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1 E-Hrm System Adoption: An Exploratory Investigation of Kolhapur Based Midc Foundry Units

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Abstract

Prime motive of this study is to explore the various e-HRM practices implemented by foundry units. This is an empirical study based on e-HRM implementation in foundry industrial units that which located in three well established MIDC areas in Kolhapur district such are Shiroli MIDC, Five Star MIDC & Gokul Shirgaon MIDC. The concept of e-HRM is not unknown in today's corporate culture but still many organizations are not fully aware about the benefits of various e-tools which aids to perform HR operations effectively. This study also focuses on the various motivating drivers of being adopted e-HRM system and the various challenging factors that creates barriers to implement effective e-HRM system within the organization. The primary data was collected through questionary method from total 62 foundry units. Responses were taken on multiple option selections-based questions as well as some questions responses were based on Five-point likert scale. Concern HR authorities were the respondents for this survey whereas data was analyzed in SPSS version 23.00 software.

Keywords

e-HRM, Electronic Human Resource Management system, e-HRM tools, e-HRM practices, e-HRM motivational drivers, e-HRM implementation, Challenges of e-HRM, effective e-HRM practices., Kolhapur. MIDC;s

Introduction

Human Resource Management is extremely important branch of Managements in today's corporate era. Although there is a sufficient amount of labour available, there are concerns over the availability of skilled and competent labour. As a result, recruiting appropriate people for proper jobs is very crucial and challenging task. Skilled and competent workers are valuable assets and organizations are started to recognise this because of the impact they have on the workplace. In previous

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thirty years, several technologies have been used to assist human resource process and procedure. Whereas role of Information Technology (IT) is very essential and crucial. IT is given a specific function in human resource management within the management which gives birth to the concept of e-HRM.

e-HRM can be defined as a strategy for implementing HR policies, procedures and practices in business with the deliberate and well-coordinated assistance of web-based technology in order to meet those business HR demands. (Ruel et al., 2004). Digitalized human resource data is processed and send via electronic human resource management, or e-HRM. E-HRM is the use of IT to HR procedure that facilitate simple communication between companies and workers.

The use of electronic Human resource management or e-HRM has grown dramatically in the last several decades and is probably going to keep bigger in the years to come. e-HRM is now regarded as mature practice in organizational life. (Ruel, Bondarouk, Van der velde, 2007). Additionally, it is thought that the application of digital innovation to HRM will alter the function's role and contribute to the success of the organization. (Ruel et al. 2007 & Hempel, 2004).

The term e-HRM mainly describes the use of information technology in Human Resource Processes. According to Bondarouk and Ruel (2009), the concept is seen as a "umbrella term covering all possible integration mechanisms and contents between HRM & IT, aimed at creating value for targeted employees and managers."

The emphasis on information technology and human resource management in e-HRM is highlighted by this revised definition (Thite, Kavanagh & Johnson, 2012) The HRM focuses on how much e-HRM is utilised to facilitate HR operations, whereas the technological focus is primarily concerned with how much information technologies are physically present to support HR activities (Marler & Pary, 2015)

The ideology of e-HRM entails the utilization of web-based technologies to provide services related to HRM within the organization. In today's information technological world, number of E-tools are available in the market to assist Human Resource Management operations in effective manner hence many organizations are approaching towards adopting e-HRM system to take the benefits of effective execution of HR operations.

However, many organizations have not adopted e-HRM. Awareness of e-HRM system, maturity level of using or adopting e-HRM tools, success rate of implementation of e-HRM these are some important elements which needs to be equally essential

for study. This study investigates the prevailing scenario of foundry units towards adopting e-HRM system in Kolhapur district. The study also lighted on the concept of HR digitalization, various E-tools adopted by foundry units, along with motivated drivers to adopt e-HRM system. Researcher also investigated the challenging factors that influences towards adopting e-HRM system. The Kolhapur district is well known for the land of growing foundry industry. Most of the foundry units were located in three MIDC areas in Kolhapur district viz. Shiroli MIDC, Five Star MIDC, Kagal & Gokul Shirgaon MIDC. Researcher covered all three MIDC areas from Kolhapur district while selecting this foundry units. Researcher covered total 62 foundry units from three different MIDC areas in Kolhapur district while collecting secondary data through survey method. While stating the variables researcher reviewed previous study & literatures. Researcher also added his own variable which was taken on the basis of researcher's own observation & his own industrial experiences. Data was analysed on IBM SPSS statistics tool version 23 software. Researcher concluded his research work with some major findings, suggestions & recommendation for future scope of study and ended with conclusions.

Problem Statement

To understood the prevailing picture of e-HRM system adopted by selected foundry units in Kolhapur district is the main moto of this research paper. There are lot of opportunities having for this foundry units where e-HRM tools can be adopt to perform HRM function in most effective manner. By considering this, researcher highlighted some research questions are as follows;

How many foundry units have adopted e-HRM system in Kolhapur based MIDC's?

What kind of different e-tools are adopting by foundry units to perform HRM operations?

Which functions are mostly required to perform by e-HRM tools?

Which factors that are mostly motivates to adopt e-HRM system?

What are the challenges behind of adopting & implementing e-HRM system?

Research Objectives

Study was carried out to achieve following objectives.

1. To investigate current scenario of foundry units towards adopting e-HRM system.

2. To explore the scope of e-HRM system for more effectively performing HRM functions.

3. To identify motivating drivers to adopt e-HRM system

4. To find challenging factors for adopting e-HRM system.

Hypothesis

Null Hypothesis: There is no significant difference between the scale of foundry units & e-technology prefer by foundry units to perform HR operations.

Alternate Hypothesis: - There is significant difference between the scale of foundry units & e-technology prefer by foundry units to perform HR operations.

Significance of The Study

This study mainly emphasis on to investigates the present scenario of foundry units towards adopting e-HRM system. In today's innovative world, there are various e-tools are available in the market which supports to perform Management functions. e-HRM tool is one of the most vital technological upgradation, but according to previous studies and past research work it's been concluded that many of industrial units are unaware about its actual applications in HRM function. There are various industrial units are still performing HRM functions traditionally. According to previous research most of the industrial nits especially small scale & medium scale industrial units are not adopted any e-HRM tools to perform their HR operations. Especially in manufacturing sector whereas so much potential having to adopt this system, also not understood its importance. In Kolhapur district foundry industry plays a crucial role. Most of the foundry units are belongs to small scale industries and run by proprietors. Researcher having industrial experience in core HR filed, hence he knows the current scenario of this foundry industries towards adopting advance technology like e-HRM tools to perform HR operations. By investigating present scenario and mythology of foundry units towards adopting e-HRM tools, researcher will identify the scope for e-HRM system. Researcher wanted to identify the motivational factors that attracts to the industrial units for adopting e-HRM system. Researcher is also interested in identifying challenging factors which mostly influences on decision making process towards adopting e-HRM system.

Literature Review

E-HRM refers to the implementation of human resources activities through the internet. and human resources department and includes less advanced technological applications (Lepak & Snell, 1998). E-HRM, which encompasses less sophisticated technical applications, is the execution of human resources functions via the internet and human resources department (Lepak & Snell, 1998).The term E-HRM was coined in the 1990s and refers to conducting HRM activities with the use of the Internet or the Intranet (Lengnick-Hall & Moritz, 2003)E-HRM, which stands for electronic human resource management, was first used in the 1990s to describe the use of the Internet or intranet for HRM operations (Lengnick-Hall & Moritz, 2003).

Winarto (2018) : his study highlighted the theoretical framework which aids to realize the various challenging factors that impacts on implementing e-HRM system. Further his research provides a conceptual model that gives direction towards how to implement e-HRM within the organization. His studied framework based on four groups which influences towards e-HRM implementation viz. Technology and system, Organizational environmental and individual factors.

Dr. Mohammad Al Haziazi (2020) : His empirical study investigates various impacting factors of e-HRM. While investigating the impacting factors author concentrated various functions of e-HRM which includes e-Recruiting , e-communication, e- training, e-productivity and e-appraisal of employees performance known as independent variables. According to his study, it was stated that there is positive relationship exist in between organizations performance & the independent variable.

Siam M.R.A., Alhaderi S.M. (2019) : The main aim of their study was to explore the scope of electronic Human Resource Management in the business organizations. This study represents the potency of Human Resource Management at policy level & Practice level. Further they added determining variables of e-HRM which involves Expectancy of performance, expectancy of effort and pressure of peer. In order to give guidelines to HRM policy makers to identify the importance of electronic human resource management this study gives direction.

Pavel Y. Abdullah, Subhi R. M. Zeebaree, Karwan Jacksi, Rizgar R. Zeabri (2020) Research article studied of cloud based computing technology used in Small and medium scale of organizations to perform HRM functions. According to author

various small and medium scale industrial units are still using traditional method to perform HRM functions. There is tremendous scope to introduce cloud base technology to perform HRM functions effectively. This research article pinpointed various functional problems of Human resource management and how the cloud technology can remove these problems in effective manner. This study suggested sixteen standard modules which can be used to perform HRM function within SME organizations with aid of Cloud base technology.

Yasear M. AL-Harazneh (2021) this research paper taken effort to analyses impact of e-HRM implementation on HRM effectiveness. This research article based on three theories which includes theory of acceptances & technology, theory of social exchange & theory of exchanging leader- member. This article concludes that there is a positive relationship between performance expectancy and behavioral intention in order to implement e-HRM. Also, there is significant relation in-between facilitating work environment and use of E-HRM. Study highlighted that the effectiveness of HRM system is based on systematically implementation   of e-HRM within the organization.

Nemanja Berber (2018) - In his research article author highlighted the importance of e-HRM concept in this corporate digital era. This study elaborates the various benefits, characteristics and potential challenges or barriers towards implementation of e-HRM within the organizations in Serbia. This study also explores the importance of Information technology in e-HRM. According to this study some important advantages of using e-HRM is explained such are accuracy, time saving, minimizing administrative task etc. Also, various challenging factors such are inflexibility, data security, network issues pinpointed.

Bhagwan Chandra Sinha, Dr. Mridula Mishra (2014) Intention behind of this research study was to explore the various e-tools used by selected Indian companies to perform HR functions in context to public & private manufacturing & services . Researcher selected total eight reputed organizations for study purpose. Data were collected through questionnaire method by asking the questions related to various e-tools to perform HRM functions. Total seven e-HRM tools were introduced by authors. According to the final result of this study it was stated that all e-HRM tools not completely utilized by organizations. Whereas private sector companies are ahead of using e-HRM tools within their organizations as compare to various public sector organizations.

Priya. A (2018)- Her study elaborates various components of e-HRM practices

with reference to various IT companies. Researcher examined various variables such are employees work satisfaction, professional as well as organizations commitment towards HRM effectiveness. Her study results concluded that most of the organisations are uses very limited e-HRM tools. Author further said that there is an opportunity to organizations to implement e-HRM practices in order to enjoy positive outcomes of HRM functions in IT companies.

M.K. Ganeshan (2020) His research paper stated the role of internet facility I e-HRM. According to him role of internet connectivity is vital in the use of e-HRM. This study aims to investigate perceptions on the role of internet-based e-HRM experimentally. The study also investigates the HR activities and transfer these activities in to paperless format. Researcher concluded that e-HRM can be run smoothly and effectively due to undisturbed internet system. Further he added thar E-HR is modern concept that not only improves the HRM functions but also change the organizations efficiency.

Dr. S. Tamilarasi & K.B. Praveen – Their study explains about the various challans and opportunities towards using e-HRM. This research also demonstrates how E-HRM seeks to make various HR operations paperless, more adaptable, and resource-efficient. It also assists the company in enhancing staff competencies, which lowers costs and lessens the administrative load. The way HR departments manage information exchange and record keeping is evolving due to information technology. It greatly reduces paperwork and makes large number of data easily accessible. Additionally, the worker can monitor their accomplishments without resorting to legal proceedings. It makes use of web technology channels or intranets. It may also be applied to the execution of various HR plans. Researcher also identified potential applications of IT for HRM.

Mahima Nanda (2020) Her study explores current scenario of e-HRM. Study taken effort to identify the various challenges and future prospects towards adopting-HRM. Researcher explained organizational challenges which mainly includes complexity and cost, employee's resistance to change, Skill gap of HR person, Inconsistency between HR Procedures and Organisational Goals, Data management and security. Infrastructural challenges included poor internet connectivity, change of government law, losing human touch. Researcher further concluded that cost reduction, time savings, speed in handling different HR responsibilities, quick decision making, etc. are just a few of the beneficial side effects of e-HRM.

Methodology

The main purpose of this study is to investigate the present scenario of foundry units those are adopting e-HRM practices in their foundry units. To fulfil this objective researcher followed sampling methods as below and collected the data.

Research population includes all the foundry units those are located in three different well established MIDC areas viz Shiroli MIDC, Five Star MIDC, Gokul Shirgaon MIDC from Kolhapur district. Researcher chosen total 62 industrial foundry units where e-HRM practices adopted. Researcher chosen purposive & convenient sampling method while selecting the respondents with the intention of gathering data exclusively from foundry units where HR authorities are using the e-HRM system, that which makes this study more significant and justifiable. Data was collected from these 62 HR authorities those represents their industrial units. Further data was calculated on Five-point likert scale to measure the different variables such are preferring e-technology for performing HR functions, motivational drivers for HRMS, challenging factors while adopting e-HRM practices. Data was collected with the help of multiple option selections too. In this scale, researcher tried to investigates the different HR operations implemented through e-HRM system, e-technology or software's used to perform HR operations, paperless HR operations carried out in support with HR digitalization.

The data was analysed with the help on SPSS version 23.0.

Results

The Researcher investigated the majority of respondents 52 % from Shiroli MIDC, where remaining 19% & 29% respondents were chosen from Five-star MIDC, Kagal & Gokul Shirgaon MIDC respectively. In respect of Scale of industrial units total 16 % industrial units from Small Scale, 47 % from medium scale & 5% large scale industrial units were considered. The number of employees of this foundry industrial units are 46.8%. Researcher selected only those foundry industrial units where manpower is above 50 number of employees. 46% manpower were from 50 to 100 employee strength, 27 % from 101 to 300 employee's strength ,301 to 500 employees & 10% from above 501 employee strength having in respected industrial units.

Table 1 Demographic Profile of Foundry Industrial Units

Description		Frequency	Percentage
Location of MIDC area	Shiroli MIDC	32	52
	5 Star MIDC, Kagal	12	19
	Gokul Shirgaon MIDC	18	29
Scale of Foundry Units	Small Scale	10	16
	Medium Scale	47	76
	Large Scale	5	8
Number of Manpower	< 50	29	47
	101 to 300	17	27
	301 to 500	10	16
	Above 501	6	10

*Source: - Primary Survey

Researcher identified various HR operations which are used by industrial with the help of e-HRM system as below

Table 2 Currently implementing e-HRM System to perform HR Operations

e-HRM functions	Percent
Workforce Planning	11%
Recruitment & Talent Management	50%
Attendance & Leave Management System	100%
Wage & Salary Administration (Payroll Management)	69%
Employee Compensation & Reward, Recognition.	23%
Statutory compliances (PF, ESI. LWF, PT, TDS)	34%
Employee Competency Mapping & Skill Matrix	32%
Learning & Development	10%
Performance Management/ Appraisal	23%
Employee engagement activity	6%

*Source: - Primary Survey

Currently majority of industrial units prefer e-HRM system for performing attendance & leave management operations i.e .100% whereas 69% industrial units prefers e-HRMS to evaluate employees wage & salary (Payroll Management) activity wage & salary administration (Payroll Management) activities. 50% industrial refers e-HRMs for performing Recruitment & Talent management function, 34% for Statutory compliances & 32 % for mapping employees' competency & skill matrix purpose. Workforces planning 11 % & employee engagement activity %& are the least use to perform with the aid of e-HRM by industrial units.

Table 3. Software's or e-technology used to perform HR operations

e-HRM Tools	Percent
ERP Software (readymade or teller made)	32%
Own invented ERP Software	11%
Cloud Based HRMS or SaaS (Software as a service) like ORACLE or SAP- HR Module	10%
Tally Prime - HR module	31%
Biometric attendance machines (Thumb impression, Face reading or Card reading attendance machine)	85%
Closed Circuit Television (CCTV) for monitoring workplace	97%
MS Office (Excel, Word, Power point)	100%
Chat GPT Or AI tools.	00%

*Source: - Primary Survey

The researcher examined the various software applications and e-technology which being applied by industrial units to perform various HR operations. During the survey researcher found that all th industrial units used to MS office (Excel, World, PowerPoint) applications to store & calculate the data regarding HR operations, also for monitoring workplace performances as well as security purpose nearby 97% industrial units relay on CCTV cameras. 85% industrial units agreed that they are using biometric attendance machines which through which employees' attendance auto calculated. Nearby 32% industrial units having ERP software to perform various HR operations including attendance, salary & wage administration, leave management etc. Only 11% industrial units having their own invented or

customised ERP software's to perform the various HR functions. Only 10 % industrial units using cloud based HRMS of SaaS (Software as a service) like Oracle or SAP- HR Module. Whereas 31% industrial units using Tally prime- HR module to calculate wage & salary, employees full & final settlement, statutory returns etc. Currently no any industries found that they have using Chat GPT or AI tools.

The awareness toward using modern e-HR tools is much required. Many past studies state that small and medium scale industrial units are always lagging behind as compare to large scale industrial units in respect of using e-HRM.

Table 4. Paperless HR operations carried out in support to HR digitalization

Paperless HR activities to store HR data	Percentages
Employees personal Records	16%
Workforce Planning – Forecasting & record keeping	53%
Attendance & payroll related data	78%
Statutory payments & returns	77%
Evaluate & keeping records of employee's performance	39%
Training records, Skill Matrices & development activities	13%
Employees well-being and engagement activities	27%
Administrative Activities	41%

The researcher investigated the different paperless HR operation activities which carried out by selected industrial units in support with HR digitalization concept. Researcher found that 78% industrial units adopted various, biometric machines & payroll software's to Collect, store & calculate the attendance & employees' salary & wages. Nearby 77% industrial units accepted that statutory payments & returns carried out with using different e-tools & software applications. 53% industrial units uses e-technology for storing the data of workforce planning which includes current manpower details, category wise manpower details & estimated manpower verses current manpower details. Almost 41% industrial units go with paperless transaction for various administration activities which includes all kind of reimbursements such are medical, travelling, petrol, lodging & boarding etc. Also, canteen expenses, record keeping purpose CCTV cameras, minutes of meetings

for internal & external communication, all kind of quotations & purchase orders, employees & visitors gate pass system are the part of this administration activities which carried out with paperless activities. 39 % industrial units maintains their employee's performance records along with KRA's & KPI's, performance score, self-evaluation records etc in various software's instead of maintaining record in papers or files. 16% industrial units stores & maintain their employees record in paperless format. 27% of industries deals with paperless transactions for their employees' engagement well-being activities such are employees survey or feedback upon job satisfaction, engagement & motivation. Documents related employees medical or accident insurance, employee's complaints & suggestions, employees' special recognition & rewards.

Table 5. Preferring e-technology and social networking tool to perform HR operations.					
Preferring e-technology and social networking tools	N	Minimum	Maximum	Mean	Std. Deviation
E- recruitment though social networking sites	62	1.00	5.00	4.2903	1.09225
E- training / learning portals	62	1.00	5.00	3.9032	1.11193
ESS system (Employee Self Service)	62	1.00	5.00	3.5323	1.12669
Mobile App	62	1.00	5.00	3.3387	1.58831
Video conference or virtual meetings	62	1.00	5.00	3.9194	1.12057
Conducting online survey through google survey forms	62	1.00	5.00	2.6129	1.40672

*Source: Primary survey

The researcher investigated various e-tools & social networking tools through which various industrial units performing their HR functions. During this survey,

researcher found that E-recruitment through social networking sites for recruiting candidates, video conference or virtual meetings for communication purpose, & E-training and learning portals for imparting & sharing trainings are mostly preferred by industrial units. From the above table mean score for E- recruitment is 4.29, Video conference or virtual meetings is 3.91 & E-training and learning portals is 3.90 which indicates the majority of industrial units using this e-technology & social networking tools to Perform HR operations.

Table 6. HR functions with opportunity to adopt e-HRM to improve HR operations

Description	N	Mini-mum	Maxi-mum	Mean	Std. Deviation
Workforce Planning	62	1	5	3.9032	1.32702
Recruitment & Talent Management	62	1	5	4.4839	0.90067
Attendance & Leave Management	62	1	5	4.6129	0.81693
Wage & Salary Administration	62	3	5	4.7581	0.46818
Leave Management	62	1	5	4.6452	0.7487
Communication	62	1	5	4.1613	1.04322
Statutory compliances (Prepared & maintained)	62	3	5	4.7419	0.47686
Competency Mapping, Skill Matrix	62	1	5	4.5484	0.93524
Learning & Development	62	2	5	4.6613	0.65144
Performance Management/ Appraisal	62	1	5	4.5645	0.93425
Employee engagement activity	62	1	5	3.9355	1.29147
Employee Wellness Software to Support Health Programs	62	1	5	3.8065	1.29106

Researcher further investigated that Wage & salary administration (Mean Score 4.75), Statutory compliances (Mean Score 4.74) & Learning & development (Mean Score 4.66) indicates the potential for improvements in HR operations in E-HRM system.

Table 7. Benefits of e-HRM system

Benefits of e-HRM System	N	Mini-mum	Maxi-mum	Mean	Std. Deviation
Accuracy towards HR operations with minimum effort	62	3.00	5.00	4.6774	.53636
Advantages of integrated Database system	62	2.00	5.00	4.4839	.74089
Database safety	62	1.00	5.00	4.1774	1.00040
Encourages paperless documentation	62	2.00	5.00	4.4677	.71787
Time Saving due to avoiding manual work or transactions	62	3.00	5.00	4.5645	.59011
Increases employee's efficiency & productivity	62	3.00	5.00	4.4355	.61726
Assist to take strategic decisions	62	1.00	5.00	4.3548	.83168
Ensures barrier free communication	62	1.00	5.00	4.1452	1.00567
Improve Relations with Management & Employees	62	1.00	5.00	4.0484	1.07775
Can avoid risk uncertainty	62	1.00	5.00	3.9516	1.07775
Can attract to new joiners or candidates	62	1.00	5.00	4.5806	.80058

*Source: Primary survey

Researcher identified some major beneficial factors during his survey which motivates to adopt e-HRM system into the industrial units. Accuracy towards HR operations with minimum operations (Mean Score 4.67) is the motivated factors for many industrial units behind of adopting e-HRM system. Also to attracting new joiners or candidates (Mean score 4.58) & time saving due to avoiding manual work or transactions (Mean Score 4.56) are the another important motivated factor found by researcher.

Table 8. e-HRM challenges

Descriptive Statistics

e-HRM Challenges	N	Mini-mum	Maxi-mum	Mean	Std. Deviation
Incurred Huge cost in HRMS software installation	62	1.00	5.00	4.3871	.87506
Data Safety & Security	62	2.00	5.00	4.3548	.74870
Employees Resistance to Change	62	1.00	5.00	4.3871	.87506
Inadequate technical infrastructure facilities	62	1.00	5.00	4.3548	.90711
Inadequate knowledge or training	62	2.00	5.00	4.2097	.72738
Lack of Management support & interest	62	2.00	5.00	4.6129	.70953
Organization's Stability	62	1.00	5.00	4.2581	1.07025
Availability of Suitable vendor	62	3.00	5.00	4.4677	.67064
Lack of Flexibility of HRMS Software	62	2.00	5.00	4.5645	.66827
Valid N (listwise)	62				

Researcher investigated some major challenging variables which creates barriers to adopt e-HRM system withing the industrial units. According to survey, Lack of Management support & Interest (Mean Score 4.61) & Lack of flexibility of HRMS software's (Mean Score 4.56), availability of suitable vendor (Mean Score 4.46) & incurred huge cost in HRMS software installation (Mean Score 4.38) are the major challenges facing by industrial units.

Testing Hypothesis

To investigates the relationship in between scale of foundry units & e-technology prefer by foundry units to perform HR operations researcher used Kruskal – Wallis Test which is Non parametric test

Kruskal-Wallis Test

Ranks

	Type of Organizations	N	Mean Rank
e-technology preferred by Foundry units	Large Scale	5	47.40
	Medium Scale	47	34.80
	Small Scale	10	8.05
	Total	62	

Test Statistics[a,b]

	e-technology preferred by Foundry units
Chi-Square	22.564
df	2
Asymp. Sig.	.000
a. Kruskal Wallis Test	
b. Grouping Variable: Type of Organizations	

Researcher used Kruskal – Wallis Test (Non parametric test) to test the hypothesis regarding significance difference between the scale of foundry units & e-technology prefer by foundry units to perform HR operations. According to test result the Chi square vale 22.564 & P value is .00 which is below table value i.e 0.05. Hence, we rejected the null hypothesis. Hence, we can state that there is a significance difference between the scale of foundry units & e-Technology preferred by foundry units.

Discussion & Implications

Kolhapur district is well known for industrial growth. Especially for Textile as well as Engineering industry, Foundry unit is one of the major sub parts of engineering industry which support to the various engineering units by supplying essential goods & raw materials. Hence essence of foundry units nobody can ignores. Therefore, researcher chosen foundry industrial units from three major established MIDC areas in Kolhapur district.

According to survey result, researcher found lot of scope for adopting e-HRM system in various industrial units. The awareness level towards using technological tools in HR operations is very low. There is various e-Tool which are available in the market to perform HR operations, but very few industrial units actually having it. Most of the industrial units are using e-HRM tools to perform basic HR operations like Attendance & Leave Management, payroll management & Recruitment purpose. Other functions like Employee performance management, training & development, employee engagement activities, employee's health & wellness activities are having tremendous scope to perform with the aid of e-HRM practices.

Further only limited industrial units adopted advance technological tools to perform HR operations. Nobody using Chat GPT & AI tools to perform HR operations. Very limited number of industrial units ERP, cloud base HRMS, SAP software's to perform HR operations. Most of the industrial units still using MS office (World, Excell & PowerPoint) to store, calculate & record the HR operations. Researcher identified some major motivational factors that encourages to industrial units to adopt e-HRM tools such are   accuracy towards HR operations, avoiding manual work or transactions, attracting to the new joiners etc. Apart for this researcher found some major challenges for adopting e-HRM system effectively within the industrial units such are lack of management support, flexibility of software's, huge cost incurred in purchasing e-HRM tools, employees resistance towards accepting e-HRM system.

There are some limitations for this study on the ground of limited industrial units were selected for the present study purpose. i.e., only 62 industrial units. Also, the researcher only highlighted the foundry industrial units which are located in three different MIDC areas in Kolhapur district. The researcher also covered only few major important variables to investigate the e-HRM tools, Paperless Activities in support with HR digitalization, Motivational factors of e-HRMS & Challenges of e-HRMS. Further, Researcher recommended that there are more variable needs to be explore in e-HRM concept along with different type of industrial units across the different geographical locations.

Conclusion

The present study consists upon the overview of e-HRM practices implemented in selected foundry industrial units which are located in three well established MIDC areas in Kolhapur district. E-HRM is now days paying especial role in performing various HR functions. Scope of e-HRM is not only limited to perform basic HR operations like Attendance & Leave Management, Salary & wage management, but also expanded towards employee development functions such are employee's performance management, Employees training & development, Employees well-being & engagement activity etc. Researcher introduced various e-tools that which mostly adopted by industrial units to perform HR operations. According to result section researcher concluded that majority of industrial units are using limited e-tools to perform HR functions. There are various upgraded e-tools such are HR Chat GPT, Cloud base HRMS or SaaS (Software as a Service), HR Chatbots are available in corporate world, but industrial units might be unaware about it. The maturity level of adopting e-HRM system within the selected foundry industrial units needs to be improve. Various paperless HR operations are carried out with the help of information technology hence the role of IT can't be ignored while implementing e-HRM within the organizations. Various industrial units preferring HR functions with the aid of social networking tools which are includes e-Recruitment through social networking sites, learning portals for imparting trainings, mobile apps, online survey through google forms, video conferring etc. Study also highlighted motivated drivers that encourages to industrial units to implement e-HRM practices such are accuracy towards HR operations with minimum effort and time saving due to avoiding manual work & advantages of integrated database involves. Lack of management support, huge cost incurred in implementing e-HRM tools, Flexibility of e-Tools, availability of vendors & infrastructural facilities is the major constraint to adopt e-HRM systems are concluded. This study is limited with only foundry based industrial units and covered only limited geographical area. Also, there are various e-HRM tools available in the corporate world which all are not involved

by researcher into this study. This all the factors which motivate to explore and contribute more in e-HRM for future research.

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| 2 | **Genital Health Awareness Among Adolescent Girls in Rural Families: A Social Work Intervention in Devthane Village of Kolhapur District** |

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Abstract:

This research investigates genital health awareness among adolescent girls in Devthane village, emphasizing their perception of health practices, sanitation, and hygiene. The study aims to provide insights into genital health care practices and suggests interventions to enhance health practices, sanitation, and hygiene among this demographic.

Introduction:

According to Lerner & Steinberg (2009), the Latin term "adolescent" means "to grow up or to grow into maturity."(Sujita Kumar Kar 1, 2015 Apr-Jun) Thus, this is the period in which a child grows into an adult. Teenage females prefer using cloth instead of sanitary napkins, especially in rural regions, which may be a result of a lack of awareness or poor economic conditions. They may also be less mindful of using restrooms. But even something as simple as that can result in a fungal or viral wart infection in the privates. In India, 60% of the population works in agriculture and allied fields, and of that 60%, more than 55% come from rural areas(IBEF, 2023) Direct contact with soil caused by ongoing labor and poor hygiene leads to fungal and viral warts, which can spread into the entire family due to contact with anything.

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Review of Literature

(Duygu Turker, April 2023)In April 2023, a study on adolescent girls aged 10-19 emphasized the need for a multidisciplinary approach involving gynecologists and endocrinologists, especially for primary amenorrhea cases. The research stressed the importance of comprehensive healthcare interventions for gynecological problems in adolescent girls, especially in rural areas.

(Anusree P. C., January 2014)In January 2014, a study using data from the National Family Health Survey found that 39% of women with reproductive tract infection symptoms sought treatment, with no improvement compared to a decade earlier. Factors influencing treatment-seeking behavior included age, education, wealth, and employment. The study highlights the challenge of women's utilization of services for reproductive tract infections in India.

(Arya Yesudas e. , 2022)In 2022, a case-control study explored menstrual health and genital hygiene in individuals with cerebral palsy, comparing them to healthy women. Participants were recruited through social media, with a total of 74 with CP and 89 healthy women. The study aims to address the under-recognized issues affecting the quality of life in individuals with CP.

(Chet Kant Bhusal, october 22,2020) In October 2020, a study assessed menstrual hygiene knowledge and practice among high school girls in Nekemte town, Western Ethiopia. The research found that a significant proportion had good knowledge (60.9%) and practice (39.9%) of menstrual hygiene. Factors like maternal education, access to media, and receiving pocket money were associated with better knowledge and practice. The study underscores the importance of raising awareness and implementing health education programs for menstrual hygiene.

(R.A.October,et.al.2016) A 2016 study in the International Journal of Community Medicine and Public Health examined Adolescent Friendly Health Clinics (AFHCs) and adolescent awareness and health-seeking behavior in West Bengal, India. It

highlighted low awareness as a barrier to using Sexual and Reproductive Health (SRH) services and called for a multi-stakeholder approach for adolescent well-being.

(Shivani Bhadauria, 2021) In 2021, a study focused on menstruation knowledge, practices, and sociocultural restrictions among school-going girls. Most girls learned about menstruation from their mothers, used sanitary pads, and perceived menstruation as natural. However, limited access to pad-changing facilities affected school attendance. Sociocultural restrictions persisted, and the study stressed the role of mothers in supporting girls.

7)(Prakriti Goswami, December 2015) In 2015, a study in Lalitpur Metropolitan City, Nepal, assessed genital hygiene knowledge and practices among adolescent girls. Only a small percentage had good knowledge and practiced good genital hygiene. Poor knowledge was linked to experiences like burning sensations, vaginal discharge, and itching. The study recommended raising awareness to improve girls' health.

(Reddy, Volume 8 Number 02 (2019)) In 2019, a study addressed girls' menstrual hygiene understanding barriers. They surveyed 406 girls aged 10-19 in rural and private schools, finding 87.7% had good knowledge. Rural areas and single-mother households had lower awareness. Recommendations include targeted rural education and involving both parents. Published on October 22, 2020.

(Sanjeev Kumar Shah, 2019)A 2019 study in South India examined 536 girls aged 10-19. Mean age of menarche was 13 years. Most had 21-35-day cycles, with 30.1% experiencing heavy flow and 66.8% having menstrual pain. Early adolescence had shorter cycles. Suggests comprehensive education for better menstrual health.

(Shabnam Omidvar, july- augast 2018) In Madhya Pradesh, India, a 2018 study assessed gynecological problems in 75 adolescent girls, finding a 3.33% incidence. It highlights the importance of specialized healthcare for this population.

(Rathod Archana D.et.al, October 2016)A 2016 study focused on 655 adolescent girls visiting a gynecology department. Menstrual issues were the main reason for consultations. 17 girls required hospitalization due to severe anemia. Emphasizes the need for health education and regular programs in schools.

(Shivaleela P Upashe, 14 oct. 2015) From 2012 to 2014, a study conducted school-based health education on rural girls aged 11-19, improving their knowledge about menstruation and related topics.

(Anna Maria van Eijk, 2016) A 2016 systematic review in India analyzed data from 138 studies involving 97,070 girls. It found that 48% of girls were informed about menarche beforehand. Commercial pad use was more common in urban areas. The study highlighted the need for improved menstrual hygiene management programs.

(Shivani Bhadauria, 2021)Bhadauriaexamines adolescent girls' menstruation and hygiene practices, emphasizing limited access to sanitary products and safe facilities. This study, conducted in Mahabubnagar, India, with 30 girls aged 12-16, used a structured questionnaire for data collection. Results indicate 53% lacked prior menarche information, 30% used sanitary pads, and 77% changed pads or cloths less than twice, reflecting poor hygiene practices. (Tanima Biswas, november 2022). Biswas focuses on menstrual hygiene knowledge among adolescent girls in Mangalore, India, aiming to create an informative booklet. Using a descriptive survey, 60 girls from Hira Girls Public School participated. Data collected via a 26-item knowledge questionnaire showed 46.7% had good knowledge, 48.3% had average knowledge, and 5% had poor knowledge. This study underscores the importance of healthcare professionals in educating girls about menstrual hygiene.

Research Gap: All the research articles, which are found, are of medical field research on menstrual hygiene and have provided valuable insights into the knowledge and practice of menstrual hygiene. However, there is a clear research gap when considering the social work perspective and interventions aimed at addressing the broader societal and cultural factors influencing menstrual hygiene practices

among adolescent girls. All those studies focused on individual factors such as educational status, media access, and pocket money, there is a need to work deeper into the social norms, cultural beliefs, and access to sanitation facilities that shape girls' attitudes and behaviours towards menstrual hygiene. By conducting mixed research methods, such as interviews or focused group discussions, Observations & the structured questioner it is possible to gain a deeper understanding of the experiences and challenges faced by adolescent girls in relation to menstrual hygiene. Building upon the findings, a comprehensive intervention strategy can be developed from a social work perspective. This strategy may involve awareness-raising campaigns, workshops, and peer support groups to challenge harmful social norms, promote positive attitudes towards menstruation, and provide information on hygienic practices. Collaborating with local stakeholders, including schools, parents, and community leaders, will help ensure the effectiveness and sustainability of the intervention. Furthermore, addressing practical aspects such as access to affordable menstrual products, adequate sanitation facilities in schools, and advocating for policy changes can be incorporated to support menstrual hygiene management. By empowering adolescent girls with knowledge and skills to manage their menstruation confidently and hygienically, this holistic approach can contribute to their overall well-being, educational opportunities, and social empowerment.

Methodology: Research Design: The research design is an exploratory study aimed at delving deeply into the issue of genital health awareness among adolescent girls in Devthane village. It seeks to develop concepts, establish priorities, and improve the research design.

Sampling: The Taro Yamane sampling formula is used to determine the sample size, resulting in a sample of 42 respondents from the village. The study is limited to adolescent girls in Devthane village.

Data Collection Tools:

1. Structured Interview Schedules: Primary data is obtained through standardized structured interviews to assess genital health awareness among adolescent girls in the village, ensuring consistent and comparable responses.

2. Observations: Observations supplement structured interviews, with researchers directly observing genital health awareness among adolescent girls.

3. Focused Group Discussions (FGD): FGDs enable in-depth discussions among adolescent girls on genital health awareness, allowing a comprehensive exploration of their perspectives and experiences.

4. Case Studies: Case studies are used to delve deeply into specific situations or individuals, offering detailed qualitative data on genital health awareness.

Data Sources: The research gathers primary data through structured interviews and observations with adolescent girls in Devthane village. Secondary data is obtained from articles, magazines, book reviews, newspapers, and websites to provide supplementary context on genital health awareness.

Duration: The study was conducted from the second week of March 2023 to the second week of May 2023, allowing for a comprehensive data collection period.

Hypothesis:

1) There is no significant association between women's awareness regarding preventive health practices.

2) There is no relation between the perception of health measures and its effectiveness in such pandemics.

Objectives:

1) Analyze the perception of rural adolescent girls towards health practices, sanitation, and hygiene.

2) Study genital health care practices in adolescent girls at Devthane village.

3) Suggest possible interventions to improve health practices, sanitation, and hygiene.

Findings: The research on genital health awareness among adolescent girls presents noteworthy findings regarding the demographics of the study participants. The inclusion of individuals from various grade levels, particularly those in joint families, adds a layer of complexity to understanding the context in which genital health awareness is situated.

Firstly, the study encompassed girls across different grade levels, primarily focusing on those in the 10th to 11th grade and 11th to 12th grade. This intentional selection provides a comprehensive view of genital health awareness among girls who are navigating the later stages of their secondary education. The slightly higher representation from the 18 to 19 age group indicates a focus on older adolescents, likely capturing a critical phase in their transition to adulthood.

The mention of joint families is significant, as it introduces a familial context that can influence the participants' perspectives on genital health. Joint families typically consist of multiple generations living together, fostering an environment where individuals may have access to diverse viewpoints and experiences. This setting can potentially contribute to a more comprehensive understanding of genital health, as discussions and awareness may be shaped by the collective knowledge within the family.

Objective no. 1-To analyze the perception of rural adolescent girls towards health practices, sanitation and hygiene.

1.   The participants in the study exhibited diversity in economic backgrounds, with reported incomes ranging from 50,000 to 1 lakh. The majority identified with Hinduism as their religion. Notably, there was an overall openness among participants to discuss genital health, suggesting a potential receptiveness to education and awareness initiatives in this domain.

2.   A significant portion of the participants reported having regular menstrual cycles, reflecting a commonality in this aspect of reproductive health. However, a noteworthy subset experienced menstrual pain, indicating a need for support and potentially highlighting an area where health education and resources could be beneficial.

3.   Hygiene practices generally displayed positive trends, with the majority of participants reporting frequent cleaning of their private parts using clean water. Nevertheless, concerns emerged regarding the prevalence of wet clothes and inadequate toilet facilities, posing potential risks of infections. This underscores the importance of addressing environmental factors that may compromise hygiene and health.

4.   Fungal infections were identified as a common issue, often attributed to the use of dirty clothes. While preventive measures were reported, such as wearing dry clothes, the study emphasized the necessity for education on proper prevention and treatment strategies. The prevalence of fungal infections underscores the importance of raising awareness to combat associated stigma and promote open discussions about genital health

Objective no.2- To study the genital health care practices in adolescent girls at Devthane village.

1.   Demographic Insights: The study predominantly included participants in the

10th to 12th grade, residing in joint families, and characterized by lower-income backgrounds. Notably, a significant number of participants lived in pacca houses, contributing to a comprehensive understanding of the socio-economic context.

2. Menstrual Health: While the majority of participants reported regular menstrual cycles, a substantial number experienced period pain, indicating a need for attention and support in managing menstrual health. Hygiene practices during menstruation were generally positive, with participants cleaning themselves multiple times a day using clean water.

3. Health Awareness: The study highlighted gaps in health awareness, particularly regarding hemoglobin level checks. A substantial portion of participants had not undergone such tests, underscoring the need for increased healthcare education.

4. Hygiene Practices: The majority of participants demonstrated commendable hygiene practices, including cleaning genitals after sweating and wearing clean innerwear. However, a concerning trend emerged, where some participants used others' clothes for hygiene, posing potential health risks. This emphasizes the importance of promoting individualized hygiene practices and discouraging behaviors that may compromise health.

5. Toileting Facilities and Hygiene: While most participants had access to home toilets and utilized detergent for cleaning, indicating positive hygiene practices, some lacked proper toilet facilities. Additionally, the reported use of soap for handwashing reflects a commitment to hygiene, but the presence of individuals wearing wet clothes suggests disparities in access to adequate sanitation facilities.

6. Fungal Infections: The study revealed a common occurrence of fungal infections, primarily attributed to the use of dirty clothes. Participants reported

preventive measures such as wearing dry clothes and consulting doctors. However, the persistence of stigma surrounding fungal infections underscores the need for targeted awareness campaigns to destigmatize these health issues and encourage open discussions.

Objective no. 3- To suggest possible interventions to model to improve health practices, sanitation, and hygiene.

1. Improved Genital Health Awareness: The research highlights a crucial need for heightened awareness among adolescent girls regarding various aspects of genital health, including hemoglobin levels, rapid testing, and preventive measures against fungal infections. Implementing targeted health education programs can effectively bridge knowledge gaps and empower girls with essential information for maintaining optimal reproductive health.

2. Hygiene Practices: To address this, it is essential to promote the consistent use of clean and personal hygiene products. Initiatives focused on educating girls about the significance of proper hygiene can contribute to preventing infections and ensuring overall reproductive health.

3. Enhanced Healthcare Access: Improving access to healthcare services is pivotal for adolescent girls, ensuring they have the opportunity for regular check-ups and consultations with healthcare professionals. By facilitating easier access to medical attention and guidance, we can enhance the overall genital health outcomes among this demographic.

4. Menstrual Health Challenges: The research underscores the importance of addressing menstrual health challenges faced by adolescent girls, including irregular cycles and menstrual pain. Prioritizing access to menstrual hygiene products, implementing educational programs on menstrual health management, and increasing awareness of menstrual disorders are key strategies to promote the well-being of girls during their reproductive years.

5. Breaking Stigma: This involves raising awareness, providing accurate information about preventive measures and treatments, and actively addressing societal misconceptions surrounding reproductive health. By challenging and dispelling stigma, we can create a more supportive and informed environment for girls dealing with these health concerns.

Hypothesis Testing:

Test for independency: To check dependency between women's awareness regarding preventive health practices.

H0- There is no significant association between women's awareness regarding preventive health practices.

H1- There is significant association between women's awareness regarding preventive health practices.

Relation between Education of a respondent and Thing used to protect blood flow		Thing used to protect blood flow		Total
		Cloth	**Sanitary napkins**	
Education of a respondent	5th to 6th	2	0	2
	7th to 9th	4	3	7
	10th to 11th	7	5	12
	11th to 12th	7	7	14
	Above12th	2	5	7
Total		**22**	**20**	**42**

Person Chi- Square	DF	P_Value
9.635	12	.648

At 5% level of significance (alpha = 0.05), reject H0 if P_Value less than Alpha. Here,

P_ value is more than Alpha (0.648) hence accepts H0.

Conclusion: H0 is accepted and H1 is rejected.

Hypothesis no. 2: There is no relation between perception of health measures and its effectiveness in such Pandemics.

H0-There is no relation between perception of health measures and its effectiveness in such Pandemics.

H1-There is relation between perception of health measures and its effectiveness in such Pandemics.

Relation between awareness about fungal infection and Discussion on fungal infection without shame		Discussion on fungal infection without shame		
		yes, because this is just a normal disease and nothing like a stigma or a shameful thing	no, because I can't say this, I feel this is so shameful	Total
What Is Fungal infection	Itchy red patches	9	12	21
	A viral disease	5	3	8
	A skin disease	5	0	5
	Disease originates through sweat	5	0	5
	Don't know	3	0	3
Total		27	15	42

Person Chi- Square	DF	P_ Value
11.433[a]	4	.022

At 5% level of significance (alpha = 0.05), reject H0 if P_ Value less than Alpha. Here,

P_ value (0.022) hence accepts H0.

Conclusion: H0 is accepted and H1 is rejected.

Suggestions:
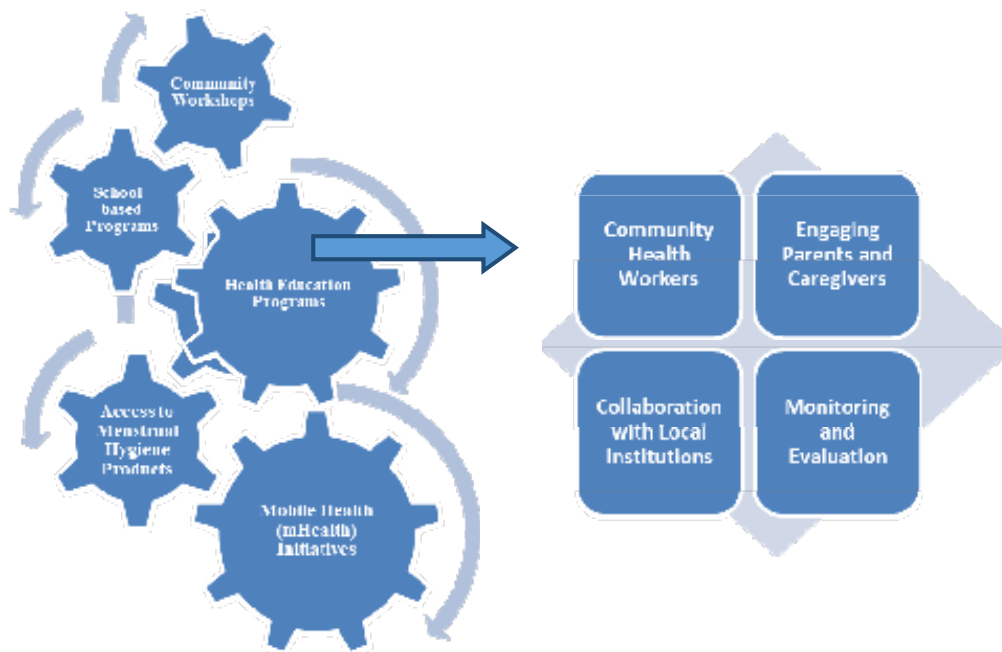
As the diagram is given the suggested Intervention plan includes,

1. Adolescent Health Education: Implement culturally sensitive health programs covering topics like menstrual health, hygiene, and reproductive anatomy for rural girls.

2. School Collaboration: Partner with rural schools to integrate genital health into subjects like biology, training teachers for effective delivery.

3. Community Workshops: Host workshops with local leaders and healthcare providers for girls and families, encouraging open dialogue on reproductive health.

4. Peer Education: Empower adolescent girls as peer educators for small group discussions and awareness campaigns.

5. Menstrual Hygiene Access: Ensure rural girls have access to affordable menstrual hygiene products, collaborating with NGOs and government agencies.

6. Mobile Health (mHealth): Utilize mobile technology for health messages and educational content on menstrual health and hygiene.

7. Community Health Workers: Train local health workers to offer personalized counseling and guidance for adolescent girls.

8. Local Institution Collaboration: Partner with healthcare facilities and women's groups for health check-ups and referrals.

9. Parent Engagement: Conduct awareness programs for parents, emphasizing their role in supporting their daughters' well-being.

10. Monitoring and Evaluation: Regularly assess intervention effectiveness, collecting data on knowledge, behavior change, and access to healthcare services to make improvements.

This condensed version retains the key points while reducing redundancy and complexity.

It is essential to consider the cultural, social, and economic contexts of the rural communities when designing and implementing these interventions. Engage with local stakeholders and community members throughout the process to ensure the interventions are culturally appropriate, sustainable, and responsive to the specific needs of adolescent girls in rural areas.

Result: Hygiene practices were explored in the study, revealing positive trends. The majority of respondents reported cleaning their private parts multiple times a day and using clean water for cleaning. They also showed a high frequency of cleaning after urination, emphasizing the importance of maintaining hygiene throughout the day. However, there were some concerning findings, such as a significant

number of girls wearing wet clothes and lacking access to a proper toilet facility. These factors may increase the risk of infections and underline the importance of improving sanitation facilities and promoting hygienic practices. The study also addressed hemoglobin levels and found that only a small proportion of participants had their levels checked. Among those who were tested, the majority fell within the normal range. However, a considerable number of girls reported not using rapid testing methods to check their genital health. This highlights the need for increased awareness and education on the importance of regular check-ups and testing.

Fungal infections were a common concern among the participants, with dirty clothes identified as a leading cause. The study found that preventive measures, such as wearing dry clothes and consulting a doctor, were commonly reported. However, the research also highlighted the stigma associated with fungal infections and the need to address it. Educating girls on proper prevention and treatment is crucial to combating the prevalence of fungal infections.

Conclusion: In conclusion, this research reveals key insights into adolescent girls' genital health awareness. Factors like family support, economic conditions, and cultural context play pivotal roles in shaping their understanding of genital health. Positive hygiene practices are evident, such as regular cleaning and clean water usage, but improvements are needed, including better access to sanitation facilities and heightened awareness about regular check-ups and testing.

This study underscores the necessity for targeted interventions, including comprehensive education programs, enhanced healthcare access, and the promotion of hygienic practices. It is crucial to combat the stigma surrounding genital health issues, particularly fungal infections, and empower girls with knowledge and resources for maintaining their genital health. By focusing on these aspects, we can elevate the overall well-being and reproductive health of adolescent girls, fostering a healthier and more informed generation.

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3 Holistic Development of Students in Indian Education

Dr. Savita Madhavrao Gire

Abstract -

Holistic learning is an extensive approach to teaching, where teachers seek to manage emotional, social, ethical, and academic needs of students in a coherent learning format. Importance is placed on a positive atmosphere in schools and providing academic and non-academic support to students. Students are taught to contemplate their actions and how they impact their community- globally and locally, and how to learn from the community around them. Holistic education encompasses a wide range of philosophical orientations and pedagogical practices. Its focus is on wholeness, and it attempts to avoid excluding any significant aspects of the human experience. It is an eclectic and inclusive movement whose main characteristic is the idea that educational experiences foster a less materialistic and a more spiritual worldview along with more dynamic and holistic views of reality It also proposes that educational experience promote a more balanced development of and cultivate the relationship among the different aspects of the individual (intellectual, physical, spiritual, emotional, social and Aesthetic), as well as the relationships between the individual and other people, the individual and natural environment, the inner-self of students and external. Holistic education is concerned with life experience, not with narrowly defined'' basic skills''. Education is the process where every individual learns the things according their ability and interest because every child

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has their own unique quality like strength, personality, inner talent and ability. For this unique quality we need to design the activity based curriculum for the students. Syllabus is the important part in the process of child development and teaching-learning process. Child development is the prime part of the education. When we look forward in this scenario, the level of competition increasing day by day. For this purpose, we focus the children's curriculum and co-curriculum activities inside and outside school and college also. Foremost requirement of the syllabus is to reduce in essential part according to subject and make wide space for critical thinking in subject content of pedagogy, make sure the curriculum should be holistic discovery based and discussion based. These curriculum parameter and aspect fulfil only one word that is holistic development. Holistic development is the overall development of child that means social, emotional, physical, mental and intellectual growth of the person. Holistic development in education means focussing on the child overall growth in various manner/aspects. Holistic development promotes self -confidence, self-awareness and increasing good sense of responsibility in each and every work. Holistic development process will help to develop the strong critical thinking abilities and problem-solving attitude among students.

Key Words: National Education Policy 2020, India, modern education, holistic development.

Introduction -

Holistic education has become a familiar topic in current educational literature. There are various opinions about what holistic education represents and a single definition remains elusive. It can be defined as a philosophy and pedagogy of education based on development of wholeness of individuals. Holistic education addresses the broadest development of the whole person i.e. physical, intellectual, spiritual, emotional, social and aesthetic aspects. It aims for the optimum possible human development enabling a person to become the very best or finest that they can be and develop fully'those capacities that together make up a human being' (Forbes,

2003). It is an approach which aims to encompass all aspects of personal learning, growth and development of individual. Holistic education based on the premises that each person finds identity, meaning and purpose of life by connecting to the surrounding environment. The purpose of holistic education is not only to prepare students for academic success, but also enable them to learn the challenges of living as a whole that means learning about themselves, about healthy relationships, social responsibilities and humanitarian values. In holistic education, to educate young people means helping them bring forth their creativity, their compassion, their curiosity, their moral and aesthetic sensitivity, their critical intellectual skills, their ability to participate in a robust democracy- in a word, their wholeness. Holistic education focuses on the optimum possible development of the students, encouraging them to become the very best or finest that they can be and enable them to experience all they can form their life and reach their goals. Education with holistic perspective is concerned with the development of each student's intellectual, emotional, social, physical, aesthetic, and spiritual potentials. Holistic education is aim to nourish the inherent possibilities of human development. Holistic education prepares a student for lifelong learning and moves them towards the life skills, attitudes and personal awareness that the student will need in an increasingly complex world. Holistic education has the capacity to lead the students into new areas of thinking, broaden their personal and critical thinking and develop an appreciation of the world around them. Holistic education is not to be defined as a particular method or technique; it must be seen as a paradigm, a set of basic assumptions and principles with some features that can be applied in schools in diverse ways. Some principles of holistic education are as follows – i) Educating for human development: Education is to nourish the inherent possibilities of human development. It focuses on optimum possible development of student's i.e. physical, intellectual, emotional, social, aesthetic etc. It teaches children about themselves, about their relationships. ii) Honoring students as individual: Each learner is unique; they have individual needs and abilities. Holistic education is based on personal differences. iii) Based on child

centric approach: Holistic education based on child centric approach. Student need to work at their own pace. Its emphasis on diverse learning style of the students. Holistic education is a radical endeavor. The educational journey starts the process of self-actualization through relationships and interconnectedness with other individuals, groups and the world around them is an integral part. Formal education is merely the starting point of this life long process. It prepares the students to meet the challenges of living. It is an educational journey of personal discovery starting within formal education then continues throughout of life. Teachers often engage students in assignments that apply critical-thinking skills toward solving real-world problems. As indicated by UNESCO, education for sustainable development needs a holistic approach. In this perspective, pro-quality education plays a double role—it includes contents that are innovative and closely related to sustainable development and it is a link connecting other activities of the educational system to achieve the objectives of education for sustainable development. This issue, as overlooked in most countries, is an attractive educational innovation, which can affect shaping students' attitudes in a more effective way. For the purpose of this research, the author collected secondary data as a result of literature analysis, mostly including governing and archival acts of law, as well as raw data with the use of a diagnostic survey method with a questionnaire survey technique. The main stage of this method was collecting research data through surveying students, representatives of teaching staff, and school principals from schools in Poland. Research conducted by the author supported the proposed hypothesis, according to which the Polish educational system is not oriented towards shaping the pro-quality attitude of high school students.

Review of Literature:

Prompted by the early inquiries in religiousness and education, as well as values, and ethics and professional guiding principle concerning holistic education and building a whole student, many higher education institutions started to incorporate courses on spirituality and education into the curricula i.e., Islamic University in

Uganda which was established on 10th February, 1988 with two faculties namely; Faculty of Islamic Studies and Arabic Language and the Faculty of Education to bridge the gap of Muslim education in Uganda . The courses that were taught among others include bachelor of Sharia and topics included the effect of spirituality and region on education, spiritual history, ethical aspects of spirituality, religion and education and the impact of spiritual and religious beliefs on education and health care decision making.

By early 90s afew higher education institutions of learning provided teaching on religious and spiritual issues and as applied to education especially medicine (Barnett & Fortin, 2006; Lucchetti et al., 2012; Puchalski & Larson, 1998). Currently, countless institutions of higher learning have such courses and subjects. Additionally, in reaction to experimental, moral and philosophical principles, the teachers associations and accreditation organisations started recommendation of spirituality in education (Anandarajah & Mitchell, 2007).Globally, however, there are few publications from holistic education in the world and those that have been integrating spirituality in their education curricula. Therefore, the present study aims to evaluate the literature and studies dealing with the holistic education (HE) and clearly underline the additional role of the teachers in building a whole student to enable teachers understand their future role and what is a head of them to enable them fit in for continuation purposes(Lucchetti et al., 2012).

Historical Roots of Holistic Education The holistic ideal can be traced back to indigenous cultures. In general, the aboriginal or indigenous person sees the earth and the universe as infused with meaning and Holistic educators try to recover this sense of meaning and purpose in education. (J, Miller 2004) The concept of holism comes from the Greek concept of holon that sees the universe as made up of integrated wholes that cannot be reduced in parts. (lee 1997) The Greeks argued for a holistic approach in learning. Socrates can be seen as a holistic educator because he encouraged each person to examine his or her own life: "know thyself." (J,

Miller 2007). The holistic paradigm emerged as a vibrant and coherent intellectual movement in the 1980s and has been expressed by thinkers in divers fields. holistic education is not synonymous with the" New Age" movement, nor is it a product of the 1960s counterculture: it has deep roots in ancient spiritual traditions and cosmologies, which Aldous Huxley described as the perennial philosophy. When the so-called Enlightenment of the eighteenth century elevated analytical, scientific reason to near total dominance in the west, this perennial wisdom - the recognition of humanities intimate connection to the evolving cosmos – was relegated to a dissident movement labeled romanticism. Holistic education thus has its roots in the "romantic" educational theories of Jean Jacques Rousseau, Pestalozzy, and Frobel (R,Miller 1991a). Rousseau , Pestalozzy, and Frobel along with other holistic educaters of 19th and earle 20th centuries such as transcendentalists William Ellery, changing, rulfwaldoemerson, Henrydavid Thoreau, Bronson Alcott, and fransis parker as well as Montessori and Rudolf Steiner, all emphasized the spiritual nature of the human being. (Brooks 2006)

Objectives:

1)   To study the role of holistic education

2)   To find out the role of holistic education in optimum possible social development of students.

Methodology:

According to the objectives in the present study the descriptive survey method has been used. The aim of descriptive survey is to provide the description of some phenomenon set of factor. It is couriered highly important because first hand data are gather through it in a well organized manner on a particular subject. Such studies are conducted to collect detailed description of existing phenomenon that justification can be made on correct condition. In the present study under descriptive survey method college surveys were done to collect data. For this purpose 126

samples were selected from the three (comprising) higher educational institutions Tools Used in Data Collection: For collecting data investigator has used two tools. i) Questionnaire for Students ii) Interview for both Students and Teachers

History of Holistic Education

Holistic education is a relatively new movement developed in the 1980s to counteract the existing US learning structure that was perceived as mechanistic, according to Education Corner. However, the theory of educating based on a person's entire experience has roots in ancient concepts of instruction, including those of Greek and native indigenous cultures, and has increased in prevalence over the past century. Several different approaches based on whole-person education gained steam in the 20th century, including Maria Montessori's self-motivated growth philosophy and Rudolf Steiner and Emil Molt's Waldorf experiential learning technique.

Many states are now incorporating holistic goals into their educational system improvement plans. This trend is encouraged by the Every Student Succeeds Act (ESSA), which provides federal funding to foster state efforts. School systems are increasingly accepting the theory that learning conditions, whole-child services, and social and emotional development are measurable variables of education and can improve equity and outcomes, according to Education Counsel.

History of Holistic Learning

Holistic learning is a new movement that was developed in the 1980s to counteract the existing learning structure that was perceived as mechanistic. However, it is believed that the theory of educating based on a person's entire experience has roots in ancient concepts, including those of Greek and native indigenous cultures, and has gained importance over the past century. There have been several different approaches based on whole-person education in the 20th century. Holistic Education is a method which focuses on preparing students to meet any challenges they may face in life and in their academic career. The most important theories behind holistic

education are learning about oneself, developing health relationships and positive social behaviors, social and emotional development, resilience, and the ability to view beauty, experience transcendence and truth.

Modern Education and the need for transformation: India's school system at present is to a great extent affected by Western culture and has brought about headway regarding modernization, privatization as well as globalization. On one hand, the cutting edge education worked hugely regarding education and innovation progressions, then again, there was an exceptional decrease in moral qualities self acknowledgement and public soul, which is gradually breaking the foundation of Indian culture (Urmila Yadav, 2018). Today, Indian culture is witnessing a career-oriented fast learning framework with more indiscipline, infringement of rules, cruel way of behaving, debasement and so on. These are brought about by the decrease in friendly and virtues and absence of otherworldly fortifying. Expanding contest in the schooling area is pulverizing the innovativeness of millions of understudies driving them towards unlawful exercises, shamelessness, and insanity to accomplishing more abundance. Considering the development of the school system in the country from days of yore, it is obvious that education was pointed toward setting up the understudy for future and countenances the difficulties throughout everyday life. Our antiquated arrangement of education, however not upheld with an enormous amount of cash, foundation, trend setting innovation, and different offices, actually had the option to figure out how to have a deliberate school system while this training is equipped towards academic greatness. There is a need to patch up the school system that would underline body, brain and soul improvement and acknowledgment of self. Copying probably the accepted procedures of old times like yoga, reflection and profound association with self, local area and to the climate into the present school system prompting congruency being laid out among realism and mysticism. At the point when the youthful age establishes a solid groundwork of information and assimilates social, moral, and common qualities, the general public heads to critical advancement. Towards a superior future, the nation is prepared to

take on the NEP 2020 that will engage our school system of today which is expected to give and grant 21st- century abilities for setting out another Bharath starting point for the adolescent. The country needs schooling for making the country prepared to take the country on the way of advancement through right abilities right from youth in a more logical way with the end goal that they can contribute in making a productive Bharath. To make savvy and dependable residents, we want the schooling to be permeated with values in all areas of science, designing, innovation, medication, regulation and so on and basic and imaginative reasoning [31]. The new strategy 2020 plans to make a shrewd and dynamic labor force who can contend with worldwide trailblazers. Some monstrous change in the new strategy would be as far as a change in curricular design from 10+2 to 5+3+4+4 to such an extent that we can give worldwide level schooling to the kids to resolve the nearby issues and issues with solid roots to the Indian legacy and culture. Early age schooling would be bestowed in the first language of the youngster so he comprehends it better to make a solid reason for imaginative reasoning. Such a prologue to the field of advancement by Vidyarambha prior to accomplishing the age of three is simply India custom. Discretionary learning, numerous leave passage models, scholastic credit bank, consistent upskilling of value and many new plans have been presented. Numerous headways in instruction thinking about the nobility of work, computerized and E-learning, Virtual labs and others would empower understudies to concentrate on a few subjects all at once. Numerous abilities lead to different knowledge as well. Welcoming top hundred world colleges would assist us with refreshing with the most recent innovation and that opposition would expand the guidelines of our colleges, as has occurred on account of Insurance organizations. NEP 2020 sets out a way of 'Atma Chintan' and 'Atma Manthan' which could lead understudies of the country to become 'Atma Nirbhar'

Components of holistic learning -There are a number of components of holistic learning I.e., group Dynamics, conflict Resolution, emotional awareness techniques, learning community, learning contracts for participants and leaders, learning sets,

good feedback loops, changing modes, physical warm-ups, games, sharing and intros, meditations and attunements, spiritual practices, value of _service‖, models of group development, emotional catharsis, meta skills in a group, intuition, altered states and dream work and group roles and Role play in a group

Methods of Holistic Learning:

The goal of holistic learning is to cultivate a developing child's physical, emotional, moral, psychological, and spiritual attributes. It provides opportunities that are personalized to a child's skills and feelings. Lessons are conducted in a safe, supportive environment that allows students to recognize their individual strengths. While holistic learning is guided by one philosophy, teachers can employ a number of methods and strategies to create a holistic learning culture.

Methods such as Experiential Learning where hands-on educational experiences are provides to students or Self-Guided learning where teachers allow students to learn at their own pace and whatever method the child is comfortable with allows students to grow not just academically but also is able to face challenges in the outside world

How teacher involvement helps in Holistic Learning?

Healthy Student-Teacher Relationships

When teachers are able to form strong bonds with students, their performance in class and engagement is positive. Students have a higher chance of success when they feel safe in a learning environment. Teachers should foster strong relationships by responding to students' strengths and needs and by acting in a culturally sensitive manner. Students should be allowed to help develop classroom rules and take on leadership roles. This encourages trust and communication among students and increases their motivation to do well.

Encouraging Self-Confidence

Students must feel they belong in school and have the potential to achieve. Teachers can help build self-confidence by providing different opportunities for students to learn and communicate what they understand. Teachers should be able to recognize students' unique strengths and treat all students equally. Student motivation can be enhanced by making sure that lessons are relevant to students' lives and realistic.

Incorporating Emotional Reflection

Sometimes for a teacher, it's not always easy to look beyond academic performance to nurture the mental and emotional well-being of a child. To encourage emotional understanding in daily routines, teachers should provide certain time for students to reflect, contemplate, or meditate. Effective listening and observational skills might be the subject of lessons to promote empathy.

Holistic learning is based on a philosophy that brings a number of benefits to students, teachers, schools, and communities. Students are empowered to improve their academic prospects and gain the life skills necessary to succeed in their careers.

Why Holistic development Important -From beginning of the education, we always focus on over all development of child. From ancient, medieval and present era child development is necessary for student enable to learn new things from different activities. In education purpose to actively participation of students in all perceptive of curriculum it means make sure to enhance the quality of physical and, mental ability. It is imperative for exposing children to opportunities to find and develop their strength to the best of their abilities as well as strengthen their weaker skills (Mcilroy, 2022) Learning is process of learn the things in simultaneously manner and it is interconnected to other part of learning like What they See, what they observe and what they hear .In Teaching –learning process teacher can improve their audio-visual perception, language awareness and proficiency, fine motor skills, Listesting and responding skills, focuss and attention towards work. Academic skill build only

with the help of social physical mental and intellectual. Social emotional skills are very much important to learn to regulate owns emotion and secure it. Express their emotion in good, positive and healthy way in accurate place. It is imperative for exposing children to opportunities to find and develop their strengths to the best of their abilities, as well as strengthen their weaker skills.

Review and mentoring - Here are 3 benefits of Holistic learning:

- Improved Academic Achievement: Holistic education can improve the academics of students regardless of background by catering to each student learning style and providing a supportive educational environment. The brain capacity of a student is increased when he/she feels physically and emotionally safe and has a good connection with the teacher.

- Better Mental and Emotional Well-Being: In a safe and supportive environment, where social and emotional learning is emphasized along with academics, students have a chance of imbibing qualities of self-awareness, confidence, and a sense of responsibility.

- Developing Problem-Solving Abilities: Students who are assigned with solving real-world problems that exist around them develop strong critical-thinking skills. These hands-on experiences give students the required skills that they will need in their careers, such as how to gather information, analyze, communicate effectively and how to collaborate and work with others.

Children not only require academic lessons, they need a system that helps them understand emotions, relationships and mental duress as well as develop resilience and team spirit. Holistic learning boosts the morale of a student so that they can go on to achieve success in their careers while becoming upstanding citizens of the society who contribute to the growth and development of the country. The holistic development of students is therefore crucial from the start of their academic years.

Conclusion:

Young people are living, learning and negotiating transitions to adulthood and independence in an increasingly complex and challenging world, in which they face greater levels of choice and opportunity, but also unprecedented uncertainty and risk. This calls for empowered, support, care,understanding, empathy, involvement,resilient young people, who play an active role in navigating these paths if Holistic Education is to bea success in We need to understand what children need to requires from education it not only academic growth but also keep growing other than curriculum like extra co-curricular activities. Every parent's motive to send their children in school and college for need to learn some specialized things and betterment of future and also grooming for holistic development(Social, Intellectual, Physical, Emotional and Mental) In all round development that means holistic development Education is the internal part for only education system can change the behavior's and help students and help students to understand his/her psychological pressure and teaching -learning process is only way to build up the healthy and powerful environment to understand the relationship between positive and negative environment. Also build up self-reliance and team spirit and true communication in education, educationist, policymaker and stakeholder ensure that to curriculum is not only integrated with theory based but also with large no. of activities (social and mental) and practice

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4 Health and Health Care Communication in India

Dr. Shivaji Jadhav

Abstract

Health issues are becoming increasingly complex. These issues can be addressed by focusing on health communication. A combination of health education, health literacy, health communication, and health policies can reduce the severity of health problems. Designing messages for health communication is a very skillful task. The message needs to be designed in simple terms in a way that can be easily understood by the public. An easy-to-understand message can lead to more effective communication. It is indispensable to convey the message in an accessible manner to the common citizens of rural areas. Designing health communication messages is a difficult and challenging task, especially in a country like India. Messages have to be designed considering India's geographical structure, social strata, economic disparity, linguistic diversity, cultural differences, traditions, etc. Some Indian states have a low rate of literacy. There is a sizable proportion of people who are illiterate or are just becoming literate. Given this context, each stage of the health message creation process requires specific consideration. The tools used for health communication are more important. In particular, it is necessary to use tools that have the ability to convey the message of health to the public. The government of Maharashtra has planned a separate policy for the health of its citizens. The state government has an action plan to implement this policy. The present paper describes how health communication is implemented as part of this program. The whole process, from designing the message for health communication to reaching the actual citizens, is studied in this paper. This research paper has studied the tools

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used to convey health information to people. The paper attempts to understand how information is transmitted using new technologies in the digital age.

Keywords: Health Communication, Health Communication Tools, Health Policy, Health Message

Health Communication

Communication is the exchange or transmission of information, thoughts, feelings, opinions, roles, and perceptions among those who are communicating. Communication includes the information source, sender, channel, message, receiver, destination, etc. Feedback plays a very important role in communication. Communication includes information sources, senders, channels, messages, receivers, destinations, etc. Feedback plays a very important role in communication. Simply defined, communication is the art of transmitting information, ideas, and attitudes from one person to another. (Edwin Emery, Philip H. Ault, Warren K. Agee, 1967) The process of communication is going on at different levels simultaneously. This process needs to be accelerated in order to reach people with health messages. The main objective of health communication is to influence individuals or communities. Health communication should help individuals or groups make decisions. Health communication is a multidisciplinary field of study and practice that applies communication evidence, strategy, theory, and creativity to promote behaviors, policies, and practices that advance the health and well-being of people and populations. Accurate and objective information is essential for making any health decision. Decision-making depends on information, so objective information should reach people. Involving patients as well as the public in the decision-making process requires checking the veracity and reliability of information. The World Health Organization has suggested six principles in the context of communication. It includes being accessible to decision-makers, actionable by decision-makers, credible and trusted as perceived by decision-makers, relevant to decision-makers, timely to enable decision-making, understandable to decision-makers,

etc. The process of health communication can be facilitated with the help of this principle. Apart from these six principles, the role of information and technology in health communication is very important. A focus on information technology and mass media is needed to ensure that mass media can also be used for health communication. Through different communication channels, media, devices, and applications, health messages can be delivered to numerous people. (Coiera, 2006) Information technology, as well as mass media, is helpful in delivering health and healthcare services to people. This new technology should be used to make health facilities easily accessible to citizens.

Health communication encompasses the study and use of communication strategies to inform and influence individual and community knowledge, attitudes and practices (KAP) with regard to health and healthcare. (Thomas, 2006) Good communication between the patient and the health workers is essential from the very beginning. If there is harmony from the beginning, then all subsequent transactions can be healthy. (Berry, 2007) The Patient Charter, published in the United States in 1992, also mentions the importance of good communication between patients and health workers. In India, too, the Ministry of Health and Family Welfare published a document in 2019 on patient rights and entitlements. In fact, patient rights have been declared human rights in India. (NHRC, 2019) The right to information is also included in human rights in India. Every patient in the country has the right to access health-related information. This has helped to create transparency in the entire transaction, along with respect for the rights of the patients.

Research Objectives

The objective of the present research is to review the changes taking place in health communication in India. Health communication tools have been changing over the past few years. New technology-based tools are being used for communication. The aim of this research is to study these changes. This research paper also studies how health issues in India are communicated to common citizens. The paper studies

the communication process, from policy formulation to actual benefits to citizens. Various tools of health communication are used in India. The research also focused on which of these tools were used most effectively.

Research Method and Data Collection

Relevant books, research papers, and other data have been studied to understand health communication in India. The policies formulated by the government to overcome the health problem are also studied. It has also been reviewed which tools of health communication have been used to convey government policies to the common citizen. Mainly secondary data has been used for the present research paper. The websites of the central and state governments, numerous initiatives carried out by the Union Ministry of Health and Family Welfare, health policy and the resources utilized to accomplish it, public outreach through a variety of channels, etc. have all been studied. Print, electronic, and web media are widely used for health communication. However, it is not known which of these media have been used effectively in India. To understand the use of media, health messages given through various media were studied. From this study, information was obtained about which medium reached the maximum number of health messages. Especially during the COVID-19 era, digital media was used very effectively. Many new digital tools have been created by government agencies to convey the health message to the people. All these activities have been studied in the present research.

Review of literature

Many practitioners and researchers around the world have worked on health communication from different angles. Even in India, researchers have done research on health communication. A strategy of communication has had to be advocated to combat the many epidemics that have emerged in India. Communication has been very important in increasing public participation in polio vaccination, especially in India. Communication strategies have contributed to such progress on several levels by: mobilizing social networks and leaders; creating political will; increasing

knowledge and changing attitudes; ensuring individual and community-level demand; overcoming gender barriers and resistance to vaccination; and, above all, reaching out to the poorest and most marginalized. (Rafael Obregón, Ketan Chitnis, Chris Morry, Warren Feek, Jeffrey Bates, Michael Galwaye, Ellyn Ogden, 2009) Mass media has played a very important role in creating public awareness about polio. Public awareness was raised through specialty radio and television, which helped increase public participation in polio vaccination campaigns. Health journalism needs to be done carefully to communicate health information to the public.

Recently, health journalism has been gaining attention in India. However, the seriousness and objectivity of this journalism must be given special attention. Information published in newspapers is considered the most reliable in India. This has resurfaced in the COVID era. However, the media in India should take steps for qualitative and quantitative growth in health news. (D.C. Sharma, Abhishek Pathak, Rameshwar Nath Chaurasia, Deepika Joshi, Rajesh Kumar Singh, Vijay Nath Mishra, 2020) If the media ignores the health issues, there will be difficulties in reaching the masses with health facilities. Mass media should convey accurate health information to the people so they can benefit from health schemes. Information technology is widely used in India. Mobile phone technology has reached rural areas as well as Taluka and District levels. In such a case, it is easily possible to convey health information to people with the help of new technology. Across all media and whatever the content, policymakers, program planners, and communication and information specialists need to keep in mind the five parameters for actionable information—language, timeliness, simplicity, quantity, and accessibility—to meet the diverse needs at each level of the health system. (Nandita Kapadia-Kundu, Tara M. Sullivan, Basil Safi, Geetali Trivedi & Sanjanthi Velu, 2012) The desired outcomes of health communication will be achieved if the reach and message-carrying capacity of the mass media are high and effective. Along with the mass media, the role of traditional media is equally complementary for health communication to be effective. Community mobilizers helped bring about change by being a part of

the change process themselves. Community influencers, religious leaders, teachers, managers, and other such influential groups can be important allies in bringing about change. Human resource management techniques and ongoing capacity development can lead to the building up of social capital that can be harnessed for social change. (AR Siddique, P Singh, G Trivedi , 2016) Local influencers in health communication can convey more effective messages. Health communication will be more effective if it also focuses on traditional communication method.

Healthcare Communication in India

Healthcare communication is playing a very effective role in the current situation. Pharmaceuticals have adopted a consumer-oriented and patient-centric model. It is focusing on healthcare communication. Meaningful dialogue among various stakeholders, including pharmaceutical companies, medical research institutes, hospitals, and patients, becomes paramount. Healthcare communications specialists embody the critical role of facilitating collaboration and communication among these diverse entities. Healthcare communication is playing a very effective role in the current situation. Pharmaceuticals have adopted a consumer-oriented and patient-centric model. It is focusing on healthcare communication. Meaningful dialogue among various stakeholders, including pharmaceutical companies, medical research institutes, hospitals, and patients, becomes paramount. Healthcare communications specialists embody the critical role of facilitating collaboration and communication among these diverse entities. In such a scenario, stakeholders such as The Organization of Pharmaceutical Producers of India (OPPI) have played a crucial role in driving the transformation of healthcare communications in India. Through its *Bharat Ke Liye* (for India) campaign, OPPI has been at the forefront of adopting innovative communication strategies that align with the evolving healthcare landscape. (Sathaye, 2023) Hospitals and pharmaceutical companies have realized the need for a patient-centric approach over the past decade. This has led to a focus on patient-oriented programs and patient-centric services. In recent times, special attention has been given to patient engagement and various

services for patients. Communication in healthcare should be effective. A lack of communication can lead to complications. It is necessary to establish harmony between all the elements related to healthcare. Through communication, good relationships can be established between patient and doctor, as well as between the health system and the patient. Poor communication between colleagues, peers, and juniors, amongst doctors, doctor-nurses, and doctor-patients, and a lack of communication and documentation during patient handovers are quite common and potentially harmful. (Puri, 2023) In fact, many times, a lack of communication or the wrong communication strategy makes it difficult to get objective information to patients or the public. Special measures need to be taken to establish communication between doctors and patients in India. Efforts should be made to have effective communication by acquiring communication skills. Some concerted efforts are needed to bridge the gap created by a lack of communication. Effective and formal communication skills training is required for medical professionals. The availability of such courses in our country is fragmented, and a structured program needs to be in place to ensure that our doctors are supported adequately and patients get the best standards of care. (Sanjoy Chatterjee, Nandita Choudhury, 2011) There are cultural, linguistic, and other barriers to healthcare communication in India. It is essential to overcome these barriers and build an effective communication bridge.

Health Communication in the Era of Covid-19

The period of COVID-19 was very sad and painful for the whole world. During this period, the health department in India raised the morale of the citizens through good public communication. The support given to patients and relatives by doctors, nurses, medical staff, Anganwadi workers, Asha workers, and all paramedical staff is appreciated. During the period of COVID, many campaigns were carried out in various states of India for public awareness. Efforts were also made by the government and common citizens to support the medical and health staff. Health communication was emphasized to educate citizens. Even after the painful period of COVID was over, awareness campaigns by the government continued. Maharashtra's

government had also taken the initiative for this. The film festival was organized in 2022–23 on behalf of the Health Department of the Government of Maharashtra. Corona warriors were felicitated at this film festival. The film gave a message of appreciation to the warriors who risked their lives in the Corona era. Film was used as a medium of communication. (Masram, 2022) Film is a very effective medium of communication. The Health Department of the Government of Maharashtra tried to create public awareness using this medium. Similar efforts were made by the government in different parts of the country.

Health Education and Communication

Health education has been consistently emphasized in India. Public awareness is created through health communication and health education. According to the directives of the Government of India, the activities of the Health Education and Public Health Department are essential for public health awareness. Earlier, different health programs were implemented separately in the state. There was a lack of coordination, variation in programs, and errors in implementation. To overcome these issues, the Government of India has set up an integrated 'State Health Education and Outreach' department at the state level. In 1996, the State Health Education and Communication Department was established in Pune to strengthen health information, education, and communication in the state of Maharashtra. The Maharashtra State Government has its own independent 'State Health Education and Outreach' department. The department is strengthening the health program in the state by taking an integrated approach to the state's health program and health services through the planning, implementation, and evaluation of health education, information, and communication strategies, as well as programs and activities in the state. (IEC, 2023) The State Health Education and Outreach Department is linked with the District Extension Media Officer at the district level. This department is the focal point for behavior change communication. Radio is the most effective medium in India for communicating information to rural people. Health information also reaches the masses through television advertisements. Various government

initiatives need to be consciously communicated and disseminated to the public regarding patient needs and facilities available to patients. (N. Naveena, 2015) Face-to-face communication tools are more useful for conveying health information. Apart from traditional media, newspapers and electronic media also help spread health messages far and wide. Television and newspapers are important sources of health and nutrition science for many viewers and readers. Many research studies have considered them a tool that may influence the behavior of the community. Therefore, the reporting of news about medicine, public health, and nutrition science is an area of concern to many health and social scientists. Mass media campaigns on health are a very beneficial tool for promoting health services at the national as well as rural levels. It is better to stop arguing about the fact that mass media is an effective channel for promoting health, since it is obviously a very important tool that reaches a large population and delivers a vast amount of knowledge about health issues and health care. Knowledge and awareness about various serious health issues like HIV, cancer, cardiovascular diseases, diabetes, etc. can be promoted via mass media, which will help a lot of people become aware of such health problems and diseases. The massive IEC campaign for social mobilization for Pulse Polio Immunization over the last few years has been a significant activity. One of the most important lessons learned from the polio campaign has been the realization that, at the field level, interpersonal communication (IPC) is the key to behavioral change. The mass media creates an enabling environment; it lends credibility to what the health worker is saying, but the crucial factor in getting people to come to the booth for the vaccine is the persuasive skill of the health worker.

Health communication Initiatives

Information and Communication Technology (ICT) can improve the delivery of healthcare services and the management of the public health system. Using ICT, the central government launched eHealth, or Digital Health. It is working on the overall development of the eHealth ecosystem to support the growth and adoption of eHealth in the country by promoting Metadata and Data Standards, Electronic

Health Record Standards, interoperability and Data Exchange platforms, Application Certification programs, Regulation of Data security, privacy, and confidentiality, etc. The National Health Policy 2017 states that ICT will be used to improve the lives of common citizens by providing them with health facilities and health information.

The National Health Policy 2017 states that ICT will be used to improve the lives of common citizens by providing them with health facilities and health information. The role of ICT has become very important in achieving the objectives of the National Health Policy. (Manoj Kumar M V, Jagadish Patil, K. Aditya Shastry, Shiva Darshan, Nanda Kumar Bidare Sastry, Immanuel Azaad Moonesar, Shadi Atalla, Nasser Almuraqab and Ananth Rao, 2022). The use of ICT has made it possible to implement many technology-based concepts in the health sector. In September 2013, the Ministry of Health and Family Welfare (MoH&FW) notified the Electronic Health Record (EHR) Standards for India. An Electronic Health Record (EHR) is a collection of various medical records that get generated during any clinical encounter or event. With the rise of self-care and home care devices and systems, nowadays meaningful healthcare data gets generated 24x7 and also has long-term clinical relevance. The purposes of collecting medical records as much as possible are manifold: better and evidence-based care; increasingly accurate and faster diagnosis that translates into better treatment at lower costs of care; avoiding unnecessary investigations; robust analytics, including predictive analytics, to support personalized care; improved health policy decisions based on a better understanding of the underlying issues; etc., all translating into improved personal and public health. As of now, only the private health sector has adopted such methods. A concerted effort from all the stakeholders, including the Central Government, State Governments, healthcare providers, medical associations, the IT industry, etc., is required to increase the use of EHR. India can adapt EHR to suit its needs by studying international best practices for its implementation. The government should encourage PPPs both in the service and platform provider spaces to bridge the gap and have a fully digitalized healthcare system sooner. (Thaploo, 2023) According to a study published by the Biomedical

Journal of Scientific and Technical Research in 2021 involving 13 private hospitals and 2 government-run hospitals, only 8 out of the 13 hospitals were using the EMR system to record clinical data. This means that there is still a lot of work to be done. Substantial work can be done if the central government takes the initiative.

Digital India is a campaign launched by the Government of India in order to ensure the government's services are made available electronically to the citizens through improved online infrastructure, increased internet connectivity, or making the country digitally empowered in the field of technology. The role of digital health technologies such as wearable tech, telemedicine, genomics, virtual reality (VR), robotics, and artificial intelligence (AI) is changing the landscape of the Indian healthcare system. Like many other markets, India too is on the cusp of a 'digital health' revolution. The National Health Policy, developed after extensive consultations with state governments and other stakeholders, aims to shape our health system in all its dimensions: by investment in prevention of diseases and promotion of good health; by access to technologies; by developing human resources; by encouraging medical pluralism; and by building knowledge for better health, financial protection, and regulation. The Policy is aimed at providing healthcare in an assured manner to all, particularly the underserved and underprivileged. (Nadda, 2017) It is necessary to collect the information of patients across the country and give them a unique identity. A very important mission to collect patient data is being done in India. The Hospital Information System was created in India using digital technology, and it is very useful for patients. The first and most important dimension that has a positive effect through implementing a hospital information system is patient (or customer) delight when waiting time is reduced. This helps them attain a level of satisfaction with which patients look forward happily to continuing the treatment. When waiting time is reduced, it automatically takes the patient to the next level, viz., the admission procedure. (Dhyana Sharon Ross & Venkatesh Rajagopalan, 2016) India has recently announced a blueprint for National Digital Healthcare, which is being used to enhance health infrastructure and provide better healthcare facilities to

people. Universal Healthcare (UHC) by 2030 is a pivotal commitment for India, as it impacts the achievement of all other SDGs. Across most developed economies, the digitization of healthcare has made it accessible, equitable, and affordable, accelerating the path to UHC.

The National Digital Health Blueprint covers many important aspects of the digitization of healthcare; the government should partner with the private sector for its implementation. (Reddy, 2020) The use of information technology is accelerating the delivery of health facilities, and the results are positive. If there is a crowd, patients have to wait in the hospital. A patient wastes a lot of time trying to get a doctor's appointment. As a solution to this, an online registration system was created to reduce the patient's time. This has made it possible for patients to get treatment within a specific time after registering online. An initiative called MeraAspatal (My Hospital) has been implemented to get feedback from patients. The application is an IT-based feedback system to collect information on patients' levels of satisfaction using a multichannel approach, viz., short Message Service (SMS), Outbound Dialing (OBD), a web portal, and a mobile application. Eighty percent of the patients who visited the Postgraduate Institute of Medical Education and Research (PGIMER) were "satisfied" with the services at the hospital, reveals the latest report of the Union Health Ministry patient feedback system. The data was compiled from the Mera Aspataal (My Hospital) feedback system for the month of October 2017. A total of 10,579 patients gave their responses. It was found that 41 percent (4,389) of patients were "very satisfied" with the institute, while 39 percent (4,171) were "satisfied". (Akhzer, 2017) Through this initiative, every hospital can know how satisfied patients are with the treatment. Feedback can be used to improve healthcare facilities. It is very important in health communication. Feedback is used to understand the patient's feelings, opinions, and attitudes.

India has created a domestic system for health communication. Such a system has also been created at the international level. A separate mechanism has been developed to communicate with the World Health Organization. The Global

Digital Health Partnership (GDHP) is a collaboration of Governments, territories, Government agencies, and the World Health Organization. It has been created to provide an international forum to facilitate global collaboration and cooperation and to share policy insights and evidence of best practices in the implementation of digital health services. The National Medical College Network (NMCN) is being established with the purpose of e-Education and e-Healthcare delivery, wherein 50 Government Medical Colleges are being interconnected over the NKN (National Knowledge Network, high-speed bandwidth connectivity). A national resource center (NRC) with the required centralized infrastructure and seven Regional Resource centers (RRCs) have been established. The National Telemedicine Network (NTN) initiative was approved with the vision of providing telemedicine services to remote areas by upgrading existing Government Healthcare Facilities. One of the biggest benefits of digital healthcare is telemedicine. With its mass adoption during the pandemic, patients in rural and remote areas who remained aloof from healthcare services can now access affordable and quality healthcare. With the help of innovative technology, they can now seek online consultation and get medicines delivered to their homes in a few minutes. (Bajaj, 2023) CORS (CollabDDS Online Radiology Services) is a web interface among different health communities for the resolution of radiological and dental issues. CORS is accessible to local as well as remotely situated doctors seeking guidance from expert radiologists. In an effort to provide better access to health care facilities in developing nations, especially in the Bay of Bengal Initiative for Multi-sectoral Technical and Economic Cooperation (BIMSTEC) region. Tele-evidence is a modality via which doctors can testify in the judicial process by utilizing the video conferencing facility without visiting the courts. The tele-evidence facility streamlines the process of doctors appearing in court in response to summonses, saving their time not only for patient care but also for medical education and research. To increase the efficiency of the officers and speed up office procedures, as well as to make work more collaborative and for the anytime availability of officials to discuss important matters irrespective of geographical locations, a software-based video conferencing system has been

implemented. Digital health has huge potential for improving the healthcare delivery system and is capable of changing the landscape of the healthcare industry across the globe. The Government of India has been increasingly focusing on e-health and digital health to bring about improvements in Indian public healthcare delivery by progressively using Information and Communication Technology under the overall objective of Digital India. Seeing the health trends like AI and telemedicine that have emerged in the last year, the Indian healthcare system is projected to witness a massive spike in demand as well as supply of digital healthcare services.

Conclusion

Health communication has been practiced in India for a long time. In fact, although there are many tools of health communication in the country, among the traditional tools, radio occupies the highest and most important position. Through radio, the message of health reaches the common people in rural areas effectively. Adequate and accurate feedback facilities are not available on radio, but the reach of radio is greater compared to other traditional media. Hence, radio is most useful for conveying the health message in a dynamic manner. Along with traditional media, digital media is also being extensively used for health care communication in India. The number of smartphone users in India is increasing, and the internet is becoming cheaper as a result. As a result, the number of users is also increasing significantly. Hence, it is becoming easier to convey health information to people through digital tools. Central and various state governments have made effective use of information, communication, and technology to make health facilities available to the common people. Due to the use of ICT, efforts are being made to deliver not only information but also health facilities to citizens promptly. Information about health policies and facilities available to citizens is conveyed more quickly and effectively through digital media. Therefore, digital media has been given special emphasis for health communication in India in the last few years.

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5 Marketing Deep Learning Masterminds: A Bibliometric Exploration of The Impactful Research

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Abstract:

Artificial intelligence and machine learning both have a subclass called deep learning. Deep learning has become popular because of its capabilities like image recognition, language processing, speech recognition etc. This bibliometric study analyzes the top 100 highly cited research papers in the field of deep learning. These research papers are published during the 1987 to 2021. The average citations received by these articles are 19339. Proceedings of the IEEE Computer Society conference on computer vision and pattern recognition has published the greatest number of research papers from the top 100 research papers. United States is the country with highest contribution with 57 articles in top 100 research papers. Most of the articles from top 100 are published after 2015. Deep learning is the keyword used by most researchers. Stanford University is most prolific institutes with three research papers from top 100 articles. Majority of the top 100 research papers are conference papers.

Keywords:

Deep Learning, Deep Neural Networks, Artificial Intelligence, Bibliometric Analysis

Introduction:

Deep learning is an emerging domain of study which has created attraction towards

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it (Li et al., 2020). It is a subclass of machine learning as well as artificial intelligence. It is based on artificial neural network (Ahmed, Abouzid, Kaczmarek, 2022). It has capability to learn from complex data patterns & solve the complex problems. It needs large volume of datasets and high performing computational power (Christin, Hervet, Lecomte, 2019).

Deep learning is inspired by the functions of human brain & it has multiple layers (Sejnowski, 2020). Deep learning has a greater number of hidden layers as compare to traditional neural networks (Arisoy et al., 2012). It can be used in creating automation of task which needs human intelligence. It is capable of image recognition, language processing, speech recognition, digital assistance, face recognition and development of recommendation systems (Du & Shanker, 2009). Deep learning is advantageous for reinforcement learning, unsupervised learning, and supervised learning (Morales & Escalante, 2022).

Deep learning has various advantages including automatic learning of new features, recognition of patten in the data, capability of processing of volatile data, able to process structured and unstructured data, high level of accuracy and more capabilities than other machine learning methods (Shen et al.,2020). These advantages have attracted more researches in the field of deep learning.

Bibliometric analysis is a scientific and quantitative study of existing researches which uncovers the existing as well as upcoming trends of researches in the desired topic of study. It has gain popularity in last decade. It can analyze performance, including analysis of parameters related to publications and citations. It can carry out the science mapping. It is also capable of the network analysis (Donthu et al., 2021).

This research paper attempts to make a bibliometric analysis in the domain of deep learning. This bibliometric study uses the top 100 highly cited research papers (Shuaib et al., 2015) from deep learning. This study of best researches in the domain of deep learning results in understanding the top research outputs. This study can

be helpful in guiding further researches in the field of deep learning.

Review of Literature:

Frederick Douglass (2023) elaborated deep learning as a subfield of machine learning. It involves the artificial neural networks which helps for learning from large amount of data. Deep learning has become popular for solving important problems in the field of robotics and computer vision. The neural networks used in deep learning works similar to the human brain. It has various layers of nodes to process the information and give predictions.

Harthik Jayakanna S & Manoj Raju (2022) explained the deep learning as an emerging area under the machine learning. It has the ability to analyze the large amount of the data which is even unlabeled. It can learn from such a data which makes it useful for various sectors. Deep learning is useful for customer relationship management, recommendation systems, automatic speech recognition, image recognition etc. Deep learning has the higher level of accuracy as compared to traditional machine learning methods.

Klaudena Sitzkissen (2023) reviewed the use of deep learning in the field of marketing. Deep learning is most useful for marketing in modeling of the unstructured data. Deep learning has become popular in marketing because of availability of the marketing data. Deep learning has the flexibility and power to handle the marketing problems.

Arash Salehpour (2022) conducted a bibliometric analysis of applications of deep learning in the field of deep learning. Artificial intelligence, machine learning and especially deep learning are used in the marketing. This research has identified trend of publication in the field of deep learning in marketing domain by year, authors, journals, countries, institutions and topics.

Ibrahim Mohamed & Turan Cemil (2023) provided an overview of the process for moving beyond the artificial neural networks to deep learning application. This

study focuses on strategies for crowd analysis and includes the overview of datasets. Moving beyond the traditional neural networks to deep learning is important for more complex crowd analysis. The deep learning is a valuable tool in the field of academic research and practical world.

Research Gap:

Deep learning is a popular area of research. Deep used in various sectors which has attracted researchers from various domains. Higher number of researches published in the field of deep learning since last decade. These researches are mainly focused on use of deep learning in particular area. There are very few researches published in the field of deep learning which discusses about the current and future trends of research. Hence, secondary analysis studies such as bibliometric analysis, systematic literature reviews and meta-analysis etc. are required in the field of deep learning research. Hence, the researchers have considered a bibliometric analysis method for this study.

Methodology:

Search Strategy

Authors have referred to the Scopus database because it is one of the popular databases which index quality journals & research papers. The search was made within article title, abstract and keywords with 'Deep Learning' as a search query on 1st June 2023. The Scopus database found 358540 articles as the search result. The search result was sorted with citations from highest to lowest. The details of first 100 highest cited articles were retrieved.

Bibliometric Analysis

This secondary research is focused on the data from Scopus database. The authors have also analyzed the abstracts of all 100 research papers. Authors have referred to the articles which were available under the open-source license. This bibliometric study is focused on variables like journal, year of publication, names of authors,

citations received by the articles, country of publication, number of publications by the journal, keywords, occurrence of the keyword, types of documents etc.

Results:

General Results

The search query on Scopus database has resulted with 358540 articles. The author has selected top 100 articles based on citations of articles. These 100 articles received citations from 2175 to 104258 (median = 4003.5, IQR = 3884). The sum of citations of all 100 research papers was 676878. Average number of citations over last 35 years is 19339. The highest cited article in the list is titled "Deep residual learning for image recognition" (Kaiming He et.al, 2016). This article has received highest i.e., 2980 citations per year. These 100 articles were published during 1987 to 2021. Number of articles and citations over the years is given in figure 3.

Journal of Publication

Proceedings of the IEEE Computer Society conference on computer vision and pattern recognition has published the greatest number of articles (13 articles with 166766 citations). Total 11 journals published two or more research articles from top 100 articles. Details of top prolific journals is given in table 2.

Country & Institutions

United States is the dominant country in the deep learning research with 57 articles and 424487 citations in top 100 articles. Canada, United Kingdom & China are important contributors with 15, 11,14 articles & 145219, 80486, 44208 citations respectively. Table 3 provides a thorough list of nations together with their number of papers and citations.

Stanford University, USA with three research articles and 12565 citations is the institute with highest contribution in top 100 articles. It is followed by other six institutions with two research articles each. The average number of citations by

these seven institutions is 19654. A detailed list of top institutes is shown in table 4.

Highly used keywords

The highest used keyword is 'deep learning' which has occurred in 45 articles. It is followed by neural networks, computer vision, convolution, learning systems, convolutional neural networks. The details of most used keywords are mentioned in table 5.

Year of publication & types of documents

Majority of articles were published after 2015 from top 100 cited articles. 73 out of top 100 articles accounting for 517169 citations were published after 2015. 2017 is the most productive year with 23 research articles published and received 117149 citations. The details of year wise articles and citations are shown in table 6.

Majority of research published in top 100 is in the form of conference paper followed by articles. 60 conference papers resulting to 394996 citations are dominant in top 100 papers. The details of types of research published in shown with table 7.

Table 1. Top 10 most cited articles within deep learning research

Sr. No	First Author	Title	Year	Journal	Citations	Country
1	Kaiming He	"Deep residual learning for image recognition"	2016	Proceedings of the IEEE Computer Society Conference on Computer Vision and Pattern Recognition	104258	USA
2	Yann Lecun	"Deep learning"	2015	Nature	45289	USA

3	Nitish Srivastava	"Dropout: A simple way to prevent neural networks from overfitting"	2014	Journal of Machine Learning Research	25461	Canada
4	Jonathan Long	"Fully convolutional networks for semantic segmentation"	2015	Proceedings of the IEEE Computer Society Conference on Computer Vision and Pattern Recognition	18329	USA
5	Sergey Ioffe	"Batch normalization: Accelerating deep network training by reducing internal covariate shift"	2015	32nd International Conference on Machine Learning, ICML 2015	17469	USA
6	Volodymyr Mnih	"Human-level control through deep reinforcement learning"	2015	Nature	14905	UK
7	Geoffrey E. Hinton	"Reducing the dimensionality of data with neural networks"	2006	Science	14134	Canada

8	Adam Paszke	"PyTorch: An imperative style, high-performance deep learning library"	2019	Advances in Neural Information Processing Systems	12725	Poland
9	Geoffrey E. Hinton	"A fast learning algorithm for deep belief nets"	2006	Neural Computation	12148	Canada
10	Martín Abadi	"TensorFlow: A system for large-scale machine learning"	2016	Proceedings of the 12th USENIX Symposium on Operating Systems Design and Implementation, OSDI 2016	12076	USA

Table 2. Journals with multiple research papers in deep learning research (in top 100 articles)

Sr. No	Source	Documents	Citations
1	Proceedings of the IEEE Computer Society Conference on Computer Vision and Pattern Recognition	13	166766
2	Advances in Neural Information Processing Systems	10	55328
3	IEEE Transactions on Pattern Analysis and Machine Intelligence	6	42427
4	Nature	6	88068
5	Journal of Machine Learning Research	5	42423

6	Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	5	15218
7	Proceedings - 30th IEEE Conference on Computer Vision and Pattern Recognition, CVPR 2017	5	29398
8	Proceedings Of the IEEE International Conference on Computer Vision	5	22556
9	32nd International Conference on Machine Learning, ICML 2015	3	22674
10	IEEE Computer Society Conference on Computer Vision and Pattern Recognition Workshops	2	6493
11	Proceedings of the 25th International Conference on Machine Learning	2	8579

Table 3. Countries with the highest citations in deep learning research (in top 100 articles)

Sr. No	Countries	Number of articles in top 100 most cited papers	Number of citations received
1	United States	57	424487
2	Canada	15	145219
3	United Kingdom	11	80486
4	China	14	44208
5	Hong Kong	8	28153
6	Germany	4	25014
7	South Korea	5	20801
8	Singapore	3	18060
9	Switzerland	3	17813
10	Poland	1	12725

11	Netherlands	2	9280
12	Russia	2	6577
13	France	2	4631
14	New Zealand	1	4309
15	India	1	3743
16	Sweden	1	3117
17	Spain	1	2238

Table 4: Institutions with at least two articles in deep learning research (in top 100 articles)

Sr. No	Organization	Country	Number of articles in top 100	Number of citations
1	Stanford University	USA	3	12565
2	Chinese University of Hong Kong	China	2	5450
3	Department of Information Engineering, Chinese University of Hong Kong,	China	2	7006
4	Facebook AI Research	USA	2	12747
5	Google Deepmind	UK	2	24098
6	Google	USA	2	54482
7	UC Berkeley	USA	2	21233

Table 5: Frequently used keywords among deep learning research (in top 100 articles)

Sr. No	Keyword	Occurrences
1	Deep Learning	45
2	Neural Networks	32
3	Computer Vision	30
4	Convolution	28
5	Learning Systems	21

6	Convolutional Neural Network	20
7	Artificial Intelligence	18
8	Convolutional Networks	18
9	Deep Neural Networks	18
10	Article	17
11	Network Architecture	17
12	State of the Art	16
13	Artificial Neural Network	15
14	Human	15

Table 6: Year wise articles & citations among deep learning research (in top 100 articles)

Sr. No	Year	Number of articles	Citations
1	1987	1	4005
2	2004	1	2177
3	2006	3	28709
4	2007	1	3662
5	2008	2	8579
6	2009	1	6135
7	2010	1	5179
8	2011	3	11908
9	2012	3	10238
10	2013	3	14089
11	2014	8	65028
12	2015	15	144849
13	2016	20	193554
14	2017	23	117149
15	2018	6	22129
16	2019	6	27596
17	2020	2	4658
18	2021	1	7234

Table 7: Types of documents among deep learning research (in top 100 articles)

Sr. No	Type of document	Number of documents	Number of citations
1	Article	34	209773
2	Book	1	4309
3	Conference Paper	60	394996
4	Review	5	67800

The co-occurrence analysis of all keywords can be visualized with the help of VOSviewer. It gives us clusters, items, links, and total link strength etc. As a result of analysis from VOSviewer, three clusters were formed (Figure 1).
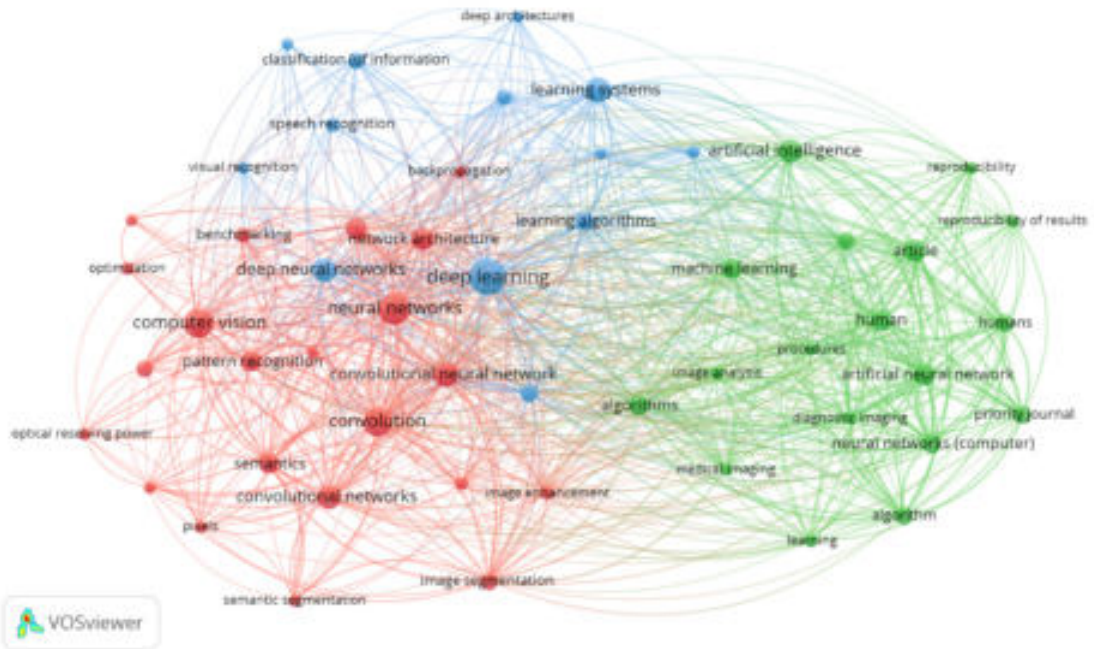
Figure 1. Visualization of cluster network of all keywords
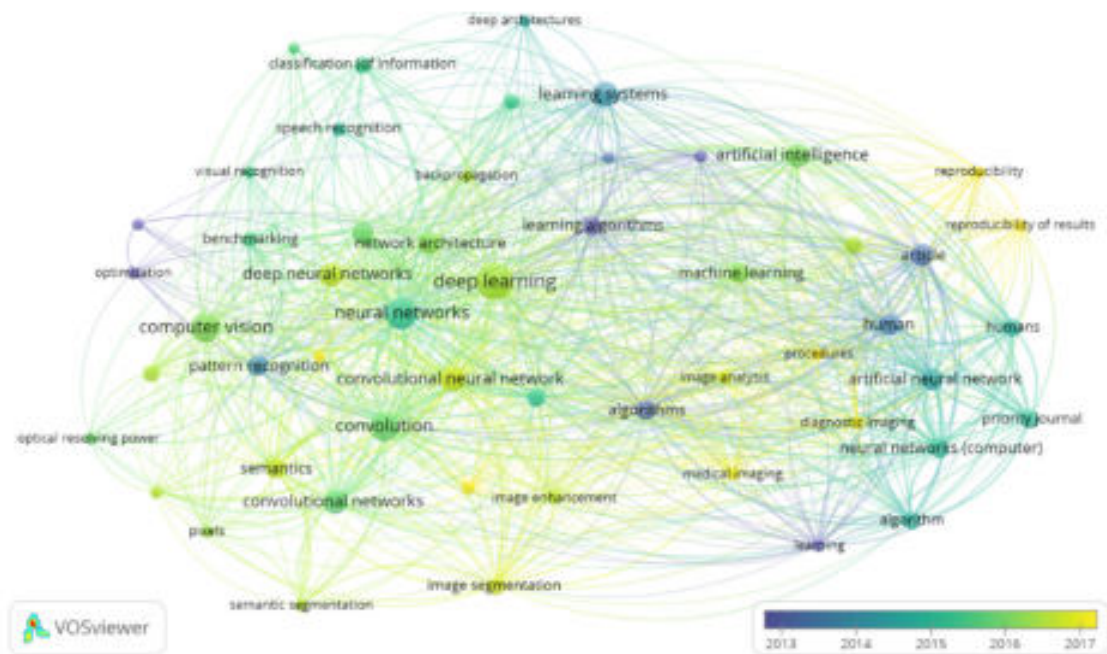
Figure 2. Overlay visualization of trend of research

Cluster 1 (shown in red) is the largest cluster with 22 items. It is related to computer vision and convolutional neural networks. Articles from this cluster discusses about drawing meaningful insights from visual inputs, a network architecture which train computers to process like human brain.

It also discusses about the structures to fulfill the connectivity needs of the devices. It focuses on the enhancement of images with semantic segmentation. It throws light on pattern and face recognition.
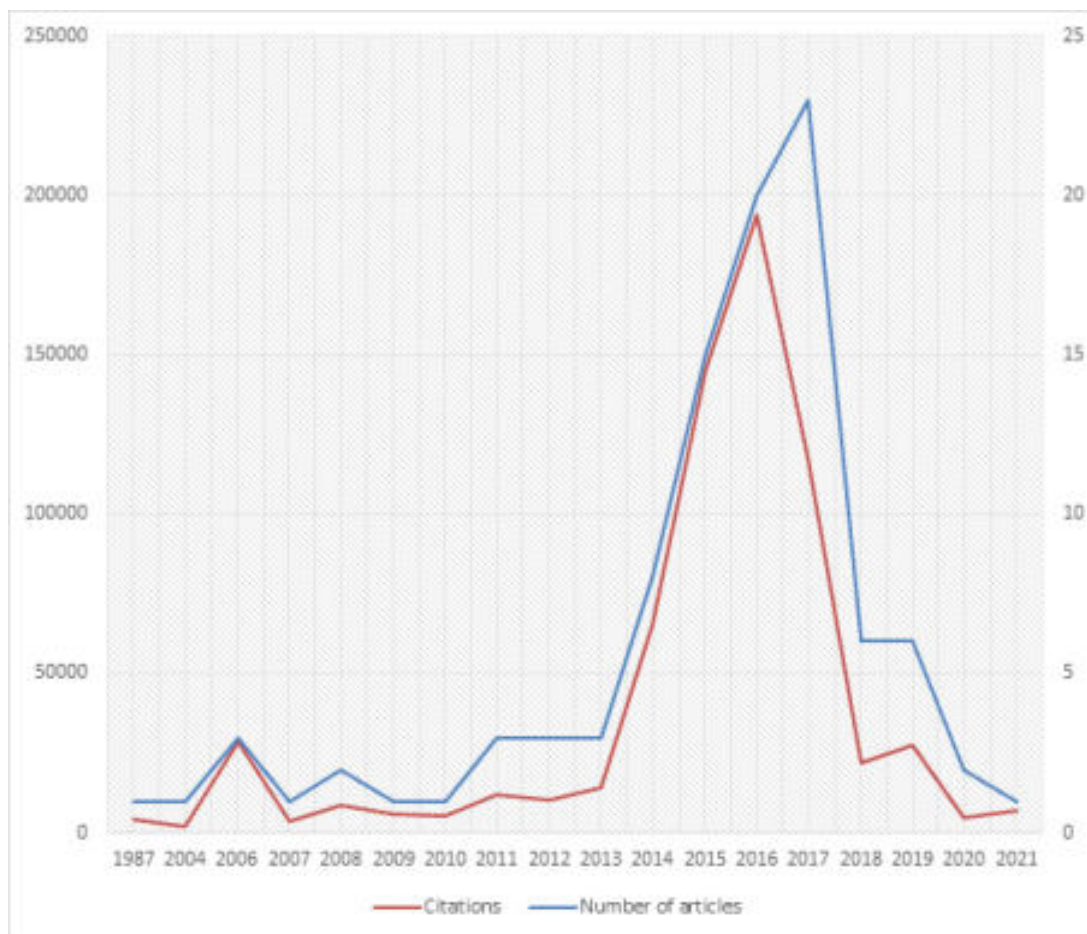
Figure 3. Number of articles and citations over the years

Cluster 2 (shown in green) has 18 items. It has artificial intelligence for human as the theme for this cluster. Diagnostic imaging help doctors investigates the body of the patient whereas medical imaging take help of various technologies like CT scan, X ray and ultrasonography etc. Image analysis talks about analysis of an image to for a meaningful output.

Cluster 3 (shown in blue) is a smallest cluster with 13 items. It has deep learning and deep neural networks at center. Articles from this cluster throws light on ability of machines to identify spoken commands as well as identification of visual objects.

It also focuses on learning algorithms, learning systems and forecasting.

The overlay visualization (figure 2) gives us the trend for future research. Medical imaging, diagnostic imaging, stochastic systems, image analysis, image segmentation, image enhancement, convolutional neural network, reproducibility of results, semantics, deep neural networks etc. topics are considered by the top researchers and has future research potential.

Discussion:

This bibliographic analysis focuses on top 100 highly cited research articles in the field of deep learning. Majority of the articles were published from USA, Canada, UK & China. Most published articles are in the form of conference papers followed by articles. Stanford University, USA has produced highest number of articles from top 100. Deep learning is the highly occurred keyword.

Highest number of articles & article with highest citations were published in Proceedings of the IEEE Computer Society Conference on Computer Vision and Pattern Recognition. It has 40.7 CiteScore 2022, 5.952 SJR 2022 & 8.489 SNIP 2022.

USA is the most prolific country in this research. It has contributed 57 out of top 100 research articles. This shows the research output of USA is high in terms of quantity and quality. Five out of ten most cited research papers are from USA. Four out of top seven institutes which has produced multiple research articles are from USA. These four institutes have received 101027 citations for the research papers.

Most of the articles in top 100 are from developed countries. Only two of the 100 most cited articles are from the institutions from developing countries. One is from India & Poland each. This shows that the lack of high impact research from developing countries.

The trend of research is positive. The research has started from 1980s which was at slow pace till 2010. Only seven out of top 100 articles were published from 1987 to 2010. The research has increased after 2020. The research has seen a sharp upward

trend in 2015. 73 out of top 100 research articles were published from 2015 to 2021.

Future Scope of Research:

Bibliometric analysis is a quantitative technique for analyzing the published research. To understand the topic in detail further researches can be done. Bibliometric analysis of the high quality researches published in the field of deep learning can be carried out. Systematic literature review in the field of deep learning can be carried out to understand the current status of research and future direction of research in depth. Impact of deep learning on various domains can be studied.

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6	# The Use of Digital Health Services to Manage Dementia

Gautam Makwana

Abstract: The growing elderly population accelerates age-related pathology and dementia risk, negatively impacting health, social conditions, and economic well-being. Early detection and prevention are crucial, as there is no viable therapy for dementia. Mild cognitive impairment (MCI) can slow dementia progression, but global health systems struggle with access due to shortages of specialists and long travel times. The World Health Organization (WHO) recommends democratizing and expanding health institutions to combat dementias. This article evaluates local and global dementia cases and discusses digital efforts to combat their spread, focusing on the cognitively impaired population.

Key words: MCI, Dementia, DM2, VaD AD, WHO, Telehealth, Telemedicines, COVID-19

Dementia, an unsolved Biomedical Problem: Population aging and sociodemographic transformation have significantly impacted health, leading to mild cognitive deficits and dementia in older individuals. Lifestyles play a role in these conditions, which can be preventable or manageable. Recent scientific evidence from epidemiological, clinical, imaging, genetic, and biochemical studies has established a causal relationship between type 2 diabetes mellitus and other cardiometabolic factors, contributing to Diabetes Mellitus Disease and Alzheimer's. Medical and pharmacological control of metabolic diseases like obesity, insulin resistance, and DM2 could potentially reduce dementia epidemics. Metformin, a first-line oral treatment for hyperglycemia, has common adverse effects like

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decreased vitamin B12 absorption in the gastrointestinal tract, potentially leading to megaloblastic anemia and peripheral nervous system dysfunction. Additionally, its use in elderly populations with impaired renal function raises risks.

Mild cognitive impairment (MCI) is a state of mind and cognitive reserve that does not meet the criteria for dementia but exhibits some degree of brain impairment, distinct from mood or psychiatric disorders. Common causes include age, prodromal symptoms of Alzheimer's disease (AD), and vascular dementia (VaD). The conversion rate from MCI to AD is less established, and it is crucial to consider the sensitivity and specificity of tests used in clinical practice and research planning. The clinical-temporal horizon of dementia type AD includes a preclinical stage, symptomatic phase, and final-mind dementia.

Global Epidemiological: By 2011, there were 35.6 million people around the world with some type of dementia. In 2015, the total cost of dementia worldwide was estimated at $818 billion, equivalent to 1.1% of global gross domestic product (GDP). In relation to Alzheimer's Disease (AD), which is the most common type of dementia, the prevalence among people aged 70-75 years is 2-3% and in people aged 85 years or older, it increases dramatically to 20-3%. 25%, being slightly higher in women over 85 years of age. Currently, it is estimated that there are about 42 million patients with dementia and by 2030, it is projected, around 81 million. In the year 2050, various epidemiological studies worldwide mention that at least 2,000 million people will be over 60 years of age, therefore, considering the age risk factor, a dramatic increase in the number of these patients is expected.

Multilateral Response and Global Guidelines: A worldwide and coordinated health response to slow the alarming spread of dementia was approved by the World Health Organization (WHO) assembly in May 2017. The following general guidelines are established by this WHO plan in collaboration with other international, regional, and national organizations: i) acknowledgement of dementia as a priority for the world's public health systems; ii) awareness and implementation of initiatives

to meet the needs of the affected population; iii) strengthening prevention, early diagnosis, treatment, collection of information systems, epidemiological registration and surveillance, support for caregivers, and iv) early diagnosis and treatment of dementia as a public health priority.

Digital Health to the rescue of Mental Health: Situation of digital health from the WHO - Digital health efforts are becoming more operational; in fact, 90% of WHO Member States have an 'online' health plan, and 83% of them have already started implementing them. However, other digital health and technology modalities are available internationally. The large data in healthcare contexts is less often employed than electronic health records, which are more regularly used than telemedicine. Although digital health is a global reality, it is vital to emphasize that different countries have accepted and applied it in different ways.

Digital Health - Key Concepts: Telemedicine is simply one aspect of the larger notion of digital health. Digital health covers subcategories including wearable technology, telehealth, and telemedicine, according to the US Food and Drug Administration (FDA). It also includes mobile health (mHealth). In general, it entails linking health-related data, including patient-generated data, and utilizing the medicinal potential of frequently used technology tools, such smartphones, apps, social networks, and environmental sensing devices. The majority of these items weren't initially designed for medical use, and they weren't advertised as such, but they now serve that purpose.

The recognition of the necessity for a collaboration between human and digital systems is crucial for transforming healthcare, particularly in primary care, by enhancing worker support. Digital health innovation faces ethical and political challenges. Access to sufficient data is crucial for developing innovative diagnostic, therapeutic, and monitoring tools. Ensuring data protection, security, and privacy is essential for innovation. Responsibility frameworks are necessary for managing information and communicating health information. Security and effectiveness are

paramount, as digital health applications must meet high standards to grant trust to individuals and the environment.

Dementia and Digital Solutions: Digital health has experienced slow but sustained development in the field of dementia, with mobile devices, tablets, smart watches, and suits with sensors and applications (APP) providing opportunities for early diagnosis and remote monitoring of the rapidly aging population. However, there are few innovations in MCI detection, as most developments focus on measuring advanced disease parameters.

A 2019 systematic review published 43 primary studies on the use of technologies in the home for early detection and monitoring of mild cognitive impairment. The reviews systematized experiences into four internationally validated technological solutions. Motion sensors in homes and cars evaluate step speed and nocturnal movements, affecting sleep quality. Significant differences were observed between healthy and MCI (+) patients, indicating potential health issues.

Portable GPS sensors are installed on mobile devices to monitor patients' journeys, potential loss, and generate alarms for family members. These sensors show significant differences between Mobile Centralization (MCI) and controls, reducing the risk of loss. The study evaluated elderly individuals' performance in surveys and games on smart mobile phones using APPs, despite the challenge of digital literacy. Most studies showed good correlation with MCI diagnosis compared to controls.

The study used secondary data from technology 'X' such as mouse movement and remote monitoring of PC usage in older adults, but had limitations and biases, making it difficult to draw precise conclusions due to the lack of designed analysis. Care management should incorporate digital infrastructure and trained human resources into all three levels of care, including the central level, to provide effective care for the adult and older adult population.

Conclusion: The global and local epidemiological situation concerning dementia

necessitates intensive search for innovative methods to control its overwhelming growth. The COVID-19 pandemic has created a complex health scenario, affecting chronic diseases like hypertension, diabetes, cancer, and dementia. The crisis has also pushed for the consolidation of digital health processes, a health revolution that aims to control communicable diseases and address biological-social pressures. Mental health problems in adults and older adults worldwide face limited access to timely in-person medical care and early specialist evaluation.

Digital health, tailored to specific health problems, is essential for addressing challenges in a world where chronic non-infectious diseases are now impacted by infectious diseases, which were once believed to be almost defeated. It should complement modern medicine.

Contribution of the Author: The Author had full access to all of the information in this research study, which has been studied and approved the final manuscript. The author is sole responsible for the conceptualization, design of the study, review of related literature and discussion.

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Inclusive Health in Maharashtra: Empirical Evidences

Prof. Dr. P. S. Kamble

Abstract:

ScBetter health is the real wealth of human life. But in the recent era of modernity, there is a declining trend in the wealth of health while money and property importance have increased. Man's existence has been troubled by it, but mankind has also tried to make life more comfortable by overcoming all the diseases and disorders from time to time. Even though man has won many pandemics, humans still did not control and prevent themselves from many dangerous diseases like heart attack, blood blockages, cancer, AIDS and COVID-19. Therefore, many personal expenses have to be spent on managing such diseases and planning remedial measures. Such a huge expenditure is impossible to incur for people in a developing country like India. The same thing happens in Maharashtra because even if Maharashtra. The families belonging to the Scheduled Castes and Scheduled Tribes were more dissatisfied with the government's health expenditure than others. Similarly, most OBC and Open class families were dissatisfied with the government expenditure. The role of government in public health is considered more critical for the Scheduled Castes and Scheduled Tribes families than the General and Other Backward Classes. The families belonging to Scheduled Castes and Scheduled Tribes appear to be relatively unaware of the government's health policy. The majority of the people in the society are dissatisfied with the current health policy of the Government of Maharashtra. The Scheduled Tribes families are the biggest beneficiaries of government medical services, followed by Scheduled Castes, Other Backward Classes and General Classes.

Keywords: Inclusive Health Development, Social Groups, Scheduled Castes ,

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Scheduled tribes, Empirical Analysis

I)   **Introduction**

Better health is the real wealth of human life. But in the recent era of modernity, there is a declining trend in the wealth of health while money and property importance have increased. Man's existence has been troubled by it, but mankind has also tried to make life more comfortable by overcoming all the diseases and disorders from time to time. Even though man has won many pandemics, humans still did not control and prevent themselves from many dangerous diseases like heart attack, blood blockages, cancer, AIDS and COVID-19. Therefore, many personal expenses have to be spent on managing such diseases and planning remedial measures. Such a huge expenditure is impossible to incur for people in a developing country like India. The same thing happens in Maharashtra because even if Maharashtra is one step ahead of other states in the modern world, many people can't get a meal once a day. On the other hand, the state of rural Maharashtra is worse than urban Maharashtra. In such a situation, people are not able to pay attention to their health. Therefore, the role of local government is very important in health matters. A healthy population contributes significantly to a country's economic development because a healthy population would live longer; their production capacity and efficiency are higher than others. Such a population saves a lot at the individual and public level, which is more important for the country's development. Many factors affect the health of the people of the country and their ability to provide health services. While good health affects the country's upliftment and reduction of poverty, the country's development goals result in the upliftment of the health of the people of the country. In particular, the government aims to support and promote high-level investment in the country's health sector and take responsibility for how health will be given a prominent place in its overall economic and development plans. In this regard, health policies and development work help formulate health policies and strategies in the country. These policies will further benefit the families living in poverty in the country. An estimated 1.2 billion people in the world live in miserable conditions

(earning less than a dollar a day). It is this poverty that has made many families unhappy today. Poverty tends to make people live in an environment where they do not have access to proper shelter, clean and adequate water, which makes people sick and harms their health.

II)   Research Methodology

The major objectives of the present research study are as follows.

1.   To study the health status of Maharashtra.

2.   To study the social stratification of accessibility to health services.

The present research work depends on the primary as well as secondary data regarding health, which are provided by the Ministry of Health and Family Welfare (GOI); Department of public health (GOM); World Health Organization (WHO); Directorate of Economics and Statistics (GOM); National Family Health Survey (GOI); Private commercial websites of Indiastat, Districts of Maharashtra & EPWRF India Time Series. This research study has examined the government's role in respect to public health because health is an essential factor of inclusive and sustainable development of any state or country of the world. Nevertheless, most Indian (Maharashtra) citizens cannot get one-time sufficient food to survive. Due to this important reason, state and local government's role is very significant for providing health care services to poor and needy people of their area. The researcher has been purposively selected the five districts of Maharashtra for primary data collection and observation of health conditions in the So-called developed Maharashtra state in India. These districts are Pune, Kolhapur, Sangli, Satara and Solapur.

Researchers has used the TARO YAMANE formula for sample selection. This formula is used to select the appropriate size of the sample from known populations. Here the same researcher did know the exact population of purposively selected five districts of Western Maharashtra (Pune, Kolhapur, Sangli, Satara and Solapur) while selecting the sample for the present research; the researcher has relied on the

guidelines of Professor Taro Yamane.

According to Census of 2011, population size of selected five districts given as follow:

1.   Pune- 9,429,408

2.   Kolhapur- 3,876,001

3.   Sangli- 2,822,143

4.   Satara- 3,003,741

5.   Solapur- 4,317,756

Thus the total population of the five districts was 23,449,049. Out of the total population known, the researcher selected the appropriate sample using the Yamane formula as follows.

Sample Selection Guidelines of Prof. Taro Yamane.

1.   When the researcher does not know the exact population of the research area, he should assume a 20000 population and select the sample using the following formula. But here the researcher knows the population of five districts

Following are some important things that a researcher should consider when using the above formula.

$$n = \frac{N}{1 + N(e)^2}$$

Following are some important things that a researcher should consider when using the above formula.

1.   Margin of error is 5 percent

2.   confidence level is 95 percent

$$n = \frac{23449049}{1 + 23449049(0.05)^2}$$

$$n = \frac{23449049}{1 + 23449049 * 0.0025}$$

$$n = \frac{23449049}{1 + 58622.6225}$$

$$n = \frac{23449049}{58623.6225}$$

Recommended sample size is (n)=399.9931768

But in actually the researcher has selected 500 respondents which are greater than recommended sample size of 399.9931768 by Prof. Taro Yamane Sample Measurement Formula. If the selected sample size is greater than the recommended sample size of Prof. Yamane then the no problem with data inferences. Hence, in order to give proper representation to each social class and to get good research results, the researcher has selected 500 respondent families instead of recommended 399 for the study. These 500 samples out of 100 selected from each of the selected districts. The selected 500 families have been from rural (50%) and urban (50%) areas.

Table No. 1: Category wise sample selection

Sr. No	Category	Proportion of category wise population in Total Population of Maharashtra	Household Sample
1.	Schedule Caste	12	60
2.	Schedule Tribe	9	45

3.	Other Backward Class	52	260
4.	General	27	135
		Total Sample Selection=	500

The researcher has selected the actual respondent's families based on their social category proportion to the total population of Maharashtra, such as SC (12%), ST (09%), OBC (52%) and General (27%), (Census of India, 2011). In actuality, the researcher has selected the 60 respondent's families to belong to Schedule Caste, 45 families from Schedule Tribe, 260 families from Other Backward Class and 135 families from General Class, which are no considered in about mentioned categories. Moreover, a researcher has considered social stratification wise equal sample selection (50% - 50%) from Western Maharashtra's rural and urban areas.

The researcher has used the essential and suitable statistical software for the data processing and analysis purpose, namely SPSS, Excel, etc. For the hypothesis testing purpose, the researcher has used 't' test, 'z' test, x square test as per the needs, requirements, and suitability of the method. The current study period was from 1991 to 2018 but was expanded after the data was updated, and currently, the research period is extended to 2020 with the revised data.

III) Empirical Analysis Of Inclusive Health Development In Maharashtra

Inclusive growth is the growth strategy that decentralizes the benefits of the economic growth achieved by the economy. It is so because only an increase in the level and rate of economic growth does not improve the standard of living of the people. It is disintegration and decentralization of the benefits of the economic growth is expected and desirable, which gives equity and social justice in the distribution of benefits of the economic growth to all sections of the society, and especially socially and economically deprived sections of the society. This is described as inclusive growth, and it has been adopted in India since the 11th five-year plan and continued in the 12th plan at the national as well as state-level also. "The health sector is a very important productive sector of the economy, and it is part and parcel of the

inclusive growth of the economy. It is, therefore, is of vital importance to examine the inclusive social sector and in particular health development also" (Vadrale, K. S., & Ovhal, V. V., 2016).

Accessibility to Health Services By Social Group

The researcher has performed the following empirical analysis using quantitative tools for analyses the collected primary data from the research premises through questionnaire.

Table No. 2 : Area wise and Category wise Classification of Selected Household

Sr. No	Name of the District	SC (12%)	ST (9%)	OBC (52%)	OPEN (27%)	Total (100%)
1	Kolhapur	12 (20%)	9 (20%)	52 (20%)	27 (20%)	100 (20%)
2	Pune	12 (20%)	9 (20%)	52 (20%)	27 (20%)	100 (20%)
3	Sangli	12 (20%)	9 (20%)	52 (20%)	27 (20%)	100 (20%)
4	Satara	12 (20%)	9 (20%)	52 (20%)	27 (20%)	100 (20%)
5	Solapur	12 (20%)	9 (20%)	52 (20%)	27 (20%)	100 (20%)
	Total	60 (100%)	45 (100%)	260 (100%)	135 (20%)	500 (20%)

Source: Field Survey, 2021-22

Table No. 3: Classification of Monthly Aggregate Family Income

Sr. No	Monthly Income Level	SC	ST	OBC	OPEN	Total
1	Less Than 3000	4 (7%)	6 (13%)	4 (2%)	5 (4%)	19 (4%)
2	3001 To 6000	6 (10%)	7 (16%)	12 (5%)	9 (7%)	34 (7%)
3	6001 To 9000	10 (17%)	14 (31%)	13 (5%)	21 (16%)	58 (12%)
4	9001 To 12000	14 (23%)	8 (18%)	67 (26%)	28 (21%)	159 (32%)
5	12001 To 15000	15 (25%)	6 (13%)	55 (21%)	34 (25%)	110 (22%)
6	Above 15000	11 (18%)	4 (9%)	109 (42%)	38 (28%)	120 (24%)
	Total	**60 (100%)**	**45 (100%)**	**260 (100%)**	**135 (100%)**	**500 (100%)**

Source: Field Survey, 2021-22

Graph No.1 : Classification of Family Income
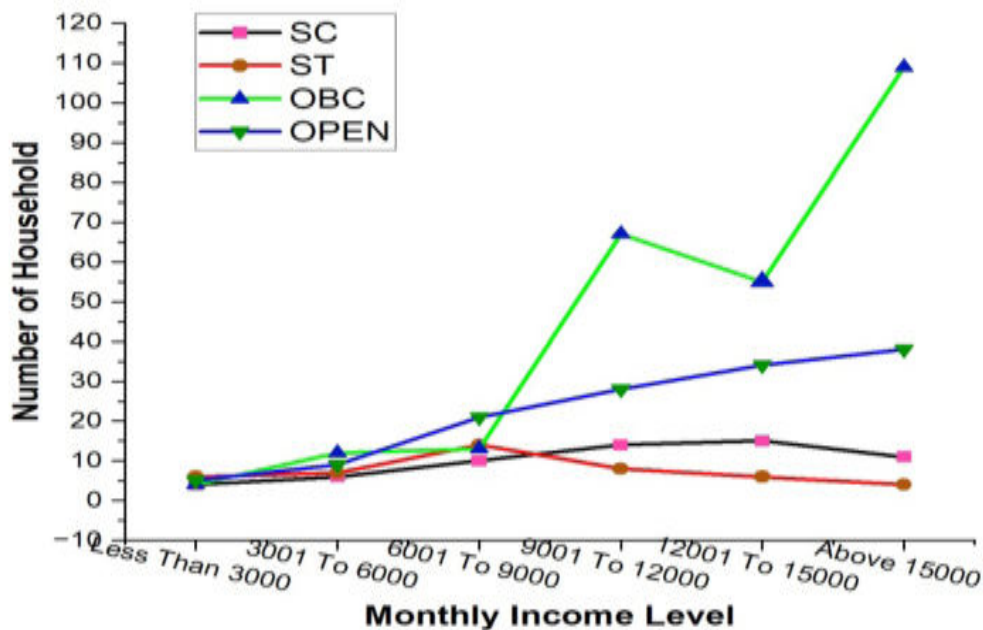
Table No. 3 denotes that the 500 households selected as a sample are classified according to their monthly income group. Out of the total selected families, most of the families were in the group with a monthly income of Rs.9001 to Rs.12000. This was followed by more than 15000 income groups, 12001 to 15000 income groups, 6001 to 9000 income groups and less than 3000 income groups.

Table No. 4: Classification of Monthly Aggregate Family Expenditure

Sr. No	Monthly Expenditure Level	SC	ST	OBC	OPEN	Total
1	Less Than 3000	2 (3%)	1 (2%)	2 (1%)	3 (2%)	8 (2%)
2	3001 To 6000	3 (5%)	2 (4%)	6 (2%)	5 (4%)	16 (3%)
3	6001 To 9000	8 (13%)	5 (11%)	10 (4%)	12 (9%)	35 (7%)
4	9001 To 12000	14 (23%)	6 (13%)	30 (12%)	19 (14%)	69 (14%)
5	12001 To 15000	15 (25%)	13 (29%)	83 (12%)	42 (31%)	153 (31%)
6	Above 15000	18 (30%)	18 (40%)	129 (50%)	54 (40%)	219 (44%)
	Total	60 (100%)	45 (100%)	260 (100%)	135 (100%)	500 (100%)

Source: Field Survey, 2021-22

Table No. 6.5 represents that the 500 households selected as a sample are classified according to their monthly expenditure group. Out of the total selected families, most of the families were in the group with a higher monthly expenditure of above Rs.15000 (44%).

Table No. 5: Classification of Monthly Family Health Expenditure

Sr. No	Monthly Health Expenditure	SC	ST	OBC	OPEN	Total
1	Less Than 1000	6 (10%)	8 (18%)	19 (7%)	8 (6%)	41 (8%)
2	1001 to 2000	9 (15%)	12 (27%)	42 (16%)	25 (19%)	88 (18%)
3	2001 To 3000	18 (30%)	9 (20%)	75 (29%)	31 (23%)	133 (27%)
4	3001 To 4000	12 (20%)	7 (16%)	37 (14%)	15 (11%)	71 (14%)
5	4001 To 5000	8 (13%)	5 (11%)	38 (15%)	14 (10%)	65 (13%)
6	Above 5000	7 (12%)	4 (9%)	49 (19%)	42 (31%)	102 (20%)
	Total	**60 (100%)**	**45 (100%)**	**260 (100%)**	**135 (100%)**	**500 (100%)**

Source: Field Survey, 2021-22

Table No. 5 shows that the selected 500 households are classified according to their monthly family health expenditure group. Out of the total selected families, most of the families were in the group with a monthly family health expenditure group of 2001 to 3000 (27%).

Table No. 6 : Household Opinion on Government Expenditure on Public Health

Sr. No	The government spends enough on public health.	SC	ST	OBC	OPEN	Total
1	Strongly Agree	3 (5%)	8 (18%)	55 (21%)	28 (21%)	94 (19%)
2	Agree	15 (25%)	10 (22%)	48 (18%)	16 (12%)	89 (18%)
3	Undecided	9 (15%)	5 (11%)	42 (16%)	38 (28%)	94 (19%)
4	Disagree	14 (23%)	8 (18%)	64 (25%)	25 (19%)	111 (22%)
5	Strongly Disagree	19 (32%)	14 (31%)	51 (20%)	28 (21%)	112 (22%)
	Total	**60 (100%)**	**45 (100%)**	**260 (100%)**	**135 (100%)**	**500 (100%)**

Source: Field Survey, 2021-22

Table 6 shows the Likert scale technique for an attempt to know the opinion of the society as to whether the government is spending enough on health or not. From the statistics of the table, we can see that the proportion of those who 'Strongly Disagree' and 'Disagree' with the statement that the government spends on health is adequate was found to be the same 22 per cent.

Table No. 7 : Household Opinion on Role of Government in Public Health

Sr. No	Government Role in Public Health	SC	ST	OBC	OPEN	Total
1	Very Important	36 (60%)	19 (42%)	79 (30%)	42 (31%)	176 (35%)
2	Important	12 (20%)	14 (31%)	95 (37%)	32 (24%)	153 (31%)
3	Moderately Important	9 (15%)	7 (16%)	32 (12%)	29 (21%)	77 (15%)
4	Slightly Important	1 (2%)	4 (9%)	29 (11%)	13 (10%)	47 (9%)
5	Unimportant	2 (3%)	1 (2%)	25 (10%)	19 (14%)	47 (9%)
	Total	**60 (100%)**	**45 (100%)**	**260 (100%)**	**135 (100%)**	**500 (100%)**

Source: Field Survey, 2021-22

Table No. 7 gives the statistics of the reactions of the people to the statement of the role of government is important in public health. The proportion of those who say the role of government is 'Very Important' and 'Important' is found to be 35 per cent and 31 per cent respectively.

Table No. 8 : Awareness of the Government's Health Policy

Sr. No	Government's Health Policy	SC	ST	OBC	OPEN	Total
1	Not at all aware	23 (38%)	21 (47%)	82 (32%)	34 (25%)	160 (32%)
2	Slightly aware	16 (27%)	12 (27%)	91 (35%)	53 (39%)	172 (34%)
3	Moderately aware	9 (15%)	4 (9%)	59 (23%)	31 (23%)	103 (21%)
4	Very aware	10 (17%)	6 (13%)	17 (7%)	8 (6%)	41 (8%)
5	Extremely aware	2 (3%)	2 (4%)	11 (4%)	9 (7%)	24 (5%)
	Total	**60 (100%)**	**45 (100%)**	**260 (100%)**	**135 (100%)**	**500 (100%)**

Source: Field Survey, 2021-22

Table 8 gives the answer to the question of whether you are aware of the government's health policy. Statistics show that the number of people who are aware of the government's health policy is very low.

Table No. 9 : Consumption of Government Medical Services

Sr. No	Consumption of Government Medical Services	SC	ST	OBC	OPEN	Total
1	Never	1 (2%)	0 (0%)	29 (11%)	9 (7%)	39 (8%)
2	Rarely	2 (3%)	1 (2%)	19 (7%)	16 (12%)	38 (8%)
3	Sometimes	4 (7%)	3 (7%)	65 (25%)	39 (29%)	111 (22%)
4	Often	29 (48%)	18 (40%)	103 (40%)	34 (25%)	184 (37%)
5	Always	24 (40%)	23 (51%)	44 (17%)	37 (27%)	128 (26%)
	Total	**60 (100%)**	**45 (100%)**	**260 (100%)**	**135 (100%)**	**500 (100%)**

Source: Field Survey, 2021-22

Table 9 reveals the statistics of the answer to the question of whether to avail of government medical services. The highest percentage (37 per cent) found about who claim to have 'Often' access to government medical facilities.

Table No 10: Types of Nearest Government of Hospital

Sr. No	Type of Nearest Hospital	SC	ST	OBC	OPEN	Total
1	Sub-Centre (SC)	12 (20%)	18 (40%)	27 (10%)	23 (17%)	80 (16%)
2	Primary Health Centre (PHC)	25 (42%)	13 (29%)	107 (41%)	31 (23%)	176 (35%)
3	Community Health Centre (CHCs)	6 (10%)	6 (13%)	49 (19%)	21 (16%)	82 (16%)
4	Sub-District Hospital	9 (15%)	4 (9%)	47 (18%)	19 (14%)	79 (16%)
5	District Hospital	8 (13%)	4 (9%)	30 (12%)	41 (30%)	83 (17%)
	Total	**60 (100%)**	**45 (100%)**	**265 (100%)**	**135 (100%)**	**500 (100%)**

Source: Field Survey, 2021-22

Table 10 illustrates the statistics of the answer to the question of what kind of hospital is nearby. Out of the total 500 selected households, 35 percent have near access to Primary Health Care. This is followed by 17 per cent of the families who feel close to the District Hospital.

Table No.11 : Distance of Government Hospital

Sr. No	Distance of Government Hospital	SC	ST	OBC	OPEN	Total
1	Too Near	29 (48%)	18 (40%)	135 (52%)	66 (49%)	248 (50%)
2	Moderate Near	12 (20%)	9 (20%)	59 (23%)	40 (30%)	120 (24%)
3	Too long	19 (32%)	18 (40%)	66 (25%)	29 (21%)	132 (26%)
	Total	**60 (100%)**	**45 (100%)**	**260 (100%)**	**135 (100%)**	**500 (100%)**

Source: Field Survey, 2021-22

Table 11 shows the statistics of the answer to the question of how far government hospitals are from their homes. According to 50 percent of the selected families, government hospitals are very close to their place of residence, followed by 24% of the families where the government hospitals are at medium distance.

Table No. 12 : Satisfaction Level about the Performance of Government Hospital

Sr. No	Performance of Government Hospital	SC	ST	OBC	OPEN	Total
1	Not at all satisfied	8 (13%)	4 (9%)	42 (16%)	28 (21%)	82 (16%)
2	Slightly satisfied	9 (15%)	5 (11%)	109 (42%)	14 (10%)	137 (27%)
3	Moderately satisfied	15 (25%)	7 (16%)	54 (21%)	22 (16%)	98 (20%)
4	Very satisfied	19 (32%)	11 (24%)	37 (14%)	43 (32%)	110 (22%)
5	Completely satisfied	9 (25%)	18 (40%)	18 (7%)	28 (21%)	73 (15%)
	Total	**60 (100%)**	**45 (100%)**	**260 (100%)**	**135 (100%)**	**500 (100%)**

Source: Field Survey, 2021-22

Table 12 shows the statistics of the answer to the question of whether you are satisfied with the performance of the government hospital. Out of the total households, the percentage of those who say 'Slightly Satisfied' is 27 percent.

Table No. 13: Quality Analysis of Sub-Centers

Sr. No	Quality of Sub-Centers Health Care	SC	ST	OBC	OPEN	Total
1	Excellent	11 (18%)	9 (20%)	38 (15%)	32 (24%)	90 (18%)
2	Good	29 (48%)	19 (42%)	97 (37%)	25 (19%)	170 (34%)
3	Fair	12 (20%)	12 (27%)	42 (16%)	18 (13%)	84 (17%)
4	Poor	5 (8%)	3 (7%)	41 (16%)	19 (14%)	68 (14%)
5	Very Poor	3 (5%)	2 (4%)	42 (16%)	41 (30%)	88 (18%)
	Total	**60 (100%)**	**45 (100%)**	**260 (100%)**	**135 (100%)**	**500 (100%)**

Source: Field Survey, 2021-22

Table 13 demonstrates the statistics on the quality of health services in the sub-centre. Out of a total of 500 households, 34 per cent said that the quality of health services in the sub-center is 'Good'.

Table No. 14 : Quality Analysis of Primary Health Centers

Sr. No	Quality of Primary Health Centers Health Care	SC	ST	OBC	OPEN	Total
1	Excellent	14 (23%)	9 (20%)	39 (15%)	29 (21%)	91 (18%)
2	Good	30 (50%)	22 (49%)	109 (42%)	26 (19%)	187 (37%)
3	Fair	10 (17%)	9 (20%)	37 (14%)	10 (7%)	66 (13%)
4	Poor	4 (7%)	2 (4%)	39 (15%)	14 (10%)	59 (12%)
5	Very Poor	2 (3%)	3 (7%)	36 (14%)	56 (41%)	97 (19%)
	Total	**60 (100%)**	**45 (100%)**	**260 (100%)**	**135 (100%)**	**500 (100%)**

Source: Field Survey, 2021-22

Table 14 displays statistics on the quality of facilities in Primary Health Centers. Out of the total sample families, 37 percent of families say that the services of primary health centres are 'Good' quality.

Table No. 15 : Quality Analysis of Community Health Centers

Sr. No	Quality of Community Health Centers Health Care	SC	ST	OBC	OPEN	Total
1	Excellent	6 (10%)	4 (9%)	28 (11%)	17 (23%)	55 (11%)
2	Good	19 (32%)	17 (38%)	86 (33%)	16 (12%)	138 (28%)
3	Fair	22 (37%)	16 (36%)	72 (28%)	42 (31%)	152 (30%)
4	Poor	6 (10%)	5 (11%)	47 (18%)	29 (21%)	87 (17%)
5	Very Poor	7 (12%)	3 (7%)	27 (10%)	31 (23%)	68 (14%)
	Total	**60 (100%)**	**45 (100%)**	**260 (100%)**	**135 (100%)**	**500 (100%)**

Source: Field Survey, 2021-22

Table 15 shows statistics on the quality of facilities at community health centres. According to the top 30 per cent of the 500 families, the centre provides 'Fair' medical care.

Table No. 16 : Quality Analysis of Sub-District/Sub-Divisional Hospital

Sr. No	Quality of Sub-District/ Sub-Divisional Hospital Health Care	SC	ST	OBC	OPEN	Total
1	Excellent	18 (30%)	15 (33%)	52 (20%)	33 (24%)	118 (24%)
2	Good	21 (35%)	19 (42%)	113 (43%)	60 (44%)	213 (43%)
3	Fair	9 (15%)	4 (9%)	47 (18%)	19 (14%)	79 (16%)
4	Poor	8 (13%)	5 (11%)	34 (13%)	14 (10%)	61 (12%)
5	Very Poor	4 (7%)	2 (4%)	14 (5%)	9 (7%)	29 (6%)
	Total	**60 (100%)**	**45 (100%)**	**260 (100%)**	**135 (100%)**	**500 (100%)**

Source: Field Survey, 2021-22

Table 16 demonstrates the statistics on the quality of health services in the Sub-District/Sub-Divisional Hospital. Out of a total of 500 households, 43 per cent said that the quality of health services in the Sub-District/Sub-Divisional Hospital is 'Good'.

Table No. 17 : Quality Analysis of District Hospital

Sr. No	Quality of District Hospital Health Care	SC	ST	OBC	OPEN	Total
1	Excellent	29 (48%)	18 (40%)	68 (26%)	43 (32%)	158 (32%)
2	Good	23 (38%)	19 (42%)	135 (52%)	67 (50%)	244 (49%)
3	Fair	4 (7%)	4 (9%)	27 (10%)	9 (7%)	44 (9%)
4	Poor	2 (3%)	3 (7%)	21 (8%)	7 (5%)	33 (7%)
5	Very Poor	2 (3%)	1 (2%)	9 (3%)	9 (7%)	21 (4%)
	Total	**60 (100%)**	**45 (100%)**	**260 (100%)**	**135 (100%)**	**500 (100%)**

Source: Field Survey, 2021-22

Table 17 demonstrates the statistics on the quality of health services in the District Hospital. Out of a total of 500 households, 49 per cent said that the quality of health services in the District Hospital is 'Good'.

Table No. 18 : Availability of Beds in Government Hospital

Sr. No	Availability of Government Hospital Beds	SC	ST	OBC	OPEN	Total
1	Never	9 (15%)	7 (16%)	64 (25%)	29 (21%)	109 (22%)
2	Rarely	9 (15%)	12 (27%)	71 (27%)	45 (33%)	137 (37%)
3	Sometimes	25 (42%)	17 (38%)	56 (22%)	27 (20%)	125 (25%)
4	Often	9 (15%)	4 (9%)	26 (10%)	16 (12%)	55 (11%)
5	Always	8 (13%)	5 (11%)	43 (17%)	18 (13%)	74 (15%)
	Total	**60 (100%)**	**45 (100%)**	**260 (100%)**	**135 (100%)**	**500 (100%)**

Source: Field Survey, 2021-22

Table 18 illustrates the statistics to answer the question of whether beds are available on time in government hospitals. According to 37 per cent of the total 500 households, the availability of beds in government hospitals is 'Rare'.

Table No. 19 : Use of Private Hospital for Health Care

Sr. No	Use of Private Hospital Health Care	SC	ST	OBC	OPEN	Total
1	Never	4 (7%)	2 (4%)	14 (5%)	9 (7%)	29 (6%)
2	Rarely	3 (5%)	8 (18%)	12 (5%)	14 (10%)	37 (7%)
3	Sometimes	13 (22%)	12 (27%)	74 (28%)	38 (28%)	137 (27%)
4	Often	21 (35%)	11 (24%)	84 (32%)	36 (27%)	152 (30%)
5	Always	19 (32%)	12 (27%)	76 (29%)	38 (28%)	145 (29%)
	Total	**60 (100%)**	**45 (100%)**	**260 (100%)**	**135 (100%)**	**500 (100%)**

Source: Field Survey, 2021-22

Table 19 depicts the statistics of the answers to the question of whether to go for a health check-up in private hospitals. According to the top 30 per cent of the total selected families, they 'Often' go to private hospitals for health check-ups.

Table No.20: Satisfaction Level about Performance of the Private Hospital

Sr. No	Performance of Private Hospital	SC	ST	OBC	OPEN	Total
1	Not at all satisfied	3 (5%)	3 (7%)	16 (6%)	13 (10%)	35 (7%)
2	Slightly satisfied	5 (8%)	4 (9%)	17 (7%)	14 (10%)	40 (8%)
3	Moderately satisfied	12 (20%)	7 (16%)	58 (22%)	19 (14%)	96 (19%)
4	Very satisfied	18 (30%)	16 (36%)	84 (32%)	44 (33%)	162 (32%)
5	Completely satisfied	22 (37%)	15 (33%)	85 (33%)	45 (33%)	167 (33%)
	Total	**60 (100%)**	**45 (100%)**	**260 (100%)**	**135 (100%)**	**500 (100%)**

Source: Field Survey, 2021-22

Table 20 shows the statistics to answer the question of whether you are satisfied with the performance of private hospitals. Out of the total 500 sample families, the top 30 per cent and 32 per cent said they were 'Completely Satisfied' and 'Very Satisfied' with the performance of the private hospital.

Table No. 21 : Distance of Private Hospital

Sr. No	Distance of Private Hospital	SC	ST	OBC	OPEN	Total
1	Too Near	31 (52%)	21 (47%)	154 (59%)	77 (57%)	283 (57%)
2	Moderate Near	15 (25%)	11 (24%)	84 (32%)	39 (29%)	149 (30%)
3	Too long	14 (23%)	13 (29%)	22 (8%)	19 (14%)	68 (14%)
	Total	60 (100%)	45 (100%)	260 (100%)	135 (100%)	500 (100%)

Source: Field Survey, 2021-22

Table 21 reveals the statistics of the answer to the question of how far private hospitals are from residential houses. According to 57 per cent of the families surveyed, the distance from their place of residence to a private hospital is 'Very Short or Too Near'.

Table No. 22: Household Preference for Hospital

Sr. No	Hospital Preference	SC	ST	OBC	OPEN	Total
1	Private	7 (12%)	10 (22%)	58 (22%)	29 (21%)	104 (21%)
2	Government	11 (18%)	9 (20%)	26 (10%)	21 (16%)	67 (13%)
3	Both	42 (70%)	26 (58%)	176 (68%)	85 (63%)	329 (66%)
	Total	60 (100%)	45 (100%)	260 (100%)	135 (100%)	500 (100%)

Source: Field Survey, 2021-22

Table 22 exhibits the statistics of the answer to the question of which hospital to choose for medical treatment. Out of the total 500 families, the highest percentage (66%) of households opt for medical treatment at both private and government hospitals.

Table No. 23 : Study of Maternity Locations

Sr. No	Place of Deliveries	SC	ST	OBC	OPEN	Total
1	Hospital/Institutional Deliveries	42 (70%)	25 (56%)	217 (83%)	111 (82%)	395 (79%)
2	Home Deliveries	18 (30%)	20 (44%)	43 (17%)	24 (18%)	105 (21%)
	Total	**60 (100%)**	**45 (100%)**	**260 (100%)**	**135 (100%)**	**500 (100%)**

Source: Field Survey, 2021-22

Table 23 shows the statistics of the answer to the question of where the family delivery took place. Out of the total families, 79 per cent of the women in the family gave birth in a government or private hospital.

Table No. 24: Status of Child Mortality

Sr. No	Status of Child Mortality	SC	ST	OBC	OPEN	Total
1	Never	46 (77%)	28 (62%)	234 (90%)	121 (90%)	429 (86%)
2	Rarely	12 (20%)	10 (22%)	14 (5%)	7 (5%)	43 (9%)
3	Sometimes	2 (3%)	7 (16%)	12 (5%)	6 (4%)	28 (5%)
4	Often	(0%)	(0%)	(0%)	1 (1%)	0 (0%)
5	Always	(0%)	(0%)	(0%)	(0%)	0 (0%)
	Total	**60 (100%)**	**45 (100%)**	**260 (100%)**	**135 (100%)**	**500 (100%)**

Source: Field Survey, 2021-22

Table 24 shows statistics to answer the question of whether child mortality is found in your area. It is clear from the statistics that the number of those who say 'Often' and 'Always' Child Mortality is almost zero. Only one family in the general class was found to have 'Frequent' child mortality in their area.

Table No. 25: Status of Infant Mortality

Sr. No	Status of Infant Mortality	SC	ST	OBC	OPEN	Total
1	Never	52 (86%)	34 (76%)	249 (96%)	129 (96%)	464 (92%)
2	Rarely	7 (12%)	7 (16%)	8 (3%)	4 (2%)	26 (5%)
3	Sometimes	1 (2%)	4 (9%)	3 (1%)	1 (1%)	9 (2%)
4	Often	0 (0%)	0 (0%)	0 (0%)	1 (1%)	1 (1%)
5	Always	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	Total	**60 (100%)**	**45 (100%)**	**260 (100%)**	**135 (100%)**	**500 (100%)**

Source: Field Survey, 2021-22

Table 25 shows statistics to answer the question of whether infant mortality is found in your area. It is clear from the statistics that the number of those who say 'Often' and 'Always' Child Mortality is almost zero. Only one family in the general class was found to have ' Often' infant mortality in their area.

Table No. 26: Status of Maternal Mortality

Sr. No	Status of Maternal Mortality	SC	ST	OBC	OPEN	Total
1	Never	48 (80%)	28 (62%)	230 (88%)	118 (87%)	424 (85%)
2	Rarely	10 (17%)	10 (22%)	14 (5%)	11 (8%)	45 (9%)
3	Sometimes	2 (3%)	7 (16%)	16 (6%)	6 (4%)	31 (6%)
4	Often	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
5	Always	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	Total	**60 (100%)**	**45 (100%)**	**260 (100%)**	**135 (100%)**	**500 (100%)**

Source: Field Survey, 2021-22

Table 26 shows statistics to answer the question of whether maternal mortality is found in your area. It is clear from the statistics that the number of those who say 'Often' and 'Always' maternal mortality is almost zero. About 6 per cent of those who say "Sometimes" maternal mortality is found.

Table No. 27 : Information of Children Vaccination

Sr. No	On Time Children Vaccination	SC	ST	OBC	OPEN	Total
1	Never	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
2	Rarely	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
3	Sometimes	4 (7%)	6 (13%)	14 (5%)	8 (6%)	32 (6%)
4	Often	12 (20%)	14 (31%)	27 (10%)	9 (7%)	62 (12%)
5	Always	44 (73%)	25 (56%)	219 (84%)	118 (87%)	406 (81%)
	Total	**60 (100%)**	**45 (100%)**	**260 (100%)**	**135 (100%)**	**500 (100%)**

Source: Field Survey, 2021-22

Table 27 provides statistics to answer the question of whether children in the family are vaccinated on time. Out of the total households, 81 per cent and 12 per cent households say that children in 'Always' and 'Often' families get vaccinated on time.

Table No. 28.: Study of Non-Communicable Diseases

Sr. No	Name of Non-Communicable Diseases	SC	ST	OBC	OPEN	Total
1	Heart Disorders	12 (20%)	7 (16%)	54 (21%)	33 (24%)	106 (21%)
2	Cancers	21 (35%)	17 (38%)	81 (31%)	40 (30%)	159 (32%)
3	Suicides	1 (2%)	1 (2%)	3 (1%)	7 (5%)	12 (2%)
4	Diabetes	21 (35%)	17 (38%)	102 (39%)	42 (31%)	182 (36%)
5	Chronic Kidney Disease	3 (5%)	2 (4%)	11 (4%)	7 (5%)	23 (5%)
6	Alzheimer's Disease	2 (3%)	1 (2%)	9 (3%)	6 (4%)	18 (4%)
	Total	60 (100%)	45 (100%)	260 (100%)	135 (100%)	500 (100%)

Source: Field Survey, 2021-22

Table 28 shows the statistics of the answer to the question of which non-communicable diseases are predominant. According to 36 per cent of the total sample households, diabetes is the most common form of the disease. This is followed by 32% of households.

Table No. 29: Study of Communicable Diseases

Sr. No	Name of Communicable Diseases	SC	ST	OBC	OPEN	Total
1	Gastro and Acute Diarrhoeal	12 (20%)	12 (27%)	74 (28%)	33 (24%)	131 (26%)
2	Typhoid, Malaria and Tuberculosis, COVID-19	23 (38%)	17 (38%)	81 (31%)	40 (30%)	161 (32%)
3	Measles, Viral Hepatitis and Pneumonia	8 (13%)	5 (11%)	52 (20%)	12 (9%)	77 (15%)
4	Acute Respiratory Infection and Cholera	14 (23%)	9 (20%)	42 (16%)	42 (31%)	107 (21%)
5	Chikungunya and Whooping Cough	3 (5%)	2 (4%)	11 (4%)	8 (6%)	24 (5%)
	Total	60 (100%)	45 (100%)	260 (100%)	135 (100%)	500 (100%)

Source: Field Survey, 2021-22

Table 29 shows the statistics of the answer to the question of which non-communicable diseases are mainly found. According to most 32 per cent of the total sample households, Typhoid, Malaria and Tuberculosis, COVID-19 are the most common form of the disease.

Table No. 30: Tools of Family Planning

Sr. No	Name of Tools	SC	ST	OBC	OPEN	Total
1	Abortion	5 (8%)	2 (4%)	21 (8%)	16 (12%)	44 (9%)
2	Condom	9 (15%)	10 (22%)	52 (20%)	28 (21%)	99 (20%)
3	Oral Pill	15 (25%)	14 (31%)	58 (22%)	34 (25%)	121 (24%)
4	IUD Insertions	31 (52%)	19 (42%)	129 (50%)	57 (42%)	236 (47%)
	Total	**60 (100%)**	**45 (100%)**	**260 (100%)**	**135 (100%)**	**500 (100%)**

Source: Field Survey, 2021-22

Table 30 reveals the statistics of the answer to the question of which tools are mainly used for family planning. According to 47 per cent of the 500 households, IUD inserts are the most widely used form of family planning.

Table No. 31 : Status of Vaccination against COVID-19

Sr. No	Status of Vaccination against COVID-19	SC	ST	OBC	OPEN	Total
1.	Partially	19 (32%)	21 (47%)	87 (33%)	35 (26%)	162 (32%)
2.	Fully Vaccinated	17 (28%)	12 (27%)	120 (46%)	76 (56%)	225 (45%)
3.	Not Vaccinated	24 (40%)	12 (27%)	53 (20%)	24 (18%)	113 (23%)
	Total	**60 (100%)**	**45 (100%)**	**260 (100%)**	**135 (100%)**	**500 (100%)**

Source: Field Survey, 2021-22

Table 31 illustrates the statistics of the answer to the question of whether COVISHIELD and COVAXIN have been vaccinated. Out of the total study samples, 45% of the households were found to be fully vaccinated.

Table No. 32: Household Satisfaction Level about Performance of Government Health Sector in the Corona epidemic.

Sr. No	Performance of the Government Health Sector	SC	ST	OBC	OPEN	Total
1	Not at all satisfied	4 (7%)	5 (11%)	19 (7%)	8 (6%)	36 (7%)
2	Slightly satisfied	8 (13%)	4 (9%)	21 (8%)	9 (7%)	42 (8%)
3	Moderately satisfied	11 (18%)	9 (20%)	24 (9%)	19 (14%)	63 (13%)
4	Very satisfied	24 (40%)	14 (31%)	148 (57%)	69 (51%)	255 (51%)
5	Completely satisfied	13 (22%)	13 (29%)	48 (18%)	30 (22%)	104 (21%)
	Total	**60 (100%)**	**45 (100%)**	**260 (100%)**	**135 (100%)**	**500 (100%)**

Source: Field Survey, 2021-22

Table 6.40 displays the statistics of the answer to the question about Household Satisfaction Level regarding Performance of the Government Health Sector in the Corona epidemic. Out of the total sample households, 51 per cent said that the performance of the government medical sector during Corona's pandemic was 'Very Satisfied'.

Table No. 33: Study of Determinants of Health Service

Sr. No	Determinants of Health Service	SC	ST	OBC	OPEN	Total
1	Individual and Family Income and Social Status	12 (20%)	9 (20%)	57 (22%)	34 (25%)	112 (22%)
2	Social Support Network, Physical Environment (Air quality, Water quality, Safe houses etc.,)	7 (12%)	5 (11%)	40 (15%)	13 (10%)	65 (13%)
3	Availability of types of Hospital (Private & Government)	5 (8%)	4 (9%)	19 (7%)	11 (8%)	39 (8%)
4	Need of for Disease/ Physical Requirement/ Need of the Family, Education and Literacy	27 (45%)	15 (33%)	98 (38%)	48 (36%)	188 (38%)
5	Over Dependence of Family/ Employment and Working Conditions	9 (15%)	12 (27%)	46 (18%)	29 (21%)	96 (19%)
	Total	**60 (100%)**	**45 (100%)**	**260 (100%)**	**135 (100%)**	**500 (100%)**

Source: Field Survey, 2021-22

Table 33 shows the determinants of family health care. According to 38 per cent of households, medical services are required in case of illness of a family member, while family education and literacy are important determinants of healthcare.

Table No. 34: Household Expectations from Government Health Sector

Sr. No	Expectations of Household	SC	ST	OBC	OPEN	Total
1	Increasing Spending	5 (8%)	12 (27%)	46 (18%)	35 (26%)	98 (20%)
2	Increase Number of Hospitals; 24 hours service should be available in every government hospital	3 (5%)	14 (31%)	26 (10%)	18 (13%)	61 (12%)
3	The quality of medical facilities should be improved; Medical services in government hospitals should be received on time; There should be cleanliness; All necessary doctor appointments should be made.	38 (63%)	16 (36%)	111 (43%)	49 (36%)	214 (43%)
4	Provide Subsidized Private Hospital Facility	2 (3%)	1 (2%)	27 (10%)	15 (11%)	45 (9%)
5	Healthcare should be available at low cost; Complete treatment should be free	10 (17%)	1 (2%)	24 (9%)	9 (7%)	44 (9%)
6	The government should control the private health sector; Political interference should be reduced	2 (3%)	1 (2%)	26 (10%)	9 (7%)	38 (8%)
	Total	**60 (100%)**	**45 (100%)**	**260 (100%)**	**135 (100%)**	**500 (100%)**

Source: Field Survey, 2021-22

Table 34 sets out the expectations of the community from the health sector. According to the majority of families (43%), the quality of medical care needs to be improved, government medical services should be provided to the people on time, hospitals should be kept clean and appointments of all necessary doctors should be made permanent.

Table No. 35: Household Knowledge Index about Government Health Emergency Facilities

Sr. No	Name of Emergency Services	SC	ST	OBC	OPEN	Total Score	Emergency Service Awareness Rank
	The following FREQUENCIES and PERCENTAGES indicate the frequency of 'YES'						
1	Ambulance (102/108)	49 (82%)	34 (76%)	239 (92%)	101 (75%)	423 (85%)	*1*
2	Pregnancy (104)	16 (27%)	7 (16%)	42 (16%)	38 (28%)	103 (21%)	*8*
3	Accident (108)	42 (70%)	34 (76%)	198 (76%)	92 (68%)	366 (73%)	*3*
4	Poisoning (112)	3 (5%)	2 (4%)	9 (3%)	7 (5%)	21 (4%)	*9*
5	Fire (102)	39 (65%)	27 (60%)	179 (69%)	93 (69%)	338 (68%)	*4*
6	Child Birth (102)	31 (52%)	19 (42%)	109 (42%)	79 (59%)	238 (48%)	*7*
7	Medical (108)	41 (68%)	32 (71%)	167 (64%)	91 (67%)	331 (66%)	*5*
8	Blood Bank (104)	43 (72%)	37 (82%)	192 (74%)	100 (74%)	372 (74%)	*2*
9	Covid (020-26127394)	31 (52%)	24 (53%)	145 (56%)	84 (62%)	284 (57%)	*6*
The frequency of each of the above answers is out of =		60 (100%)	45 (100%)	260 (100%)	135 (100%)	500 (100%)	

Source: Field Survey, 2021-22

Table 34 shows the level of family knowledge about emergency services in the health sector. It also examines the extent to which people are aware of the above emergency medical services. Here are the statistics of the families who said only 'YES'. Out of a total of 500 households, 423 (85 %) families are aware of the first listed 'Ambulance' emergency service and service contact numbers.

IV) MAJOR CONCLUSIONS AND POLICY SUGGESTIONS:

Scheduled Tribes' families spends less on health than others. The families belonging to the Scheduled Castes and Scheduled Tribes were more dissatisfied with the government's health expenditure than others. Similarly, most OBC and Open class families were dissatisfied with the government expenditure. The role of government in public health is considered more critical for the Scheduled Castes and Scheduled Tribes families than the General and Other Backward Classes. The families belonging to Scheduled Castes and Scheduled Tribes appear to be relatively unaware of the government's health policy. The majority of the people in the society are dissatisfied with the current health policy of the Government of Maharashtra. The Scheduled Tribes families are the biggest beneficiaries of government medical services, followed by Scheduled Castes, Other Backward Classes and General Classes. The Primary health centers were set up in every village. Scheduled Caste and Scheduled Tribe families are still far away from towns and cities, so they feel distant from District Hospitals and Sub-District Hospitals. Scheduled Castes and Scheduled Tribes families feel that government hospitals are far away from their residences than the others. The families of Scheduled Castes and Scheduled Tribes look to District Hospitals as a last resort in critical and costly health conditions. The beds in government hospitals are often unavailable. Almost all the families in the surveyed area go to private hospitals for medical check-ups and treatment. Nearly all the families in the studied area were found to be satisfied with the performance of private hospital medical services. Private medical health care facilities have reached everyone's doorstep in the modern age. The surveyed families prefer both types of hospital (Private and Public) services for medical treatment. Most family women give birth in hospitals due to increasing government and private medical care facilities in state and country. Although the infant mortality rate appears to be declining, the comparatively 'Rarely' and 'Sometimes' infant mortality is found in the Scheduled Castes and Scheduled Tribes. The maternal mortality rate is comparatively higher in SCs and STs followed by other backward classes and general

classes. Even though the government does not have statistics on registered feticide (abortions), the preliminary survey shows that abortions still occur in society. Every family is participating in the government's child immunization campaign. However, children in some families are sometimes vaccinated on time. These families belong the Scheduled Castes and Scheduled Tribes, followed by the General Class and Other Backward Classes. The prevalence of non-communicable diseases like diabetes, cancer, heart disease is high.

The government should make efforts to reduce the rural fertility rate with appropriate measures such use of contrapective methods, education and awareness. The government should make efforts to reduce the general and marital fertility rate in rural areas through awareness programme. The government needs to make efforts to reduce the overall mortality rate in rural areas. More research is needed to control non-communicable diseases of cancer. Special area development programs should be implemented to reduce Nutritional Anemia and Malnutrition among women. The Government official system should be developed for the registration of private doctors. Government total social service (medical, public health and family welfare) expenditure needs to be increased continuously. It is necessary to set up a health information cell at the local level to inform the Scheduled Castes and Scheduled Tribes about their government medical policies. Scheduled Castes and Scheduled Tribes families live far away from government hospitals; they should be provided medical facilities in their area. Adequate number of beds should be made available in government hospitals at local level in case of emergency. Try to increase the adequate number of beds in the rural health centres through public-private partnership. Government should give the permission to any one private hospital of every village as a representative of a government hospital and let them provide the necessary facilities for this dispensary or hospitals. As infant mortality, infant mortality and maternal mortality rates are comparatively higher among the Scheduled Castes and Scheduled Tribes, the Government should implement a special class medical program. The government should set up a health intelligence

organization to detect and control feticide. The role of women in family planning programs seems to be relatively important (use of IUD and Oral pills is higher than condoms and Male Sterilization).

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8 भारत–नेपाल समकालीन संबंधों में बढ़ता चीनी हस्तक्षेप : चुनौतियाँ एवं संभावनाएं

स्नेहा यादव

डॉ. प्रल्हाद माने

शोधसार :

नेपाल भारत का महत्वपूर्ण पड़ोसी देश है जिसकी सीमाएं भारत से मिलती हैं। भारत नेपाल के संबंध प्राचीन काल से प्रगाढ़ और समृद्ध रहे हैं। यह न केवल सामरिक संबंध अपितु दोनों देशों के मध्य रोटी–बेटी का भी संबंध है। यही कारण है नेपाल और भारत के संबंध केवल राजनयिक एवं अंतर देशीय स्तर पर न होकर भावनात्मक रूप से भी जुड़े हुए हैं। नेपाल में सत्ता के स्थिरता के कारण वहाँ स्थायी सरकार शासन का संचालन नहीं कर पाती हैं। जब भी नेपाल में कम्युनिस्ट पार्टी की सरकार बनती है तो चीन का समर्थन करती है जबकि अन्य राजनीतिक दल भारत का समर्थन करती है। चीन नेपाल में अपनें प्रभाव को बढ़ा रहा है जिससे भारत और नेपाल के संबंधों में प्रत्यक्ष प्रभाव देखने को मिलता है। चीन अपने निवेश के अलग-अलग संरचनाएं नेपाल में विकसित कर रहा है। व्यापार के नए रास्ते नेपाल में बना रहा है। यह सब चीन के हस्तक्षेप नेपाल में बढ़ रहे है। जबकि भारत नेपाल का एक महत्वपूर्ण पड़ोसी देश है जो एतिहासिक, भौगोलिक, सांस्कृतिक, आर्थिक एवं धार्मिक संबंधों के कारण भारतीय विदेश नीति में महत्वपूर्ण स्थान रखता है। नेपाल अपनी कई जरूरतों के लिए भारत पर निर्भर है, लेकिन वर्तमान में वह भारत पर अपनी निर्भरता कम करने की कोशिश कर रहा है। जिससे भारत के व्यापार संतुलन पर नकारात्मक प्रभाव डाल सकता है। यह अध्ययन नेपाल में चीन के बढ़ते प्रभाव भारत–नेपाल संबंधों और व्यापक क्षेत्रीय स्थिरता के लिए इसके निहितार्थों के प्रभाव की आलोचनात्मक जांच करता है। यह शोध पत्र विषय संबंधित पुस्तकों, शोध–पत्रों, सरकारी आंकड़ों एवं समाचार पत्र से प्राप्त जानकारी के आधार पर इन सभी तथ्यों का विश्लेषणात्मक अध्ययन किया गया है।

१. शोधार्थी राजनीति विज्ञान एवं मानवाधिकार विभाग, इंदिरा गांधी राष्ट्रीय जनजातीय केंद्रीय विश्वविद्यालय, अमरकंटक (मध्य प्रदेश)

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कुंजी शब्द :

भारत–नेपाल आर्थिक संबंध, चीनी हस्तक्षेप, विस्तारवादी नीति, विदेश नीति, भू-राजनीतिक गतिशीलता,

भूमिका :

भारत और नेपाल के मध्य प्रारंभ से ही आत्मीय संबंध रहे हैं। नेपाल भारत का महत्वपूर्ण पड़ोसी देश है। नेपाल और भारत के बीच उत्कृष्ट द्विपक्षीय संबंध हैं। इतिहास, संस्कृति, परंपरा और धर्म के सदियों पुराने संबंध पर आधारित, ये संबंध घनिष्ठ व्यापक और बहुआयामी हैं और एक–दूसरे के साथ ऐतिहासिक, सामाजिक, सांस्कृतिक, धार्मिक और आर्थिक जुड़ाव में अधिक स्पष्ट होते हैं। ऐसे ऐतिहासिक संबंधों में औपचारिकता जोड़ने के लिए, दोनों देशों ने १७ जून १९४७ को राजनयिक संबंध स्थापित किए। शांतिपूर्ण सह–अस्तित्व, संप्रभु समानता और एक–दूसरे की आकांक्षाओं और संवेदनाओं को समझने के सिद्धांतों के प्रति अटूट प्रतिबद्धता वह मजबूत आधार रही है जिस पर हमारे द्विपक्षीय संबंध और आगे बढ़े हैं।

अपने पड़ोसी देशों के साथ सौहार्दपूर्ण और मैत्रीपूर्ण संबंधों को विकसित करने और बढ़ावा देने की नेपाल की गंभीर इच्छा भारत के प्रति शत्रु किसी भी तत्व द्वारा अपने क्षेत्र का दुरुपयोग नहीं करने देने की उसकी दीर्घकालिक स्थिति में परिलक्षित होती है और वह उससे भी उसी प्रकार की पारस्परिकता और आश्वासन की अपेक्षा करता है। दोनों देशों के बीच खुली सीमा हमारे संबंधों की एक अनूठी विशेषता बनी हुई है। बिना किसी प्रतिबंध के फ्रंटियर ने हमारे लोगों को एक–दूसरे के क्षेत्र में मुक्त आवाजाही की सुविधा प्रदान की है और बातचीत को बढ़ाया है।

भारत के संबंध केवल उसके विदेश नीति की दृष्टिकोण से नहीं, अपितु उसके घरेलू नीति से भी महत्व रखते हैं। इनमें दोनों देशों के बीच परस्पर, भू-राजनीतिक,एवं आर्थिक संबंधों की व्यापकता, खुली सीमा और भारत के लिए परिणामी सुरक्षा समस्याएं, नेपाल में पूर्ण भारतीय मुद्रा परिवर्तनीयता भारतीय सेना में गोरखा सैनिकों की उपस्थिति, भारत में काम कर रहे लाखों नेपाली और नेपाल से प्रमुख नदियों का प्रवाह यह सभी आयाम घनिष्ठता और आत्मीयता की नींव रखते हैं। दोनों देशों के नागरिकों के बीच संपर्क, सामाजिक निकटता और पारिवारिक संबंधों के साथ-साथ 'रोटी-बेटी' का रिश्ता भी है, जो राजनीतिक पहलू से हटकर भावात्मक और सामाजिक संबंधों का अविरल संकेत देता है।

नेपाल भारत के साथ दक्षेस, बिम्सटेक और नैम जैसे संगठनों का सदस्य भी है। भारत की सिफारिश से १५ दिसंबर १९५५ को 'संयुक्त राष्ट्र संघ' का सदस्य भी बना। २६ मई २०१४ को भारत के १४वें' प्रधानमंत्री

नरेंद्र मोदी' जी ने अपने शपथ समारोह में पड़ोसी देशों के राष्ट्राध्यक्षों को आमंत्रित किया, जिसमें नेपाल के प्रधानमंत्री 'सुशील कोइराला' भी सम्मिलित हुए थे। 'प्रथम पड़ोसी' नीति के तहत मोदी जी ने ३–४ अगस्त २०१४, २५ –२७ नवंबर २०१४ एवं ११– १२ मई २०१८ को नेपाल की यात्रा की, जिसमें दोनों देशों ने समझौतों और परियोजनाओं पर हस्ताक्षर किए। भारत की ओर से आर्थिक अनुदान भी दिया गया।

नेपाल भारतीय उपमहाद्वीप का एक भाग है। जिसकी तीन ओर से पश्चिमी, पूरब और दक्षिण सीमाएं भारत से मिलती हैं।भारत और नेपाल के मध्य रिश्ते सामान्य होने पर कोई विवाद नहीं होता परंतु जैसे ही राजनैतिक उतार–चढ़ाव होते हैं–वैसे दिल्ली और काठमांडू के मध्य पुराने और नए विवाद विस्फोटक संकट का रूप धारण कर लेते हैं।इन्हीं परिस्थितियों का लाभ उठाकर भारत विरोधी शक्तियां यथा चीन तथा पाकिस्तान वहां सक्रिय होकर भारत की सुरक्षा के लिए गंभीर चुनौती उत्पन्न करने लगते हैं। राजनैतिक रूप से दोनों के मध्य संबंधों की शुरूआत 'सुगौली संधि' (१८१६) और 'शांति एवं मित्रता' सन (१९५०) से होती है, जिसमें दोनों के मध्य रक्षा, सैन्य, व्यापार, वाणिज्य एवं नागरिक आवागमन की छूट पर समझौता हुए थे। डॉक्टर एस. एस. राजन के शब्दों में–भाषा, धर्म देवी देवताओं तथा खान–पान के क्षेत्र में जितना अधिक नजदीक भारत तथा नेपाल हैं उतना दुनिया का कोई अन्य देश नहीं है।

वर्तमान समय में नेपाल की निकटता भारत की अपेक्षा चीन से बढ़ रही है। चीन भारी मात्रा में वहां निवेश कर रहा है।भारत नेपाल के संबंधों में तनाव चल रहा है। तनाव के कई कारण हैं, जिसमें नए संविधान का निर्माण, (२० सितंबर २०१५) मधेशी समस्या, चीन से निकटता, माओवादियों में सत्ता परिवर्तन, कालापानी, लिपियाधूरा और लिपुलेख जैसे मुद्दे आदि हैं। नेपाल भारत के लिए सामरिक दृष्टि से बहुत महत्वपूर्ण है, क्योंकि भारत का अधिकतम व्यापार नेपाल से होता है।साथ हीयदि चीन का हस्तक्षेप बढ़ता है तो सुरक्षा की दृष्टि से भी खतरा है।

उद्देश्य:

१.   भारत– नेपाल संबंधों में चीनी हस्तक्षेप के प्रभाव का विश्लेषणात्मक अध्ययन करना।

२.   नेपाल पर चीन के बढ़ते प्रभाव के कारणों को पहचान करना।

३.   भारत एवं नेपाल के मध्य आर्थिक एवं रणनीतिक परियोजनाओं का अध्ययन करना।

४.   क्षेत्रीय सुरक्षा की दृष्टि से नेपाल के बदलते स्वरूप का मूल्यांकन करना।

शोध प्रविधि :

प्रस्तुत शोध पत्र में द्वितीयक स्रोतों का प्रयोग किया गया है जिनमें विषय से संबंधित प्रमुख पुस्तकें, शोध पत्र, सरकारी आँकड़ें, सरकारी वेबसाईटस,पत्रिकाओं के आलेख एवं समाचार पत्रों में प्रकाशित आलेखों का अध्ययन कर शोध पत्र में स्रोत के रूप में प्रयोग किया गया है। प्रस्तुत शोध पत्र गुणात्मक, वर्णनात्मक एवं ऐतिहासिक पद्धति पर आधारित है। इसमें अवलोकन पद्धति का भी प्रयोग किया गया है क्योंकि अध्येता के द्वारा पिछले ७० वर्षों के संबंधों का अवलोकन किया गया हैं।

ऐतिहासिक और सांस्कृतिक संबंध :

भारत और नेपाल बहुत घनिष्ठ ऐतिहासिक और सांस्कृतिक संबंध साझा करते हैं, जो उनके संबंधों का आधार रहा है। प्राचीन भारतीय महाकाव्य, रामायण में बताया गया है, अयोध्या के भगवान राम का विवाह जनकपुर की देवी सीता से हुआ था। महाभारत में कुरुक्षेत्र के युद्ध में किरात पांडव सेना का एक महत्वपूर्ण हिस्सा थे। छठी शताब्दी ईसा पूर्व के दौरान, मगध और शाक्य गणराज्यों ने वर्तमान भारत–नेपाल सीमा के दोनों ओर के क्षेत्रों पर कब्जा कर लिया था। राजकुमार सिद्धार्थ का जन्म ५६६ ईसा पूर्व में शाक्य शासकों की राजधानी कपिलवस्तु के निकट लुंबिनी में हुआ था, जो अब नेपाल में है। उन्होंने वाराणसी के पास सारनाथ में निर्वाण प्राप्त किया, एक शहर जिसका नेपाल से संबंध इतिहास जितना पुराना है। स्कंदपुराण के कुछ दुर्लभ ग्रंथ नेपाल में संरक्षित हैं, ८१० ई. की ताड़पत्र पांडुलिपियाँ जो काठमांडू में उपलब्ध हैं। काशी नेपाली तीर्थयात्रियों, पुजारियों और एक समय में निर्वासित लोगों का भी केंद्र रहा है। जब राजा राजेंद्र को अपने निर्वासन के लिए गंतव्य चुनने के लिए कहा गया, तो उन्होंने १८४६ में वाराणसी को चुना। के.पी. भट्टाराई का जन्म वाराणसी में हुआ था। वह भारत में ब्रिटिश राज और नेपाल में राणा शासन के खिलाफ भारतीय स्वतंत्रता आंदोलन में शामिल हुए। बनारस भी उन प्रमुख स्थानों में से एक था जहां राणा विरोधी आंदोलन शुरू हुआ था। कॉलोनी दुग्धविनायक को नेपाली कॉलोनी के नाम से जाना जाता है और इस कॉलोनी में बोली जाने वाली भाषा नेपाली है। बनारस हिंदू विश्वविद्यालय (बीएचयू) नेपाली छात्रों और बुद्धिजीवियों का मुख्य केंद्र था। कृष्ण प्रसाद कोइराला अपने परिवार के ४० से अधिक सदस्यों के साथ १९१७ में बनारस में रहते थे। उन्होंने गोरखाली और जन्मभूमि प्रकाशन शुरू किए, जिसमें राणा शासन के अत्याचारों और अन्यायों पर प्रकाश डाला गया। कोइराला भी असहयोग आंदोलन में शामिल हो गए और उन्हें भारतीय राष्ट्रीय कांग्रेस की औपचारिक सदस्यता मिल गई। १९४७ में, नेपाल राष्ट्रीय कांग्रेस ने अपना प्रधान कार्यालय बनारस में स्थापित करने का निर्णय लिया, जबकि के. पी. भट्टाराई कार्यालय का नेतृत्व कर रहे थे। दूसरी ओर, नेपाल कम्युनिस्ट पार्टी की स्थापना १९५० में पुष्प लाल श्रेष्ठ द्वारा कलकत्ता

में की गई थी। अखिल भारतीय गोरखा लीग का गठन १९२१ में देहरादून में किया गया था। १८१५ से, सुगौली की संधि के बाद, नेपालियों को ब्रिटिश भारतीय/भारतीय सेना में भर्ती किया जाने लगा। पूर्व गोरखा रेजिमेंट कर्मियों को मिलने वाली पेंशन (६१५ मिलियन) नेपाल के वार्षिक बजट (४५० मिलियन) से अधिक है। वर्तमान समय में भी, प्रचंड अपने माओवादी आंदोलन के दौरान अधिकांश समय भारत में रहे।शांति और मित्रता संधि (१९५०) के माध्यम से भारत और नेपाल के बीच एक विशेष संबंध है, जिसने नेपालियों के लिए भारत में राष्ट्रीय अधिकारों का आनंद लेने की नींव रखी, जिससे वे भारत सरकार और सुरक्षा बलों में सेवा करने के योग्य बन गए। दोनों सेनाओं के बीच एक परंपरा भी है एक-दूसरे के सेना प्रमुखों को जनरल की मानद रैंक प्रदान करना।

सामाजिक, सांस्कृतिक और धार्मिक दृष्टि से भारत और नेपाल के बीच कई समानताएँ हैं। भारत और नेपाल के बीच रक्षा, पुलिस, बौद्धिक विकास, सुरक्षा मुद्दे, जल बंटवारा, शैक्षणिक आदान-प्रदान, छात्र प्रवेश आदि सहित अन्य क्षेत्रों में भी घनिष्ठ सहयोग है। भारत और नेपाल के बीच खुली सीमा के कारण लोगों के बीच संबंध बेहतर नहीं हैं।

भारत और नेपाल के बीच रणनीति एवं परियोजनाएं :

अपनी स्वयं की दबावपूर्ण आवश्यकताओं के बावजूद, भारत ने १९४७ में नेपाल के स्वतंत्र होने के बाद से ही उसकी सहायता की है। यह अपने पड़ोसियों का समर्थन करने की भारत की इच्छा और भारतीय नेतृत्व द्वारा अपनाए गए दक्षिण-दक्षिण सहयोग दर्शन के अनुरूप है। क्रियान्वित की गई कुछ प्रमुख परियोजनाएँ इस प्रकार हैं:

बौद्ध संस्कृति और विरासत के लिए अंतर्राष्ट्रीय केंद्र-बौद्ध संस्कृति और विरासत के लिए अंतर्राष्ट्रीय केंद्र एक विश्व स्तरीय संस्थान होगा, जो दुनिया भर के तीर्थयात्रियों और पर्यटकों को बौद्ध धर्म के आध्यात्मिक मूल्यों के सार का अनुभव करने का अवसर प्रदान करेगा।यह सुविधा दुनिया भर से लुम्बिनी आने वाले विद्वानों और बौद्ध तीर्थयात्रियों की सहायता के लिए है।

जलविद्युत परियोजनाएँ-भारत और नेपाल ने पांच समझौतों पर हस्ताक्षर किए, जिनमें सतलुज जल विद्युत निगम (एसजेवीएन) लिमिटेड और नेपाल विद्युत प्राधिकरण (एनईए) के बीच ४९०.२ मेगावाट अरुण-४ जलविद्युत परियोजना के निर्माण और कार्यान्वयन के लिए एक समझौता शामिल है।नेपाल ने भारतीय कंपनियों से वेस्ट सेती जलविद्युत परियोजना में शामिल होने का भी आग्रह किया है।

एक सैटेलाइट परिसर बनाना– भारत ने रूपनदेही में भारतीय प्रौद्योगिकी संस्थान (आईआईटी) का एक उपग्रह परिसर स्थापित करने का सुझाव दिया है और भारतीय और नेपाली विश्वविद्यालयों द्वारा हस्ताक्षर के लिए समझौते का मसौदा ज्ञापन प्रदान किया है।

पंचेश्वर बहुउद्देशीय परियोजना–नेपाल ने पंचेश्वर बहुउद्देशीय परियोजना, जो नेपाल और भारत के बीच हस्ताक्षरित १९९६ की महाकाली संधि का एक प्रमुख घटक है, और पश्चिम सेती जलविद्युत परियोजना, १,२०० मेगावाट की क्षमता वाली एक जलाशय–प्रकार की परियोजना जैसी लंबित परियोजनाओं की जांच की।

भारत नेपाल संबंधों की समयरेखा –१९५० की भारत–नेपाल शांति और मित्रता संधि भारत–नेपाल संबंधों की आधारशिला है। सदियों के भौतिक, ऐतिहासिक, सांस्कृतिक और आर्थिक संबंधों के कारण नेपाल भारत का एक महत्वपूर्ण पड़ोसी है और इसकी विदेश नीति में इसका विशेष महत्व है। भारत और नेपाल हिंदू धर्म और बौद्ध धर्म के मामले में तुलनीय हैं, बुद्ध की जन्मस्थली लुंबिनी आधुनिक नेपाल में है।

हाल के वर्षों में भारत–नेपाल संबंधों में कई उतार–चढ़ाओ आए हैं। २०१५ में, दोनों देशों के संबंध खराब हो गए, भारत पर संविधान–मसौदा प्रक्रिया में हस्तक्षेप करने और उसके बाद अनौपचारिक प्रतिबंध के लिए दोषी ठहराया गया, जिसने भारत के प्रति लोकप्रिय शत्रुता को बढ़ावा दिया। पूरे देश में सड़कों, हवाई अड्डों और अन्य बुनियादी ढांचे के निर्माण के उद्देश्य से नेपाल २०१७ में चीन के बेल्ट एंड रोड इनिशिएटिव (बीआरआई) में शामिल हुआ। भारत ने बीआरआई का विरोध किया और नेपाल के कार्यों को चीन की ओर एक बदलाव के रूप में देखा गया।नेपाल ने २०१९ में एक नया राजनीतिक मानचित्र प्रकाशित किया जिसमें उत्तराखंड के कालापानी, लिंपियाधुरा और लिपुलेख के साथ–साथ सुस्ता (पश्चिम चंपारण जिला, बिहार) भी शामिल था।

ऐतिहासिक पृष्ठभूमि का विश्लेषणात्मक अध्ययन :नेपालकी नींव 'पृथ्वी नारायण शाह' ने काठमांडू पर फतह कर एकीकृत साम्राज्य की नींव डाली। १८६६ में नेपाल में राणाओं का वर्चस्व हो गया, जिन्होंने सम्राट को शक्तिहीन करके वैश्विक निवेश से काट दिया। तत्पश्चात सम्राट और राणाओं के मध्य समझौता हुआ जिसमें राजाओं को 'पांच सरकार' और राणाओं को 'पांच सरकार' कहा गया। १८१४–१८१६ में 'आंग्ल नेपाल युद्ध' में नेपाल पराजित होता है और सुगौली की संधि होती है जिसमें गोरखाओं को भारतीय सेना में भर्ती किया जाने लगा। यद्यपि, नेपाल पर ब्रिटेन का प्रत्यक्ष नियंत्रण नहीं था परंतु वहां के राजाओं की स्थिति अन्य भारतीय राजाओं जैसे हो गई थी क्योंकि वहां जो ब्रिटिश सलाहकार या राजनीतिक एजेंट

रहता था, उसके परामर्श को अनसुना करना नेपाल नरेश के बस की बात नहीं थी।

जब भारत स्वतंत्र हुआ तो संपूर्ण अंग्रेजी अधिकार उसे उत्तराधिकार के रूप में प्राप्त हुए और शांति एवं मित्रता सन १९५० में हुई। भारत और चीन एशिया की सबसे बड़ी शक्तियां है अगर विश्व परिप्रेक्ष्य में देखा जाए तो लगभग विश्व की एक तिहाई से अधिक जनसंख्या भारत और चीन में निवास करती है। वैश्विक अर्थव्यवस्था में भी दोनों का योगदान है। परन्तु दोनों के मध्य सदैव गतिरोध, विरोध और कूटनीतिक राजनय के खेल चलते रहे है।

चीन की इस समय सीमा बढ़ती ही जा रही है, कोरोना के नैतिक जिम्मेदारी ना लेने और भड़काऊ बयानों के वजह से कुछ दिनो तक उसकी हालत ठीक नहीं थे इसलिए वह चुप भी रहा, उसका कारण अपनी घरेलू नीतियों में संलिप्तता थी। यूरोप और अमेरिका से नकारे जाने के पश्चात वह अपने कदम एशिया में जमाना चाहता है, क्योंकि डोनाल्ड ट्रंप की सरकार ने उसके कई आयात और निर्यात वस्तुओं पर शुल्क में बढ़ोतरी की और चीन के प्रति कड़ा रुख अपना रखा है। एशिया में प्रभुत्व जमाने में उसके मार्ग का बाधक सिर्फ भारत है, क्योंकि अधिकतम अन्य एशियाई देश उसके कर्ज में है, या उनका अधिकतम क्षेत्र पट्टे में लिए तथा विकास के नाम पर लुभावने संरचनाओं के निर्मित आधारों को जोड़कर और आज उसने विश्व के १५० देशों में लगभग ३७५ लाख करोड़ रुपए का क़र्ज़ बांट रखा है। हार्वर्ड यूनिवर्सिटी के वार्षिक रिपोर्टबिजनेस इकोनॉमिक रिव्यू और जर्मनी कील यूनिवर्सिटी की वर्ल्ड इकोनॉमिक रिव्यू के अनुसार चीन ने इतना पैसा बांट रखा है जितना कि वर्ल्ड बैंक और आई.एम.एफ ने भी नहीं दिया। नेपाल के साथ भी चीन का यही हाल है। आज लगभग १२० टन माल प्रतिदिन चीन से नेपाल जाता है। २०१९ में जब १२ अक्टूबर को शी जिनपिंग नेपाल गए उस समय ५६ अरब डॉलर की आर्थिक मदद भी दिया। उसी समय नेपाल ने उसके 'बेल्ट रोड इनिशिएटिव' का समर्थन भी कर दिया था। नेपाल के तरफ ज्यादा रुख करने का आशय यह है कि वह भारत का प्राकृतिक मित्र, आपदाकालिक, और वैश्विक राजनय में समर्थक रहा है। उसने अपनी पहली हकीकत भूटान में दिखाई परन्तु नाकाम रहा, क्योंकि उसने खुलकर भारत का समर्थन किया और सदैव उसके पक्ष में अपने को बनाए रखा।

नेपाल और चीन का प्रमुख दो मार्गों से व्यापार होता है, पहला है रासुवगढ़ी और दूसरा है, तातोपाड़े झामरू इन दोनो मार्गों का बखूबी प्रयोग चीन करते हुए अपने सस्ते परन्तु काम टिकाऊ वस्तुओं से, वहां के ना सिर्फ सरकार बल्कि जनता का समर्थन भी खींच रहा है। के. पी. सरकार पूरी तरह से चीनी निवेश के पक्षधर है, परन्तु यह नहीं देखते कि वर्तमान में प्रत्येक नागरिक पर लगभग ४४ रुपए ४९८ पैसे का क़र्ज़ (उसके नागरिकों पर) है। इसका कारण चीनी निवेश है, क्योंकि उसके निर्मित वस्तुओं के समक्ष उनका

स्थानीय माल टीक ही नहीं पा रहा है और वहां के नागरिकों के द्वारा निर्मित वस्तुएं उनके समक्ष टिक ही नहीं पाती है, क्योंकि उसके निर्मित वस्तुओं इतने सस्ते होते है कि स्थानीय लोग भी पसंद नहीं करते और न खरीदते है, सबसे व्यापारिक कूटनीति चीन की यही होती है कि जिस देश में पहुंच बनाया, बेरोजगारी आ जाती है। आज जिबूती जैसे देश का हाल यह है कि उसके जी. डी. पी. का ७७ प्रतिशत आर्थिक योगदान केवल चीन का होता है। अफ्रीकन देशों के प्रमुख खानों और अन्य जगहों पर उसका प्रभुत्व है और सबसे अधिक वहीं देश क़र्ज़ में भी है। आज नेपाल के घरेलू नीति और सरकार को लेकर चहल –पहल चल रहा है। इस अवसर का भी चीज बखूबी फायदा उठा रहा है। ओली सरकार को कई बार सियासी संकट का सामना करना पड़ा। केपी शर्मा ओली प्रतिनिधि सभा में विश्वासमत हारने के बाद भी अल्पमत सरकार का नेतृत्व कर रहे थे। विद्या देवी भंडारी ने उनकी सिफारिश पर ५ महीने में दूसरी बार २२ मई को प्रति सभा को भंग कर दिया था और देश में १२ तथा १९ नवंबर को चुनाव कराने का ऐलान भी किया था। परंतु पुनः खड़क प्रसाद ओली को प्रधानमंत्री बना रहने दिया गया। सुप्रीम कोर्ट ने भी इस पर संज्ञान लेते हुए उसके कई मंत्रियों नियुक्तियों को असंवैधानिक बताया। चीन इस अवसर का बखूबी फायदा उठा रहा है, क्योंकि वर्तमान ओली सरकार का पूरा झुकाव चीन की ओर है। नेपाल चीन के लिए सामरिक दृष्टि से भी बहुत महत्वपूर्ण है क्योंकि नेपाल तक पहुंच बनाने से उसकी पहुंच भारत तक हो जाएगी।

नेपाल की सरकार को इन तथ्यों से अवगत होना चाहिए। नेपाल से कई नदियां प्रवाहित होकर भारत से गुजर कर अन्य जगह जाती हैं। भविष्य में नेपाल में कई प्रकार के बिजली उत्पादन के निवेश के नाम पर चीन भारत में प्रवाहित होने वाली नदियों में बांध और बिजली उत्पादन के कार्य कर सकता है। नेपाल की अधिकतम सीमाएं भारत से मिलती है। वह भारत का मित्र रहा है। इन आंकलनों को देखकर चीन का रुख उसकी तरफ है। तिब्बत, हांगकांग और पाकिस्तान सभी हिस्सों पर किस तरह अधिकार क्षेत्र जमा रहा है। दूसरा नेपाल एक शांतिप्रिय और मानववादी देश रहा है। २३ वर्षों के पश्चात शी जिनपिंग नेपाल गए थे। उसी समय डॉ. भट्टाचार्य ने इसे ऐतिहासिक दौर बताया। जो प्रधानमंत्री के सुरक्षा सलाहकार है। चीन के विदेश मंत्री वांग यी का यह कथित बयान है कि अपने ५००० हजार साल के इतिहास में चीन ने आक्रामकता और विस्तारवादी नीति नहीं अपनाई है और ना ही उसके जीन में साम्राज्यवाद है । वहीं नेपाल के प्रधानमंत्री कहते है, चीन से सीखना चाहिए की कैसे इतने कम समय में गरीबी से बाहर लोगों को निकाला। अतः दोनो देशों के सोंच और हित एक से दिख रहे है। दोनो देशों के मध्य १४ सूत्रीय समझौते में तो नेपाल और अधिक निवेश का शिकार हो गया है। इसमें एक समझौता यह भी है कि तिब्बत से ग्योरोत पोर्ट को और काठमांडू के मध्य सड़क बनेगी और उसका निर्माण चीन द्वारा किया जायेगा।

इन अवयवों से नेपाल भारत से अपना रिश्ता ही नहीं बल्कि व्यापारिक सम्बन्ध भी छोड़ना चाहता है, परंतु कुछ आवश्यक वस्तुएं ऐसे है जिनको केवल भारत ही निर्यात कर सकता है। इस कारण से नेपाल पूर्णतया भारत से आयात बंद नहीं कर रहा। कई मामलों में यह भी देखा गया है कि वह १९५० की सभी को ना मानने के लिए भी कहता है। उसका तर्क रहता है कि वह समय और परिस्थिति के अनुसार किया गया था।

भारत के लिए नेपाल बहुत महत्वपूर्ण है और नेपाल के लिए भारत। चीन को सड़क निर्माण करना है और अपने सामान के लिए बाजार सलाशनी है इसलिए वह नेपाल पर मेहरबान है। आज अधिकतम देशों में चीन के वस्तुओं का बहिष्कार हो रहा है। ऐसे में वह अपना बाजार कहीं ना कहीं तो ढूंढेगा , नेपाल उसे सस्ता विकल्प मिल रहा है। जो सीमाई दृष्टि से भी उसके लिए जरूरी है, क्योंकि उसकी पहुंच सीधा भारत के अरुणाचल प्रदेश और अन्य जगहों पर भी हो जाएगी। भारत के तराई क्षेत्र पर निवास करने वाले बहुत से नागरिकों के पीने का पानी नेपाल से प्रवाहित होने वाली नदियों से मिलता है। इस तथ्य को भी स्मरण रखना चाहिए। भारत और नेपाल के बीच लोगों से लोगों के बीच संबंध भी पाया जाता है जिसमें आवागमन पर छूट दी गई है। अगर चीन हस्तक्षेप नेपाल में अधिक बढ़ कर रहा है तो इस तथ्य को भी स्मरण में रखना चाहिए। नेपाल की सरकार को इस बात को ध्यान रखना चाहिए कि भारत नेपाल का सनातनी मित्र रहा है और भारत में सदैव नेपाल के हित में कार्य किया है।

नई प्रवृत्तियाँ उभरने के कारण:

१   नेपाल की सत्ता में माओवादियों का बढ़ता हस्तक्षेप।

२   चीन के द्वारा नेपाल में अधिक निवेश किया जाना।

३   नेपाल में चीन द्वारा निर्माण कार्य किया जाना।

४   प्रधानमंत्री केपी शर्मा ओली के विवादित बयान।

५   नेपाल की सरकार द्वारा नया नक्शा जारी किया जाना।

६   चीन के वन रोड वन बेल्ट इनीशिएटिव को सहमति देना।

७   नेपाल की सीमा से बढ़ती तस्करी एवं आतंकवादी गतिविधियां

८   नेपाल में सफल लोकतंत्र के अभाव एवं अस्थिर सरकारें।

९　　　चीन दक्षिण चीन सागर के भू–भाग पर दावा।

१०　　　भारत में बढ़ते साइबर खतरे का संकट।

११　　　चीन के द्वारा नए–नए जैविक हथियारों का प्रयोग।

१२　　　कोविड–१९ के दौरान नेपाल सरकार का भारतीय नागरिकों के साथ दोयम दर्जे का व्यवहार।

१३　　　भारत और नेपाल का काला पानी और लिपुलेख विवाद।

चीन के साथ नेपाल के बढ़ते संबंधों के बिंदु:

१९५५ में 'राजा त्रिभुवन' के स्थान पर नेपाल के 'राजा महेंद्र' हुए तब उन्होंने चीन के साथ बेहतर संबंध निर्माण का प्रयास किया और ' काठमांडू से कोठारी राजमार्ग' के विस्तृत परियोजना पर हस्ताक्षर किए, उसके बाद से दोनों के संबंधों में मजबूती देखने को मिली।

भारत चीन युद्ध एवं नेपाल:

चीन अचानक २० अक्टूबर १९६२ में भारत पर आक्रमण कर देता है और 'मैकमोहन रेखा' का उल्लंघन करते हुए भारतीय भूभाग को अपना बताता है।भारत और नेपाल की शांति और मित्रता की संधि थी फिर भी वह भारत का साथ नहीं दिया और चीन का समर्थन किया। अंतर्राष्ट्रीय संगठनों और विश्व के अन्य मंचों पर भी नेपाल चुप्पी साधे रहा जिस कारण से दोनों के संबंधों में व्यापक तनाव उत्पन्न हो गया।

परमाणु परीक्षण में नेपाल का दृष्टिकोण:

१९७४ में इंदिरा गांधी के समय भारत ने परमाणु परीक्षण किया जिसकी तीव्र आलोचना अमेरिका और चीन ने किया था। चीन ने नेपाल को उकसाना प्रारंभ किया।यदि वह भारत के संरक्षण में रहा तो भारत को अपने में विलय कर लेगा, जिससे नेपाल की संप्रभुता नष्ट हो जाएगी परंतु नेपाल स्वयं चीन के दृष्टिकोण को भूल गया और अपने व्यापारिक संबंधों में चीन को बढ़ावा दिया।

सिक्किम राज्य और नेपाल का दृष्टिकोण:

भारत सरकार ने ३६ वां संवैधानिक संशोधन (१९७५) करके 'सिक्किम' को पूर्ण राज्य का दर्जा दिया गया। वहां के राष्ट्रपति 'डोंग बीवू'और सभी कार्यकारी अधिकारियों ने बयान देते हुए कहा कि अगला नंबर नेपाल का है।भारत सरकार नेपाल को भी विलय कर लेगी जिससे दोनों के संबंधों में दूरियां बढ़ती रही और चीन

की निकटता। यही कारण रहा कि शांति क्षेत्र घोषित करने की पूर्ण मांग भारत से करने लगा।

व्यापार एवं पारगमन संधि:

१९८८ में जब दोनों संधियों के लिए नवीनीकरण के लिए मांग उठ रही थी तब नेपाल एक व्यापारिक और पारगमन संधि भारत से करता है जिसका उल्लंघन वह चीन के वस्तुओं पर अधिक छूट देकर करता है । तत्पश्चात भारतीय निवेश नेपाल में कम होने लगा और चीन का निवेश अधिक पढ़ने लगा। इसने दोनों राज्यों के मध्य गंभीर संकट पैदा हो कर दिया। नेपाल के नेताओं ने कहा की 'संयुक्त राष्ट्र चार्टर' के अनुसार पारगमन विशेषाधिकार थे इसलिए दो एक्सटेंशन के बाद २३ मार्च १९८८ को दोनों व्यापार संधियों की अवधि समाप्त हो गई। भारतीय आर्थिक प्रतिबंधों को समय के साथ–साथ बढ़ाया गया साथ ही चीन से व्यापारिक संबंध प्रगाढ़ किए गए। विवाद के आर्थिक परिणाम बहुत अधिक थे। नेपाल की जीडीपी विकास दर ९.७%से गिरकर १.५% हो गई। नेपाल को घाटा हुआ क्योंकि नेपाल ने चीनी वस्तुओं पर ६०% तक छूट दे दी थी।

१९९०के दशक का समय:

नेपाल के प्रधानमंत्री 'कृष्ण प्रसाद भट्टाराई' और भारतीय प्रधानमंत्री 'वीपी सिंह' के बैठक में विशेष सुरक्षा और व्यापारिक संधि संपन्न हुई जिसमें नेपाल ने आर्थिक प्रतिबंधों को समाप्त करने की सहमति दी। १९९१ में 'गिरिजा प्रसाद कोइराला' की दिसंबर में यात्रा हुई और कई समझौते संपन्न हुए परंतु सैन्य हथियारों और अन्य सामग्री का लालच देकर नेपाल का रुख अपनी ओर करना चाहता था।

नेपाल सरकार और चीन के वर्तमान समझौते:

हाल ही में 'खड़क प्रसाद ओली' की सरकार ने १० समझौतों पर हस्ताक्षर किए हैं जिसमें 'रेलवे लाइन' और अन्य वस्तुओं को नेपाल पहुंचाने आदि से संबंधित हैं। यह प्रस्ताव नेपाल से निकटता बनाने के लिए है। नेपाल में तिब्बत शरणार्थी बड़ी संख्या में रहते हैं और चीन इन पर नियंत्रण के लिए उसके साथ मित्रता पूर्ण संबंध बनाए रखना चाहता है।नेपाल की सीमा तिब्बत से मिलती है और तिब्बत की चीन से जिससे कि उसकी पहुंच आसानी से भारत तक हो जाएगी इसलिए नेपाल के प्रत्येक क्षेत्र को प्राथमिकता प्रदान कर रहा है। नेपाल के स्कूलों में 'मंदारिनी भाषा' पढ़ाई जा रही है जिसकी पूरी फंडिंग चीन कर रहा है। १२ अक्टूबर २०१९ को शी जिनपिंग ने नेपाल की यात्रा की और ५६ अरब डालर की आर्थिक मदद का आश्वासन दिया। नेपाल ने भी चीन के 'वन रोड वन बेल्ट इनीशिएटिव प्रोजेक्ट' का समर्थन कर दिया और

उसकी पहल पर दक्षेस के पर्यवेक्षक राष्ट्र का दर्जा भी चीन को प्रदान किया गया। यही कारण है कि नेपाल अपनी आर्थिक और व्यापारिक निर्भरता चीनं से बड़ा रहा है तथा भारत से कम कर रहा है।

भारत और नेपाल के नागरिक संबंध:

दोनों देशों के मध्य सामाजिक निकटता इतनी अधिक है कि तराई क्षेत्र पर निवास करने वाले लोगों के मध्य वैवाहिक संबंधों के साथ–साथ रीति रिवाज और प्रथाओं में भी समानता देखने को मिलती है दोनों क्षेत्रों के निवासियों में विभेद कर पाना मुश्किल हो जाता है। राजनीतिक इकाई से भले ही अलग हो परंतु सामाजिक, पारिवारिक और भावात्मक रूप से जुड़े हुए हैं। भारत और नेपाल के बीच रोटी बेटी का रिश्ता कायम है ।नेपाल में लगभग ६००००० भारतीय मूल के नागरिक हैं इनमें से नेपाल में लंबे समय से रह रहे व्यवसायी, व्यापारी समुदाय ,चिकित्सक, इंजीनियर तथा श्रमिक एवं अन्य है। नेपाल से भी भारत में काम करने वाले प्रतिवर्ष ३० से ४० लाख लोग आते हैं । भारत सरकार के द्वारा एक लाख से ज्यादा गोरखा सैनिकों को पेंशन दिया जा रहा है। भारतीय सेना में गोरखा रेजीमेंट के माध्यम से बेहतर रोजगार प्राप्त है। इसके अलावा भारत और नेपाल के बीच शादी विवाह करना आम है। यदि शांति मित्रता संधि १९५० की संशोधन करके नागरिकों के बीच नेपाल बीजा अनिवार्य करना चाहता है तो उसको बहुत बड़ा आर्थिक नुकसान होगा। सुरक्षा की चिंताएं भारत और नेपाल के बीच लगभग १८५० कि०मी० की खुली सीमा है, जहां पर लोगों और सामान की मुक्त आवाजाही होती है। यद्यपि, यह आंशिक सच है कि नेपाल खुले तौर पर भारत को सुरक्षा संबंधी कोई खतरा पैदा नहीं कर सकता है, लेकिन वहां चीन व पाकिस्तान की मौजूदगी भारत के सुरक्षा के लिए बड़ा खतरा है, क्योंकि अफगानिस्तान में भी तालिबानियों की नई गतिविधियां सक्रिय हो रही है। अमेरिका वहां से अपने सैनिक वापस बुला रहा है। तालिबान आतंकी संगठन और पाकिस्तान के कई आतंकी संगठनों का आपस में गठजोड़ है और इन सभी संगठनों का संबंध अलकायदा से है। जो संयुक्त रूप से भारत के लिए नए खतरे को अंजाम दे सकते हैं। नेपाल में पाकिस्तानी खुफिया एजेंसी आईएसआई की गतिविधियां लगातार बढ़ रही हैं। आईएसआई द्वारा खुफिया ऑपरेशन के लिए नेपाल की सीमा का प्रयोग किया जा रहा है और भारत में आतंकवादी अपराधिक काम करके नेपाल में प्रवेश कर जाते हैं। नशीली दवाओं का अवैध व्यापार, नकली नोटों तथा मानव दूर व्यापार भारत की सीमा से होते रहे हैं। चीन की नई साइबर गतिविधियां भी भारत के सुरक्षा के लिए नई खतरा बनती जा रही है।

नवीन संविधान का उदय एवं मधेसी समस्या: नेपाल की राजनीतिक उथल–पुथल के बावजूद भी नए संविधान का निर्माण (२० सितंबर २०१५) को हुआ। इस संविधान में मद्धेशियों का कहना है कि उनको जनसंख्या के अनुपात में प्रतिनिधित्व नहीं दिया गया है। मधेशीयों ने अपने लिए नए प्रांतों के निर्माण की

मांग की, क्योंकि नेपाल में ७५ जनपदों में से २२ जनपदों में मधेशीयों की आबादी अधिक है और ५ जनपदों में मधेशीयों का एकतरफा बहुमत है, परंतु राज्यों के निर्माण के दौरान मधेशी बहुमत वाले जनपद को पहाड़ी क्षेत्रों के साथ जोड़ दिया गया। प्रत्येक राज्य में पहाड़ी मैदान तथा तराई क्षेत्रों को शामिल किया गया, जबकि मधेशी तराई क्षेत्रों के लिए अलग मधेशी राज्य के निर्माण की मांग कर रहे थे। नेपाल की सरकार उनको भारतीय समर्थक मानती है और उनके साथ दोयम दर्जे का व्यवहार करती है। २०१५ में जब नेपाल मं भूकंप आया उस समय नेपाल के प्रधानमंत्री थाईलैंड की यात्रा पर गए थे । भारत ने 'ऑपरेशन मैत्री' के अंतर्गत बड़ी सहायता नेपाल को दी, परंतु मधेशी समस्या के बाद विरोध की नीति नेपाल द्वारा अपनाई गई। भारत के नेपाल में तत्कालीन राजदूत २०१५ राकेश सूद ने कहा भारत और नेपाल के संबंधों में एक दरार उत्पन्न हुआ है। २०१६ में भारतीय विदेश मंत्री सुषमा स्वराज ने भी भारत और नेपाल के संबंधों को 'रोटी– बेटी' का संबंध बताया और सभी प्रकार की असहमतियों को जल्द सुलझाने पर बल दिया। काल में माओवादी गतिविधियां बढ़ रही हैं और मधेशीयों तथा माओवादियों के बीच संघर्ष चलता रहता है जिसमें बहुत से मधेशीयों की जानें गई हैं। भूकंप के समय मधेसी समूह ने भारत –नेपाल की सीमा को बंद कर दिया, जिसे वहां भूकंप से प्रभावित क्षेत्रों में आवश्यक वस्तुओं – दवा, ईंधन, भोजन सामग्री एवं अन्य आपूर्ति बंद हो गयी। इसके लिए माओवादियों ने भारत को जिम्मेदार माना। नेपाल को इस संदेह को दूर करना होगा कि मधेसी भारतीय समर्थक नहीं है और वह उसके अपने नागरिक हैं उनको बराबर का अधिकार देना चाहिए साथ ही समानता का व्यवहार भी करना चाहिए।

भारत नेपाल की कनेक्टिविटी परियोजनाएं :

प्रधानमंत्री 'खड़क प्रसाद ओली' वर्ष २०१८ में भारत की यात्रा की जिसमें भारत से काठमांडू तक रेल परियोजना पर हस्ताक्षर हुए साथ ही मोतिहारी से नेपाल तक गैस पाइप लाइन बिछाने की परियोजनाओं पर भी हस्ताक्षर हुए। इन आधारों पर दोनों के संबंधों में सुधार देखा जा सकता है परंतु वर्तमान समय में सीमा विवाद और नेपाल द्वारा नया मानचित्र जारी करना एक अलगाव की विदेश नीति का संकेत देता है।

वर्तमान स्थिति :

भारत और नेपाल के संबंधों में तनाव चल रहा है जिसका सबसे बड़ा कारण चीन हस्तक्षेप है। यह स्थिति गंभीर उस समय हुई जब कैलाश मानसरोवर यात्रा के लिए भारत द्वारा 'लिपुलेख धारा चुला मार्ग' के उद्घाटन करने के बाद नेपाल ने इसे एक तरफा गति बताते हुए आपत्ति जताई कि पूर्व का क्षेत्र उसकी सीमा मंद आता है।विदित है कि नेपाल ने आधिकारिक रूप से मानचित्र जारी किया जिसमें इन सभी क्षेत्रों को

अपना भूभाग दर्शाया। इस प्रतिक्रिया ने अचंभित कर दिया। इतना ही नहीं नेपाल में कोरोना फैलाने की साजिश का दोष भी भारत को वहां के प्रधानमंत्री ने दिया इसलिए इनके संबंध और तनावपूर्ण हो गए।

निष्कर्ष:

अंततः, यही कहा जा सकता है कि दीर्घकालीन दृष्टि से भारत के नेपाल में बहुत ऊंचे दांव हैं। इसके दो प्रमुख कारण।पहला भारत के बीच खुली सीमा व्यवस्था जो भारत की सुरक्षा को खतरा पैदा करती है। दूसरा नेपाल का समुद्री मार्ग पहुंच तक पहुंच न होना । भारत एक विशाल ऊर्जा खपत वाला देश होने के नाते जल्द थोड़ा विद्युत उत्पादन सिंचाई बाढ़ नियंत्रण और पर्यावरण संरक्षण इत्यादि में उसके सहयोग की आवश्यकता है यह ध्यान में रखना होगा कि नेपाल से भारत की ओर बहने वाली नदियों का पानी मैदानी इलाकों में रहने वाले करोड़ों भारतीयों की आजीविका का साधन है परंतु नेपाल ने भी भारतीय हितों के विरुद्ध साम्यवादी चीन के साथ समझौता किया जो शांति और मित्रता संधि का उल्लंघन है । नेपाल की सीमा से आतंकवादी गतिविधियां भी भारत में होती हैं साथ ही मादक पदार्थों की तस्करी भी नेपाल की सीमा से खूब होती है और पकड़े जाने पर वह नेपाल का नागरिक बताते हैं नेपाल में बेरोजगारी है जिस कारण वहां के नागरिक रोजगार के उद्देश्य से भारत आते हैं यदि दोनों के संबंधों में तनाव हुआ तो कई परिवार रोजगार और अच्छे सुख समृद्धि के जीवन से वंचित हो जाएंगे।चीन के प्रभाव को ध्यान में रखते हुए, भारत सरकार को आर्थिक सहयोग में बाधा पहुँचाने वाली चुनौतियों का तुरंत समाधान करना चाहिए और दोनों देशों के विकास को बढ़ावा देना चाहिए।भारत को नेपाल में अपना निवेश बढ़ाना चाहिए। परियोजनाओं को और तीव्र गति से पूर्ण करने पर फोकस करना चाहिए। स्थानीय लोगों को लाभान्वित करने वाली परियोजनाएं भारत की सकारात्मक छवि बनाने में सहायता करेंगी। भारत को चाहिए कि नेपाल में स्थगित पर योजनाओं को संचालित करें और नेपाल में अधिक निवेश बढ़ाए ताकि वहां के आम नागरिकों का रुख भारतीय सरकार की ओर अधिक हो। भारत नेपाल और नेपाल भारत दोनों के लिए अति महत्वपूर्ण हैं।

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GUIDELINES FOR CONTRIBUTORS

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