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E- CONTENT FOR QUALITY EDUCATION

Miss. Afsana Harun Maneri¹ Dr. Pratibha S. Patankar ²

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Abstract

E-content, an abbreviation for electronic content, is characterized by digital information, materials, or resources delivered and accessed through electronic devices like computers, tablets, and smart phones. It comprises diverse multimedia elements such as text, images, audio, video, and interactive components. E-content is specifically crafted for digital distribution and consumption, commonly available over the internet or through electronic platforms.

E-content represents the fusion of electronic content and Internet technology. In the current globalized educational context, there is a rising demand for accessible and captivating learning experiences. Students are increasingly inclined towards interactive and stimulating learning methodologies as opposed to traditional and monotonous approaches. The incorporation of e-content enables the extension of quality education to remote and rural regions, making use of contemporary technologies like satellites, the internet, and mobile devices. Satellites play a pivotal role in establishing connectivity among educational institutions, ensuring sufficient infrastructure for providing high-quality education to a broad population. This paper introduces an E-content model designed to enhance lectures and educational materials for students in remote areas, aiming to contribute to the overall improvement of education quality and interest.

The study emphasizes how crucial it is for students to acquire Fifth Industrial Revolution (5IR) skills and digital literacy in both urban and rural settings.

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Objectives of this paper:

- 1. To study the impact of e-content on digital literacy and fifth industrial revolution skills in all levels of education.
- 2. To explore barriers to the adoption of e-content in all levels of education.
- 3. To assess the importance of e-content in enhancing the quality education of all levels of education.

Keywords E-content, Digital Literacy, Quality Education, Fifth Industrial Revolution Skills, Educational Barriers, etc.

I) Introduction

As per the Oxford Dictionary, e-content is defined as digital text and images specifically crafted for display on web pages. Saxena Anurag (2011) describes e-content as a comprehensive package that meets criteria such as minimizing distance, cost-effectiveness, user-friendliness, and adaptability to local conditions.

Digital resources created for electronic platform dissemination and consumption are referred to as e-content. The need for e-content that can facilitate dynamic, adaptable, and internationally connected learning experiences has increased due to the education sector's growing dependence on technology. Even Nevertheless, there are still a lot of unanswered questions about the effects of e-content, especially in secondary school. This study outlines the main obstacles to e-content adoption in educational settings and emphasizes how digital technologies may close gaps in educational quality, inclusiveness, and accessibility.

E-content is widely accessible from various sources, but not all of them meet the desired standards in terms of content, teaching methods, and technical aspects. Copyright violations are common, limiting the ability to customize e-content according to local needs. Additionally, there is an abundance of teacher and student-driven e-content available in the market, thanks to the prevalence of smart and

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mobile devices. Both organizations and individuals create e-content, but the quality of such content may be uncertain. Therefore, it is crucial to establish clear guidelines for developing high-quality and standardized e-content.

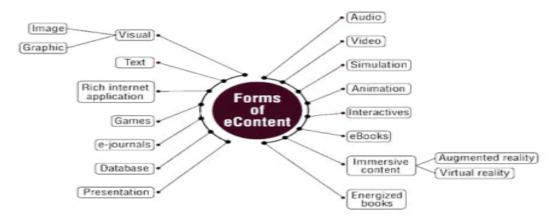


Figure no.1. Forms of E-content

Source: https://ciet.nic.in

Research Gap

Even while e-learning and technology in education have become the subject of much research, little has been done to specifically look at the barriers that secondary educational institutions, especially those in rural areas, face when implementing e-content. Furthermore, there is a need for greater research into these areas since the link among e-content and the emergence of 5IR skills has not been effectively explored.

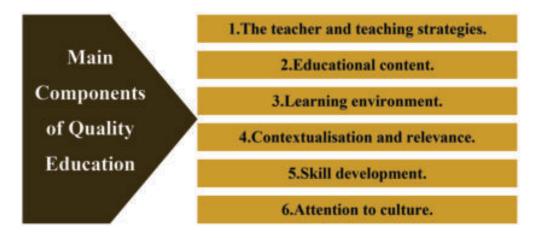
Forms of E-content-refers to the various kinds or styles of digital content that can be shared and used on the internet. E-content includes a variety of digital materials created for online use. Here are some common types:

1. Textual Content: Digital documents, articles, e-books, and written information presented in electronic form.

- 2. Multimedia Content: Content that mixes different media like images, audio, video, and interactive elements to share information or create a learning experience.
- 3. Audio Content: Podcasts, audiobooks, and other audio-based materials that can be played or downloaded.
- 4. Video Content: Educational videos, tutorials, lectures, and other audio-visual materials that can be watched or downloaded.
- 5. Interactive Content: Simulations, games, quizzes, and other content that involves users in a hands-on learning experience.
- 6. Graphic Content: Infographics, charts, diagrams, and other visual ways of showing information.
- 7. Animation and 3D Models: Moving images and three-dimensional representations that make learning more engaging.

Knowing about these different types of E-content helps in creating educational materials that suit specific learning goals and preferences.

Quality Education



Throughout history, India has held a deep-rooted culture and perspective on education and enlightenment. This educational tradition has aimed to cultivate

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educational objectives and constructive participation in society.

Quality education is really important for many reasons because it helps individuals grow, makes societies better, and contributes to the well-being of the whole world. Here are some key reasons why good education is so important:

knowledge, skills, and positive attitudes, all of which are closely tied to the nation's

- 1. Empowerment of Individuals: Quality education gives people the knowledge, skills, and ability to think critically, which helps them make smart decisions. It also boosts personal growth, self-confidence, and the feeling of being in control of one's life.
- 2. Economic Development: When many people in a country are well-educated, it helps the country grow economically. Educated people are skilled and can come up with new ideas, making the country more productive and competitive.
- 3. Reduction of Poverty: Education is like a powerful tool against poverty. It opens up opportunities for jobs, better income, and a chance to move up in society, breaking the cycle of poverty.
- 4. Social Equality and Inclusion: Good education ensures that everyone, no matter where they come from or who they are, gets the same chances. It helps bring people together and makes society more inclusive.
- 5. Health and Well-being: Education is connected to being healthy. When people know about health and cleanliness, they tend to live healthier lives and feel better overall.
- 6. Global Awareness and Cooperation: Being educated means being aware of what's happening around the world. It helps people understand different

cultures, work together globally, and solve big problems that affect everyone.

- 7. Critical Thinking and Problem-Solving: Good education teaches people how to think critically and solve problems. This is really useful in everyday life and helps in finding creative solutions to challenges.
- 8. Civic Participation: Education plays a big part in making responsible and informed citizens. It helps people understand their roles in society and encourages them to care about the well-being of others.
- 9. Environmental Sustainability: Learning about the environment is essential. Education creates awareness about environmental issues and encourages sustainable practices to protect our planet.
- 10. Innovation and Progress: Quality education inspires curiosity and creativity, leading to innovation and progress. It's a key factor in creating new technologies and making important discoveries.

The Quality education is not just about personal growth it's the foundation for building successful, inclusive, and sustainable societies around the world.

II) Research Methodology

Using internet platforms, books, and journal articles as secondary sources, this study uses a content analysis methodology. An extensive analysis of relevant literature was done to find typical problems and fixes for e-content usage.

The impact of e-content on digital literacy and fifth industrial revolution (5IR) skills.

A) The impact of e-content on digital literacy:

Enhancing Skills: E-content offers interactive and multimedia learning, helping with digital literacy by enhancing skills in using digital tools, assessing online information, and understanding digital communication.

Global Connectivity/ Connecting Worldwide: Having access to diverse E-content helps learners connect globally, exposing them to different views and digital methods.

B) The impact of e-content on fifth industrial revolution (5IR) skills:

Innovation and Creativity: E-content fosters a culture of curiosity and creativity, developing the innovation skills Conclusive for the 5IR. It encourages problemsolving and critical thinking, vital in dynamic industries.

Building Adaptability: E-content's interactive nature readies learners for quick technological changes seen in the 5IR, promoting adaptability and a continuous learning mindset.

Collaboration / Improving Teamwork and Communication: E-content platforms often have tools for working together, enhancing skills in virtual teamwork and effective communication.

The Role of E-Content in Digital Literacy and 5IR Skills

E-content provides interactive, multimedia-rich resources that can help improve pupils' digital literacy. Additionally, it encourages the growth of 5IR abilities including flexibility, creativity, and problem-solving. E-content helps pupils connect with larger knowledge networks by bridging the gap between limited resources and global learning possibilities in secondary schools located in rural areas.

Exploration of barriers to adoption of e-content in education.

The use of E-content in education can face many challenges, making it difficult to implement. Given below some common issues:

a) Digital Infrastructure:

Limited Access to Technology: Not everyone has the same access to digital

devices and the internet, making it hard for students and teachers to use E-content effectively.

Insufficient Connectivity: Some areas, especially in rural places, have poor internet connections, creating problems for accessing and streaming E-content.

b) Technological Literacy:

Lack of Digital Skills: Teachers and students may not have enough training or knowledge about digital tools, which can make using E-content difficult.

Resistance to Technology: Some educators or schools might avoid using E-content because they feel unsure or uncomfortable with technology.

c) Content Quality and Relevance:

Inadequate Content: Poorly designed or irrelevant E-content may not match the curriculum or meet students' needs, affecting how much it gets used.

Copyright Concerns: Issues with copyright and ownership can limit how E-content is used and customized, causing worries for educators.

d) Cost Considerations:

Financial Difficulties: Getting digital devices, software, and high-quality E-content can be expensive, especially for schools or areas with limited money.

Subscription Costs: Some E-content platforms may require payment, making it hard for some schools or individuals to afford.

e) Teacher Training and Support:

Inadequate Professional Development: Teachers might not receive enough training on how to use E-content in their teaching, leading to underuse or ineffective use.

Limited Technical Support: There might not be enough help for teachers facing issues with E-content platforms, creating a barrier.

f) Cultural and Language Barriers:

Cultural Resistance: Some may resist using E-content because of cultural preferences or beliefs in traditional teaching methods, slowing down the adoption.

Language Barriers: Having E-content in various languages is important, and the lack of it can make it challenging for diverse language groups.

g) Assessment and Evaluation:

Challenges in Assessment: It can be hard to fit E-content into traditional assessment methods, especially when exams don't align with interactive or dynamic learning.

Concerns About Cheating: Educators may worry about cheating or plagiarism with E-content in assessments.

h) Policy and Regulations:

Unclear Policies: Lack of clear rules on using E-content in education can create uncertainty and hesitation among educators and institutions.

Regulatory Hurdles: Regulations limiting digital content or outdated policies can make it tough for E-content to be widely adopted.

To overcome these challenges, a comprehensive approach is needed, including investments in digital infrastructure, through teacher training, ensuring content quality, and creating supportive policies and regulations.

How can E-content contribute to enhancing the quality of education?

E-content, or electronic content, can contribute significantly to enhancing the quality of education in various ways. Here are several ways in which E-content can play a positive role:

- 1. Accessibility and Flexibility: E-content makes it easy for students to get their study materials anytime, anywhere. This is great because everyone can learn at their own pace and whenever it suits them.
- 2. Multimedia Learning: E-content often has cool things like videos, interactive games, and pictures. These make learning more fun and help you remember things better.
- 3. Personalized Learning: E-content can be made to fit your own way of learning. There are clever systems that adjust to how fast or slow you learn, making your learning experience more personal.
- 4. Global Collaboration: E-content helps students, teachers, and experts from all around the world work together. Online platforms allow you to connect with friends from different countries, helping you understand their cultures and collaborate on exciting projects.
- 5. Real-time Updates: E-content can be updated instantly. This means you always get the latest information, especially in subjects that change quickly like technology or science.
- 6. Cost-Effectiveness: E-content is often cheaper than regular textbooks. You can find online resources, e-books, and digital materials that don't need printing and shipping, saving money for both schools and students.
- 7. Interactivity and Engagement: E-content lets you do cool things like quizzes, games, and discussions. These make learning more interactive, helping you apply what you've learned in a practical way.

- 8. Feedback and Assessment: E-content platforms can tell you right away how well you did in quizzes and assignments. This helps you see where you need to improve and keeps you learning and getting better.
- 9. Inclusive Education: E-content can be set up to help everyone, including those with different learning styles or abilities. It can include features like reading aloud or using subtitles to make sure everyone can learn together.
- 10. Continuous Professional Development: E-content is not just for students; it's great for teachers too! They can keep learning with online courses, webinars, and resources that help them stay on top of new ways to teach and what's happening in education.

In short, E-content makes education better by being flexible, fun, and available to everyone. It brings people together from all over the world, helps teachers keep learning, and makes your learning experience unique and exciting.

III) Review of Literature:

Ahmad Tasnim Siddiqui, A. T., and Dr. Masud, M., (2012), "An E-learning System for Quality Education".

Dr. Mishra, U., Dr. Patel, S. and Doshi, K., (2017), "E- Content: An Effective Tool for Teaching and Learning in A Contemporary Education System.

Rukmani, V. and Dr. Gowrishankar, R., (2017), "Concept of E-Content Learning Environment in Higher Education: A Study.

Arun, A. and Dr. G. Singaravelu, (2019), "E-Content Development: future and provocation", wrote in this article the dual nature of the global village, emphasizing the significance of information sharing and the distinct identity that libraries can establish. It explores the transition to e-Books and open access journals while recognizing the challenges related to intellectual property rights. The influence of ICTs on heightened workload and the importance of e-Learning programs are

acknowledged. The review highlights the necessity of producing digital content in the dynamic technological landscape and recommends the development of Android applications with user-friendly features.

Haleem, A. and et. al., (2022), "Understanding the role of digital technologies in education: A review", researcher explained in this paper the assessment emphasizes the beneficial influence of digital technology in education, simplifying tasks for educators and offering personalized learning experiences for students. It envisions a successful implementation ahead, improving the digital learning environment. Furthermore, the review recognizes the vital role of contemporary technologies in tackling environmental issues and fostering sustainable development.

Summary of Literature Review:

Current research emphasizes the beneficial role of technology, particularly E-content, in education and learning outcomes. Positive aspects encompass enhanced accessibility, flexibility, interactivity, and personalized learning. Nonetheless, persistent challenges such as unequal access, digital distractions, and the imperative for quality assurance need attention. Future studies should tackle these issues and seek inventive approaches to maximize the educational advantages of technology.

E-content Implementation:

E-content for this study, a varied set of digital materials is employed, comprising interactive modules and multimedia presentations designed to align with the curriculum. The chosen E-content distinguishes itself through innovative features like interactive simulations and real-world applications, creating a dynamic learning atmosphere. Challenges encountered encompass ensuring equal access to technology and dealing with copyright considerations, necessitating strategic planning to achieve the best possible outcomes.

IV) Pedagogical Implications

Every stage of education, from secondary to postgraduate (PG), taking into consideration different factors for each level:

1. Impacts on Instructional Strategies and Teaching Methods (The secondary to Masters Levels):

E-content has a significant impact on methods of instruction at all educational levels and promotes a move toward interactive, student-centered learning. Through multimedia and interactive technologies, e-content encourages involvement in secondary school, providing opportunities to complex topics and encouraging critical thinking. Through case studies, collaborative platforms, and simulations, undergraduate students are able to interact with challenging subject, leading to greater knowledge and autonomous learning. E-content empowers students to participate throughout global academic discourse and modern technology by supporting comprehensive research, interdisciplinary inquiry, and critical thought in postgraduate (PG) education.

2. Educators' Role in the Use of E-content (Secondary to Postgraduate Levels):

When it comes to adapting e-content to meet the expectations of students at various educational stages, educators are essential. Teachers in high schools serve as digital literacy facilitators, assisting students use e-content wisely to promote teamwork and problem-solving. Their job is to assist students connect with fundamental knowledge by enhancing the learning process via interactions and experiences.

Undergraduate instructors now emphasize on developing critical thinking and self-directed learning, allowing students to use e-content resources to work through challenging issues and participate in group projects.

The role of the educator changes to that of a consultant and mentor for postgraduate students. Through e-content, they facilitate students in gaining access

to and analysing cutting-edge research, foster self-directed learning, and blend e-content with special methods of inquiry and academic writing.

3. Consequences for Secondary to Postgraduate Curriculum Development:

When incorporating e-content into curricula at different educational levels, careful consideration must be given to each student's unique learning needs:

The secondary school curriculum ought to strike a balance between conventional topics and the usage of interactive, multimedia-based e-content. This guarantees that students gain both digital abilities and fundamental academic competence.

The emphasis of the undergraduate curriculum must be on e-content that encourages practical application of theoretical knowledge, critical thinking, and hands-on learning. At this level of school, individual study using digital resources and teamwork should be encouraged.

Advanced digital resources such as worldwide networks, specialized research tools, and academic databases have to be included in postgraduate curricula. These materials support students' professional-level conversations, data analysis, and indepth research, supporting specialized and innovative learning.

From secondary school to postgraduate programs, educators must adapt e-content to meet the learning and developmental requirements of their students. Digital literacy and the development of core knowledge are the main priorities in secondary education. The focus of undergraduate studies has shifted to the application of knowledge and critical thinking. E-content for postgraduate students should focus on cutting-edge research, originality, and the acquisition of specialized knowledge. Teachers are essential in helping students make these transitions at every level and making sure that e-content is used efficiently to enhance learning results.

Challenges and Solutions Linked to Objectives

The challenges identified in the adoption of e-content—limited access, digital literacy, content relevance, and cost—directly relate to the objectives of this paper.

Addressing these challenges through digital inclusion initiatives, comprehensive training programs, and quality assurance protocols can significantly improve the implementation of e-content in secondary education.

V) Conclusion,

This study emphasizes how e-content might improve secondary education through transformation. Through the development of digital literacy and 5IR skills, e-content equips students with the necessary abilities to thrive in a world that is changing quickly. But in order to guarantee that e-content is successfully adopted in all educational environments, there are important obstacles that need to be addressed, such uneven access and poor teacher preparation.

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The Changing Dynamics of Regional Politics in Maharashtra

Mosim Rajahmad Pathan

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Abstract:

Maharashtra, one of India's most economically and politically significant states, has witnessed considerable shifts in its regional political landscape over the past few decades. This paper examines the changing dynamics of Maharashtra's politics, focusing on the rise of regional parties, the decline of national parties' dominance, the role of caste and religion, and the influence of economic factors. Additionally, the paper explores how recent developments, such as coalition politics and the emergence of new political alliances, have reshaped the state's political arena. Through an analysis of electoral data, party strategies, and socio-political trends, this research provides insights into the evolving nature of Maharashtra's regional politics.

Keywords: Regional Parties, Sons of Soil, Monopoly, Regionalism, Caste Identities, Fundamentalism, Coalition Politics, National Political Party, Regional Political Party.

I) **Introduction**:

Maharashtra often referred to as the powerhouse of India due to its economic progress, has always been a significant player in the country's political landscape. The state's political dynamics have been shaped by a unique blend of regionalism, caste equations, lingual issues and developmental politics over the years, Maharashtra's regional politics have evolved, reflecting broader changes in Indian politics while also exhibiting distinct regional characteristics. This research paper seeks to examine the changing dynamics of Maharashtra's politics, focusing on key factors such as the rise of regional parties and regional aspirations, the decline in influence

of national parties, the impact of caste politics and religious fundamentalism, and the role of economic policies over the years.

II) Research Methodology:

This paper is based on secondary sources. It also compiles the data related to assembly elections in Maharashtra provided by Election commission of India. Reference books, Research articles, Edited books related to the subject have been used as secondary sources. In this research paper, historical method has been used to analyze the historical background of Maharashtra's regional politics and also used Descriptive method to explain local dynamics in Maharashtra's regional politics.

III) Historical Context:

Maharashtra's political history is deeply intertwined with the national struggle for Independence and the Congress Party's dominance in the post-independence period. The Congress Party enjoyed a hegemonic position in the state for several decades, largely due to its ability to accommodate various regional and castebased interests. However, In the 1960s, regional aspirations were began to emerge in Maharashtra's politics, with the establishment of "Sanyukt Maharashtra Movement" with the demands of creation of Maharashtra by accommodating all the adjacent Marathi Speaking regions i.e. Belgav, Karwar, Nipani etc. Later on 1970's the emergence of regional political parties like Shivsena came up with the ideas of "Sons of Soil" under which they demanded preference to "Marathi Manus" (Marathi Speaking People) in the Public employment, Businesses, Education and all related public sectors. These regional aspirations led to change in the dynamics of Maharashtra's regional politics which can be called as 'First Wave of Sub-National Aspirations" in Maharashtra's regional politics. Furthermore, In the 1990s, "Second Wave of Religious Aspirations" emerged with the emergence of Shivsena and Bhartiya Janata Party's accession to power. Both these parties have taken up the ideology which was influenced by Hindutva Philosophy in which elements of religious fundamentalism was incorporated. These parties capitalized on regional

aspirations and dissatisfaction with the Congress Party's policies, leading to a gradual decline in the latter's dominance.

The Rise of Regional Parties:

The emergence of the Shiv Sena in the 1960s marked the beginning of a new era in Maharashtra's politics. Founded by Bal Thackeray, the Shiv Sena initially focused on advocating for the rights of the Marathi-speaking population (Sons of Soil) and opposing the dominance of non-Maharashtrians in Mumbai. Over time, the party expanded its base by adopting a more aggressive Hindutva ideology, aligning itself with the Bharatiya Janata Party (BJP) at the national level. The Shivsena's rise was symbolic of the growing influence of regional parties in Maharashtra, challenging the Congress Party's monopoly.

Similarly, the formation of the NCP in 1999 by Sharad Pawar, a prominent Congress leader, further weakened the Congress Party's hold on Maharashtra. The NCP, positioning itself as a regional party with a strong focus on the state's interests, has played a crucial role in shaping Maharashtra's political landscape. The party's ability to form alliances with other regional and national parties has made it a key player in state politics.

There are multiple National and Regional political parties in Maharashtra which are having considerable vote share and support among the people in Maharashtra. Those are Maharashtra Navnirman Sena (MNS), Vanchit Bahujan Aghadi (VBA) Communist Party of India (Marxist), Swabhimani Paksha led by Raju Shetty, Peasants and Workers Party led by Jayant Patil, Prahar Sanghatana led Bacchu Kadu, Samajwadi Party, Bahujan Samaj Party, All India Majlis-e-Ittehadul Musalamin(AIMIM) etc. All the above mentioned Political parties are impactful and have considerable vote share in assembly elections conducted in Maharashtra.

Table below shows their vote share in 2019 Assembly elections of Maharashtra:

		1		ı	1	ſ	
Sr.	Political Party	Seats	Seats	Runner	Third	Total Votes	Vote
No.		Contested	Won	Up	Place		Percentage (%)
				*			0 ()
1	Bharatiya Janata	164	105	55	04	1,41,99,348	26.1
	Party						
2	Shivsena	126	56	54	12	90,49,789	16.6
3	Indian National	147	44	69	24	87,52,199	16.1
	Congress					07,02,133	10.1
4		121	54	47	13	0216011	16.9
4	Nationalist Congress	121	54	4/	13	92,16,911	16.9
	Party						
5	Maharashtra	101	1	10	25	12,42,135	2.3
	Navnirman Sena						
6	Vanchit Bahujan	236	0	10	116	25,18,747	4.6
	Aaghadi				110	20,10,717	
7		5	1	1	1	2 21 627	0.4
/	Swabhimani Paksha	5	1	1	1	2,21,637	0.4
8	Peasants and	24	1	4	1	5,32,366	1
	Workers Party						
9	Communist Party of	8	1	1	1	2,04,933	0.4
	India (Marxist)		_	_	1	2,01,755	0.1
10	1 1	4.4	2	4	11	7.27.000	1.4
10	AIMIM	44	2	4	11	7,37,888	1.4
11	Prahar Janshakti	26	2	0	0	2,65,320	0.5
12	Samajwadi Party	7	<u>2</u>	0	1	1,23,267	0.2%
13	Bahujan Samaj Party	263	0	0	16	5,04,911	0.9

(Source: https://www.indiavotes.com/ac/party/detail/30/276)

The Decline of National Parties:

The rise of regional parties in Maharashtra has coincided with the decline of national parties, particularly the Congress Party. While the Congress Party once enjoyed widespread support across various sections of society, its inability to address regional aspirations and internal factionalism has led to its decline. Many parties acoss India were emerged out of Indian National Congress because of their internal disagreements and different opinion on socio-political issues, But in Maharashtra, only NCP was the major political party founded after splitting from Indian National Congress. The BJP, on the other hand, has managed to establish a

foothold in Maharashtra, primarily by aligning with the Shivsena and capitalizing on the growing influence of Hindutva politics. However, the BJP's success in Maharashtra has been inconsistent, with the party facing challenges in maintaining its alliance with the Shivsena and addressing regional concerns. Shivsena and BJP's alliance put forth major ideological challenge to INC. This alliance was the combination of two Rs i.e. regional aspirations and religious aspirations at the same time. The vacuum created by weakened Congress was filled by multiple regional parties mentioned above and other, by timely addressing the local and regional issues and this led to decline of National Party's importance specifically INC in Maharashtra. But the decline of INC as a National Party was replaced by BJP as a national party though not in capacity that INC had in past elections. But in 2014 and 2019 assembly elections BJP emerged as a single largest party in Maharashtra winning 122 and 105 seats respectively out of 288 seats.

Caste and Religion in Maharashtra's Politics:

Caste and religion have always played a significant role in Maharashtra's politics. The state's complex caste dynamics, with a mix of Marathas, Dalits, OBCs, Minorities, Tribal and other communities, have influenced electoral outcomes and party strategies. The Maratha community, which constitutes a significant portion of the state's population, has traditionally been a dominant force in Maharashtra's politics.

Currently, Maharashtra's Politics is going through a paradigm shift vis-à-vis Caste equations. The issue of reservation brought Caste at the forefront in regional politics of Maharashtra again. Majorly, demand of Maratha reservation has changed social dynamics today. As Maratha Community demanding their inclusion into OBC category and on the other hand OBC communities are opposing this demand and asking the State Government to give separate reservation to Marathas without including them into OBC. This has led to fierce argument between leaders of both communities. As Maratha and OBC communities forms major chunk of Maharashtra's total demographic composition, it has impacted social dynamics in Maharashtra's

regional politics.

Religious politics, particularly the influence of Hindutva, has also become more prominent in Maharashtra over the years. However, the state's political landscape remains complex, with regionalism and caste identities continuing to play a crucial role alongside religion.

Economic Factors and Policy Implications:

Maharashtra's economic policies have also significantly influenced its political dynamics. The state has traditionally been one of India's most industrialized and economically prosperous regions. Economic issues such as agrarian distress, unemployment, inflation and industrial development have been central to political discourse in Maharashtra. The state's political parties have had to balance the demands of urban and rural constituencies, leading to the adoption of diverse policy approaches. Shifting of Industries and Industrial Centres from Maharashtra to other states is also a major issue being discussed in Maharashtra which has the potential to change dynamics of regional politics.

The agrarian crisis, particularly in the drought-prone regions of Vidarbha and Marathwada, has been a persistent challenge for successive governments. Farmer's protests and demands for loan waivers, demand of MSP, FRP for Sugarcane have become significant political issues influencing electoral outcomes.

Additionally, the rapid urbanization of cities like Mumbai and Pune, Nashik, Ch.Sambhajinagar, etc has led to debates over infrastructure development, housing, health and environmental concerns. Political parties in Maharashtra have had to navigate these economic challenges. Urban Maharashtra is more concerned with developmental challenges because urbanising cities are growing rapidly in Maharashtra.

Coalition Politics and Recent Developments:

The 2019 Maharashtra state elections marked a significant turning point in the

state's political dynamics. The Shivsena, which had traditionally been aligned with the BJP, broke away from its long-standing alliance and formed a government with the NCP and Congress. This unexpected coalition, known as the Maha Vikas Aghadi (MVA), highlighted the fluid nature of Maharashtra's politics and the growing importance of coalition politics. The formation of the MVA government underscored the declining influence of national parties like the BJP and Congress in the state, as regional parties increasingly assert their dominance. However, the MVA government has faced challenges in maintaining stability, with internal disagreements and external pressures from the BJP.

After formation of Maha Vikas Aghadi (MVA) government dramatic changes occurred in Maharashtra's politics once again in June 2022. The Shivsena led by Uddhav Thackarey got split. This split within Shivsena was led by Eknath Shinde and other Shivsena leaders. They got separated from Uddhav Thackarey and claimed their faction of Shivsena as original political party and later on Election Commission of India recognised Eknath Shinde led Shivsena as original Shivsena political party and gave Uddhav Thackarey led party a different name as Shivsena-Uddhav Balasaheb Thakarey(UBT). After separating from Uddhav Thakarey, Shinde led Shivsena again established an alliance with BJP and formed government in Maharashtra.

Later on NCP led by Sharad Pawar also got split in July 2023. This split was led by Ajit Pawar and NCP leaders having support of more than 40 MLA's and Election Commission of India recognised Ajit Pawar faction as original NCP and gave different name to Sharad Pawar led Party as NCP- Sharadchandra Pawar. In July 2023 Ajit Pawar led NCP joined alliance of Shivsena and BJP called 'Mahayuti'.

Currently, Both the above developments regarding Shivsena and NCP is Subjudice and are before the Supreme Court of India. Supreme Court is yet to pronounce its judgements regarding the claim of original political party.

After formation of 'Maha Vikas Aghadi' and 'Mahayuti', both of these alliance parties

fought Loksabha general election of 2024 as MVA and Mahayuti. In this Loksabha election, MVA won 31 seats and Mahayuti won 17 seats out 48 seats in Maharashtra.

Political Party	Seats Won			
Indian National Congress	13			
Bharatiya Janata Party	9			
Shivsena -UBT	9			
NCP-SP	8			
Shivsena	7			
NCP	1			
Independent	1			
Total	48			

(Source: https://results.eci.gov.in/PcResultGenJune2024/partywiseresult-S13.htm)

The shifting alliances and power struggles within Maharashtra's political landscape reflect broader trends in Indian politics, where coalition governments have become more common, and regional parties play a crucial role in shaping policy decisions.

v) Conclusion:

The changing dynamics of Maharashtra's regional politics reflect broader shifts in India's political landscape. The rise of regional parties, the decline of national party's dominance, the influence of caste and religion, and the impact of economic factors and changing alliances have all contributed to reshaping the state's political arena. As Maharashtra continues to play a crucial role in India's economic and political future, understanding these dynamics become essential for analyzing the State's evolving Political landscape. Hence we can say from the above analysis that Maharashtra's regional politics is complex, evolving and being restructured on different contours of political ideology and social - economic equations.

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New Paradigm of personal Autonomy and Reproductive Right: Challenges to access Assistive Reproductive Technology towards infertility issue in India

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Abstract:

Reproductive rights are legal rights and freedoms relating to reproduction and reproductive health that vary amongst countries around the world. Reproductive rights are concern to human rights. Reproductive right is ability to make decisions concerning reproduction without discrimination, coercion and violence. It includes right to legal protection of maternity, the right to work right to reproductive health etc. However, the content and scope of reproductive rights remains controversial. Infertility is major issue amongst men and women in the world. Inability to Progeny is highly influence exploitation mostly to women, Childlessness/Vanz the stigma, appears to be a social and cultural curse. Invention in medical science, Assisted Reproductive Technologies (ART), and spectacular progress in vitro fertilization IVF provide different option to infertile, and give hope to have their own biological child. Because of Conservative social and legal perception leaves injustice to nature of autonomy and reproductive right.

Researcher have made attempt to identify term reproduction, analysis and examine the personal autonomy and reproductive right to women with new single person, Gay, Lesbian and Transgender family in context to ART- Surrogacy in India . Paper look into two aspects of reproductive autonomy on women one who could not bear the child due to infertility another woman "Surrogate" who could not exercise her personal autonomy and reproductive right due to societal perceptions with reproduction and motherhood through ART-Surrogacy. This scope include personal autonomy and reproductive rights of Single person, Gay, Lesbian and Transgender family. Evaluate the legal status of the national and international legislation, judicial response to ART=Surrogacy. Assess the contemporary issues with reproductive right with relation to infertility and access to artificial reproductive technology with ethical, moral, social, economic, legal and human rights aspects. Finally, Conclude with new remarks to issues of women personal autonomy and reproductive rights, same new families with new legal reforms. Data were taken from books, legal

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journals, on-line media news of websites through Internet.

Keywords: Assistive Reproductive Technology, Reproductive Right, Infertility, Surrogacy, Human Rights

I) Introduction-

Meaning of personal Autonomy -

Everyone has liberty to set the goal of their life how to pursue our idea of the 'good life' with the present preferences, capabilities, constraints and aspirations to achieve the object of social and economic need. Personal autonomy is the human capacity to form a personal opinion and make decision for her/hid life with different fundamental rights as human rights. Thus, a person is able to choose and make decision towards desires, preferences and objective of life. In context to Women's Autonomy means the right to make decisions concerning her fertility and sexuality, health care with free of coercion and violence. Ensuring the free decision making with informed consent and confidentiality of girl-women's choice and decision-making rights with reproductive rights. "Autonomy" also means that a woman seeking health care in relation to her fertility and sexuality is entitled to treat as an individual in her own reproductive right and fully competent to make decisions concerning her own health. Health care provider shall protect the privacy of women.

The human right of women to control their fertility and sexuality free of coercion is guaranteed implicitly by the Women's Convention. The right to autonomy in making health decisions in general, and sexual and reproductive decisions in particular, derives from the fundamental human right to liberty. The word "Autonomy" itself is not mentioned expressly in the Convention, but the value of autonomy is certainly implicit in the fundamental freedoms it guarantees to women, on a basis of equality with men. Autonomy is intimately and intrinsically connected with many fundamental human rights such as liberty, dignity, privacy, security and bodily integrity of the person. "Autonomy", in the sense that one is entitled to recognition of one's capacity, as a human being, to exercise choice in the shaping of one's life". Paradigm means human's new set of beliefs that set new terminology of human life by set of human practices collectively and shared by individuals in the society.

Thus, personal Autonomy and Reproductive Rights shifted to new concept family single person, live-in relationship and Lesbian, Gay and Transgender family who are

part of human society. These people are exercise their autonomy and reproductive rights to access surrogacy (new advance medical invention to procreate) to have own biological child in desired of parenthood. The peoples family building action is consider against general concept of family building, heterosexual family.³

Meaning, concept of Reproductive Rights as Human rights:

Term Reproductive rights established as a subset of the human rights in international document, because of women's movement for equal right. Significantly, the population and platform for action articulate the concepts of sexual and reproductive rights. The WHO defines reproductive rights as "Reproductive rights rest on the recognition of the basic right of all couples and individuals to decide freely and responsibly the number, spacing and timing of their children and to have information to do so, and right to attain the highest standard of sexual and reproductive health. It include decisions of reproduction without discrimination, coercion and violence". ⁴ Thus, reproductive rights include Women's reproductive rights may include:

- 1. The right to legal and safe abortion;
- 2. The right to birth control,
- 3. The right to access good-quality reproductive healthcare,
- 4. Right to control one's reproductive functions,
- 5. Right to access in order to make reproductive choices without coercion, discrimination and violence and

Right to protect from gender based practices. ⁵

Ii) Research Methodology -

Objectives of the Study:

- 1. To understand New Paradigm of Personal Autonomy and Reproductive Right in India.
- 2. To evaluate challenges to access Assistive Reproductive Technology towards infertility issue in India

Data Collection:

Secondary data used for completion of the research paper. Data were taken from books, legal journals, on-line media news of websites through Internet.

Research Design:

The descriptive research design used for the present research study.

III) Results And Discussion -

Major Reforms in Women's Reproductive Rights:

Major, reforms started with UN Conference on Human Rights 1968, which recognized the "rights to decide freely and responsibly on the number and spacing of children and to have the access to the information, education and means to enable them to exercise reproductive rights".6 ICPD programme of action stated that couples' and individuals' right to make decisions concerning reproduction free of discrimination, coercion and violence". State have to take appropriate action to secure ethical and professional standards in delivery of reproductive health services, ensuring responsible, voluntary and informed consent. While Beijing Platform for Action recognized reproductive rights of women means "right to have control over and decide freely and responsibly on matters related to their sexuality, including sexual and reproductive health services, free of coercion, discrimination and violence on a basis of equality of men and women.⁷ State have obligation to ensure to access the healthcare services, including those related to family planning and, more specifically, to "ensure to women appropriate services in connection with pregnancy, confinement in the postnatal period, granting free services when necessary, as well as adequate nutrition during pregnancy and lactation without any discrimination, to prevent discrimination on the bases of marriage or maternity and sexual orientation".8

Meaning of Infertility:

Infertility means the effective non-occurrence of pregnancy after one year of having sexual intercourse without the use of means to prevent pregnancy. Infertility is included in ICPD as one of the components of reproductive health. Therefore, it is need to health care treatment and service for infertile couples. Environmental and occupational exposure to chemicals, lifestyle, late marriages stress psychological are the most common factors for infertility. Women seeking treatment for fertility could be lifetime crisis because of socio-cultural, emotional, physical and economic problems. Approximately 8-12% of couples are infertile, of world population. ⁹

Who define "infertility is a disease of the reproductive system" further International Glossary on Infertility and Fertility Care has include "impairment of a person's capacity to reproduce either as an individual or with his/ her partner," to

recognize the reproductive challenges of lesbian, gay, bisexual, transgender, queer, and un partnered individuals. However, there is disparity in access the reproductive health care and treatment, as reproductive rights to new emerging family. 10

Issues related to Reproductive Rights:

Building a family is a basic human right. Still economic, racial, ethnic, geographic, and other disparities affect both access to fertility treatments and treatment outcomes. Economic factors are the chief contributors to disparities in access to effective treatment. However, the government's population control policy, religion or social-cultural derogative and discriminatory practices including individual or systemic discrimination of sexual orientation, or gender identity are major factors affect to access the reproductive rights.

Beside these human rights are guaranty by Indian constitution, international and national laws. Women are s subject to lack to make decision about her reproductive rights. The main reason is Indian male dominating patriarchy system, inequality and discriminative legal provision; mark the girl-women vulnerable. Now, reproductive freedom and autonomy dominated by based on a well-known process of socialization, now it embedded in wider geopolitical, geo-economics, and bio political power relations.¹¹

The reproductive rights are essential to everyone for happy healthy living life. When look into reproductive rights of girl-women, always debating issues concern to decision making about reproduction, abortion, menstrual leave, access to healthcare and treatment are subject of violation of personal liberty, personal autonomy and right of privacy. In addition, these reproductive rights are lacking to other gender minorities as single person, LGBT and Transgender family.

The discrimination against women is closely associated with prejudices and stereotypes attitude and behavior of patriarchal notions of women's sexual and reproductive roles and functions, and state legal policy. Thus, reproductive behavior and rights are associated with view and thoughts in context of relationships between men and women, communities, society, state law and policy.

Infertility Issues in India:

Nature have given women to capacity to child bearing, motherhood are emotionally gripping, and socially important for the family life. Thus, desire for children among couples is a universal phenomenon. Parenthood is a life changing and eternally rewarding experience and highly honored to women. Main object

of child "son" preference by any religion is purpose to performance of household sacrifices; progeny for the continuation of the lineage, funeral obligation, old age insurance. Thus, children are highly valued for social, cultural and economic reasons.

Infertility is most contentious issues in couples of every community regardless of different religions of world. Couples who could not bear a child are influence with social stigma of childlessness or 'vanz', most commonly the women. These social norms are deeply rooted in the belief system of the people and are supported by religious and traditional customary practices. Such ideology of society, resulting women in physical, mental, psychological and emotional stress, depression, anxiety and low self-esteem cause health harms; domestic violence, polygamy and matrimonial breakdown and deprived or neglect from religious-cultural celebration of the family, freedom of movement and participation in public life. Therefore, infertile women may experience domestic violence, economic deprivation, social isolation and ostracized marital lives. As a result, a private pain, namely infertility, could turn into a public and unpleasant stigma with complex and devastating consequences. Thus, Infertility could be a source of social and psychological suffering for women, only.¹²

Concept of Adoption:

To overcome social consequences of infertility, Adoption is evolved as an alternative option and accepted by different community of family. The adoptive parents are not the biological parents of adopted child, but the legal parents. This kind of social acceptation, kept away infertile couples from physical, mental, psychological impact of infertility in families in context of social influence, medical treatment and economic cost. Some infertile couples, considered adoption as last option, while some infertile couple take medical treatment for in hope of biological child. This adoption practice is under gone changes from the relative to non-relative, then inter-country adoption. With changing Civilization in social aspect, new concept of family are emerged (single person, Live-in relationship, same-sex family, transgender. These legally recognized as the part of human society. These families go for e child adoption in desire of child and parenthood, a formation of family. However, adoption process is rigid and time consuming, adopting parent face physical, mental, psychological influence, economic exploitation as insurance or fix deposit or donation of Rs 5-20 lakh against adopted of child as security. ¹³

Assisted Reproductive Technologies (ART) - Surrogacy:

In invention in medical science "In Vitro Fertilization" (IVF) a new scientific medical

technology with different 'Assisted Reproductive Technologies' (ART) serve as treatment for infertility to male or female. This was develop in UK and India at same decades of 1970. This invention enhanced infertile women to conceive child because of abnormality such as undergone a hysterectomy, suffered multiple miscarriages etc. Infertility may be issue with female or male, or sometime may be both. IVF and ART give opportunity treatment to infertile couple in all situation of infertility issues as endometriosis and male factor, or when a couple's infertility is unexplained or women with absent of fallopian tubes and uterus or cancer, diabetes.

In vitro fertilization (IVF), Fertilization is take outside of the body. IVF provide Simple Intrauterine Insemination, Intrauterine Insemination etc. Artificial insemination is a type of IVF that is often used for couples in which a single sperm is injected into a mature egg, or alternatively the egg and many sperm are placed in a petri dish (Test Tube Baby) together and the sperm fertilizes an egg on its own to produce embryo. Embryo is transfer to women's uterus depending on female's infertility. When intended infertile female is able to carry gestation then embryo is transfer to infertile female's uterus else embryo is transfer to another women to carry gestation who have no genetic relation with embryo, referred as 'surrogate' or 'surrogate mother'.

When an infertile couple who are unable to give birth of child, takes the help of another woman, who agree to carries the gestation with intention to hand over the child to the intended parent after birth of child referred as Surrogacy.

In gestational surrogacy, an egg is removed from the intended mother or an anonymous donor and fertilized with the sperm of the intended father or anonymous donor. The fertilized egg, or embryo, is then transferred to a surrogate who carries the baby. The child is there by genetically related to the woman who donated the egg and the intended father or sperm donor, but not the surrogate.

Surrogacy is an important fertility treatment opportunity to infertile couples to have biological child, which fulfill dream of parenthood. Childbearing in human life is dramatically changed in infertile couple as well as new emerging family (single person, live-in relationship, LGBT family who have physical in ferity to bear a child. Thus, IVF provide the opportunity to infertile couple and new emerging family single person, liv-in relationship, Lesbian, Gay, Transgender (Gay to fulfill desire of parenthood, a formation of by their sperm or egg or donor (sperm or egg) depending on female or male infertility.¹⁴

The US Supreme Court said "procreation one of the basic civil rights of man. Fundamental to the very existence and survival of the race. After Decades, Court reiterated the importance of reproduction, It is major life activity" deserving of protection under the federal law prohibiting discrimination against persons with disabilities. The right of reproductive liberty is individual's right to be free from governmental interference with his or her reproductive decision-making, including choices about whether and when to form a family and to receive treatment for disease. Reproductive justice, women and girls have a full achievement of their

Thus, Surrogacy services is an important method of assisted reproductive technology to Number of infertile couples around the world to have own biological child. Although this arrangement seems to be beneficial to infertile intended parent, surrogate. However, there are complex social, ethical, moral, and legal issues associated with Surrogacy practice.

human rights including the right to have or refrain from having children. 15

Legal status and issues around parties of surrogacy:

Everyone have right to life, right to form a family, right of personal liberty and autonomy, right to health make decision about reproductive rights and right to privacy of life. Every person has right to access and share scientific advancement, progress and its application to benefit and enjoyment of life without any discrimination. These rights protected under international legal documents. 16 State have obligation to make implementation in national law as international commitment.¹⁷ Indian constitution guarantee personal liberty and life, right to access scientific development and reform, humanism and spirit of inquiry to scientific invention. 18 Same, Indian Supreme court gave wider scope to Article 21, interpreted that right to personal liberty and life include right to autonomy, right to make decision about reproductive rights, right to health, right to privacy. Court stated, "Women's autonomy and gender equality is core elements of women's constitutionally-protected right under reproductive health framework, individuals to make informed, free, and responsible decisions about their reproductive behavior. The right to control their own body and fertility and motherhood choices should be left to the women alone" is a dimension of 'personal liberty'. 19

Beside, legal protection of framework, The Indian government came with discriminative, Surrogacy regulation act 2021. Act allows only, surrogacy to two year married couple, restricting to single person, live-in relationship, same-sex and transgender families under name of gender bios and sexuality.²⁰ In India, Single

person (female) and same-sex family have legal right to adopt a child, but surrogacy act could not give permission to access surrogacy. This is due to different social perception and different legal right are associated with this families. The world's some country allow surrogacy, while some country has ban the surrogacy.

Country who ban the surrogacy, infertile couple and new emerging family from this country are travel to country where surrogacy is legal. However, due to different social perfection and no uniform legal status to surrogacy, these families have to face legal challenges concern to parental right of child, name of mother on child's birth certificate, travel document, VISA, nationality of child.²¹

Maternity is "a social function. CEDAW focuses on the health of the pregnant woman. When look to the health care of surrogate, is inconsistent with surrogate, while she is carry the gestation during surrogacy. Surrogate social work have given label of commercial function. Term associated with surrogate work is Altruistic or commercial. Essential elements of surrogacy are childbearing by a surrogate mother, the termination of her parental rights after his birth, and payment of money by the commissioning parents. If the money paid for merely recompense to the surrogate, in connection to for the pain undertaken and includes reimbursement of medical and other expenses, insurance hear surrogacy is Altruistic not commercial. In contrast, commercial surrogacy involves payment of money as income to the surrogate for her social work/service.

This terminology of surrogate's social work or service is not correctly undetermined, and undefined. When, we look to peoples doing social work at Governmental or Non-Governmental Organization, they are take remuneration for their eight hours of social work or service. Other way, if surrogate has taken money for her social work/service, then her work/service will be consider as commercial and unethical. If she do work/service as surrogate mother without taking any money from intended parent then her social work/service is legally valid under name of Altruistic.

Here, my argument is, if social worker work in NGO take money for her / his eight hours social work, why surrogate shall not take payment for her social work/service. Another question raise that today's modern fast era of living life, any women agree for social work/service day-night 24 hours for 12 months of her living life to any other person without taking any money , may be her any relatives of commissioning parent, is big question. Women working in health care service in hospital are take remuneration for work, as this work is consider as social work

In modern era of fast living life, people are engage in earn more and more money for fulfill their high standard of living life of family. Surrogacy presents an opportunity for uneducated and very poor women to make easy improvements in their financial crisis and to develop their 'standard of living life of family include financial empowerment, purchase house, access to healthcare treatment and service. Improvement of family members, particularly children education, old age security. As she is uneducated, so she could not earn more money as educated women. Therefore, surrogacy is opportunity for uneducated women to earn more money as educated women, providing social work/service as surrogate. ^{22,23,24}

Women is hiring out her wombs in surrogacy, for birth of child of commissioning parent. Here, child born through surrogacy is look as commodification. Because women is rent her womb to birth of child of commissioning parent for payment of money.

Here my argument is, Why when child is given for adoption to intended parent, adopted parent have to pay money in form of fix deposit or insurance or donation to charitable trust about 10-25 lakh under security of child . Same, Adoption is rigid and long time consuming process about 1-2 year, and have physical, mental, psychological influencing and exploitative to child and intended parent. Therefore, why this adoption process is consider as exploitation and commodification of child and adopted parent. Therefore, it is open argument to person, who said surrogacy is exploitation and commodification to surrogate and child. It is just mind set argument of person, without looking all-necessary option that social practices are continue in India. Arbitrariness and lack of society's values, the differences between rich and poor in countries and the exploitation of the women who are hires out her womb is intimately related to value and power relation with geographical condition of women and policy of state.

Surrogate in India is under the poverty, while surrogate in USA is not. However, women from USA can make choice to become surrogate, but Indian women could not. There is ethical issue with women work as surrogate.

Medical professional have responsibility to practice ethical but medical advocacy is absence in risk associated with surrogacy practice. Surrogacy, gestational carrier treatment comes the mitigating risks for gestational carrier and child born. There is lack of information about risk associated to gestation from doctor towards surrogate, intended parent. Same, the transfer of multiple embryo in Uterus. Procreative liberty, privacy, and autonomy favor surrogacy, but there are unjust inducements

related to privacy, compensation, considering the commodification of women work as surrogate and best interest of the resulting child born in surrogacy. There is lack of financial support and sponsorship to infertile couple who could not access health care treatment due to financial problems. ^{25,26,27}

All positives and negatives taken into consideration, we cannot unseen real fact that gestational surrogacy is hope to individual and couples who could not otherwise build a family due to physical in ferity, and outside the adoption. Hear, infertile couple are losing the privilege of important treatment of health care available to them. So, there is need to fair and legal middle ground is put in framework between the medical practitioner, intended couples requiring this form of medical services, surrogate as gestation carrier and regulatory bodies of Surrogacy.

Another ethical issue about status of motherhood to the child born in surrogacy, with women involved. What could be the relationship between genetic mother and gestational mother, and child or if donor egg of women is used. Is their possible to socially or legally accept the term multiple motherhood in Indian society? There is question of privacy of donor's egg and sperm should be maintain or not, because right to know about parent is legal right of child.^{25,26}

Every individual has right to form a family and access the scientific advancement to benefit of enjoyment of life and security. Individual have right to make decision to access and choose reproductive health care and treatment, and privacy about his/ her decision include the right to decide freely one's reproductive functions without arbitrary interference of anyone. Besides having Indian constitutional rights and international protection, India's Surrogacy law is completely lack to protect human rights of intended (infertile) parent, surrogate and child born in surrogacy agreement. It is international commitment and Indian constitution's obligation on Indian government to make necessary implementation in national laws, to access advance scientific technology with equal opportunity and without discrimination to everyone who require advance medical health treatment. However, Indian government is failure to provide legal opportunity, medical treatment IVF-Surrogacy to single person, live-in relationship and Lesbian, Gay Transgender family. Thus, freedom to choose and when to reproduce is individual's right, but these rights are taken away by surrogacy law 2021 and rooted India social fabric of human oriented family system. 27

In regard to personal liberty and autonomy of women, surrogate have not any take decision about her body, right to privacy and justice to surrogate and intended

parent are remain just burning issue in context of human rights. Therefore, to remove legal discrimination, Indian government would frame equal law and policy to IVF- Surrogacy for infertile couple, single person, live-in relationship, Lesbian, Gay and Transgender family; who could access surrogacy and enhances their personal autonomy.

Indian government must is ensure that the autonomy of these persons decision-making could be protected and safe from serious adverse effects, including abuse and neglect from society. Efforts should include increasing insurance coverage, reducing the economic and noneconomic burdens of treatment, improving public and physician attention to treatment disparities, and reaching and educating underserved populations and geographic areas. Thus, infertile couples, single person, live-in relationship and LGBT people's personal autonomy would be respected under legal capacity for their reproductive rights as human rights.

IV] Conclusion-

Personal autonomy and reproductive rights are core element of every women, but Notions of reproductive autonomy and bodily integrity mostly affected by social fabric of satisfaction of one's social beliefs, Mailed dominating social ideology and government's unequal law and policy concern to reproductive rights.

Every couple and individual have ability to make decision about when to start a family, when to procreate and become a parent. Still, it is harsh to say that couples or individual could make the decision about her bodily integrity, reproductive desires, to reproduce and to avoid the reproduction. Same, single person, Live-in relationship LGBT family are unable to access health care, treatment, and reproduction as reproductive rights, because of sexual gender and orientation.

New scientific techniques and technology of fertility treatment IVF-Surrogacy provide opportunity to infertile couple, single person, liv-in relationship, Lesbian, Gay and Transgender family to procreate, fulfill desire of biological child and parenthood, who could not able to procreate a child due to infertility there is no specific legal regulation for IVF-surrogacy, this cause social, ethical legal and human rights issues to intended infertile couple and new emerging family, during accessing and process of surrogacy. After three decades of debate, surrogacy regulation act came in existence, but take away the free decision-making to access IVF-Surrogacy to intended parent include single person, live-in relationship, LGBT peoples; and human rights of child born in surrogacy agreement; decision of bodily Integrity and economic exploitation of surrogate. As, the Benefits of scientific progress in

medical science improved choice of reproductive health care treatment to infertile couple and new emerging family (single person, live-in relationship, Lesbian, Gay and transgender) but Indian government law and policy deprives to these peoples from access new medical scientific techniques and technology IVF–surrogacy. Thus constitutes a form of discrimination.

To avoid noncompliance with international law, Indian government must take necessary steps to provide access to new emerging families with addressing appropriately and framed comprehensive law that preserve its citizens' right to achieve full realization of the highest attainable level of health standard of treatment and services, which would protect the human rights of surrogate mothers, intended (infertile) parents, and child born through surrogacy. "It is need to intolerance and exclusion, and the acceptance to develop a society based on equality and respect by all for all". ²⁸

Since reproductive rights, include the right to parent are human rights, like other human rights, they should be universally assured.

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Rural Subsistence through Farmer Producer Company: A Study of Kolhapur District

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Abstract

Farmer Producer Companies (FPCs) is a new age of transformation of the agriculture field to bring sustainability in the agriculture production for the county (India) and enacted act extremely anticipated to participate in a significant pivotal part in the development of rural-agriculture outlet. It has been considerably changed the income of the individual and the group of the people through the systematic involvement of agriculture individuals at the farm level. In recent, numerous research have been evaluated the way in which producing companies perform and also assessed their challenges for the selected FPCs in the country. Several times case studies have been recorded for the producer companies but so far no one has discussed that producer companies are acting as removal of rural poverty at the ground level. Therefore, the present study not only examined and evaluate selected producer companies of the Kolhapur division but also underline the question of in-depth investigation on the impact of FPC on the removal of poverty from the rural field. The current paper has carried out the primary survey through interview schedule for the selected 40 members of the FPC in the region of Kolhapur. Result suggests that the producer companies play important role in the member household income and expenditure and uplift rural subsistence that removes poverty from the rural agriculture at the household level.

Keywords: Farmer Producer Company, Small and Marginal Farmers, Poverty, Sustainability, Rural-agriculture outlet.

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I) Introduction

The primary goals of a Producer Company, as outlined in section 58 1B of the Companies Act of 2002, include the procurement of inputs, production, harvesting, grading, pooling, handling, storage, marketing, selling, or exporting the primary products of its members, as well as the import of goods or services, and the processing of members' produce. This also encompasses the manufacturing and sale or supply of machinery and consumables, conducting training and awareness initiatives, and providing crop and life insurance (Alagh 2018). The agricultural sector faces a growing array of challenges. The population has been steadily increasing, resulting in a higher demand for food. Over the past few decades, the amount of grain land available per person has consistently diminished, leading to significant concerns about income and food security.

Farmers need to be organized to participate in development activities. India has experienced rapid shifts and unpredictability in agricultural markets (Alagh 2018). Some significant changes include the scarcity of irrigation water, labor shortages, low productivity, and the impacts of climate change. In these circumstances, small and marginal farmers are particularly at risk from the high dangers associated with farming, stemming from climate variability and uncertainty regarding production, limited access to support services, alternative markets, and inadequate infrastructure. The challenges have had serious consequences for the farming communities. Millions of people are living in poverty and hunger because of the slow agricultural development. A well-known and successful example of Farmer Producer Company is Sahyadri Farms, Nashik. The major objectives of this study are to study the role of the Farmer Producer Company in rural subsistence which is cause for income growth and to highlight the Farmer Producer Companies are helpful to improve the standard of life. We have done the study on two FPCs in the Kolhapur region.

The current paper has carried out the primary survey through interview

schedule for Abhinav Kisan Farmer Producer Company and NFG Veg Agro Farmer Producer Company the selected farmers a group 40 members from 470 of the FPC in the region of Kolhapur.

II) Review of Literature:

- 1. Meera Padaliya, Ganga Devi and Nayana Raju (2022), in their article entitled, 'Farmer Producer Organizations way for enhancing Rural Livelihood', explained about how the FPOs helpful for enhancing rural livelihood. his article aims to explore the economic effects of Farmers' Producer Organizations (FPOs) on the livelihoods in rural areas. The study draws conclusions from various published sources of secondary data across different years. The researcher concluded that FPO members experience higher income, greater employment opportunities, increased savings, enhanced knowledge, access to technology, improved processing, transportation, market access, and better storage facilities compared to those who are not members of FPOs, which could contribute to the development of rural regions and their livelihoods.
- 2. Vinayak Nikam, Premlata Singh, Arathy Ashok and Shiv Kumar (2019), in their article entitled, 'Farmer producer organizations: Innovative institutions for upliftment of small farmers' discussed about how the FPO is the innovative institution for upliftment of small farmer. This paper aims to explore the different aspects of Farmer Producer Organizations (FPOs). The research relies on secondary information sources. In this study, the researcher examines the necessity of FPOs for farmers, the advantages and effects of FPOs on smallholder agriculture, the functions of FPOs, the various types of FPOs, and a SWOT analysis of FPOs.
- **3.** Anees Ajmal and Aditi Mathur (2018), in their article entitled 'Farmer producer organizations (FPOs): An approach for doubling farmer income by 2022', discussed about the FPO how helpful to

the farmers to enhance income and then how to double income. The researcher utilized a secondary source of information in this paper. The researcher concluded that FPOs can be effective and play an essential role in the supply chain by linking smallholder farmers to markets, which aids farmers in boosting their income.

- **4.** N. P Darshan, B. Rajashekar, K. V. Patil, K. N. Ravi and J. Parameshwar Naik, in their article entitled 'Farmer Producing Organizations for Development of Farmers in India: An Economic Perspective', explained about FPOs helpful for economic development of farmers. The objectives of the study are to understand the current status of the producer organization and their spread across the India and to examine the performance of the existing producer organizations on various economic parameters. The study relies on secondary data. The researcher has concluded that FPOs are beneficial for the economic advancement of farmers and have assisted in organizing small and marginal farmers to enhance their living conditions by offering guaranteed income, job opportunities, and improved production technologies, among other things.
- **5.** Anirban Mukharjee and Mrunmoy Ray (2018), in their article entitled 'Enhancing farmers income through farmers' producers companies in India: Status and Roadmap' discussed about current status of FPCs, its prospect, potential and growth. The paper is based on secondary data.

In this article, the researcher has discussed the nature and current status of farmer producer enterprises in India, growth of farmer producer enterprises, sustainability of farmer producer enterprises, factors behind high growth of farmer producer enterprises, problems difficulties of farmer producer and enterprises. The researcher has concluded that FPCs have great potential especially for small and marginal producers and concerted efforts are needed to develop and sustain the institutes. Such efforts must come in the form of research, capacity development, policy and management support.

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This has great potential to become a model for improving sustainable living standards and increasing incomes for small and marginal farmers in India.

6. Mohd. Ameer Khan,m Jitendra Pratap, Riyaj Ahmed Siddique and Prashant M. Gedam (2020) in their article entitled 'Farmers Producer Organization (FPO): Empowering Indian Farming Community' explained about empowerment of Farmer producer company member through FPCs. The given study is based on reviews.

In this article the researcher will discuss about producer organizations, farmer producer organizations, types of farmer producer organizations, role of farmer producer organizations, procedure of formation of producer associations and setting up FPOs, benefits for members of FPOs, sustainability principles of FPOs, examples of FPOs in India etc.

Kusum Chandrakar, Deepak Kumar Chandrakar and Debasis Das (2022) in their article entitled 'Farmers Producer Organization (FPO): How it is changing farming scenario' discussed about FPOs has helped increase market linkages to improve farmers' income and economic strength. The current paper is based on secondary data.

7. In this paper, researcher discussed about the necessity of Farmers Producer Organisation, objectives of FPO, support from Central Government in promoting FPOs, support from State Government in promoting FPOs, scheme for promotion of Farmer Producer Organizations and technology and FPOs etc.

Farmers face many problems in agriculture related to capital, production, markets, access to technology, etc.

For this reason, the Indian government has encouraged a new form of collective called Farmer Producer Organizations (FPOs) to address the challenges faced by small and marginal farmers, particularly those related to investment, technological advances, and improved access to efficient inputs and markets.

III) Research Methodology

The current paper has carried out the primary survey through the interview schedule for the selected 40 members of the FPC in the region of Kolhapur. The researcher has taken two FPC in the region of Kolhapur namely- Abhinav Kisan Farmer Producer Company and NFG Veg Agro Farmer Producer Company. The total members included in Abhinav Kisan Farmer Producer Company were 210. The total members included in NFG Veg Agro Farmer Producer Company were 195. The researcher has selected 10% sample from both Farmer Producer Companies mentioned above. The research design is descriptive in nature.

The data collection was done in the year 2020-2021.

IV) Data Analysis and Interpretation

Table No.1: Distribution of farmers according to land holding

Land holding	Frequency	Percentage
Marginal Farmers	24	60
Small Farmers	16	40
Total	40	100

Table No. 1 depicts distribution of farmers according to land holding. 60% farmers are marginal farmers and 40% farmers are small farmers. It implies all the respondents are small and marginal farmers. Marginal farmers are the farmers possesses land below one hectare and the small farmers are the farmers possesses land up to one to two hectares. Most of the farmers (60%) are the marginal farmers

which are a part of Farmer Producer Company and getting benefits of Farmer Producer Company.

Table No. 2: Distribution of farmers according to proportion of production

Proportion of production	Frequency	Percentage
Up to 20%	27	67
20% to 40%	11	28
40% to 60%	2	5
60% to 80%	0	0
Above 80%	0	0
Total	40	100

Table No. 2 depicts distribution of farmers according to proportion of production. 67% respondents stated their proportion of production has increased up to 20%, 28% respondents stated their proportion of production has increased in between 20% to 40% and 5% respondents stated their proportion of production has increased in between 40% to 60%. It implies majority of the respondents (67%) stated their proportion of production has increased up to 20%. That means if the production has increased the income of farmers has also increased. As these farmers are a part of farmer Producer Company, Farmer Producer Company has helpful for to increase the production of farmers.

Table No. 3 Distribution of farmers according to proportion of Monthly agriculture income

Proportion of monthly agriculture income	Frequency	Percentage
Up to 20%	10	25
20% to 40%	29	72
40% to 60%	1	3

60% to 80%	0	0
Above 80%	0	0
Total	40	100

Table No. 3 depicts distribution of farmers according to proportion of monthly agriculture income. 25% respondents stated their proportion of monthly agriculture income has increased up to 20%, 72% respondents stated their proportion of monthly agriculture income has increased up to 20% to 40% and 3% respondents stated their proportion of monthly agriculture income has increased up to 40% to 60%. It implies majority of respondents (72%) stated after joining FPC farmers proportion of monthly agriculture income has increased in between 20% to 40%. As their income has increased it is seen that the Farmer Producer Company has helpful for their subsistence.

Table No. 4: Distribution of farmers according to proportion of annual agriculture income

Proportion of annual agriculture	Small farmers		Marginal farmers	
income	Frequency	Percentage	Frequency	Percentage
Up to 20%	11	69%	13	54%
20% to 40%	3	19%	7	29%
40% to 60%	2	12%	4	17%
60% to 80%	16	0	24	0
Above 80%	0	0	0	0
Total	16	100	24	100

Table No. 4 depicts distribution of farmers according to proportion of annual agriculture income.

Small farmers: 69% respondents stated their proportion of annual agriculture income has increased up to 20%, 19% respondents stated their proportion of annual agriculture income has increased in between 20% to 40% and 12% respondents stated their annual agriculture income has increased in between 40% to 60%. It implies majority of the small farmers (69%) stated their proportion of annual agriculture income has increased up to 20%. From above explanation it is seen that, most of the farmers (69%) has increased their annual income up to 20%. That is

Farmer Producer Company has helpful to small farmer's income growth.

Marginal farmers: 54% respondents stated their proportion of annual agriculture income has increased up to 20%, 29% respondents stated their proportion of annual agriculture income has increased in between 20% to 40% and 17% respondents stated their proportion of annual agriculture income has increased in between 40% to 60%. It implies more than half of the marginal farmers (54%) stated their proportion of annual agriculture income has increased up to 20%. From above explanation it is seen that, half of the marginal farmers (54%) has increased their annual income up to 20%. That is Farmer Producer Company has helpful to marginal farmer's income growth.

Table No. 5: Distribution of farmers according to improvement in standard of living

Parameters		Before joining FPC	After joining FPC	
		Frequency	Frequency	
Health	Traditional, Home remedies or Govt. hospitals	28	15	
	Private hospitals	12	25	
Mode of	Govt. vehicles	24	9	
Travelling	Own two wheeler	16	31	

Education	Govt. school, education at village only	29	12
	Private school, education at taluka or district	11	28

^{*}This is a multiple choice question.

Table No. 5 depicts distribution of farmers according to improvement in standard of living.

Before joining FPC: 28 respondents stated their health services access are from government hospitals, 24 respondents stated their travelling option is government vehicles and 29 respondents stated their education access is from government schools and at village level. It implies before joining FPC, respondents' health, travelling and education related access is from government institutions. From above explanation it is seen that before joining FPC, the accessibility of private services has minimum because of most of the farmer's income has low or average.

After joining FPC: 25 respondents stated their health services access is shifted from government hospital to private hospitals, 31 respondents stated their travelling option is shifted from government vehicle to own two-wheeler, 28 respondents stated education can be taken from private school/college or at taluka/district level. From above explanation it is seen that after joining FPC, accessibility of private services has increased because of most of the farmer's income has increased.

It implies after joining FPC, respondents' health, travelling and education related access is mostly shifted from government institutions to private institutions. Hence, we can say that there is improvement in standard of living.

Table No. 6: Distribution of farmers according to proportion of expenditure

Proportion of expenditure	Frequency	Percentage
Up to 20%	8	20
20% to 40%	30	75
40% to 60%	2	5
60% to 80%	0	0
Above 80%	0	0
Total	40	100

Table No. 6 depicts distribution of farmers according to proportion of expenditure. 20% respondents stated their proportion of expenditure has increased up to 20%, 75% respondents stated their proportion of expenditure has increased up to 20% to 40% and 5% respondents stated their proportion of expenditure has increased up to 40% to 60% . It implies majority of respondents (75%) after joining FPC farmers proportion of expenditure has increased in between 20% to 40%. From above explanation it is seen that, the Farmer Producer Company cause for income growth and hence farmers can expend income for better services.

Table No. 7: Distribution of farmers according to saving

Saving	Frequency	Percentage
Up to 10,000	13	33
10,000-25,000	17	43
25,000- 50,000	6	15
50,000-1 lakh	3	8
More than 1 lakh	1	3
Total	40	100

Table No. 7 depicts distribution of farmers according to saving. 33% respondents stated their saving is up to 10,000,43% respondents stated their saving is in between

10,000 to 25,000, 15% respondents stated their saving is in between 25,000 to 50,000, 8% respondents stated their saving is in between 50,000 to 1 lakh and 3 & respondents stated their saving is more than 1 lakh. It implies approximately half of the respondents (43%) stated after joining FPC their saving is in between 10,000 to 25,000. As the farmers saving has increased after joining FPC, farmers will gain better services from that.

V) Main Findings, suggestion and conclusion

- 1. 60% farmers are marginal farmers (possesses land up to one hectare) and 40% farmers are small farmers (possesses land up to one to two hectares). i.e. all respondents are small and marginal farmers.
- 2. Majority of the respondents (67%) stated their proportion of production has increased up to 20% after joining FPC. i.e. FPC has helpful for to increase production and then income growth.
- 3. Majority of respondents (72%) stated after joining FPC, farmers' proportion of monthly agriculture income has increased in between 20% to 40%. i.e. FPC has helpful for the farmer's subsistence.
- 4. More than half of the marginal farmers (54%) stated their proportion of annual agriculture income has increased up to 20%. And majority of the small farmers (69%) stated their proportion of annual agriculture income has increased up to 20%. i.e. FPC has helpful for the small farmers and marginal farmers for their income growth.
- 5. After joining FPC, respondent's health, travelling and education related access frequently shifted from government institutions to private institutions. i.e. FPC cause for income growth and improvement in standard of living of farmers.
- 6. Majority of respondents (75%) after joining FPC farmers' proportion of expenditure has increased in between 20% to 40%. i.e. farmers can expend

income for better services.

7. Approximately half of the respondents (43%) stated after joining FPC their saving is in between 10,000 to 25,000. i.e. saving of the farmers has increased. So they can access better services and can improve their standard of living.

Suggestions:

- From above findings it is found that the Farmer Producer Company has helpful for the upliftment and economic enhancement of the farmers. So that the Indian government should take initiatives to reach up to small and marginal farmers. So that, all the small farmers and the marginal farmers also will get benefits of the Farmer Producer Company to improve their income.
- 2. Village level administration will have to take responsibility to aware farmers about the farmer producer company.

Conclusion

The researcher has taken two case studies of Farmer Producer Companies in Kolhapur. The needs of the entire family were not fulfilled because of single income. But after joining FPC, respondents' proportion of production, monthly agriculture income, annual agriculture income, proportion of expenditure and saving has increased also standard of living has improved. Now, the respondents' family needs are fulfilling and some amount remains. It implies the producer companies play important role in the member income and expenditure and uplift rural subsistence that removes poverty from the rural agriculture at the household level.

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Nehru's Philosophy of Education: an Analytical Study

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Abstract:

The present research focuses on Nehru's philosophy of education. His knowledge theory draws upon rationalism, empiricism, and positivism. As a rationalist, Nehru placed greater trust in science over religion and based his assertions in intellect, experience, and reasoning. As a humanist, philosophical dilemmas did not interest him, with his primary emphasis being on humanity itself. Jawaharlal Nehru regarded education as the key instrument for social transformation. Nehru's educational goals aimed to eliminate narrow-minded perspectives such as Linguism, Communalism, and excessive religiosity, while fostering a scientific, humanistic, materialistic, and ethical mindset. Growing up within the Western tradition, Jawaharlal Nehru was an educational philosopher. His Humanism was rooted in naturalism, unlike the idealistic humanism of his Indian contemporaries. As a vigorous advocate for science and technology, Nehru envisioned the enhancement of scientific and technological education across the nation.

Keywords: Naturalistic Humanism, scientific, rationalist, empiricism, positivism.

I) Introduction:

The educational philosophy in India is intricately connected to its rich cultural heritage. It represents a harmonious blend of idealism and pragmatism. Prominent figures such as Swami Vivekananda, Swami Dayananda, Sri Aurobindo, M. K. Gandhi,

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Rabindranath Tagore, Sarvepalli Radhakrishnan, J. L. Nehru, and M. N. Roy have significantly contributed to Indian educational philosophy. Among these thinkers, two distinct traditions emerge: one that is based on ancient Indian principles and another that has been significantly influenced by modern Western ideas. Jawahar Lal Nehru and M. N. Roy are aligned with the latter tradition, which draws from Western influences, whereas the others are rooted in the ancient Indian tradition. Nonetheless, all these thinkers share a humanistic and nationalist perspective, aiming for the educational renewal of Indian society. This paper focuses on exploring J. L. Nehru's views on education.

II) Research Methodology

Objectives of the study:

- To study Nehru's Naturalistic Humanism.
- To study J. L. Nehru's philosophy of education.
- To study Nehru's achievements.

Hypotheses of the study:

- Nehru's based his humanism upon naturalism which represented 'synthesis between humanism and scientific spirit
- Education plays a crucial role in shaping an individual's personality.
- Nehru planned for the expansion of scientific and technological education in the country.

Methodology and sources of data collection:

Since the subject is based on library studies, the researcher has used library and analytical method for the study. The researcher has used both primary and secondary sources for data collection. The primary sources include books by Nehru himself and secondary sources include articles and books on his philosophy

by other authors.

II) Results and Discussion

Nehru's Philosophy of Education

Nehru's perspective on education is shaped by both the ideas of Karl Marx and those of Gandhi. He incorporated elements of rationalism, empiricism, and positivism into his comprehension of knowledge. Nehru, being a rationalist, placed more trust in science than in religion, basing his arguments on intelligence, experience, and reason. As a humanist, he was not concerned with philosophical dilemmas and instead prioritized the individual. Nehru's views on education can be outlined in the following points.

Naturalistic Humanism

Nehru's humanistic beliefs were rooted in naturalism, setting them apart from the idealistic humanism promoted by other notable Indian educational thinkers who were his contemporary, including Swami Vivekananda, Sri Aurobindo, and Swami Dayananda Saraswati.

Nehru possessed profound faith in humanity. To illustrate the superiority of humans over divinity, he stated, "We may reject God, but what hope remains for us if we reject humanity and thereby render everything meaningless." Rather than placing his trust in God and religion, Nehru championed humanism, which he referred to as 'scientific humanism.' This approach embodies a 'synthesis of humanism and the scientific ethos.' The scientific humanism promoted by Nehru "is practical and pragmatic, moral and social, altruistic and humanitarian. It is driven by practical idealism aimed at social improvement." (Vohra: (2011))

Nehru fundamentally identified as a humanist. His views were grounded in rationalism, empiricism, and positivism, forming the foundation of his knowledge theory. As a rationalist, Nehru aimed to subject every aspect of life to rational analysis and intelligence. Consequently, he placed greater trust in science compared

to religion. In his role as an empiricist, he sought the validation of every assertion. His philosophical beliefs rested on reason and experience, and as a positivist, he regarded speculation on philosophical issues as futile.

He held a critical stance toward traditional religion. His primary devotion was to humanity, leading him to develop a belief system centered on humanity in place of God. Nehru frequently condemned all forms of organized religion. He had a strong aversion to mysticism, which he believed could not be substantiated through any epistemological framework. A staunch advocate for secularism, Nehru emphasized contemporary experiences and the significance of present life, showing little concern for the afterlife or other realms.

At one point, he even rejected the notion of religion, reflecting a form of naturalistic humanism. However, in his later years, he no longer appeared to be a fervent critic of religion. His main opposition was directed toward superstitions and blind beliefs. He aimed to promote a rational and scientific approach to life and was against ritual practices and adherence to religious doctrines. If religion entails a genuine pursuit of truth coupled with personal sacrifice, he did not oppose it.

Nonetheless, Nehru was open-minded enough to acknowledge that religion fulfills a fundamental human need, which is why it has remained such a powerful force throughout history. He also believed that some degree of faith is necessary to sustain enthusiasm and a sense of purpose in human existence.

Significance of Education

Jawaharlal Nehru acknowledged that education was the fundamental pathway to bringing about social transformation. Political thinkers and educational philosophers, starting from Plato, affirm that establishing a democratic society is impossible without a proper and effective educational system. He stated that only through quality education can a more just society be created. Furthermore, he believed that education is crucial for the development of an individual's character. Nehru considered liberation from ignorance to be as vital as liberation from hunger.

He argued that addressing a country's challenges effectively requires more than just economic and political reforms; it also involves nurturing improved human relationships. In his view, social progress is unattainable without accompanying mental growth.

Aims of Education

During his speech at Allahabad University, he conveyed the message that a university symbolizes humanism, tolerance, reason, the exchange of ideas, and the pursuit of truth. His perspectives are similar to Tagore's thoughts when founding Viswabharathi. Like other thinkers of his time, Nehru emphasized the spiritual dimension of social progress, stating that "without that spiritual aspect, society is likely to fragment despite all material progress." (Nehru: (September 1957- April 1963) 169) The establishment of jobs aims to foster balance and harmony in individuals' personal and social lives. Nehru fundamentally held socialist ideas. He was of the opinion that addressing India's significant unemployment issue could be achieved through fundamental education and training. This empowered individuals to integrate manual work with their mental and intellectual skills.

Nehru appreciated the Russian perspective on education, along with its goals and focus on social issues. He stated, "The aim is to cultivate a willingness to contribute to the community at large and to utilize the knowledge acquired for both personal benefit and the public good." (Nehru (1928): 144)

Means of Education

Nehru aimed to eliminate narrow-minded perspectives like linguistic, communal, and religious biases, while fostering a scientific, humanistic, materialistic, and ethical mindset. He showed little tolerance for superstitions, whether religious or not. Being a positivist and an atheist, he approached education with a clear vision. Throughout all levels of education—primary, secondary, and university—Nehru envisioned the goals and methods of Western education. (Sharma, (2003): 162)

He believed that English education introduced several positive

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English education

transformations in India. He remarked, "The introduction of English education expanded the perspectives of Indians, sparked a rebellion against certain traditions and elements of Indian society, and led to an increasing call for political reform." (Nehru (1994) 319)

The economic goals of education hold equal significance to its societal aims, as it must seek to enhance individual culture while also equipping people to create wealth within the community. He stressed the importance of each person making a meaningful contribution to society. Each individual benefits from the goods provided by society, such as food and clothing. If one does not contribute enough to balance their consumption, they may depend on society for support. For this reason, the nation is in urgent need of practical, scientific, and technical education. He mentioned the necessity of having a system in place that can train the right staff to swiftly carry out development plans

Types of Education

There are many types of education. Some of the key types are as under.

Basic Education

Jawaharlal Nehru wholeheartedly embraced Gandhi's concept of foundational education, believing that genuine learning should be firmly grounded in a child's everyday reality and personal experiences, equipping them for future challenges.

Nehru acknowledged the significance of practical skills in education, stating that "The mind becomes stimulated, fostering a seamless coordination between its activities and the hands." (Nehru (1994) 409) He recognized the significance and usefulness of fundamental education for India. In his view, it represents the most contemporary idea designed to prepare an individual intellectually and in other aspects.

Scientific and Technical Education

Being influenced by the western scientific mindset, Nehru prioritized

industrialization, which he believed required advancements in science and technology. He argued that without technological development and industries, there would be little chance of alleviating poverty and unemployment. As a result, he focused heavily on the swift advancement of scientific and technical education in India.

Nehru's administration implemented the five-year plans aimed at accelerating the growth of industry and the economy, as well as fostering the overall progress of the country. For this significant undertaking, a large pool of skilled and technically trained professionals was essential. This was also vital for the defense and security of the nation. He asserted that, in terms of defense, we must quickly enhance the production of trained individuals, particularly engineers. Education would elevate our industrial and agricultural endeavors.

Hence, education plays a crucial role in fostering both peace and conflict resolution. Nevertheless, this does not signify Nehru's aim was to enforce Western industrialized world values on India via scientific and technical education. He advised the nation to be cautious about excessive industrialization, suggesting that it is important to balance technological advancements with the preservation of fundamental values that form the foundation of a civilized society.

Culture and Education

Nehru held the belief that cultural education plays a vital role in the overall development of an individual's personality. He considered education in literature, art, and the humanities as equally important from this viewpoint.

To promote the rapid growth of education in art and culture across the nation, he recommended the establishment of specialized institutions dedicated to their advancement.

As the president of the Sahitya Akademy, he felt that the government should minimize its interference in artistic, literary, and educational endeavors.

Education for Different Sections of Society

Different segments of society do not exist at the same socio-economic level. In developing nations, this divide is even more pronounced. In India, many members of scheduled castes, tribes, and backward communities face significant literacy challenges. Additionally, women's literacy rates are also quite low. The aim of any educational policy should be to reduce this disparity and bring these groups up to the same level as others.

Recognizing the challenges faced by Indian women, he emphasized the importance of providing them with excellent education across all areas of human endeavor and ensuring they are equipped to actively participate in various fields. He held the belief that women should be educated and trained, not only for their personal growth, but also for the betterment of their children.

He also emphasized that education can empower women to achieve financial independence. He stated, "Everyone should be a contributor and a responsible citizen, rather than relying on someone else, even if that person happens to be their spouse." (Nehru (1994) 356)

Nehru recognized the importance of education in rural India. He believed that educating rural women is essential for achieving fast social change; he also maintained that the education of these women would contribute to the success of family and other rural development initiatives. To ensure the effectiveness of educational programs, it is crucial to prioritize regional languages as the primary medium of instruction alongside English. Therefore, it is evident that Nehru's perspectives on education, similar to his views in other areas, reflect a scientific, rational, progressive, liberal, and humanistic mindset.

V) Conclusions:

Jawaharlal Nehru was an educational philosopher influenced by western traditions. His version of Humanism was deeply rooted in naturalism, setting

it apart from the idealistic humanism advocated by other Indian educationist during his era.

Inspired by the scientific progress of the Western world, he embraced the western educational approach. Later, serving as the inaugural Prime Minister of an independent India, he crafted the educational policy, becoming known as the architect of the contemporary education system in India.

Nehru's admiration for Gandhi led him to endorse certain components of the Gandhian educational framework. The widespread poverty and illiteracy among India's populace prompted him to support the Gandhian approach to some extent, although he might have designed a different educational system for rural India had he been in complete control.

In his vision for education at all levels—primary, secondary, and university—Nehru anticipated western objectives and methods. This reflects a weakness in his philosophy of education, yet it also highlights its strengths.

It is undeniable that an optimal educational system for contemporary India necessitates a blend of ancient Indian principles and modern western approaches and techniques, similar to those advocated by western educational philosophers. Generally, he focused on the comprehensive development of education, dismissing the notion of salvation or other spiritual aims as educational goals.

To summarize Nehru as a prominent advocate for science and technology, he envisioned the growth of scientific and technological education in the nation. Pandit Nehru laid the foundational framework for science in the newly independent India. Nehru played a key role in the creation of institutions such as the IITs, the a number of branches of research laboratories under CSIR and DRDO, as well as the atomic energy program. To realize his vision of establishing these institutions as top-notch hubs for research and education, Nehru invited and inspired numerous distinguished

scientists and scholars, including Homi Bhabha, J.B.S. Haldane, Sir C.V. Raman, Satish Dhawan, Nalini Ranjan Sarkar, J.C. Ghosh, Humayun Kabir, and many others. In his speeches, he referred to the IITs, universities, Bhakra Nangal Dam, Koshi irrigation project, and similar initiatives as the temples, mosques, churches, and gurudwaras of independent India. Nehru's unwavering and enthusiastic political support played a key role in turning the concept into a reality. Thanks to educational visionaries like Jawaharlal Nehru, India stands as one of the leading nations in terms of overall development.

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Philosophical and Spiritual Study of the Temple of Tamilnadu

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Abstract

Everything that people have inherited from their ancestors from one generation to the next is considered cultural heritage. Tamil Nadu culture is centered on Hinduism. Tamil Nadu is renowned for its Dravidian architecture, which is the style of ancient temples. This architectural style has its roots in indigenous culture and has developed over time. Tamil Dravidian architecture's first examples are the seventh-century rock-cut temples at Mahabalipuram. Mamallapura's temples from the 7th and 8th centuries, which were named a UNESCO World Heritage Site in 1984, are among the state's thousands of most well-known temples. Of all the Indian states, Tamil Nadu has the most temples. Chennai is home to more than 400,000 people.

Keywords: Cultural study, Cultural heritage, Tamil Dravidian architecture, Hindu Temples

I) Introduction

After independence, Madras Presidency was divided into different parts, resulting in Madras and other states. In 1968 AD, the name of Madras was changed to Tamil Nadu. The word Tamil Nadu is made up of the Tamil language Tamil and Nadu {country or abode} which means home of Tamils or country of Tamils. Similarly, the history of its language Tamil is considered to be at least 3000 years old. From ancient Tamil to modern Tamil, excellent literature has been composed. Tamil literature has been in existence for at least two thousand years. The earliest inscriptions that have been found date back to around the 3rd century BC. Unlike Tamil, Hindi and some other Indian languages, gender discrimination is not prominent.

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There are some more characters in Tamil language which are not used in

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Various Dimensions and Architecture of Indian Architecture

normal Hindi. For example: बा-ळ, धू-ळ, कु-ऱ, and ब्बा-ज़.

Indian architecture is deeply connected to the culture, religion and heritage of the country. It includes elements that have been around for centuries and are still influential today. There are many styles of ancient Indian architecture, including three main styles that were used in the construction of Indian temples. These three styles are Nagara style, which originated in the north, Dravidian style, which developed in south India and Besar style, which is a mixture of architecture of north and south India. Some of the major architectural styles of ancient times have been Harappan architecture started in 2600 BC. This period had features like fortifications, grid layout of city planning and drainage system. While as the society expanded, architecture also changed with the formation of states and empires. In the Mauryan period, rock and cut stone were used to build temples and temple complexes. The architecture of the post-Mauryan period is mainly in the form of religious buildings. Which is divided into five parts These can be divided into stupas, cave architecture, site plans of Hindu temples, royal shrines of Kushans and Shunga pillars. After this, caves like Ellora, Ajanta, Badami, Karla and Elephanta are the main examples of Gupta architecture. The temples of the Gupta period can be divided as follows - Pre-Gupta style and Post-Gupta style. Both Ajanta caves and free standing temples come under the Pre-Gupta style. In the post-Gupta period, significant contribution to the development of art and architecture was made by two southern dynasties, the Pallavas and the Chalukyas of Badami. The Pallavas had taken control of a large part of Tamil Nadu. The temples built by them are mostly dedicated to Brahminical deities. It was under the patronage of the Pallavas that a new architectural art developed, which is known as Dravidian architecture. While the influence of foreign or Greek invasion can also be seen on Indian architecture. Greek architecture is divided into three classical orders: Doric order, Ionic order and Corinthian order.

What is the culture of Tamil Nadu?

Tamil Nadu's inhabitants are members of the esteemed Dravidian family and are regarded as one of the world's oldest civilizations. Like other South Indians, the Tamil people take great pride in their indigenous culture and work hard to preserve its two thousand-year heritage. In comparison to the other states in the nation, Tamil Nadu's industrial production sector is evenly distributed. Tamil Nadu is the country's largest information technology (IT) development area after Karnataka, especially Chennai which is the country's largest IT city after Karnataka's capital Bangalore and the country's largest IT Park is located here.

Style of temples of Tamil Nadu

With the passage of time, the increasing scope of political conflict in Tamil Nadu and the increasing imperialism of the Chola rulers continued to affect the social life of the people. Changes in the field of religion are notable. The main sects of religion, Shaiva and Vaishnavism, became prevalent mainly at the end of the first century. Some rulers of Tamil Nadu patronized Shaivism on a large scale, which clearly shows the influence of the religion on the temples of Tamil Nadu. The result was that more and more temples were built by the rulers with unprecedented enthusiasm. The great temple at Chidambaram known as Akayathalam was built here. Chola king Senkannan is credited with building even more, seventy temples in his lifetime. Many other kings and chieftains built countless temples and all of them were made of bricks, while other temples were built with huge stones and a granite stone, which shows the grandeur of Tamil Nadu1.

Dravidian style temples, in contrast to Nagar style temples, are enclosed and mostly constructed inside a compound wall, with a gopuram (entrance) on the front wall. Similar to this, the main temple's tower, known as Vimana in Tamil Nadu, has a stepped pyramid-like design and rises in a geometric pattern. The records make it abundantly evident that the term "Shikhara" was only used to refer to the temple in South India. This creates the temple's crowning piece, which is often shaped

like a tiny octagonal dome. In North India, temple doorways are typically adorned with little sculptures, whereas in the South, the statues are typically fearsome. It is typical to come upon a sizable reservoir or temple.2

II) Research Methodology

Temples have had spiritual significance since ancient times. They have served as a center for human beings to fulfill their purpose. The presented paper is based on qualitative methodology, as it is completely based on secondary sources as well as historical documents. To complete this research paper, newspapers, articles, research papers, books, magazines, documents, government data, unpublished dissertations and websites have been used.

Objectives

- 1. To study the architecture of temples and its philosophical significance
- 2. To study the spiritual significance of temples in a person's life

Mysterious Temple of Tamil Nadu

At the year 1010 AD, the Brihadeshwara Hindu Temple was constructed at Thanjavur, Tamil Nadu. Beginning in the heyday of the Chola Empire, when Raja Raja I, the Chola emperor, constructed the Rajarajeshwaram Temple, which is today known as the Brihadeeswara Temple, and commemorated the 1000th anniversary of its dedication (Pradeep Chakravarthy, Vikram Sathyanathan 2010).3 In 1987, it was listed as a World Heritage Site by UNESCO. Dravidian architecture is beautifully exemplified by the Brihadeshwara Temple. The famous Chola king Rajaraja the famous constructed it. Which was devoted primarily to Shiva? (Mitchell 1989).4At the time, it was one of the world's tallest buildings. The height of this 13 storey temple is approximately 66 meters. This temple, which is approximately 216 feet high, is made of 130,000 tons of granite stones. The surprising thing is that there are neither any mountains nor any stone rocks for 60 km around Tanjore. These stones were brought here with the help of 3 thousand elephants. The dome of the

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temple is a wonder in itself. It is made of a giant stone. Whose weight is more than 80 tons? In those times when there were no cranes or lifts etc., how could such a huge stone have been installed? A huge Shivalinga has also been installed in the temple. For this reason it has been named Brihadeshwar.5

The temple stands amidst strong walls. The Vimanam (temple tower) is 216 feet (66 m) high and is the tallest in the world. The Kumbham (bulbous structure at the top) is constructed from a single rock, weighing approximately 80 tons. A large statue of Nandi (sacred bull) is carved from a single stone. The entire temple is made of granite. It is about 60 km from Tiruchi. It has been brought from far away. (R.,Kidambi JULY 2020)6

Sri Ranganathaswamy Temple (Dr.V.N.Hari Rao 1967,p.3) is built on an island named 'Srirangam' in Tiruchirappalli city which is called 'Bhuloka Vaikuntha'. In November 2017, the temple received 'The UNESCO Asia Pacific Award of Merit 2017' for the conservation of cultural assets following extensive restoration and reconstruction. This temple was constructed in the Tamil architectural style. The Sangam Era (100–250 AD) Tamil literature and Silappadikaram (one of the five greatest epics of Tamil literature) both make reference to it. However, only inscriptions from the 10th century AD can be found in archaeological records.

This temple's inscriptions are primarily from the Chola, Pandya, Hoysala, and Vijayanagara kingdoms. This enormous temple complex is over 6, 31,000 square meters (156 acres) in size, with a 4116-meter circumference. There are seven vartas (concentric wall sections) and twenty-one gopurams in the Srirangam temple complex. This temple's main gopuram, known as Rajagopuram, is 236 feet (72 meters) high. In contrast, the "Sesha Mandapam" with its intricate sculpture is a magnificent example of spectacle, while the Hall of 1000 Pillars (actually 953) in this temple is a good example of a designed theater-like building. It was constructed during the Vijayanagara period (1336-1565) and has 1000 granite pillars. Among these pillars are statues of untamed horses and enormous, realistic-looking tigers' heads.7

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One of India's oldest and holiest cities is Madurai, the cultural center of Tamil Nadu. Madurai's temples attest to its status as one of India's most significant pilgrimage destinations. The city is also referred to as "Lotus City" since it was constructed in the shape of a flower. For a considerable amount of time, Madurai served as the capital of the Pandya Empire. The ancient Meenakshi Amman Temple is situated in Madurai, Tamil Nadu, on the Vaigai River's southern bank. Constructed between 1623 and 1655, this location is renowned across the world for its breathtaking design. The main deity of the Meenakshi temple is Parvati, sometimes called Meenakshi, whose spouse is Lord Shiva.8.

Meenakshi is considered to be an incarnation of Goddess Parvati. This temple is considered to be one of the most sacred places of Goddess Parvati. Goddess Parvati had earlier incarnated as a daughter in the house of the Pandya king Malayadhwaja, the king of Madurai, as a result of his severe penance. When he became an adult, he took over the governance of the city. Then God came and proposed marriage to her which she accepted9.

Airavatesvara Temple10 is located in Tamil Nadu at a location known as Darasuram, close to Kumbakonam. Dedicated to Lord Shiva, this temple dates back to the 12th century. The architecture of this temple is Dravidian. This temple is renowned for its breathtaking design. It was built by the Chola kings. It was declared a World Heritage Site by UNESCO in 2004. Keeping in mind the religious faith as well as art, this temple has been built under the supervision of the architects of the Chola dynasty. (S. R. Balasubramaniam,1963) The beautiful carvings done on stones in this temple and its beautiful structure are a wonderful example of art.

Shiva Worship of Airavata Elephant Lord Shiva is known as Airavatesvara here because Lord Shiva was worshiped by Airavata, the white elephant of Indra, the king of gods, in this temple" It is thought that the sage Durvasa's curse caused Airavata's complexion to alter, which greatly upset him. He was able to restore his complexion by bathing in the temple's sacred waters. The depiction of Indra sitting on Airavata in the temple's inner chamber is thought to be the source of this idea.

The 80-foot-tall pillars and steps are filled with music. A distinctive illustration of Dravidian architecture is the Airavatesvara Temple. Beautiful carvings have been used on the walls and roofs of the temple. The carvings done on the stones are very magnificent. The pillars of the temple are 80 feet high. The southern part of the front pavilion is in the form of large wheels of a huge chariot pulled by horses. To the east of the courtyard is a group of carved buildings. On the southern side of the chowki there is a set of 3 stairs with magnificent carvings. It is believed that even a slight step on these stairs produces musical sounds11.

Kanchipuram's Ekambareswarar Temple at the seventh century, the Pallava dynasty's monarchs constructed this historic temple at Kanchipuram. This temple was restored by Adi Shankaracharya in the tenth century, who also constructed the temples of Kamakshi Amman and Varadaraja Perumal. Large-scale restoration work, including the Rajagopuram, was completed in the 15th century by the Vijayanagara rulers. The Nayaks of Thanjavur also made a substantial contribution to the temple. It is a prominent representation of the Vijayanagara dynasty and the biggest temple in Kanchipuram. As one of the five revered Shiva temples of Panchabhuta Sthalam, this temple symbolizes the element of earth.12.

Ramanathaswamy13Temple is an enjoyable destination for all visitors. This temple features a 38-meter-tall 'Gopuram', extensive hallways, magnificently carved pillars, and a large, intimidating construction. The temple was built by monarchs commencing in the 12th century. Sethupathi Maravar began building the magnificent Ramanathaswamy temple (V. Narayanan Pillai 1929), which features a 'third aisle'. His successor, Maravar, finished the 197-meter-long nave.In terms of distance, it is Asia's longest corridor. The world's third largest, stretching 133 meters from east to west and south to north! In 1897, Swami Vivekananda is reported to have worshipped at this shrine. It is one of the twelve temples dedicated to Jyotirlinga, where Shiva is worshipped as Jyotirlingam.14. The corridor of Ramanathaswamy Temple is the longest in comparison to other Hindu temples.It is regarded as one of the twelve Jyotirlingas. In the form of Jyotirlinga, or "pillar of light," Shiva is the

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supreme deity. Large halls positioned between enormous pillars on platforms more than five feet high make up the temple's interior. With a height of 6.9 meters, the outer group of corridors is the tallest. The north and south is 640 feet, while the east and west are 400 feet. There are 224 internal passageways in the east and west and 352 in the north and south. 15

Siruvapuri is located on the Chennai Kolkata Highway, about 40 kilometers from Chennai. The temple is located about 3 km from the highway 16. Lord Kartikeya, the elder son of Lord Shiva and Mother Parvati, is known as Lord Murugan in South India. There are many famous and grand temples of Lord Murugan located in Tamil Nadu, which are dedicated to different forms of Lord Murugan. In Tamil Nadu, most of the Tamil Hindus consider Lord Murugan as a deity and worship him. In Tamil Nadu, Lord Murugan is also called the protector god (K. R. Srinivasan, 1971).

Nagaraja Temple17is dedicated to Vasuki (C. F. OLDHAM,2007), the king of snakes. Lord Nagaraja, who has five faces, is the primary deity of this temple.18. This temple is counted among the most famous and a wonderful temple of the state this is an ancient temple, but information about which period it belongs to is not available. So far, historians have not been able to find any accurate evidence related to this temple which could arrange it in precise chronological order. But in Maharishi Valmiki's Ramayana, Mahendragiri mountain of Kanyakumari has been mentioned as the abode of Naga. From this it can be ascertained that this temple belongs to the mythological period.19

Sripuram Golden Temple, Vellore 20, The temple is situated at Thirumalaikodi (Malaikodi) Vellore, Tamil Nadu, India, in the Sripuram Spiritual Park, at the base of a few small hills. It is 200 km from Bengaluru, 120 km from Tirupati, 145 km from Chennai, and 160 km from Puducherry. (Vellore Fort: Site of India's First Sepoy Mutiny: Live History India 2021). The idea of creating this wonderful and unique Golden Temple came to Narayani Amma after which she decided to build this temple which took seven years. The temple was finally inaugurated by Narayani Amma in

2007. The charitable trust that built the temple is called Sree Narayani Peedam. The architecture of Sripuram Golden Temple is quite amazing and unique which is covered with gold layer. Let us tell you that in the Sripuram Golden Temple, located in a park spread over 100 acres, about 1500 kg of gold has been used to cover the outer parts of the temple and the temple.21

Mahabalipuram (C. SIVARAMAMURTI ,1952), Alternatively referred to as Mamallapuram, this city is located in Tamil Nadu, India. It is renowned for its Hindu temples, which were constructed by the Pallavas in the seventh and eighth century. The number of monolithic temples in Mahabalipuram is about nine. They represent the Pallavas' singular contribution to Indian art. Due to their resemblance to a temple's processional chariots, the monolithic temples are known locally as Rathas (chariots). Five of Mahabalipuram's eight chariots are named after Pandavas, five after Draupadi, and five after other Mahabharata characters. According to legend, Lord Vishnu defeated the demon Mahabali here, which is how this location gained its notoriety. When the Pallava dynasty included Mahabalipuram in their empire, they made Mahabalipuram their capital instead of their previous capital Kanchipuram and changed its name to Mamallapuram22.

The Draupadi ratha is the smallest and resembles a Bengal thatched-roofed mud hut. The gate faces west and has two gateways on either side. Standing Durgas are seen in the niches of the other three walls, while inside the sanctum sanctorum, standing Durga with four arms is seen. The Arjuna chariot stands on the same platform as the Draupadi chariot and shows a square structure with steps leading to a shallow pillared verandah in front. It has a two-tiered roof and a hexagonal plane. The sanctum sanctorum is empty, while there are various sculptures on all four walls including a graceful Shiva reclining on his Nandi and a youthful looking Vishnu with his Garuda. There is a huge monolithic lion right in front of this temple. Dharmaraja Ratha is situated at the southern end and is the highest temple. Its base is square and the top is pyramidal, with several descending floors. On the corner blocks there

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are eight sculptures of Brahma, Harihara, Skanda, King Narasimhavarma I, three four-armed Shivas and a beautiful Ardhanarishvara.

The Nakula-Sahadeva Ratha shows a southern entrance with a shallow pillared portico. There is no carving on this temple. Right next to it is a huge monolithic elephant, indicating the size of the elephant-back of this unfinished looking temple. Bhima Rath is the largest structure here and has a domed barrel-like roof. It stands on a rectangular platform and has no sculptures on its walls. (financial express, 2019)

Temple role at the time of disaster/economic

About 20 lakh temples were built in India after 1947. Twelve gurudwaras were founded by the gurus as distinct gurudwaras out of the half million Sikh gurudwaras. They are making their contribution. Just five lakh of the nine lakh temples that currently exist are governed by 13 Akharas and 127 sects of Hindu Sanatan Hindu tradition. The government purchased the "Madras Hindu Temple Act" and the Sies India Company, which were produced by the East India Company and the British India Government. Come on, let's go Following India's independence, this Act was renamed the "Hindu Religious Place and Temple Amendment, Act 1951."1,10,000 Protestant churches, 1,70,000 Catholic churches, and 3.5 lakh mosques. In India, 35 crore individuals work in the religious sector, compared to three and a half crore jobs in the state and the center. Over 10 crore pilgrims have visited Kashi since the Prime Minister opened the Srikashi Vishwanath Dham. Of them, about seven crore have Niwas in the north. In addition to creating jobs, Mother Kamakhya in the North, Sri Mahakal in Madhya Pradesh, Somnath Temple in Gujarat, and Amba Ji Temple are raising the bar for pilgrimages. Temples that prioritize economics include Padnabhwami, Tirupati Balaji, and Siddhivinayak. The goal of the centennial government is to build an economy worth \$5 trillion. At the moment, the Akkele temple-centered economy is worth 2.5 trillion dollars. The ancient Indian custom of building fruits, meals, clothing, cosmetics, and prasad for Pooja-Archana is the best example of how to turn a temple into a hub for culture, education, and health

in the globe.

The role of the temple during the famine

In India, temples have a history that dates back over 5,000 years. In addition to being a place of worship, the temple was utilized to store wealth in the past since it was sinful to steal from God's court. People thought it was safe. The temple's contribution to religious and supernatural matters is not the sole way to measure its significance. Additionally, the temple has served as the hub of the economy. Due to its status as a place of worship, the temple also provided financial assistance during the famineWhen there was a famine in North or South India in the past, contributions to the temple helped the people financially. All of the temples that were constructed and gifted to them, whether by the Chola Empire or the Vijayanagara Empire's monarch alleviated the financial issue by distributing the grains gathered in the temple godown to make up for the period's grain deficit. It was located. Because the king or Maharaja occasionally supplied 100 or 200 villages to suit the temple's economic demands, these villages used to support the temple. They were both complimentary to one another. Both have occasionally assisted one another. It has occasionally operated in the form of economic assistance and refugee assistance after disasters, whether they occurred during the Chowl Empire, the Vrhandeshwar Temple, the Meenakshi Temple, the Pallava period of Kanchi, the Padyamasvami Temple of Kerala, etc. Temples therefore had a significant economic impact in ancient India. The hub of economic activity was him. Merchants supported livelihoods and brought attention to the local economy.

Role as peace and goodwill of temples

"Temple" signifies "home." They demonstrate their faith, sacrifice, and adoration of the gods. at a sacred location where people, gods, and all mankind are connected. Based on astronomical calculations, the universe, and a cell or organism, it is a unique plan. The trinity knowledge of the Vedic vision represents the relationship between the relationships. In addition to ceremonies, meetings,

and other expansive locations, the temple served as a venue for entertainment. Its primary purpose while construction was to carry out the Holy Temple Orders. According to Indian religion, a temple is a location where people worship or pay homage to a cutely divine figure. Dharma experts claim that going to the temple provides a solid basis for worshiping God, and that those who attend it experience happiness, tranquility, and success in their lives as well as advancement. The impediments are taken away along with them. Hinduism regards the red flag on the temple as extremely holy. From a distance, this flag on the temple evokes feelings of peace, generosity, and respect. It is wonderful to see the flag flying above the temple. The presence is regarded as a presence sign. It demonstrates the temple complex's holiness and total devotion to God's worship. The flags over the temple are thought to draw the gods' notice. Nearby, a sense of purity is created. Additionally, the air is cleansed. Which improves the temple's overall spiritual atmosphere? The temple is said to have spiritual and beneficial energy when a flag is placed on its summit, and it is also said that The reason for this is that the flag flying over the temple calls forth the gods' love and blessings.

IV) Conclusion

Tamil Nadu is home to a large number of temples of significant religious, cultural, and historical value. Tamil Nadu's vast legacy of historic temples devoted to different Hindu deities has earned it the moniker "Land of Temples." Temples in Tamil Nadu are an essential component of the region's cultural identity and legacy. The customs, festivals, music, dance, and other cultural activities that have been passed down through the years are preserved and promoted by them. Thousands of devotees go to Tamil Nadu to visit temples and take part in religious festivals and ceremonies, making it a popular destination for pilgrimage tourism. Pilgrimage is seen as a sacred activity that fosters self-discovery, spiritual development, and cleansing. Many temples have a long and storied history dating back centuries or even millennia. They have witnessed the rise and fall of empires, the patronage of kings and queens, and the evolution of society and culture over time. Exploration

of these temples provides insight into the region's past and its enduring spiritual heritage. The temples of Tamil Nadu serve as centers of faith, culture and community, playing an important role in the lives of millions of people and contributing to the cultural and religious tapestry of India.

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"A Study On Impact of Farmer Producer Organization On Small and Marginal Farmers In Western Maharashtra"

Dr. Nitin C Mali

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Abstract:

The most of population of the country is dependent on agriculture. This sector has grown slowly in last decade. There is tremendous potential of employment opportunities through adding agri business institutions into agriculture sector. Especially integrating small and marginal farmers in organizational framework and extending them benefits of the producer organization is challenging task. Such member driven organization can contribute to sustainable agribusiness employment generation and consequentially mitigating poverty from the society. The objective of this research is also to recommend and bring to the table research implications of the study to value add to the farmers .Farmers can in turn as traders learn marketing techniques and convert the traditional farming into the modern farming practices. Increasing farmer income is the critical challenge. This research will try to address how the farm income can significantly increased after value addition through formation and proactively managing the Farmer producer organization.

Keywords: Agribussiness, member driven organization, small and marginal farmers, livelihood, poverty eradication.

I) Introduction:

The most of population of the country is dependent on agriculture. This sector has grown slowly in last decade. There is tremendous potential of employment generation and expansion of employment opportunities through adding agri

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mitigating poverty from the society.

business institutions into agriculture sector. Especially integrating small and marginal farmers in organizational framework and extending them benefits of the producer organization is challenging task. Such member driven organization can contribute to sustainable agribusiness employment generation and consequentially

Farmer producer organization is member driven organization which is formed for the interest of members and for their benefits. The government of India has launched FPO (Farmer producer organization) Scheme aiming at integrating small farmer in value chain on sustainable and equitable basis through such organization.

Primary producers, such as farmers, dairy farmers, fishermen, weavers, and rural artists and craftspeople, create a legal entity called a Producer Organization (PO). Any legal organization that permits the division of profits or advantages among its members, such as a cooperative society or producer business, can be considered a PO. Primary producer institutions, such as producer firms, may also become members of PO. Farmers are members of this PO in particular. For farmers, the Small Farmers' Agribusiness Consortium (SFAC) provides support in promoting FPOs. A PO is an association of producers of any type of food, including artisan, nonfarm, and agricultural products.

A plan being carried out by the government is to encourage 10,000 new FPOs by 2024. 8,780 FPOs had been registered nationwide as of July 22, 2024. The operating rules of the project incorporate measures aimed at augmenting the involvement of women in FPOs.Financial allotment the government suggested raising the funding for FPOs from ₹450 crore to ₹581.67 crore for 2024–25, or around 30% more. The latest FPO guideline In order to connect FPOs with industry for the direct sale of agricultural produce, the government is drafting a new FPO policy. Governance, company viability and business plan feasibility, management skills, and financials are all part of the due diligence process for FPOs.

In recent times every major business house of the country is venturing into the

agribusiness sector in a big way. Especially with the regulations allowing corporate to have contractual arrangement with farmers directly. This can be seen by the change occurring in the retail markets where consumers are making dramatic shift from purchasing from neighborhood kirana stores to shopping at supermarkets, malls and food plazas fueling development of food supply chains from the farms to consumers.

With population of over one billion, demand for food is growing exponentially. It is seen that the farmers are only in distress. The basic answer to this problem is value addition. Since in the Indian context farmer disposes off his produce in unprocessed form. And hence cannot plough back his investment in form of good return unlike industry as surplus due to lack of value addition and post production marketing activities. Farmer producer companies are thus one of the plausible solutions for this problem. Hence the study "A study on impact of Farmer Producer Organization on Small and Marginal Farmers in Western Maharashtra" Came up for further in- depth study.

II) Review of literature

Jos Bijman and Gea Wijers (2019): Three organizational traits—community versus market orientation, open versus closed membership, and who is represented in the cooperative's governance-may have an impact on how inclusive producer cooperatives are, according to their study report. Cooperatives are likely to become less inclusive when they shift from being community-oriented to becoming market-oriented difficulties in integrating into producer cooperatives. The difficulties of being included in producer cooperatives Three issues of inclusion and exclusion in producer cooperatives are distinguished. (1) open versus restricted membership; (2) community versus commercial focus; and (3) member representation in cooperative governance.

Sukhpal Singh, Tarunvir Singh (2013): Focused in their research article that linking small producers to markets is an important and popular policy and practice

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issue .Further opined that there is a need for aggregation in order to benefit from economies of scale. Organized systems are also needed for sharing services such as knowledge input, production supervision, storage, transportation, etc, and to absorb price risks to which primary produce is always subjected.

Vinayak Nikam, Premlata Singh, Arathy Ashok and Shiv Kumar (2019): The necessity of Farmer Producer Organizations (FPO) to address the issues faced by disorganized small farmers who do not have access to resources and services was substantiated in their research article. By offering forward and backward links, FPOs became an intermediary between small farmers and the outside world, providing them with the crucial voice, market access, negotiating leverage, economies of scale, and better prices. Marketing-related benefits, such as access to various market channels, a reduction in risk, a drop in transaction costs, economies of scale, etc., were highlighted by many studies among other tangible and intangible advantages. Because male dominance in varied types of FPO lowers women's chances of equitable participation, some research recommended that women form FPOs.

Paule Moustier, Phan Thi Giac Tam, Dao The Anh, Vu Trong Binh, Nguyen Thi Tan Loc (2010): This study looks at the impact that supermarkets and public backing have in the formation and growth of farmer organizations, as well as whether these groups can assist small-scale farmers in gaining access to supermarkets. The study is based on case studies of several stakeholders who promote litchi fruit, flavored rice, and vegetables in Vietnam. The chosen items are regularly supplied to supermarkets by eight farmer associations that function as private business entities. Their capacity to supply supermarkets is based on the range of services they offer their members, particularly in relation to promoting and regulating quality, for which they are supported by the general public. Another important concern is their involvement in flexible contracts with stores, schools, and supermarkets.

Supplying supermarkets via farmer associations increases farmers' profits per kilo compared to traditional chains.

Aleksandra Chlebicka and Michał Pietrzak (2018): In this work, we examine the possible connections between the growth of producers' organizations (POs) and the amount of their membership, as examined in their research piece. Next, we relate the idea of social capital to the size of the membership. We must distinguish between bonding and bridging social capital for our objectives, and we must move away from a broad definition of social capital. Our findings, which were based on two distinct Polish datasets, unequivocally demonstrated that POs with greater sizes have higher survival rates. The stock and the kind of social capital are then connected with this. The study's primary contribution is determining how important newly formed POs' membership size is to their survival.

Therefore, the answer to our main study question is that the size of the membership base does important, according to the logic of survivorship studies. According to the "survival of the fittest" principle, Polish farmer producer organizations with fewer than five members have the lowest chance of surviving; as a result, we deduce that they often perform the worst. POs with six to nineteen farmers as members exhibit better performance. POs with at least 20 farmers have the longest lifespan and, thus, the best performance based on the same reasoning.

Swati Chauhan (2016): Luvkush Crop Producers firm Private Limited (LCPCL), a producer firm based in the Raisen region of Bhopal, Madhya Pradesh (MP), is the main subject of their research piece. The business was established under 53% 47% of the content was copied.

Action for Social Advancement (ASA) is the facilitating agency for the Madhya Pradesh District Poverty Initiative Project (MPDPIP). In Madhya Pradesh, small and marginal farmers have been particularly vulnerable to risks in the production of agricultural products. With the aim of boosting revenue, the producer business model is emerging to incorporate them into the value chain.

Madhya Pradesh's small and marginal farmers are constantly in danger of going bankrupt. In Raisen district, hundreds of farmers have been having trouble

making ends meet. Numerous divisions of small landholdings, low and stagnant

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productivity, high agricultural input costs, unpredictable rainfall, crop failure, and excessive debt are some of the difficulties they face. They also have limited access to input, the market, and technology, and they don't have knowledge of market prices.

The small size of operations is a significant aspect of the problems associated with small and marginal farmers. They require agricultural inputs in small quantities, which they procure from local market at a price 20–30 % higher than the market rate. Lack of capital, education and access to decent information leads to problems like the use of obsolete harvesting technologies, which affect the productivity, and results in 25–30 % of the produce being wasted. Transporting small quantities of produce to urban markets is not viable, and therefore, ends up selling their produce to local traders at markedly lower prices. In the absence of collectivization, farmers are forced to sell the poor and small quantity of produce in the unstable market, for which they receive very low prices and face cash shortages and approach to money lenders

Producer Company has financial linkages with banks and other financial institutions for fulfilling the needs of infrastructure development, providing credit to producer members, working capital requirement, operations, and insurance for members produce and their assets.

Research gap

Earlier studies have focused on institutional policy implications, how the coordination and management of FPO downstream and upstream activities are necessary to manage for effective working of farmer producer organizations is explored. Similarly for effective marketing linking of Farmer producer organizations with modern retailers is need of hour which is not studied in any of the studies in depth.

Thus researcher give emphasis on holistic approach to the study of farmer

producer organization in terms of its management, operations, functioning of shareholders, finances, Marketing and linking to the market for overall sustainability of the Farmer producer organization and its capture its impact on small and marginal farmers specifically for whom this producer organizations were intended to initiate and help the weaker section of the society while simultaneously increasing the members' bargaining power especially of small and marginal farmers.

III) Research Methodology

Objectives of the Research

- 1) To understand the existing activities of Farmer producer organizations
- 2) To understand the challenges in managing and promoting the Farmer producer organization
- 3) To analyze the problems involved in marketing of the produce
- 4) To know the infrastructure required for the producer companies
- 5) To Suggest the policy implications for FPO scheme

Hypotheses:

- H0: There is no association between size of the land holding and type of crops cultivation of FPO
- H1: There is close association between size of the land holding and type of crops cultivation of FPO
- H0: There is no association between self-driven farmer FPO and productivity H1: There is close association between self-driven farmer FPO and productivity

Method of data collection:

Primary Data collection:

- a. In-depth open ended interview: Two important stakeholders 1 office bearer and 1 stake holder of each of farmer Producer Company is interviewed
- b. Qualitative method FGD(Focused group discussion method): Focused group discussion of small and marginal farmers of the total sample size is separately conducted)
- c. Structured questionnaire: Researcher has administered structured questionnaire to capture the data on Management of FPO.
- d. Universe of study: Researcher has selected 5 district places in western Maharashtra as universe of the study viz. Pune, Satara, Kolhapur, Sangli, Solapur district places.
- e. Sampling frame: From each district one active Farmer producer organization is selected.
- f. Sampling procedure: Following five district place in western Maharashtra with different type of FPOs is selected using the Taro Yemne method: n=N/1+N (e) 2
- 1. The survey data collected from a total of 851 Respondents FPO members from western Maharashtra. The district wise breakup of Respondents members belonging to respective Farmer producer Organization is given as follows-

Selected registered Farmer producer organisations inWestern Maharashtra	District	No of Respondents selected	Percentage
Ajara Agro Producer Company, Ajara. Kolhapur	Kolhapur	168	19.7

Shree Mahaganpati agro producer company, Thanapude, Sangali	Sangli	172	20.2
Nagthane agrovision producer company, Satara	Satara	114	13.4
Vennavhelli agro producer company, Mendha, Satara	Satara	44	5.2
Krushi Sangam farmerproducer	Satara		
company, Koparde, Satara		87	10.2
Karhamai agro producer comany limited, Pune	Pune	81	9.5
Yashaswini Agro producer comany, Boramani, Solapur	Solapur	137	16.1
Bhose Agro producer comany, Bhose, Solapur	Solapur	48	5.6
Total Sample size selected		851	100.0

• Source: Using Taro Yemne method

Total registered shareholder farmer members in five districts as above =1559

Total sample size selected= 851

Secondary data collection method:

Secondary data published by central government and state government and other research studies including souvenir published by lead district banks in every district is used at relevant places wherever necessary at the district profile and data published on websites by government agencies.

Table-1 Demographics

Gender wise classification of FPO Members						
Responses	No of Respondents	Percentage				
Male	636	74.7				
Female		25.3				
	215					
Total	851	100.0				
A	ge wise classification of FPO mer	mbers				
Below 30	66	7.8				
Between 31-40	314	36.9				
Between 41-50	254	29.8				
	•					
Above 50	217	25.5				

Above 50	217	25.5						
Total	851	100.0						
Education wise classification of FPO members								
Illiterate	115	13.5						
High School	390	45.8						
Higher Secondary	204	24.0						
Graduate	117	13.8						
Post Graduate	25	2.9						
Total	851	100.0						
Source: Field study	Source: Field study							

Table-2 Size of land (correction in graph to be made)

Following table reveals the information about size of land i.e. area under cultivation with the objective to know the size of land and its implication on their source of income and subsequently their involvement in FPO membership.

Responses	No of Respondents	Percentage
Below 1 ha	55	6.5
1-2 ha	560	65.8
2 to 4 ha	192	22.5
Above 4 ha	44	5.2
Total	851	100
Source: Field study		

Above table depicts that majority of the respondent's i.e. 65.8 % of the respondents have the farm size of 1-2 Hectares belong to Small farmers. Furthermore 22% of the respondents have 2-4 Hectares farm size medium farmers. Few 6.5 % of the respondent's farm size is below 1 hectare categorized as Marginal farmers. Very few 5.2 % of the respondents farm size is above 4 Hectares belong to large farmers.

It seems that majority of the respondents have small farm size and can be classified as small and marginal farmers that signifies lower income from the farm.

Table-3 Cropping pattern

Following table reveals the information about cropping pattern of the respondent members of FPO with the objective to understand the variety of produce taken in their fields.

Resp	oonses	No of Respondents	Percentage
	Food grains	793	93.6%
	Vegetables	235	27.7%
Crop cultivation	Horticulture/Fruits	89	10.5%
	Sugarcane	417	49.2%
	Total	851	100.0
Source: Field study			

From the above table it is observed that majority of the respondent's i.e. 93.6 % of the respondents undertakes food grains cultivation. Furthermore 49.2 % of the respondents produce sugarcane as well. Again it is seen that 27.7% of the respondents take vegetables. Very few 10.5 % of the respondents undertake fruits or horticulture cultivation. It seems that majority of the FPO members undertake food grains and sugarcane cultivation as western Maharashtra region is irrigated and adequate with water resources.

Table-4: Productivity after joining FPO

Following table reveals the information about productivity of farmer respondents after joining FPO membership with objective to know growth in their yield if any.

Responses		No of Respondents	Percentage		
	Increased	751	88.2		
Valid Decreased Total	Decreased	100	11.8		
	851	100.0			
Source: Field study					

From the above table it is observed that majority of the respondent's i.e. 88.2 % of the respondent's productivity has increased. Very few 11.8 % of the respondents opined that productivity has decreased after joining FPO.

It seems that majority of the respondents are satisfied about the productivity and yield as it is significantly improved due to improved seeds variety and fertilizers distribution and assurance of selling/marketing support by FPO organizations.

Table-5: Self-driven FPO Vs promoter motivated

Following table reflects the information about self driven FPO or promoter motivated FPO with objective to examine joining of FPO with own willingness or promoter has created the membership and convinced the members to be part of FPO.

Responses		No of Respondents	Percentage			
	Self-Driven	524	61.6			
Valid Promoter Motivated		327	38.4			
Vana	Total	851	100.0			
Source: Field study						

From the above table it is observed that majority of the respondent's i.e.

61.6 % of the respondents opined that their FPO is self driven. Significant 38.4 % of the respondents joined the FPO due to promoters influence.

It seems that majority of the respondents joined the FPO with own willingness and are self driven FPOs. But it also cannot be neglected that many FPO members are promoter motivated and are unaware about various activities conducted by their FPOs.

Table-6: Challenges in Managing and Promoting FPO

Following table brings out the information about challenges in managing and promoting FPO with objective to examine the problems faced by FPOs in effective governance in perspective of members involved in farming practices.

	Lowest	lower	Moderate	Higher	Highest	Grand Total	Mean scores	Rank
As FPO member I am satisfied with training provided	40	142	288	281	100	851	3.34	I
Productivity enhancing technical andmanagerial skills are provided	65	272	277	206	31	851	2.84	IV
Traders/middlemen are still dominating markets and arestifling the farmers from entering themarkets	128	173	233	184	133	851	3.02	II
No formal working capitalsupport and high interest rates on FPO loans	186	264	272	119	10	851	2.42	VII
Diversification of business opportunities and creation of membership incentives is critical for long- term sustainability of FPO	124	250	330	139	8	851	2.60	VI
management challengesre lated to governance of FPO	115	244	282	198	12	851	2.70	V
Impact of government policies on FPO	137	159	279	234	42	851	2.86	III

Source: Field study

From the above data in the table it is observed that majority of the respondents with mean scores 3.34 opined that they are satisfied with training provided by FPOs. Again respondents with mean scores 3.02 have opined that traders and middlemen are still dominating the market even though FPOs are active. Furthermore respondents with mean score 2.86 opined that government policies are lacking in providing subsidies and schemes in promoting FPOs.

Again it is seen that respondents with mean score 2.84 opined that they lack Productivity enhancing technical and managerial skills and are hurdles in growth. Significant respondents with mean score 2.70 opined that professional management is lacking there by leadership of FPO is major hurdle in promoting FPO.

Similarly it is seen that respondents with mean score 2.60 mentioned that there is lack of diversification of business which is not helpful in managing FPO. Very few respondents with mean score 2.42 opined that there is no financial support to FPO members in terms of loans and availability of working capital for promoting FPOs. It seems that majority of the respondents face challenges in terms of middlemen dominance in the market, lack of leadership in the FPO and governance and similarly lack of government support.

Table-7: Market Linkage and Value addition

Following table reflects the information about market linkage and value addition services provided by FPOs. With objective to examine the value addition services benefitting the members in better farming practices.

Market Linkage and Value addition	Lowest	Lower	Moderate	Higher	Highest	Total	Std. Deviation	Mean	Rank
Minor or major addition (S1)	118	201	382	115	35	851	1.002	2.70	IV
Diversification of revenue of businessline(S2)	173	287	276	96	19	851	1.452	2.45	VII
Widening market linkages (S3)	199	300	248	102	2	851	.967	2.30	VII I

De-risking from price and marketvolatilities (S4)	272	334	160	85	0	851	.951	2.07	IX
Entrepreneurshipand business planning skill (S5)	108	276	328	126	13	851	.939	2.60	VI
Project planning, execution, management skill (S6)	98	252	326	139	36	851	1.006	2.72	III
Marketing, communication andnegotiation skill (S7)	76	171	271	264	69	851	1.089	3.09	I
People and stakeholder management skill (S8)	125	231	310	169	16	851	1.013	2.67	V
Inter-personal and other soft skills s9	114	174	353	173	37	851	1.042	2.82	II
Source: Field study								*	

From the above data in the table it is observed that majority of the respondents with mean scores 3.09 opined that FPO supports in marketing communication and negotiation for their produce. Again respondents with mean scores 2.82 opined that there is better interpersonal skills and soft skills amongst members so have lesser conflicts. Again respondents with 2.72 mean scores opined that their FPOs have better project planning and managerial skill .Furthermore respondents with mean score 2.70 said that their FPOs make minor or major value additions to their produce. Again respondents with mean score 2.67 opined that their FPO has people oriented and stakeholder benefit management skill for better inclusiveness of members. Furthermore respondents with mean score 2.60 opined that their FPO has entrepreneurial and business skills. Few respondents with mean scores 2.45 mentioned that FPOs are adopting diversified agricultural practices. Very few respondents with mean scores 2.30 opined that FPOs are widening the market linkages. Negligible respondents with 2.07 mean scores opined that FPOs are not providing the assurance for their produce and derisking of produce is not taken care of.

It seems that majority of the FPOs are still are unable to provide better market

linkage and value addition benefits to the farmer members in terms of diversification of business, widening market linkage, derisking of members produce or assurance for avoiding market risks, major and minor value addition in terms of packaging branding services and entrepreneurial and management skills.

Table-8 Problems in Marketing

Following data in the table depicts the information about problems faced in marketing the produce. With objective to understand the problems in marketing the produce.

	Lowest	lower	Moderate	Higher	Highest	Grand Total	Std. Deviation	Mean	Rank
Farmers jointly marketingtheir produce	83	289	315	123	41	851	0.99	2.71	V
Buyer /seller meets organized	110	267	267	161	46	851	1.07	2.73	IV
competition from bigger brands	192	167	224	246	22	851	1.18	2.69	VI
promotional strategy	104	217	259	245	26	851	1.06	2.85	II
Price fluctuations often affect only some vegetable crops, which makes the risk manageable.	84	207	375	177	8	851	0.91	2.79	III
Linking with retail markets	63	213	289	275	11	851	0.95	2.95	I
Brand building, Labeling and Standardization	147	237	298	133	36	851	1.07	2.62	VII

Source: Field study

From the above data in the table it is observed that majority of the respondents

with mean scores 2.95 opined that their FPO is linked with retail chain. Again respondents with mean scores 2.85 stated that their FPO is actively adopting promotional strategy in marketing their produce. Furthermore respondents with mean scores 2.79 said that their FPO proactively takes care of price fluctuations by adopting diversity in cropping pattern. Substantial respondents with mean score 2.73 opined that FPOs conduct regular buyer seller meet to enhance marketing efforts. Again respondents with mean score 2.69 mentioned that FPOs jointly market their produce. few respondents with mean score 2.69 said that there is competition from bigger brands . Negligible respondents with mean scores 2.62 stated that brand building and standardization is challenging.

It seems that majority of the respondents are benefitted by marketing efforts taken by FPOs in promoting their brands. But there is still scope in branding and standardizing the produce effectively.

Hypotheses Testing 1

H0: There is no association between size of the land holding and type of crops cultivation of FPO

H1: There is close association between size of the land holding and type of crops cultivation of FPO

Objective: To check whether there is any association between size of farm and type of crop cultivation

A) H_0 : There is no any association between size of the farm and cultivation of food grains VS

 $\boldsymbol{H}_1 \text{:}\ \boldsymbol{There}\ is\ association\ between\ size\ of\ the\ farm\ and\ cultivation\ of\ food\ grains$

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1 to 2		Farm Size of Respondent			
			4 and above		
Food	Yes	50	528	215	
grains	No	6	33	19	

Pearson Chi-Square Tests			
Farm Size of Respondent			
	Chi-square	2.736	
	df	2	
Food grains	Sig.	.255	

We use Pearson chi-square test for independence for testing above hypothesis. Here P-Value is 0.255 (>0.05), hence with 5% level of significance we say that there is no any association between size of the farm and cultivation of food grains

B) H₀: There is no any association between size of the farm and cultivation of Vegetable H₁: There is association between size of the farm and cultivation of Vegetable

1 to 2		Farm Size of Respondent			
		2 to 4 4 and above			
Vegetables	Yes	7	137	92	
	No	49 424		142	

Pearson Chi-Square Tests

		Farm Size of Respondent		
	Chi-square	25.221		
	df	2		
Vegetables	Sig.	.000*		
*. The Chi-square statistic is significant at the .05 level.				

above hypothesis

We use Pearson chi-square test for independence for testing above hypothesis. Here P-Value is less than 0.05; hence with 5% level of significance we say that there is association between size of the farm and cultivation of Vegetables. i.e. Cultivation of Vegetables is depends of size of the farm.

Now we will obtain percentage of farmers who cultivate vegetables for each group

Size	frequency (Percentage)	Total
1 to 2	7 (14.29)	56
2 to 4	137 (32.31)	137
4 and above	92 (64.79)	234

Above table shows that 64.79% farmers of farm size 4 and above than 4 acre cultivates vegetables which is highest among three groups.

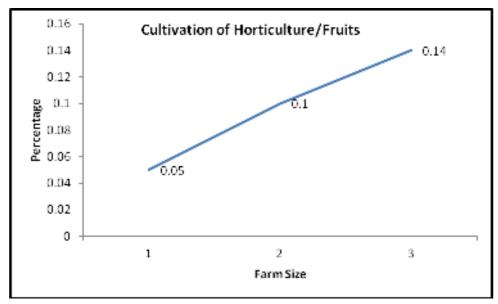
C) H_0 : There is no any association between size of the farm and cultivation of Hortici Fruits VS

 H_1 : There is association between size of the farm and cultivation of Horticulture/Fruits

1 to 2		Farm Size of Respondent		
		2 to 4	4 and above	
Horticulture/Fruits	Yes	3	55	32
	No	53	506	202
	% of yes	0.05	0.1	0.14

Pearson Chi-Square Tests				
Farm Size of Respondent				
	Chi-square	4.343		
Horticulture/Fruits	df	2		
	Sig.	.114		

At 15% level of significance we say that there is dependency between size of the farm and cultivation of horticulture. Above table shows that farmers having farm size greater than equal to 4 cultivates horticulture more that having size less than 4.



D) There is no any association between size of the farm and cultivation of Sugarcane $\,$ VS $\,$ H₁: There is association between size of the farm and cultivation of Sugarcane

1 to 2		Farm Size of Respondent			
		2 to 4	4 and above		
Sugarcane	No	29	293	112	
	Yes	27	268	122	

Pearson Chi-Square Tests		
		Farm Size of Respondent
	Chi-square	1.274
Sugarcane	df	2
	Sig.	.529

Hypotheses Testing: 2

H0: There is no association between self-driven farmer FPO and productivity

H1: There is close association between self-driven farmer FPO and productivity

Objective: To check whether there is any association between type of joining of farmers to Farmer Producer Organization (FPO) and productivity of crop

Type of Joining		Self-Driven	Promoter Motivated	Total
Productivity AfterJoining of	Increased	484	267	751
FPO	Decreased	40	60	100
	Total	524	327	851

For testing hypothesis,	we used SPSS and	output of SPSS and follows:

Chi-Square Tests						
	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	
Pearson Chi-Square	22.292a	1	.000			
Continuity Correction	21.271	1	.000			
Likelihood Ratio	21.612	1	.000			
Fisher's Exact Test				.000	.000	
Linear-by-Linear Association	22.266	1	.000			
N of Valid Cases	851					

For testing we use Pearson Chi-Square test and we get the corresponding P-value is less than 0.05 and therefore at 5% level of significance we conclude that there is dependency between productivity of crop and type of joining to FPO by framers. Since, there are 524 farmers joined to FPO by self-driven and 327 farmers are joined by promoting of motivating.

Now we will test whether productivity of self driven farmers is higher than motivated/promoted farmers.

Consider,

- P1: Proportion of self driven farmers agreed that their productivity is increased due to joining FPO
- P2: Proportion of promoted driven/motivated farmers agreed that their productivity is increased due to joining FPO

Hypothesis of testing is

 H_0 : P1=P2 against H_1 : P1>P2Chi-square test statistic is $\chi^2=21.271$, DF=1 and p- value=3.987e-06 Sample estimates: $\hat{P}1=0.9237$ and $\hat{P}2=0.8165$

Here 92.37% self driven farmers agreed that their productivity is increased due

to joining FPO and 81.65% promoted driven/motivated farmers agreed that their productivity is increased due to joining FPO. Two sample proportion test is used and we get P-value less than 0.05, hence we conclude that productivity of self driven farmers is higher than promoted/motivated farmers.

III) Major Findings, Suggestion & Conclusion

Members have small farm size and are classified as small and marginal farmers with lower income from the farm. Have little farming experience due to late inception of FPOs.

It is found that farmer members are benefitted by irrigation facilities and have adequate water resources thereby opportunity for growth in various diverse cropping pattern but it is found that members undertake food grains and sugarcane cultivation and less diverse crops as western Maharashtra region is irrigated and adequate with water resources .Further more it is found that productivity and yield as it is significantly improved due to improved seeds variety and fertilizers distribution and assurance of selling/marketing support by FPO organizations.

It is Analyzed that members have joined FPOs with own willingness and are self driven FPOs. But it also cannot be neglected that many FPO members are promoter motivated and are unaware about various activities conducted by their FPOs. Furthermore FPOs decide the cropping pattern on the basis of market prices which is rational but in this process there are chances of similarity in cropping pattern which leads to undue competition amongst FPOs.

It is reflected that FPOs are providing value added services like selling the produce, market linkage and provide input. But less attention is paid towards quality control mechanisms. Furthermore it is observed that still there is dominance of middlemen in the market.

Again efficient functioning of FPO lacked due to leadership issues in FPO

governance and professional expertise in the staff. There is minimal government support and it is also observed that members are unaware about subsidies and benefits.

It is found that FPO member farmers are benefitted by marketing efforts taken by FPOs in promoting their brands. But there is still scope in branding and standardizing the produce effectively.

It is found that farmers do not get the benefit of market linkage with big institutions or institutional support in marketing the farmers produce. However the FPOs are having linkage with local companies. Furthermore FPOs do not participate in commodity exchange trading. It seems this is another opportunity neglected widely by FPOs.

It is inferred that majority of the FPOs are still unable to provide better value addition benefits to the farmer members in terms of diversification of business, widening market linkage, derisking of members produce or assurance for avoiding market risks, major and minor value addition in terms of packaging, branding services and entrepreneurial and management skills.

Suggestions

Inclusiveness of diverse groups in farmer producer organizations is need of hour FPOs need to involve women as this need to be the priority as currently fewer women are actively involved in FPOs. During research it is observed that Anita Malage, Boramani, solapur single handedly started SHG and simultaneously started Yashsvini Farmer Producer Company Promoting and branding own products like food grains, different types of dals, potato wafers, grading services of Food grains, sourcing of vegetables which in turn is sold through linkage with retail chains like Reliance fresh, she has further guided five new FPO startups. Similarly FPOs need to work on skilling local youngsters in various capabilities like selling and marketing, finance and accounting and business planning will lead to empower rural youths . Aggregation of small marginal landless farmers, involvement of older farmers will

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enhance farmer's economic strength and make them self reliant through market linkages which in turn will improve their income from farming.

• Managing Cropping pattern, seeds fertilizer management with field demonstration and nurturing self driven FPOs

It is brought to the consideration of FPOs that with the help of active support from district agriculture department they need to take expert guidelines on cultivation and cropping pattern, for this arranging field demonstration for farmers in terms of selecting right cropping pattern with optimal utilization of irrigation facilities will lead to right farm management.

It is brought to the notice of the researcher from farmer members that much of the cost is incurred on fertilizers. They also need support from FPO management in getting quality seeds. Hence considering this demand if FPO starts its own fertilizer shop and provide quality seeds, organic manure pesticides through nurseries for its own FPO members with farmers support in subsidized rates for members and premium rates for non member farmers in their vicinity it will surely benefit the members and they can generate income for FPO as well.

Care should be taken to ensure that willingness of the farmers and their participation actively in FPO activities need to be self driven. If promoters take the charge and it is promoter motivated and thus FPO members are neglected it only remains on paper to show the members for statutory requirement. It is observed on field some FPOs practice these but research supports that these kinds of FPOs are not sustainable in long term.

• Promoting organic farming initiatives, sound leadership and governance.

The FPOs promoting organic farming can be incentivized and declared as authority in certifying for third parties and individual growers by the government agencies like APEDA. The SFACs and NGOs supporting this kind of FPOs should be given grants for such projects by the state government. Then there will be more

FPOs coming with organic farming initiatives.

farmer producer organizations need to have clarity of their mission, should have well written policy guidelines that are sustainable with sound governance and efficient board members strong responsive and accountable leadership having broader perspective with high technical and managerial competence with corporate approach with social inclusion policy which is observed to be lacking in many FPOs.

For this board of directors should be sensitized and trained in the areas covering functioning of FPOs, framing right organizational structure, business operation and management, creating sustainable market linkages, understanding laws related to FPO, regulatory compliance, good governance practices, transparency & accountability, vision building, leadership development, communication skills and MIS.

Providing information about subsidies from government and various schemes for FPO members benefitting them.

• Creating FPO dominance in market with sustainable agro value chain. It is observed that still the middlemen dominate over FPOs in the market hence to integrate the farmers into FPO the whole idea is to make the farming profitable along with the entire agro value chain. The main reason for dominance by middlemen is very few FPOs have sales outlet and complete agro service center under one roof.

Again market linkage is observed with few of the FPOs having direct license to market. This needs to be increased with other FPOs as well. So as to completely wiping out middleman dominance. They also need to tie up with big retail players like reliance, star bazaar, and big basket etc thereby improving and adopting the stringent quality control parameters. Thus FPOs need to play a role of not just producer but processor wholesaler and retailer as well then only the role of FPOs will be dominant in market.

• Capacity building and training programs for farmers in terms of

technological advances exposure visits, financial literacy and participation in commodity exchange. Considering the local farming environment and working out comprehensive training need assessment a well planned capacity building and skill and training development interventions are necessary to be conducted along with practical farm visits.

Similarly conducting financial literacy and awareness campaign through farmers club. Training farmers in terms of hedging platforms such as National commodity and derivatives exchange limited (NCDEX) to ensure that farmers protect themselves against falling prices of certain crops thereby risk mitigating parameters.

This will enable the FPOs to enhance backward and forward linkages through negotiation, linkages with financial institutions and linkages between farmers, processors, traders, retailers, transport services and customers as well.

Building and nurturing Innovative ecosystem amongst FPOs

There is need to bring some innovative concepts and ideas by FPOs in terms of developing retail trade as well. Gramin Haat like structures a village called kaneri math near Kolhapur displays diverse agro products right from organic jaggery, fruits vegetables, and different rural products made colourful to attract the attention of travellers and to serve the basic demands of anyone passing through this Gramin haat. FPO needs to think in this direction to bring innovative ideas to promote their brand in different style and context relevant to local competence.

• Strengthening FPOs through financial support

It is observed that Small farmers agribusiness consortium (SFAC) and RBI have formulated policies to extend credit to producer organizations. As banks are also funding SMEs which cover FPOs to build the financial health of FPOs. This being the positive development there will be tremendous

scope in near future to develop the well performing FPOs will surely benefit out of these financial development ecosystem.

Conclusion

Farmer producer organisations in western Maharashtra need to revise their organisational structure in terms of their operations in a very professional manner. which is currently lacking, the members of Farmer producer organisations are not active. There is a need to understand the market linkage to market the FPO produced in the retail markets.branding of agricultural commodities supply chain effectiveness is lacking.similarly paucity of sufficient funding, drawn-out formalities, encouraging institutions' work, etc., all hinder the effective operation of FPOs. The FPOs' employees lacked professional experience, which led to poor business planning. By taking part in training programs, FPO staff members' skill levels must be raised. To encourage others to come forward and perform better, the effective FPO promoting organizations must be acknowledged and rewarded.

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"बाल अपचारियों की शिक्षा और पुनर्वास हेतु चलाए जा रहे कार्यक्रमों की प्रभावशीलता का अध्ययन"

(To study the effectiveness of programmes being run for education and rehabilitation of juvenile delinquents)

Neha Sharma¹ Dr. Shipra Gupta²

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सारांश :

बालक हमारे देश व समाज की रीढ़ की हड्डी है। और हमारे देश व समाज का विकास उन्हीं बालकों के भविष्य पर आधारित होता है, और जब वे भविष्य में अपराधी बन जाएंगे तो हमारे देश को बर्बाद होने से कोई नहीं रोक सकता हैं। इसलिए भारत सरकार न्यायालय द्वारा (बाल संरक्षण अधिनियम व किशोर न्याय अधिनियम 1986 संशोधित 2000) के तहत हर जिले में ऐसी संस्थाओं व विद्यालयों का निर्माण करती है, व उन्हें संचालित करने के लिए अनेक अधिनियम व कानून बनाती है। जिसमें मुख्य रूप से बाल सुधार गृह एक अहम भूमिका अदा करता है। बाल सुधार गृह द्वारा बाल अपचारियों के संरक्षण, पुनर्वास, उपचार, विकास, शिक्षा व बाल अपचारियों से संबंधित विषयों में होने वाले कार्यक्रमों को पूर्ण करता है। जिसमें अनेक कार्यक्रम शामिल होते हैं। जिनमें से इन कार्यक्रमों के तहत बाल अपचारियों की शिक्षा भी एक प्रमुख घटक है, इसमें बाल अपचारियों के लिए प्रस्तावित पुनर्वास के दौरान दिए जाने वाले शिक्षक, व्यवसायिक प्रशिक्षण (व्यवसायिक शिक्षा, साक्षरता, परामर्श सेवा, जीवन कौशल, कंप्यूटर संचालन, ऑटोमोबाइल मरम्मत, कंप्यूटर मरम्मत, डेटा टाइपिंग, फ़िल्टर प्रशिक्षण, वेलिंडग, कपड़ा मुद्रण, सिलाई, ब्यूटीशियन, मोबाइल मरम्मत, मोमबत्ती बनाना, बागवानी इत्यादि) शामिल हैं।

प्रस्तुत अध्ययन के द्वारा इन कार्यक्रमों के तहत् बाल अपचारी में किए गए सुधारात्मक गतिविधियों का अध्ययन कर कार्यक्रमों की प्रभावशीलता का अध्ययन किया गया। इस अध्ययन में राजस्थान के जयपुर, संभाग के अंतर्गत आने वाले बाल सुधार गृह में चलाए गए शैक्षिक कार्यक्रमों व व्यवसायिक प्रशिक्षण की प्रभावशीलता का बाल अपचारियों पर प्रभाव देखा गया। जिसके अंतर्गत बाल अपचारी, पुनर्वासित बालक, उनके पारिवारिक सदस्य, बाल सुधार गृह प्रबंधकों एवं कर्मचारियों को शामिल किया गया। जिसके लिए सर्वेक्षण व अवलोकन अनुसंधान विधि का प्रयोग किया गया।

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मुख्य व सूचक शद्ध : अपराध, बालक/ किशोर, बाल अपराध एवं बाल अपचारी, पुनर्वास, बाल सुधार गृह, बाल न्यायालय, किशोर न्याय प्रणाली, जुवेनाइल जस्टिस एक्ट, शिक्षा ।

।) प्रस्तावना :

"अपराध होने ना देना अपराधियों को दंडित करने से बेहतर है।"

दैनिक समाचार.पत्रों में हम दिन प्रतिदिन देश में बढ़ते अपराध की घटनाओं के बारे में पढ़ते हैं, और चिंता भी प्रकट करते हैं, कि ये अपराध बलात्कार, डकैती, हमला, चोरी, आवारा गर्दी, लूटपाट, नशा वेश्यावृत्ति, जुआ, हत्या, आदि जैसे संदिग्ध अपराध क्यों व कैसे कर रहे हैं, जिसमें अधिकतर जनसंख्या देश की युवा पीढ़ी शामिल है, आखिर हमारे देश की युवा पीढ़ी किस दिशा में जा रही है? अतः बाल अपराध भी एक गंभीर समस्या बन चुकी है। 1राष्ट्रीय अपराध रिकार्ड ब्यूरो के अनुसार भारत में अपराध की घटना और अपराध दर अलग-अलग राज्यों में भिन्न होती है। तथा अपराध के प्रकार भी भिन्न पाए जाते हैं। जिसमें 2021 के अनुसार सभी राज्यों में से केरल में अपराध दर सबसे अधिक, नागालैंड में अपराध दर सबसे कम, भारत में के दिल्ली में अपराध दर सबसे अधिक, दादर नगर हवेली और दमन और दीव में सबसे कम अपराध दर है।

घटनाओं के आधार पर झारखंड में सबसे ज्यादा हत्या दर, राजस्थान में सबसे ज्यादा बलात्कार, दिल्ली में अपहरण व डकैती, पंजाब में मादक पदार्थों की तस्करी, उत्तर प्रदेश में सबसे अधिक अवैध हथियार की जब्ती आदि अपराध देखने को मिलते हैं।

¹राष्ट्रीय अपराध रिकार्ड ब्यूरो के अनुसार2014 से2023 के दौरान पूरे भारत व राजस्थान में आईपीसी के तहत कानून का उल्लंघन करने वाले किशोरों के खिलाफ निम्न मामले दर्ज किए गए।

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ISSN: 0368 - 4199

1816248 5615 ATTRO-4539 Offender 4152896 2071 42313 4634 2019 2020 2021 2022 2023 हाल ही 11 फरवरी 2024 को जयपुर के बाल सुधार गृह से 22 किशोर खिड़की तोड़कर भागे जाने की खबर सामने आई। जिसमें उन बालकों पर अपराध संबंधी कई मुकदमे दर्ज है इससे पहले 16 सितंबर 2023 को तीन किशोर, 28 जुन 2023 को 15 किशोर, 14 दिसंबर 2022 को 6, 3 जनवरी 2017 को 9, 8 दिसंबर 2016 को 15 और 12 नवंबर को भी 17 बाल अपचारी बाल संप्रेषण गृह की खिडिकयां दरवाजे तोडकर या कभी दीवार फांदकर भागने की भी खबर सामने है, आखिर बालकों में क्या कारण रहता है, जिससे उन्हें विधि से संघर्ष करना पडा हैं, तत्पश्चात उन्हें यहां से भगाने के पीछे क्या मानसिकता रहती है। क्या शैक्षिक व पुनर्वास त्रुटियां रही जिसके कारण बालकों में बाल सुधार गृह से

कानून के उल्लंधन में किसोरों से कुत्र मामले

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भाग जाने जैसा अपराध बार-बार दोहराते हैं।







¹एनसीआरबी की रिपोर्ट 1981.1921,2022,2023,1

भारत में बाल अपराध की रोकथाम में उपचार के लिए स्वतंत्रा पूर्व समय से ही निम्न अधिनियम व कानून पारित किए व जा रहे हैं । जिनमें से कुछ निम्न प्रकार है।

- 1850:- प्रशिक्षु अधिनियम, 1850।
- 1860:- भारतीय दंड संहिता, 1860।
- 1876:- सुधार स्कूलों के लिए कानून व्यवस्था का निर्माण ।
- १८८३:-प्रथम सुधारात्मक स्कूल (मुंबई) ।
- 1897:- 1876 के कानून को द इंडियन रिफॉर्मेटरी स्कूल एक्ट के रूप में पारित किया ।

- १९७७:- राजस्थान में बाल अधिनियम पारित ।
- 1971:- राजस्थान के 2 जिले जयपुर एवं अजमेर में लागू ।
- 1974:- बाल नीति को सरकार द्वारा अपनाना ।
- बाल न्यायालय की स्थापना ।
- अनेक स्थानों पर बाल सुधार गृह का निर्माण ।
- 1980:- राजस्थान के शेष जिलों में भी लागू तथा इसके अंतर्गत विशेष स्कूल में बाल सुधार गृह जयपुर खोले गए ।
- १९८६:- किशोर न्याय अधिनियम पारित ।
- 2000:- किशोर न्याय अधिनियम में संशोधन ।
- 2006:- पुनः किशोर न्याय अधिनियम में संशोधन ।
 (निर्भया रेप केस 2012)
 एकीकृत बाल संरक्षण योजना 2006 ।
- 2013:- आपराधिक कानून (संशोधन अधिनियम), 2013 ।
- 2015:- किशोर न्याय अधिनियम बाल देखभाल और संरक्षण 2015 संशोधन ।
- 2018:- आपराधिक कानून (संशोधन) अध्यादेश, 2018 ।
- 2020:- संशोधित एकीकृत बाल संरक्षण योजना 2020।
- 2021:- किशोर न्याय अधिनियम (बाल देखभाल और संरक्षण 2015) संशोधन 2021 ।

भारत में बाल न्याय अधिनियम 1986 (संशोधित 2000) के अनुसार 18 वर्ष तक की आयु के लड़कों व लड़कियों के अपराध करने पर बाल अपचारी की श्रेणी में सम्मिलित किया गया है। 7 से 18 वर्ष का लड़का तथा 7 से 18 वर्ष की लड़की द्वारा कोई भी ऐसा अपराध किया गया हो जिसके लिए राज्य मृत्यु दण्ड अथवा आजीवन कारावास देता है, जैसे हत्या, देशद्रोह, घातक आक्रमण आदि तो वह बाल अपराधी माना जायेगा। जिसमें इन बच्चों की देखभाल और सुरक्षा की आवश्यकता के लिए किशोर न्याय कानून के द्वारा भारत सरकार राज्य को वित्तीय सहायता प्रदान करती है। विभिन्न बाल सुधार गृह की

स्थापना और रखरखाव के लिए सरकारें/केंद्रशासित प्रदेश प्रशासन, का वेतन देखभाल और सुरक्षा की आवश्यकता वाले बच्चों और संघर्षरत किशोरों के लिए स्टाफ, भोजन, कपड़े आदि की व्यवस्था की जाती है। 2यतः संविधान के अनुच्छेद 15 का खंड (3), अनुच्छेद 39 के खंड (5) और खंड (च), अनुच्छेद 45 और अनुच्छेद 47 के प्रावधान राज्य को यह सुनिश्चित करने के लिए है की बालकों की सभी आवश्यकता पूरी की जाए और उनके आधारित मानव अधिकार पूर्णता संरक्षित रहे, शक्तियां प्रदान करते हैं।

³किशोरों के लिए पुनर्वास केंद्रों के संबंध में भारत में वैधानिक ढांचा मुख्य रूप से किशोर न्याय (बच्चों की देखभाल और संरक्षण) अधिनियम, 2015 व 2021 द्वारा शासित होता है। यह कानून के साथ संघर्ष में किशोरों के लिए एक सहायक और पुनर्वास वातावरण बनाने के महत्व को रेखांकित करता है, उनके समग्र कल्याण और समाज में सफल पुर्नएकीकरण को बढ़ावा देना है।

बच्चों के अधिकारों को बरकरार रखने की गारंटी देने और देखभाल और सुरक्षा की आवश्यकता वाले बच्चों को सभी संबंधित सेवाएं प्रदान करने के लिए, एकीकृत बाल संरक्षण योजना इस लक्ष्य को पूरा करने में फायदेमंद है। जिसमें विभाग के तहत, उन्हें मुफ्त स्वास्थ्य देखभाल, शिक्षा और भोजन मिलता है।

किशोरों के लिए पुनर्वास केंद्रों के संबंध में भारत में वैधानिक ढांचा मुख्य रूप से किशोर न्याय (बच्चों की देखभाल और संरक्षण) अधिनियम, 2015 व 2021 द्वारा शासित है। यह कानून के साथ संघर्ष में किशोरों के लिए एक सहायक और पुनर्वास वातावरण बनाने के महत्व को व उनके समग्र कल्याण और समाज में सफल पुर्नएकीकरण को बढ़ावा देना है।

अध्ययन का औचित्य

किशोर अपचारियों की शिक्षा और पुनर्वास के लिए विभिन्न कार्यक्रम चलाए जा रहे हैं, जिनका उद्देश्य उन्हें मुख्यधारा में पुनः स्थापित करना और समाज में एक सकारात्मक योगदान देने वाला नागरिक

- 2 सुरेंद्र शाह श्रीवास्तव (2016)"अपराध शास्त्र दंड शास्त्र एवं पीड़ित शास्त्र" एशिया लॉ हाउस, हैदराबाद पृष्ठ संख्या 621।
- 3 सुधा पांडे,"किशोर न्याय 2015" EKTA पब्लिकेशन अध्याय ३, किशोर न्यायिक बोर्ड, पृष्ठ संख्या 20.24।
- 4 धारा 74 किशोर न्याय (बालकों की देखरेख एवं संरक्षण) अधिनियम 2015 के प्रावधान एवं माननीय उच्चतम न्यायालय द्वारा प्रतिपादित सिद्धान्तों की पालना में विधि से संघर्षरत किशोर का नाम गुप्त रखे जाने के प्रयोजन से हस्तगत आदेश में किशोर को काल्पनिक नाम एवं विधि से संघर्षरत श्किशोरश् के नाम से संबोधित किया जाता है।
- 4 एकीकृत बाल संरक्षण योजना (ICPS-2006 / 2020)

बनाना है। ऐसे कार्यक्रमों की प्रभावशीलता का मूल्यांकन करना अत्यंत महत्वपूर्ण है तािक यह सुनिश्चित किया जा सके कि वे अपने उद्देश्यों को पूरा कर रहे हैं। किशोर अपचािरयों का पुनर्वास और शिक्षा उन्हें समाज के मुख्यधारा में शािमल करने में मदद करता है, जिससे समाज में समरसता और शांित बनी रहती है। प्रभावी पुनर्वास कार्यक्रम किशोर अपचािरयों को सही मार्ग पर चलने के लिए प्रेरित करते हैं, जिससे भविष्य में अपराध दर में कमी आती है। शिक्षा और पुनर्वास कार्यक्रमों के माध्यम से किशोर अपने व्यक्तित्व का विकास कर सकते हैं और समाज में एक जिम्मेदार नागिरक के रूप में अपनी पहचान बना सकते हैं। पुनर्वासित किशोर समाज के आर्थिक विकास में योगदान कर सकते हैं, जिससे समग्र रूप से देश की प्रगति होती है। इन कार्यक्रमों की प्रभावशीलता का मूल्यांकन सरकार और नीित-निर्माताओं को इनकी नीितयों को सुधारने और अधिक प्रभावी बनाने में मदद करेगा। यह अध्ययन सामाजिक दृष्टिकोण से किशोर अपचािरयों की शिक्षा और पुनर्वास के कार्यक्रमों की प्रभावशीलता को मापने का एक प्रयास है। इस प्रकार का मूल्यांकन समाज, सरकार और नीित-निर्माताओं के लिए अत्यंत उपयोगी हो सकता है, जिससे वे अधिक प्रभावी और सुसंगत कार्यक्रम विकसित कर सकें। अध्ययन के परिणामों से प्राप्त जानकारी का उपयोग समाज के व्यापक हित में किया जा सकता है, जिससे एक सुरक्षित और सुदृढ़ समाज का निर्माण हो सके।

अध्ययन का महत्व:

वर्तमान समय में बाल अपराध एक गंभीर समस्या बनी हुई है जो की आधुनिक जटिल और औद्योगिक समाजों के लिए एक चुनौती है जिसके तहत किशोर में सामाजिक और विचलनकारी व्यवहार का बढ़ना किसी भी स्वस्थ समाज का लक्षण नहीं है जो कि देश के विकास की गति को भी अवरोध करता है अतः इस शोध के द्वारा बाल अपराध के लिए उत्तरदाई कारकों को पहचानना तथा उनका पुनर्वास के दौरान शिक्षा में हो रही कमियों को दूर करने के लिए प्रयास करना है।

सामाजिक तौर परः- प्रभावी शिक्षा और पुनर्वास कार्यक्रम किशोर अपचारियों को सही मार्ग पर लाकर अपराध दर में कमी लाने में सहायक होते हैं। पुनर्वासित किशोर समाज के एक जिम्मेदार सदस्य के रूप में शामिल होते हैं, जिससे सामाजिक समरसता और शांति बनी रहती है। इन कार्यक्रमों के माध्यम से किशोर अपराधियों के पुनर्वास से समाज में सुरक्षा और स्थिरता की भावना मजबूत होती है। जिससे किशोरों में सभी छोटे बड़ों के साथ आदर सम्मान के साथ व्यवहार करना में सहायक होते हैं।

पारिवारिक तौर परः- किशोर अपचारियों के पुनर्वास में क्या पारिवारिक कारण रहे जिससे किशोर अपराध की और अग्रसर हो जाता है। अर्थात इस अध्ययन से वह पारिवारिक कारण प्रकाश में आएंगे जिनकी वजह से शायद कोई किशोर अपराध की राह पकड़ता है। परिवार के सदस्य पुनर्वास कार्यक्रमों

के माध्यम से अपने बच्चों को एक नई शुरुआत करने में सहायता कर सकते हैं। जिससे प्रभावी पुनर्वास से परिवार में भावनात्मक स्थिरता और मानसिक शांति बनती है। बालक के परिवार में माता-पिता द्वारा सही.गलतए अच्छे.बुरे में फर्क करना सीखना तथा अपने बालक को समय देना भी अपराध दर में कमी लाने में सहायक होते हैं।

सरकार तौर परः- सरकार के द्वारा अपचारियों के लिए अनेक शैक्षिक संबंधी कार्यक्रम संचालित हो रहे हैं, जिनका बाल अपचारियों पर क्या प्रभाव हो रहा है? यदि प्रभाव नहीं पड़ रहा है, तो हम सरकार को इन कार्यक्रमों से संबंधी कुछ सुझाव प्रेषित करेंगे। सरकार इन कार्यक्रमों के प्रभाव का विश्लेषण कर बेहतर नीतियों का निर्माण कर सकती है। सरकार की ओर से संचालित पुनर्वास कार्यक्रमों की प्रभावशीलता अपराध रोकथाम में महत्वपूर्ण भूमिका निभाती है। जिससे प्रभावी कार्यक्रमों के माध्यम से सरकारी संसाधनों का सही उपयोग सुनिश्चित कर सकती है।

गैर-सरकारी संगठनों NGO के संदर्भ में:- गैर सरकारी संगठन एनजीओ का भी बाल अपचारियों के लिए पुनर्वास कार्यक्रम में सहयोग का प्रावधान है जिनमें उनकी कौशल व व्यवसायिक कार्यक्रम महत्वपूर्ण है। इस अध्ययन के माध्यम से उनके द्वारा संचालित कार्यक्रमों को प्रकाश में लाया जाएगा। तथा उसकी प्रभावशीलता देखी जाएगी। या उनमें और

क्या अधिक गुणवत्ता और सुधार की गुंजाइश है जिससे यह अध्ययन गैर सरकारी संगठनों की सहायता करेगा। NGO इन कार्यक्रमों की प्रभावशीलता का अध्ययन कर उनकी गुणवत्ता में सुधार लाया जा सकता हैं। NGO को पुनर्वासित किशोरों को और अधिक सहायता और समर्थन प्रदान करने के लिए दिशा-निर्देश प्राप्त होते हैं। जिससे प्रभावशीलता के अध्ययन से NGO और सरकारी संगठनों के बीच बेहतर साझेदारी और सहयोग को बढ़ावा मिलता है।

स्कूलों के संदर्भ में:- पुनर्वास कार्यक्रमों के माध्यम से किशोर अपचारियों की शैक्षिक आवश्यकताओं को समझने और सुधारने में मदद मिलती है। जिससे स्कूलों को समावेशी शिक्षा का मॉडल अपनाने में सहायता मिलती है, जिससे सभी बच्चों को समान अवसर प्राप्त होता है। इस अध्ययन से शिक्षकों को किशोर अपचारियों के पुनर्वास और शिक्षा में अपनी भूमिका को बेहतर तरीके से निभाने के लिए प्रशिक्षण प्राप्त होगा।

⁴ किशोर न्याय अधिनियम बाल देखभाल और संरक्षण 2015 संशोधन, शिप्रा मित्तल टे स्टेट ऑफ एनसीटी ऑफ दिल्ली & Anr 202 क्रिमिनल लॉ रिपोर्टर (एस. सी) 106।

⁵ एकीकृत बाल संरक्षण योजना (ICPS-2006 / 2020) सेवा का न्यूनतम मानक, बिन्दु संख्या 6.5, 6.6 पृष्ठ संख्या 94।

॥) सम्बन्धित साहित्यः

- वी. रीता, डॉ. सी.डी. अधिकारी (2010): इन्होंने विद्यानेतर बाल अपराध का समाजशास्त्रः वाराणसी नगर पर आधारित एक समाजशास्त्रीय अध्ययन डॉक्टर ऑफ फिलॉसफी उपाधि हेतु किया। इनका मुख्य उद्देश्य बाल अपराधियों के परिवार समुदाय पड़ोस मित्र मंडली को समझना व उनके सुधार कार्यों में सभी की भूमिका का अध्ययन करना रहा। जिसमें निष्कर्ष द्वारा पाया गया की समुचित उत्तरदाता 54ए 15 से 18 वर्ष की आयु समूह के हैं तथा 53 उत्तरदाता अशिक्षित है जिसमें सभी की अहम भूमिका बताई गई।
- 4 प्रोफेसर एस.सी. राजोरा, शर्मिला कुमारी (2012-13): इन्होंने बाल अपराध का समाजशास्त्रीय परिप्रेक्ष्य पर एवं उभरती प्रवृत्तियां कोटा शहर के विशेष संदर्भ में अध्ययन कियाद्य इस अध्ययन का मुख्य उद्देश्य बाल अपराधी की सामाजिक, आर्थिक पृष्ठभूमि, अपराध की उत्पत्ति में आधुनिक सूचना तकनीकी का फैलाव, उत्तरदाई कारको, सामुदायिक कारको, उभरती प्रवृत्तियों का पता लगाना। इन्होंने अपने निष्कर्ष में पाया कि बाल अपराध की उत्पत्ति काफी जटिल और अंतर संबंध कारकों का परिणाम है जिसकी प्रकृति बहुत हद तक व्यक्तिगत होती है। प्रत्येक बाल अपराधी अपने आप में एक सामाजिक और मनोवैज्ञानिक रोगी होता है।
- मर्सी वंजिरु किथाका, डॉ. जेम्स गिचुरु करियुकी (2018): इन्होंने केन्या में किशोर अपराधियों के लिए पुनर्वास कार्यक्रम के लाभ पर अध्ययन किया। यह अध्ययन केन्या राज्य के बाल सुधार ग्रह में उपस्थित 138 किशोर पर किया गया। इस अध्ययन का मुख्य उद्देश्य केन्या में पुनर्वास विद्यालय में किशोरों के लिए मौजूदा पुनर्वास कार्यक्रम का पता लगा कर उनसे बाल अपराधियों के परिवार व समाज को क्या लाभ होता है, पता लगाना था। इन्होंने अपने निष्कर्ष में पाया कि केन्या में पुनर्वास स्कूल में किशोरों के लिए मौजूदा पुनर्वास कार्यक्रम में अकादमी, व्यवसायिक प्रशिक्षण, कौशल प्रशिक्षण, परामर्श और स्काउट्स शामिल हैं। ये कार्यक्रम कौशल प्रदान करते हैं जिसका उपयोग किशोर बालक आय अर्जित करने के लिए करते हैं, जो उन्हें और उनके परिवारों का समर्थन करती है। तथा उन्होंने अपनी जिम्मेदारी, सम्मानजनक, आज्ञाकारी, अनुशासित और आत्म-नियंत्रण जैसे मूल्य भी सीखे।
- दीपशिखा अग्रवाल (2018): इन्होंने "भारत में किशोर अपराध-नवीनतम रुझान और किशोर न्याय अधिनियम में संशोधन" विषय पर अध्ययन किया। इनका उद्देश्य किशोर अपराध के कुछ कारणों/कारणों और समस्या को समझने के लिए विभिन्न विद्वानों द्वारा दिए गए सैद्धांतिक प्रस्तावों की पड़ताल करना था। तथा निष्कर्ष में पाया गया कि किशोर न्याय

अधिनियम 2016 को किशोर अपराधों में बदलते रुझानों के साथ तालमेल बिठाने की दिशा में भारत सरकार के एक बहुत ही प्रगतिशील कदम के रूप में देखा जा सकता है।

- डॉ फिसकु क्रिस्टोफर व अजुमबोई ओलाड्य ओलूवस्की (2022): इन्होंने नाइजीरिया के बाल सुधार गृह में चल रहे शैक्षिक कार्यक्रम पुनर्वास तथा किशोर अपराध का प्रबंध के योगदान का अध्ययन किया। इस अध्ययन में लोगस राज्य के चार बाल सुधार गृह के 265 किशोर पर किया गया। यह अध्ययन वर्णनात्मक अनुसंधान आधारित था। इस अध्ययन का मुख्य उद्देश्य नाइजीरिया में लागोस राज्य किशोर सुधार गृह में किषोर अपचारियों के पुनर्वास और प्रबंधन पर शैक्षिक कार्यक्रम के प्रभाव की जांच करना। इन्होंने अपने निष्कर्ष में पाया कि शैक्षिक कार्यक्रम का लागोस राज्य किशोर गृह में किषोर अपचारियों के पुनर्वास पर महत्वपूर्ण और सकारात्मक प्रभाव पड़ता है।
- ईशान आर्टरी डॉ. बलविंदर सिंह (2023): इन्होंने राजस्थान में किशोर अपराध का विश्लेषणः जोखिम कारक और सुरक्षात्मक कारक विषय पर अध्ययन किया। इस शोध का मुख्य उद्देश्य राजस्थान में किशोर अपराध की बहुमुखी प्रकृति की गहराई से जांच करना, इसके मूल कारणों, पैटर्न और मौजूदा निवारक और पुनर्वास उपाय के प्रभावशीलता की खोज करना था अर्थात निष्कर्ष द्वारा पाया गया कि गरीबी, शिक्षा की कमी, टूटे हुए परिवार, साथियों का दबाव, नशीली दवाओं का दुरुपयोग और मानसिक स्वास्थ्य संबंधी समस्याएं किशोर अपराध के कुछ प्रमुख कारण हैं। सरकार और समाज को ऐसे मामलों को रोकने और हस्तक्षेप करने के लिए आवश्यक कदम उठाने चाहिए ताकि समाज पर किशोर अपराध के प्रभाव को कम किया जा सके। इस अध्ययन के नतीजे राजस्थान में किशोर अपराध से जुड़े जोखिम कारकों के बारे में महत्वपूर्ण जानकारी प्रदान करते हैं।

III) साहित्य विवेचना:

पुनर्वास व शिक्षा को लेकर अभी तक काफी अध्ययन किया गया है। विभिन्न अध्ययनों से ज्ञात होता है कि सरकार द्वारा संचालित कार्यक्रमों पर भी अध्ययन किया गया है, परंतु उनकी प्रभावशीलता की जांच नहीं की गई है इसलिए हमने बाल अपचारियों की शिक्षा और पुनर्वास हेतु चलाए जा रहे कार्यक्रमों की प्रभावशीलता का अध्ययन को अपने विषय के रूप में चुनाव किया हैं।

समस्या कथन:

बाल अपचारियों की शिक्षा और पुनर्वास हेतु चलाए जा रहे कार्यक्रमों की प्रभावशीलता का

अध्ययन"

उद्देष्य:

- 1. बाल सुधार गृह में नामांकित बाल अपचारियों हेतु संचालित शैक्षिक कार्यक्रमों की प्रभावशीलता का अध्ययन करना।
- 2. बाल सुधार गृह में नामांकित बाल अपचारियों हेतु संचालित पुनर्वास कार्यक्रमों की प्रभावशीलता का अध्ययन करना।
- बाल सुधार गृह में नामांकित बाल अपचारियों के पुनर्वास हेतु मूल्य परक शैक्षिक कार्यक्रमों की प्रभावशीलता का अध्ययन करना।
- 4. बाल सुधार गृह में नामांकित बाल अपचारियों के पुनर्वास हेतु रोजगार परक शैक्षिक कार्यक्रमों की प्रभावशीलता का अध्ययन करना।
- 5. बाल सुधार गृह में नामांकित बाल अपचारियों के पुनर्वास हेतु सामाजिक समायोजन के लिए कार्यक्रमों की प्रभावशीलता का अध्ययन करना।

अनुसंधान प्रश्न :

- प्र.1 बाल सुधार गृह द्वारा बालक की शैक्षिक स्थिति बेहतर बनाने के लिए कौनसे कार्यक्रम है? तथा उनका किस प्रकार निर्वहन होता है?
- प्र.2 सरकारी व गैर सरकारी संस्था द्वारा संचालित बाल अपराधियों के लिए पुनर्वास कार्यक्रम से बाल अपराधी के व्यवहार में कितना परिवर्तन आया?
- प्र.3 सुधार गृह में रहने के दौरान ऐसे कौन-कौनसे कार्यक्रम है, जो बालक के व्यक्तित्व में मूल्यों की प्रभावशीलता को बढ़ाते हैं?
- प्र.4 बाल सुधार गृह में नामांकित बाल अपचारियों के लिए कौन-कौनसे व्यावसायिक कौशल प्रशिक्षण है? जिसके द्वारा बालक पुनर्वासित होकर धन अर्जन कर सकेगा।
- प्र.5 सुधार गृह से पुनर्वासित हो चुके बालकों का कैसा सामाजिक समायोजन हुआ है। क्या वह अर्थ उपार्जन में सक्षम हुए हैं? क्या समाज ने उन्हें स्वीकारा है?

कार्य प्रणाली :

प्रस्तुत शोध कार्य में विधि से संघर्ष अर्थात् बाल अपचारियों के शैक्षिक, व्यवसायिक कौशल प्रशिक्षण कार्यक्रम, मूल्य परक, रोजगार परक, एवं सामाजिक समायोजन की प्रभावशीलता का अध्ययन करने के लिए उनके पारिवारिक, सामाजिक एवं आर्थिक व्यक्तिगत आयाम पर साक्षात्कार प्रष्नावली निर्मित किया गया। प्रस्तुत शोध अध्ययन सर्वेक्षण विधि (survey method), घटनोत्तर अनुसंधान विधि (Phenomenological Research Method) एवं अवलोकन प्रविधि (Observation Method) द्वारा संपन्न हुआ।

जनसंख्या

प्रस्तुत शोध कार्य में राजस्थान राज्य के बाल सुधार गृहों को शामिल किया गया।

अध्ययन में प्रयुक्त न्यादर्श

प्रस्तुत शोध में न्यादर्श के रूप में जयपुर संभाग के अंतर्गत आने वाले बाल सुधार गृह में नामांकित लगभग 60 बाल अपचारियों को लिया गया।

अध्ययन में प्रयुक्त उपकरण

- प्रस्तुत शोध में बाल अपराध के मनोसामाजिक एवं मनोदैहिक कारणों का विश्लेषण करने हेतु
 संरचित व असंरचित साक्षात्कार का निर्माण किया गया।
- शैक्षिक व पुनर्वासित कार्यक्रमों की जानकारी हेतु सरकारी एवं गैर सरकारी संस्थाओं के अधिकारी व कर्मचारियों के लिए प्रश्नावली का निर्माण किया गया। कार्यक्रमों की क्रियान्वयन की स्थिति जानने हेतु जांच सूची (बीमबासपेज) का प्रयोग किया गया।
- कार्यक्रमों की प्रभावशीलता जानने के लिए पुनर्वासित बाल अपचारियों से साक्षात्कार किया
 गया।

अध्ययन में प्रयुक्त चर

 प्रस्तुत अध्ययन में स्वतंत्र चर के रूप में बाल सुधार गृह द्वारा चलाई जाने वाले प्रोग्राम व योजनाओं का प्रयोग किया गया।

- आश्रित चर के रूप में बाल अपराधी जो की बाल संप्रेषण गृह में संचालित प्रोग्राम वह योजनाओं पर निर्भर हैं।
- हस्तक्षेपी चर के रूप में साथी समूह, कर्मचारियों का बुरा व्यवहार, वातावरण, योजनाओं को उपयुक्त रूप से लागू न करना आदि शामिल हैं।

शोध में प्रयुक्त प्रदत्तों के स्त्रोत

प्राथमिक स्रोत बाल सुधार ग्रह के बाल अपराधी व पुनर्वासित बालक हैं। द्वितीयक स्रोत के रूप में बाल सुधार ग्रह के पदाधिकारी, प्रबंधक, कर्मचारी, परिवार, दोस्त, सरकारी वेबसाइट्स व पुस्तकों का प्रयोग किया गया।

शोध में प्रयुक्त प्रदत्तों की प्रकृति

प्रस्तुत शोध के आंकड़ों की प्रकृति गुणात्मक रही।

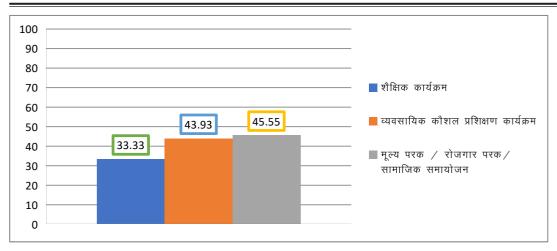
सांख्यिकी:

इस प्रस्तृत अध्ययन में सांख्यिकी के रूप में प्रतिशत विधि का प्रयोग किया गया।

परिसीमन:

- (1) प्रस्तुत शोध राजस्थान राज्य के जयपुर शहर के बाल सुधार ग्रह के संदर्भ अंतर्गत रहा।
- (2) प्रस्तुत शोध जयपुर शहर के बाल सुधार गृह में नामांकित बाल अपचारियों पर रहा।
- (3) प्रस्तुत शोध जयपुर शहर के बाल सुधार गृह से पुनर्वासित हो चुके बालकों, जोकी जयपुर शहर में रहकर रोजगार कार्य में सक्षम हुए उन पर रहा ।
- (4) प्रस्तुत शोध में किशोर का नाम गुप्त रखे जाने के प्रयोजन से हस्तगत आदेश में किशोर का नाम काल्पनिक दिया गया।

उद्देष्य	शैक्षिक	व्यवसायिक कौशल	मूल्य परक / रोजगार परक/ सामाजिक
	कार्यक्रम	प्रशिक्षण कार्यक्रम	समायोजन
प्रभावशीलता प्रतिशत	33.33%	43.93 %	45.55%



व्याख्या एवं विश्लेषण:

उपरोक्त ग्राफ से स्पष्ट होता है कि किषोर अपचारियों के लिए बाल सुधार गृह में संचालित शैक्षिक और पुनर्वास कार्यक्रमों की प्रभावशीलता निम्न प्रकार हैं-

- शैक्षिक कार्यक्रमों की प्रभावशीलता 33.33% थी, जो सबसे कम है। यह दर्शाता है कि वर्तमान शैक्षिक कार्यक्रमों में सुधार की आवश्यकता है।
- व्यावसायिकध्कौशल कार्यक्रमों की प्रभावशीलता ४३.93% थी।
- मूल्य परक, रोजगार परक और सामाजिक समायोजन कार्यक्रमों की प्रभावशीलता 45.55%
 थी।

कुल मिलाकर, बाल सुधार गृह में चल रहे कार्यक्रमों की प्रभावशीलता 39.86 है। यह दर्शाता है कि कार्यक्रम कुछ हद तक प्रभावी हैं, लेकिन महत्वपूर्ण सुधार की आवश्यकता है। मनोदैहिक और मनोसामाजिक कारणों पर अधिक ध्यान देने, शैक्षिक और व्यावसायिक कार्यक्रमों की गुणवत्ता बढ़ाने, और व्यक्तिगत आवश्यकताओं के अनुरूप कार्यक्रम विकसित करने से समग्र प्रभावशीलता बढ़ सकती है। इन सुधारों से किषोर अपचारियों के पुनर्वास और समाज में पुनः एकीकरण में मदद मिल सकती है।

बाल सुधार गृह में चलाए गए कार्यक्रमों का विश्लेषण

प्रस्तुत शोध अध्ययन के द्वारा बाल संप्रेषण गृह एवं किशोर गृह में चलाए गए कार्यक्रमों के जांच-सूची द्वारा विश्लेषण करने पर पाया की कक्षा-कक्षाएं, पुस्तकालय, कौशल प्रशिक्षण कक्षाएं, इलेक्ट्रिकल

प्रशिक्षण लैब, लाइट इंजीनियरिंग, एवं टेलरिंग आदि से संबंधित सुविधाए उपलब्ध है। परंतु वर्तमान समय में इनका नियमित रूप से उपयोग नहीं हो पा रहा है। जिससे वहां सुधारात्मक गतिविधियों में प्रभावशीलता कम देखी गई।

शोध अध्ययन का शैक्षिक निहितार्थ

- शैक्षिक कार्यक्रमों में सुधार की आवश्यकता
- व्यावसायिक प्रशिक्षण पर अधिक ध्यान
- मूल्य आधारित शिक्षा का महत्व
- नियमित और संरचित कार्यक्रम
- व्यक्तिगत आवश्यकताओं पर ध्यान
- परिवार और समुदाय का सहयोग
- लगातार मूल्यांकन और सुधार

समग्र रूप से, बाल सुधार गृहों में शैक्षिक और पुनर्वास कार्यक्रमों की प्रभावशीलता 39.86: को बढ़ाने की आवश्यकता है। इसके लिए सरकारी और गैर-सरकारी संगठनों के बीच बेहतर समन्वय, पर्याप्त संसाधनों का आवंटन, और नियमित मूल्यांकन एवं फीडबैक प्रणाली की स्थापना की जानी चाहिए। शिक्षा के माध्यम से ही बाल अपचारियों का समग्र विकास और समाज की मुख्यधारा में पुनर्वास संभव है। इन निहितार्थों को ध्यान में रखकर किशोर अपचारियों के लिए शैक्षिक और पुनर्वास कार्यक्रमों को और अधिक प्रभावी बनाया जाना आवश्यक है।

परिणाम :

प्रस्तुत अध्ययन द्वारा निर्धारित उद्देश्यों में बाल अपचारियों के शैक्षिक व्यवसाय कौशल प्रशिक्षण सामाजिक समायोजन की कुल प्रभावशीलता 41.25 रही । जिसमें अवलोकन के माध्यम से ज्ञात हुआ कि वहां वे ही बालक अग्रिम कक्षा में प्रवेश ले पाते हैं, जो पढ़ने में रुचि रखते हैं, और पहले से किसी विद्यालय में प्रवेशित है। अन्यथा अन्य बालकों में शिक्षा के प्रति अरुचि पाई गई। जिसमें शिक्षा की कमी के कारण वे जाने अनजाने में अपराध करते हैं। व्यावसायिक व कौशल प्रशिक्षण कार्यक्रम में वहां बालकों के लिए कक्षाएं, पुस्तकालय, परामर्श कक्ष, लाइट इंजीनियरिंग, मनोरंजन के साधन एवं टेलरिंग संबंधी कार्यक्रम उपलब्ध है।

उद्देश्यों से प्राप्त परिणाम निम्नलिखित हैं:

- बाल सुधार गृह में चल रहे शैक्षिक कार्यक्रमों की प्रभावशीलता 33.33: पाई गई। यह दर्शाता है कि शैक्षिक कार्यक्रमों में सुधार की काफी गुंजाइश है। बेहतर संसाधन, व्यावहारिक शिक्षण विधियाँ और व्यक्तिगत ध्यान देने से प्रभावशीलता बढ़ सकती है। बाल सुधार गृह में शैक्षिक स्थिति को बेहतर बनाने के लिए नियमित रूप से कोई कार्यक्रम उपलब्ध नहीं है। यदि कोई किशोर किसी और की गलती के कारण यहां पर है और वह पहले से विद्यालय में इनरोल है तब तो वह यहां आकर अपनी पढ़ाई को ओपन स्कूल के द्वारा जारी रखता है जिसके लिए संस्था द्वारा किशोर की परीक्षा दिलाने को लेकर सहयोग के लिए तत्पर रहते हैं। 60 में से लगभग 5-6 किशोर ही पढ़ाई को लेकर रुचि दिखाते हैं। और यदि कोई किशोर राष्ट्रीय परीक्षाओं में शामिल होने का रुचि रखता है तो उसके परिवार के सहयोग से उसे परीक्षा को दिलवाया जाता है। अन्यथा वर्तमान में बाल सुधार पूर्ण नियमित रूप से कोई शैक्षिक कार्यक्रम आयोजित नहीं होता है। जिसके कारण बालकों का सामाजिक समायोजन में किशोर को समस्याओं का सामना करना पड़ता है।
- व्यावसायिक और कौशल प्रशिक्षण कार्यक्रमों की प्रभावशीलता 43.93: पाई गई। यह मध्यम स्तर की प्रभावशीलता दर्शाता है, बाल सुधार गृह में बाल अपचारियों के लिए व्यावसायिक कौशल प्रशिक्षण के तौर पर टेलर कोर्स, बिजली फिटिंग कोर्स ही उपलब्ध कराए गए हैं। वर्तमान में यह सभी कार्यक्रम अनियमित रूप से संचालित किए जाते हैं। जो की गैर सरकारी संगठनों द्वारा उनकी समय-सीमा में पूर्ण किया जाता है। तथा जिनके द्वारा कुछ किशोर ने इन कोर्सों से प्रशिक्षण प्राप्त कर अपने दैनिक जीवन संबंधी समस्याओं को हल करते हैं। तथा पुनर्वासित होकर उसे अपना रोजगार में सहायक के रूप में प्रयोग करते हैं। लेकिन सुधार की गुंजाइश है। कार्यक्रम की गुणवत्ता बढ़ाने और व्यक्तिगत आवश्यकताओं पर ध्यान देने से इसकी प्रभावशीलता बढ़ सकती है।
- मूल्य परक, रोजगार परक और सामाजिक समायोजन कार्यक्रमों की प्रभावशीलता 45.55ः पाई गई। यह दर्शाता है कि इन क्षेत्रों में मध्यम स्तर का सुधार हुआ है, लेकिन अभी भी सुधार की आवश्यकता है। बाल सुधार ग्रह से पुनर्वासित हो चुके बालकों का सामाजिक समायोजन होना उनके लिए बहुत सी समस्याएं उत्पन्न करता है। जैसे उन्हें सामाजिक तौर पर अपनाया नहीं जाता ,उन्हें जॉब नहीं दी जाती, परिवार व रिश्तेदार उनसे दूर होते हैं। विद्यालय में रिकॉर्ड खराब होने से शिक्षक व अन्य विद्यार्थीयों से सामंजस्य नहीं बैठ पाता है। बाल सुधार गृह द्वारा

सिखाए गए कौशल प्रशिक्षण कार्यों से कुछ ही किशोर पूर्ण रूप से रोजगार उन्मुख अर्थात धन उपार्जन में सक्षम हो पाते हैं। अर्थात् सुधार ग्रह से पुनर्वासित होने के पश्चात समाज उन्हें स्वीकारने में झिझकता है जिसके कारण उसको वह उसके परिवार को काफी असहनीय कठिनाइयां का सामना करना पड़ता है। सुधार गृह में रहने के दौरान किशोर को ऐसी कोई भी शैक्षिक कार्यक्रम उपलब्ध नहीं है जिनसे उनके व्यक्तित्व में मूल्य की वृद्धि हो सके। अन्यथा वहां आने के बाद किशोर और अन्य संदिग्ध अपराधी बालकों के साथ रहकर अपराध संबंधी प्रवृत्तियों में लिप्त हो जाता है। इसके लिए आवश्यक है कि संदिग्ध अपराधियों का पृथक्करण कर अन्य बालकों को अपराध प्रवृत्तियों से बचाया जा सकता है। जिससे अपराध दर में भी कमी आएगी और बालकों में अच्छे मौलिक मूल्य का विकास संभव हो पाएगा।

कुल मिलाकर, बाल सुधार गृह में चल रहे कार्यक्रमों की समग्र प्रभावशीलता 39.86: पाई गई। यह दर्शाता है कि कार्यक्रम किशोर अपचारियों के पुनर्वास में कुछ सफलता प्राप्त कर रहे हैं, लेकिन कई क्षेत्रों में और अधिक प्रयासों की आवश्यकता है।

IV) निष्कर्ष:

ऐसे कई कारक हैं जो किशोर अपराध में योगदान करते हैं। किशोर अपराध शब्द का उपयोग बच्चों के उन कार्यों का वर्णन करने के लिए किया जाता है जिन्हें गैरकानूनी या असामाजिक माना जाता है, जिसमें नशीली दवाओं का दुरुपयोग, आक्रामकता, चोरी और बर्बरता शामिल है। किशोर अपराध विभिन्न प्रकार के कारक का परिणाम है, जैसे कि सोशल मीडिया, पारिवारिक गतिशीलता, मीडिया प्रभाव ,गरीबी और सामाजिक आर्थिक स्थिति, मानसिक स्वास्थ्य की स्थिति, स्कूल से संबंधित कठिनाइयाँ, बाल विवाह, आदि। युवा बालको के लिए, इसका मतलब शैक्षिक विकल्पों और अनुभवों की कमी हो सकता है, जो बाद में अपराधी व्यवहार में विकसित हो सकता है। राजस्थान राज्य में कुल मिलाकर अपराध में वृद्धि देखी गई है, जिसमें किशोर अपराध एक महत्वपूर्ण कारक है। जब युवा व्यक्ति आपराधिक व्यवहार में भाग लेते हैं तो चोरी, हमला, नशीली दवाओं से संबंधित आरोप और अन्य आपराधिक गतिविधियां बढ़ जाती हैं।

प्रस्तुत अध्ययन द्वारा निर्धारित उद्देश्य बाल अपचारियों के शिक्षा एवं पुनर्वास द्वारा चलाए जा रहे कार्यक्रमों के प्रभावशीलता का अध्ययन करना था। इन उद्देश्यों की प्राप्ति हेतु राजस्थान राज्य के जयपुर जिले के बाल सुधार ग्रह अथवा राजकीय संप्रेषण एवं किशोर गृह के किशोर पर अध्ययन किया गया। कुछ परिवारों में उनके माता-पिता के आसपास आपस में बुरे बर्ताव लड़ाई झगड़ा अलग रहने आदि कर्म के पारिवारिक माहौल नकारात्मक होना भी उनका मानसिक रूप से अपराध की राह पर ले जाता है।

किशोर अपचारियों के मनोसामाजिक व मनोदैहिक कारण संबंधी समस्याओं को कम करने के लिए उनकी शिक्षा एवं पुनर्वास एक मुख्य घटक है, जिसके द्वारा किशोर अपने भविष्य को लेकर चिंतित होता है, स्वयं से उसमें शैक्षिक वृद्धि होती है इसके साथ ही यदि पुनर्वास कार्यक्रम के दौरान उन्हें शैक्षिक व्यावसायिक और कौशल संबंधित शिक्षाएं पूर्ण नियमित रूप से प्रदान की जाए तो उनमें मूल्य पर रोजगार पर कौशलों का विकास तेल गित से होगा। जिससे उनकी आपराधिक प्रवृत्तियों में सुधार की गुंजाइश काफी हद तक संभव हो पाएगी अध्ययन द्वारा बाल संप्रेषण गृह में चलने वाले शैक्षिक पुनर्वासित कार्यक्रमों की प्रभावशीलता प्रतिशत 33.33% पाया। जोिक 50% से भी कम है अर्थात बाल सुधार गृह में 60 में से 15 किशोर द्वारा ही शैक्षिक पुनर्वासित कार्यक्रम से जुड़ पाते हैं तथा उनका पूर्ण रूप से सामाजिक समायोजन हो पाता है। अतः सरकार को आवश्यक है कि वह इन कार्यक्रमों का मूल्यांकन कर उन्हें अधिक प्रभावशाली बनाने के लिए प्रभावी रणनीतियों का निर्माण होना आवश्यक है। इसमें गैर सरकारी संगठन भी अपना योगदान कार्यक्रमों के क्रियान्वयन और अधिक प्रभावी रूप से सहयोग प्रदान कर सके।

सामाजिक रूप से समाज में समाज के सभी लोगों के द्वारा पुनर्वासित किशोर को समायोजन के लिए अवसर प्रदान करें। विद्यालयों में शिक्षक विद्यार्थियों को शैक्षिक संबंधी ज्ञान के साथ-साथ सही गलत की पहचान, मौलिक मूल्यों आदि गुणों के निर्माण करने में विद्यार्थियों को पूर्ण रूप से सहयोग प्रदान करें।

अतः कहा जा सकता है, की बाल अपचारियों में अपराध संबंधित गतिविधियों का मुख्य कारणों में इनकी मानसिक, सामाजिक, आर्थिक व शैक्षिक स्थिति सही नहीं होना है। प्रस्तुत अध्ययन में सामाजिक कारक अधिकतम प्रभावी पाया, जिसका मुख्य कारण उनके गलत दोस्तों के समूह में रहना, और बिना सही गलत की पहचान करें उनके साथ अपराध संबंधित गतिविधियों में संलग्न होना है। जोकी उन्हें विधि से संघर्ष की ओर अग्रसर करता है।

किशोर अपचारियों के लिए शैक्षिक, मूल्य परक, रोजगार परक कार्यक्रम एक महत्वपूर्ण भूमिका निभाता हैं, जिससे उन्हें सही-गलत, अच्छे- बुरे की पहचान, मूल्य परक कौशल आदि को विकसित किया जा सकता है, जिससे किशोर दोबारा अपराध जैसी प्रवृत्तियों में संलग्न ना हो सके।

भावी शोध हेतु सुझाव

 वर्तमान शोध कार्य जयपुर जिले तक ही सीमित रखा गया है। भविष्य में इसमें राजस्थान राज्य में अन्य जिलों को सम्मिलित कर शोध कार्य किया जा सकता है।

- वर्तमान में शोध कार्य 60 किशोरों तक ही किया गया है। भविष्य में अधिक संख्या लेकर अध्ययन कार्य किया जा सकता है।
- बाल अपचारियों के पुनर्वास कार्यक्रमों की दीर्घकालिक प्रभावशीलता का अध्ययन किया जा सकता है।
- विभिन्न राज्यों के बाल सुधार गृहों में चलाए जा रहे कार्यक्रमों का तुलनात्मक अध्ययन किया जा सकता है।
- बाल अपराध की रोकथाम के लिए समुदाय-आधारित हस्तक्षेप कार्यक्रमों की प्रभावशीलता का अध्ययन किया जा सकता है।
- बाल अपचारियों के पुनर्वास में परिवार की भूमिका का गहन अध्ययन किया जा सकता है।
- बाल सुधार गृहों में मनोवैज्ञानिक परामर्श की प्रभावशीलता का मूल्यांकन किया जा सकता है।
- पुनर्वासित बाल अपचारियों के सामाजिक समायोजन और रोजगार की स्थिति का अनुवर्ती अध्ययन किया जा सकता है।
- बाल अपराध के कारणों और रोकथाम के उपायों पर व्यापक सामाजिक सर्वेक्षण किया जा सकता है।

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छत्रपती शिवाजी महाराजांचा तोफखाना

डॉ. मधुकर विठोबा जाधव

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गोषवारा :

छत्रपती शिवाजी महाराजांच्या लष्करातील महत्त्वपूर्ण विभाग म्हणजे तोफखाना होय. लष्करातील एक महत्त्वाचे शस्त्र म्हणजे तोफ होय. तोफ हे संहारक व संरक्षक असे शस्त्र आहे. ज्या ठिकाणी तोफांचा संग्रह केला जातो त्यास तोफखाना असे म्हणतात. त्यालाच कारखाना असे म्हटले जाते. तोफेतून अनेक संहारक गोळे उडविता येतात. तोफ म्हणजे आत स्फोटक भरून बार काढण्याचे यंत्र होय. त्यामध्ये स्फोटकाचा वापर करून तोफगोळ्याला वेगाने फेकले जात असे. स्वराज्यातील १८ कारखान्यातील महत्त्वाचा विभाग म्हणजे तोफखाना होय. तोफा तयार करणे, ढाळणे, घडविणे यासाठी हा कारखाना काढलेला असे. हे शस्त्र स्वसंरक्षणासाठी व शत्रूच्या विध्वंसासाठी वापरले जात असे. तोफांचा वापर किल्ल्यावरील आक्रमण थोपवून धरण्यासाठी व शत्रूवर हल्ला करण्यासाठी केला जात असे. छत्रपती शिवाजी महाराजांच्या कालखंडातील स्फोटकांविषयीची माहिती महत्त्वपूर्ण आहे. छत्रपतींनी स्वराज्याचा तोफखाना सुसज्ज व्हावा म्हणून परिकयांची मदत घेतली. तोफ हे मध्ययुगीन व आधुनिक काळातील युद्धामधील प्रमुख शस्त्र होय.

मुख्य व सूचक शब्द : शस्त्रास्त्रे, कारखाना, तोफगोळे, दारूगोळा, रस्सीद्दार, हातबॉम्ब, कॅलिबर, गोलंदाज, आरमार, बारगीर, हवालदार, नरनाळ, ढालाईत.

।) प्रस्तावना:

तोफखाना कोणत्याही ऋतुकाळात व कोणत्याही ठिकाणी नेऊन वापरता येणारे शस्त्र आहे. सागरातून किल्ल्यावर मारा करून तंटबंदी पाडण्यासाठी किंवा बुरूज ढासळण्यासाठी हे एक महत्वाचे शस्त्र ठरते. तोफखाना हा दारूवर चालणाऱ्या शस्त्राचा आत्मा होय. दारू सामानाच्या शस्त्रांमध्ये अधिक मारक शक्ती असते. तोफगोळयांचा वापर प्रामुख्याने शत्रूकडील ज्वालाग्रही पदार्थ किंवा दारूगोळ्याची

यशवंतराव चव्हाण महाविद्यालय, हलकर्णी, ता. चंदगड, जि. कोल्हापूर ४१६५५२ ई-मेल- mvjhistory12@gmail.com कोठारे उडवून देण्यासाठी होत असे. महाराजांनी सुसज्ज तोफखाना हा महत्त्वाचा भाग लष्करामध्ये ठेवून फार मोठी क्रांती केली. तोफखाना विभागात तोफा बनविणे, त्याची दुरूस्ती करणे, देखभाल करणे हे काम चाले. ती एक यंत्रशाळाच होती. हा तोफा ओतण्याचा कारखानाच होय. तोफ हे शस्त्र किल्ला जिंकुन घेण्याच्या दृष्टीने व किल्ल्याच्या संरक्षणाच्या दृष्टीने महत्त्वाचे ठरते.

॥) संशोधन पद्धती :

प्रस्तुत संशोधनासाठी ऐतिहासिक संशोधन पद्धतीचा अवलंब करण्यात आलेला आहे. महत्त्वपूर्ण अशा प्राथमिक व दुय्यम साधनांचा वापर करण्यात आला आहे. याचबरोबर वर्तमानपत्रे, मासिके, साप्ताहिके या साधनांचा वापर करण्यात आलेला आहे.

संशोधनाचे उद्देश

- छत्रपतींनी लष्करी संरक्षणासाठी केलेल्या उपाय योजनांची माहिती देणे.
- २. छत्रपती शिवाजी महाराजांच्या तोफखाना विभागाचे महत्त्व स्पष्ट करणे.
- स्वराज्यामध्ये स्फोटक शस्त्रांना विशेष महत्त्व दिले जात होते हे स्पष्ट करणे.

गृहीतके

- १. छत्रपती शिवाजी महाराजांचे लष्करी संरक्षण आजही महत्त्वपूर्ण आहे.
- २. छत्रपतींची शस्त्रातील प्रगती नवी दृष्टी देणारी आहे.

III) विषय विवेचन:

तोफखान्याची व्यवस्था- आरमार दलामध्ये मोठ्या व लहान आकाराच्या तांब्याच्या तोफा ठेवलेल्या असत. किल्ल्यावरील हवालदार लष्करी नियमांचे काटेकोरपणे अमलबजावणी करीत असत. किल्ल्यावरील दारूगोळा व तोफखान्याची व्यवस्था पाहण्याचे काम कारखानीस यांच्याकडे असे. तोफा ओढण्याचे गाडे हे आठरा कारखान्यातील गाडीखान्यामध्ये केले जात असत. त्यालाच रथशाळा असे म्हटले जात असे. छत्रपतींनी तोफखान्याची व्यवस्था कशी ठेविली होती या बाबतची माहिती केळूसकरांनी आपल्या छत्रपती शिवाजी महाराज या ग्रंथात दिली आहे ती अशी की, 'तोफखान्याच्या व्यवस्थेसाठी योग्य कामगार नेमलेले असत. त्यांच्या नावाचा किंवा दर्ज्याचा उल्लेख आढळत नाही. निर-निराळ्या किल्ल्यांवर योग्य जागी तोफा लावून ठेवलेल्या असत. लष्कराबरोबर जाणाऱ्या तोफांसाठी मोठ-मोठे गाडे तयार करविलेले असत. त्याप्रमाणेच दारूगोळ्यासाठी छकडे तयार करविलेले

असत. हे गांडे व छकडे ओढण्यास लागणारे बैल पाळलेले असत. प्रसंगी अडचण पडू नये म्हणून प्रत्येक गाड्यास बैलांच्या दुहेरी जोड्या लष्कराबरोबर चालवीत. सुतार, लोहार, चांभार, रस्सीद्दार, तलफदार, गोलंदाज वगैरे कामगारांचा भरणा चांगला केलेला असे. काही फारच जड तोफा असत त्या ओढण्याकडे हत्तींची योजना करीत.प्रत्येक तोफेस ठराविक पायदळ असावे असा नियम केलेला असे. तोफखान्याकडील अधिकाऱ्यांनी त्यास लागणारा दारूगोळा व युद्ध सामानाची तरतूद दक्षतेने ठेवलेली असे. तोफा लावणे, काढणे वगैरे कामे करण्यास फारच जमावर्दी लागत असे. यास्तव ह्या कामात पुरे वाकबगार असेच लोक पाहून ठेवीत. निरनिराळ्या किल्ल्यांवर ठेवलेल्या तोफांखेरीज लष्कराबरोवर चालविण्यासाठी सुमारे दोनशे तोफा गाडयांवर घातलेल्या असत. ह्या फिरंगी, फ्रेंच, इंग्रज वगैरे परस्थ व्यापाऱ्यांकडून विकत घेऊन किंवा लढाईत पराभूत शत्रूच्या शस्त्रात्रांचा संग्रह करीत".4

तोफखाना या शस्त्राचे महत्त्व

किल्ल्यांवरील तट-बुरुजांवर तोफा ठेवत असत. जंबरे नावाच्या लहान आकाराच्या तोफा किल्ल्यांच्या तटावर आणि बुरुजावर टेवल्या जात असत. त्यामुळे शत्रूला दूर अंतरावर थांबविणे शक्य होई. त्याच बरोबर शत्रू पक्षाच्या किल्ल्यावर हल्ला करण्यासाठी हे शस्त्र उपयुक्त ठरत असे. या दुहेरी वापरामुळे तोफखाना या शस्त्राला वेगळे महत्व राहिले आहे. तटबंदीला उध्वस्त करण्यासाठी व तटबंदीच्या आतील लोकांवर मारा करण्यासाठी तोफचा वापर केला जातो. छत्रपतींच्या आठरा कारखान्यामध्ये तोफखाना या विभागाला महत्त्वपूर्ण स्थान होते. छत्रपतींनी रघुनाथ हणमंते यांना राज्यव्यवहार कोष ही संस्कृत भाषेतील ग्रंथरचना करावयास सांगितली.रघुनाथ हणमंते यांनी ढुंढीराज व्यास यांच्याकडून ही श्रेष्ठ ग्रंथरचना करून घेतली. त्यामध्ये तोफ व तोफखान्याबद्दलचे महत्त्व सांगितले आहे. 6

कारखाने

प्रामुख्याने बहुतांशी तोफा अखंड ओतल्या जात असत. मात्र ते शक्य नसे तेव्हा धातूच्या विविध गोल कड्या एकत्र ठोकून तोफ बनविली जात असे. तोफेच्या पोकळ नळकांड्यात आधी दारू भरून पुढे तोफेचा गोळा ठेवण्यात येई. तर तोफेला बत्ती देण्यासाठी तोफेच्या माथ्यावर एक लहान भोक असायचे हे भोक बुजवले की कितीही मोठी तोफ असो ती निकामी व्हायची. म्हणून शत्रूच्या तोफांच्या या भोकात खिळा ठोकून त्या निकामी करण्याचे कामही अनेक वीरांनी केले आहे. छत्रपती शिवाजी महाराजांनी दंडाराजापूर या ठिकाणी तोफांचा कारखाना उभारला होता. त्याठिकाणी दारूवर चालणारा सुसज्ज अशा तोफा तयार केल्या जात असत. छत्रपतींनी पुरंदर, रायगड या किल्ल्यांवरती व पुणे, सातारा या

ठिकाणी तोफखाना तयार करण्याचे कारखाने काढले होते. समुद्रात लढाया होऊन जहाजावर तोफा बसवून शत्रूवर हल्ला करण्यास छत्रपती शिवाजी महाराजांच्या कालखंडात सुरुवात झाली. त्यामुळे भर समुद्रात लढाया होऊ लागल्या. त्यामध्ये तोफखाना मोठ्या प्रमाणात वापरला जात असे. त्याचा पल्ला 1.6 किलो मीटर एवढा असे.

सुसज्ज तोफखान्यासाठी परकीयांची मदत

छत्रपतींनी पोर्तुगिजांकडून या विषयी माहिती मिळविली होती. महाराजांनी फ्रेंचाकडून तोफा मिळविल्या होत्या. त्याच बरोबर युरोपियन देशांकडून युद्ध साहित्य मिळविले होते. फ्रेंच व डच मराठ्यांना गुप्तपणे तोफा व दारूगोळा विकत. इ. सन. 1672 मध्ये फ्रेंचांनी मराठ्यांना 80 तोफा व 2000 मण दारूगोळा पुरविला होता. त्याचबरोबर इ. सन. 1679 मध्ये 40 तोफा विकल्या होत्या. ह्या तोफा व दारूगोळयाचे साहित्य परकीय पोर्तुगिज, इंग्रज, फ्रेंच या देशातील व्यापाऱ्यांकडून विकत घेऊन त्याचा संग्रह स्वराज्यात केला जाई. 10

कारागिर

तोफखाना विभागामध्ये सुतार, लोहार, चांभार, तलफदार, गोलंदाज, रस्सीदार वगैरे काम करणाऱ्यांचा भरणा असे. सुतार, लोहार, गोलंदाज, ढालाईत, गाडीवान, गोळ्याचा कारागिर यांच्याकरवी तोफखान्याची देखभाल ठेवली जात असे. छत्रपती शिवाजी महाराजांनी तोफा, दारूगोळ्याचे स्वतःचे कारखाने काढले. त्यामध्ये तोफा तयार करणारे तज्ज्ञ ठेवले होते.

तोफांचा उपयोग

छत्रपतींनी तोफांचा वापर गड, कोट, किल्ले, दुर्ग जिंकूण घेताना केलाच त्याचबरोबर युद्ध लढाईमध्ये तोफ हे शस्त्र महत्त्वपूर्ण ठरले. सलामीसाठी, शोभेसाठी, इशारतीसाठी, एका गडावरून दुसऱ्या गडावर संदेश देण्यासाठी तोफेचा वापर होत असे. गडांचे दरवाजे उघडण्याच्या वेळी किंवा किल्ला बंद करते वेळी तोफेचा आवाज द्यावयाचा हा नियम होता.कोणत्या प्रसंगी किती तोफांचे बार करावयाचे हे ठरवून दिले होते. पन्हाळ्याहून सुटका या प्रसंगी राजे विशाळगडाकडे जात असताना पावनखिंडीत वीर बाजीप्रभू देशपांडे शत्रूला खिंडीत पकडून गनिमाशी लढत होते. राजे तुम्ही किल्ले विशाळगडाकडे जावा तुम्ही किल्ल्यावर पोहचेपर्यंत मी गनिमाला पुढे सरकू देत नाही. तुम्ही विशाळगडी पोहचल्याची वार्ता मात्र द्या तेव्हा राजे म्हणाले 'आम्ही विशाळगडावर पोहचताच तोफांचे पाच बार काढले जातील छत्रपती विशाळगडी पोहचताच तोफेचे बार केले. बार ऐकून वीर बाजीप्रभू यांना समजले की राजे विशाळगडावर पोहचले. 6 जून 1674 रोजी राज्याभिषेक सोहळा संपन्न झाला त्यावेळी

स्वराज्यातील प्रत्येक गड-किल्ल्यांवर तोफांची सरबत्ती करण्यात आलेली होती. तोफांमधून दगड, गारगोटया, अनुकुचीदार दगडी छिरे यांचा वापरही शत्रूला उध्वस्त करण्यासाठी केला जात असे. स्वराज्यातील किल्ले मानगड हा रायगडचा उपदुर्ग म्हणुन महत्त्वपूर्ण भूमिका बजावत होता. स्वराज्यातील मुलखावर शत्रू चाल करून येऊ लागल्यास मानगडाचा किल्लेदार तोफ उडवित असे. तोफेचा इशारा मिळताच किल्ले रायगडावरील फौज सर्तक हात आसे.

तोफेची रचना

तोफेचे प्रामुख्याने नळी, बैठक, प्रत्यागितशोषक-यंत्रणा, पल्ला व लक्ष्यवेध उपकरण आणि विवर असे तोफेचे पाच प्रमुख भाग होत. नळीच्या तोंडाला रोधक बसवलेला असतो. त्यामुळे तीव्र गतीच्या गोळ्याचा जो झटका बसतो. त्यास प्रतिरोध होतो. तसेच प्रत्यागिनधोपक-यंत्रणाही गोळ्याच्या झटक्यामुळे नळीच्या मागे येण्याच्या क्रियेवर नियंत्रण ठेवते. त्यामुळे तोफ मागे येत नाही. पल्ला व लक्ष्यवेध उपकरणामुळे नळी वर-खाली व डाळ्या-उजळ्या बाजूस करून लक्ष्यावर नेम धरता येतो, तर विवरामध्ये गोळा ठासला जाऊन त्यामुळे परिचालक स्फोटशक्ती वाया जात नाही, आणि गोळे भराभर ठासता येतात.

तोफा तयार करण्याच्या पध्दती

पंच धातूचा वापर करून तोफ तयार केली जात असे. तयार केलेल्या साच्यामध्ये वितळलेला धातू ओतून तोफ तयार केली जात असे. तोफेच्या नळीचा माधला भाग पोकळ ठेवून बाजूने वितळलेला धातू ओतून तोफ तयार केली जाते. लोखंडाच्या बांगडीसारख्या गोल कड्या तयार करून ऐकाला एक जोडून त्यातून तोफेची नळी तयार केली जात असे. तोफ तयार करणारा कारागीर प्रथम तोफेच्या लांबी एवढा लाकडाचा लंबगोल घेत असे. या लंबगोलाचा व्यास तोफेच्या नळीचा व्यास जेवढा ठेवायचा असेल तेवढा असे. नंतर या लाकडी लंबगोलाभोवती बसवलेल्या पट्ट्या जवळ-जवळ बसवून त्या तापवून आणि ठोकून एकमेकांना जोडल्या जात. या नंतर लंबगोलावर बसवलेल्या पट्ट्यांमुळे तयार झालेल्या वर्तुळाच्या व्यासापेक्षा किंचीत कमी व्यास असलेल्या बांगडीसारख्या अनेक कड्या तापवून या पट्टयांवर ठोकून बसवल्या जात असत. या कड्या थंड झाल्यावर आकुंचन पाऊन आतल्या लोखंडी पट्टयांच्या सांगाड्यावर घट्ट बसत असत. काही वेळा या बांगडीसारख्या कड्या पट्टयांच्या सांगाड्यावर बसवण्यापूर्वी या सांगाडयावर वितळवलेले शिसे ओतले जात असे. असे केल्याने दोन लोखंडी पट्टयांमध्ये असलेली बारीकशी फटही बंद होत असे व तोफ उडवल्यावर आत दारूचा स्फोट झाल्यानंतर तयार होणारा वायू मध्येच निसटून जात नसे.

तोफांचा साचा-

तोफ तयार करीत असताना शस्त्राचा साचा बनवून घेण्यात येत असे. तोफा ह्या प्रामुख्याने उन्हाळ्यात बनविला जात असत. पावसाळयात साचा विरघळून नष्ट होण्याची शक्यता आधिक असते. या साच्यासाठी विशिष्ट प्रकारची माती वापरली जात असे. या मातीमध्ये गूळ, तेल, डिंक, उडिदाचे पीठ, सत्वयुक्त पदार्थ मिसळले जात असत. या सर्वांचे एकत्रिकरण करून साचा तयार केला जात असे. तोफा ह्या उन्हाळयात तयार केल्या जात असल्यामुळे हा साचासुद्धा उन्हात सुकवून वाळविला जात असे.

पंचधातू तोफा

तोफ तयार करताना पंचधातूचा वापर केला जात असे. तांबे, जस्त, पितळ, लोखंड, बीड या पाच धातूपासून तोफ बनविली जात असे. त्यामुळे उन्ह, वारा, पाऊस याचा मारा झेलत अनेक वर्षे तोफा सुस्थित असल्याचे आपणास गड-किल्ल्यावर पहावयास मिळतात.

सागरी तोफा-

सागरी लढाय्यांमध्ये छत्रपतींनी दारूगोळ्याचा वापर केला. फोंडा किल्ल्याच्या लढाईमध्ये छत्रपतींनी किल्ल्याच्या सभोवती मोठे सुरुंग लावून किल्ला जिंकुन घेतला. किल्ले सुवर्णदुर्ग हे मराठा आरमाराचे महत्त्वाचे केंद्र होते. कुलाबा येथे आरमाराचे मुख्य ठाणे करून तेथे दारूगोळ्याचा साठा करून ठेवण्यात आला होता. सागरी युद्धामध्ये त्याचा मोठ्या प्रमाणात वापर करता आला. सागरी आरमाराचे महत्त्व ओळखून छत्रपतींनी दारूगोळा, शस्त्रात्रे, रसद याची काळजी घेऊन आरमार सुसज्ज केले. किल्ल्यावरील सैनिकाद्वारे व किल्ल्यावरील तोफांमुळे समुद्रात येऊ पाहणाऱ्या शत्रू सैन्याचा पराभव केला जात असे. खंदेरीच्या संघर्षामध्ये छत्रपतींनी इंग्रजांविरूद्ध तोफा वापरल्या व विजय प्राप्त केला. छत्रपतींनी सागरी युद्ध लढाय्यांमध्ये सुसज्ज अशा तोफखाना या शस्त्राचा वापर केला.

तोफखान्याचा वापर व देखभाल-

छत्रपतींच्या स्वराज्यात तोफखाना हा सुसज्ज विभाग होता. स्वराज्यातील प्रत्येक किल्ल्यावर तोफा ठेवलेल्या असत. तोफखान्यासाठी लागणारे दारू सामान काळजीपूर्वक ठेवले जात असे. स्वारीवर जाताना तोफा गाडीवर घतलेल्या असत. गाडे ओढण्यासाठी बैलाचा वापर केला जात असे. दर्गम व डोंगराळ प्रदेशात हलक्या तोफांचा उपयोग होत असे.¹⁴

तोफांचे प्रकार -

वापरावयास हलक्या असणाऱ्या तोफेस नरनाळ तोफ म्हटले जात असे. लोखंडी तोफ, पंचधातूची तोफ, अष्टधातूची तोफ, उखळी तोफ, गजनाल तोफ, नरनाळ, शुतरनाळ तोफ, दोजर व दोन नळ्याची तोफ, पितळी तोफ, गार भांडी तोफ, फटकडी तोफ, जंबोरा तोफ, लांब नळी असलेली रेहकली तोफ, लहाण तोफ, गमचांग्या, दुरान्या, गरनाळ तोफ अशा विविध प्रकारच्या तोफा स्वराज्यात होत्या. उखळी तोफा-उखळी तोफेची नळी आखूड व तोंड मोठे असे. त्यामुळे तोफांचे बारसुद्धा मोठे होत असत. ही तोफ एखाद्या उखळासारखी किंवा एखाद्या भांड्यासारखी असे. तोफेत मोठ्या प्रमाणात भरलेल्या दारुच्या स्फोटाने तोफेचे नुकसान होऊ नये म्हणून या तोफेच्या कड्या जाड केलेल्या असतात. उखळी तोफामुळे मोठे व जाड गोळे उडवायची सोय तर झालीच त्याच बरोबर या तोफातून स्फोटक गोळे पेटवून उडवता येऊ लागले. तोफेचे अनेक भाग असतात. त्यातील मागच्या बाजूचा बत्ती देण्याचा भाग अत्यंत महत्त्वाचा असतो. तोफा ह्या सर्वमामान्यपणे अष्टधातूपासून बनविल्या जात असत. गोळा जेथून बाहेर येतो तो पुढचा भाग होय.

गड़-किल्ल्यांवरील तोफा

रायगड किल्ल्यावर सुंदर अशा तोफा आहेत. किल्ले गाविलगडावरती नगारखाना व सदरेच्या वरती जवळ जवळ 22 फुटाची तोफ आहे. ही तोफ नौगज िंवा पिरफत्ते तोफ म्हणुन ओळखली जाते. बुरूजासमोरच्या टेकडीवर दोन तोफा आहेत. पिहली बिजली तर दुसरी साडेतेरा फुटाची कालभैरव तोफ आहे. किल्ले घोसाळगड उर्फ वीरगडावरील बुरुजावर इतिहासाची साक्ष देणारी तोफ आहे. लोहगड किल्ल्यावरील तोफ सुस्थित राहावी म्हणून दुर्गप्रेमीनी सिमेंटच्या चौथन्यावर बसवली आहे. किल्ले अवचितगडावरील शिळेवर ढाल, तलवार हातात घेतलेला योद्धा पाहवयास मिळतो त्याच गडावर सुंदर अशा तीन तोफा आहेत. किल्ले कोराईगडावर एकूण सहा तोफा असुन लक्ष्मी तोफ सर्वात मोठी आहे. किल्ले विशाळगडावर रंणमंडळ टेकडीवर आठ फूटी तोफ आहे. रायगड, लोहगड, प्रतापगड, सिंधुदुर्ग, खांदेरी, विजयदुर्ग, रसाळगड, भूदरगड, चाकण उर्फ संग्रामगड, पालगड, सिंहगड,अवचितगड आदि. गड-किल्ल्यांवरती आजही छत्रपती शिवाजी महाराजांच्या कालखंडातील तोफा पहावयास मिळतात.

तोफगोळे-

विविध प्रकारचे तोफगोळे व त्यानुरूप तोफांच्या नळ्या बनविल्या जातात. तोफगोळा व प्रक्षेपणास्त्र एकाच नळीतून उडविता येते. नळीचा व्यास साधारणपणे २० मि. मी. च्यावर असतो. त्याचप्रमाणे तोफा

व गांडे स्वयंचित असण्यावर भर दिला जात असे. किल्ले पन्हाळगडापासून चार कि.मी. अंतरावर असलेल्या पावन गडावर तोफगोळ्याचा मोठा साठा सापडला आहे. गडावर वन विभाग आणि टीम पावनगड या संघटनेच्या वतीने अंतर्गत महत्त्वाच्या ठिकाणी दिशादर्शक फलक लावण्याचे काम सुरू असताना छत्रपती कालीन तोफ गोळे सापडले. तोफगोळे हे छत्रपती शिवाजी महाराजांच्या कालखंडातील आहेत. किल्ल्यावरील महादेव मंदिराशेजारी तोफगोळ्याचा साठा सापडला. मोजमाप केल्यानंतर 408 तोफ गोळे असल्याचे आढळून आले. येथे छत्रपती शिवाजी महाराजांचा तोफखाना विभाग असल्यामुळे आणखीन तोफगोळे सापडण्याची शक्यता आहे. एवढे मोठे तोफगोळे सापडण्याची ही पहिलीच वेळ आहे. नगर जिल्ह्यातील खर्डी-जामखेडच्या किल्ल्यावर छत्रपती शिवाजी महाराजांच्या कालखंडातील 250 तोफगोळे सापडले आहेत.

तोफगोळयांचे प्रकार-

तोफगोळ्याचे विविध प्रकार आहेत. पहिल्या प्रकारामध्ये गोलाकार तोफगोळ्याचा समावेश होत असे. गोलाकार असलेला हा सर्वसाधारण तोफगोळा म्हणजे लोखंडाचा भरीव गोळा असे. काही तोफगोळे दगडी देखील असत. दुसऱ्या प्रकारामध्ये दोन गोळे एका साखळीच्या साहयाने एकमेकाला जोडलेले असत. याचा उपयोग प्रामुख्याने आरमारी लढाईत होत असे. जहाजांची शिडे व डोलकाठ्या पाडायला याचा उपयोग होत असे. तिसऱ्या प्रकारात एका पत्र्याच्या डब्यात बंदुकीच्या शिश्याच्या गोळया भरून या डब्याचा तोफगोळयासारखा वापर केला जात असे. तोफ उडवल्यानंतर हा पत्र्याचा डबा फुटून त्याच्यातील गोळया शत्रूच्या अंगावर उडत असत. चौथ्या प्रकारामध्ये छोटे-छोटे दगडाचे छिरे यातुन बाहेर पडत असत. पाचव्या प्रकारात लोखंडी गोळा तापवून तो तप्त असतानाच तोफेतून उडवला जात असे. अशा तोफगोळयांचा वापर प्रामुख्याने शत्रूकडील ज्वालाग्रही पदार्थ किंवा दारूगोळ्याची कोठारे उडवून देण्यासाठी होत असे. सहाव्या प्रकारात कुलपी गोळा येत असे तो स्फोटक गोळा असे व लक्ष्यावर पडल्यानंतर त्याच्यात भरलेल्या दारूचा स्फोट होऊन मोठे नुकसान होत असे.

तोफांचे कॅलिबर-

तोफेतून उडणाऱ्या गोळयाचा व्यास किंवा तोफेच्या नळीच्या आतल्या बाजूचा व्यास म्हणजेच तोफेचे कॅलिबर होय. सामान्यपणे हा व्यास इंचांमध्ये मोजला जातो. त्याचबरोबर मिली मीटर मध्येही मोजण्याची पद्धत आहे. तोफेमधून उडवल्या जाणाऱ्या गोळयाच्या पौंडातील वजनानुसार तोफेचे कॅलिबर मोजले जात असे. या परिमाणानुसार 3 पौंडर तोफ म्हणजे ज्या तोफेतून 3 पौंड एवढ्या वजनाचा गोळा फेकला जातो अशी तोफ होय. अशा प्रकारे 32, 24, 12, 9, 6 आणि 42 पौंडर अशा विविध

परिणामाच्या तोफा असत.

उदा. 3 पौंडर तोफ-तोफेच्या नळीचा आतला व्यास = 2.9 इंच, तोफगोळ्याचा व्यास 2.84 इंच 4 पौंडर तोफ-तोफेच्या नळीचा आतला व्यास = 3.2 इंच, तोफगोळ्याचा व्यास 3.12 इंच 6 पौंडर तोफ-तोफेच्या नळीचा आतला व्यास = 3.67 इंच, तोफगोळ्याचा व्यास 3.58 इंच तोफेचे कॅलिबर जेवढे जास्त, तेवढा तिच्यातून उडणाऱ्या गोळयाचा आकार मोठा असतो .

स्फोटक-

स्फोटक दारू तयार करण्यासाठी गंधक, कोळसा, सोरा, हिंगुळ, कापूर, सुरमा, राळ, नीळ, मनशील, पोलादाचा किस या प्रकारचे जिनस निर-निराळया प्रमाणात वापरून अनेक प्रकारची स्फोटक दारू तयार केली जाते. हे स्फोटक तयार करीत असताना वेग-वेगळ्या राळ्यांचा अभ्यास करून कोणत्या राळ्यांत किती व कोणते गुण आहेत. यांचा विचार करून त्या-त्या प्रकारची स्फोटके निर्माण केली जात असत. छत्रपती शिवाजी महाराजांच्या कालखंडातील स्फोटकांविषयीची माहिती रामचंद्रपंत अमात्य यांनी "आज्ञापत्रात" दिली आहे ती अशी, "दारूखाना घराजवळ घराच्या परिघाखाली नसावा. सदरापासून सुमारांत जाग बांधून भोवंते भोवंते निरगुंडी आदींकरून झाडांचे दाट कुसू घालून बांधावे. त्यास तळघर करावे तळ घरात गच्च करावा. त्यांच माच गालून त्यावर दारूचे मडकी ठेवावी. वाण, होके आदी करून मध्यघरात ठेवावे. त्यास सर्दी पावो न द्यावी. आठ पंधरा दिवसांत हवालदाराने येऊन दारू, वाण, होके आदी. करून बाहेर काढून उष्ण देऊन मागुती मुद्रा करून ठेवीत जावे. दारूखान्यास नेहमी राखणेस लोक ठेवावे. त्यांनी रात्रंदिवस जागता पहारा ठेवावा. परवाणगीशिवाय तेथे कोणास येऊ देऊ नये. तटसरनोबत, बारगीर, हवालदार, सदरसरनोबत यासी बंदुकी व भांडी डागावयाचा अभ्यास असावा. गडावर गाढचे उपरे जागा निवडून त्या त्या ठिकाणी भांडियाचे गाडे, चरक, भांडी मजबूत लोखंडी कट देऊन त्यावर ठेवावी. दारूच्या खलित्या, गज, भांडे, लोखंडी कट, निवायच्या कुंच्या, गोळे, कीट आदीकरून रेजगिरी सुपारीप्रमाणे लहान थोर, नदीतील खडे, बाणाच्या पालख्या, जामग्या, तरफा, काने, दुरूस्त करावयाचे सामते, आदी. करून जिन्नस भांडियाच्या भांड्याजवळ हमेशा तयार असावा. अहिनी, दगडी जिन्नस दारूचे अंतर ठेवावे. पर्जन्यकाळी भांडयास व दरवाजास तेल, मेण देऊन भांडियाचे कोने मेणाने भरून आघाडी घालून द्यावी. वरकडही जिन्नस सर्दी न लागे असे आवादान ठेवावे. गडोगडास इमारतीचा कारखाना, विश्वासू गोलंदाज, कविलेदार, मुद्राधारी यांचे स्वाधीन करावी". 15

दारूच्या खलित्या किंवा कुंच्या-

कोळसा, गंधक, सोरा, हरताळ, सुरमा, हिंगुळ, कापूर, पोलदाचा किस, नीळ या प्रकारचे जिन्नस योग्य प्रमाणात वापरून स्फोटक दारू तयार केली जात असे. स्फोटक दारू तयार केल्यानंतर ती ठेवण्यासाठी खलित्या किंवा कुंच्या निर्माण करण्यात आल्या. त्यामध्ये दारू साठवून ठेवली जात असे व योग्य वेळी ती वापरली जात असे. स्फोटक दारू सुरक्षित ठेवण्याचे महत्वाचे साधन म्हणून खलित्या किंवा कुंच्याला श्रेष्ठ स्थान आहे.

तोफांचा पल्ला-

तोफेच्या नळीच्या लांबीवर तोफेचा पल्ला ठरत असे. कारण तोफ उडवल्यानंतर नळीत भरलेल्या दारूचा स्फोट होऊन जो वायू तयार होतो. तो तोफेमध्ये भरलेल्या तोफ गोळ्याला जोराने बाहेर ढकलत असतो. त्यामुळे जो पर्यंत हा तोफगोळा तोफेच्या नळीत असतो. तितका काळ हा वायू त्याला मागून ढकलत असतो. तोफेची नळी जेवढी लांब असेल तेवढा जास्त काळ या वायूचा धक्का गोळ्याला मिळत राहतो. एकदा का गोळा तोफेच्या नळीवाहेर पडला की त्यावर गुरुत्वाकर्षण व वारा हे घटक काम करू लागतात व त्याला मारलेल्या धक्क्याचा जोर कमी कमी होऊ लागतो. त्या तोफांचा पल्ला 1.6 किलो मीटर एवढा असे.

दारूगोळा किंवा तोफेची दारू

सर्व जहाजांवर शूर आणि प्रशिक्षीत सैनिक असे. या सैन्याजवळ तोफा, तोड्याच्या बंदुका, छन्याच्या बंदुका, दारूगोळा, हातबॉम्ब अशा शस्त्र सामग्रीने गड किल्ले सज्ज असत. १६ छत्रपती संभाजी महाराजांनी इ. सन. 1682 च्या सुमारास डिचोली व कुडाळ येथे दारूगोळ्याचे कारखाने उभारले. त्यासाठी लागणारा गंधक, सोरा वैगरे साहित्य मलबार व कर्नाटक येथून समुदमार्गे आणले जात असे. त्यासाठी संरक्षण व्यवस्था सक्षमपणे राबविलेली होती. १७ बांबू, देवनळ, लाकूड, तोफेची भांडी, कुलफी गोळे यामध्ये निरिनराळ्या प्रकारची दारू भरून स्फोटके उडविली जात असत. या राळयात मोठा स्फोट होणारी दारू, बिनधुराची दारू, संमोहन वायू तयार होणारी दारू, शत्रू सैन्यास आंधळे करणारी दारू अशा अनेक प्रकारच्या स्फोटक दारूचे राळे निर्मित होत असत. निर-निगळया राळ्याचा अभ्यास करून कोणत्या राळ्यात किती व कोणते गुण आहेत. यांचा विचार करून त्या-त्या प्रकारची स्फोटके तयार केली जात असत.

IV) निष्कर्ष

शस्त्रात्रामध्ये आधुनिक तंत्राचा वापर करून वैज्ञानिक क्रांती करणारे एकमेव राजे म्हणजे छत्रपती शिवाजी महाराज होत. छत्रपती शिवाजी महाराज आदर्श योध्दे आणि सेनानायक असल्यामुळे त्यांनी आपल्या सैन्याचे फक्त आधुनिकीकरणच केले असे नाही; तर त्यांनी शस्त्रास्त्रे, आरमार आणि तोफखानादल यांना उत्तेजन देऊन भारतीय विज्ञान आणि तंत्रज्ञानाचा पाया घातला. छत्रपती शिवाजी महाराजांनी आधुनिक तंत्र स्वीकारले हा त्यांचा आधुनिक व प्रगत दृष्टीकोन दिसून येतो. मध्ययुगीन कालखंडामध्ये छत्रपती शिवाजी महाराजांनी तोफखाना व दारूगोळा याचे महत्त्व ओळखून त्यामध्ये प्रगती साधली. छत्रपती शिवाजी महाराजांनी आधुनिक अशा दारूवर चालणाऱ्या शस्त्रात्रामध्ये प्रगती करून युद्धपद्धती गतीमान केली. तोफ हे शस्त्र दारूवर चालणाऱ्या शस्त्राचा आत्मा होय. या शस्त्रांमध्ये गतीमानता व संहारकता आसल्याने शत्रू पक्षावर सहज विजय प्राप्त करता आले. छत्रपतींनी शस्त्रात्राच्या बाबतीमध्ये ताकदवान बनण्यासाठी गडकिल्ल्यावर तोफा ठेविल्या. शत्रूवर धाक निर्माण व्हावा म्हणून त्याचा वापर करण्यात आला. भारतीय कारागिरांबरोबरच परकीय कारागिरांनाही कामास ठेवून खुप मोठी प्रगती साधली. स्पोटक शस्त्रांच्या बाबतीमध्ये स्वंयपूर्ण बनण्यासाठी छत्रपतींनी परकीयांची मदत घेतली. छत्रपतींनी तोफ या शत्राचा उपयोग लढण्याबरोबरच संदेशवाहक म्हणून दळणवळणामध्ये ही प्रभावीपणे वापर केला, हे आश्चर्यकारक आहे. स्वराज्यातील गडकिल्ल्यांवर आजही सुसज्ज अशा तोफा दिसून येतात. तांबे, जस्त, पितळ, लोखंड, बीड या पंच धातूमध्ये प्रगती साधून तोफांसारख्या स्फोटक शस्त्राच्या वापरासाठी याचा वापर करून तंत्रज्ञानामध्ये प्रगती साधली. मध्ययूगीन कालखंडामध्ये छत्रपती शिवाजी महाराजांनी विज्ञान आणि तंत्रज्ञानामध्ये केलेली प्रगती जगाने अनुकरण करावी अशीच आहे.

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GUIDELINES FOR CONTRIBUTORS

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