment and income are the twin decisive factors used for determining the living standard of any of the communities including fishers. Equitable distribution of income enhances the social harmony among the fishers. The study has brought out some interesting features on an average fisherman's annual income level. These range per month fromRs.6000 to 8000, and Rs.12,000/and above in some cases. This low level of income demonstrates their poor economic condition.

Total Family Expenditure:

The average annual household expenses has been estimated at Rs 25,000 and several of the fishers have problems in earning this much. The percentage of expenditure pattern clearly indicates that about 60% of their total income is spent on their food only. The clothing was found to be next major expenditure followed by the requirements of education and medical, expenses. The position clearly indicates the socioeconomic backwardness.

Source of Information: The source of information related to reservoir fish raising practices are friends and relatives, vendors, fisheries extension personnel, private consultancies, radio, TV, and newspapers. On an average, majority of respondents gathered information from fish seed vendors, followed by extension personnel, radio, TV, and newspapers.

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ONLINE EDUCATION: PROS AND CONS

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Abstract:
Learning is a lifelong key to success, especially for career-oriented individuals who hope to advance on both a personal and a professional level. Unfortunately, many of us find it difficult to add new challenges to our demanding and inflexible schedules. Online Education is the solution. People can learn about virtually any subject online, anywhere, anytime. In the era of rapid change and technological development, teachers are required to adapt and use these changes as a tool that would meet their needs for a successful teaching learning environment. The numbers of people studying online is increasing day by day. This is the result of the fact thatthe times of fierce competition have come, when specialists are forced to master new tools and technologies in order to outpace competitors. Thus, in spite of a number of advantages that distance learning gives, it also leads to certain difficulties, with which one must be able to work, and has a number of disadvantages that must be eliminated in order to obtain the maximum effect.

Keywords *– higher education; informatization; digital world; online education*

Introduction:

The term of online was not very appealing in 1970s and 1080s just like an airplane in the beginning of the 20th century. Internet was in development stage in early 1990s compared to now and the conventional wisdom about the online courses was different in 1990s than today. We are in the 21st century where everything is possible and acceptable. For example, students are studying at home/work place utilizing computer which is called online schooling/learning. The Government of India has launched the "Bharat Padhe Online Campaign" to reduce the loss in education in the era of the Covid-19 Pandemic, which underscores the growing importance of online education. In fact, the importance of online education will continue to increase in the present as well as in the future, but we should keep in mind that there are some practical drawbacks along with benefits of online education, due to which it needs to be adopted carefully. Due to the high demand for online education, many online learning platforms are providing their services free off cost, including platforms like BYJU's, Unacademy , Carewill, CBSE Digital Education, etc.

Online Education Programme:

1. **100% Online Education -** Fully-online degrees are earned from the comfort of your own home with no required visits to your college or university campus.
2. **Hybrid Education -** Hybrid education allows students to pursue a combination of online and on-campus courses.
3. **Online Courses** - While online courses may be part of a degree program, they can also be taken on their own in order to master a certain subject or learn a specific skill.
4. **MOOCs** - MOOCs, or massive open online courses, are usually delivered in lecture form to online "classrooms" with as many as 10,000 people.

Pros of online education:

1. **Flexible:** The biggest advantage of studying online is the increased flexibility. But it doesn't mean that

the workload on a student is completely gone. Only that they have more flexible timings, they can study when they want to, how they want to, where they want to.

2. **Accessible:** All you need to study online is a computer with internet access. All of your study materials lectures and assignments are sent to you via email or some kind of file transfer system. Even your correspondences with lecturers are wired, with email and video calls via Skype widely used.
3. **Convenient:** With online Learning, students have the convenience of taking classes at their ease. Students can get the missed lecture through online videos. Students can make the best use of their time by attending an online course while travelling or any other leisure time.
4. **More learning opportunities:** With online education, students have the option of learning from instructors in any time zone all over the world, at potentially any time if the day. A world of opportunities can now be accessed from your laptop or smart phone.
5. **Student centered:** Within an online discussion, the individual student responds to the course material (lectures and course books, for example) and to comments from other students. Students usually respond to those topics within the broader conversation that most clearly speak to their individual concerns. These situations result in smaller conversations taking place simultaneously within the group. In this way, students control their own learning experience and tailor the class discussions to meet their own specific needs. Ideally, students make their own individual contributions to the course while at the same time taking away a unique mix of relevant information.
6. **Creative:** In online education, the teacher and the student both make a dynamic learning experience. This deliberate shift in technology creates the hope for those who move into the new technology and also wanted to adopt the new paradigm of teaching. While transforming the course in online format, the educators must reflect the objectives of the course and their teaching style/ methodology. The success of online teacher depends on how effective a teacher is in his traditional classroom.

Online Education Cons:

1. **Sense of Isolation:** Everyone learns in their own manner. Some students possess the ability to work independently, while others find comfort in their community on campus with easy access to professors or their fellow students.
2. **Less social interaction**: Less social interaction is also a disadvantage of online education. Teacher and students don't have many opportunities to interact during online classes. The quality of discussion in online education is very poor.
3. **Need special training for teachers**: An online educator needs extra efforts to make the online course successful/. Teachers need to get a deep understanding of the different approaches to teaching. Teachers also need proper training to tackle the technical aspect of online learning: the use of video and audio recording equipment, virtual classroom and lecture capture software, and of course the Learning Management Software (LMS). The combination of all these new skills represents a steep learning curve for the teacher.
4. **Fewer courses**: The internet is an emerging phenomenon; it is still in the infant stage of its development and so it should be of no surprise that there are some shortcomings to an online education. Courses that required hands-on experience, such as Neurology or Chemistry, are simply unsuited to online education.
5. **Online Learning means more screen-time:** Online learning sadly contributes to the problem of excessive

screen-time can lead to all sorts of physical ailments like poor posture or headaches. But it can also be a personal issue to students who struggle with learning from or focusing on screens. Especially since the internet is geared to distract students with social media and entertainment just a click away from the learning material. The better online learning platforms and software out there have all kinds of tools and features to help students staying attentive and engaged.

Findings:

Despite certain shortcomings and problems inherent in online education, digital technologies have been successfully transforming the modern educational environment. In 2011, about 30% of students of American colleges picked up at least one course in online format. By 2012, enrollment of US university students in online courses increased by almost 1 000 000 people, compared to 2010. In 2018, 101 000 000 students have already included online courses in their educational program, more than 900 universities around the world have developed and launched their online disciplines, including undergraduate and master's programs, which are 100% online. Despite such a rapid development of digitalization of the educational environment, there are a number of obstacles that significantly inhibit its development, as well as a number of advantages that accelerate the growth of informatization of education.

From the perspective of an Internet education provider, its advantages and disadvantages must be considered on the basis of the goals pursued by a higher education institution, creating and implementing online courses and online educational programs. It is necessary to understand that the institutional qualities of a university, as a phenomenon, are the generation and dissemination of scientific knowledge through training. Thus, the main goal of any higher education institution is to train specialists in the fundamental scientific and applied branches of knowledge. By placing online courses and programs, universities pursue the same basic educational goal, but programs and courses implemented online allow solving somewhat different tasks, different in their nature and content:

1. testing developed innovative courses and programs online is free. In the case of a positiveresult, such a course can be read at the university in full-time;
2. experimenting with free online courses before offering similar courses as a paid product in order to generate additional income in the future;
3. promoting the brand and values of the university, by offering free courses on popular sites such as Coursera and EdX;
4. Acquisition of the reputation of an innovative, open and receptive to new technologies university. However, when creating and implementing online education, universities face certain difficulties, including:
5. The need to train teachers of new formation who can work effectively in the digital environment;
6. Availability of the necessary software and hardware to create online courses and programs of the required level;
7. Legal support of online education (copyright issues).
8. The need for a balanced pricing policy to reduce the costs that arise with the introduction of online education

Conclusion:

Thus, it can be concluded that online education can now be compared with a tectonic shift in the global educational system and in the global education market, which will certainly entail changes in the educational space. At the same time, it is obvious that for the time being it will not be able to become a full-fledged replacement for traditional education, since it is not able to create a student atmosphere and replace live communication with a teacher. At the same time, it can provide new development, for example, in absentia forms of education. In this regard, in order to level the shortcomings and obtain a synergistic effect from the advantages, itis necessary to develop this

direction in order to satisfy the world's growing demand for quality education only in conjunction with traditional education.

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RELEVANCE OF COMMUNAL VIOLENCE AS PORTRAYED IN KARNAD'S TALE-DANDA

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Abstract:
The play Tale-Danda by a very well-known playwright Girish Karnad has the socio-religious movement called Sharana movement initiated by the South Indian Saint, poet, philosopher and philanthropist Basavanna at its background. The play vividly portrays the origin, evolution and the downfall of the historical Sharana movement in 12th century city of Kalyan in South India. The play is full of violence incidences. The events in the play are shown as in 12th century but it seems relevant in the present times in India as well. We are still struggling to get rid of age-old curse of communal violence in India. We are somehow successful in diluting the intensity of communal discrimination but still we have to go miles ahead as this filthy, inhuman discrimination has fathom rooted in Indian social psyche.

Key Words: *Basvanna, Sharana, Violence, Caste Discrimination, Bijjala, Varnashrama, Bijjala, Kalavati, Sheelavanta*

Introduction:

Girish Raghunath Karnad acclaims a very seminal place in Indian Drama and Theatre in English. He is best known for his technique of retelling the history and myths in the context of modern times through his plays. The present play *Tale-Danda* is a fine example of Karnad's versatility as a dramatist. He has borrowed the theme of this play from a very famous episode in Indian history that talks about the socio-religious movement initiated by a South Indian saint, philosopher Basavanna. This movement emerged as a great social revolution in the city of Kalyan.

The revolutionary followers with Basavanna opposed idolatry and discrimination based on caste and gender. They believed in and upheld the human values like equality, fraternity and justice. Basavanna tried to bring people from various strata of the society under one refuge of Lord Shiva. He devoted and sacrificed his life for the cause of a noble society based on human values. Unfortunately, the movement which had the foundation of non-violence turned into a massive violent crusade.

Theme:

Karnad wrote this play when 'Mandir' and 'Mandal' conflict was in surge India. Karnad was greatly influenced by it. In the preface to the play, Karnad himself mentions it as, "I wrote *Tale-Danda* in 1989 when the 'Mandir' and the 'Mandal' movements were beginning to show again how relevant the questions posed by these thinkers were for our age. The horror of subsequent events and the religious fanaticism that has gripped our national life today have only proved how dangerous it is to ignore the solutions they offered." It clearly underlines Karnad's social concern that is the backbone of his writings. The play speaks about the theme of caste and gender discrimination at length. There are two prominent events in the play which lead to violence on a mass level. The first event is related to Prince Sovideva's ambition and its execution to capture the throne and second is the marriage of a Brahmin girl Kalavati with a low caste cobbler boy, Sheelavanta. Both these events bring havoc and bloodshed on mass level in the city of Kalyan.

Communal violence is not a new notion in India. The sun of our freedom arose with the curse of communal violence on a mass level. We are celebrating 75 years of independence this year with a great zeal and enthusiasm. But, at the same time we have failed to get rid of the age old curse of communal discrimination in and out. Still we witness the events of communal violence now and then. The superiority complex on the part of upper caste people and the inferiority complex on the part of lower caste people are responsible for the rise of communal discrimination in the society. The upper caste people consider themselves as superior and deny equality to the people whom them consider and treat as inferior. On the other hand, the low caste people consider themselves as inferior to the upper class people and hardly strive for equality considering it as their fate. In the play, Jagadeva is an upper caste Brahmin but he doesn't believe in caste discrimination as he is involved in Basavanna's Sharana movement based on equality. He invites Mallibomma, a tanner by birth and a Sharana to his house. Mallibomma hesitates to enter in Jagadeva's house as he is conscious of his caste even after becoming a Sharana.

JAGADEVA: Come in.
MALLIBOMMA: Don't be silly. I shouldn't have even stepped into this Brahmin street. And you want meto come into your house? No, thank you.
JAGADEVA: Come on. Let's show them.
MALLIBOMMA: You go in. I'd better return home, too. (2)

Mallibomma is too afraid and hesitates to enter in Jagadeva's house even after the insistence by latter. This denotes how the notions of caste inferiority are fathom rooted in the psyche of Indian lower caste people. Mallibomma is a common man. But even the royal people are also haunted by this social inferiority complex. The King Bijjala narrates his story to his queen Rambhavati regarding his transformation and promotion from lower caste Barber to a royal King.

BIJJALA: Your family – the Hoysalas, You may be Kshatriyas.
But I am a Kalachurya. Katta churra. A barber. His
Majesty King Bijjala is a barber by caste. For ten
generations my forefathers ravaged the land as
robber barons. For another five they ruled as the trusted
feudatories of the Emperor himself. They married
into every royal family in sight. Bribed generations
of Brahmins with millions of cows. All this so they
could have the caste of Kshatriyas branded on their forehead. (14)

The comment and the honest, humble confession by King Bijjala brings into focus, how the caste system originated from the Varnashrama system has the air-tight compartments. Basavanna strives to bring the society into existence based on equality and human values. He attracts and fascinates people from all strata of the society irrespective of caste, creed and gender. His followers follow him without any doubt and with full of devotion. As a result, theproposal of the marriage of a lower caste Sheelavanta and a Brahmin girl Kalavati comes forth. This revolutionary decision proves as a huge shock to the upper caste Brahmins. The upper caste Brahmins can't digest this humiliation. The protest starts against this proposed marriage. They decide to take revenge upon sharanas. The conflict between upper caste Brahmins and sharanas heightens its intensity and the non-violent movement turns into a bloody havoc. The thorough city of Kalyan is turned into bloodshed. The historical would be marriage consequents into huge disaster. Both the families of bride and groom are captured and killed inhumanely. The merciless scene is described one sharanas as,

GUNDANNA: It's harrowing! A while ago – the King'
ssoldiers arrested Haralayya and took him to the

city square. They also brought Madhuvarasa
there – And then – as the city watched – they plucked
their eyes out –
Plucked out their eyes with iron rods – bound them
hand and foot and had them dragged
through the streets – tied to elephants' legs –
Ayyo! How can I tell you? –
Torn limbs along the lanes, torn entrails,flesh, bones –
they died screaming! (81)

The description give an idea of violence and cruelty that is gushed out of hatred in the minds of upper class Brahmins towards any type of efforts that would challenge the Varnashrama system. Brahmins capture the political power with the help of Prince Sovideva and all the sharanas are taken upon. The whole city witnesses bloody violence. King Bijjala is captured and murdered by Sharanas led by Jagadeva. Prince Sovideva as per the advice of Brahmin adviser Manchanna orders to kill Sharanas. He is ablaze with hatred and anger as he orders,

SOVIDEVA: Pursue them. Don't let them escape. Men, women,
children – cut them down. Set the hounds after them.
Search each wood, each bush. Burn the houses that
give them shelter. Burn their books. Yes, the books!
Tear them into shreds and consign them to the wells.
Their voices shall be stilled for ever – (90)

Sovideva has turned into a violent beast who knows only feeling of hatred and revenge. The play ends with a mass destruction, bloodshed and violence. Sovideva comes to the throne who is declared as the king to protect cows, Brahmins and Varnashrama dharma. To conclude, the play Tale-Danda is a revolutionary play in the sense it showcases the rise and downfall of the revolutionary social movement called Sharana. The play is written with 12th century as background. The play records communal violence in that time. The movement which was started to establish peace and harmony in the society, unfortunately brought into havoc and bloodshed on a mass level. People who believed in non-violence became violent to retaliate violence showcased by the rulers. It seems that nothing has changed drastically as even today the cases and unfortunate incidents of communal violence are witnessed and recorded not only in India but all over the world. Still there is a hope of mankind. We have to go miles away before we sleep. Basavanna quotes his optimism as, "Some day this entire edifice of caste and creed, this poison-house of varnashram, will come tumbling down. Every person will see himself only as a human being. As a bhakta. As a sharana. That is inevitable. But we have a long way to go. You know the most terrible crimes have been justified in the name of sanatana religion."

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THE USE OF TECHNOLOGY IN ENGLISH LANGUAGE TEACHING CLASSROOMS: A REVIEW

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Abstract

Nowadays the use of technology has become an essential and unavoidable part of the teaching- learning process in the classrooms and outside of the classrooms as well. Every language teacher uses technology to improve language skills. One can observe that technology enables teachers to conduct classroom activities to enhance the language learning process. Technology facilitates learners to understand difficult concepts in an easy manner. The present study focuses on technology in the role of using English as a language. This research paper defines the term technology, the use of technology in language classrooms, improving language learning skills through technology. It reviewed that the effective use of technology definitely improves language learning skills an- of English learners.

keywords *- language technology, skill classroom, learning process Improve, use, ICT*

Introduction: -

The present teaching-learning process we observe that the use of technology plays. dominant role. As we know that language. is one of the significant elements which affects international communication and its activities. students of the English language have to acquire English language skills like listening. Speaking, pe Reading and Writing for their command, fluency & proficiency in communication skills. As Becker (2000) stated that computers are regarded as an important instructional instrument in language classes in which teachers have convenient access, are and have Some sufficiently prepared. freedom in the curriculum. Computer technology is regarded by a lot of teachers to be a significant part of providing high quality education.

Technology has always been. an important part of the teaching and learning environment. It is an essential part of teacher's profession through which they can use it to
facilitate learners' learning. When we talk about technology in teaching and learning. the word • integration is used. With technology being part of our everyday lives, it is time to rethink the idea of integrating technology into the curriculum and aim to embed technology into teaching to support the learning process. That is to say, technology becomes an integral part of the learning experience and a significant use for teachers, from the beginning of preparing learning experiences through to teaching and learning process. (Eaddy & Lockyer, 2013). According to Pourhosein Gilakjani (2013), the use of technologies has the great potential to change the existing language. teaching methods. Pourhosein Gilakjani and Sabouri (2014) emphasized that through using technology, learners can control their own learning process and have access to much information over which teachers cannot control. Technology has an important role in promoting activities for learning learners and has a significant effect on teachers' teaching methods. If teachers do not use technologies in their teaching, they will never be able to keep up with these technologies. Thus, it is very important for teachers to have a full knowledge of these

technologies in teaching language skills. - Definition of Technology and concept

Technology has been defined by different researchers in different ways. ISMAN (2012) defines it that technology is the practical use of knowledge particularly in a specific area and is a way of doing a task especially using technical processes, methods or knowledge. The usage of technology includes not only machines (computer hardware) and instruments, but also involves structured relations with other humans, machines and the environment. As we observed that Past researchers viewed and defined the term 'technology' from many perspectives and this has influenced the research design and results, negotiations around a transfer and government policies in general C Reddy and Zhao, 1990) Technology Integration is defined by Hennessy, Ruthven and Brindley (2005) and Poushosein Gilakjani (2017) in terms of how teachers use technology to perform familiar activities more effectively and how this re-use can shape these activities. Dockstader (2008) defined technology integration. as they use technology to improve the educational environment. It supports the classroom teaching through creating opportunities for learners to complete assignments on the computer or mobiles rather than the pencil, and of paper.

***Optimal Use of Technology in English Language classroom:**

One can observe in the present scenario that the students are becoming more independent in the classrooms, the traditional method where the class. moves forward and students get left behind, and need to be replaced. As our ancestors have told, there are three methods of teaching a concept

a) providing information via conversation

b) show them how to get the specific knowledge

c) Let them do the job themselves with guidance.

As Lin and Young (2011) performed a study to investigate whether Wiki technology would improve learners' writing skills. Learners were invited to join a Wiki page to write passages where they would write passages and then read and write answers to the passages of their fellow classmates. Learners indicated that the immediate feedback they received was a benefit of using this kind of technology. Another finding was that learners learned vocabulary, spelling and sentence by reading the work of their classmates. Using WhatsApp applications in English dialogue to improve the learner's writing, vocabulary, word choice and speaking ability. We observe that nowadays many institutions form What's App Groups for the convenience of students.

During this procedure students ask their queries frankly and their dialogue with the teacher improves his vocabulary, writing and communication skills. this indicated that technology tools enhanced learners' reading and writing skills because they are · friendly and learners can use it. learn in a " faster and more effective way. Technology can change the way of interaction among human beings. For instance, technology has changed the student teacher relationship. Email and blackboards can be pointed out" for illustrating this. We can't say that `Is this change for the better or for worse?" Email offers a quick and efficient way to communicate with students outside of the classroom; blackboard enables teachers to post readings and other useful materials and the Web, rather than making a lot of copies.

According to Susikaran (2013), basic changes. have come in classes beside the teaching methods because chalk and talk teaching method is not sufficient to effectively teach English Raihan and Lock (2012) stated that with a well-planned classroom setting, learners learn how to learn efficiently. Technology-enhanced teaching environments are more effective than lecture-based classes. Teachers should) find methods of applying technology as a useful learning instrument for their learners although they have not learnt technology and are not able to use it like a 7-computer expert. the application of technology has considerably changed English teaching methods. It provides So many alternatives

as making teaching Interesting and more productive in terms of advancement (Patel 2018). In traditional classrooms, teachers stand in front of learners and give lecture, explanation and instruction through using blackboard or whiteboard. This method must be changed concerning the development of technology. The usage of multimedia texts in the classroom assists learners in becoming familiar with vocabulary and language structures. The application of multimedia also makes use of print texts, film and internet to enhance learners' linguistic knowledge. The use of print, film and internet gives learners the chance to collect information and offers them different materials for the analysis and interpretation of both language and contexts (Arifah- 2014)

Use of ICTs in English Language classroom:

Information and communication technologies (ICTS) in English Language classrooms have some advantages for teaching and learning to process. First teacher plays an important and active role to retain more information than it follows discussion. through discussion more information enhanced where learners can become more independent. It increases learners' language learning skills and educational materials. The use of ICTs has changed the teaching methods. As it resulted in from the teacher. cantered to Learner- cantered. Teachers became facilitators to facilitate their learners with a variety of teaching materials. This chance proves very useful for learners to expand their knowledge. learning ICT assists them in collecting unlimited information and interacting with resources like videos, Internet, an etc.

Conclusion:

In this research article researchers reviewed jew important issues to illuminate the use of technology in English language learning classrooms. Through this literature review one cannot say it gives guarantee. of teachers' teaching and learners' learning fulfilled through the resources available on the Internet and or means that in this other Web process pages. teachers need to get proper training for integrating technology into language teaching classrooms and learners should use technology to enhance. their language skills, because it has coast crucial role in this literature review concludes that technology provides information instead of knowledge to teachers and learners, and interaction between teachers and learners on the other hand it helps learners to develop their thinking and Communication skills and makes the teaching learning process student cantered and more enjoyable.

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IDENTIFICATION OF NEW TOURIST DESTINATION IN PALGHAR DISTRICT

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Abstract

Tourism sector has a major role for socio economic progress. Tourism has become one of the major players in international commerce and represents at the same time one of the main income sources for many developing countries. India is a developing country. India has a diverse natural nature and cultural environment ' Incredible India' campaign meaning the ministry of tourism India attracts domestic and foreign tourists to visit the natural beauty and tradition of India. Tourism is a major engine of economic growth and an important source of foreign exchange in many countries including India. There are many states in India where tourism has developed and tourists are coming to visit that state, resulting in Karnataka, Kerala, Goa, Himachal Pradesh, Orissa, Gujarat, Maharashtra, Rajasthan and Uttar Pradesh. That state has a lot of natural beauty and also some tribal areas. With considering gravity of this subject, the research has under taken Palghar district. Moreover, such study may provide potentiality to increase the tourist to be visited in the known tourist places and unknown places of tourist are of paramount importance. To prepare a new tourist map of study area with adequate and update Tourist Information System (TIS) with the help of GIS technique. Besides this planner, administrators, layman, and one who are interested in research in the felid of tourism may get the benefit.

Keywords: *Tourist Information System (TIS), GIS, planner.*

Introduction

In India, Maharashtra is one of the most leading tourism states. There were 35 districts inMaharashtra but Thane was the largest district in Kokan. Palghar district was recognized as 36 districts by dividing these districts on 1 Aug 2014. A Palghar district has lots of tourism potential of different socio-cultural and historical background and tribal areas. The main attraction of Palghar district is forts, natural scenery, caves, beautiful beaches, hill stations, monuments, fair and festivals, art and Handicraft, Warli painting and Tarpa music, food style, herbal medicine and drugs. Palghar district has lots of tourism potential sites; very less research work was done on this Palghar district. Palghar district have rich in natural resources like beautiful landscape, beaches, flora, fauna, comfortable climatic condition, 100% tribal district etc. these are the resource potential of the study area. Most of the tribal people are working in agriculture activities, collection of forest product, collection of forest product, fishing, hunting etc. If we identified site suitability analysis of emerging tourist destination will create the employment opportunities for the tribal people in Palghar district.

Study Area

Palghar district is usually the tribal district of Maharashtra. The total area of the district is 5344 km^2 and population as per 2011 census 2990116. It lies in between 19° 17' 15" N to 20° 13' 45" N latitudes and 72° 38' 35' E 1o 73° 30' 25" E longitudes (Fig. 1). The district comprises eight revenue taluks Jawhar, Mokhada, Talasari, Palghar, Vasai, Vikamgad, Dahanu and Wada. The district headquarters is located at

Palghar. There are 5 administrative subdivisions in the district Palghar, Vasai, Dahanu, Wada and Jawhar. The Palghar district came into existence on 1 August 2014. Palghar district is the most North-western district of the state of Maharashtra on the Arabian Sea coast. It is spread between the west coast of the Arabian Sea and the Sahyadri Mountains rows that are east of the Northern district of Palghar. The district is bounded by Nashik districts on the east and northeast and by Valsad district of Gujarat state and Union Territory of Dadra and Nagar Haveli on the north. The Arabian Sea forms the western boundary, while Vasai, Virar is the only Metropolitan Region. District comes under the tribal areas of the state of Maharashtra. The main profession of the people agriculture; is support with that people collects wood, Honey, Medicare Herbs and lakhs from forest ln coastal areas, fishing is main profession, with that horticulture farm of sapota (Chiku), Betel leaf, mango and coconut plant also there. Palghar district is popular for tribal areas. The Palghar district have lots of tourism centers Jivdani temple, Jai vilas palace, Mahalakshmi temple, Vasai fort, Shirgaon fort, Tarapur fort, Arnala fort, Dabhosa waterfall, Vandri Lake, Kelva beach, Chincholi beach, Kalamb beach, Dahanu beach, Bahrot caves, Chhatrapati Shivaji Maharaj monument and Jay sagar dam.

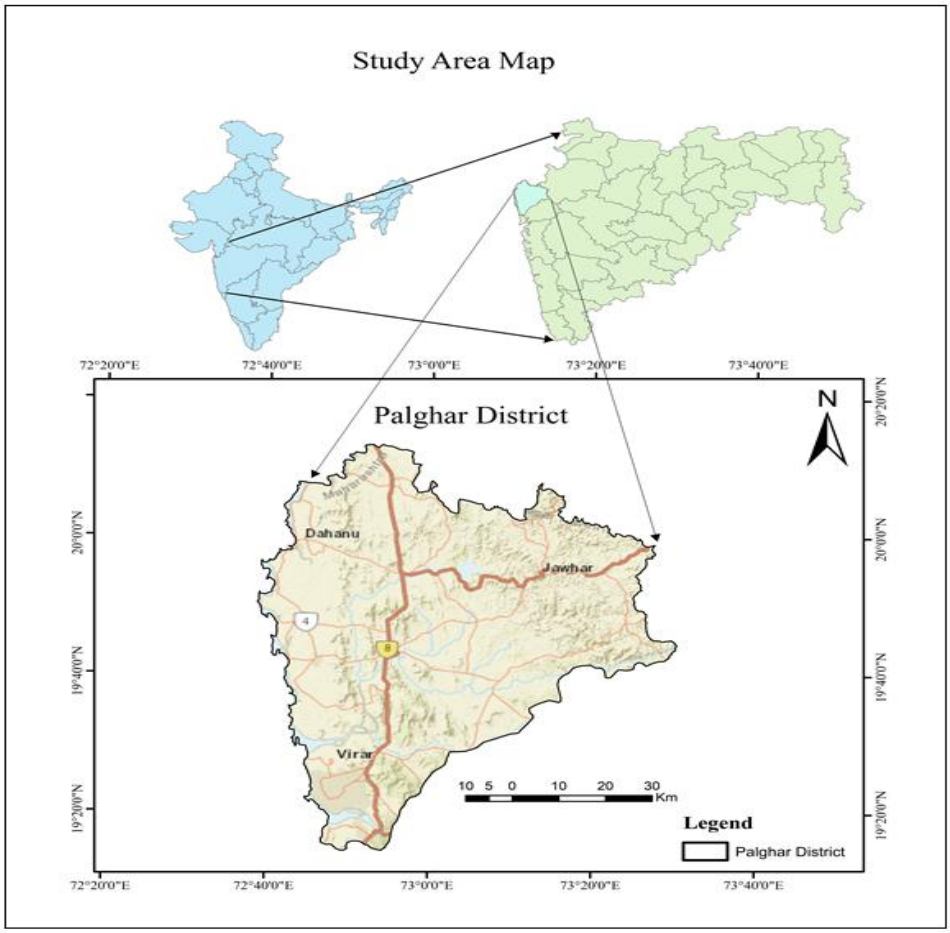

Fig. 1

Objectives

Against the above background, the present work attempts to study the socio-economic background of the Palghar district. To collect the information about tourism facilities available in the study region and To identify potential tourist centers and new tourist map of study area with adequate and up to date Tourist Information System (TIS) with the help of GIS technique.

Methodology and Database

In order to understand the Tourism Potential of Tribal Region in Palghar

district, the methodology adopted for the present study is divided into three phases namely pre-field work phase, field work phase and post field work phase. In the first phase i.e. **pre-field work phase** literature review i.e. previous work carried out by other researchers will obtained from various journals and internet, visit to the MTDC resort to know about annual tourist flow, collection of Survey of India toposheet (SOI) having scale 1: 250000, Atlas, Gazetteers, District Census Handbook, Village and Town Directory, Tourist maps, etc. use for collection of information, District Resource map of Palghar district published by Geological Society of India, Government published map of Palghar district P.W.D. map, Digital Elevation Model **Fig.2**

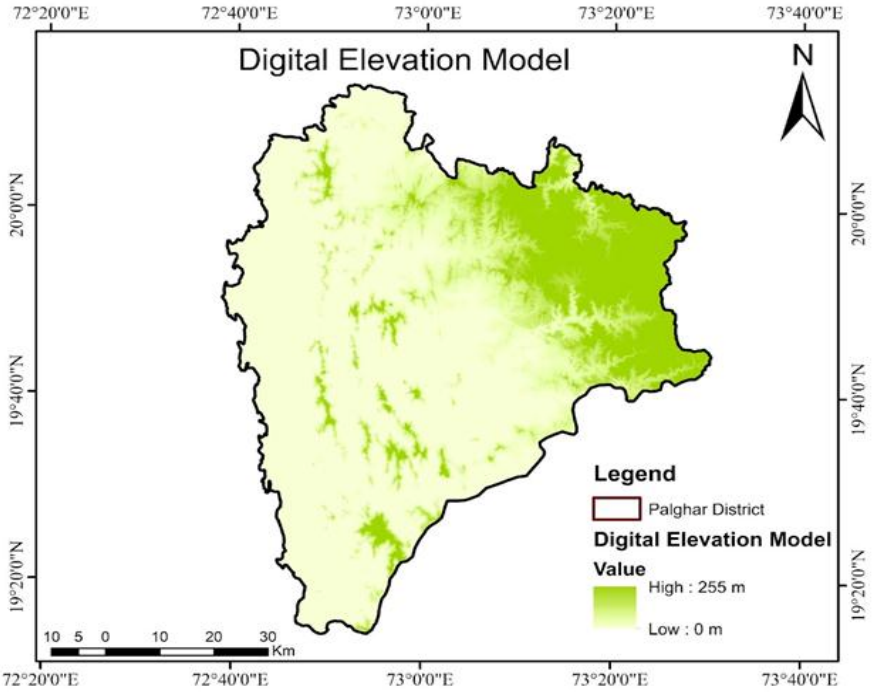

Fig. 2

In the second phase i.e. **fieldwork phase** extensive field surveys will be undertaken, to existing tourist places and newly found tourist places. The questionnaire will be completed in this phase. During this field surveys tourist facilities regarding destination photographs, GPS reading altitude and the related information will be noted which is also useful to tourism potential of tribal region study. The potential of various places of district to emerge as the tourist centre shall be analysed on the basis of scenic beauty, economic importance of the basis of tourist visits, connectivity levels of the tourism spots. As observed different researchers, performances of tourism is dependent upon the quality of services provided as well as the socio- economic and socio-cultural background of the tourists. The collected data will be classified and tabulated by using statistical tools. It will be analyse through tables, charts, maps and diagrams as per required. Government published map of (P.W.D.) Palghar district is scanning, then digitization to generate thematic layer i.e. point layer - tourist places, tehsil headquarters, line layer - roads, railways, rivers etc. and polygon layer - dams, reservoirs etc. and map will be georeferenced at the same time. Integrating all above information and maps with help of GIS software, various thematic layers will be generated. Finally these thematic layers will be analyzed to demarcate tourism potential zones. On the basis of study results and conclusions will be made.

Result and Discussion

The infrastructure facilities, transportation facilities, accommodation facilities, hospital facilities, security

facilities, banking, drinking water facilities, parking facilities, etc. facilities at tourist places are very limited in the Palghar district. To create a to date information system for the potential tourist places in the tribal region of Palghar district for that purpose GIS and remote sensing techniques are used for the present research study. The websites for known and unknown tourist places in the Palghar district were created because a large number of domestic and international tourists visited the tribal region of Palghar district. The Palghar district is famous for delicious seafood, beautiful beaches, preserve and long shelf life food, (Nagali, papad, pickle), species and condiments, medicinal seeds and plants, dry fruits, agro-tourism sites.

The district is famous for the tribal culture, their lifestyle, fair and festivals, Warli painting, Tarpa music, local handicraft, tribal jewelry, roots leaves flowers, of species like Mahua, and Sal fruits like Mango, Guava, Tamarind, herbs oil seeds and forest origin, honey, resins, and gum brooms, sticks, etc. Some of these items are used for domestic consumption and some for sale in the market thus there is a heavy dependency relationship of tribes with forest. The local vegetable exhibition is conducted only in the rainy season in the tribal region of the Palghar district. The food processing industry like strawberry, mango, Guava, Saputo, custard apple, jam jelly should be established in the study area for the economic development of the tribal region of Palghar district.

There are a total of eight tehsils in the study area. It is not easy to do the survey of the entire Palghar district because of the physiography and time being so we will select sample tourist places on the basis of the various sampling criteria. These sample tourist places represent the entire Palghar district. Use of remote sensing and satellites is very expensive. Proposed study of Tourism potential in Palghar district will be done with the help of GIS techniques.

Conclusion

All the above outcomes of the proposed study are useful for the planning, economic development, policymaking and tourism development in the tribal region of Palghar district. The present work will be the basis for future studies in tourism development in the tribal region of the Palghar district.

Recommendation:

To give attention towards man power development and training through such study can be done by this project. Also take an account of domestic needs of the Palghar district by giving information such as cheap accommodation (particularly beach resort places), easy way to transportation etc. It brings socio-cultural benefits to the local community in terms of employment opportunities, income generators, and environmental awareness.

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TEACHERS' BELIEFS AND PRACTICES IN NEW - AGE TEACHING- A CONCEPTUAL STUDY

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Abstract:
This paper focused on teacher's beliefs and practices in a view to understand new age teaching practices. a Teachers' beliefs are thought to have a great influence on their classroom practices. Due to the great influence, teachers' beliefs and practices in teaching reading have been recently gaining increased research momentum. The beliefs about the nature of teaching and learning which are need of the hour include "direct transmission beliefs about learning and instruction" and "constructivist beliefs about learning and instruction". As the focus of attention in research on teaching shifted from teacher behaviors to teacher cognition, beliefs and knowledge have become the two most important factors in the explanations of teacher practices and in considerations of teacher change. It is interesting to observe how the methodologies of delivery of knowledge and teaching, have undergone such drastic changes in different era. We are familiar of Gurukul traditions of teaching and learning, wherein the disciple/learner had to stay in the austere habitats owned by the Guru. The commoner and royalty were treated alike by the Guru and his household, and they would spend formative years of their life in pursuit of knowledge on a model that was based upon the dictum- "serve and learn". Interestingly, this model of education was complete and holistic, and covered practically every aspect of human growth, including knowledge, skills, sports, fine arts, warfare and everything that had contemporary flavor.

***Key words**: Quality of Instruction, Research Momentum, Hermeneutic Tradition, Royalty*

Introduction:

Teachers' beliefs, practices and attitudes are important for understanding and improving educational processes. They are closely linked to teachers' strategies for coping with challenges in their daily professional life and to their general well-being, and they shape students' learning environment and influence student motivation and achievement. Furthermore they can be expected to mediate the effects of job-related policies – such as changes in curricula for teachers' initial education or professional development – on student learning. Teachers' beliefs are thought to have a great influence on their classroom practices. Due to the great influence, teachers' beliefs and practices in teaching reading have been recently gaining increased research momentum. This heightened research interest is also rooted in the evidence that teachers' beliefs become central importance for understanding and improving educational processes and teaching practices (Barrot, 2015; Kane, Sandretto, & Heath, 2002). They are closely linked to teachers' strategies for coping with challenges in their daily professional activities, shape students' learning environment and influence students' motivation and achievement (Wilkins, 2008). They have a strong impact on classroom practices (Barrot, 2015; Basturkmen, 2012; Farrell & Bennis, 2013; Kuzborska, 2011) and influence how the teachers facilitate the interaction between learner, teacher, and subject matter in a particular classroom context with particular resources (Breen, Hird, Milton, Oliver, and Thwaite, 2001).

In 21st century however, the narrative is very different. In fact, the education story of the first 20 years of the

21st century was just an extension (with minor modifications) of the story that was being in practice for little over a millennium. The new-age teaching model with respect to the mode of delivery, pedagogical systems, assessment and examination will undergo a paradigm shift, and the entire teaching community shall have to reinvent themselves to stay relevant. Good instruction, of course, is not determined just by the teacher's background, beliefs and attitudes; it should also be responsive to students' needs and various student, classroom and school background factors. Whether teaching practices "adapt" to students' social and language background, grade level, achievement level, and class size. For example studies on aptitude-treatment interactions suggest that students with low intellectual abilities profit more from structured, teacher-centred instruction, while students with high intellectual abilities may gain more from less structured and more complex instruction (Snow and Lohman, 1984). Teachers do not act only in the classroom where they instruct students more or less in isolation from other classes and teachers. A modern view of teaching also includes professional activities on the school level, such as co-operating in teams, building professional learning communities, participating in school development, and evaluating and changing working conditions (Darling-Hammond et al. 2005). These activities shape the learning environment on the school level, i.e. the school climate, ethos and culture, and thus directly and indirectly (via classroom-level processes) affect student learning. As is known from research on the effectiveness of schools (Scheerens and Bosker, 1997; Hopkins, 2005; Lee and Williams, 2006; Harris and Chrispeels, 2006), the quality of the learning environment is the factor affecting student learning and outcomes that is most readily modified, given that background variables such as cognitive and motivational capacities, socio-economic background, social and cultural capital are mostly beyond the control of teachers and schools.

Beliefs About The Nature Of Teaching And Learning

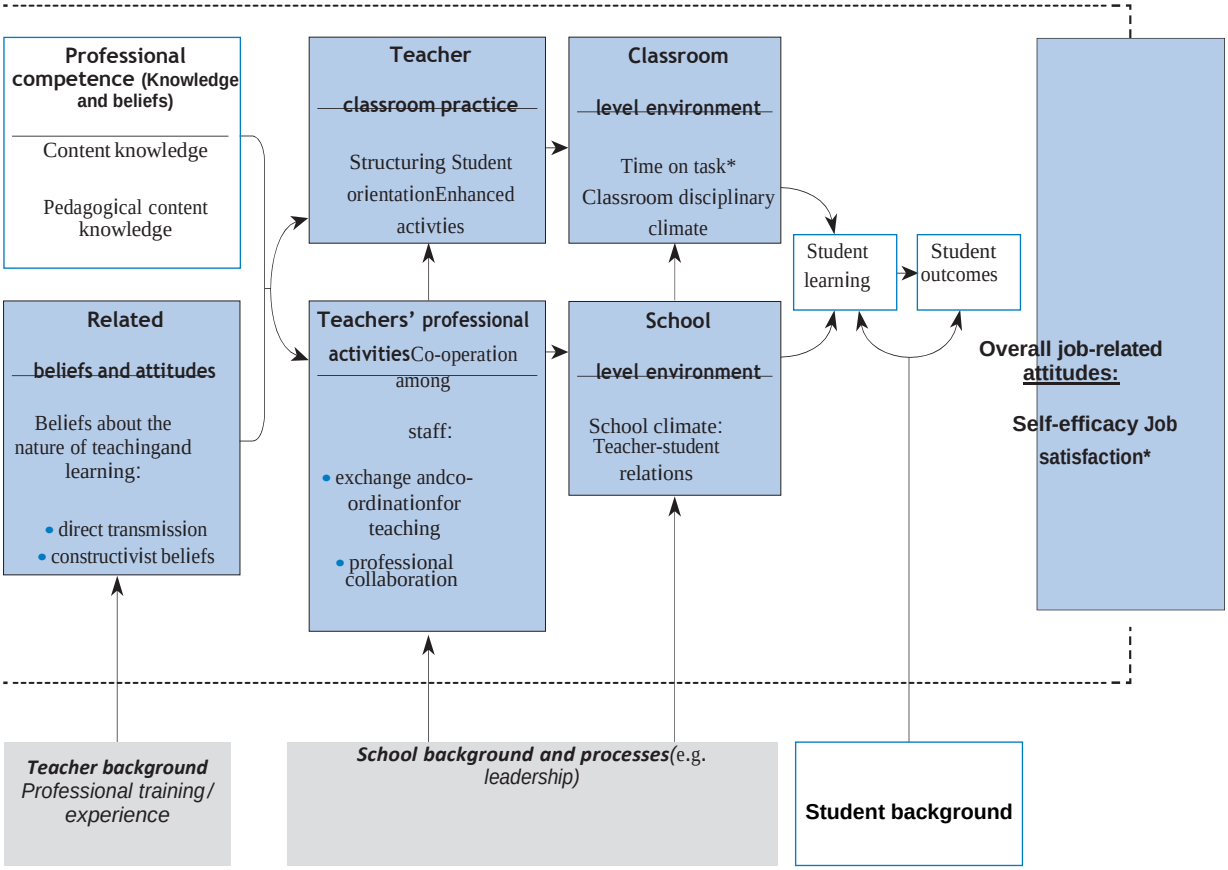
The beliefs about the nature of teaching and learning which are the focus of TALIS include "direct transmission beliefs about learning and instruction" and "constructivist beliefs about learning and instruction". These dimensions of these beliefs are well established in educational research at least in Western countries and have also received support elsewhere (e.g. Kim, 2005). The direct transmission view of student learning implies that a teachers' role is to communicate knowledge in a clear and structured way, to explain correct solutions, to give students clear and resolvable problems, and to ensure calm and concentration in the classroom. In contrast, a constructivist view focuses on students not as passive recipients but as active participants in the process of acquiring knowledge. Teachers holding this view emphasize facilitating student inquiry, prefer to give students the chance to develop solutions to problems on their own, and allow students to play active role in instructional activities. Here, the development of thinking and reasoning processes is stressed more than the acquisition of specific knowledge (Staub and Stern, 2002). It is important to note the difference between beliefs on the one hand, and practices, on the other. Both practices and beliefs are shaped by pedagogical and cultural traditions. They represent different though related parts of the pedagogical context for student learning.

Besides this general agreement on beliefs about instruction, countries differ in the strength of teachers' endorsement of each of the two approaches. The preference for a constructivist view is especially pronounced in Austria, Australia, Belgium (Fl.), Denmark, Estonia and Iceland. Differences in the strength of endorsement are small in Brazil, Bulgaria, Italy, Malaysia, Portugal and Spain. Hence teachers in Australia, Korea, northWestern Europe and Scandinavia show a stronger preference for a constructivist view than teachers in Malaysia, South America and southern

Europe. Teachers in eastern European countries lie in between.

Framework for the analysis of teaching practices and beliefs

Source: OECD, TALIS Database



It has been demonstrated that quality of instruction is fundamental to student learning. For instance, Wang, Haertel and Warburg (1993) showed that classroom management and classroom interactions had effects similar in size to students' cognitive competencies and their home environment. Likewise, when reviewing contemporary research on school effectiveness, Scheerens and Bosker (1997) concluded that characteristics of instruction have a greater effect on student achievement than those of the school environment. However, researchers agree that there is no single, well-defined best way of teaching. The effectiveness of classroom practice is domainspecific as well as goal-specific; it depends on the cultural context and professional traditions.

The Nature Of Knowledge In Teaching

As the focus of attention in research on teaching shifted from teacher behaviors to teacher cognition, beliefs and knowledge have become the two most important factors in the explanations of teacher practices and in considerations of teacher change. In the traditional philosophical literature, knowledge requires a 'truth condition' that suggests that a proposition is agreed upon as being true by a group of people. Propositional knowledge has epistemic standing, that is, there is some evidence to back up the claim. By contrast, beliefs do not require a truth condition. They have also been found to be powerful in their effects on teaching practices.

However, within research on teaching, the differentiation between beliefs and knowledge is not strongly evident. Many in the field define knowledge as that which is held in the teachers' heads, with or without a truth condition. This psychological view of knowledge has led to the identification of and research on a number of different

forms of knowledge. Two forms of knowledge that have been studied extensively are *practical knowledge* and *pedagogical content knowledge*. Practical knowledge differs from *formal knowledge* in that formal or warranted knowledge is much more closely related to the philosophical conception of knowledge. Formal knowledge may be found in textbooks and research articles; whereas practical knowledge may be found in teachers' heads and in their actions and focus on their own classroom contexts. Pedagogical content knowledge, on the other hand, combines formal and practical knowledge.

Beliefs**,** defined as propositions that are accepted as true by the individual holding the beliefs, are of interest in research on teaching in the investigation of the ways in which beliefs may affect teaching practices. Most current studies of teacher beliefs are conducted within the hermeneutic tradition (that is, they focus on how the individual teacher makes sense of the environment in which s/he is operating). These studies suggest a complex relationship between teachers' beliefs and actions. In most current research-based conceptions, the perceived relationship between beliefs and actions is interactive. Beliefs are thought to drive actions; however, experiences and reflection on action may lead to changes in and/or additions to beliefs.

Beliefs are seen as important in teaching and teacher education in several ways. The first suggests that students of teaching bring powerful beliefs into their teacher education classes. These beliefs must be attended to by both the student teacher and the teacher educator if the student teacher is to move beyond the images of teaching acquired as a student. An additional and related way is instruction that focuses directly on beliefs. As Tom Green (1971) suggested, one goal of teaching is to help students form belief systems that consist of a large proportion of beliefs based on evidence and reason. Thus, the investigation of beliefs in the teacher education classroom should involve their rejection, alteration, or transformation into knowledge with warrant and evidence attached. Without attention to beliefs, transformational changes in teaching practices have a low probability of success.

Practical knowledge is an account of how a teacher knows or understands a classroom situation. Practical knowledge is gained through experience, is often tacit, and is contextual or local. This form of knowledge is not, however, synonymous with beliefs because it is thought of as embodied within the whole person, not just in the mind. Embodied knowledge is more than cognitive and relates to the ways in which people physically interact with the environment. It is this knowledge that may be used in an improvisational manner in the classroom. This conception of knowledge as practical does not separate the knower from the known, is personalized, idiosyncratic, contextual, and emerges during action.

Pedagogical content knowledge refers to a way of knowing the subject matter that allows it to be taught. It is grounded in the disciplines but adds an understanding of how to transform formal knowledge of the disciplines into the enacted curriculum within a teaching context. This knowledge combines that of the subject matter itself with knowing how students learn the content, students' preconceptions that may get in the way of learning, and representations of the knowledge in the form of metaphors, examples, demonstrations, etc., that allow it to be transformed into material that the students may learn. Inquiry into teachers' pedagogical content knowledge has been active since 1985. This research suggests that teacher education students' formal knowledge of the disciplines is fairly weak, and that formal teacher education programs are a weak contributor to the formation of pedagogical content knowledge. However, there is strong evidence that those becoming teachers benefit from the courses that emphasize pedagogical knowledge as compared with those who enter teaching with subject matter background, but no pedagogical education.

Teacher and New-Age Teaching

The year 2020 is proving to be a watershed, an inflexion point in the lives of the entire mankind in all areas of human Endeavour and activities. Suddenly an invisible tiny monster appears from nowhere and brings the entire humanity to its knees. Everything stops and everyone is pushed indoors, and waits for some signs of that monster relenting in its pursuit of an unprecedented wave of virulent infection and killing spree. Great minds from the scientific and medical world are completely bewildered and cannot find an easy solution, or cure to the phenomenon, that has assumed a pandemic character in a short span of time. All economic activity, in practically all parts of the world has come to a standstill, barring those that are essential for ordinary sustenance. One sector, however that stands out and has taken the challenge head on is the sector relating to knowledge acquisition, its dissemination, and notably the profession of teaching.

It would not be an exaggeration to state that a teacher today is the busiest, the most wanted entity who had to reinvent himself/herself to respond to a situation that had no parallel in the history of any paradigm, relating to the evolution and delivery of knowledge.

The mandates of social distancing, compulsory lockdown and inability to step out of their respective homes posed an altogether different challenge. The only option was to resort to distance-teaching (as against the practice of distance learning), create an experience of a virtual classroom and deliver content and syllabus without actually seeing who you were delivering to. These experiences were earlier shared by the same teachers in the form of fairy tales. Now they had to get into that role in real-time measures.

It is interesting to observe how the methodologies of delivery of knowledge and teaching, have undergone such drastic changes in different era. We are familiar of Gurukul traditions of teaching and learning, wherein the disciple/learner had to stay in the austere habitats owned by the Guru. The commoner and royalty were treated alike by the Guru and his household, and they would spend formative years of their life in pursuit of knowledge on a model that was based upon the dictum- "serve and learn". Interestingly, this model of education was complete and holistic, and covered practically every aspect of human growth, including knowledge, skills, sports, fine arts, warfare and everything that had contemporary flavor. Guru-shishya Parampara now survives only in a few disciplines such as classical music, dance and a few crafts which demand life-long engagement and dedication. With the passage of time and expansion of spaces, infrastructure and population, Gurukul system gave way to a more organized and structured system in the form of schools, colleges, universities and other institutes of specialized learning.

The oldest existing and continuously operating educational institution in the world is the University of Karueein, founded in 859 AD in Morocco. Available records also suggest that the oldest university in the English-speaking world is Oxford, founded sometime in the later part of eleventh century and continues to be one of the most prestigious institution of learning. In the Indian context, there is adequate archaeological evidence available that points towards the existence of Universities such as Taxila and Nalanda in the BC era. But that is as far as the historical narrative goes with respect to education and its evolution over several centuries.

Some of the essential features of the new paradigm will be as follows;

1. Technology will play a pivotal role in the dissemination process.
2. There will be a proliferation of technology platforms driven by the varying needs of learning models. Needless to mention that it will have to be secure, fast and user-friendly.
3. Rote learning and didactic practices will have to give way to the experiential format.
4. Education will be imparted in a mode of active learning and on a PBL format.

5. Education will have to reorient itself to establish close nexus to real-life situations.
6. The emphasis therefore will shift from acquisition of knowledge to acquisition of skills. Teachers will have to get appropriately skilled to pass them on to their students.
7. Students of the 21st century are smarter and this is an oft-repeated statement. They are smarter not on account of any superior genetic reengineering, but because of an independent access to huge amount of data and information. But whether they are more knowledgeable or wise is a debatable proposition. Teachers will have to take on a new role of Information/data analyst to guide the children in right direction.
8. Education will have to be redefined and the curriculum/syllabus will have to be restructured to become more meaningful, relevant, relatable and user friendly.
9. Education will also become trans disciplinary creating a judicious mix of science, philosophy and liberal arts.
10. Study of Nature, natural phenomena, environment and maintenance of ecological balance will become an integral part of the course content. These areas of study will have a strong experiential bias.
11. Every educational institution will create a structured curriculum for imparting socio-emotional learning. Academic and character building will run as parallel streams with hands-on activity and purposeful engagement.
12. Teachers and schools will also be called upon to create a pattern of differentiated learning. "One size fit all" will not work.
13. Artificial Intelligence, Machine learning , cloud computing and Data analytics will become important tools that will be used extensively in the education space. Children will have to become adept in writing computer programs, coding and algorithm for multiple usages. Teachers will have to keep pace with these developments.

These are formidable challenges and the entire teaching community shall have to take a serious note of these changes and prepare themselves appropriately.

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AUGMENTED REALITY: AN EMERGING TECHNOLOGY

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Abstract
The more modern and sophisticated technology of today are undergoing constant transformation. Every area of our life, including education, has changed as a result of contemporary computing technologies. Digital tools are used to enhance the traditional teaching method. Additionally, a lot of software with varied functions is being used. A single one of them is augmented reality (AR). AR gives kids access to real-world experiences. A knowledge-based society, where knowledge is a tremendous power, economy, and potency of an individual and the benefit of a country, has benefited greatly from the advances in science and technology and their application. Its greatness and expansion both have a magnificent detonation. To access and effectively use this rapidly developing technology, we require innovative knowledge. It necessitates total access to and control over the knowledge acquisition process. With the aid of information and communication technological science, it is possible. Over the past ten years, augmented reality (AR) interfaces have proliferated, with an increase in user-based trials. Chemistry note cards have long been a mainstay for remembering new concepts; with AR, they now offer greater content for learning. An open-source computer tracking framework called ARToolkit is used to build powerful augmented reality apps. A digital content repository with the construction of coursework, learning games and simulations, augmented reality, and virtual reality will be developed with efficiency and perfection, according to the National Education Policy (NEP, 2020). The current status, various device types, hardware, software, applications, and content for augmented reality are discussed in this paper.

***Key words**: 3D, ARToolKit, AR Chemy app, and augmented reality note cards*

Introduction

The human race has always valued greatness. In all spheres of life, this ambition has sparked new inventions and breakthroughs. Science and technology have always played a role in bringing efficiency and advancement to human labour processes and goods. The rising usage of technology has also had an impact on the field of education. It has been extremely helpful in enhancing the teacher's job, facilitating the teaching-learning process, and raising educational objectives. Over the past 20 years, the development of technology including smartphones has had a significant impact on how chemistry is taught. Augmented reality (AR), which is the superimposition of virtual information onto a real-world item, has begun to take root in society over the past ten years. Augmented reality (AR), which is the superimposition of virtual information onto a real-world item, has begun to take root in society over the past ten years. The use of augmented reality in teaching has several potential benefits. It makes it easier for the students to receive, understand, and remember the material. Additionally, AR makes learning more entertaining and appealing overall. It is not restricted to a certain age range and may be applied successfully at all academic levels, including pre-school, college, and the workplace. Achievable reality and tangible items are used in augmented reality (AR)

to instantly add computer-generated enhancements on top of the real world. The visualization of molecules in three dimensions (3D) is one of the most difficult concepts for students to comprehend and for professors to instruct. A crucial skill in the teaching of chemistry, as well as other topics like mathematics, biology, and geography, is the ability to interpret 2D representations from textbooks as their actual 3D structures (Gabel 1993; Venkataraman 2009). (Silen etal. 2008; Lv and Li 2016).

A user's vision of the real world is covered by computer-generated graphics in augmented reality. Usually, these visuals take the form of films, information, and 3D models. There are numerous methods for implementing AR. Typically, a mobile device allows the user to view real-time photos of a thing (product) (often a smart phone or tablet). The AR software on the device analyses and compares live photos with images from a local or distant database to recognise and understand them. When a match is made, the AR device will display or superimpose the digital content linked to a specific image at the same time. As the user walks or changes their orientation, this process continues without interruption, and fresh images of people, places, or items are detected by the sensors (in this case, a camera). When necessary, content that has been superimposed adapts fluidly to match what the viewer is seeing.

AR in the Current Scenario

Nowadays, smartphones and tablets are the main ways that augmented reality enters the lives of most people. The Star Walk software from Vito Technology, for example, enables users to point their tablet or phone's camera at the sky and see the names of stars and planets superimposed on the image. Another software named Layar gathers data about the user's surroundings using the smartphone's GPS and camera. Just sitting at the desk and paying attention to the teacher ends the teaching period. As an example, viewing and sculpting 3D figures offers an immersive experience that stimulates attention and participation. In this instance, the HDM or Human Dissection Models project enables for the visualisation and study of various human body parts using digital 3D imagery(Figure1).

Figure1 Source : mobidev.biz

AR components

The following are some of the most crucial aspects of augmented reality:

Sensors and cameras:

Cameras and sensors are one of the essential components of an effective augmented reality performance. These tools are used to gather environmental data, process it, and then input it into the programme. AR devices use cameras to scan the items in front of them, physically locate and measure the items, and then enhance the objects with 3D representations.

Processing: Understanding how real-world images are transformed into augmented ones is one of the most crucial aspects of understanding augmented reality. This is made possible by a device that can store AR applications that meet particular requirements. A CPU, GPU, RAM, GPS, internet connection, Bluetooth, and flash memory are also necessary. These specifications aid the device's augmented reality (AR) applications in locating themselves in space and comprehending the surroundings.

Projection:
More headsets are needed for this. Any surface can become an interactive augmented reality environment thanks to the projection. Most of the time, it only affects the view that the user sees. The projection's surface doesn't really matter; it might be anything, like a hand, a wall, the floor, etc.

Reflection:
Reflections aid in guiding graphically altered pictures to the user's eye in augmented reality devices and applications. Small, curved, double-side mirrors are used in AR systems to reflect incoming light onto a side-mounted camera. The light is directed toward two independent lenses for each eye, which are made up of three layers of glass in the three fundamental RBG hues, by a so-called light-engine in the augmented reality gadgets.

Kinds of AR: The phrase "augmented reality" refers only to these technology components, and it can function in a variety of ways.

SLAM:
Some of the more effective techniques for creating augmented real-life images involve simultaneous localization and mapping. By taking into consideration the surroundings, this technology localises sensors before going on to map the environment's structure.

Recognition:
This technique works by using the camera to recognise visual cues or objects. They cannot be two-dimensional (2D), QR codes, or natural feature tracking (NFT) markers, which display an overlay when the marker is captured by the device's camera. The camera is primarily used in marker-based AR technology to differentiate between markers and actual objects. The fake 3D images are immediately replaced with the marker once the device recognises it.

Location-Based: As opposed to augmented reality by recognition, location-based augmented reality primarily relies on a GPS, digital compass, velocity metre, or accelerator to collect location data and deploy augmented reality visuals depending on that data. Since they contain the necessary features and make it simple to use this sort of technology, smartphones are one of the finest devices for using location-based AR apps because they simultaneously increase the popularity of the technology.

Devices for Augmented Reality
These days, it would be difficult to locate a device that does not support augmented reality technology. While smartphones are the most popular gadgets in this market, tablets, hand-held devices, and tech like Google Glass are just the start of what will eventually become an augmented reality. What are the categories of augmented reality-capable gadgets that are available today?

Mobile technology.
Gaming, entertainment, business, analytics, sports, and social networking are the areas where mobile AR apps perform best.

Unique AR gadgets. These modern gadgets were created specifically for augmented reality experiences. Head-up displays (HUDs), which feed data to a transparent display and place it in the user's field of vision, are one example of this.

AR glasses. There are many other technologies besides the well-known Google Glass that can perform comparable tasks. Depending on the device, Laforge AR glasses, Meta 2 Glasses, Lester See-Thru, and others can show notifications from smartphones, provide hands-free information, and provide rapid internet access.

Contact lenses for AR. The augmented reality contact lenses will either be an enhancement to our present smartphones or a standalone device that can function as a camera.

How does AR function?
Each AR system is made up of three parts: the application, the software, and the hardware. I'll elaborate on the idea using the example of our smartphones as an example (Figure2).

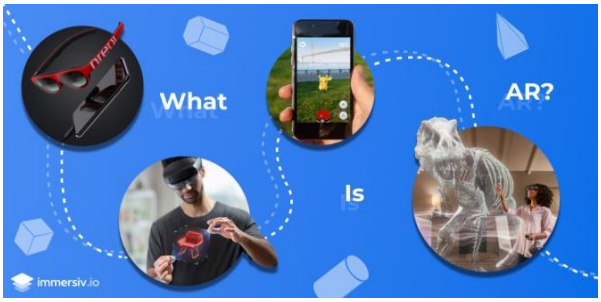

Figure 2 Source: immersive.io

Hard ware: The hardware refers to the tools used to present virtual images. They are your smartphones in this instance. These devices must have sensors and processors that can handle AR's demanding requirements in order for AR to function on them. The following are some of the hardware parts:

Processor: The device's processing unit. In addition to its regular phone operations, it determines your phone's speed and ability to handle the demanding AR needs.

Graphic Processing Unit (GPU): The GPU controls how a phone's display is rendered visually. High performance GPUs are necessary for AR in order for the digital content to be created and flawlessly placed.

Sensors: Your device's ability to understand its surroundings depends on this element. The typical sensors needed for AR include: Sensor for measuring depth and separation Gyroscope: To determine your phone's orientation and position. Measure how close and how far something is with a proximity sensor.

Accelerometer: To identify changes in movement, rotation, and velocity

Light Sensor: To gauge the brightness and intensity of the light

Software: The software is the second part of an AR system and is where the magic of AR starts. Examples of AR software include AR Core (Android) and ARKit (Apple). These applications can create augmented reality experiences owing to three essential technologies.

Environment comprehension: This enables your phone to map its surroundings by identifying notable feature points and flat surfaces. The technology may then precisely position virtual items on these surfaces after doing this.

Motion tracking: This feature enables your phone to locate itself in relation to its surroundings. Then, virtual items can be placed where they are needed on the image.

Light estimation: This feature enables your phone to recognise the current lighting conditions in the surrounding area. The same lighting conditions can then be applied to virtual objects to increase realism.

Application:

The application itself is the final component of an AR system. It's crucial to understand that while the software enables AR applications to function on your smartphone, it lacks the AR functionality. Chemistry note cards have long been a mainstay for remembering new concepts; with AR, they now offer greater content for learning. A reaction arrow pointing to an unrevealed result is included in the physical AR note cards together with a QR code, reactants, and chemical substrate. The mobile applications themselves are where the AR features, like the 3D objects and filters, are found. Applications with their own virtual image database and triggering logic include Snapchat, Pokemon GO, and IKEA Place. These programmes transfer virtual images onto actual photos by retrieving them from their database. Students can use the ARchemy app's navigation interface to interact with the simulated molecular structures in a 3D environment. Students' grasp of the precise shape and nature of molecular structures and chemical interactions can be significantly impacted by this type of interaction, which enables them to

analyse molecular connections from various angles, viewpoints, and magnification levels(Figure 3).

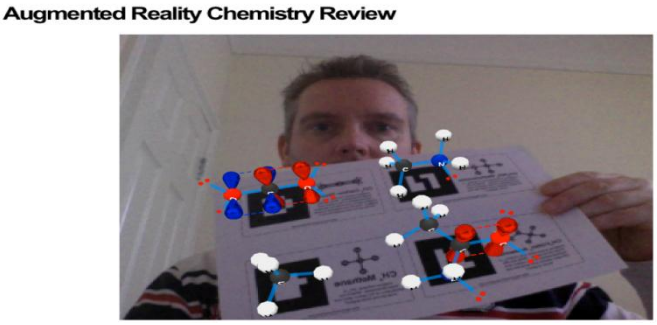

Figure 3Source: innovativeeducation.org

Developing AR Content

It makes sense that content producers have high hopes for AR's potential. Microsoft Hololens at the start of this article. Another tool that is only available for the iPhone and iPad yet allows developers to construct AR experiences is the Apple ARKit. However, more frequently and at a faster rate than before, new AR programmes and applications with extremely low prices or even for nothing are appearing. Content producers can integrate aspects of offline and online advertising and make them interactive using apps like Blippar or Layar. With Zapworks Studio, you can make a fully 3D interactive, multi-scene video that uses augmented reality to bring a poster to life. AR knowledge. An open-source computer tracking framework called ARToolKit is used to build robust augmented reality applications that superimpose virtual visuals on the physical world. Additionally, content creators must get ready to properly update a governing schema or to incorporate the new dimensions listed below:

• Image tracking; • Time; • Motion; • Space; • Variable user viewpoints

Conclusion

The use of augmented reality in teaching has various benefits. The more emotional and immersive experience it suggests piques students' curiosity. It speeds up the process of conceptual learning and transmission. The students' motivation is increased, which makes the lessons more entertaining and engaging. Encourage involvement in education. By using technology and providing incentives to learn, classrooms can be made more engaging than they typically are. Students can use it to explore the topics and their nearest reality from a different angle. It prepares students for the digital era.

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NEED OF SOCIAL ENTREPRENEURIAL ATTITUDE FOR SUSTAINABLE DEVELOPMENT OF SOCIETY

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Introduction:

Social entrepreneurs through social entrepreneurship play a crucial role for the development of society of any country. Social entrepreneurship is considered as key aspect to solve many social issues in the world. It offers a special opportunity to address the agenda for sustainable development in 2030 and boost the sustainable development goals. (María Maravé-Vivas, 2021)Social entrepreneurs are the persons who take efforts to find solution in the society. They try to bring social change in the society (Aydogmus, 2019). Social entrepreneur are desire to improve social well being and develop long project for the sustainable development of society. There are number of social problems in society. Government is also taking care of these issues but is not possible for government to reach at every stage of the society. so such initiative is required to identify and solve these problems through a innovative solution to society. There are number of social entrepreneurs in the world who are continuously working for the society. But still they are less. For the sustainable development of society there is needed to develop such social entrepreneurial attitude among the coming generation as well as in existing society. There are number of factors which are needed such as to develop social entrepreneurial attitude.

Social entrepreneurship and need of social entrepreneurial attitude

Now a day's social entrepreneurship gets more priority in India as well throughout the world. It is an entrepreneurial initiative by an individual or gr to solve social problems. It is process of identifying social problems and bringing social change through entrepreneurial activities. There are different social issues in the society like environmental issues, problems associated with old age, problems associated with awareness of different kind of diseases like HIV, . orphanage issues, women empowerment and many more. Governments approach is positive to work on such problems but is also a challenge to cover each and every issue.

Social entrepreneurship is one of the effective ways to identify these problems and solving it innovatively. A social entrepreneur plays a very important role for the sustainable development of the society by focusing on these issues. Social entrepreneurship can be executed through social organization as NGOs, trusts where profit is not the primary objective or social enterprise which along with profit work for creating the value in the society. Development of such social entrepreneurial attitude is required as there are number of problems and challenges in the society.

Social entrepreneurship:

Social entrepreneurship is a process where an individual or group of person aims to create a social value by identifying the opportunity to create the value through innovation by willing to take calculated risk to create a social value in the society.(Peredo and Mclean,p.64)it is the practice of combining the innovation, resourcefulness and opportunity to deal with critical social and environmental challenges. (Prabadevi, 2017).social entrepreneurship through social organization or social enterprises is important for the sustainable development. It is an approach where an

individual, group, companies or entrepreneurs develop the fund and execute solution to social issues like environmental, cultural, etc.

Social entrepreneur:

Social entrepreneurs are generally associated with the nonprofit organization because their primary aim is not make profit but to create a social value. and if they raise money is is used for the wellbeing of society. "Social entrepreneurs defined as an individual with innovative solution to society's most pressing and daunting social problem, who are more ambitious and persistent talking major social issues and offering new ideas for wide scale change" (Roger and Osberg 2007).

According to Thompson (2000) social entrepreneurs are people who realize where there is an opportunity to satisfy some unmet need that state welfare system will not or cannot meet and who gather together the necessary resources generally people, often volunteers, money and use these to make a difference.

There are many social entrepreneurs in history who established a social organization/ enterprise to eliminate social problems and bring social change throughout the world.

Contribution of Social entrepreneurs for sustainable development at global level:

Scott Harrison: He established nonprofit charity organization maned as "Water" in 2006 which helps 8 million people around the world to access clean water in 29 countries. This organization completed more than 90,000 projects in developing countries.

Blake Mycosis:

Founder of TOMS Shoes donate one pair shoes for every one sold and now it is extended "One for one " campaigning to support water, birth and ant bullying initiative. Through the TOMS brand he creates the awareness about global poverty and health.

Contribution of Social entrepreneurs for sustainable development at national level:

Vinoba Bhave :

founded the land gift movement in India and bring a new social change and well being in society.

Sharad Vivak Sagar:

He founded Dexterity Global to connect the children in remote area to access best opportunities available globally. Number of students gets benefited through this organization.

Such type of initiative is directly helpful to achieve the millennium development goals of developed countries (Christian Seelos, 2005)

Social Entrepreneurial attitude:

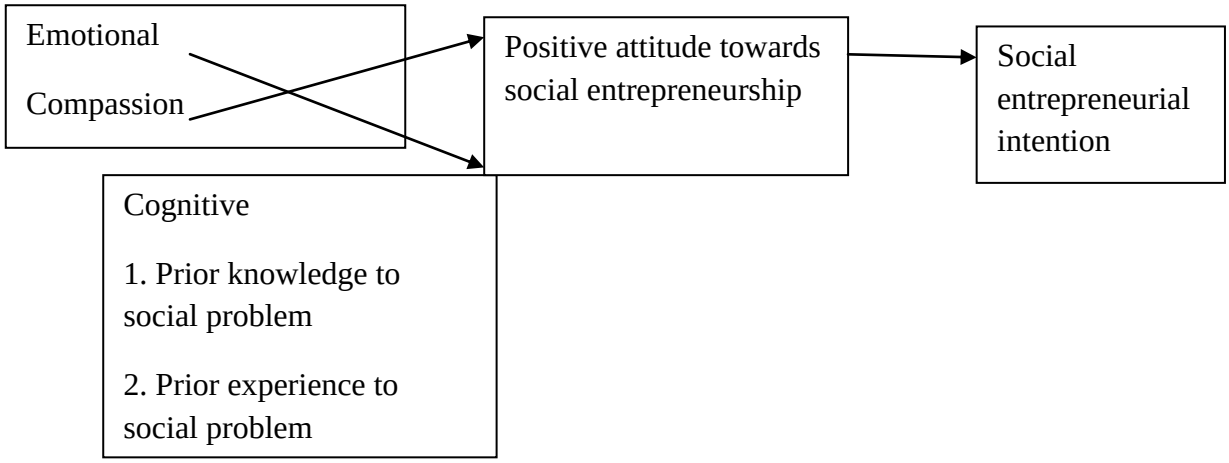
It is an individual or groups willing to implement an innovative idea that have a potential to solve community problem. They are ready to take risk and made the attempt to create a positive change in society. This requires a highly motivated initiative with a low cost strategy.

Need of social entrepreneurial attitude

Today world is facing number of social challenges like environmental, health, education etc. Government's role is important to face this challenges but the role of society to solve or prevent such problems are very crucial for the sustainable development of society. If these problems are not seriously address by society, it brings challenges for upcoming generation.

If we see today number of environmental issues the overall world is facing it may be solid waste, air pollution or water pollution. If these issues are blindly handled the society may face number of diseases.

Every government in country making action plans to face these problems. But socieys contribution plays a crucial role to solve such issues. There is need to develop social entrepreneurial attitude among the people and also to deposit the social values from childhood among the children's such type of attitude development model is given below.



(**Source**: (Morteza Hendijani Fard, 2021): A Model of social entrepreneurial attitude and intention)

Awareness about social problem and early experience to social issues is an important aspect to create or deposit. Social entrepreneurial attitude among society especially from childhood.If every person is aware about the small but different problems in society then its become easy to solve such issues at ground level. Creation of such type awareness helps to take initiative to prevent as well as face the social issues. At ground level if people are aware then it becomes easy for government also to support such initiative.

Conclusion:

as the world is facing number of social issues, society's initiative is important to solve and prevent such issues for the sustainable development of society. So there is need to create awareness at different levels about the different problems related to environment, health. Education etc. if such type of education is imparted to children's from childhood they get knowledge about social problems.

This helps to develop social entrepreneurial attitude among the students and some initiatives will come forward to bring innovation in society for sustainable development. Number of social entrepreneurs are working throughout the world on different social challenges but still development of such type of attitude is needed to to bring social innovation and create social value to sustain the next generations.

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THE STUDY OF ICHTHYOFAUNAL DIVERSITY IN DULDULA PONDS OF JASHPUR DISTRICTS, CHHATTISGARH, INDIA

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Abstract:
The term biological diversity is used to describe the number, variety and variability of organisms. This diversity can be studies at large extents. India is known for its mega-biodiversity of 12% of shell and fin fishes known till now. India is very rich in terms of biological diversity due to its unique bio geographic locations etc. Till now there is no record of fish fauna in the ponds of Chhattisgarh, hence we have decided to study the pond fish fauna at Duldula pond in Jashpur district. Total records of fish in India are 2500 but the diversity of fish is still alpha taxonomic level and scare information s available on fish in Chhattisgarh. This work has been done in Duldula pond in 2021-22. specimens were collected by using various kinds of nets and by the help of fisherman's and then specimen were fixed in 8-10% of formaldehyde solution and kept in jar with proper labelling and the tail of fish specimen were pointed upwards to avoid damage to the caudal fin. Fishes were identified as per standard method. Total 26 species from different sampling sites were recorded. Recorded fish species were classified in 06 order, 11 family and 17 genera. 17 species are belonging to order Cypriniformes (10 species of family Cyprinidae, 01 of Cobitidae, 04 of Bagridae, 01 of Saccobranchidae and 01 of Clariidae). 01 species are belonging to order Clupeiformes, 01 species belongs to order Beloniformes, 01 species belongs to order Ophiocephaliformes, 03 species belongs to order Perciformes (02 species of family Centropomidae, 01 of Cichlidae) and 03 species were belonging to order to Mastacembeliformes. The main fishes found are Catla-catla, Cirrhinus mrigla, Labeo rohita, Clarius batrachus, and Oreochromicus mossambicus.

Keywords: *Diversity, Ichthyofaunal, Duldula pond, Nets, Jashpur district*

Introduction:

The word Diversity means wide variety of something. Thus, the term diversity refers to the wide variety of plant and animal present in the world. Diversity is typically a measure of variation at the species and ecosystem level. In spite of their great diversity, each species can be divided in to a number of group and taxa; for example, there are different types of fishes but all show similarities in their structure and physiology, based on this criterion they are being placed in one group *i.e.* Pisces. As summarized by Khoshoo (1995), total number of living species identified in India so far is 126,188 and 2.2% of it belongs to the group Pisces, comprising 2546 species approx.

Diversity plays a major role to accomplish sustainable use of natural resources. India is one of the 12 mega diversity. The role of taxonomists is important because all wisdom begins by calling all living and non living things by their proper name. Statutory bodies for identification of a species taxonomist are working mostly with their collaborations.

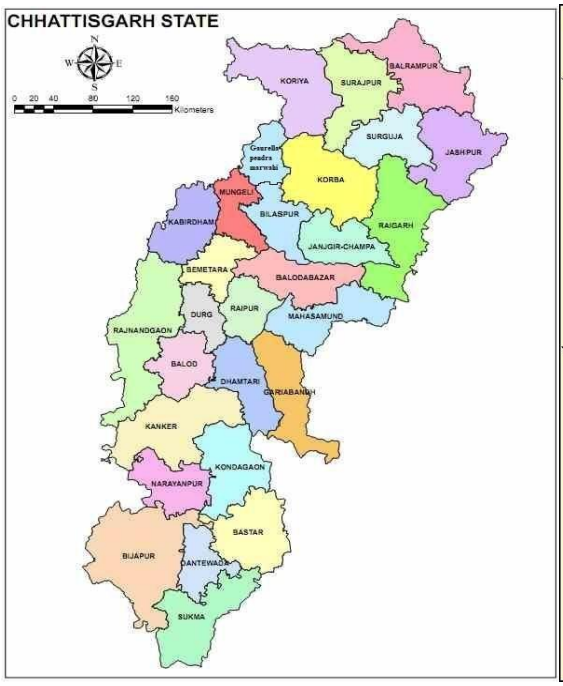
Fishes are regarded as an important source of food as they are rich in protein and also, they are important source of many medicines. In addition to this, they also contribute to aesthetic beauty and exploration in various aquariums, small or large. We cannot

ignore the fact that directly or indirectly, we cause severe threats to aquatic inhabitants. Jashpur district is a district of the central Indian State of Chhattisgarh bordering Jharkhand and Odessa. The North-South length of this district is about 150k.m. and its east-west breath is about 85k.m. Its total area is 6205 km^2. It locates between 22^{o}17' and 23^{o}15' North latitude and 83^{o}30' and 84^{o}24' east longitude.

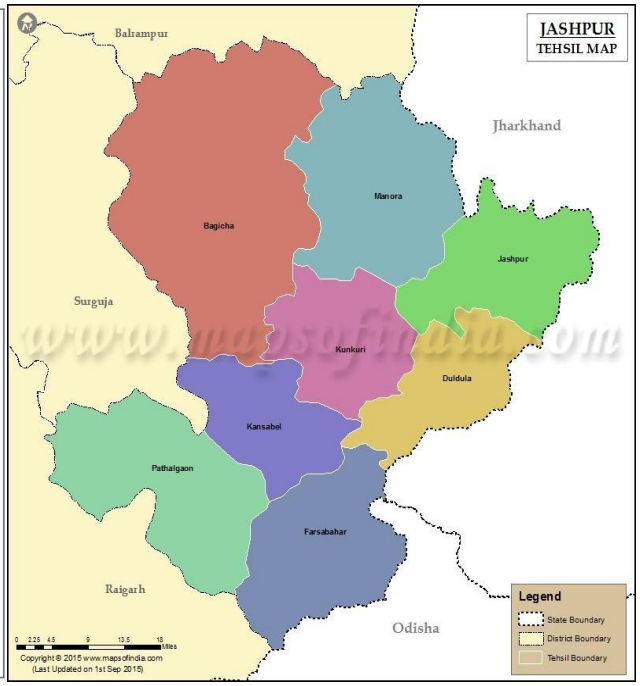
Geographical area was 6701 km^2. The Duldula village is located in Duldula tahsil of Jashpur district in Chhattisgarh, India. It is situated 28km away from district headquarter Duldula. Duldula is the sub districts headquarter of Duldula village. Duldula village is also a gram panchayat. This is a small and very beautiful village and the total geographical area of village is 1628.4 hectares. Fishes play a major role in biodiversity of animals, since they contribute a significant part of it. They are widely used as a food source. Since they are rich in many vital vitamins and fatty acids including some acids, they are referred as good and healthy food resource by doctor.

Human being uses various types of food. Aquatic resources from major parts of food for a large population of many developing countries like India. Fishes contribute nearly half the number of vertebrates fauna found in the world. Jashpur district is a tribal place, and it has its unique cultural and ecological identity with great diversity of biological species. In Duldula ponds of Jashpur district there is no record of fish fauna is available. And in tribal areas especially ponds fish fauna is needed to be studied before any unknown, non-identified event happens regarding to them. Hence, I decided to study Ichthyofaunal diversity of Duldula ponds.

MAP OF CHHATTISGARH



JASHPUR DISTRICT MAP



Source: - Google image

1. https://images.app.goo.gl/Jcy7rwbC5bU7w8EU6
2. https://images.app.goo.gl/wtJAw4surmxd8CbUA

Material & Methods:

Duldula Pond

During the past decades Ichthyofaunal diversity have been studied by a number of workers on Indian reservoir, pond and dam, but very little information is available on the fish diversity of Chhattisgarh. Especially pond Ichthyofaunal diversity has not being studied by any Ichthyologist.

For the present study I selected one site Duldula of district Jashpur. The recent work has been carried out in the year of 2021-2022. During the study period sample were collected on monthly intervals with the help of different kind of nets. Fish species were collected with the help of local fisherman and the tribal people at various locations. The specimens were preserved in 8-10% formalin. The local name fish were asked from fisherman and noted. Some character were observed in fresh fish at station than fishes were brought to the laboratory of our college and identified.

Mentioned keys provided by F. Day (1958), Hora S.L. and Mukerji, (1936), Talwar, Jhingran (1991), Gopal ji Shrisvastava (1982), Jhingrah (1982) and Jayram, K.C. (1991) were used. For easy identification main characters, clear and good illustration and details of fishes from other reference books were consulted.

Result and Discussion

The recent work has been carried out in the year 2021-2022 at Duldula ponds dist. Jashpur. The minimum depth of water was 6 meters during month of April while maximum depth was 12 meters in rainy season. Collected fish are categories on the basis of habitat (depth) and feeding habit. List of the fishes collected and identified from the ponds Duldula ponds has been shown in **table 1**, 26 species of 17 genera which are belonging to 06 orders, namely Clupeiformes, Cypriniformes, Beloniformes, Ophiocephaliformes, Perciformes and Mastacembeliformes were identified. The fishes collected are belonging to 11 families of above 06 orders. Maximum 17 species are belonging to order Cypriniformes. Piscean fauna have been studied by Tirkey and Prof. Singh, R.K. (2018) in main pat, district Sarguja and she reported 18 species of 14 genera from 4 orders and 5 families. The Piscean diversity of Kumaun River (Central Himalaya) was described by Joshi (1999) has described that 34 species belongs to 19 genera 3 orders and 17 families.

TABLE-1 List of Fishes Identified In Duldula Pond 2021-2022

Order	Family	Genus and Species	Local Name
Clupeiformes	Clupeidae	Notopterus-Notopterus	Patra
Cypriniformes	Cyprinidae	Catla-catla	Bhakhur
		Cirrhinus-mrigla	Mrigal
		Cirrhinus-reba	Borai
		Labeo-rohita	Rohu
		Labeo-potail	Potli
		Puntius sarana	Kotra
		Puntius sophore	Jarhi Kotri

		Puntius ticto	Jarhi kotri
		Cyprinus carpio	Common carp
		Oxygaster gara	Dhan
	Cobitidae	Lepidocephalicthys guntia	Nakti, Gina
	Bagridae	Mystus covasius	Tengna
		Mystus oar	Singhi
		Mystus Tengra	Tengna
		Mystus seenghala	Tengna
	Saccobranchidae	Heteropneustus fossilis	Singhi
	Clarridae	Clarius batrachus	Mangur, Mongri
Beloniformes	Belonidae	Xenentedon cancila	Kauwa
Ophiocephaliformes	Ophiocephalidae	Channa gachuga	Chanaga
Perciformes	Centropomidae	Chanda nama	Chandeni
		Chanda ranga	Chandari
	Cichlidae	Oreochromicus mossambicus	Tilepia, Perwa
Mastacembeliformes	Mastacembelidae	Mastacembalus armatus	Bami
		Macrognathus acculeatus	Jat bami
		Mastacembalus pancalus	Bami

Conclusion

The final result proposes that Duldula pond is rich in diversity of fish and the culture is mainly done under cooperative fisheries societies. During this study period has shown a good indication of rich diversity. Carps are the major group which is cultivated, practice of composite culture of Labeo rohita, Cirrhinus mrigla, Clarius batrachus and Catla-catla is generally followed. The local fisherman depends upon the fish culture as it is the only source of income for their survival. Ponds management and public awareness would be essential to save the fish fauna of this pond.

Acknowledgement

I would like to express thank you to Dr. (Smt.) Rashmi Sao, Professor of Zoology Department of Govt. E. Raghvendra Rao P.G. Science College, and Bilaspur (C.G.) who has given their valuable suggestion for this paper. And we are thankful to local fisherman community of Raikera (Kunkuri) village who provided us there good knowledge of fish identification and especially Local name of fishes.

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ACCOUNTING FOR INEQUALITY, POVERTY AND EXCLUSION

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Abstract:
This paper utilizes various reasons and measures to show the social inequalities on poverty and their social exclusion during pre-covid and post-covid era. While poverty and inequality has been a Centre to many discussions about the repercussion of India's drawbacks of its economy, we have observed that it has increased and become topics of stronger worries and complications during the post-covid era. This paper focuses on the statistics of rich becoming richer and the poor becoming poorer. A recent study has revealed that the wealth of Indian billionaires shot up by 39% in Covid, fortune of 10 richest enough to fund children's education for 25 years. This is because of the continuous exploitation of the poor and the middle class in these uncertain and crucial times. In this paper we attempt an initial assessment of reasons that caused this exploitation. The reasons play around the poverty exclusions based on the discrimination against Dalits, tribals, widows, sex-workers, migrants, nomadic tribes, etc. This paper focuses on how exclusion is a fate of the communities that were dislocated due to various development project and discrimination based on India's historical divisions deeply rooted on lines of misogyny, caste pride, and the religious divisions.

Introduction:

In the world, India is one of the prevailing country for tracing issues of inequality and social exclusion inside its regions . Sexual discrimination is at par where even today the ancient flicks are still rooted in the minds of people. With both extreme poverty and wealth of the billionaire on the par,the pandemic effect on inequality and poverty appear obvious. factors for inequality are class origin, household and birth reference background who is our her parents are educational attainment, employment and income, class of destination. during the pandemic children born in disadvantage households have a lower chance of moving up the income ladder.

Gender inequality is also a trivial problem in Indian society. Despite a many constitutional laws and regulations that guarantees equal education rights and equal property rights for men and women and drafted legislation , some deep-rooted gender discrimination takes a brutal impost on women's lives. It is recognized that due to the negligence 1000 girls die a day. Inspite of the economic growth the gender disparities still remain a hidden plight of economy. The extreme inbuilt patriarchal behavior of the people consider women to be the possession of father and husband household. Lack of education and awareness and poverty are few major reasons for discrimination. The pandemic period marked a raise in poverty peculiarly for the migrants. Where the rich people were enjoying the pandemic break at home on the other side many lower middle and poor were counting the days to run for jobs and earn something to feed the family.

Work from home , online academic classes, door step services, online shopping were boon during pandemic but the sufferings of low income groups and backward class groups cannot be apathetically ignored .

Theme or Idea:

Income inequality-

In India the top 10% of the population is rich and bottom 50% are poor and discriminated.

1. India stands at 22nd place in income inequality in the world.
2. During 1993 and 2004 there was an increase in inequality in per capita expenditure between the various sectors of the society, the income discrimination did not preclude poverty.
3. Between the period of 1990 and 2019 the income inequality was falling globally, but there was raise in inequality in India.
4. In the present scenario of India urban has more raised of inequality compared to the rural sector. Discriminations in urban areas are made related to professional and managerial occupation and service sector especially modern services.
5. There was a raise in fortunes of the very rich people during the pandemic against the misery of millions of migrant workers who had to make arrangements to walk back to their native is remainder of the extent of economic disparities in India.
6. Factors of unequal opportunities are An individual's class of origin, relatives and family circle, who his/her parents are, educational attainment, employment and earnings, low level of social mobility tend to Discriminations . A harsh reality is despite of many legislative moves, the people born in lower classes have poor possibilities of moving up in the life and are deprived from equal education. According to the report, After the pandemic India is now among the most unequal countries in the world. In India 57%of the national income is earned by top 10% of the people and the share of the bottom 50% in national income has declined to 13%. Female labour income share is declined to 18% in India. During pandemic the Unemployment rate has risen 7.5% to 8.6% which is due to social exclusion and inequality.

Gender Vandalism

We have historically seen that women were often treated as something inferior to men. The patriarchy and its common practice of misogyny was and is the main cause of this. Women as compared to men earn only 77 cents of dollar. Proportionately women are held behind in terms of career and education . Dalit and lower caste women have it much worse. India ranks 20th from the bottom in the terms of representation of women in parliament. Even though women can work at the same pace and with equal strength as men they're treated as unequal because of the gender roles prescribed by the society. Women are supposed to do household work and not have minds of their own. Patriarchy is a gender class system.

It is a class system which dominates manhood over everything. During covid-19, studies have shown that domestic and sexual violence on women has increased due to the policy of isolation and confinement. It all however leads to the concept of men controlling women. When men are not able to control women they inflict violence on them. Women go through all of this just because of their gender. For the capitalism to thrive, it is important that there is more and more exploitative labour. The system survives on exploitative labour. That is why women are given a gender role of reproductive labour. Women are expected nothing less but to reproduce children and take care of the family. This is the major reason for the huge gender gap and the reason why women are treated unjustly.

Caste Pride

Caste has been a major reason for indifference and prejudice in India. It has created a hierarchy of the noble and inferior, the elite and the unfortunate, etc. Caste pride has given birth to many evils such as untouchability, division of labour, slavery discrimination etc. Even in the 21st century we can observe that the caste system exists. The lower caste are not allowed to many sanitation facilities,

proper place of accommodation, healing conveniences than that of the greater castes. They are also not allowed to visit the temples in the places where the upper caste worship and pray. The upper caste treat them as inferior and something not as equal as normal human beings. This creates a problem in the economy because the lower caste do not have the equal opportunity to earn their livelihood and help give education to their children.

Prejudice Confronted By Migrants:

Migration is a highly visible reflection of worldwide prejudices whether in conditions of pays, labour advertise opportunities or behaviors. It can two together create new prejudices and infuriate existent ones. Not all has equal approach to the benefits of migration: journey frequently reflects and augments existent dimensional, structural and friendly prejudices including those had connection with masculine, age and earnings. Inequalities can more come into being increased obstructions to exodus, irregular and tricky shift, weak labour conditions, and a lack of rights for migrants and their kins.Those the one migrate can face uneven access neat and public money, including the right to inquire care in cases of those fleeing conflict, intensity and affliction. Heaps of workers and their offspring move done yearly across borders and across continents, pursuing to decrease what they see as the break betwixt their own position what of people in additional, wealthier, places. Skilled is a growing accord in the happening field that movement, including worldwide, lasting, temporary and migratory exodus, represents an main occupation variety strategy for many in the realm's weakest nations.

Discrimination Faced by Sex Workers:

While civil rights breaches are coarse during the whole of India, they are particularly governing in the lives of family complicated in whoredom and sexuality work. Discrimination against sexuality employees in India is as much an issue as the discrimination met by different marginalized groups near lines of class, stratum, race or denomination. Sex work is not considered as work, but as a dirty and wrong lifestyle ominous to taint the "blameless" public.The result concerning this shame is the dismissal of fundamental rights for two together sex peasants and their classifications: mothers cannot approach good healthcare and are frequently liable to be subjected abuse, intensity and exploitation by lawman and administration executives, while their teenagers face badgering in schools and the business. A abundant factor in the ill situation of sexuality laborers is the narrow understanding that population have concerning this work. The publishing fuels the image of mothers in whoredom as either excessively intercourse outcastes the one warn the very building of Indian family life, or persecutes and used casualties. In fact, daughters in sexuality work cannot be sink a box.

Conclusion

It is clear that COVID-19 pandemic has critically affected the lower or disadvantage sections of the society especially in terms of employment and education. Even after 66 years of independence India is a still suffering due to various issues like inequality, poverty ,discrimination between religions and occupational division, communism, ,high infant mortality rate ,illiterate population ,and uncontrolled casteism and various other issues .. Greater inequality heads due to the lack of equal education. Under the same levels of recession , there is an expectant 36 to 47 million additional people to fall under poverty . The COVID-19 induced poverty may also further lead to a widening disparity across SC/ST and non-SC/ST group Much of the gaps between society are reasons of social exclusion and the process that restrict the capabilities among the various sections of our population. Poverty, illiteracy and casteism are often the reason for social exclusion. The problems faced by migrants worldwide is a visible issue, needs attention and a right step to be able to lead a normal life. During the pandemic children born in disadvantage households

have a lower chance of moving up the income ladder. To get grips of these issues, we need to understand where the problem is, better recognition, finding the means to educate everyone about the nation and Different ways of working with partner governments, even the international community and civil society which resides in country and fight back the issues . There's a need for deeper and crucial investigation into these societal Affairs and identify the various measures to enhance the capabilities for weaker sections and especially for the female. Education is a weapon and It places a major goal to fight back against these issues. The political and economic compassion is very much required to overcome the nuances. Accelerating human resource and educating girls will increase the fortune of the society. Income equality is the way to reduce the gap between rich and poor and gives and opportunity even to the weaker sections to have equal rights.

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CONFLICTING GENDER DISPARITY IN SHARANKUMAR LIMBALE'S THE OUTCASTE

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Abstract:
Sharankumar Limbale's The Outcaste *is a groundbreaking Dalit autobiography in the arena of Marathi Dalit literature. It is originally written in Marathi, entitled,* Akkarmashi *in 1991. It is further translated into English by Santosh Bhoomkar as* The Outcaste *(2003). Later on, the autobiography is translated into Indian regional languages like Hindi, Gujrati, Malayalam, Tamil, and so on. The tile in Marathi itself denotes that it is abuse. The author demonstrates the gender inequality and discrimination of the women in the autobiography.*

Introduction:

The present autobiography invents the most terrifying life experiences. Due to the difference in life experiences, Limbale seems to have got a different dimension of himself compared to other Dalit autobiographies. He tries his level best to portray gender issues through the female characters in *The Outcaste*. Masamai and Santamai are the two women, who have to face gender discrimination and inequality throughout their life. The present autobiography also portrays women who have a low standard of living. Society believes that a woman is a servant with sleepers on her feet, like a mindless fool and that she is born for oppression, injustice, and torture.

Conflicting Gender Disparity in *The Outcaste*:

In the autobiography, the women character Masamai appears as the mother of Sharankumar. At the same time, she is the daughter of Santamai, Ithal Kamble's wife, and Hanmanta Limbale's concubine. She is at the center of this autobiography. She is a woman from the Mahar community. She marries Ithal Kamble. Ithal used to work on the farm of Hanmanta Limbale. Masamai looks beautiful. So, being beautiful in the Mahar community was considered a shame in those days. Because the women of the untouchables had the right of the elite of the village. Hanmanta Limbale obsessed her with lust. He keeps an evil eye on Masamai and she becomes a victim of lust and her life is destroyed. As a result of this, Ithal, her husband left her and snatched her two children from him.

Masamai went to Hanmanta Limbale and she started living as his concubine. Masamai conceived from Hanmanta and she gives birth to Sharankumar and further begins the life-threatening inflammatory process of the child. But Hanmanta does not accept the child as his son. The birth of the child is not acceptable to the parents. Hanmanta wanted Masamai's only body but not the child. He should have taken responsibility for the child. He rejects the fathering of the child as he will be disgraced, as he will share his wealth. He is not allowed to give her a share in his agricultural, home, and society. So, Hanmanta throws Masamai away with a baseless accusation on her. On the other hand, she didn't get any lesson from this insult by two men, Ithal and Hanmanta. She again started living with the third man by the name of Yashwantrao Sidrampa in Hanoor and she has eight children with him.

Masamai should have been careful once she got a stumble from Hanamanta. But again she makes a mistake. To quote G. N. Devi from 'The Introduction' of *The Outcaste* is worth quoting here:

The most memorable element of Limbale's life story is his attitude to

> women. There are many women characters in it and not one of them without a serious complication in her life. There are widows, childless women, deserted women, and as the ultimate of all this divine and social injustice, Limbale presents his own mother who has been cheated, again and again, exploited most blatantly in every relationship she strikes, burdened with a roll call of children and their upbringing. (Limbale, xxiv)

Perhaps the selfish, lustful social system will not allow her to live a good life again or she may have acted like that out of depression in life. These people from high society come to Mahar women's house despite having married wives and children of their own. They take advantage of their caste, poverty, and beauty. As long as they want, those who are the victims of Patil's consumption have to take care of their children. They have to give birth. They have to raise their children.

On the other hand, when Masamai's husband came to her because he was ill. In Hinduism, a husband is equal to God. It had been many years since Ithal Kamble left Masamai. He has also broken her Mangalsutra while throwing her away and snatched the infant child and left her. But when the same husband came back to her door, she started serving him. People outside the village could not transgress the religion, even the arteries that were denied to them. She did a lot of treatment and he didn't get well. However, as soon as she came to know that he has died, she started crying like a child.

The second victim of gender inequality is Santamai. Santamai is the mother of Masamai and the grandmother of the author. Santamai left her husband and was held by Yashwant Patil and started living with Mahmood Jamadar, who is a Muslim. All of them survive by being a home for feeling their stomachs. Santamai used to do all the hard work to survive her family. She pours alcohol, sells alcohol, begs, washes, grinds sorghum from dung, and eats her bread. She worked hard while raising the author. At times, the author's stomach was filled after starving himself. She used to live with Mahmood Jamadar as a husband and wife. As a result of this, the Mahar women behave like this and they have to face defamation.

Mahar women used to walk, and upper caste men used to come to Mahar's castle and have regular relations with these women, but the wives of these upper caste men considered simple touching of Mahar's wives taboo. Both the leading female characters Masamai and Santamai have to face enormous discrimination and inequality. They have to do miniature works. They used to sell liquor at their home. These women install the liquor furnace in their own house. The drunkards of the village from upper caste families drink the liquor of the untouchables and the woman, but the water in their house does not. That is why, in a male-dominated culture, no matter how promiscuous a man is, he is protected by society. But the woman is left in the wind. She is looked at with a vulture's eye. A woman is the victim of this heteronomous male-dominated culture. She cannot get justice. She was like a dumb animal.

The children of Dalit women have to face discrimination because of their mothers. In *'The Outcaste'*, Limbale laments that due to his mother's misdeeds, he has to suffer hell all over his life. He was born to an untouchable woman and an upper-caste Lingayat father. To quote the author from the autobiography is as:

> Why didn't my mother abort me when I was a fetus? Why did she not strangle me as soon as I was born? We may be children born out of caste but does that mean we must be humiliated? What exactly is our fault? Why should a child suffer for the sin of its parents?' (Limbale, 64)

He has to spend his childhood education and life in poverty. He was born from the rites of Lingayat Mahar. It is the author's childish desire to have a father Masamai that has kept him completely ignorant about his father. If his stepfather is to be considered his father, he acts duplicitously. Like a father in the house who hates Sharankumar when he goes to

the place of his stepfather. To quote Limbale from the book is as:

Who is my father? What is his name?
Where he did live? Why
didn't he come to our home? What is
relationship with Kaka? What
is a relation between you and Kaka? Who
is a father of Nagi and Nirmi?
What is my relation with Nagi and Nirmi?
And so on. (Limbale, 63)

So, What is my caste? Who is my father? These questions make the author's mind go crazy. When the author asks Masamai about his father, she used to reply that his mother is the 'concubine' of a Patil. At the age of not understanding what is the meaning of the word concubine. He feels this word like a father. But he has to endure ridicule. No one understands him. Mahar society also looks down on him. So, Masamai and her son have to live in the dungeon of the overall human system, helpless and weak. The emotional and psychological struggle between Masamai and her disturbed and divested son is unprecedented.

The people who have the power of Varna superiority given by religion discriminate against the Dalit people as well as women. The Patil's laid their hands on the wives of Dalit farm labourers. Such is the offspring of the tyranny suffered by the Patil's landlords. Some houses of the Dalits live by taking care of Patil's wishes. Such houses are called the 'concubine house' of Patil. So the children are the children of Patil. So, this shows how the elites have taken advantage of the untouchable women. It is not just one Masamai and Santamai, who take care of the village Patil and nurture his fetus, but the lives of many such women have been ruined by the Patils in the villages. Taking advantage of their caste and poverty, these elites have taken advantage of such women. Like Hanmanta, they abandoned the Dalit women on the streets after satisfying their lustful appetite. In this way, there is such a tribe in the society that Sharankumar exposes to the readers the suffering of the unfortunate souls and the fathers of such children are close to the society. It is a poignant tale of a split personality, living with a bright head and suffering an unfortunate life as punishment for a crime not committed.

The life of these Dalit women is pointless in front of society as well as their children. Masamai's son, the author seems to be very ambivalent and lonely about accepting her as his mother. The conflict between them is very emotionally complex and psychoanalytical. The reason for this is that the birth of Sharankumar out of the wedlock of his mother and the Patil disturbs the author. He is unable to find an answer to this, the vision of the conflicted son looking at his mother is very strange. On the other hand, he also expresses maternal love and affection towards his mother. This struggle of the son and mother on an emotional and psychological level challenges the established social order, norms, and cultural ideals.

The present autobiography reflects the struggle life of the Dalit women, the Dalit community, and the mental and emotional turmoil in the author's life. He has powerfully raised the mental, emotional, caste, social and cultural tension of a very complex nature. The author presents the resentment against the established safe society that has been expressed. So, a person gets tired of reading only one thought. The writing seems monotonous. But that is his pain. The experiences he has are living experiences. The pain is not his alone. He has been discriminated against because of his illegitimate birth. So, the lives of the Dalit people are full of insults, neglect, and harassment happening moment by moment.

Conclusion:

To put it in a nutshell, in Marathi literature, Dalit autobiographies created a realistic picture of the injustice and atrocities on them for thousands of years. The present autobiography *The Outcaste* has been successful in creating a picture of the untouchable life, gender discrimination, gender inequality, hunger, and poverty. That has come to the share in the established system. In short, the pain of poverty is a deep sadness that makes a

person limitless. Sufferings make a person human. The person whose umbilical cord of grief is strong remains steadfast.

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GEOGRAPHICAL STUDY OF FRUITS, VEGETABLE AND GROUNDNUT CROPS UNDER LANDUSE IN PARBHANI DISTRICT (MS)

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Introduction:

In this paper an attempt has been made to analyse the two crops Fruits, Vegetable and Groundnut crops volume of change has studied under agricultural land use at tahsil level in Parbhani District of Maharashtra. Agricultural land use gives a wider choice for production of variety of crops in any region in order increase production related activities. It is just opposite of crops specialization. The crops agricultural land use was studied for twelve years (2001-2006 to 2007-2012) in order to find out two crops agricultural land use. There are three cropping seasons in study region, namely kharif, rabbi and summer. Kharif season begins in June or July and ends in September or October whereas rabbi season starts from March and end in may. Groundnut is the major kharif crops grown in study region while Sugarcane are grown in study region in both kharif and rabbi seasons in Parbhani district. Raising a variety of crops on arable land is known as crops agricultural landuse. It is the reflection of physical, socio economic and techno organization inputs. Crops agricultural landuse indicates multiplication of agricultural crops which involves intense competition for region, scope for crop rotation and effect of double cropping. In most of the extensive agricultural parts in world agricultural landuse, it is a common feature due to irrigation, use of fertilizers and pesticides, high yielding varieties, mechanization and technology. Besides climate, farmer's attitude and local surroundings are forced farmers two crops agricultural landuse. These obtained data was later on converted into percent to total geographical area and then categorized into various groups for identification of agricultural landuse. The Fruits, Vegetable and Groundnut crops volume of change has studied for twelve years in present paper.

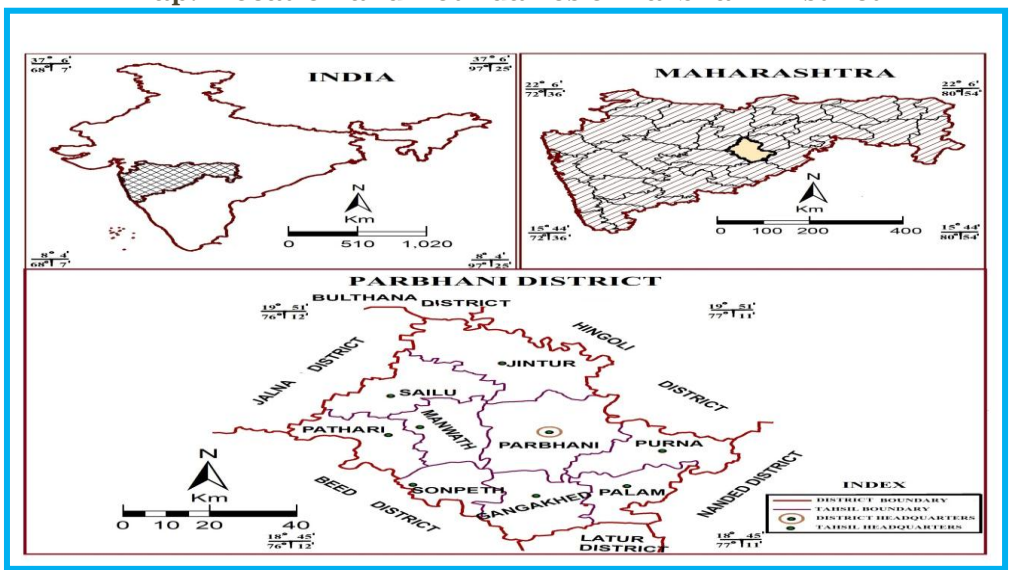
The Study Area:

Parbhani District is chosen for a study region. Parbhani district located between 18^0 45' north to 20^0 01' North latitudes and $76^0$13' East to 77^0 26' East longitude.

Administratively, it is bounded on the north by Hingoli District, on the east by Nanded, on the south by Latur, on the west by Beed and Jalana districts. The area of study region is 6511 km^2, which is 2.11 percent of the whole area of the Maharashtra state. The population in the study region is 1527715 (2001 c) and 1836086 population in 2011 (Feb-2020 as per aadhar – 1964700) which is 1.63 percent of total population in Maharashtra.

The study region is administratively subdivided in to nine tahsils respectively Parbhani, Pathri, Manvat, Selu, Jintur, Gangakhed, Palam, Sonpeth and Purna,.

Map: Location and Boundaries of Parbhani District



Objective of the Study:

The present research Paper has been undertaken to make on in-depth and comprehensive study of Fruits, Vegetable and Groundnut this two crops agricultural land use in Parbhani district by evaluating following objectives:

1. To study the Fruits, Vegetable and Groundnut crops under agricultural landuse of study region

2. To study the regional variation and volume of change in Fruits, Vegetable and Groundnut crops agricultural land use of study region.

3. Suggesting remedial measures for better Fruits, Vegetable and Groundnut crops agricultural landuse of study region.

Data Base and Methodology:

The given data was collected though primary and secondary sources, Secondary data obtained from socio-economic review, district census, were processed and presented by statistical and cartographic techniques, Researcher studied spatial as well as temporal changes in area under major Sugarcane and Groundnut crops agricultural land use in Parbhani district.

From 2001-2006 to 2007-2012 for the present research paper work author has been used the following method to calculate different aspects.

Explanation:

Spatial analysis of Fruits, Vegetable and Groundnut crops under agricultural land use in Parbhani district**.** Agriculture is the main economic activity in the study region. 70.50 % population is engaged in agriculture in study region. Groundnut and Fruits, Vegetable are grown in study region in both kharif and rabbi seasons in Parbhani district Due to the location and physical setting, Irrigation and soil the agricultural land use pattern of the region under study differs from tahsil to tahsil crop under agricultural land.

The pattern of agricultural land use was shown in map. Table appears to have been resulted from a process of land exploration within the frame of crops extension of the under area change of volume in 2001-2006 to 2007-2012. Physical and socio-economic complex are modified by the expansion of irrigation and growth of population. There is a change in geographical factors as physical phechears, soil, slope, climate, temperature, and rainfall trend study of cropping in the entire study region. Tahsilwise trends in agricultural land use pattern in Parbhani district is shown in table with this Groundnut and Fruits, Vegetable are generalized picture of two crops agricultural land use pattern of the study region.

Table: Tahsilwise Volume of Change in Fruits, Vegetable and Groundnut crops under landuse in Parbhani District (Area in 000 hectare)

Tahsil / Landuse crops	Fruits, Vegetable Crops			Groundnut Crop		
	2001-2006	2007-2012	Volume of change in %	2001-2006	2007-12	Volume of change in %
Parbhani	1646 0.89	1502 0.85	-0.04	1346 0.73	17717 9.98	+ 9.25
Gangakhed	357 0.39	507 0.79	+0.40	490 0.54	10900 17.04	+16.50
Pathri	697 1.03	818 1.11	+0.08	430 0.63	4167 5.64	+5.01
Jintur	531 0.60	874 0.74	+0.14	643 0.73	19600 16.68	+15.95
Purna	362 0.51	555 0.65	+0.14	605 0.86	12083 14.26	+13.40
Palum	217 0.28	233 0.36	+0.08	315 0.41	10883 16.60	+16.19
Selu	863 0.81	888 0.82	+0.01	3006 2.83	16083 14.81	+11.98
Sonpeth	361 0.63	462 0.70	+0.07	205 0.36	8350 12.58	+12.22
Manvat	472 1.79	634 0.93	-0.86	495 1.88	4250 6.32	+4.44
Parbhani District	5506 0.72	6463 0.78	+0.06	7535 0.98	104033 12.60	+11.62

Source: Computed by author.

Distribution of Fruits and Vegetable

The distributional pattern of Fruits & vegetable crops cultivation in study region is influenced by soil, climate, irrigation, transportations and proximity of market centres and credit facilities available to farmers. Fruits and vegetables are grown a 0.72 percent in 2001-06. Fruits & vegetable is sown on 5506 hectare (0.72%) of the gross cropped area of the Parbhani district was under Fruits & vegetable crop area.

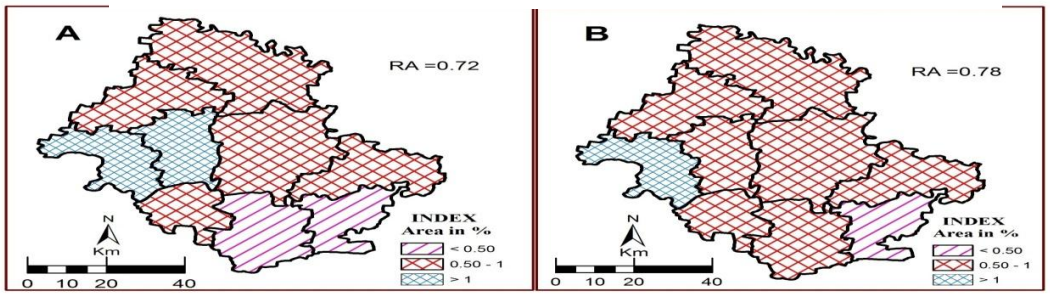
It is increased from 5506 hectare (0.72%) to 6463 hectare (0.78%) of the total gross cropped area in during the investigation period in the study region.

The area under Fruits & vegetable was below 0.50 percent Fruits & vegetable crop area was found in Gangakhed and Palum tahsils whereas 0.50 percent to 1 percent Fruits & vegetable was found in Parbhani, Jintur, Purna, Sailu and Sonpeth tahsils while above 1 percent area under Fruits & vegetable crop area was observed in Pathri and Manvat tahsils in the study region in during 2001-2006 (Map 1A).

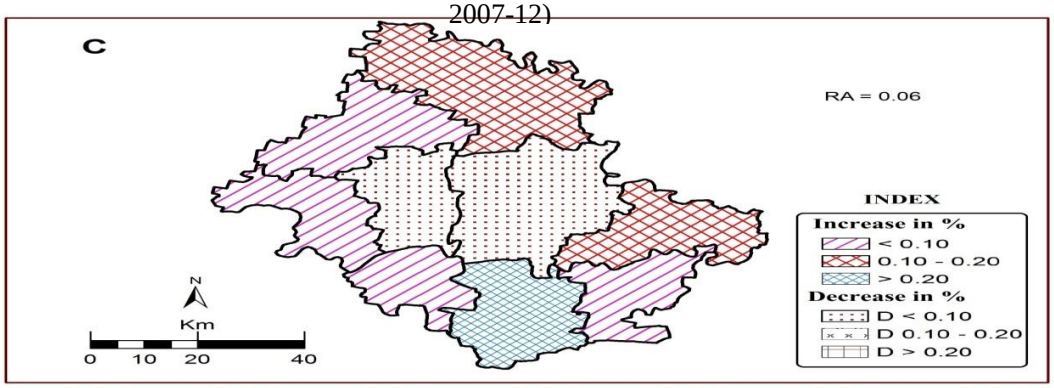
The highest area is found in Manvat tahsil (1.79%). The lowest area under Fruits & vegetable is found in Palum tahsil (0.28%). This crop area has increased 0.06 percent during study period.

Map No. 1 (A & B) Tahsilwise Distribution of Fruits & vegetable

2001-2006 **2007-2012**



Map No.1 (C) Tahsilwise Volume of Change in Fruits and Vegetables Area (2001-06 to 2007-12)



In 2007-2012, Pathri (1.11 percent) tahsil has found higher percent area under Fruits & vegetable. After a span of twelve years, the area under Fruits & vegetable above 1 percent area under Fruits & vegetable was observed in Pathri (1.11 percent) tahsil whereas 0.50 percent to 1 percent Fruits & vegetable area was found in Parbhani (0.85 percent), Gangakhed (0.79 percent), Jintur (0.74 percent), Purna (0.65 percent) Sailu (0.82 percent), Sonpeth (0.70 percent) and Manvat (0.93 percent) tahsils while below 0.50 percent Fruits & vegetable crop area was recorded in Palum 90.36 percent) tahsil during 2007-2012 in the study region (Map .1B).

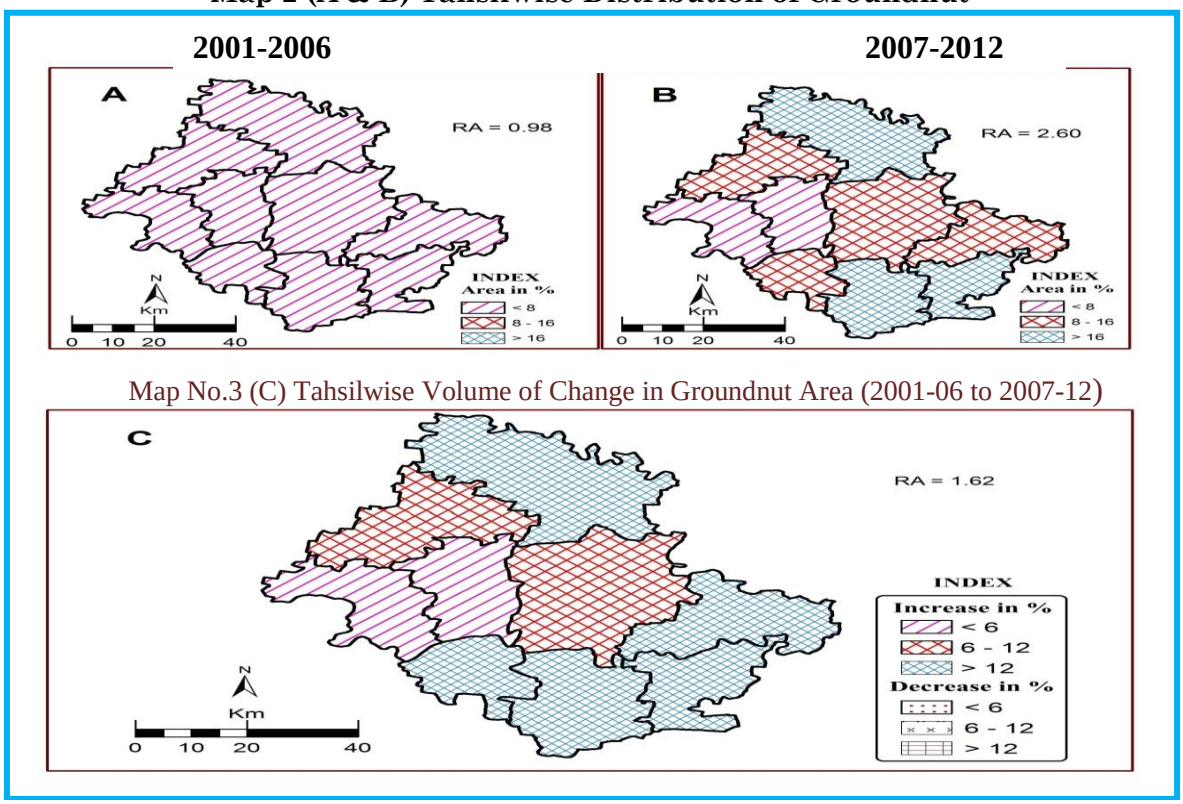
Parbhani district is under Fruits & vegetable area increasing volume of change in 0.06 percent in this investigation period 2001-2006 to 2007-2012. Totally Fruits & vegetable under Fruits & vegetable crop area is incliner this study period of Parbhani district. Both positive and negative changes were observed in area under Fruits & vegetable crop area in the study region. Below 0.10 percent positive change in Fruits & vegetable crop area was experienced in Pathri (0.08 percent), Palum (0.08 percent), Sailu (0.01 percent) and Sonpeth (0.07 percent) tahsils whereas Jintur (0.14 percent) and Purna (0.14 percent) tahsils have recorded moderate area under Fruits & vegetable between 0.10 percent to 0.20 percent area and above 0.20 percent area was observed in Gangakhed (0.40 percent) tahsils. Below 0.10 percent negative change in area under Fruits & vegetable crop area observed in Parbhani (0.04 percent) and Manvat (0.86 percent) tahsils while any tahsils have not negative change recorded moderate area under Fruits & vegetable between 0.10 percent to 0.20 percent area wheras above 0.20 percent negative change not noticed in any tahsils in the study region in during the period under study (Map 1C).

Groundnut Crop

This is the leading crops in the study region and it is raised in Rabbi and Khrip season in the Parbhani district. Groundnut is a main crop grown on light, sandy loam soil type. This crop requires warm climate and annual rainfall between 500 to 1000 mm. The pods ripen 120 to

150 day after seeds are planted. If the crop is harvested too early, then pods will be unreeled. If they are harvested late, pods will snap off at the stalk and will remain in soil. Groundnut is susceptible to contamination during growth and storage. Groundnut is grown in Khrip as well as in summer season in study region on 0.98 percent area in 2001-06 (Map 2A). It is increased from 7535 hectare to 104033 hectare of the total gross cropped area in during the investigation period in the study region. The area under Groundnut was below 8 percent Groundnut crop area was found in Parbhani, Gangakhed, Pathri, Jintur, Purna, Palum, Sailu, Sonpeth and Manvat tahsils in the study region in during 2001-2006 (Map 2A). The highest area is found in Sailu tahsil (2.83%). The lowest area under Groundnut is found in Sonpeth tahsil (0.36%). This crop area has increased 11.62 percent during study period.

Map 2 (A & B) Tahsilwise Distribution of Groundnut



In 2007-2012 (Map 2B), Gangakhed (17.04 percent) tahsil has found higher percent area under Groundnut. After a span of twelve years, the area under Groundnut above 16 percent area under Groundnut was observed in Gangakhed (24.59 percent), Jintur (16.68 percent) and Palum (16.60 percent) tahsils whereas 8 percent to 16 percent Groundnut area was found in Parbhani (9.98 percent), Purna (14.26 percent), Sailu (14.81 percent) and Sonpeth (12.58 percent) tahsils while below 8 percent Groundnut crop area was recorded in Pathri (5.64 percent) and Manvat (6.32 percent) tahsils in the study region.

Parbhani district is under Groundnut area increasing volume of change in 11.62 percent in this investigation period 2001-2006 to 2007 - 2012 (Map 2C). Totally Groundnut under Groundnut crop area is incliner this study period of Parbhani district. The positive changes were observed in area under Groundnut crop area in the study region. Below 6 percent positive change in Groundnut crop area was experienced in Pathri (5.01 percent) and Manvat (4.44 percent) tahsils whereas Parbhani (9.25 percent) and Sailu (11.98 percent) tahsils have recorded moderate area under Groundnut between 6 percent to 12 percent area and above 12 percent area was observed in Gangakhed (16.50

percent), Jintur (15.95 percent), Purna (13.40 percent), Palum (16.19 percent) and Sonpeth (12.22 percent) tahsils in the study region in during the period under study.

Conclusion:

1. Fruits, Vegetable was cultivated on 0.72 percent area and Groundnut is grown on 0.98 percent area in 2001-06. Groundnut is increased from 0.98% to 12.60% of the total gross cropped area in during the investigation period.

2. Fruits, Vegetable cover 0.72 percent in 2001-06 in Parbhani district. The irrigation facility has increased during study period but rain is decline therefore Fruits, Vegetable have small increased, so it has increased 0.06 percent during in 2007-12.

3. Groundnut area found increasing trend while Fruits, Vegetable Crops have small increased from 2001-06 to 2007-2012 study periods in study region due to uneven rainfall distribution.

4. Area under Fruit, Vegetables & Groundnut area found increasing trend from 2001-06 to 2007-2012 study periods in study region.

5. Soil types, irrigation, rainfall distribution, transport and proximity of market centres are major controlling factors for changing the spatio-temporal landuse in study region.

6. Therefore, farmers in this area should be guided and trained for the advanced method of irrigation such as drip, sprinkler etc. which saves water and decreases threat of salinities. Purna, Parbhani, Jintur and Sailu tahsils have scarcity during summer season. It is suggested that, farmers in these tahsils should use drip irrigation. Overdoses of chemical fertilizers are responsible for soil degradation in Pathri, Gangakhed tahsils. The use of organic agriculture and fertilizer management programme is one of prime requirement in study region.

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STUDY HABITS THROUGH ONLINE CLASS AMONG SCHOOL STUDENTS

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Abstract
Students' academic performance is based on study and reading skills. There's a right away correlation between study habits and students' academic performance. Without good study and reading habits, students wouldn't be able to perform excellently in their tests and examinations. In keeping with Bakare (1994) as cited by Asikhia (2010) poor academic performance is any performance that falls below a desired standard. Poor academic performance of scholars in promotion examination or terminal examination will hinder the scholars from being promoted to the subsequent class or securing admission to higher institution of learning. Poor academic performance can make the scholars to become frustrated. This present study intended to find out levels and significant differences of the study habits through online class among IX standard students. This study was conducted as a samples of 203 ninth standard students in Cheranmahadevi at Tirunelveli District. The students were selected by using stratified random sampling technique. The finding of this study shows that the female students have moderate level, Tamil medium students have low level and the students who are in private school have low level of study habits, and there is no significant difference between study habits through online class with regards gender, medium of instruction and type of school.

***Key words**: Study habits, Online class, IX standards students*

Introduction

A habit as something that's done on scheduled, regular and planned basis that's not relegated to a second place or optional place in one's life Alex, 2011).Study habits are the behaviours used when preparing for tests or learning academic material. An individual who waits until the end night before an exam then stays up all night trying to cram the data into his head is an example of somebody with bad study habits. A study habit is incredibly important permanently academic performance, and such every parent and teacher would desire their children to be avid and excited readers. Therefore, it's essential to form captivating, inviting and comfy place for the scholars so as to assist them cultivate good study habits. Library, quite the other place, provides ideal environment and vital information resources for college students to develop and sustain good study habits necessary for excellent performance in academic works. Thus, it's imperative for the scholars to cultivate good study habits that may equip them for excellent performance in their academic work the utilization of a faculty library. A habit may be a settled or regular tendency or practice, especially one that's hard to relinquish up. It absolutely was further stated that a habit is what's simply done, no reservation, no excuses and no exceptions. Thus, the study habit formed is improved upon by constant practice; and it's very hard to convey up a habit once it's formed.

Online learning may be a method of education whereby students learn in a very fully virtual environment. First

introduced within the 1990s with the creation of the web and utilized in distance learning, online learning (also called e-learning) is most prevalent in instruction, enabling students from different geographical areas to have interaction with a tutorial institution and other students online and learn flexibly, at their own pace, while working towards a degree or certificate. This can be any kind of instruction that takes place over the web. It includes Internet-based instruction; remote teacher online instruction; and blended learning and facilitated virtual learning that involves these two virtual learning methods. Online learning may be a new way of learning, made fashionable the technology advancements. With almost everyone having a private computer and a busy schedule, eLearning has become many people's favourite way of attending classes and expanding their knowledge. Developing good study habits for online classes ensures that you just get the foremost value out of your program coursework as you improve your retention while expanding our skills and industry knowledge. The same as studying for in-person courses, there are some effective study habits that teach you ways to focus in online classes. These study habits include minimizing distractions.

Significance of the study

Despite of the lockdown, many schools have taken timely steps to continue the processof education by holding online classes for students. Interestingly, online classes have helped students during lockdown more than ever before. Although online learning has become the preferred method for the majority of students, it's important not to dismiss the benefits of offline learning too. With online learning, students and teachers benefit through a more casual, and flexible approach. Being unrestricted with regard to location and times means every learners can be benefitted from the courses. With offline learning, it's easier to ensure students to pay attention to training. Some students also find it easier to retain the knowledge and skills they've learnt through offline learning than they do with online learning. As there are benefits to both learning options, it makes sense to offer a combined online and offline learning.

Objectives

1. To find out the level of study habits though online class among standard IX students with regards to gender, medium of instruction and types of school.
2. To find out the difference between study habits though online class among standard IX students with regards to gender, medium of instruction and types of school.

Hypotheses

1. There is no difference between study habit though online class among standard IX students with respect to gender.
2. There is no difference between study habit though online class among standard IX students with respect to medium of instruction.
3. There is no difference between study habit though online class among standard IX students with respect to type of school.

Methodology –in-brief

Method of Study

The activities should be described with as much details as possible, and the continuity between the should be apparent (Wiresman, 1995). The investigator has adopted survey method for this study.

Sample and Sample Size

Sample is smaller collection of units from a population used to determine the truths about that population. (Field, 2009). Sample of this study is IX standard students. The investigator has selected 203 samples for her study.

Sampling Technique

Sampling is the process of selecting a statistically representative sample of individual from the population interest. (Majid, 2018).The investigator has adopted stratified random sampling technique for selection of the samples, with a sample size 203 , who are studying class ninth standard in various schools at Cheranmahadevi, Tirunelveli District.

Tool used- Research tools are the instruments used for the purpose of data collection. It is a testing device for measuring a given event, such as, questionnaire, an interview or a set of guidelines or checklist for observation. The investigator developed a self- made tool with the support of her supervisor name a scale on 'Study habits through Online Class'. The tool has totally 25 items. In the preliminary draft have 34 items. After finishing the content validity and reliability the items are reduced to 09. In the final version have 25 items.

Procedure of data collections

A planned schedule by investigator to collect data in orderly manner, the investigator got a permission from the Head mistress/Head master to meet the students of her school regarding the study. After getting permission the investigator collected the data through face to face.

Data Analysis

Table 1*: Levels of study habits through online class among IX standard students with reference to gender*

Gender	Low		Moderate		High	
	N	%	N	%	N	%
Male	14	51.9%	55	41.0%	18	42.9%
Female	13	48.1%	79	59.0%	24	57.1%

In the table above indicates that more than half of the female students have moderate level of study habits through online class among IX standard students with reference to gender.

Table 2: *Levels of study habits through online class among IX standard students with reference to medium of instruction*

Medium of Instruction	Low		Moderate		High	
	N	%	N	%	N	%
Tamil	18	66.7%	75	56.7%	27	57.1%
English	9	33.3%	57	43.3%	17	42.9%

In the above table indicates that more than three fifth of the Tamil medium students have low level of study habits through online class among IX standard students with reference to medium of instruction

Table 3: *Levels of study habits through online class among IX standard students with reference to type of school*

Type of school	Low		Moderate		High	
	N	%	N	%	N	%
Government	7	25.6%	36	26.9%	13	31.0%
Gov. Aided	8	29.6%	42	31.3%	18	422.9%
Private	12	44.4%	56	41.8%	11	26.2%

In the table above indicates that more than two fifth of students who have studied in private schools have low level of study habits through online class among IX standard students with reference to type of school.

Table 4-*Significant difference in study habits through face to face and online teaching with reference to gender*

Gender	No	Mean	SD	t- value	p- value
Male	87	61.54	4.25	1.23	0.90^{NS}
Female	116	61.61	3.92		

*^{NS}- Not Significant

In the above table, the p value is (0.90) is greater than 0.05. Hence, the null hypothesis is accepted at 5% level of significance. It means that there is no significant difference in study habits

through online mode with reference to gender.

Table 5- *Significant difference in study habits through face to face and online teaching with reference to medium of instruction*

Medium of Instruction	No	Mean	SD	t- value	p- value
Tamil	118	61.38	4.25	0.82	0.39^{NS}
English	85	61.86	3.721		

* ^{NS}- Not Significant

In the above table the p value is (0.39) is greater than 0.05. Hence, the null hypothesis is accepted at 5% level of significance. It means that there is no significant difference in study habits through online mode with reference to medium of instruction.

Table 6- *Significant difference in study habits through face to face and online teaching with reference to type of school*

Type of School	Sum of Variance	Sum of Squares	df	Mean Squares	f- value	p- value
Govt. Govt. Aided Private	Between Group	59.89	2	29.94	0.37	0.07^{NS}
	Within Group	3265.51	200	16.32		

* ^{NS}- Not Significant

In the table 5.16, the p value is (0.07) is greater than 0.05. Hence, the null hypothesis is accepted at 5% level of significance. It means that there is no significant difference in study habits through online mode with reference to type of school.

Findings

1. More than half of the female students have moderate level of study habits through online class among IX standard students with reference to gender.
2. More than three fifth of the Tamil medium students have low level of study habits through online class among IX standard students with reference to medium of instruction.
3. There is no significant difference in study habits through online mode with reference to gender.
4. There is no significant difference in study habits through online mode with reference to medium of instruction.
5. There is no significant difference in study habits through online mode with reference to type of school.

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"ROLE AND IMPORTANCE OF BANCASSURANCE IN INDIA"

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Abstract:
In India the concept of Bancassurance appears to be gaining ground rapidly both through commission based arrangements and joint ventures between banks and insurance companies. Banks with their geographical spread and penetration in terms of customer reach of all segments have emerged as viable source of distribution of insurance products8. All most all the new entrants along with LIC and GIC have formed relationships with several banking partners after the formation of the required regulation. The study is a based on secondary sources of data and descriptive types evaluate position and role in bancassurance of the banking insurance companies. Secondary data is used for conducting the research study:

Keywords: *Bancassurance, Market share, Life Insurance, Non- Life Insurance*

Introduction

The "Bancassurance" is a term coined by combining two words bank and insurance, connotes distribution of insurance products through banking channels. It is a provision of insurance and banking products through a common distribution channel to a common client base. It is also defined as "the ownership and channel integration of a bank and insurance carrier, with the aim being to cross sell insurance and investment products through the bank distribution network. Bancassurance encompasses terms such as 'Allfinanz' (in German), 'Integrated financial services' and 'Assure banking' describes a package of financial services that can fulfill both banking and insurance needs at the same time. The banking and insurance industries have developed rapidly in the changing and challenging economic environment all over the world. Due to merging of global financial markets, development of new technologies, universalization of banking industries and with the expansion of non-banking activities, the insurance industry has globally brought in new channels of distribution into existence. This has given rise to a new form of business wherein two big financial institutions have come together and have integrated all their strength and efforts to generate new means of marketing for encouraging their products and services.

Bancassurance is still evolving in Asia and is still in its infancy stage in India so it is too early to evaluate. However, an immediate survey revealed that a large number of public and private banks including foreign banks are now making use of the bancassurance channels in one form or the other in India. Bancassurers have not only targeted the mass market but have also carefully begun to segment the market which has resulted in the tailor-made or rather perfect products for each segment. Some bancassurers focus exclusively on distribution. In some markets, face-to-face contact is preferred which proves to be a favourable arrangement for the development of bancassurance business. Initially banks opt for either 'referral models' or 'corporate agency'. Banks are offering space in their own premises to accommodate the insurance staff for selling the insurance products or giving access to their client's database. Insurance companies can use this opportunity to increase their sale. Nowadays banks are campaigning and marketing the insurance

products across the globe. Some of banks in India act as 'corporate agents' to insurance company.

Literature Review:

Chandnani L.R. (1996) stated that different new procedures of selling insurance like Bancassurance Captive insurance and so on in these nations. In set up nations charges are made through Banks. Further, he has clarified the different strategies for settlement of cases. *Rajashekhar and Kumari (2014)* investigated that Banks having enhanced branch organization, standard connection of manages an account with client go about as apparatus to get familiar with the clients' brain research, banks brand name certainty and dependability of client on banks were the strength of Bancassurance *Rao Ahmed and Jabrullahan J. and Ramalakshmi P (2005)* The investigation additionally entitled a portion of the private life organizations like ICICI Pru life, Kotak Mahindra, the SBI life and other such privately owned businesses which pay more to their policyholders other than stretching out the advantages to cover practically every one of the individuals from the family, than those run by the public authority.

Statement of the Problem

India has a huge population of more than 200 million middle class income people which amounts to a large depositor base. It has around 80,000 networks of branches spread across the country. It has the highest potential to achieve financial inclusion in Insurance sector through Bancassurance. But the fact is there are large numbers of people who either do not have bank accounts or are not covered under insurance schemes. Bancassurance model can be a greatest advantage to middle class population in India which is covered under banking or insurance.

Objectives of the Study:

This study makes an attempt in this direction with the following objectives:

1. To assess role and importance of bancassurance in India
2. To know the Market share of major companies in terms of total life insurance premium collected in India.

Research Methodology

The study is a based on secondary sources of data and descriptive types evaluate position and role in bancassurance of the banking insurance companies. Secondary data is used for conducting the research study:

Results and discussions

Insurance Market in India

The life insurance industry marked a figure of premium income of Rs. 2,87,202 crores during the year 2012-2013 as against Rs. 2,87,072 crores in the financial year 2011-12, registering a growth of 0.5 per cent. The contribution of life insurance business in total premium was 56.8 per cent globally. However, in case of the Asian region it is 28.9 per cent which is even less than half of the global figure. Whereas for India the figures pertaining to life insurance business was very high at 80.2 per cent while the share of non-life insurance business was small at 19.8 per cent. Owing to these high figures in life insurance business, India is ranked 10th among 88 countries. During 2012, the life insurance premium in India declined by 6.9 per cent (inflation adjusted). Whereas, during the same year global life insurance premium by 2.3 per cent. India Share in global life insurance market was 2.03 per cent during 2012, as against 2.30 per cent in 2011. The Indian non-life insurance sector experienced a hike off about. 10.25 per cent (inflation adjusted) during 2012. This figure when compared to the global non-life insurance sector is far better which expanded by manager 2.6 per cent. India is ranked 19th in the global insurance market insurance market thereby contributing a small share of 0.66 per cent. The development in insurance sector of a country is marked by the measure of insurance penetration and density. Insurance penetration is measured as the percentage insurance premium to GDP, whereas insurance density is calculated as the ratio of premium to population (per capital premium). During the initial decade, the insurance penetration increased persistently, from 2.71 per cent in 2001 to 5.2 per cent in 2009. But since 2010 onwards, the level of penetration has

started declining at a considerable rate each year and reached to a minimal figure of 3.96 per cent in 2012. The results clearly signify that during past three years, the growth in insurance premium is lower than the growth in national GDP.

Table – 2 India's top Bancassurance and their foreign partner Life Insurance

Name of Company	Foreign partner	Domestic partner	Year of Incorporation
ICICI Prudential	Prudential plc (26%)	ICICI Bank Ltd (74%)	2000
Bajaj Allianz	Allianz SE (26%)	Bajaj Finserv Ltd. (74%)	2001
SBI Life	BNP Paribas Cardif (26%)	SBI (76%)	2000
HDFC Life	Standard Life (26%)	HDFC Bank (72.4%)	2000
Birla Sun Life	Sun Life Financial, Inc (26%)	Aditya Birla Group (74%)	2000
Reliance Life Insurance	Nippon Life Insurance (26%)	Reliance Capital (74%)	2005
Max New York Life	Mitsui Sumitomo Insurance (26%)	Max India (74%)	2000

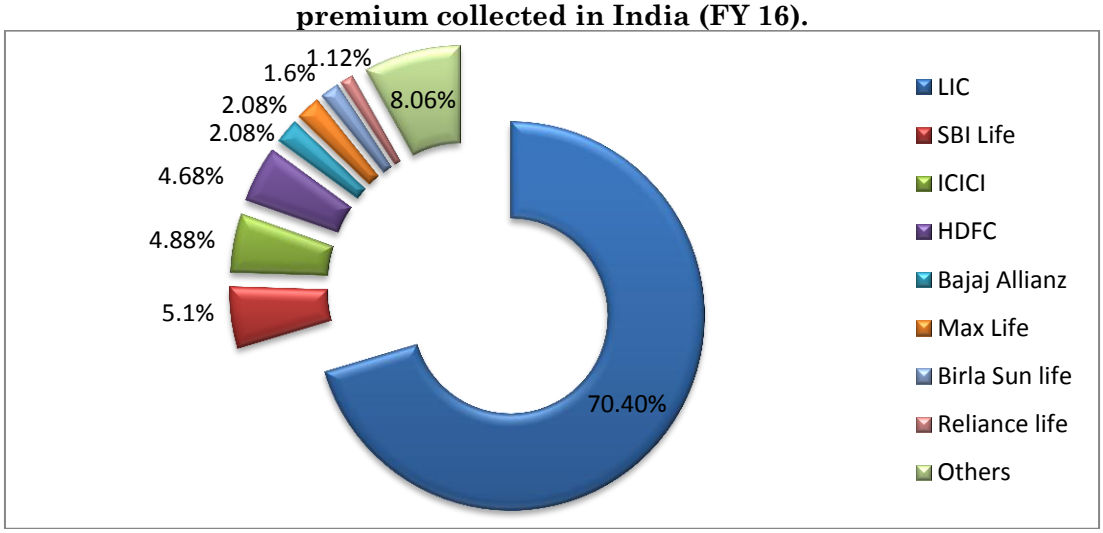
Non –Life Insurance

Name of Company	Foreign Partner	Domestic Partner	Year of Incorportaion
ICICI Lombard	Fairfax Financial Holdings Ltd. (26%)	ICICI Bank Ltd. (74%)	2000
BAJAJ Allianz	Allianz SE (26%)	Bajaj Finserv Ltd 74%)	2001
IFFCO-TOKIO	Tokio Marine & Nichido Fire Insurance Group	IFFCO (74%)	2000

(Source: Various Years (Annual Report of IRDAI) up to 2014)

The IRDA Act, 1999 allowed on FDI of up to 26 per cent in the insurance sector on an automatic route subject to obtaining license from IRDA. Cabinet has approved an increase of FDI limit to 49 per cent through the Insurance Laws Amendment Bill (2008). The increase in FDI limit will take effect following approval from the Parliament Increase in FDI limit to 49 per cent, is expected to bring in additional foreign inflow of USD6-8 Billion

Figure- 1 Market share of major companies in terms of total life insurance premium collected in India (FY 16).



(Source: Tech Sci. Research LIC – Life Insurance Corporation of India)

As of 2015, life insurance sector has 29 private players in comparison to only four in FY02 with 70.4 per cent share market share in FY16, LIC continues to be the market leader, followed by SBI 5.1 per cent; ICICI Prudential, 4.88 per cent share; HDFC 4.68 per cent And Bajaj Allianz, Max Life, Birla Sun Life and Reliance Life, with 2.08, 2.08 1.6 and 1.12 per cent respectively.

Market Size of Indian Insurance Industry

The Macroeconomic challenges facing life insurers in India have intensified in the FY 2012-13 last six months, in particular due to the weakening of the rupee, tightening of the monetary policy to stem capital outflows and fiscal pressures due to lower revenue and higher expenditure than planned. These macro-economic challenges as well as certain industry specific issues continue to impinge on life insurers' ability to grow their businesses in India in the short term. The last few months in 2012-13 have also seen companies laying greater emphasis on maintaining renewal premium volumes and boosting persistency as they begin to start focusing on servicing existing business and counter the long standing issues of high lapse rates in the industry.

New regulations enforced by the insurance regulator effective September 2010, are partly responsible for curbing the scope of Unit Linked Insurance Plans (ULIPs). With the introduction of Linked and Non-linked product regulations in February, 2013 IRDA has brought in variable Insurance products, cap on charges in case of Variable Insurance Products and some other changes relating to commission, claims, investments etc.

The share of linked business is declining year after year. In distribution channel mix, Bancassurance channel is gaining more prominence due to its cost effectiveness and wide network availability. During the year, the industry strengthened its focus towards enhancing professional delivery of products and services, customer satisfaction and operational efficiency. The disparity between the current penetration level and future penetration level makes the Indian insurance market a lucrative opportunity for investors.

In financial year 2013-14, the industry has witnessed a growth of 11.57% in new business premium collection. With low insurance penetration as compared to the large Indian population base, there is tremendous scope for the life insurers to capitalize on.

Table- 3 Rising in Private Sector Investment in Insurance.

Religare Health Insurance	USD110.4 million by 2016
IndiFirst Life Insurance	USD28 million in 20010; plans to invest USD45 million on 2011
Aviva Life	USD26 million in 2010
Reliance Life	USD58 million in 2011
Canara HSB Life	USD22 million in 2011
Bharti AXA Life	Plans to inject USD100 million in 2011
AEGON Religare Life	USD71 million in 2010; plans to invest USD445 million through 2016
ING Vysya Life	USD53 million in 2010
HDFC Life	Going Public by FY14

(Source: various annual reports of IRDAI)

Investments from the private sector are increasing, as they see a huge opportunity in the growing insurance sector of the country. Most of the existing players are tying up with the banks to expand their distribution network. Few players like HDFC Life are planning to go public; others are selling stakes to generate funds.[4]s

Conclusion:

Banking industries are playing a very important role in the field of Bancassurance. The success of Bancassurance relies heavily on banks that ensure excellent customer relationships; therefore, banks need to strive to find that approach. Regulators can consider whether it is possible to allow

banks to have bond arrangements with more than one insurance company, offering a wide range of options for customers. In addition to lending and accepting deposits, banks have recognized the importance of Bancassurance in India and are currently taking equity stakes from insurance companies. Given the current momentum, Bancassurance will be a good thing in India in the future. But the proper implementation of Bancassurance still faces some issues such as, mistreatment of employees, lack of sales culture in banks, branch management team, insufficient production of products, management database technology, insufficient incentives, negative attitude towards insurance etc.

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ASPECTS OF NEP 2020

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Introduction-

The National Education Policy 2020 was the most anticipated and thought-provoking policy for Indians as this reorients the old rote teaching learning methods of education to authentic theoretical methods. It was sanctioned by the Union Cabinet of India on 29 July 2020. The first effort to develop an education policy in India was somewhere around 1966 and exhibits its importance in a manuscript published by Prof. DS Kothari. The execution of the same document was done by Prime Minister Indira Gandhi in 1968, which called for a "radical restructuring" and recommended equal learning chances in order to accomplish national integration and bigger intellectual and financial development. The second such notion of education policy was brought up by the Rajiv Gandhi Government in 1986 which took almost 6 years for its appropriate execution and reached 1992 and the same policy was in practice for 34 years until the year 2020 when Prime Minister Narendra Modi had come up with New Education Policy. It is just a policy, not a legal rule as education is a subject issue which comes under concurrent list, but its advance execution depends on both the states' and the center's rules.

Development Of Education Policy In India

University Education Commission (1948-49)

It was the initial education commission of sovereign India, also known as Radhakrishnan Commission. It was appointed in November 1948 under the Chairmanship of Dr. S. Radhakrishnan considered the plight of university education in India & required to present his reports on the same.

Secondary Education Commission (1952-53)

In 1952 Union Government of India appointed Dr. A Laxman Swamy Mudaliar a chairman of secondary education commission, also acknowledged as Mudaliar Commission. The main objective behind this was to scrutinize the then present organism of secondary education in the nation and to recommend steps and measures to upgrade it.

Education Commission (1964-66) Under Dr. D S Kothari

It was commonly recognized as Kothari Commission, was an ad hoc commission set up by the Government of India to inspect all features of the educational section in India, to develop a broad blueprint of education and to recommend rules and norms for the development of the same.

National Policy On Education, 1968- Approved By Parliament (First Nep)

This policy called for gratifying obligatory education for all children up to the age of 14, as suggested by the Constitution of India and focused on specific education and prerequisite of teachers. It was also called for education expenditure to boost to six percent of the national revenue

42nd Constitutional Amendment, 1976-

Education in synchronized List The 42nd Amendment Act of 1976 transmited five subjects to Concurrent List from State List and education was one of them.

National Policy On Education, 1986 (Second Nep)

This new policy by Rajiv Gandhi Government was called for "special emphasis on the removal of disparities and to equalize educational opportunity," particularly for Indian women, Scheduled Tribes (ST) and the Scheduled Caste (SC) communities.

NPE 1986 modified in 1992 (Program of Action, 1992)

The National Policy on Education of 1986 was adapted in 1992. It is a inclusive structure to direct the progress of education in India. The ideology incorporated in the NPE-1968 is also integrated in the new policy with some alterations.

In May 2016, 'COMMITTEE FOR EVOLUTION OF THE NEW EDUCATION POLICY under the Chairmanship of Late Shri T.S.R. Subramanian presented its report, then The Ministry declared formation of a new committee.

Nep 2020 Background

The Committee for drafting the National Education Policy (NEP) was formed by the Ministry of Human Resource Development in June 2017 and it was chaired by Dr. K. Kasturirangan who presented his reports on May 31, 2019. As a result, the draft National Education Policy 2019 was made public by the ministry of human resource development (MHRD) for public observation and comment.It also got approved by Cabinet as The National Education Policy 2020 (Third NEP)).

Main Aspects Of Nep 2020 School Education Changes

Early Childhood Care and Education:

The key aim behind NEP is to prepare students from the very beginning, keeping in mind this viewpoint, the government focused on kids from 3-6 years of age group to get "free, safe, high quality, developmentally appropriate care and education" by the year 2025.

Foundational Literacy and Numeracy:

There are a number of reports which illustrate that a large quantity of students in basic schools are not capable to read, write, learn , resolve and comprehend due to lack of basic foundation, which in near future compel them to drop out or leave them behind against others. Under NEP a particular mission-based committee has been set up which will work in sustaining a 30: 1 pupil-teacher quotient at all schools and attempt to promote parental involvement etc.

Reintegrating Dropouts and Assuring worldwide Access to Education:

Several studies prove the fact that most of the students generally started dropping out after grade 5 and it became hard to bring those dropouts back to learning. [3] That's why NEP attempts to spotlight on efficient and adequate infrastructure to persuade students back to school.

Syllabus and training in Schools:

The new system has substituted the old 10 + 2 to 5 + 3 + 3 + 4 structure of pedagogical design which will implement this substructure-

1. 5 years of the Introductory Stage: 3 years of pre-primary school and Grades 1, 2.
2. 2. 3 years of the Preparatory Stage: Grades 3, 4, 5.
3. 3. 3 years of the Middle Stage: Grades 6, 7, 8.
4. 4. 4 years of the High Stage: Grades 9, 10, 11, 12.

This brand new system not only covers the syllabus substance but also improves the critical thoughts of one's mind by deliberations and discussions, experimental leanings, etc. , and most significantly now students can study arts, science, sports, etc subjects all in all. For instance, now one can opt Sociology with Chemistry . Apart from this, this accomplish also completes the long-standing demand for teaching and learning in one's mother tongue until grade 5 together with sign languages and ancient Indian languages like Sanskrit. It is rather evident that for developing students teachers are the key and for making the teachers more trained and competent the NEP has proposed special merit - scholarships with assured employment, encouragement to take up jobs in countryside areas and decided to lessen teacher transfers so that the teachers can become more responsible and receptive.

higher education changes

When we highlight the basis or roots it leads to strengthened upbringing but at the same time higher structure too plays a very important function because it leads an individual to a precise direction. Hence when one comes to the age to achieve higher education generally suffers from numerous things including societal and peer stress, confusion about subject choice, due to the desires of getting high salaried jobs and getting admission in well-known colleges; students often run behind percentage and not knowledge. So here NEP comes up with a few restructuring which break these typical convention and permit students to grow:

Approaching a system of multi-disciplinary universities and colleges: In universities and colleges it is essential to break certain prejudices, callous behavior like ragging etc. Because these are shrines of education where all students need to be treated equally with equal distribution of opportunities.

1. Moving towards a liberal undergraduate education: It is a high time that we look at education in a broader approach. It need not be limited in a specific field like science or commerce etc.
2. Supporting faculty and institutional autonomy: The NEP would like to make institutions and staff autonomous so that it generates a sense of accountability, innovation and regulation in their work.
3. Establishment of a National Research Foundation (NRF): The major aim of NRF is to provide funding to all institutions across India for research proposals.
4. Reformed regulation system: Some measures are the same as the prior policies but this time more focal point will remain on its execution and whosoever does not adhere to the guidelines set up under NEP, stern action could be taken against them.

Other Changes

1. An independent body, the National Educational Technology Forum (NETF), will be formed to offer a platform for the free exchange of ideas on the use of technology to improve learning, evaluation, planning, administration,
2. National Assessment Center- * PARAKH 'has been formed to evaluate the students. .
3. It also paves the way for overseas universities to set up campuses in India.
4. It highlights the setting up of Gender Inclusion Fund, Special Education Zones for disadvantaged regions and groups.
5. New Policy encourages Multilingualism in both schools and higher education. National Institute for Pali, Persian and Prakrit, Indian Institute of Translation and Interpretation to be set up.
6. It also aims to enhance public investment in the education sector to reach 6% of GDP at the earliest. At present, India spends around 4.6% of its total GDP on education.

Shortcomings Of The System.

Apart from being open, open-minded and full of visions, this policy still represents many drawbacks. For instance introduction of classical languages to school education is a controversial topic because even research scholars find it tremendously difficult to learn certain ancient languages. Furthermore, making everything digital when network availability is not ensured to remote areas is again a big challenge in itself. The most worrying fact is that the policy opens its paths to privatization which will certainly result in high fees and extra dropouts and takes us away from the important maxim of the policy.

Conclusion

Every year 8,934 students are committing suicide India [5] just because marks become the uppermost concern in the education system and left an individual away from his real abilities. The New Education Policy 2020 shows that education is much more than cramming of subjects, meeting closing dates and achieving marks but the real meaning of education is to gain knowledge, skills, values and to do and make advancement in the field in which

one actually finds his interest. There is no doubt that if the whole policy is executed in a proper manner it can take Indian education to new heights. Although some of its objectives lack clarity of goals we actually cannot ascertain this until its written plans turn into action. We can only expect the best results after all it has been brought keeping in mind the comprehensive growth and contentment of students.

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BEST PRACTICES IN MODERN LIBRARY MANAGEMENT AND INFORMATION SCIENCE

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Abstract:

In the present modern era, the scope of library and information science has expanded considerably Global change and information communication technology have evolved regardless of academics, the library and information science professions have been widely influenced, Public and Special Libraries. In the modern era librarians and libraries play a role Changed with time, due to technology and resource development etc. The development of ICT also changed the expectations of users in different ways. Compilation Development, quality of services, best practices and benchmarks adopted by libraries System is the main concern of stakeholders. In higher education, libraries and Information services play an important role in education, research and development. Library is the main support of all Educational activities of any educational institutions. Best practices are highlighted in these paper Academic libraries to enhance the quality of teaching learning process and it also suggests that new initiatives and practices should be followed. In modern libraries, whose shelves may be wooden, metal or electronic, we need to learn best practices to ensure that we can efficiently access the best materials on these shelves. We do this by overcoming the perception that the library is a foreign country, quickly understanding the differences between resources, and using search engines effectively

Keywords: *Library management, resource, best practices, technology etc.*

Introduction:

In the modern digital age, the academic community can access information from anywhere in the world.Now research and development is increasing, so is the availability and value of informationalso increases. So, here it is the role of library and librarian to provide relevant informationRight time for right user. Library networks, consortia and institutional membership etc. Help users find relevant information. Therefore, apart from the routine functions of libraries,Membership in library network, e-resource development, training for improvementLibrary manpower efficiency, proper space management, creation of user profile, userPrint and e-resources related to education, conferences/seminars and workshopsEducation etc. for quality enhancement. Computer networks were created on national and international level for proper and effective use of information. For this, there is need of specialists and researchers who use information and communication technology.

There is need of more research for growth of LIS. If we are undertaking research on large scale that will help to develop new methods, techniques, sources and new research methodologies. (Prakash B. Jadhav and Santosh P. Khajindar 2018).These are some of the best practices that can be followedin academic library systems. Libraries can play an important role in providing the right information.The right user at the right time. Here, library and information system management can helpUser communities to identify and access relevant knowledge resources. activityLibrary vision, mission, objectives and policies, copyright issues,Membership, budgeting and reporting, resource mobilization, technical procedures,Manpower Development,

Infrastructure as well as Collection Development, Technical Services,Information services, technical works etc. Must be professional and certified.Periodic meetings of library committee, participation of librarians in educational activitiesOrganization, support from management, user involvement, infrastructure,

Recruitment of skilled and qualified personnel, capacity building in terms of collection development,Man power, and materials are some of the areas where best practices can be accommodated. It requires proper planning, organization, staffing, coordination and delivery

Achieving organizational goals or objectives.

Objectives of the study:

To study the best practices modern library management and Information science.

Methodology and Scope of the Study:

The data for the present study has been collected for the related to the research topic in different websites, Published and unpublished some data sources. The scope of present study is limited to best practices modern library management and Information science.

Definition-Best Practices

Oxford English Dictionary:

describes 'Best practices as quality of most excellent ordesirable type or most appropriate, advantageous, highly improved, outstanding, parexcellence services or the customary or expected procedure or way of doing something that isusual or expected way in a particular organization or situation, guidelines for good practices.In this process of developing best practices we take action rather than good ideas, and weimprove our skills.'

Best practice is a method or technique that has been generally accepted as superior to anyalternatives because it produces results that are superior to those achieved by other means orbecause it has become a standard way of doing things. (Wikipedia)

I. Best Practices in the Modern Library

In modern libraries, whose shelves may be wooden, metal or electronic, we need to learn best practices to ensure that we can efficiently access the best materials on these shelves. We do this by overcoming the perception that the library is a foreign country, quickly understanding the differences between resources, and using search engines effectively.

Take a tour:

Whether self-guided, human-led, or virtual, a tour removes the fundamental confusion about where you are in the library, which can make all the difference when you're chasing down a specific resource in a hurry. A simple tour will also show you the various forms and locations of library resources, such as the help desk, shelves for current periodicals, reference shelves, stacks for less recent resources, and microfilm.

Plan ahead:

Especially when working on a large project, it is unrealistic to expect that all the resources you need will be available immediately. You may need to spend time physically tracking down resources, recalling researched content, requesting archived content, or dealing with the inevitable limitations of the resources you discover.

How libraries work together:

Especially at a large university, you get multiple, specialized libraries within the same system, and you have access to interlibrary loan (allowing you to borrow books from other libraries). No library is, nor tries to be, a "one-stop shop".

The library webpages as a time-saving device:

Beyond their obvious aid as a research tool, library webpages are typically set up to save you time. You can usually do such things as reserve books online, renew books online, and even suggest books for purchase or e-mail specific questions to a librarian.

To find the hard copy of a resource, browse the nearby shelves:

Frequently, while standing in the library shelves, I have found some of the best resources by looking at books that are closely related to what I was originally looking for. This kind of serendipitous,

fruitful discovery is more likely to happen on a library shelf than online.

Understanding Search Engines:

The web is a good teacher of its own, so instead of offering lengthy content here on search engines, I'll just offer a few tips and a few URLs for further information. Some of the most overlooked fundamentals of search engines are worth highlighting hereFor a comprehensive search, don't rely on a single search engine and understand that different search engines work differently. Some, for example, are sites that try to sell books first, while others are sites for academic journals online.Learn to do advanced searches by clicking links like "Search Tips" next to the search box in a specific engine. Such tips are transferable to search engines.

II. Best Practices in Library Resources and Services:

Documentation:

Proper documentation is very important for the development of any system. authorized Information or evidence that should be properly recorded. Maintenance of records Time is needed. In libraries, librarians have to keep records of booksand other non-book resources available in the library, expenditure records, service records,Apart from the traditional records of administrative records, visitor records, reader records Library etc.

Library visit in other institute:

Library staff members can visit other institutional libraries to learn about their library Services and activities and what methods they have adopted to provide better service

Sharing of Resource:

Resource sharing is the facility of sharing documents and resources with outsiders or Member Library. This facilitates access Users of other educational institutions for their teaching, learning and Research objective as well as using their professional knowledge.

Student Internship Program

Training in various departments of library and information science Students and thereby get a clear understanding of library management. We can divideStudents are grouped and can be assigned work assignments within student group. Experience students through this get a clear understanding of the functions/activities of each section of the library. This also helps to build confidence in students.

Library book exhibition

Library can organize book fair for users to create awareness about latest booksavailable in the market in their discipline area. Teachers and students can giveRecommendations for books according to their syllabus and information needs. A set of reputed book publishers and distributors are invited to display their latest books in exhibition

Library website

A well-designed and informative library website is very important to any library system. That all services and activities of the library such as membership, operations should be included

Hours, e-resources, user query space, virtual tour, OPAC, institutional membership(DELNET, INFLIBNET etc.) Details, Digital Repositories (D-Space, e-Print etc.), Libraries.

E-resources:

A well-organized library provides uninterrupted worldwide access to the library Resources from anywhere, anytime, from anyone. E-Books, ETDs, E-Journals, Electronic Databases are widely used e-resources in libraries. Users should be aware of free-databases and paid e-databases. Unsatisfactory use of highly expensive purchased e-databases, Ignorance of e-resources, technical ignorance are the problems of low utilization

Creation of user profile

User profile means the professional details of the user. The ultimate goal of information the provider or library is there to meet the information needs of the user. By user profile, information.The provider may identify the user's information or research interests and, thereby, the library Give them relevant information without delay. Email alert service, SDI etc Linked to a user profile.

Conclusion:

In the modern era librarians and libraries play a role Changed with time, due to technology and resource development etc. The development of ICT also changed the expectations of users in different ways. Compilation Development, quality of services, best practices and benchmarks adopted by libraries System is the main concern of stakeholders. Best practice in simple terms known as practice that enhances existing work andactivity of any system. Use of technology in marketing information products and service always gives good results. All higher education institutions are now in the processDigitization in all their services and departments like student admission, examination etc.Information is disseminated through library websites in a networked environmentTechnology is possible and should be embraced in our academic libraries. The networked environment enables libraries to reach any user in a remote location. So great ways of using information communication technology are playing a major role in thisDevelopment of any library system.

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THE IMPACT OF TECHNOLOGICAL ADVANCEMENT ON SOCIO-ECONOMIC LIFE OF PEOPLE

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Abstract
Technology, at least from the past century has been the backbone of advancement of societies around the world. The importance of technology has grown so much that humans are handicap without existence of technology in any aspect per say. The modernity to technology was seen only after the industrial revolution. Adoption of technological changes before industrial revolution was seen as a hinder to society as it would harm people's interest by taking away their living. Thus, this paper adopts a theoretical approach to study how technology gave society an incentive to grow beyond limits also keeping in mind the negative implications suffered by human race. Besides, it also stresses on how today technology has surpassed human cognitive thinking. Thus, technological advancement has reached to an extent wherein both human protection and human destruction are possible with a single click.

Introduction

The world that we live in today is controlled by technology. Today, the purpose of machines serving humans is overturned because of the over- dependent nature of human being. This was not the case when society was controlled by few powerful people. This can be depicted by an example. There was a learned man who came to the court of Queen Elizabeth with a technology that could replace the hard hand knitting with easy and efficient technology. The queen instead of accepting the proposal rejected it with a comment that this adoption would lead to destruction of many lives that lived on hand knitting. Was this a valid argument is a debatable question. There was relaxation to the hand knitting/ weaving process when England saw the invention of spinning jenny by James Hargreaves in 1764. Did this destroy jobs? No, in fact it created more jobs as factories were setup for manufacturing of spinning jenny.

Thus, it could be understood that technology bettered living conditions and psychological development of individuals.. The main motive behind development of technology was to ease living conditions. But, today it has eased of living so much that our actions are limited as technology does most of the job. As Karl Marx says it rightly 'the production of too many useful things results in too many useless people'. Technology has completely changed people thinking process which in turn have contributed to improved living standards among people. It has come in conflict with the cultural attributes people follow as it has created anti- trust among people in a society which is a result of changing social institutions from time to time.

Objectives of the Study

The objectives of the study are as follows: -

1. To understand the society- technology relationship
2. To evaluate whether or not the changing technology has influenced our living conditions
3. To highlight important sector of public importance wherein the contribution of technology is immense
4. To understand the efficient use of technology
5. To find out how technological advancement can contributes to sustainable development

Influence of Technology on Society

What is Technology – Technology in simple sense is anything that reduces physical/ mental stress of human by bringing in a methodological innovation. It can be physical/ mental in nature used to solve real world problems. All the technological advancement from the invention of wheel to the current spaceships has a certain purpose i.e.., to serve the well- being of the society.

What is a Society –

Society in real sense refers to a community of people living in the same geography. A society exists because 'man is a social animal'. He develops by interactions of socio- economic and political institutions and hence cannot survive alone in this evolving world. Technology and Society are interrelated and influence each other. Technology leaves an impact on development of any society and vice- versa. Thus, one cannot exist without the other. The progress or decline of a society depends upon its stands on technological inclusion. Thus, different societies decide up to what limit technology has to be adopted which further decides their position in development.

Following are certain field of importance wherein technology has played a significant role namely:

Technology in Agriculture – The revolutionized agricultural machinery has increased agricultural productivity and increased profits to one engaged in these activities. The use of hybrid variety helped food ridden country like India to become self- sufficient in food grain production (through green revolution). Today's technology uses advance technologies like robots, temperature sensors, GPS technology etc (USDA). Though all of these come with a cost associated with, most of it around the world is subsidized by governments especially in a democratic setup wherein welfare is at apex.

Technology in Communication and Infrastructure –

Communication has been an important element of human history. Right from the development of first telegraph (during war period) till today's high speed 5G connection internet, life of human is eased. Getting in touch to a person in any corner of the world now does not require days and days of travel as development of smart phones along with internet facilities have made things easy.

Infrastructure is the back bone of any economy. The development of roads, railways and tunnels was an early sign of infrastructural development. The transport also developed along the development of roads which helped easy commuting. Today, the giant building infrastructure like status, buildings, libraries have become place to tourist importance.

Technology in Education –

Technology in education has helped students to realize their full potential as they are made known to life skills, job oriented training, human development etc.., at very early stage so that they could lead a better world. The virtual schools during pandemic made us realize that a revolution in education in the current world is essential. Keeping this in mind governments have introduced online degree and professional programmes.

Technology is not free from negatives. Following are areas which affect basic human ethics namely: -

Attack on Privacy through Web networking – Today's world is virtual world were data is as important as individual's health. People online can use confidential information of individuals for financial/ material gains. Besides, there is a sense of addiction among youth related to social media and gaming platforms. The dark web is an addition to all negative aspects of web technology.

Increased Cyber- crimes –

Internet is the new way of living, especially to the growing youth population around the world. This over use of internet facility have created a group of people who use innocent people for money or sometimes just for fun. Today there has been websites made for the purpose of hacking bank accounts of people which is one major drawback. Technology has also created 2 sub- world namely, one with most technology (who is independent) and the other with less technological

advancement (who is dependent on the initial). The question is will technological advancements help a developing country to move up? We can say the argument is marginally true. For instance, anyone can use the internet, get access to virtual world and improve their lives. But it will not sustain their society. What is required for holistic development is that the technological advancement should have an impact on their human capital which would further develop the production process. Thus, giving internet facilities to a poor country will not make them rich unless that technology contributes to its human capital formation.

Does Technology Influence Sustainable Development?

The current century we live in is considered to be more advanced and the most challenging one when compared to the past. Evaluating our innovative minds and idea representation, it can be said that we have done enough in the past 250 years to which was not done by our ancestors in centuries. We today argue how great we are in sense of vision development but what we miss out is that every innovation/ change comes with an attached cost to humanity. We need to understand that every improvement in existing technology requires lot of resources which our mother earth provides us. More the advancements more would be damage to the resources available. Thus, making changes in the current structure of human civilization keeping in mind the need to protect our environment and the benefits of others is known as 'Sustainable Development'. Today, the problems faced by our past societies like lack of medical technology, lack of educational facilities, poor infrastructure etc.., is brought down by improved technological advancements but to have these advancements we have created a tone of problems which are far more dangerous when compared to problems faced by our ancestors. For instance, climate change and deforestation which are the widely spoken debate today and as conditions would deter the world would not be a safer place to stay. Following are major steps taken to ensure sustainable development through technological advancement: -

The Emergence of Solar Power – Solar power is predicted to be the fuel of future for the matter of fact that sun will not disappear anytime soon. The adoption of solar energy as an alternative can prevent lot of waste, pollution and mitigate global warming (as it does not produce any greenhouse gas while producing electricity). There has been a wide range of global investment related to solar energy. Initiatives like the International Solar Alliance launched by Indian Prime Minister Narendra Modi alongside French counterpart Emmanuel Macron promotes solar energy in 121 member counties by mobilizing $1 trillion of investment for the deployment of solar energy at efficient and affordable rates.

Electrification of Public Transport – Coal is a burden to the environment. We have burned so much of coal that even if we completely stop using coal today, it would take the environment 300 years to be as it was like in civilization times. Many countries have decided to go completely electric in terms of personal/ public vehicle use. Norway is a country which has replaced 50% of vehicles on road to be electric and is on a mission to be country with zero emission by 2025. Initiatives like these have raised awareness among other countries too for adopting such a change.

Moving away from Plastics – According to world statistics, every year for every 260 million tons of plastic waste generated across the world only 16% is recycled. The rest of it remains stagnant in the earth's surface which is not only harm to the environment but also to individual's health conditions. This should be changed. There are technologies and incentives in place which could stop plastic in circulation and bring in jute bags as an alternative. There has been a great response from government authorities as well as general public in dealing with the problem of plastic waste.

Conclusion

The influence of changing technology depends on how a society utilizes it for human gains keeping in mind other

factors of importance like the environment and cultural aspects of people being unhurt. In the current situation technology has reached a stage where it can do better for all and also do better for none. John. F Kennedy was of the opinion that 'the world is very different now for man holds in his mortal hands the power to abolish all forms of human poverty and all forms of human life'. Thus, we have passed a stage where we would not think twice in taking up a wrong decision. Thus, technology is a boon to the society only if it is used in an appropriate manner.

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