

FULFILLING THE NEED OF HOUR: SYSTEMATIC REVIEW OF CHALLENGES ASSOCIATED WITH ELECTRONIC MEDICAL RECORD (EMR) IMPLEMENTATION – SBEA MODEL

F. Afzal^{1*}, A. A. Ahmad², Q. A. Ali³, S. Joshi⁴ and S. Mehra⁵

^{1,5}Indian Institute of Health Management Research, Jaipur, India.

²Health Surveillance Project, WHO Country Office, Sasaram, Bihar, India

³Department of Social Work, Aligarh Muslim University, Aligarh, India.

⁴Shree Krishna Hospital, Karamsad, Anand, Gujarat, India

¹syedfahadafzal@gmail.com

ABSTRACT

Background: Since the advent of Electronic Medical Record (EMR), its pivotal role in overall improvement of healthcare has been proved, as it offers various benefits. Despite its many advantages, adopting EMR has been a daunting task for the healthcare providers, especially those with shortage of resources.

Aim: The aim of this research article is to systematically analyse the various studies and literature, to provide groundwork for future researches to overcome the identified challenges associated with EMR implementation and utilization, and to classify various challenges into broad categories, and analyse researches chronologically in each category.

Method: Three databases were searched using Boolean logic search technique on 1st July 2021. PRISMA technique was employed for identifying, screening and selection of research articles. A total of 202 relevant articles were found out of which 63 articles were selected that fulfilled the inclusion criteria.

Result: Data analysis revealed wide range of challenges with implementation of EMR/EHR, from basic infrastructure to various issues in using Blockchain technology. We classified the identified challenges on the basis of nature of root cause of origin. It was found that technical challenges are the most frequent and most highlighted, followed by human factor. Major technical challenges are due to interoperability, whereas reluctant attitude of staff was the most significant human factor challenge. We have developed SBEA (Staging & Barrier in EMR Adoption) model to explain the challenges faced in EMR implementation.

Conclusion: One standardized format of EMR interface could be developed for the ease of users. Government could implement policies to mandate the proper use of EMR. Hospitals in underdeveloped and developing countries should be provided adequate resources, support by international agencies and government. Healthcare providers familiar with use of EMR, data sharing to single centralised database should be promoted and incentivised. Proposed model should be used in planning by stakeholders.

Keywords: Electronic, health, record, challenges, barriers, developing nations.

Introduction

An Electronic Medical Record (EMR) or 'Digitalised Health Record' is an organized system of medical information stored in electronic form. EMR data is often shared between stake holders, like healthcare service providers, patients, insurance and government. These records include a variety of medical information, namely, OPD prescriptions, diagnostic reports, IPD records, discharge summary and bills among other information. Electronic Medical Record (EMR) has proven its pivotal role in overall improvement of healthcare, as it improves the efficiency of the systems and processes to manifolds. EMR is well received in Western and European countries, whereas some developing countries are gradually recognizing the advantages of adopting EMR system. EMR is not only the

data storage and sharing system, but it also compliments other modern technological trends, such as mHealth, health surveillance, tele-medicine and e-pharmacy. Despite its many benefits, adopting EMR has been a daunting task for the healthcare providers, especially those who are having shortage of resources. Literature review suggests that various types of challenges are present during implementation and usage of EMR system. This review paper has identified and categorised the various challenges associated with implementation of EMR system. The aim of this research article is to systematically analyse the various studies and literature, to provide groundwork for future researches to overcome the identified challenges associated with EMR implementation and utilization.

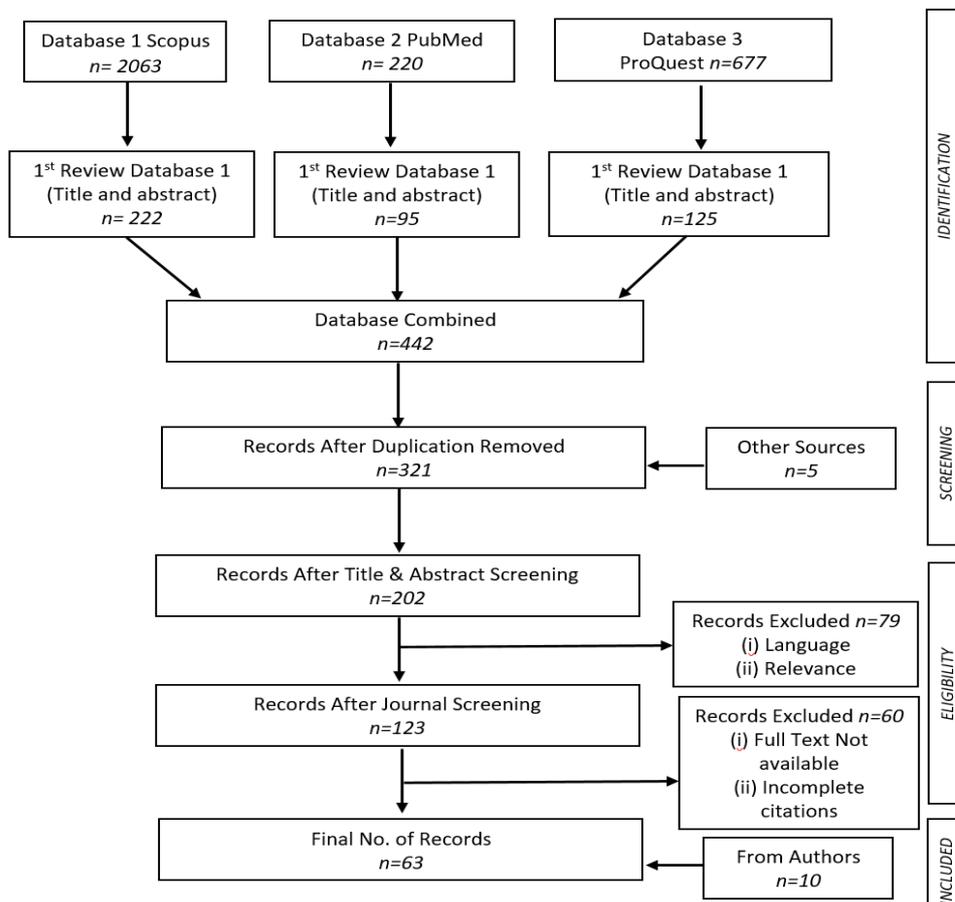
Research methodology

Three databases, Scopus, PubMed and ProQuest were searched on 1st July 2021 for the articles. Boolean logic searching in Scopus database was done by following words: ‘EMR’ OR ‘medical record’ OR ‘hospital record’ AND ‘challenges’. PubMed was searched by using following words: ‘EMR’ OR ‘medical record’ OR ‘hospital record’ AND ‘challenge’ OR ‘challenges’. Similar keywords were used for ProQuest database. PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) methodology was employed for identifying, screening and inclusion of research articles (Figure 1). There was no restriction of date of publication in the search. Nevertheless, the first relevant article found in Scopus was published in 1979, whereas in PubMed it was 1990. The search generated 2063 article in Scopus, 220 articles in PubMed

and 677 articles in ProQuest. Subsequently, their reference lists were scanned for finding out relevant and highly cited studies. After initial screening 202 articles were found, out of which 63 articles were included in the study, that fulfilled the selection criteria. Few highly cited research articles, which were locked (only abstract available), were obtained by requesting corresponding authors by the present researchers. Ten authors responded to the request. The selected articles were classified on the basis of type of study, type of challenge focussed and focussed nation (economy condition).

Inclusion Criteria: Articles relevant to any challenge of electronic medical record and digitalization of medical records. Articles must be in English language. Only full text articles were included. The reference and citation should be complete and accurate.

Figure 1: PRISMA flowchart representing various steps for selection of research articles

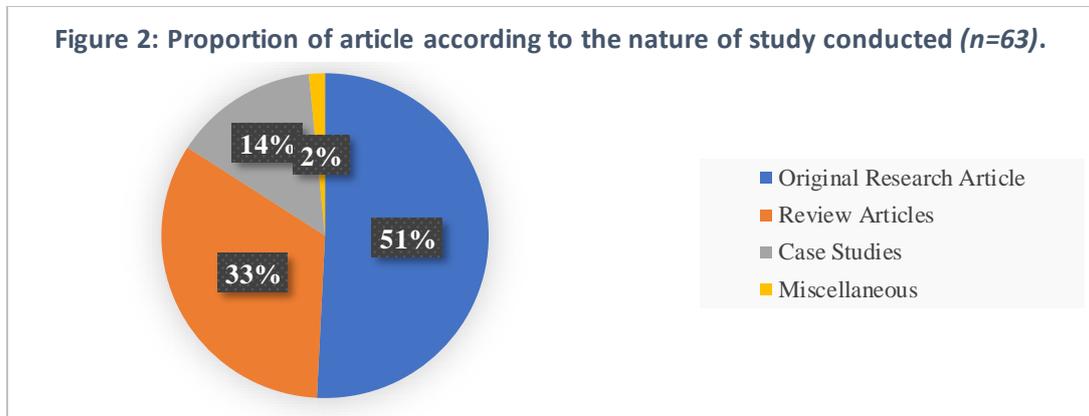


Results

On searching databases and utilizing PRISMA technique, 63 relevant articles (35 = Scopus, 19 = ProQuest, 9 = PubMed) were found focusing on identifying various challenges associated with EMR system. The articles found common

in both the databases were counted once in the database they appeared first.

The analysis of relevant articles revealed that the majority of articles were Original Research Articles (32 out of 63), followed by 21 review articles. There were 9 case-studies and 1 miscellaneous article (Figure 2).

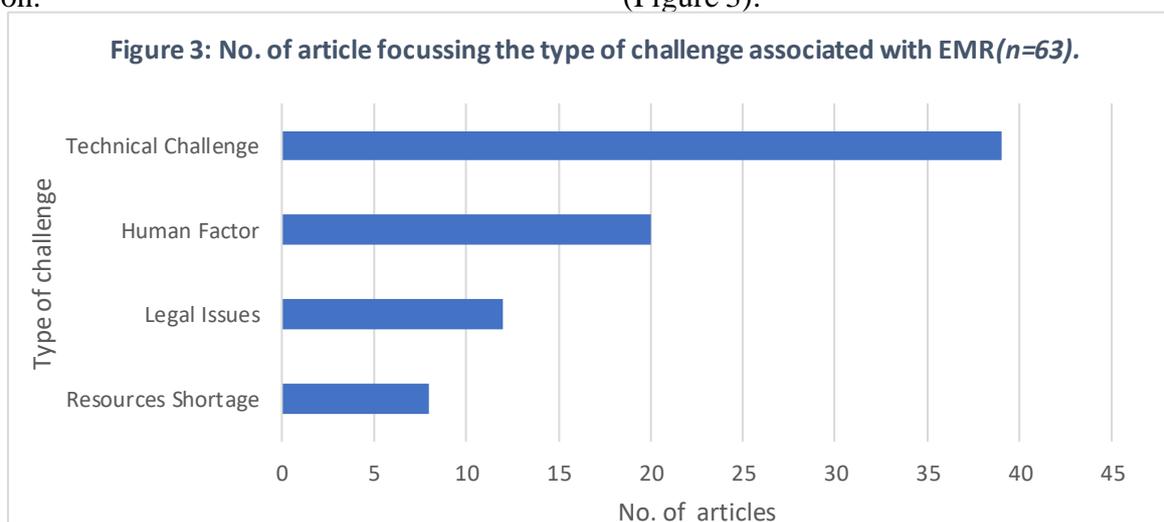


The literature review revealed multiple challenges that are associated with EMR. The present research analysed the data and has classified on the articles on the basis of; (i) nature of study, (ii) focus nation of study (iii) nature of challenge.

The analysis of literature review revealed that the majority of researches on challenges associated with EMR are done in developed nations. Out of 63 studies, 38 were focussing on ‘developed nations’, whereas 13 out of 63 researches where focussed on ‘developing’ or ‘under developed nations’. 12 articles were found to have generalised focus, i.e. no specific inclination towards any particular type of region.

On the analysis of the literature it was found that there is a broad range of challenges identified in previous researches. It varies from problems associated with development of EMR to error in data retrieval, and from wrong user’s perception to lack of financial funding. Based on the varied nature of challenges faced in EMR system, the challenges could be classified as: (i) Technical Challenges, (ii) Human Factor, (iii) Legal challenge, and (iv) Resources Shortage.

Majority of article focused on only one type of challenge, i.e. 41 out of 63 articles. Whereas 22 articles identified two or more types of challenges. Technical challenge is the most researched area, with highest count of 39 (Figure 3).



Technical challenges

On the basis of analysis of researches, the technical challenges in reference to EMR could be defined as any barrier that arises in implementation or utilization phase due to engineering, programming, interoperability, networking or electronic hardware factors. Literature review revealed that technical challenges are studied by the researchers as it is present from development stage (the most primordial phase) to operational phase. Technical challenges have always been a 'hot topic' since the advent of EMR system. Gluck (1979) reported that EMR system implementation becomes challenging in case of converting old hardcopy medical records into digital records, this becomes an unnecessary burden on the staff. Ryckman & Sourapas (1985) stated that incorporating Prospective Payment System (PPS) in EMR is a technical challenge, they suggested in order to resolve the issue, proactive involvement of Medical Record Department (MRD) staff is required in planning and implementation of EMR in the hospital. Lincoln et al. (1993) identified two technical challenges; (i) the enabling of user to record detailed medical documentation that could be later retrieved swiftly for decision making, (ii) Integrating EMR system to internet for enabling online from remote location. While developing an EMR system, it is pivotal to ensure a user-friendly interface, otherwise it will lead to excessive time consumption of doctors (Bradley et al., 1988). This may hamper their work efficiency. Sicotte et al. (1988) argued that synchronization of clinical activity and its translation into information is a major problem. He further stated that presence of other medical software in the hospital leads to loss of information and inaccurate data recording due to variation in coding of software.

Challenge of integration and synchronization of data has been emphasized by many researchers. Sujansky (1988) stated that EMR should be able to capture data from hospital equipment, such as bed side monitor, and automatically store in patient's digital file. Later this information should be retrieved easily for decision making by physicians. Besides automatic data capturing, correct format of data capturing is also a crucial factor.

Data capturing by EMR in the form of electronic charts should be done with least efforts by the clinical staff (Swanson, 2000). The literature review revealed as we move from older studies to the most recent researches, the nature of technical challenge focussed by research becomes more precise, this pattern is most evident after the end of 1990's. Siegel et al. (2001) found that the lacking of interoperability between Picture Archival and Communication Systems (PACS) is a technical issue as PACS generate images of various formats. Laing (2001) stated that data aggregation from various sources inside hospital as well as data collection from outside sources to develop one standardize database is a future challenge. He outlined the possible benefits such as epidemiological studies, comparison of various nursing practices and financial trend of diseases, but for that one standardized format of EMR should be adopted. McDowell et al. (2003) identified the technical challenge arising from EMR developer's end, namely; to develop a EMR system that includes clinical requirements, financial aspect, computer literacy of the patients, and the existing process flow of information. Healthcare providers need to pay a keen attention, and critically evaluate their needs and accordingly procure a EMR software, otherwise this may lead to cumbersome process in future (McDowell et al., 2003). Fournier et al. (2006) advocated the EMR should be able to assist in overall quality improvement of healthcare organization by ensuring accuracy of data storage in a timely manner with least human effort. Besides quality improvement role, the EMR system implementation becomes a daunting task for administration in case of tailoring the EMR software in accordance to government policies and intra-organizational policies (Kahn et al., 2007). For example, in any medico-legal case, local authorities should be informed as soon as possible, but without compromising the health of patient. The interoperability potential of EMR system with computerised systems of local authorities should be developed. In case of conflicting, ambiguous policies or missing functionality, the task of developing EMR system becomes more perplexing (Kahn et al., 2007; Fournier et al., 2006). Ilie et al. (2007)

concluded that the positioning of computers from where the data will be input by clinical staff is a crucial factor as it determines the effort of staff required in terms of physical movement. They also stated that correct location also ensures physical safety of EMR system network.

Ever since the evolution of EMR and 'patient centric care' approach, the two are always tried to be merged. The synchronization of EMR with web-based Personal Health Record (PHR) is an emerging challenge, EMR should be able to record data from web based PHR and reflect the stored information to the patients in their PHR respectively (Charters, 2009). This also has implications that patients could fill-out their demographic information before arriving at the hospital, this will help in reducing effort and time required by front office staff of hospital. Patnaik et al. (2011) discussed various coding errors that could critically effect the functioning of EMR in sharing information to government data bases. They highlighted the various minor errors in coding leading to major future technical problems. The developers face challenges in making EMR system comprehensive in terms of data collection and representation for various medical purposes. The reason outlined by Hochheiser (2011) is that each healthcare organization has a slightly different process flow, especially in case of Emergency Units. He advocated that patient's bedside requests and triage data poses an opportunity as well as a technical hindrance. Madathil et al. (2011) reported that developing various condition-specific consent form and the ability of EMR system to identify the correct consent form is a challenge as well as an opportunity for software developers. This has pivotal application in case of Emergency Units of hospitals as on some instances (such as mass casualty) where neither clinical staff nor the patients have time to fill paper based consents. Tierney et al. (2013) mentioned in his research that EMR systems should support collaboration of research institutes, academic institutes, homecare and mobile healthcare units. Kariyawasam et al. (2013) advocated that use of EMR ensures data accuracy, but also stated that inaccuracies may occur due to multiple reasons. In case of data sharing with government, the validity of data poses a

significant challenge in nation-wide policy and decision making processes. Yoo et al. (2013) conducted a study on 11,400 service request generated at EMR support centre, they concluded that EMR software modification is the most requested from user ends, it constituted 49.2% of total requests which reflects that the majority of challenges faced were technical in nature. The integration of insurance with EMR is important factor in increasing the process speed and ultimately contributing to service quality (West et al., 2014). But this poses a big challenge in current scenario as many healthcare providers are having EMR but no direct interoperability to insurance provider. The implication is, if EMR and insurance company works in a synchronised manner, there will be significant reduction of claim clearance time. (West et al., 2014; Floris-Moore et al., 2020). This is corroborated by the research conducted by Polnaszek et al. (2016) who concluded the same. The reason outlined was that as EMR software are computer coding, as there are many ways to do this, the structured information of one EMR could be unstructured for another. Davidson et al. (2016) argued that there is a lack of Universal Patient Identifier, that could enable a patient to switch between healthcare providers, and the medical data from previous hospital could be retrieved instantaneously. This will lead to treatment cost reduction because of no requirement of repeating investigation (Davidson et al., 2016; Charters, 2009). Greenberg et al. (2016) stated that technical challenges arises when a healthcare organization starts to use EMR system. Converting previously hand written paper medical record into electronic record demands extra labour from the hospital staff, often results in the excessive time consumption and making the whole process more complex. Compeau & Terry (2017) surveyed 105 EMR users, found multiple benefits of using EMR system, but systemic reliability and accuracy of data are the most prominent challenges. Swanik (2019) reported that while transitioning to digitalized system, a dental hospital had to deal with challenges, such as proper interoperability and tailoring EMR module, to match the existing information flow in the hospital. Aldredge et al. (2020) found that

developing African nations are facing basic technical challenges such as connecting EMR system with printer, EMR software troubleshooting and missing electronic signature option in EMR. Rghioui (2020) suggested that the use of blockchain technology can resolve the issue of interoperability and data security in developing countries with basic healthcare infrastructure. Researchers have also outlined challenges of transitioning to blockchain based EMR system, these include technological advancement level of nation, technological acceptance level and selection of appropriate blockchain platform (West et al., 2014; Lougheed, 2019; Rghioui 2020). Dutta & Hwang (2020) stated that limited interoperability results in limiting doctors' ability to exchange electronic medical information with HIS of other healthcare service providers (corroborated by Islam et al., 2018).

Human factor

Human factors are the second most common and highlighted challenge that comes into play during adoption and utilization of EMR system in healthcare setting as per the reviewed literature. The definition of human factors used for the analysis (in reference to EMR) could be defined as any barrier that arises in utilization of EMR system due to hospital administration, staff, or patients. This specifically includes attitude, perception, awareness and leadership style. Gluck (1979) reported that there is excessive documentation workload on nursing staff of hospital, leading to negative perception of nurses towards EMR system. EMR is a powerful tool that could assist the administration of healthcare organization in decision making, but for the success of EMR implementation proper leadership is required. Leadership philosophy and EMR utilization compliments each other (Hogan, 1987). As compared to developed countries, in developing countries there is lack of awareness towards potential of EMR system, this could lead to increased 'reluctance to change' attitude of hospital staff. In a case study conducted by Reynoso & Tulu (2007) in Mexico on a hospital, it was found that human challenge in the form of loss of patient to a different healthcare provider is prevalent, up to 50%

patients are one-time patients for the hospital. They concluded, in this case the implementation of EMR system will not be completely successful. Ilie et al. (2007) conducted a study on 'Theory of Planned Behaviour', and reported that the improper location of computer leads to reluctance of clinical staff towards data entry. They also concluded that due to workload clinicians find it hard to take-out time for data entry in vital and medication charts. Moore et al. (2008) reported that as physicians have to manage time for patient examination and counselling, they find it difficult to simultaneously use EMR system. Researchers concluded that the underlying reason is limited time for each patient consultation and a sense of attention shift from patient to data entry (Moore et al., 2008; Mutshatshi et al., 2018) Some researchers suggest the EMR should be patient-centric, and should increase the participation of patient by self-reporting forms on online portal of EMR system (Yoo et al., 2013; Moore et al., 2008). Smith et al. (2008) argued that in case of self-administered registration form and consent forms on web based EMR system, patients may make some errors. These errors may be typographical or wrong history, this will ultimately require additional effort of hospital staff to rectify, or if goes undetected, it can cause error in clinical treatment based on the EMR data (Smith et al., 2008). Contrary to this, some researchers argue that EMR should be 'physician-centric' in nature, and the success chiefly depends on adoption of EMR by physicians (Grams, 2009; Wells et al., 2010).

Wells et al. (2010) conducted a research study on 6400 participants (athletes) in a sports event, in which participants were informed to fill their basic health status information voluntarily on web-based EMR portal. The result revealed, only 5% of participants filled the web based EMR form. They concluded education and repeated notification are insufficient tools of promotion of EMR, due to human nature of resisting change. Scholl et al. (2011) conducted a study in a super-speciality hospital in India, they identified various challenges associated with EMR adoption, the most notable challenge is due to sceptical attitude of hospital staff, negative attitude

towards learning new computer skills. Tierney et al. (2013) in a case-study on a hospital in Sri Lanka reported that training the staff for skill development for EMR utilization is a prominent challenge, especially in case staff that had no previous computer knowledge. Further, they concluded proper training planning is required, that begins with the start of implementation process. If training of EMR is not given adequately and in a timely manner, it could result in reluctant attitude of staff in later phase of implementation. (Scholl et al., 2011; Tierney et al., 2013). Denaxas et al. (2016) proposed an analogy 'Ice berg tip', that is besides patients record retrieval, EMR database could help in various epidemiological studies that could benefit at community level. They concluded that there is dire need of educating clinical and paramedic staff about the significance of these applications of EMR data.

Shukla & Kane (2018) conducted a comparative study in India, they stated that human challenges associated with implementing EMR system are more stringent in rural regions as compared to urban areas. Mehta (2019) argued that leadership philosophy of a healthcare organization highly influences the implementation as well as data sharing of EMR data. He stated 'custodian attitude' of hospitals towards medical record prevents them from sharing the data from EMR system to databases. The reason outlined was insecurity of losing patient to a competitor organization, as shared EMR database gives freedom to patients to move from one healthcare provider to another (Patnaik et al., 2011; West et al., 2014; Petrides et al., 2017; Loughheed & Mehta, 2019; Berihun et al., 2020). Researches indicates that the overall technological environment plays a pivotal role, they found that in 'under-developed' and some 'developing' countries human factors like unfamiliarity towards technological advancement, sceptical attitude could comes into play (Ahmadian et al., 2017; Rghioui, 2020). They suggested it effects not only patients, but healthcare staff too, which results in overall alienation of EMR system. Jenssen et al. (2021) conducted interview of hospital staff, they concluded that there is association of perceived increased workload burden and lack

of post-implementation technical support of HIS/EMR.

Legal challenges

Analysis of articles revealed that data security is one the biggest legal challenge, followed by privacy and state policies. Chen (2001) stated that ever since the integration of EMR systems with internet, multiple legal challenges have emerged, that a healthcare administration has to face while transitioning to digital record keeping. He identified data security and patient privacy are the biggest legal challenge. In some developed countries there are policies to mandate digital record keeping by healthcare provider in a specified and standardized manner. For example, Medical Information Privacy rule in accordance with as authorized by the Health Insurance Portability and Accountability Act (HIPAA) in United States of America. This may lead to increased EMR development cost due to enhanced security protocol (Lydon-Rochelle et al., 2004). Wald et al. (2004) concluded web-based EMR system need additional security, as it is more prone to hacking and patient's data stealing attacks (corroborated by Key et al., 2015). There exist substantial number of researches underscoring the lack of government policies & protocols regarding data privacy causing hindrances in utilization of EMR (Gómez et al., 2007; Barlas, 2010; Nishimura et al., (2014); Key et al., 2015; Janett et al., 2020). Reynoso & Tulu (2007) outlined the importance of government guidelines, and stated in case of lack of government rule to mandate use of EMR, it becomes completely optional for healthcare providers to store data in digital form. Barlas (2010) stated that selecting between various available software in market become a challenging task due to lack of governmental policies or guidelines regarding standardization of EMR or pharmacy software. He found that this is leading to variation in user-interface and ultimately underutilization of prescription module of the software. Nishimura et al. (2014) highlighted that in developed countries, the community is aware about privacy rights and cyber-crimes. They stated ethical challenges may arise for healthcare providers and software developer company; what information to capture? how to keep it safe? with whom to

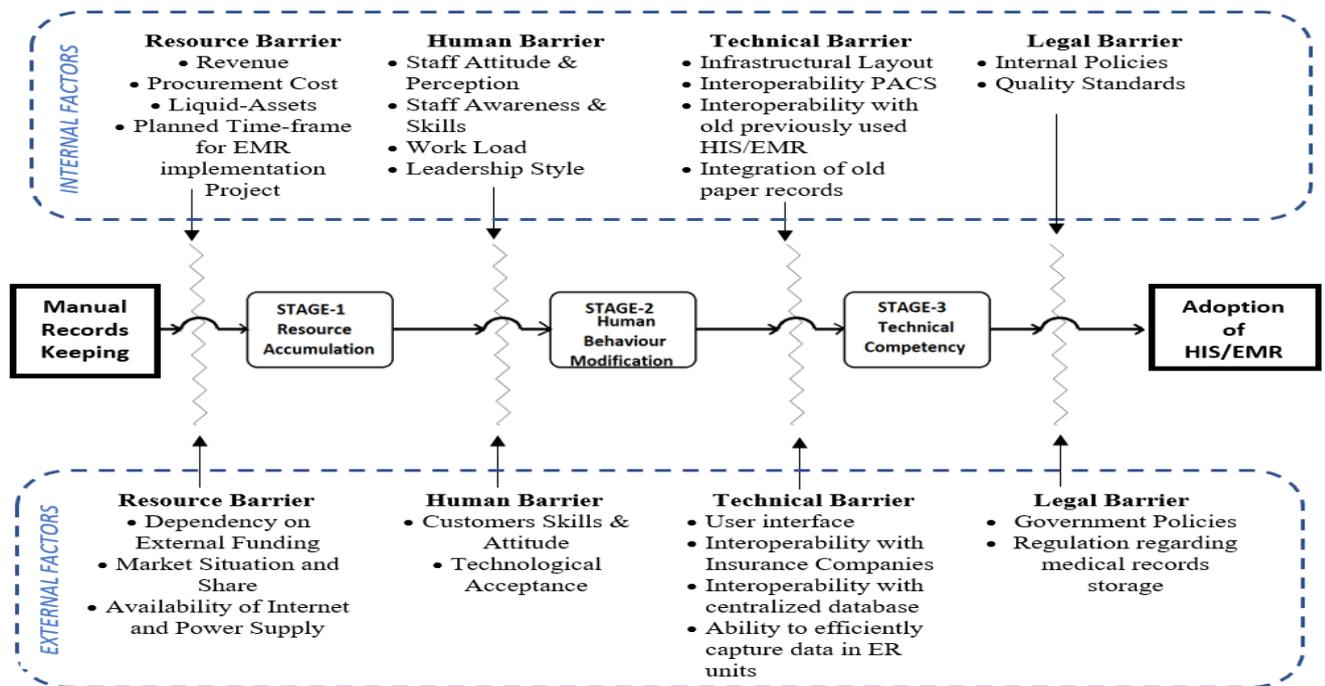
share? Nugraha et al. (2021) found that the use of EMR brings a change from physical storage of medical records to digital form, which has many potential benefits. However, there is lack of medical data privacy law in developing nations, like Indonesia. They suggested that national privacy laws should be developed which ensure data safety not only from hackers, but from hospital staff. They also stated that a healthcare organization selling its patients data for target marketing should also be taken in account (corroborated by Janssen et al., 2021). Enaizan et al. (2017) found that the acceptance of HIS/EMR by healthcare service providers is related with the privacy and legal risk factors. They identified the most common legal issues associated with HIS/EMR use, namely; user authentication, data confidentiality, integrity and unauthorized access.

Resource shortage

This can be defined as lack of resources that are required for adopting and operating EMR system, namely funds, manpower and time. Review of articles revealed that most of the resource shortage problems are faced in developing countries. Williams & Boren (2008) stated that in developing nations, transition to EMR from paper based medical records requires skilled workforce and financial resource. Sood et al. (2008) stated that besides funds and manpower arrangement, healthcare providers have to face power supply shortage. Abrupt power cut may cause data loss damage and hardware damage. To prevent

this, healthcare providers have to arrange power backup, this will lead to significant overhead costs (Sood et al., 2008). Adler-Milstein et al. (2015) stated that besides procurement cost of EMR system, the maintenance and training cost may act as a barrier, especially for small healthcare organization. Zabora et al. (2015) stated that besides cost, time constraint also acts as a challenge. They found that nursing staff may not get the time to input the information in EMR system due to workload in critical care units (corroborated by Aldosari et al. 2018). Aldredge et al. (2020) and Jawhari et al. (2016) concluded that in under-developed nations, there is lacking of back-end infrastructure support, such as wireless internet and mobile connectivity. They also argued that low revenue generation lead to financial constraint in transitioning to EMR system. Ahmadian et al. (2017) found that the resource shortage in the form of unavailability of an organization to afford EMR/HIS procurement cost, experienced & educated staff could pose a barrier in moving to digital records from paper hardcopy. Umezurike (2021) concluded that in less developed nations, the challenges associated with implementation of EMR are due to shortage of basic resources, such as; electricity shutdown, finances to procure a EMR software, and computer literate manpower.

Figure No. 4: SBEA Model explain the various challenges faced by a private healthcare organisation in transitioning from paper-based to digital record keeping.



Discussion & conclusion

The ability of EMR to transform healthcare industry around the globe is extremely promising, but for adopting EMR system, a healthcare organization has to pass various hurdles. The challenges that arise in EMR utilization have been identified by many researchers. The present review has categorised the previous literatures into 4 broad categories. (i) Technical Challenges, (ii) Human Factors, (iii) Legal challenges, (iv) Resource Shortage. Based on the explored literature, the SBEA (Staging & Barrier in EMR Adoption) model is proposed by the present researchers to explain phases and hurdles a private healthcare organization has to pass while transitioning from paper-based record-keeping to HIS/EMR system (Figure no. 4). The proposed model is applicable in under-developed and developing countries.

Technological challenges are found to be most prevalent and researched hurdles for implementation of EMR followed by human factor by the researchers. Majority of the researches carried-out in developed nations were focussing on technical challenges that appear on advance phases of use such as interoperability with databases, online portal,

PACS and blockchain technology. The lack of one standardised user-interface was also highlighted by some researchers. Whereas, researches done in developing countries, human challenges, such as unskilled manpower, reluctant-to-change attitude, lack of administrative leadership, excessive workload on clinical staff etc. appeared to be more significantly found. Analysis of literature also revealed very few researches were done focussing under-developed countries. In both developed and developing nations, lack of resources & legal challenges were found to be common.

Suggestions

One standardized format of EMR system could be developed for the ease of users. Governments should implement policies and rules to make utilization of EMR mandatory. Underdeveloped and developing countries should be provided adequate resources by international agencies and government for implementing EMR. The SBEA model can be utilized by healthcare providers for comprehensive planning for transitioning to digital record keeping. For healthcare provider who are already using EMR, data sharing to one centralised database should be encouraged and incentivised. Researches should be done to

create a universal tool to measure the quality of the EMR software, as there are multiple vendors in the market and a faulty EMR can lead to more troubles than benefits sought.

Limitation: Due to resource and time constraints some research articles may not be included in the present review study. To increase the depth of research, more keywords (search words) and other databases (such as WoS or IEEE) should be explored for future researches. The conceptualized and proposed SBEA Model is based on available literature review, further testing is required to validate this model. This model is applicable only in low economic environment, i.e. developing and underdeveloped nation only.

Conflict of Interest: None

Source of Funding: None

Abbreviation:

EMR	Electronic Medical Record
EHR	Electronic Health Record
HIS	Hospital Information System
HIPAA	Health Insurance Portability and Accountability Act
IEEE	The Institute of Electrical and Electronics Engineers
IPD	In-patient Department
OPD	Out-Patient Department
PACS	Picture Archival and Communication Systems
PHR	Personal Health Record
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
PPS	Prospective Payment System
SBEA	Staging & Barrier in EMR Adoption
WoS	Web-of-Science

References

1. Gluck, J.(1979). The computerized medical record system: meeting the challenge for nursing. *The Journal of Nursing Administration*. 9(12): 17-24. Available at: <https://europepmc.org/article/med/259634>
2. Ryckman, D. and Sourapas, J.K.(1985). Medical records: a new challenge under prospective DRG reimbursement. *Topics in Health Care Financing*. 11(3): 47-58. Available at: <https://pubmed.ncbi.nlm.nih.gov/3920786/>
3. Lincoln, T.L., Essin, D.J. and Ware, W.H.(1993). The electronic medical record: a challenge for computer science to develop clinically and socially relevant computer systems to coordinate information for patient care and analysis. *The Information Society*. 9(2): 157-188. DOI: <https://doi.org/10.1080/01972243.1993.9960138>
4. Bradley, J.H. and King D.E.(1998). Electronic medical records for prenatal patients: challenges and solutions. *MD Computing: Computers in Medical Practice*. 15(5): 316-22. Available at: <https://pubmed.ncbi.nlm.nih.gov/9753978/>
5. Sicotte, C., Denis, J.L., Lehoux, P. and Champagne, F.(1998). The computer-based patient record challenges towards timeless and spaceless medical practice. *Journal of Medical Systems*. 22(4): 237-256. DOI: <https://doi.org/10.1023/a:1022661701101>
6. Sujansky, W.V.(1998). The benefits and challenges of an electronic medical record: much more than a "word-processed" patient chart. *Western Journal of Medicine*. 169(3): 176. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1305206/>
7. Swanson, J.G.(2000). Challenge of electronic medical records. *Canadian Family Physician*. 46: 1565. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2144774/>
8. Siegel, E.L. and Reiner, B.I.(2001). Clinical challenges associated with incorporation of nonradiology images into the electronic medical record. In *Medical Imaging 2001: PACS and Integrated Medical Information Systems: Design and Evaluation*. *International Society for Optics and Photonics*. 4323: 287-291. DOI: <https://doi.org/10.1117/12.435492>
9. Laing, K.(2002). The benefits and challenges of the computerized electronic medical record. *Gastroenterology Nursing*. 25(2): 41-45. Available at: https://journals.lww.com/gastroenterologynursing/Abstract/2002/03000/The_Benefits_and_Challenges_of_the_Computerized.2.aspx
10. McDowell, S.W., Wahl, R. and Michelson J.(2003). Herding cats: the challenges of EMR

- vendor selection. *Journal of Healthcare Information Management.* 17(3): 63-71. Available at: https://www.researchgate.net/publication/10662884_Herding_cats_the_challenges_of_EMR_vendor_selection
11. Fournier, D., Gosselin, D. and Rioux, N.(2006). The challenges of implementing an electronic medical record system in a long-term care facility. *Geriatric Nursing.* 11(27): 28-30. DOI: <https://doi.org/10.1016/j.gerinurse.2005.12.002>
 12. Kahn, M.G., Kaplan, D., Sokol, R.J. and DiLaura, R.P.(2007). Configuration challenges: implementing translational research policies in electronic medical records. *Academic medicine: Journal of the Association of American Medical Colleges.* 82(7): 661-669. DOI: <https://doi.org/10.1097/ACM.0b013e318065be8d>
 13. Ilie, V., Courtney, J.F. and Van Slyke, C.(2007). Paper versus electronic: Challenges associated with physicians' usage of electronic medical records. *In Hawaii International Conference on System Sciences.* 40(5): 2307. IEEE. Available at: <https://www.cse.msu.edu/~cse435/Handouts/EMR/paper-vs-emr.pdf>
 14. Charters, K.(2009). Challenges of electronic medical record extracts for a personal health record. *Nursing Informatics.* ages 197-201. DOI: <https://doi.org/10.3233/978-1-60750-0247-197>
 15. Patnaik, D., Butler, P., Ramakrishnan, N., Parida, L., Keller, B.J. and Hanauer, D.A. (2011) Experiences with mining temporal event sequences from electronic medical records: initial successes and some challenges. In Proceedings of the 17th ACM SIGKDD *International Conference on Knowledge Discovery and Data Mining.* 360-368. DOI: <https://doi.org/10.1145/2020408.2020468>
 16. Hochheiser, H. and Shneiderman, B.(2011). Electronic medical records: usability challenges and opportunities. *Interactions.* 18(6): 48-49. DOI: <https://doi.org/10.1145/2029976.2029989>
 17. Madathil, K.C., Koikkara, R., Gramopadhye, A.K. and Fryar, K.(2011). An analysis of the general consenting process in an emergency department at a major hospital: Challenges for migrating to an electronic health record. *In Proceedings of IIE Annual Conference.* 1-6. Available at: https://cecas.clemson.edu/hcsl/wp-content/uploads/2016/04/Consenting-Process_Challenges-for-Migrating-to-an-Electronic-Health-Record.pdf
 18. Tierney, M.J., Pageler, N.M., Kahana M., Pantaleoni, J.L. and Longhurst, C.A.(2013). Medical education in the electronic medical record (EMR) era: benefits, challenges, and future directions. *Academic Medicine.* 88(6): 748-752. DOI: <https://doi.org/10.1097/ACM.0b013e3182905ceb>
 19. Kariyawasam, N.C., Dayaratne, B. and Turner, P.(2013). Challenges in predicting health needs and disease patterns—a case study on the implementation of an electronic hospital separation record in Sri Lanka. *In MEDINFO 2013.* 193: 1067-1067. Available at: <https://doi.org/10.3233/978-1-61499-289-9-1067>
 20. Yoo, S., Kim, S., Lee, S., Lee, K.H., Baek, R.M. and Hwang, H.(2013). A study of user requests regarding the fully electronic health record system at Seoul National University Bundang Hospital: challenges for future electronic health record systems. *International Journal of Medical Informatics.* 82(5): 387-397. DOI: <https://doi.org/10.1016/j.ijmedinf.2012.08.004>
 21. West, S.L., Johnson, W., Visscher, W., Kluckman, M., Qin, Y. and Larsen, A.(2014). The challenges of linking health insurer claims with electronic medical records. *Health Informatics Journal.* 20(1): 22-34. DOI: <https://doi.org/10.1177/1460458213476506>
 22. Polnaszek, B., Gilmore-Bykovskyi, A., Hovanes, M., Roiland, R., Ferguson, P., Brown, R. and Kind, A.J.(2016). Overcoming the Challenges of Unstructured Data in Multi-site, Electronic Medical Record-based Abstraction. *Medical Care.* 54(10): e65-72. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5024721/>
 23. Davidson, S., Durkin, S. and Subburamu, S.(2016). Universal Health Care Identifiers. *Journal of Ambulatory Care Management.* 39(1):53-62. DOI: <https://doi.org/10.1097/JAC.0000000000000077>
 24. Greenberg, A.E., Hays, H., Castel. A.D., et al.(2016). Development of a large urban longitudinal HIV clinical cohort using a web-

- based platform to merge electronically and manually abstracted data from disparate medical record systems: technical challenges and innovative solutions. *Journal of the American Medical Informatics Association*. 23(3): 635-643. DOI: <https://doi.org/10.1093/jamia/ocv176>
25. Compeau, D.R. and Terry, A.L.(2017). Connecting medical records: an evaluation of benefits and challenges for primary care practices. *BMJ Health & Care Informatics*. 24(2): 204-215. DOI: <http://dx.doi.org/10.14236/jhi.v24i2.855>
 26. Petrides, A.K., Tanasijevic, M.J., Goonan, E.M., Landman, A.B., Kantartjis, M., Bates, D.W. and Melanson, S.E.(2017) Top ten challenges when interfacing a laboratory information system to an electronic health record: Experience at a large academic medical center. *International Journal of Medical Informatics*. 106: 9-16. DOI: <https://doi.org/10.1016/j.ijmedinf.2017.06.008>
 27. Lougheed, T.(2019). The challenge of implementing a patient-centric EMR. *Canadian Medical Association Journal*.191(5). e144-145. DOI: <https://doi.org/10.1503/cmaj.109-5706>
 28. Swanik, S.(2019). Implementation of an EMR System for a Comprehensive Dental Service within a Large Regional Hospital Network: Challenges and Opportunities Presented by the Introduction of new Technology. *Online Journal of Public Health Informatics*. 11(2): e19. DOI: <https://doi.org/10.5210/ojphi.v11i2.10131>
 29. Aldredge, N.H., Rodriguez, D., González, J. and Burt, D.R.(2020). A Case Study of a Point-of-Care Electronic Medical Record [SABER] in Totonicapán, Guatemala: Benefits, Challenges, and Future Directions. *Annals of Global Health*. 86(1): 1-10. DOI: <http://doi.org/10.5334/aogh.3041>
 30. Floris-Moore, M., Edmonds, A., Napravnik, S. and Adimora, A.A. (2020) Computerized adjudication of coronary heart disease events using the electronic medical record in HIV clinical research: possibilities and challenges ahead. *AIDS Research and Human Retroviruses*. 36(4): 306-313. DOI: <https://doi.org/10.1089/aid.2019.0036>
 31. Hogan, J.M.(1987). Strategic planning: A challenge for medical record professionals. *J Am Med Rec Assoc*. 58(8): 27-31. Available at: <https://europepmc.org/article/med/10301790>
 32. Moore, B.J., Gaehde, S. and Curtis, C.(2008). Architectural choices and challenges of integrating electronic patient questionnaires into the electronic medical record to support patient-centered care. In AMIA Annual Symposium Proceedings. *American Medical Informatics Association*. 2008: 490-494. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2655980/>
 33. Smith, B., Chu, L.K., Smith, T.C., Amoroso, P.J., et al.(2008). Challenges of self-reported medical conditions and electronic medical records among members of a large military cohort. *BMC Medical Research Methodology*. 8(1): 1-10. DOI: <https://doi.org/10.1186/1471-2288-8-37>
 34. Grams, R.(2009). The “new” America electronic medical record (EMR)—design criteria and challenge, *Journal of Medical Systems*. 33(6): 409-411. <https://doi.org/10.1007/s10916-009-9319-0>
 35. Wells, H.J., Baumann, M.R. and Higgins, G.L.(2010). Implementing an Electronic Point-of-Care Medical Record at an Organized Athletic Event: Challenges, Pitfalls and Lessons Learned. *Clinical Journal of Sport Medicine*. 54(3): s122. DOI: <https://doi.org/10.1097/JSM.0b013e3181efada5>
 36. Scholl, J., Syed-Abdul, S. and Ahmed, L.A.(2011). A case study of an EMR system at a large hospital in India: challenges and strategies for successful adoption. *Journal of Biomedical Informatics*. 44(6): 958-967. DOI: <https://doi.org/10.1016/j.jbi.2011.07.008>
 37. Mutshatshi, T.E., Mothiba, T.M., Mamogobo, P.M. and Mbombi, M.O.(2018). Record-keeping: Challenges experienced by nurses in selected public hospitals. *Curationis*. 41(1): 1-6. DOI: <https://doi.org/10.4102/curationis.v41i1.1931>
 38. Denaxas, S.C., Asselbergs, F.W. and Moore, J.H.(2016). The tip of the iceberg: challenges of accessing hospital electronic health record data for biological data mining. *BioData Min*.9(1): 1-4. DOI: <https://doi.org/10.1186/s13040-016-0109-1>
 39. Shukla, K. and Kane, A.(2018). Electronic medical record in rural areas of Andhra Pradesh and Telangana: Challenges and possibilities. *Indian J Public Health Res Dev*. 9(5): 533-539. Available at:

- https://scholar.google.com/scholar?cluster=9958938567673066170&hl=en&as_sdt=0,5
40. Mehta, S.D.(2019). Challenges presented by a custodian-based medical record access system. *Canadian Medical Association Journal*. 191(30) e843. DOI: <https://doi.org/10.1503/cmaj.72281>
 41. Berihun, B., Atnafu, D.D. and Sitotaw, G.(2020). Willingness to Use Electronic Medical Record (EMR) System in Healthcare Facilities of Bahir Dar City, Northwest Ethiopia. *BioMed Research International*. 2020. Article ID 3827328. DOI: <https://doi.org/10.1155/2020/3827328>
 42. Chen, K.L.(2001). Web-based electronic medical record (EMR) systems: Challenges and solutions. *International Journal of Healthcare Technology and Management*. 3(5-6): 444-457. DOI: <https://doi.org/10.1504/IJHTM.2001.001121>
 43. Lydon-Rochelle, M and Holt, V.L.(2004). HIPAA transition: challenges of a multisite medical records validation study of maternally linked birth records. *Maternal and Child Health Journal*. 8(1): 35-38.
 44. Wald, J.S., Middleton, B., Bloom, A., et al.(2004). A patient-controlled journal for an electronic medical record: issues and challenges. *Medinfo*. 2004: 1166-1170. Available at: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.118.1349&rep=rep1&type=pdf>
 45. Gómez, J.M.R., Tulu, B.(2007). Electronic Medical Records adoption challenges in Mexico. *AMIA Annual Symposium proceedings*. 2007: 1093. Available at: <https://europepmc.org/article/med/18694190>
 46. Barlas, S.(2010). Definition of 'meaningful use' poses challenges for hospitals: meeting criteria for pharmacy software and electronic medical records will be difficult. *Pharmacy and Therapeutics*. 35(4): 192-207. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2873714/>
 47. Nishimura, A.A., Tarczy-Hornoch, P. and Shirts, B.H.(2014). Pragmatic and ethical challenges of incorporating the genome into the electronic health record. *Current Genetic Medicine Reports*. 2(4): 201-211. DOI: <https://doi.org/10.1007/s40142-014-0051-9>
 48. Key, D. and Ferneini, E.M.(2015). Focusing on Patient Safety: the challenge of securely sharing electronic medical records in complex care continuums. *Connecticut Medicine*. 79(8): 481-485. Available at: <https://pubmed.ncbi.nlm.nih.gov/26506680/>
 49. Janett, R.S. and Yeracaris, P.P.(2020). Electronic Medical Records in the American Health System: challenges and lessons learned. *Ciencia & saude coletiva*. 25(4): 1293-1304. DOI: <https://doi.org/10.1109/AiCIS51645.2020.00021>
 50. Williams, F. and Boren, S.(2008). The role of the electronic medical record (EMR) in care delivery development in developing countries: a systematic review. *Journal of Innovation in Health Informatics*. 16(2): 139-145. DOI: <http://dx.doi.org/10.14236/jhi.v16i2.685>
 51. Sood, S.P., Nwabueze, S.N., Mbarika, V.W., et al.(2008). Electronic medical records: A review comparing the challenges in developed and developing countries. *In Proceedings of the 41st Annual Hawaii International Conference on System Sciences*. 2008: 248-248. DOI: <https://doi.org/10.1109/HICSS.2008.141>
 52. Adler-Milstein, J., DesRoches, C.M., Kralovec, P., et al.(2015). Electronic health record adoption in US hospitals: progress continues, but challenges persist. *Health Affairs*. 34(12): 2174 - 2180. DOI: <https://doi.org/10.1377/hlthaff.2015.0992>
 53. Zabora, J.R., Bolte, S., Brethwaite, D., et al.(2015). The challenges of the integration of cancer survivorship care plans with electronic medical records. *In Seminars in Oncology Nursing*. 31(1): 73-78. DOI: <https://doi.org/10.1016/j.soncn.2014.12.001>
 54. Aldosari, B., Al-Mansour, S., Aldosari, H. and Alanazi, A.(2018). Assessment of factors influencing nurses acceptance of electronic medical record in a Saudi Arabia hospital. *Informatics in Medicine Unlocked*. 10: 82-88. DOI: <https://doi.org/10.1016/j.imu.2017.12.007>
 55. Jawhari, B., Ludwick, D., Keenan, L., Zakus, D. and Hayward, R.(2016) Benefits and challenges of EMR implementations in low resource settings: a state-of-the-art review. *BMC Medical Informatics and Decision Making*. 16(1): 1-12. DOI: <https://doi.org/10.1186/s12911-016-0354-8>
 56. Rghioui, A.(2020). Managing patient medical record using blockchain in developing countries: challenges and security issues. *In IEEE International conference of Moroccan*

- Geomatics (Morgeo)*. 2020: 1-6. DOI: <https://doi.org/10.1109/Morgeo49228.2020.9121901>
57. Dutta, B. and Hwang, H.G.(2020). The adoption of electronic medical record by physicians: A PRISMA-compliant systematic review. *Medicine*. 99(8): 1-6. DOI: <https://doi.org/10.1097/MD.00000000000019290>
58. Janssen, A., Donnelly, C., Elder, E., Pathmanathan, N. and Shaw, T.(2021). Electronic medical record implementation in tertiary care: factors influencing adoption of an electronic medical record in a cancer centre. *BMC Health Services Research*. 21(1): 1-9. DOI: <https://doi.org/10.1186/s12913-020-06015-6>
59. Ahmadian, L., Dorosti, N., Khajouei, R. and Gohari, S.H.(2017). Challenges of using Hospital Information Systems by nurses: comparing academic and non-academic hospitals. *Electronic Physician*. 9(6): 4625–4630. DOI: <https://doi.org/10.19082/4625>
60. Islam, M.M., Poly, T.N. and Li, Y.C.J.(2018). Recent advancement of clinical information systems: opportunities and challenges. *Yearbook of Medical Informatics*. 27(1): 83-90. DOI: <https://doi.org/10.1055/s-0038-1667075>
61. Nugraha, R., Assidiq, H., Tayyib, M. and Syafira, A.(2021). Harmonization over the regulations of electronic medical records and its potential to be abused. *Medico Legal Update*. 21(1): 1760-1765. Available at: <http://www.ijop.net/index.php/mlu/article/download/2592/2275>.
62. Enaizan, O.M., Alwi, N.H. and Zaizi, N.J.(2017). Privacy and security concern for electronic medical record acceptance and use: state of the art. *Journal of Advanced Science and Engineering Research*. 7(2): 23-34. Available at <https://www.researchgate.net/publication/329787959>
63. Umezurike, I.S.(2021). Exploring the adoption of electronic medical records in primary health care centres in Calabar municipality: the challenges and prospects of e-governance. *Journal of Good Governance and Sustainable Development in Africa*. 6(2): 70-80. Available at: <http://journals.rcmss.com/index.php/jggsda/article/view/91/77>

THE ISSUE OF SUSTAINABILITY: AN OVERVIEW ON THE UN SUSTAINABLE DEVELOPMENT GOALS 2030

R. Basumtary¹, H. Saha² and R. Agnibashya³

¹MA, MPhil, Gauhati University

^{2,3}PhD, Gauhati University

¹Gkhambra1998@gmail.com, ²SunilaGodara@gmail.com, ³Jaibsingh@gjust.org

Introduction

The present situation of the environment is already at stake, be the situation of global warming, ozone depletion, unprecedented air, water and soil pollution. Every action initiated now and in the next coming years will determine the future of our mother earth.

The World leaders unanimously approved the 2030 Agenda for Sustainable Development in September 2015. The 17 Sustainable Development Goals that lie at the heart of that agenda lay out an ambitious plan of action for peace, prosperity, and environmental sustainability. The SDGs are broader in scope and more aggressive in ambition than the Millenium Development Goals were. They are underpinned by a cornerstone pledge that no one will be left behind in development.

Historical Background of Sustainable Development Goals:

The exact meaning of sustainable development remains unclear. Its classic statement was provided by the 1987 Brundtland Commission Report: Sustainable Development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

The 1992 UN Conference on Environment and Development (UNCED) or

‘Earth Summit’ raising the profile of the environment as an international issue while concluding several significant documents and agreements, such as Agenda 21 and international conventions on climate change and the preservation of biodiversity. By the time of the 2002 World Summit, the concept had been subtly altered: to ensure a balance between economic development, social development and environmental protection as interdependent and mutually reinforcing components of sustainable development.

India and Sustainable Development:

The composite score for India improved from 60 in 2019-20 to 66 in 2020-21. This indicates that the country overall has progressed forward in its journey towards achieving the SDGs. Nine goals drive the positive push – 3(good health and well- being), 6 (clean water and sanitation), 7 (affordable and clean energy), 10 (reduced inequalities), 11 (sustainable cities and communities), 12 (responsible consumption and production), 13 (climate change), 15 (life on land), and 16 (peace, justice, and strong institutions), where India has scored between 65 and 99. Two goals – 2 (zero hunger) and 5 (gender equality) demand special attention, as the overall country score is below 50.

Goal-wise India results, 2019–20 and 2020–21:



Source- <https://pib.gov.in/PressReleasePage.aspx?PRID=1723952>

The top-five and bottom-five States in SDG India Index 2020–21:

Top-5 States	75	Kerala
	74	Himachal Pradesh, Tamil Nadu
	72	Andhra Pradesh, Goa, Karnataka, Uttarakhand
	71	Sikkim
	70	Maharashtra
Bottom-5 States	61	Chhattisgarh, Nagaland, Odisha
	60	Arunachal Pradesh, Meghalaya, Rajasthan, Uttar Pradesh
	57	Assam
	56	Jharkhand
	52	Bihar

Source- <https://pib.gov.in/PressReleasePage.aspx?PRID=1723952>

SDG India Index & Dashboard 2019-20: The SDGs represent an elaborate agenda for the governments that necessitates achieving progress simultaneously across social, economic and environmental pillars. To coordinate all the SDGs, efforts at the national and sub-national levels, National Institute for Transforming India, NITI Aayog acts as the nodal institution. At the macro level, India's key developmental programmes, policy focus and resource allocation align with the SDGs. For instance, Ayushman Bharat (Pradhan Mantri Jan Arogya Yojana), which covers 500 million persons and is the largest health protection scheme in the world closely align with SDG 3 (health and well-being) and SDG 10 (reduced inequalities).

Indicators for the SDG India Index 2019 have been identified/derived from the National SDG Indicator Framework (NIF) according to the availability of data at national as well as State/UT levels. A brief description of India's performance towards achieving the Sustainable Development Goals according to the SDG India Index & Dashboard 2019-20 are as follows:-

Goal 1: No Poverty.

Rural workers are protected against unemployment to the extent of at least 100 days of wage employment per household in a year under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

Access to a range of financial services including banking, credit, insurance and pension of vulnerable communities are provided under the Pradhan Mantri Jan-Dhan Yojana (PMJDY). Universalising primary health care is strengthened with the initiation of Pradhan Mantri Jan Arogya Yojana (PMJAY). Vulnerable persons, including the elderly, widows and persons with disabilities accessed pension under the National Social Assistance Programme (NSAP). Access to safe housing is a critical part of essential services, which is ensured under the initiative "Housing for All by 2022".

SDG 2: Zero Hunger.

Innovative initiatives are being introduced to modernize the agriculture and arrest the negative impacts of climate change. Under the "Antyodaya Anna Yojana" (AAY), the poorest from amongst the Below Poverty Line families

are entitled to 35 kg of food grains per month at more subsidised rates. Initiative aimed at achieving better nutrition standards for school going children is the Mid-day meal (MDM) scheme. The National Nutrition Mission (Poshan Abhiyaan), a multi-ministerial convergence mission was launched in 2018 to make a concerted attack on under-nutrition, stunting, and anaemia (among young children, women and adolescent girls). The Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) focuses on improved water efficiency with the motto of “Har Khet Ko Paani” provides end-to-end solutions in the irrigation supply chain.

SDG 3: Good Health and Well – Being.

The extent of change and improvement in India’s healthcare system over the past decade is remarkable. The emphasis on water and sanitation, primarily through the Swachh Bharat Mission, has a considerable impact on the spread of communicable diseases. There are significant efforts and initiatives to improve government accountability on health. The government has committed to enhance public health expenditure to 2.5 per cent of GDP by 2025. India has made remarkable progress in recent years in reducing the Maternal Mortality Ratio (MMR). The initiative of Beti Bachao Beti Padhao has made a considerable impact on correcting the social bias against the girl child. Arresting malnutrition is an essential part of the measures to improve child survival and wellbeing. The multi-ministerial convergence mission of Poshan Abhiyaan focuses on ensuring attainment of malnutrition free India by 2022. The government has been working to eradicate communicable diseases through several targeted programmes such as the National AIDS Control Programme (NACP), the Revised National Tuberculosis Control Programme (RNTCP) and the National Vector Borne Disease Control Programme (NVBDCP). The Mental Healthcare Act, 2017 has an entitlement approach to the delivery of mental healthcare and services. A recent great initiative in the area of ensuring universal health coverage has been the launch of Pradhan Mantri Jan Arogya Yojana with its two components of Ayushman Bharat and Health & Wellness Centres in 2018.

SDG 4: Quality Education.

Having gained considerable success in enhancing the enrolment rates, the emphasis has moved towards improving the quality of education and outcomes. The rapid technological change also demands that the students are equipped with transferable skills. The interventions aimed at these goals are primarily in the following areas:

- a. Free, equitable and quality primary and secondary education.
- b. Access to quality early childhood development, care and pre-primary education.
- c. Accessible, Affordable and Quality Higher Education.
- d. Skill Development and Economic Growth.
- e. Conducive educational facilities that are child, disabled, and gender – sensitive.

SDG 5 : Gender Equality.

The principles of gender equality and objectives of gender justice are embedded in the Constitution of India and are sought to be actualized through various legislation, policies, programmes and special government initiatives. Government schemes such as Beti Bachao, Beti Padhao and Sukanya Samridhi Yojana schemes, among others and mandatory maternity leave rules are all steps in the right direction.

India’s commitment towards undertaking reforms to ensure gender rights and equality is reflected in several legislations enacted for ensuring equal opportunities and dignity of life for women. Ujjawala, a comprehensive scheme is operational for preventing the trafficking of women and children. The Maternity Benefit Programme - Pradhan Mantri Matru Vandana Yojana, aimed to provide partial compensation for the wage loss in terms of cash initiatives such that the woman can take adequate rest before and after delivery of her first living child. The Pradhan Mantri Ujjwala Yojana aims to safeguard the health of women and children by providing them with clean cooking fuel – LPG. Initiatives like the Atal Innovation Mission and Women’s Entrepreneurship Platform of NITI Aayog create an ecosystem of innovation, research and entrepreneurship across the country.

To protect the rights of the transgender community, legislation such as The

Transgender Persons (Protection of Rights) Act, 2019 has been put in place.

SDG 6: Clean Water and Sanitation.

To ensure effective water governance, a new dedicated ministry – the Ministry of Jal Shakti has been created to address interrelated issues. Besides ensuring full access to water for all, robust measures are being taken to optimise water resource endowments in the country. Under the Jal Jeevan Mission, the recently launched campaign of Jal Shakti Abhiyan aims at water conservation and rain water harvesting, renovation of traditional and other water bodies, reuse of water and recharging of structures, watershed development and intensive afforestation to achieve a water secure future for the country. A host of measures are implemented to monitor and remedy water quality by the Central Water Commission. The Namami Gange Programme is an integrated Conservation Mission launched to accomplish the twin objectives of effective abatement of pollution, conservation and rejuvenation of river Ganga.

SDG 7: Affordable and Clean Energy.

India has already electrified all its villages and almost all households. The targeted programme, Pradhan Mantri Sahaj Bijli Har Ghar Yojana (Saubhagya) aims explicitly at saturating electricity connections in the remaining households.

The National Biogas and Manure Management Programme aims at setting up family type biogas plants for providing biogas as clean cooking fuel and a source of lighting.

SDG 8: Decent Work and Economic Growth.

India is recognized as one of the fastest – growing large economies in the world. Start-up India is a flagship scheme of the Government of India launched to nurture innovation and start-ups in the country, aimed at driving economic growth and generating large-scale employment opportunities. Skill India launched in 2015 focuses on short-term vocational-education programmes and seeks to create a minimum of 400 million skilled people by 2022. The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) guarantees a minimum of 100 days of wage employment in a financial year to every rural

household whose adult members volunteer for unskilled manual work.

SDG 9: Industry, Innovation and Infrastructure.

Focus on the digital revolution, internet penetration and financial inclusion are contributing to fueling growth and investment. Flagship programmes like Make in India, Startup India, Stand up India, and Skill India have been playing an essential role in augmenting the collective growth impact. The Pradhan Mantri Kaushal Vikas Yojana (PMKVY) enables the youth of the country to upskill themselves by gaining industry-relevant skills which will bridge the gap between the skills demanded by the industry and those offered by educational and training institutions.

SDG 10 : Reduced Inequalities.

Inequalities in human development are a defining bottleneck in achieving the 2030 Agenda for Sustainable Development. Access to basic services through the JAM trinity (Jan Dhan – Aadhaar- Mobile), and pensions for those in need through the National Social Assistance Programme (NSAP) the government has put in place robust mechanisms to reduce poverty and inequality.

The Right to Education (RTE) Act has contributed significantly to improving enrolment rates and reducing drop-out rates. Through the umbrella scheme Pradhan Mantri Kaushal Vikas Yojana, concerted efforts have been dedicated to bridging the gap between industry demands of skill and the labours' skill-set thereby aiding even the unskilled persons to develop necessary skills to improve their employability.

The government reaches out to all vulnerable sections of the society – women, elderly, transgenders, children, persons with disabilities, Scheduled Caste Communities, Scheduled Tribe Communities, and migrants among others, through targeted programmes in education, health, livelihoods, skills, entrepreneurship, financial inclusion among others.

By making banking services accessible to the historically unbanked population on a large scale, the Pradhan Mantri Jan Dhan Yojana (PMJDY) has been the most potent instrument for financial inclusion for the vulnerable groups.

SDG 11: Sustainable Cities and Communities.

Under the Atal Mission for Rejuvenation and Urban Transformation (AMRUT), basic civic amenities like (water supply, sewerage, urban transport, parks, among others) are provided to all, with a focus on the poor and disadvantaged, in 500 cities including all those with a population over 100,000.

To ensure adequate, safe and affordable housing and basic services for all and upgrade slums by 2022, the Government of India has launched Pradhan Mantri Awas Yojana – Housing for all in urban areas. The Smart Cities Mission (SCM), launched in 2015, aims at building up sustainable and inclusive cities that provide core infrastructure, a clean and sustainable environment and a decent quality of life to its citizens.

SDG 12 : Sustainable Consumption and Production.

There are efforts to adopt and implement environmental sustainability measures, which would help reduce the ecological footprint of economic growth by changing the patterns and processes of production and consumption of goods and resources. Sustainable agriculture is indispensable for a sustainable food system in India. Comprehensive strategies on climate – resilient agriculture have been developed and promoted by the Indian Council of Agricultural Research (ICAR) producing adaptive crop regimes and crop management practices for different agricultural seasons.

According to the US Green Buildings Council, India is witnessing a dramatic increase in sustainable development practice.

SDG 13: Climate Action.

India, with its vast geographic diversity, has a significant number of climate regimes and diverse regional and local weather conditions. The Intergovernmental Panel on Climate Change (IPCC) reveals that India, one of the most vulnerable countries in the world to global warming, will face the challenge of climate change in the coming years.

India is an active participant in the United Nations Framework Convention on Climate Change (UNFCCC) and provides technical expertise and assists in the analysis and review of climate change information and the implementation of the Kyoto mechanism.

The Government is promoting solar energy through various fiscal and promotional incentives. The National Clean Energy Fund (NCEF) helps to finance and promote clean energy initiatives along with the allocation of resources for clean energy research. The high dependency on biomass for cooking, especially in rural areas is being corrected under the Pradhan Mantri Ujjwala Yojana.

Several programmes are implemented to improve natural disaster resilience, such as the National Cyclone Risk Mitigation Project, Schemes for strengthening State and District Disaster Management Authorities, strengthening disaster response force, among others.

SDG 14 : Life Below Water.

To conserve marine ecosystems, the Government of India has undertaken many initiatives. India is a signatory to MARPOL (International Convention on Prevention of Marine Pollution). Levels of marine pollution are being monitored at various locations along the country's coastline through the Coastal Ocean Monitoring and Prediction System. Marine litter is a cause of serious environmental concern. Dumping of tonnes of plastic waste annually into the oceans is a concern for India. A Marine Litter and Microplastics research programme is in place to assess the situation and as a first step towards framing the National Marine Litter Policy.

The Government of India supports research and development activities with an emphasis on mangrove biodiversity. The protection of coral reefs has been provided for under Wildlife Protection Act, 1972, Environmental Protection Act, 1986 and Coastal Regulation Zone (CRZ).

SDG 15: Life on Land.

The National Afforestation Programme targets the development of forest resources with the involvement of people, with a focus on sustainability and improvement in livelihoods of the forest fringe communities, especially the poor. The country has adopted the Joint Forest Management (JFM) approach which proved to be productive both in terms of better protection and management of forest and improved livelihoods of forest-dependent people.

India has a robust system of Acts and legal provisions for the protection and conservation of wetlands. The Ministry of Environment, Forest and Climate Change (MoEFCC) has notified new Wetland (Conservation and Management) Rules 2017 to prohibit a range of activities in wetlands, such as setting up and expansion of industries, waste dumping and discharge of effluents. Conservation of rivers, lakes and wetlands is taken care of under the Centrally Sponsored Schemes of 'National River Conservation Plan (NRCP)'. The number of Community Reserves has increased improving the scope for community participation in wildlife protection. Several initiatives have been adopted to protect various endangered species.

India is a signatory to the United Nations Convention to Combat Desertification. Some of the government initiatives to combat desertification are the Integrated Watershed Management Programme (IWMP), National Afforestation Programme (NAP), and National Mission for Green India.

SDG 16: Peace, Justice and Strong Institutions.

India has a sound legal framework which protects everyone from violence and abuse. India has ratified the UN Convention on the Rights of the Child (CRC). India has enacted several legislations to help fulfil various rights of children, namely the Juvenile Justice (Care and Protection of Children) Act, 2015, the Protection of Children from Sexual Offences Act (POSCO Act) 2012.

The government has taken conscious efforts to end discrimination and exclusion of people belonging to different socio-economic statuses. The government has set up speedy courts to ensure speedy trial of atrocities committed against Scheduled Castes and Scheduled Tribes on the ground of caste. The government has taken noteworthy technology-driven initiatives, such as the Digital India campaign and the PRAGATI (Pro-Active Governance and Timely Implementation) platform (an IT- based grievance redressal and monitoring system).

SDG 17: Partnerships

It is based on the principle that partnerships among the government, civil society, and the private sector are at the core of the successful

sustainable development agenda. Inclusive partners need to be built at various levels – national, sub-national, and local – based on shared vision and values to drive the sustainable development agenda forward. NITI Aayog strives to realize such partnerships. Through its close collaboration with the State/UT governments and creating platforms where the States/UTs come together to discuss SDGs, NITI Aayog develops strong inter-government partnerships. The India-UN Development Partnership Fund is aimed at assisting especially the Least Developed countries, Landlocked Developing Countries, and Small Island Developing Countries in their sustainable development initiatives.

Policy implications

Important policies are to be formulated based on the challenges faced by the countries in achieving the Sustainable Development Goals. India has enacted a number of legislations on conservation of forests and ecosystems, waste management and pollution control. Sustainable development in terms of environmental concerns has been a recurring theme in Indian policy and planning.

Results and Findings

From the above discussion it can be argued that India is already working to achieve various sustainable development goals. There are many challenges that come as a hindrance in achieving the sustainable development goals. It is only by 2030, that we can fully assess whether we can achieve as targeted or not.

The biggest 'challenge' for Sustainable Development is the 'dilemma' of developing nations who seek a faster economic growth for the elimination of poverty, hunger, inequality, unemployment and social injustice without impacting the global environment further.

Conclusion

Implementing the SDGs needs to be a society-wide endeavour, embracing not only central governments and parliaments but also local government, civil society, and the private sector. Overall successful implementation will require transforming the way we live, work, produce, and consume – and each of us as individuals can make a contribution to that. As the 2030 agenda makes clear, "There can be no

sustainable development without peace and no peace without sustainable development”.

Achieving the Sustainable Development Goals is of great significance to protect the environment from further deterioration. It is suggested that it is the responsibility of every individual on earth to protect its environment. The Government should make more strict environmental policies. More NGO's should engage for the protection of environment. These goals are holistic and comprehensive one to address the global issues of all human beings. Development should not be pursued at the cost of the environment. Every generation deserves this environment, its natural resources, its

ecosystem and its biodiversity, the present generation has no right to take away the sustainable rights of the future generations.

India has faced numerous challenges during the first wave as well as in the second wave of the pandemic. The lockdown impacted economic activities. The pandemic has put pressure on health, education and livelihoods. All these has badly affected on the pace of SDG achievements at the national and sub-national . However, due to pandemic, coordinated efforts could be seen of both the Centre and the State governments in preserving and creating livelihoods, ensuring that food requirements are met and the health facilities are augmented to cater to the needs.

References

List of books:

1. Vogler, John. (2011). Environmental Issues. In John Baylis, Steve Smith and Patricia Owens (Eds.), *The Globalisation of World Politics Anintroduction to international relations* (5th ed., pp. 350-351). New York : Oxford University Press.
2. Fadia, B.L., Fadia, Kuldeep. (2015). *Public Administration Administrative Theories and Concepts*. Agra, India : Sahitya Bhawan.

Journal articles:

1. Clark, Helen. (2017). What will it take to Achieve the Sustainable Development Goals? *Journal of International Affairs, THE NEXT WORLD ORDER* : Special 70th Anniversary Issue, 53-59. Retrived from <https://www.jstor.org/stable/44842600>

Report:

1. SDG- India- Index 2019-20. Retrieved from <http://www.indiaenvironmentportal.org.in>
2. SDG India Index 2020-21. Retrieved from <https://niti.gov.in>

Internet sources:

1. Niti Aayog Releases SDG India Index and Dashboard 2020-21 Retrieved from <https://pib.gov.in/PressReleasePage.aspx?PRID=1723952>
2. Sinha, Sudhir. (2017, June 3). *The Challenges And Dilemma Of Sustainable Development: India's Response*. Retrieved from <https://www.google.com/amp/businessworld.in/amp/article/The-Challenges-And-Dilemma-of-Sustainable-Development-India-s-Response/03-06-2017-119426> Retrived on February 1, 2020.

PUBLIC DISTRIBUTIVE SYSTEM GOVERNANCE IN CHHATTISGARH: A CASE STUDY

S. Lingamurthy¹ and Priyesh C.A.²

¹Department of Economic Studies and Planning, School of Business Studies, Central University of Karnataka

²Department of Economics, University College, Kerala University, Thiruvananthapuram
¹sathulingamurthy@gmail.com, ²drcapriyesh@gmail.com

ABSTRACT

The present study, on the PDS governance in Chhattisgarh, focuses on the procurement, collection and distribution of food grains through the public distribution system. The system of delivery of essential commodities through PDS is made people friendly and efficient and also leakage proof through the wide application of technology in the supply chain of ration system. The state has CORE PDS and the most important feature is that it is open to public scrutiny and they are amenable to continuous reforms in its governance which is indigenous and people centric in nature. The transparency and rule based practice in PDS governance led to least complaints from public. The ownership and management of PDS is also revolutionary in nature. The reforms enunciated in PDS eliminated all private individual owners, intermediaries and it is substituted with women's self help-groups (SHGs), co-operative societies and local bodies. It opens up an avenue for open air university for the public and women in the SHGs to learn entrepreneurship. It empowers women and building up their capacity for public and esteemed social life. The study is based on secondary data and intensive field visit and interaction with the stakeholders of the PDS in Chhattisgarh. However, focus group discussions (FGD) were also conducted to have the primary experience of the implementation and utilization pattern of the PDS.

Keywords: Chhattisgarh, COREPDS, MSP, CACP and Supply chain

Introduction

Hunger is the most deplorable manifestation of poverty. This manifests itself in the form of starvation, chronic under nutrition or specific nutrient deficiencies. Although the history of intervention by Governments to bring succor to the needy in times of distress- largely famines, scarcities and crop failures-has been dated but institutionalized arrangement to supply essential commodities led by food items can be attributed solely to the Bengal Famine of 1943. The first government intervention in the PDS in India started in 1940 during the inter-war period. The PDS network expanded in 1970s and 1980s, after the Green Revolution. In June 1992, the Revamped Public Distribution System (RPDS) was launched in 1775 blocks of the country. Targeted Public Distribution System (TPDS) was introduced w.e.f from June, 1997. Today, with the network of around 5 Lakh fair price shops PDS is virtually world's largest system of its kind. The National Food Security Act, 2013 (also Right to Food Act) which provides subsidized food grains to two thirds of India's 1.2 billion population.

Right to Food: A Legal Perspective.

Food, a basic human requirement is often considered as the most basic human right and has been universally accepted as such. Access to food was first declared a right in Article 258 of the Universal Declaration of Human Rights (UDHR), 1948, and the right was subsequently codified by Article 119 of the International Covenant on Economic, Social and Cultural Rights (ICESCR), which encompasses two separate but related norms: the right to adequate food and the right to be free from hunger. Other international legal instruments that India has ratified and that further articulate the right to food is the Convention on the Rights of the Child and Article 12(2) of the Convention on the Elimination of All Forms of Discrimination against Women. In addition to these legal obligations, India has signed up to such political declarations as the 1996 Rome Declaration of the World Food Summit, thereby pledging its political commitment to ensuring its citizens access to adequate food. The Constitution of India both explicitly and implicitly provides for a right to food, thereby offering healthy national protection that is likely more accessible to Indian citizens than similar safeguards provided by international bodies. The Right to Food is inherent to a life

with dignity, and Article 21 should be read with Articles 39(a) and 47 to understand the nature of the obligations of the State in order to ensure the effective realization of this right. Article 39(a) of the Constitution, enunciated as one of the Directive Principles, fundamental in the governance of the country, requires the State to direct its policy towards securing that the citizens, men and women equally, have the right to an adequate means to livelihood. Article 47 spells out the duty of the State to raise the level of nutrition and the standard of living of its people as a primary responsibility. The citizen's right to be free from hunger enshrined in Article 21 is to be ensured by the fulfillment of the obligations of the State set out in Articles 39(a) and 47. The reading of Article 21 together with Articles 39(a) and 47, places the issue of food security in the correct perspective, thus making the Right to Food a guaranteed Fundamental Right which is enforceable by virtue of the constitutional remedy provided under Article 32 of the Constitution. Therefore it is the obligation of the state to be proactive in strengthening people's access to food.

Indeed, the Supreme Court has explicitly stated in various cases that the right to life should be interpreted as a right to "live with human dignity", which includes the right to food and other basic necessities. In 2001, the People's Union for Civil Liberties (PUC) filed a writ petition in the Supreme Court contending that the "right to food" is essential to the right to life as provided in Article 21 of the Constitution. During the ongoing litigation, the Court has issued several interim orders; including the implementation of eight central schemes as legal entitlements. These include PDS, Antyodaya Anna Yojana (AAY), the Mid-Day Meal Scheme, and Integrated Child Development Services (ICDS). In 2008, the Court ordered that Below Poverty Line (BPL) families are entitled to 35 kg of food grains per month at subsidized prices. The Supreme Court held that the right to food is a justifiable, reviewable, expandable, legally enforceable, constitutional and inviolable- right opened up new avenues both for political discourse and for concrete action.

The latest manifestation of Indian government action on the right to food is the enactment of

National Food Security Act, 2013. It is a legislative measure of the Government of India to guarantee subsistence and nourishment to nearly 67 per cent of its 1.2 billion populations. But the major concerns for the success of this Act are- (i) the method of dividing the poor into below and above poverty line groups which leads to significant errors of exclusion, (ii) the system of cash voucher or transfer in the place of distribution of food sometimes compel the beneficiaries to divert the amount to areas other than food items, (iii) lack of emphasis on access to safe drinking water, sanitation, health care education which are complementary conditions for nutritional absorption.

Indian Federal Structure is a pleasant admixture of unity of India on one part and states' autonomy on the other. Greater State autonomy is demanded in order to deepen the —Democratic Consciousness among people to achieve the twin ideals of SOCIAL JUSTICE & EQUALITY. Being a Federal set-up, 'subjects' (items) under the Union and the State Governments are enshrined in schedule VII of the constitution of India, the Supreme source, which defines the authority, responsibility and accountability of Central Government and State Governments. The Schedule contains the Union list, State list and Concurrent list. The Concurrent list, enlists subjects on which both the Centre and the States can make laws. Entry 33 of the 'Concurrent List' deals with trade and commerce, the production, supply and distribution of foodstuffs including edible oil seeds and oil. The policies and programmes for realizing Right to Food in India has demonstrated a commitment to ensuring food security and to realizing the right to food by legally establishing a basic nutritional floor for all citizens by way of the Public Distribution System.

Methodology and Scheme of the Study

The present study is based on secondary data and intensive field visit and interaction with the stakeholders of the PDS in Chhattisgarh. However, focus group discussions (FGD) were also conducted to have the primary experience of the implementation and utilization pattern of the PDS. The initial part of the study deals with

a macroeconomic profile of the Chhattisgarh. The second part enhances the reforms introduced in the PDS of Chhattisgarh over the years which are sketched in the chronological order. A macro level status of PDS in Chhattisgarh and Kerala is compared. In this part, the operation model of PDS in Chhattisgarh and its unique features as a CORE PDS are narrated. In the third part, findings of the field visit and Focus Group Discussion (FGD) are included. In addition to this, a case study of two FPSs, one in rural settings and another in the urban area are studied for understanding the practices at the FPS level. A summary of the findings and recommendations are also included in the last part.

Profile of the state of Chhattisgarh

Chhattisgarh, one of the fastest developing states located in the heart of India was constituted on 1st November, 2000. The geographical area of the State covers over 135,000 square kilometers and the total population accounts to 2.5 Crores as per the 2011 census. With the exception of the hilly states of the north-east, Chhattisgarh has one of highest shares of Scheduled Tribe (ST) populations within a state, accounting for about 10 per cent of the STs in India. The share of both SCs and STs is 44 per cent of the total population. The bulk of its people are concentrated in the central plains region, while the northern and the southern regions have a considerably lower density of population. The size of State Domestic Production (SDP) of the state is 185,000 crores (constant Price) and records annual growth rate of 7.7 per cent based on the latest estimations. Chhattisgarh has a literacy rate of 70.3 per cent with male literacy 80.27 per cent and female literacy 60.24 per cent. The state has very high gender gap in literacy rate of almost 20 per cent which is higher than the national average. However, sex ratio is 991. Poverty ratio remains very

high which accounts to 39 per cent in this newly formed state.

Comparing Chhattisgarh PDS with Kerala

Chhattisgarh is the first state in the country to implement food security act of its own in 2012 even before legislating National Food Security Act. The Chhattisgarh Food Security Act of 2012 not only made provisions for food security but provisions for nutritional security with the objective of increasing protein intake in food for the purpose of balanced diet. Under the food security Act, the following criteria have been set for eligible families:-

- **Antyodaya households:** There is provision to include families in category of Antyodaya households who have been either currently eligible for Antyodaya household scheme or to be included in a vulnerable social group. Such families have a monthly entitlement to Rs.1 per Kg of rice, free iodized Amrit Namak (salt), Rs. 5 per Kg to 2 Kg of gram in scheduled area and Rs.10 per Kg to 2 Kg of Lentils in non-scheduled area. According to departmental data base, 16.92 lakh ration cards have been issued.
- **Prathmikta households:** Families which hold the ration card under the Mukhayamanthri Khadhyanya Sahayata Scheme were put in Prathmikta households. Such families are entitled to Rs.1 per kg to 35 kg of rice; 2 kg free iodized Amrit Namak (salt), Rs. 5 per kg to 2 kg of gram per month in scheduled area. According to departmental database, 47.78 lakh blue cover ration cards of Prathmikta households have been issued.
- **Samanya households:-** Samanya households are defined as those who are not included in Antyodaya households and Aparwarjit households. Such families are entitled to Rs. 9.50 per kg to 10 Kg of rice and Rs.6.75 per Kg to 5 Kg of wheat per month. According to the official database 4.19 Lakh ration cards have been issued under this scheme.

Table 1: A Macro Picture of PDS in Chhattisgarh

Sl. No.	Types of Operators/cards	Number of PDS/Card Holders
1	Total PDS Shops in Chhattisgarh	11,088
2	Panchayats	4115 (37.12 %)
3	Service Co-operative Societies	4364 (39.36 %)
4	Women Self- Help Groups	2412 (21.76 %)
5	Forest Security Societies	154 (1.38 %)
6	Urban Bodies	43 (0.39 %)
7	Antyodaya (Pink cards)	16, 15151 (25 %),
8	Primary (Blue cards)	4502182 (69 %)
9	General (brown cards)	306061 (4.76 %),
10	Disabled (Green cards)	8686 (0.14 %)
11	Total Cardholders	64, 32080

Source: State Economic Survey, 2014-15.

Kerala has to reform its PDS; now lagging behind in modernization

Kerala was the first state which introduced statutory rationing in 1960s which proved to be very remarkable in that period. Kerala's PDS was one of the nationally acclaimed for its effective functioning in a food deficit state. Later it turned into ineffective and failed to retain the consumers due to varied reasons. Now comparing Kerala's PDS in terms of the nature of operation and effectiveness with the Chhattisgarh system, Kerala's PDS system has to undergo rapid reforms and thorough purification in each and every aspect of its operation. Kerala needs a well monitored and computerized PDS distribution system given the situation that the state produces less than 90 per cent of its food requirements and having poverty ratio almost 12 per cent. Like the Chhattisgarh system, it has wide network of Fair Price Shops (FPSs) throughout the state and it is too much hierarchal in its operation. At the district level, government of Kerala depends upon whole sale private distributors for the storage and other services. Even at the retail level, all the ration distributors are private individuals who have association patronized by the leading political parties in Kerala. These politically polarized retail distributors in Kerala challenge the government and its initiatives for reforming the system. The retail distributors follow manual entry of transactions and oppose computerization of the system. There are reported incidents of diversion of ration

commodities to private hotels and packed food producers. The quality of ration items are very poor, corruption is rampant and fake ration cards are usual.

However, the reforms introduced by other states in PDS are not so far reflected in the distribution of food. Almost all Fair Price Shops (FPSs) are unviable and the private ration dealers (100 per cent private retail dealers) fix the responsibility of this unavailability on the Union and State government. There are issues of delay in monthly allocation and lifting and transportation of ration commodities by the state government. Lack of accountability and transparency at all levels; poor involvement of local communities even though the state is widely acclaimed for decentralized governance and people's planning of the state of Kerala is boasted at the international arena.

Operation of Chhattisgarh PDS Model

The State of Chhattisgarh in 2004 had the same system of PDS as existed at present in Kerala in 2004 and considering the importance of food distribution and nutritional security, the government of Chhattisgarh started reforms in the functioning of PDS. New PDS Control Order issued in December, 2004 which facilitated and motivated the use of information technology (IT) and end-to-end computerization of Targeted Public Distribution System. All ration cards were recorded in the IT system of state PDS which enabled the state Civil Supplies department for a computerized supply chain management of

PDS commodities. The reforms in the supply chain of PDS were continuous, the political stability and able political leadership gave all the required political support to the computerization of PDS and end result was Centralized Online Real Time Electronic Public Distribution System (CORE PDS).

PDS reforms ensured Community Ownership of Fair Price Shops (FPSs)

The most revolutionary reform that changed the pace and functioning of PDS in Chhattisgarh was the cancellation of licenses of all private ration dealers and gave ownership and possession of FPSs to women self-help groups, co-operative societies, forest protection committees and urban local bodies and service co-operative societies. This led to social ownership of supply chain management of food distribution system, greater transparency and social involvement and social vigilance. In Chhattisgarh, not a single FPS is owned and run by private individuals.

The second major reform was portability in the FPS system of Chhattisgarh. Under the system, a beneficiary can avail his entitlement from any FPS. Portability encouraged competition between FPSs. In the management of FPSs, if the operators don't follow procedures and strict timing, people (card holders) feel unsatisfied and move to other FPSs. There has been a periodical re-checking of ration card holders in the system which makes it very efficient. There

was a practice that the government asked people to place their ration card status on the house walls publicly. This also removed a lot of fake/bogus card holders. The bogus BPL card holders were removed from the list of BPL beneficiaries and cleaned the list of ration card holders in the state. In Chhattisgarh, ration cards are issued in the name of female head of the households only. The public institutions are given interest-free working capital loan of Rs 75000 for setting up FPSs which needs to be repaid in 20 years in EMIs. Next month allocation for all shops is done from the Directorate of Civil Supplies based on the data and request from the FPSs in the third week or before 25th of every month. Since all FPS are connected online, the Directorate can easily estimate the balance and stock of each FPS and accordingly the fixation of next month's allocation is done with a single click. All information on PDS is made available in the public domain through the widely appreciated **"Jan Bhagidari" portal** – such as SMS alerts, stock position, movement data, call centers etc. The information on truck carrying food-grains are also dispatched to the parties/stakeholders through SMS. All receipts and dispatches in/from procurement/distribution centers are made available through online web based application.

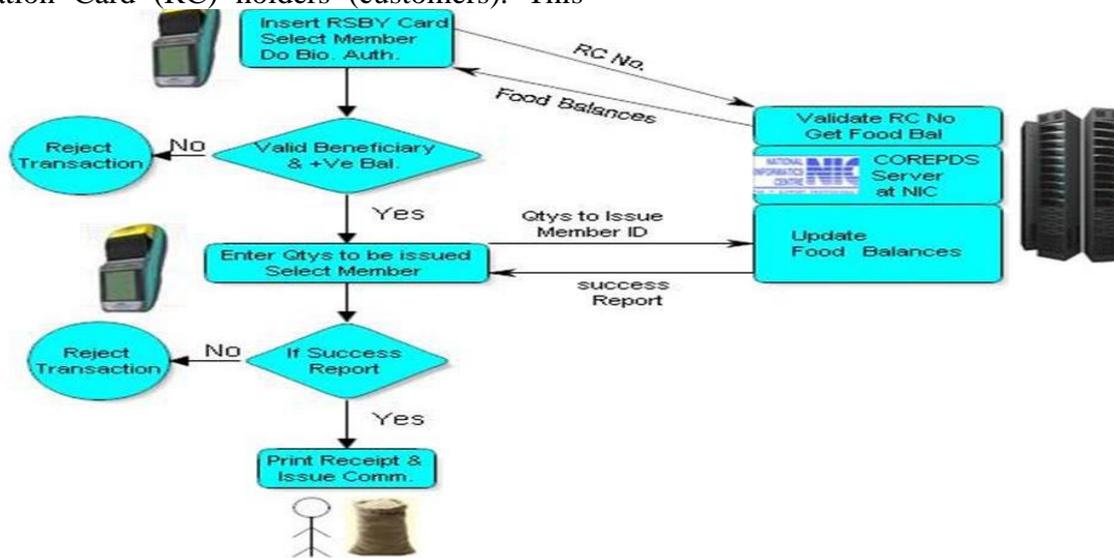
Unique Features of CORE PDS of Chhattisgarh.



This type of yellow coloured trucks carries PDS commodities to all retail outlets in Chhattisgarh

As the PDS system in Chhattisgarh is fully computerized, FPS operators do their business with tablets. The customers who come to claim their entitlements would be asked to share their card number/Aadhar number. Then, their identity would be verified and take their photos. The entitlements/monthly balance entitlements of the ration card holders would be assessed, recorded and supplied. PDS beneficiaries are given the portability facilitates - beneficiary has the choice to pick up her/his rations from any the shop of her/his choice. This technology induced system encouraged competition among FPSs for market share of Ration Card (RC) holders (customers). This

strengthens negotiating position of the beneficiaries of FPSs in Chhattisgarh which is made possible through application of technology in the delivery of services to the poor. It is a unique feature of CORE PDS. Beneficiary gets a printed receipt for cash paid by her for purchases. The truck carrying PDS commodities can be tracked which is made possible on mobile GPRS connectivity. Step-by-step, menu driven user friendly interface in Point of Sale (PoS) device ensures transparency and efficiency of services to the poor people.



All sales transactions at the FPS are recorded through PoS device only. Monthly sales statements of any FPS are generated only from the server (for the purpose of calculating entitlements for next month). All stock receipts are acknowledged by FPS through PoS device only. There are some cases of punishments to FPSs and blacklisting of transporters.

Lessons and Replicability of Chhattisgarh Model of PDS.

The successful PDS management model and its governance can be replicated, provided there are certain congenial conditions, viz, political commitment, stability and an open mind to learn, experiment and continuous reforms. Dr. Raman Singh, Hon'ble Chief Minister's able leadership and political stability of the government has ensured (can go ahead with such) continuous reforms on public governance which is very appealing. Through this system

government ensures rights to the deserved and the expulsion of the ineligible. When we avoid leakages, the entire nation is benefiting and this might be an important step towards an egalitarian society.

The comparison of PDS of the state with other states using any parameters such as implementation, coverage and utilization, targeting needy and deserving, use of technology which is user friendly and optimizing makes it the best one. Chhattisgarh model can be identified as one of the best practices in the world in terms of its coverage, implementation, governance and use of technology. It is fascinating to note that, even the tribal poor and ordinary women without formal education use modern technology not only for availing their right and entitlement but also in running an enterprise which is fully driven by modern technology. The most successful technology driven PDS of Chhattisgarh endorses that even an average

Indian can handle any technology since the tribal community in the very backward region of India is now accustomed with the best technology, then why can't the urban elite? It is also apparent that cashless transactions can be made possible to people even in the tribal areas.

Technology driven PDS by women in Chhattisgarh is an elevation of women to handle technology and make them as successful entrepreneurs and active role in nation building. We make women leaders by giving them opportunities and responsibilities. The model has its relevance in applying technology in public delivery of services, strengthening indigenous local institutions and women groups' active involvements, collective social ownership of PDS and removal of vested interest groups from the very important management and distribution of food grains to poor people. In this sense the Chhattisgarh model of PDS is an open air university for the public and other governments to learn and emulate.

Chhattisgarh model of women run PDS shops can be replicated in other States. Private players will be eying these women for their profitable ventures throughout the state. Chhattisgarh has become a forerunner in PDS and economic and social entrepreneurship of women and broad basing the social and economic life of women in a very backward region. This is a social involvement model of governance and development, making things into the net work of people. This ensures women net work of public governance.

Here the BJP government of Chhattisgarh developed good institution of public governance and public delivery of essential services which changes the destiny of people and making the society not only very inclusive, but also women friendly. It is widely argued in the development history literature that some nations remain poor and some are rich because the way its institutions, both economic and political, shape and incentive for businesses, individuals and politicians. Each society functions with a set of economic and political rules created and enforced by the state and the citizens collectively. Economic institutions shape economic incentives; the incentives to become educated, to save and invest, to

innovate and adopt new technologies, practices and procedures. It is the political process that determines what economic institutions and people live under, and it is the political institutions that determine how economic and educational system must move forward and engage in the development of all sections of society especially poor people, dalits, women and adivasis. An institution or law or amendment influence behaviour and incentives in real life. They forge the success or failures of states. Individual talent matters at every level of society, but we need an institutional/legal framework for transition to progressive development.

Widely Noticed Apprehensions of PDS Stakeholders

Several shifts have been documented in the diet pattern. When people are poor they consume more of traditional starchy and cereal food items. When income increases and society develops people shift their consumption pattern from more of cereals to fewer cereals and to other food items like pulses, milk, vegetables, egg, fish and meat, to processed food and beverages. Such a diversification is very essential since our diet tends to more balanced one. A balanced diet is very essential for our physical and cognitive health. No single food contains all the nutrients. For instance, rice contains more of carbohydrates, egg fish and meat contain protein, fruits and vegetable contain vitamins and essential minerals. A balanced diet ensures a balanced intake of all the nutrients and it ensures positive health outcome. There has been a signal of compositional shift in the diet pattern of Chhattisgarh people in favor of more superior cereals like wheat, and also to pulses and vitamin rich food items even among the poor sections. Hence, it is urgently required to distribute such items through the PDS of Chhattisgarh. This trend had been there in Kerala and other developed states of Indian Union and it is historical and empirical that this shift experienced in the transition of consumption pattern. Otherwise people leave PDS system soon considering their health status and problems of diabetes, other life style diseases and even age related problems. They may need to shift to new food habits to adjust

to the – Kerala consumption pattern may be replicated in Chhattisgarh.

Milling of paddy (processing) is fully under private ownership in which the millers also benefit from the PDS scheme of the state. No mill is owned and operated by the government. So two core agents – Millers and Lorry/Truck owners are heavily benefitting from this scheme. They are getting Rs. 150 per households/ per person for distributing food grains and we can avoid these undue advantages to millers and truck owners/lorry owners. Private the expert argues for linking Aadhar to PDS card holders to move to another level of reform in PDS. It is also been argued for a direct cash transfer rather giving subsidized food grains.

There are certain flaws in the procurement, storage and milling of paddy in Chhattisgarh. The movement of paddy from farmers to co-operatives and then from co-operatives to millers are problematic. Millers are private people and the finance to co-operative societies to procure paddy are given by Marketing Federation/NABARD, district cooperative banks and state cooperative bank. Marketing Federation of Chhattisgarh is the apex – umbrella organization of the cooperative societies engaged in procurement of paddy from the farmers. 71 LMT of paddy is annual procurement in Chhattisgarh. Annual paddy production is 97 LMT and area under paddy cultivation is 36 Lakh hectares which is just two lakh hectares less than the total geographical area of Kerala

All the farmers have to register with the co-operative societies if they wish to get their paddy procured by the societies. Procurement of Paddy is based on Minimum Support Price (MSP) recommended by Commission for Agricultural Cost and Price (CACPC). MSP would be fixed by the government of India. Co-operatives are given license to procure commodities from the farmers and the price of paddy will be credited to the account of farmers within two or three days. This saves farmers a lot from the exploiters.

There has been a uniform ceiling of 15 quintal per acre for procuring from the farmers. So this upper ceiling of 15 quintal per acre restrictions of paddy procurement from farmers is criticized as they would produce per acre more

than this ceiling. Then, they are forced to sell to open market at a very disadvantaged price. This upper ceiling in procurement may be reconsidered to alleviate the concerns of farmers which are politically sensitive issues.

This upper ceiling is decided by the government of Chhattisgarh because there has been a practice of transporting /smuggling paddy into Chhattisgarh from the neighboring states of Orissa, Andhra Pradesh to take advantage of proper and continuous fixation of minimum support price and assured procurement of paddy from the farmers. The government version is that this ceiling is made not to misuse by the millers' lobby and private lobbies of neighboring states. The whole process of procurement giving minimum support price and payment of remuneration crediting to the account within 2 to 3 days are computerized which reinforces the confidence of parties engaged in the system. The millers are private parties and there is no ceiling for them to procure and process paddy. For that they are paid a fair remuneration and millers list is renewed periodically. Their demand is that ceiling of 15 quintal per acre may be increased to 25 to 30 quintal because productivity of rice in Chhattisgarh increased over the years. So a flexible system may be adopted considering the differing and varying productivity of rice across the state of Chhattisgarh.

A Case Study of PDS Shop in a Rural Setting

The study team visited one rural PDS shop at Kendri Village (within Grama Panchayat area) in Abhanpur Block of Raipur District. It had 751 ration card holders including 600 Blue cards (priority cards) and 151 Pink cards (poorest of the Poor – Andhyodaya). Pink card holders were entitled to get 35 Kg ration in a month and Blue card holders were entitled to get 7 kg per unit in a household. Green cards belong to the disabled category. There were no disabled people in this Kendri village. Every household was entitled to get 1 Kg sugar at Rs.13.90 and 1 Kg salt at free of cost irrespective of the type of ration card hold by the household. Household with gas connection of PM Ujjwala Yojana were not entitled to get kerosene. The price of Kerosene at FPS

was 18.4 rupees per liter. FPS owners entered the data on sales both manually and online to the website using tablets. Two boys were employed. They were well trained and equipped to handle tablets and online transactions. Their remuneration was based on commission on the basis of sales and number of card holders.

Work time of the ration shop was from 10 A.M to 5.30 PM and they have to remit the money on daily basis to the co-operative society as this FPS was owned and managed by a co-operative society. They told that the payment of monthly off take should be made to the Directorate of Civil Supplies before 10th of every month and declaration is given to that effect. The study team visited the shop in the last week of January. Now they had to make the payment for the monthly off take of February on 10th of January and this was advance payment. They opined that wastage is there while transporting of the food grains. They were of the view that all the card holders make claim for their entitlements and the system works very smoothly and conveniently. Fear of losing card holders through the portability system compelled them to give proper service and having a very friendly approach towards the customers.

A Case Study of PDS Shop in a Urban Setting

The FPS in an urban setting was run by women self-help groups. Women SHGs Secretary (Name- Rohini) and its members participated in the discussion with the study team. In the year 2011, they formed this SHG. 12 members were in this group and it was easy to get license. All 12 women of the SHG were able to operate the tablets for supplying ration commodities to the card holders All were given training to operate the tablets.

They opined that the allocation of rice to FPS would be given on 22nd to 25th of the previous months and the request for rice of the next month with DD has to be given on 10th of every month. They expressed their gratitude for the good training imparted to them by the Civil Supplies Department of the government. They operate their shop in the community hall and so no need to pay rent. They paid only for electricity. Total 822 card holders were there in

the shop including 706 blue card holders and 116 pink card holders and one special pink card for very poor. There was no lagging in services from the government and timely allotment was done every month. 80 per cent of the cards were linked with Aadhar here in the shop of SHG of women. They opined that loading and unloading were at free of cost. They opined that their commission depends on the allotment and sale of ration commodities.

In case of any difficulty with the distribution, they can appeal to the District Collector and food official etc. and informed that the issues of any kind can be resolved immediately. It is said that the Ward members were determining the criteria for card eligibility based on Chhattisgarh Food Security Act 2012. If someone claims that his/her name was deleted, they can appeal to the Collector. They were of the opinion that working hours may be extended up to 8 pm as it becomes inconvenient to workers going to distant places for works to avail ration commodities. Ration cards were not linked with bio-metric and so it had flexibility. Any member whose name included in the list of the households could come to buy the ration as per provisions.

They opined that distribution of sugar and dal need to be doubled from the present 1 kg to 2 kg and Dal from the present 2 kg to 4 kg. Dal is given through PDS at the time of shortage and this type of distribution should be made permanent to ensure nutrition security of the people especially women, children and poor. Dal is given in times of high prices in the open market, however, distributing dal need to be made permanent in all seasons. Dal will increase the nutrition level of the people.

It is observed that women's getting rights to distributing food grains empowers them. SHGs women got empowered to manage ration shops through computer tablets. They had two to three tablets. If tablets didn't have net connection, the entry can be done offline and all entry can be made online from where and when the internet connection is available. So this practice works both Online and offline. Food inspectors of the government of Chhattisgarh who accompanied the study team told that this practice of computerized PDS has been working even in forest and tribal areas of the state. The Ward member decides the

category of type of ration cards. Even infants are also eligible to receive full units of 7 kg.

Chhattisgarh PDS has become an “Open Air University” for women entrepreneurship and empowerment

The women run PDS shops have been training women in management and entrepreneurship through providing opportunity. They learn business, financial and working capital management, stock management, public relations and dealing with large crowds in their shops, interacting with government officials and politicians all enhance their confidence. This nature of learning is an avenue for women to develop their skill and mould their entrepreneurship. So they can engage in any other entrepreneurship and economic activities.

Conclusion

To conclude, we need inclusive political and economic institutions which rise to the expectations of the common people and ensure all the provisions necessary for the smooth functioning of the State and market. The ability of economic institutions to harness the potential of inclusive markets, encourage technological innovations, invest in people, and mobilize the talents and skill of a large number of individuals is critical for economic growth and development. Women leadership in PDS benefitted the other aspects of the state in development fronts. Saving, Investment and entrepreneurship of women have ripple effects. This may enable Chhattisgarh to be a global leader and in this; leadership of women in the process is very enthusiastic. Rating and grading of PDS can be used for sanctioning them. Jan Oushadi licenses and banks can be motivated to give loans to such highly rated PDS shops, so that PDS owners may get liberal loans from the banks and other financial institutions. No doubt, this is one of the best practices enunciated by a young state and can be replicated in other States after rectifying transitional limitations

Limitations and Recommendations

1. Consumption theories state shift from cereals to superior variety of cereals like wheat and to pulses, milk, soya, fish and meat. Provisions may be made to distribute more quantity of wheat pulses, gram soya etc at a

subsidized rate to the public since demand for such food items are increasing from the poorer section of the society Distribution of sugar and dal need to be doubled from the present 1 kg to 2 kg and Dal from the present 2 kg to 4 kg. Dal is given through PDS at the time of shortage and this type of distribution should be made permanent to ensure nutrition security of the people especially the poor. Dal is given in times of high prices in the open market. Dal will increase the nutrition level of the people. Chhattisgarh do not have Maveli or Neethi (alternative FPS where more variety of food items are distributed at subsidized rate to the poor and middle class) stores like Kerala to control open market prices for middle class and lower middle class. Dal and wheat may be provided through the ration system continuously. As the state is not sufficient in wheat production, 25 kg rice and 10 kg wheat may be issued from FCI instead of 35 kg rice totally.

2. The government of Chhattisgarh may make a plan for improving the nutritional security of women and children. It also can make schemes for accommodating the fast changing consumption pattern of the people. There have been signals in the direction of consumption pattern.

3. Working hours of FPS may be extended to 8 pm as it becomes inconvenient to workers going to distant places for works to avail their entitlements through PDS.

4. The government may make some scheme for the reimbursement of the internet expenses to FPS owner.

5. Alternatives such as Maveli stores, Neethi stores model providing quality commodities to people below the market price should be introduced. This will ensure price control of the commodities in the open market and people may think positively of the government as the government has given them wide option and chances of availing commodities.

6. Ration availability is one problem. People request for convenient time as they have to take one day leave for buying ration and old people request for a separate day for them buying ration as their health don't permit them to stand on long queue for availing ration commodities. Every week, a separate day may be given or

some special consideration may be given to old people when they come to buy ration.

7. Old people have to depend on auto rickshaw drivers for buying ration commodities. Old and widow women may be given preference to in ration shops for availing ration commodities.

8. SMS of availability of ration via mobile may be strengthened. Currently, only limited people get messages on ration distributions. Timely availability of commodities may be issued to all PDS commodities.

9. During survey some people suggested that Pink card holders and Blue card holders may be given separate days – alternative days – for availing ration commodities.

10. A provision may be made to provide essential cloth items at very low price to the poor people through the publicly managed system or through any system issuing such commodities to people equal to marginal cost.

References

1. COREPDS – Hand Book, National Informatics Centre, Government of Chhattisgarh, Raipur.
2. Economic Survey of Chhattisgarh 2014-15, State Planning Commission, Government of Chhattisgarh, Raipur.
3. Reform and Initiatives in Chhattisgarh PDS, Department of Food Civil Supplies and Consumer Protection, Government of Chhattisgarh & ICT Partner – NIC, Chhattisgarh.
4. Chhattisgarh Food Security Act, 2012, Government of Chhattisgarh.
5. Economic Survey (Various Issues), Ministry of Finance, Government of India.
6. Alternative Economic Survey India , Two Decades of Neoliberalism, Alternative Survey Group, Daanish Books, New Delhi, 2010.
7. Ahluwalia, I.J. and I.M.D. Little (ed): India's Economic Reforms and Development, (Essays in Honour of Manmohan Singh), Oxford University Press, New Delhi, 1999
8. Joshi, V. and I.M.D. Little: India: Macro Economics and Political Economy, 1964-1991, Oxford University Press, New Delhi, 1999.
9. Kaushik Basu (ed): India's Emerging Economy, Oxford University Press, New Delhi, 2004.
10. Acemoglu, Daron & James A Robinson: Why Nations Fail: The Origins of Power, Prosperity, and Poverty, 2012, Crown Publishing Group.
11. Chopra, R N (1981) Evolution of Food policy in India , Mac Millan India Limited, New Delhi
12. Jharwal, SM (1998), PDS in India Reassessed, Manak Publications, New Delhi.
13. Tyagi, D.S (1990), Managing India's Food Economy. Problems and alternatives, Sage Publications, New Delhi.
14. Tyagi, D.S and Vijay Shankar Vyas (1990), Increasing Access to Food –The Asian Experience (edited), Sage Publications India Pvt Ltd, New Delhi.
15. Venugopal, K.R (1992), Deliverance from Hunger - The Public Distribution System in India, Sage Publications, New Delhi.
16. Menon, N.R. Madhava (2000), Poverty and State Accountability: A constitutional perspective, SreeChithraThirunal Memorial lecture at the University of Kerala, Thiruvananthapuram on 10th March 2000.

FEATURE ENGINEERING – CHALLENGES AND PROSPECTIVE SOLUTIONS**M. A. Qureshi¹ and M. I. Sheikh²**¹Department of Information Technology, Cluster University, Srinagar, J&K, India.²Department of Computer Science (C) Cluster University Srinagar¹mujtaba170@gmail.com, ²iqbalsheikh915@gmail.com**ABSTRACT**

The most advanced and effective mechanism employed to dig out or to extract the valuable patterns from the large data warehouses is defined as the data mining technology. Different data mining algorithms have been evolved and established so far to perform the data mining methodology. The engagement of these data mining algorithms is based on the relevance and applications of the encountered problem or based on the project involved, to work. To accomplish the data mining approach, a well-defined and sequential flow of steps is followed. The feature engineering mechanism is counted one of the most important steps in the data mining process. So this paper illuminates the challenges and prospective solutions to the feature engineering methodology to accomplish the data mining process in more accurate and precise manner. This paper also presents an overview how feature engineering technology contributes very much for making data mining technology more successful.

Keywords: attributes, features, feature engineering, methods, data mining.

Introduction

Millions of bytes of structured and unstructured data is generated uninterruptedly and gets stored in the diverse databases in the different parts of the world at very reckless speed. Such huge collections and large storage of data in dissimilar forms would be evidenced very much beneficial and expedient if useful knowledge is quarried adeptly. One of the acceptable and conventional technologies had brought a revolution in the modern world to dig out the useful knowledge from these large and distributed data warehouses with immense capability and proficiency is entitled as 'data mining technology'.

Data mining is defined as the discovery of the useful and worthwhile patterns only, from the large collection of databases which was previously unknown (Hand, Mannila, & Symth, 2001). The appropriate and expedient diverse datasets remain unused in absence of data mining technology and methodologies (Qureshi & Shrivastava, 2020). The various stages identified in the process of data mining are presented as Selection, Preprocessing, Transformation, Mining and Interpretation and Evaluation. Feature Engineering plays an eminent role in making data mining a successful technology. To use domain knowledge to obtain required features from the raw data via data mining techniques is called feature engineering. Feature engineering is

sometimes called as applied machine learning (Machine Learning and AI via Brain simulations, 2019-08-01). So here it is good to say that a feature is called as that attribute which is proved much beneficial and constructive in the data science technology. These features are employed for the analysis or to shape the models to perform different predictive or classification like functions. The success of data science, machine learning, artificial intelligence and some other related modern technologies lies in the pure and real features which are achieved by the applications of feature engineering methods.

From the overhead discussion we came to the conclusion that feature engineering deals with the features of the data sets to be used to formulate the diverse models in more concise and more accurate manner. Sometimes extracted features do not exist in form to be read by humans i.e. non-human readable form or the huge and bulky datasets are not accepted by various algorithms. Such types of complications are considered hefty obstacles in feature engineering to progress in designing models. Thus good to say that feature engineering is full of challenges and hurdles however by the applications of existing procedures it counters them efficiently and professionally. The acquired datasets comprises of a huge number of attributes but feature engineering methodologies directs to acquire the only meaningful attributes which

are called as features. In real judgment any attribute of the collected datasets would act as feature or features unless it promises to develop the accurate prediction or classification model.

Following points depicts the process of feature engineering:

- Decision about the creation of features,
- To create features,
- To verify feature and model compatibility,
- Improve the selected features if any need is felt.

Literature Survey

A survey of literature regarding the feature selection approaches is presented below;

In (Yu & Liu, 2004) a new framework is proposed for feature selection. This not allowed to handle feature redundancy implicitly but proposes to use explicit method to curb redundancy problem. By using the definition of relevance, it splits features into weak and strong relevant and irrelevant features. By using definition of redundancy, it classifies weak features into redundant and non-redundant. Finally it does decoupling between relevance and redundancy analysis.

In (Butterworth & et al., 2004) author presents an algorithm to cluster attributes for selection of features using BM distance and after that uses hierarchical clustering for selection of features.

In (Bisiada & Duch, 2008) author introduces algorithm based on Pearson Redundancy Based Filter. This proves much beneficial in high dimensional data for feature selection. This algorithm works well in biomedical data analysis and is only applicable for nominal features.

In (Zhang, 2011) author presents an algorithm for the feature selection which works based on forward and backward greedy like approach, that is intelligent, rectifies or stops to over fitting problems.

In 2015, Storcheus et. al, various machine learning algorithms accomplish task of extraction of features indirectly. New features are generated as the mean value for solution of additional difficult and they do not work openly on transformations.

Feature Engineering: An Overview

To find out the useful features from the datasets which consists of large number of attributes is called feature engineering. Feature engineering is also defined as the process to find the useful features from raw data using diverse mining algorithms. Figure 1 depicts feature extraction process from raw data.

Now a question arises here that, what is feature? Feature is defined as the property of only valuable attributes i.e. which contributes enough for analysis or to develop prediction models.

Feature is that distinctive piece that helps to solve the problem (Discover Feature Engineering, How to Engineer Features and How to Get Good at it- machine Learning Mastery, 2015). Dataset consist of large number of attributes and all these attributes are not equally valuable for the model development. However an assortment of methods or techniques are existing in the feature engineering process to acquire real and valuable features only. These high ranked features play a pivotal role in the process of data mining, machine learning and artificial intelligence. Better features refer to better models and thus better results.

What is the challenge of feature engineering? A well-known proverb is “pure gold doesn’t fear the smelter”. A conclusion to present based on the said proverb, refers that purity of features polishes the entire procedure successful and efficacious. To find out the good quality features from the data is the need of hour. Features play a leading role to enhance drastically the prediction power of any developed or projected model. However the datasets of the real world are coexisting with many problems such as missing values, presence of outliers and noisy data, mixing of structured and unstructured data, data collection errors etc. To train or test any model right and pure features must be conquered first. Data scientists practices about half of the time of data mining process to feature engineering. So here the importance of the feature engineering is depicted i.e. how much imperative is this. More time is specified to FE because of some intense remuneration as; to obtain real and pure features, to decrease the complexity of the developed or projected

models, to enhance performance measures of the models, to train the model in minimum time, to assist models to over fitting or under fitting problems etc.

Extraction and Selection of Features

Extraction and selection are two discrete entities standing in the process of feature engineering.

Extraction is defined as the process to obtain new features from the bulky existing feature datasets by doing some renovation in order to eliminate redundancy problems. Feature extraction makes appropriate dimensions of data available to perform the model training and model testing.

Selection of features targets to explore those attributes which can yield acceptable results.

It is better to have high ranking features instead of large and messy features for the model development. Less number of features decreases the complexity and enhances the speedy creation of the models. Generalization and easy explanation is conceivable more better using less number of features. Filter techniques and wrapper techniques are employed for the feature extraction process. Filter techniques selects only those features which presents a good statistical score. And Wrapper techniques select those feature subsets which shows acceptable performance results during training phase of the model.

Figure 1 depicts how requisite features are assimilated from raw dataset.

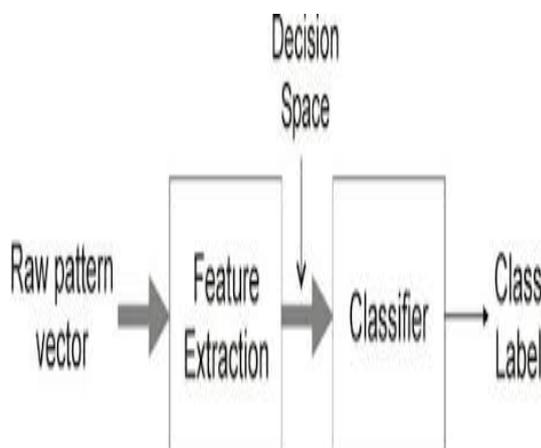


Figure 1: Feature Extraction

Feature Engineering Methods

Feature engineering deals with different kinds or categories of features, so a well-defined principles and strategies are obligatory to follow to reach to reasonable outcome. Feature engineering is sometimes called as applied machine learning (Machine Learning and AI via Brain simulations, 2019-08-01). Different types of features such as categorical, numerical, textual, missing data etc. are handled by means of diverse feature engineering approaches. Available methods to deal with dissimilar features are presented below;

Numerical features (Handling) generally fall in long range values with respect to each other's value. So to bring all the numerical features within a small or little range of difference, a process called normalization is undertaken. This function actually transforms some features to some standardized form i.e. to take them in same range with others. The two prominent normalization techniques are; *Min-Max normalization* which brings the acquired or applied features within the range of [0, 1]. Following transformation is applied on values of features in normalization;

$$X_{new} = (X_i - \min(X)) / (\max(X) - \min(X))$$

And *Z-Score Normalization* applies mean and standard deviation concepts for feature normalization. The Z-Score technique works well in presence of outliers in comparison to min-max normalization technique. Here Z-Score transformation is shown as;

$$Z = (X - \text{mean}(X)) / \text{StdDev}(X)$$

Categorical features (Handling) are assigned to various categories based on the predefined values generally based on some qualitative properties. Some algorithms are indifferent to work on the categorical data so in that situation categorical data are transformed in to numerical data types. This process is performed either replacing the categorical values by a predefined numerical value.e.g. heart_patient=1, kidney_patient=2, healthy=0 and to generate dummy values for the categorical features.

Text feature (Handling) is most trending in the real world presentation. NLP plays a vital in such type of problems. Text features are generated in massive from different sources such as social websites. There are many existing approaches to handle text data which broke acquired document in list type, remove punctuation marks, removal of stop words, common word removal, spelling correction, transform/convert the attained documents into term frequency, inverse document frequency (TFIDF) and so on. Information Gain ratio (GR) is used for feature selection for lyrics (Kumar & Minz, 2013) and poems (Minz & Kumar, 2010) for text data classification.

Missing data (Handling) refers to those data points which lag behind to contribute in devising the classification or prediction models. Missing data problem is more commonly attached with acquired datasets. Following approaches are utilized to tackle such type of problems;

Those features are completely removed or detached from the target set. Rows which contain missing values are also removed absolutely. Some missing values are replaced by mean value of the features or median of the features or even sometimes 'zero' is used to replace the missing values in feature sets.

Figure 2 presents an overview of feature engineering steps.

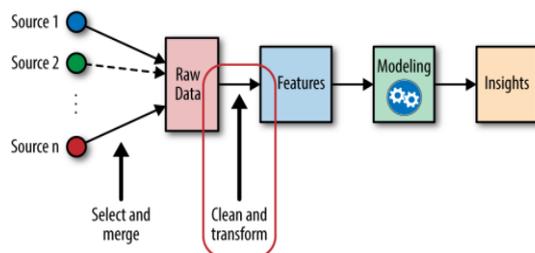


Figure 2: Feature Engineering

Principal Component Analysis (PCA)

This algorithm reduces dimensions of the applied datasets to substantial level and thus makes available a suitable feature sets for model training. The new features created by the application of PCA algorithm represents the whole feature set with complete efficiency.

Conclusion and Future Work

Feature engineering plays significant role in making data mining technology to such an efficacious station. We can say here that feature engineering would be called as the building block for the expansion of the prediction/classification models. This paper highlights the various challenges and difficulties which hurdle the progression of data mining methodology. Further this paper presents a brief discussion about the different methods available in feature engineering to tackle all the barriers in data mining like data redundancy, transformation of data, how to deal with numerical data or categorical data, how to tackle missing data. Here we conclude by saying that successful data engineering and data mining are linked with the success of feature engineering entirely.

In future researchers and scholars are encouraged to determine and develop new methods of feature engineering process to enhance capabilities of data mining methodologies further.

References

- (2015). Discover Feature Engineering, How to Engineer Features and How to Get Good at it- machine Learning Mastery. Machine Learning Mastery.
- (2019-08-01). Machine Learning and AI via Brain simulations. Standardford University. Wikipedia.
- Bisiada, J., & Duch, W. (2008). Feature Election for High- dimensional data a Pearson Redundancy Based filter”
- Advances in Soft Computing. Advances in Soft Computing, 45, 242-249.
- Butterworth, R., & etal. (2004). On Feature Selection through Clustering. Proc. IEEE 5th Intl. Conf. Data Mining, (pp. 1205-1224).
- Hand, D., Mannila, H., & Symth, P. (2001). Principles of Data Mining. MIT.
- Kumar, V., & Minz, S. (2013). Mood Classification of Lyrics using SentiWordNet. Proc. of ICCCI-2013.

7. Minz, S., & Kumar, V. (2010). Poem Classification using Machine Learning Approach. Int. Conf. on Soft Computing for Problem Solving (SocPro 2012).
8. Qureshi, M., & Shrivastava, A. (2020). Efficient Diagnostic Cardiac System Using Machine Learning Approach. ITJEAB, 11.
9. Yu, L., & Liu, H. (2004). Efficient Feature Selection via Analysis of Relevance and Redundancy” J.Machine Learning Research. J.Machine Learning Research, 1205-1224.
10. Zhang, T. (2011). Adaptive Forward-Backward Greedy Algorithm for Learning Sparse Representations. IEEE Transactions on Information Theory, 57, 4689-4708.

ADMINISTRATION OF CHAK DYNASTY IN KASHMIR DURING 1561-1586 A.D**I. A. Mir**Department of History, Annamalai University Tamil Nadu, India
mirj902@gmail.com**ABSTRACT**

Jammu and Kashmir are commonly regarded as paradise on earth. The Farsi couplet is that if there is paradise on earth, it is this, it is this, and it is this (Amir Khusrau). The couplet pushed the eyes of many rulers to rule over Kashmir. The Muslim rule was started in Kashmir in 1339 A.D, which represents a unique example in history. The replacement of Hindu rule by Muslims was affected without any bloodshed. The Chak dynasty came into power in 1561 and ruled over Kashmir till 1586. The country was cleared of thieves and robbers. Corrupt officials were severely dead with. The rulers at that time established well grievances mechanism for the people. The great feature of administration was well planning of royal engagements and the regulation of state business. The rulers had an eagle eye on the treasury and territories of the state. The writers stated that it is very difficult to get the comprehensive administrative structure of Chaks, owing to the absence of any administration treaties. It's to be believed that chaks did not bring changes in the administration except few minor reforms which were affected at the time of need. The result was that the already established institutions were retained and revitalized until the chak rule. The research paper examined the foundation of the Chak dynasty and its administration in Kashmir.

Keywords: Ghazi Chak, Justice, Jazia, The council of ministers, Shi-ism etc.

Introduction**Research Objectives**

1. To unearth the foundation of Chak rule in Kashmir.
2. To shed light on the administration of the Chak dynasty.
3. To identify the ascending order of the Chak dynasty in Kashmir.

Research Question

1. Understanding of Chak rule in Kashmir?
2. How Chak dynasty came into Kashmir?
3. Discuss the ascending order of Chak rulers?
4. Highlight the administration Chak dynasty in Kashmir from 1561-1586?

Material and Methods

In this paper, data for the present study is collected mainly through primary & secondary sources. The objectivity of historical and current writings has been used to develop a study's frame work and arrive at an unbiased conclusion—the data collected with the view to analyze the foundation and administration of Chaks in Kashmir.

Literature Review

1. **The spread of Shaivism in Kashmir during the Chak dynasty** published in a social science journal by Parweg Aalam.

In this paper the author explained how Shiism gained ground in Kashmir also he highlighted the establishment of Chak dynasty.

2. The book entitled as "**Kashmir under sultans** tailored by "**Mohibbul Hasan**" published in the year of **1959**. In this book the author explained the Chak rule in Kashmir. He analyzed the administrative structure of Chaks and scattered light on the administration of Chaks of different Chak rulers.
3. Another craft is entitled "**Medieval Kashmir from Chak to Mughals**" drafted by "**Mushtaq Ahmad Tantry**" in 2017. In the craft, the author highlighted the social, political, economic life of Chaks in Kashmir. The book also shed light on various types of taxes imposed or abolished by Chaks in Kashmir
4. Another statecraft, "**Kingdom of Kashmir**" written by "**M . L Kapoor**" published in 1983. In this book, the author analyzed the political and cultural history of Kashmir from the earliest times to 1586 A.D.
5. A history of "**Muslim rule in Kashmir from 1320-1890**" written by "**R.K Parmu**" explained the history of the entire period of Muslim rule dealing with its political, cultural, economic features in a thoroughly critical and objective manner.

6. Another paper is written by "**Jozef Pacholczyk**" entitled as "**Sufiyana Kalam, the classical music of Kashmir**" published in 1978 in the **Journal of Society for Asian music**. He explained how the Muslim dynasties promoted the music as a part in their administration.
7. Another article entitled as "**Yousuf Shah Chak- a ruler of Kashmir**" written by "**Deepak Kamboj**" in the year of 2020. He explained the Yousf Shah Chak life history and shed light on how Yousuf Shah Kashmir started rule in Kashmir. The author explained all the organizational strategies of Yousuf Shah Chak.
8. The article drafted by "**Aijaz Hussain Malik**" entitled as "**Sufism & Shaism in medieval Kashmir: A study of the relation between state and religion**" published in the year of 2014 in **Indian journals**. In this paper the author defined how shaism entered Kashmir also; the writer scatter light on what is the connection between shaism and Sufism.
9. Another paper drafted by "**Mushtaq Ahmad Wani student of Ali Garh Muslim University**" published in 1992. The paper is entitled "**Muslim religious trends in Kashmiri modern times**". He examined that how the Muslim religious trend of Chak and other dynasties influenced Kashmir in modern times.

Discussion

The Kashmir a heart-throbbing picturesque land cape, is worldwide famous for its diverse scenery and natural features. The heart-throbbing landscape took the eyes of several dynasties to rule over Kashmir. All the dynasties have their peculiar administrative setup. However, it is to be believed that Kashmir was ruled by the Chak dynasty from 1561 -1586. The chak dynasty had undergone several administrative Changes. The valley came under Mughals' lap with diplomatic ruler Akbar, who laid down the Mughal emperor's bedrock in 1586. However, Babar established a strong Mughal sultan in the Indian subcontinent after the triumph over Ibrahim Lodi. The Chaks were originally connected to a tribe of dars found in the Gilgit Hunza area. The historians believed that Chaks originally

came from Dardistan (Gilgit Hunza Region) and cemented their rule in Kashmir. The Chak dynasty was strongly assisted by Shah Mir, who recruited Chaks in his army. The Chaks were bodily strong cleaver by mind thus possessed fame and strength in the valley. After some time, the Chaks suffered a severe blow in the times of Sultan Zainul Abidin. During this situation, the leadership was in the hands of the great Chak ruler i-e Pando Chak. The Chaks have mostly belonged to Shia sect; hence, during Mirza Haider Doulat, a Sunni follower suffered discrimination at his Hands. When the soul of Mirza Haider Doulat tasted death, the power and authority of Chak were repealed again. They elevated their sovereignty again when entering into matrimonial alliances with heavy land possessed and continued their rule in Kashmir. The Chak dynasty had hierarchical leaders who ruled Kashmir from time to time. However, the Chak dynasty's foundation in Kashmir was first laid down by Gazi Chak after having triumph from Sultan Habib shah last ruler of the sultanate dynasty from 1561-1563. During the last years of Gazi Chak's leadership, the dynasty became weak when Gazi Chak's health has deteriorated. The throne was later managed by his brother, namely Hussain Shah Chak from 1563-1570.5 several capable leaders in Kashmir ruled the Chak dynasty. They strongly made their administrative set up with unique features. Almost five great leaders ruled the dynasty. Their names are chronologically mentioned below.

1. *Gazi Shah Chak from 1561-1563 A.D*
2. *Hussain Shah Chak 1563-1750 A.D*
3. *Ali Shah Chak from 1570- 1578 A.D*
4. *Yousuf Shah Chak from 1578-1579A.D*
Second phase of Yousuf Shah from 1580-1586 A.D
5. *Yaqub Shah Chak from 1586 A.D*
6. *Council of Ministers*

Administration of Chak Dynasty:

The Chaks had entered Kashmir in the time of Suha deva and were raised to permanent status by Sultan Shams-ud-din. But begin to play role in the kingdom during the reign of Muhammad Shah, they increased their prestige and power by entering into marriage alliances with ruling dynasty, and by their discretion, energy,

perseverance's and valour they in due course succeeded in defeating all their rivals and making themselves supreme in the country. Chaks being a Shia sect of Muslim theology proclaimed that the people were free to profess any religion and no one was allowed to impose restrictions upon others belief. The Chak government was on absolute monarchy, both in legal and political sense. But it was not an abandoned autocracy. Their authority had its checks in the code of law, the nobility and the Ulmas. Of course, it depends upon the ability and attitude of each individual ruler. The Chak kings had the Khutba read and coins struck in their own name. The Chak rulers concentrated all powers whether executive, legislative and judicial authority was in their own hands. They were kind and benevolent kings and their rule was enlightened autocracy. Yakub Shah Chak was the only Chak who attempted to establish himself as an ideal Muslim king whose primary functions accordingly to Muslim jurists was:

1. He always tried to defend the territories of Islam and cannot endure any intervention of anyone who wages a war against Islam.
2. He was a great ruler and performed himself several duties as a supreme administrator & judge. He was assisted by his sub ordinates when performed duties like collection of taxes.

Gazi Chak 1561-1563 A.D

The first Chak Sultan of Kashmir ascended the throne under Nasir ud- din Muhammad Ghazni Shah from 1561-1563. He was an intelligent person and used his mind to make many efforts to remove various evils in the state. He was particularly careful to rehabilitate the finance. Due to various factors, political and natural, the treasure had become empty. He appointed high level headed Governors for maintaining justice. The justice was deeply enriched in his blood. Once upon a time, one servant caught plucking fruits in an orchid; the king ordered his hands cut off. He established a semblance of peace and conquered some of the kingdom's traditional territories, notably Skardu, Gilgit, Kiahtwar, and Pakli. For these, he deputed able and intelligent Governors. The Gazi Shah was a Shiite, but he allowed freedom of belief to all religious persons. According to the script of Nawadrial Akbar that Gazi Shah was intolerant by nature. Due to this reason, many

Sunni chiefs like Nusrat chak, yousuf chak and Najim malik brought Qara Beadhur to overthrow him. Akbar sent qara Badhur to invade Kashmir. Still, the union of Sunni Nobles refused to help him and showed their loyalty to Gazi Shah. He possessed all the charismatic qualities and tried to make their administration strong. Under his administration, there was the department of vigilance, energy. He established good law and order in the state and tried to protect it from Mughal invasions. He was a cultured man and drafted many verses in Persian. He was soft-hearted to those who were loyal to him. All the people, traitors, were ruthlessly treated by Gazi Chak if he found them in any embezzlement case. He introduced very draconian laws for those who were involved in the ill practices of administration. He severally watched the ill administrators, and there was a law of cutting limbs of those who were followed ill practice inside the administration. Gazi Shah had a high sense of justice. Once a servant of his favourite son, Hider khan, he picked up jujube from the ground while accompanying him. He observed this and had the hands of the servant cut off. When Haider khan heard of this, he was so angry that he refused to visit his father. Gazi Shah Chak felt hurt and sent Hiders uncle, Muhammad Malik, to remonstrate with him. Haider got enraged and stabbed his uncle in death. Gazi Shah, thereupon, caused Haider to be hanged. His body was exhibited on the gibbet for eight days and then thrown into the river.

Husain Shah Chak: 1563-1570 A.D

The second ruler of Chak dynasty was Husain Shah Chak. He was succeeded by his brother and ruled Kashmir from 1563-1570. He, too, was a great administrator having lofty leadership skills to run the state business. Besides some ministers, he makes their chief ministers like Mubariz khan, Malik Lula, and Ali Koka, who helped him in his administration.¹⁵ The Sultan made a system in his administration once in a week to dispose of each department's work in a particular day. He divided the days in the following manner: On Monday, he attended the court with Qazi. On Tuesday, he went on hunting. Wednesday, he spent with his army. Thursday, he passed in the company of musician and friends. Friday, he

discussed with Ulmus. On Saturday with the society of Hindus and Buddhists priests. And Sunday, he spent with the Sufis. He was a liberal because Hindu enjoyed full freedom during his reign. He was against embezzlement and corruption. He was much soft-hearted when he allowed Shia, Hindus to participate in festivals like Sripancham and Besant Panchami the Sultan himself participated. By the time Husain Shah ascended the throne, the bitterness in relation between the Sunnis and Shia had greatly died out, so Husain Shah appointed Sayyid Habib, a Sunni jurist as Qazi Srinagar. He always shows great hospitality to Akbar's envoy and sent them back with gifts and honors.

Ali Shah Chak 1570- 1578 A.D

Ali Shah Chak headed the Chak dynasty from 1570-1578. He made Sayyid Mubarak Baihaqi his Wazir. Sayyid Mubarak Baihaqi was a man of peace and believed in settling the affairs by tact. To strength further the bond of friendship, he gave his daughter to Mubarak's son, Sayyid Abu-i Mali. He was a strong believer of justice, peace etc. He was kind and of a humane disposition and forgave even those who took up arms against him. He discontinued the practice of blinding and cutting off limbs of a political opponent. He was a liberal and did not discriminate Shite and Sunnis. He deeply used religious principles as a tool to maintain state affairs. Therefore during his region, the administration was based on religious principles. He, to a great diplomatic and religious leader. He ordered that Khutba should be recited in the emperor name. He runs the administration with justice's moderation and kindness. He was found of playing a game polo, but one day in early 1579, during a game, he was mortally injured and returned to the palace and realizing that his end is near, and crowned his eldest son Youssef Shah Chak as Sultan.

Yousuf Shah Chak 1578-1579 A.D

Yousuf Shah Chak ascended the throne in 1579, which ultimately ended in 1580. He was a romantic figure married to a great Kashmiri poet, namely Hubba Khotan, popularly called Zoon or Zooni. He was a luxury person in nature, which led to the decline in state administration. He visited Agra to meet with Akbar expected his assistance to regain or

restore his throne. He was a great ruler as he abolished much tax like Mir Bhari (tax on boot man), the bagger system, and Jaziys. Under his administration, some defective ministers and nobles like Haider Chak, Muhammad Bhat later led to revolt.

Yousuf Shah Chaks second reign from 1580-1586 A.D

During the first phase of his tenure ship, he was not interested in looking after the state administration. This negligence led to the heavy loss of Yousuf Shah Chak. After the heavy loss, the sultan looked at the administration seriously and became sultan a second time. After becoming king, he appointed Mohd Bhatt as his chief minister. During his second reign, he looked upon his subjects carefully was helped by some great men like Haider Shah Habib shah and Yousuf khan. The Mughal emperor Akbar helped him by sending troops. The ruler maintained a majesty court for justices. In the end, Yousuf Shah surrendered his will and died in 1592. His death led the Mughal rule in Kashmir.

Yakub Shah Chak: 1586 A.D

The Mughals were not successful in ascending the throne in Kashmir, and they withdrew from Kashmir. Yakub Shah Chak declared himself the ruler of Kashmir but was under the lap of the Mughal threat. He was very argent and showed little respect towards nobles. His general attitude towards his subjects was also cruel and merciless. The people during his reign did not tolerate suppression. The people's patience was now at an end. Led by Shaikh Yaqub Sarfi, a noted Scholar and some prominent persons approached Akbar to annex Kashmir without further delay. On their part, they promised him all help on certain conditions, which Akbar accepted. These were that:

- (i) The government would not interfere in their religious affairs and grant full freedom of worship.
- (ii) They would be allowed to carry on their trade and commerce.
- (iii) They would neither be made slaves nor required to do beggar, and
- (iv) The nobles with a black record would not be associated with the administration of the country.

Council of ministers during Chak rule

The Chaks was assisted by a council of ministers called Amatya Parishad or Mantra Sabha. The council of ministers was the advisory body and worked under the king's confidence. They can hold office under the king's pleasure. The council of ministers belongs to landowning families and nobles. He was his commander in chief and led the campaign either personally or appointed other commanders in his place. He was the highest court of appeal and had the power of life and death over his subjects. All the important decision was taken by king himself like foreign affairs war, peace etc. Gradually during the reign of Yusuf Shah Chak, the system as mentioned above was changed when Mughal interfered. The council of ministers then became a powerful body. The administration of the Chak dynasty has its arch structure. Under the structure, the highest judicial authority was the Qazi in the state. However, the office of the Qazi was introduced and was the legacy of Sultan Skinder in Kashmir. Syed Hussain Sheerazi acted as the first Qazi appointed by Skinder. The power and authority of Qazi were much tectonic and influential. He was not only the head of the judicial department but also of the pastoral of the department. He looked after the educational and charitable endowments. He advised the sultan on religious matters. He was helped by a Mufti who had a stronghold on Hanifite laws. Another officer under the supervision of Qazi, whose name was Mir Adil. Whose duty was to perform semi magisterial functions? Whenever there was a dispute between the people, Mir Adl tried to resolve the dispute if both parties were agreed. Justice was strongly administrated by the sultan as well as by the wazir. The sultan's domain acted as a first court of appeal who tried to resolve civil and criminal cases. The justices were dispensed by the sultan sitting in the Diwani-Khana in the open darbar every day. However, the other officials were accessible to the people on every day of the weak.

The wazir was the highest official of the state and was head of civil administration. He was the constant adviser of the sultan and enjoyed his utmost confidence. His powers were great, and, therefore, his ability and wisdom

depended on the kingdom's welfare and stability. Next to Wazir, Diwani-i-kul was the most important officer in the kingdom. Diwani-I Kul was entrusted with the financial management of the kingdom.

Another important dominant group was the noble class, which played an important role in the Chak dynasty's political field. The nobility under Chaks was not a homogenous body. Still, it was drawn from various social groups, viz Sayyids, Dars, Maliks, Lions, Raines, Bats, Kokas, Dunisand Najis, being composed of all sorts of local and foreigners. Some foreign nobility was receiving royal patronage of the Chak kings. Baba Talib Isfhani and Mohammad Salem Kashghari, both these nobles, played a significant role in the times of Yusuf Shah Chak and Yaqub Shah Chak and fought against Mughal invader Raja Bhagwan Das.

The Military Department

Mir Bakshi was the head of the military department and was, therefore, an important officer. He kept the register of the soldiers, distributed their pay and was responsible for their recruitment. The army consisted of Provincial Troops, Feudal Levies, Volunteers and The Standing Army.

The Provincial Troops were stationed in the various provincial towns. Their number varied according to the strategic importance of the place. Then there were the garrisons in the frontier Forts of watch stations at the head of the passes under their respective commanders called Nayaks. There was also garrison in the forts built inside the valley at strategic places like Andarkot, Manar, Chiraodar Nagam and Biru. The second type was the Feudal Levies were the forces which the nobles supplied the sultan in the time of wars. Each contingent was under the command of its chief. Third was Volunteers were called out in a time of emergency when a foreign invasion threatened the valley.

Usually, the Sultans appeal response was favorable, and the people rallied to their country's defense. The last one was the Standing Army, who were under the Sultans' direct control and was recruited from amongst the Chaks, Sayyids, Rania's and others, who had the reputation of being good soldiers. The standing army was stationed at the capital, and

in time of war, the sultan marched at its head to repel the enemy and dispatched a part of its under a separate commander. The army comprised foot and cavalry. The horsemen rode on ponies, but the officers rode on horses imported from Turkistan and Iraq. Owing to the mountains nature of the valley, the cavalry was the most important arm of fighting force, and that is why the capture of the royal stable usually preceded an attempt to seize the throne's. The weapons commonly employed were swords, bow and arrows, spear and mace. In later Chaks, gunpowder came to be known in Kashmir, but even then, its use was on a restricted scale. The soldiers wore coats of mail, while the horses were caparisoned with steel.

Shi -sism:

Kaka, highlighting this incident's fundamental importance. The acceptance of Shiism by these two had won shiism all their followers and devotees. The Shiism might have thought that if the Reshi accepted their beliefs, their faith would flourish across the length and breadth of Kashmir. The Shiism was not harassing the Reshi; their discussion with the Reshi was a clear ploy to win that group of the Kashmiri Muslim society, which had complete sway over most of its population. This brave step was taken in an atmosphere of political security when Chaks were beginning to dominate the administration of Kashmir.

Kaji Chak, the foremost benefactor of the Mir Shamsu-d-Din Iraqi the descendants of Pandu Chak, Hussain Chak and Kaji Chak embraced Shiism Kaji Chak, the foremost benefactor of the Mir Shamsu-d-Din Iraqi the descendants of Pandu Chak, Hussain Chak and Kaji Chak embraced Shiism by following Shams-u-Din Iraqi The growth of shiism witnessed with the ascendance of a Shii, Kaji Chak to the position of wazir and kingmaker, and the resultant encouragement Shiis felt in the expression and propagation of their rituals and practices, belief and outlook are demonstrated by the way they look to debate and discussion openly with Sufis, Reshi and learned memo of other schools of Islam. Sayyid Ali provides references of such sort where shiis put to the test Sunni Sufi and Rishis of Kashmir's spiritual worth in a manner not witnessed during previous regimes to impress their

followers with superiority of their faith and thereby conversion to Shiism. Tawarikh Kashmiri mentions that Baba Lusti, one of the disciples of Baba Hanafu-d-Din, was head of the Reshi during Malik Kaji Chak's reign because of the religious discords (fitna) he was harassed for his religious beliefs by shiis. Some of the Reshi, like Shungli Reshi and Beni Kaka, because of their weak faith, had given up their Sunni beliefs. Sayyid Ali feels disgusted with Shiism's adaption by Ahungli Reshi and Beni by following Shams-u-Din Iraqi The growth of shiism witnessed with the ascendance of a Shii, Kaji Chak to the position of wazir and kingmaker, and the resultant encouragement Shiis felt in the expression and propagation of their rituals and practices, belief and outlook are demonstrated by the way they look to debate and discussion openly with Sufis, Reshi and learned memo of other schools of Islam. Sayyid Ali provides references of such sort where shiis put to the test Sunni Sufi and Rishis of Kashmir's spiritual worth in a manner not witnessed during previous regimes to impress their followers with superiority of their faith and thereby conversion to Shiism. Tawarikh Kashmiri mentions that Baba Lusti, one of the disciples of Baba Hanafu-d-Din, was head of the Reshi during the reign of Malik Kaji Chak religious discords (fitna), he was harassed for his religious beliefs by shiis. Some of the Reshi like Shungli Reshi and Beni Kaka, had given up their Sunni beliefs because of their weak faith. Sayyid Ali feels disgusted with Shiism's adaption by Ahungli Reshi and Beni Kaka, highlighting this incident's fundamental importance. The acceptance of Shiism by these two had won Shiism all their followers and devotees. The Shiism might have thought that if the Reshi accepted their beliefs, their faith would flourish across the length and breadth of Kashmir. The Shiism was not harassing the Reshi; their discussion with the Reshi was a clear ploy to win that group of the Kashmiri Muslim society, which had complete sway over the majority of its population now. This brave step was taken in an atmosphere of political security when Chaks were beginning to dominate the administration of Kashmir.

Result & conclusion

All the historians agree that the Chaks came to Kashmir from Darads I.e., Dardistan, ferocious and turbulent by nature; they possessed great physical strength. When Shah Mir founded the Sultanate, he recruited them into prominence. In the time of Zainul Abidin, Pandu Chak was their leader. But he showed willful conduct; after that, the sultan put him and some other leading Chaks to death. The surviving Chak families were then settled in Kupwara and Trahgam, known as the Kupwari and the trahgami Chaks. Kashmir is regarded as paradise on earth, but in a real sense, it is a state of war from beginning to now. Kashmir is ruled by several dynasties like Mauryan, Pathans, Huns, sultanate dynasty, Chak dynasty Afghan dynasty and Dogra dynasty. The last ruling dynasty of the princely state of Jammu and Kashmir. All the dynasties followed their own administrative set up with the name of different administrative portfolio. Kashmir experienced different political, social, economic, cultural and administrative changes from time to time. It is worth mentioning here that the entire ancient dynasties had gone, but their cultural existence and some footprints in

different forms are still prevalent in some parts of the valley.

Declaration of conflicting interest:

The author declared no potential conflict of interests with respect to the research, authorship. And/or publication of this article.

Funding:

The author received no financial support for the research, authorship, and/or publication of this research article.

Acknowledgement

I would convey my most significant appreciation to every single one of the people who gave me the probability to complete this paper. An extraordinary appreciation I accommodate my guide **Dr. K. SANKARI** whose responsibility in thoughts and encouragement helped me with arranging my article in a period bond way.

Other than I should perceive with much appreciation the fundamental piece of all of those researchers and writers who had successfully drafted their papers on a comparative locale their references and citation helped me an extraordinary arrangement to complete my article in a productive manner.

References

1. Abass, G. (2006). *Contribution of Kashmir to Persian Poetry during the Reign of Shahjahan* (Doctoral dissertation, Aligarh Muslim University).
2. Ara, A. (2005). Shahmiri Sultans of Kashmir—1339-1554. In *Proceedings-Punjab History Conference* (p. 141). Department of Punjab Historical Studies, Punjabi University.
3. Bhat, Momen, M. (1987). Appendix II. Shi'i Dynasties. In *An Introduction to Shi'i Islam* (pp. 304-309). Yale University Press.
4. W. A. (2020). Gharana Tradition in Kashmiri Sufiana Mausiqui. *VOL. XXXIV December 2020*, 86. 692
5. Darzi, S. A. (2017). Foundation of Mughal rule in Kashmir. *Asian Journal of Research in Social Sciences and Humanities*, 7(9), 436-442.
6. Haig, T. W. (1918). The Chronology and Genealogy of the Muhammadan Kings of Kashmir. *The Journal of the Royal Asiatic Society of Great Britain and Ireland*, 451-468.
7. Johar, P. (2019). Complementary Identities, Dichotomous Constructions: Navigating religious, sectarian, and caste identities in Indian-Occupied Kashmir. *Prabuddha: Journal of Social Equality*, 3(1), 77-105.
8. Abdel Haleem, M. A. S. (2012). The jizya Verse (Q. 9: 29): Tax Enforcement on Non-Muslims in the First Muslim State. *Journal of Qur'anic Studies*, 14(2), 72-89.
9. Ahmad, A. (1979). Conversions to Islam in the Valley of Kashmir. *Central Asiatic Journal*, 23(1/2), 3-18.
10. Haig, T. W. (1918). The Chronology and Genealogy of the Muhammad and Kings of Kashmir. *The Journal of the Royal Asiatic Society of Great Britain and Ireland*, 451-468.
11. Johar, P. (2019). Complementary Identities, Dichotomous Constructions: Navigating religious, sectarian, and caste

- identities in Indian-Occupied Kashmir. *Prabuddha: Journal of Social Equality*, 3(1), 77-105.
11. Khan, M. H. (1953, January). Some aspects of Kashmir history under the Shah Mirs and the chaks. In *Proceedings of the Indian History Congress* (Vol. 16, pp. 194-200). Indian History Congress.
12. Malik, A. H. (2014). Sufism and shi'ism in Medieval Kashmir: A Study of the Relation between State and Religion. *Research Journal of Humanities and Social Sciences*, 5(2), 207-220.
- Bibliography:**
1. Ahmad, Manzoor. "MUGHALS and KASHMIR with its ECONOMY (1586-1752 AD)."
 2. Ganie, Zahied Rehman, and Mohammad Huzaif Bhat. "A Comparative Study of Kashmir Economy from Early Historical Times To the foundation of Muslim Rule."
 3. Hasan, Mohibbul. *Kashmīr under the Sultāns*. Akbar Books, 2005.
 4. History of Muslim rule in Kashmir 1320-1819." (1969).
 5. Khan, Mohammad Saleem. *The history of medieval Kashmir*. Gulshan Books, 2006.
 6. Rai, Mridu. *Hindu rulers, Muslim subjects: Islam, rights, and the history of Kashmir*. Orient Blackswan, 2004
 7. Ray, Sunil C. *Early history and culture of Kashmir*. Munshiram Manoharlal, 1970.
 8. Wani, Nizam-ad-Din. "Muslim rule in Kashmir :(1554 AD to 1586 AD)." (1987).

LEARNERS ENRICHING THE TUTORING PRACTICES AMIDST COVID-19 ISOLATION TENURE AND RECONSTRUCTING THE STRUCTURE IN POST PANDEMIC WORLD

¹S. Vermaa, ²B. Chourasiab

¹Dept. of Management, Assam downtown University Guwahati Assam (India)

²Dept. of Hospitality & Tourism Management, Assam down town University Guwahati Assam (India)
drsudhansuverma@gmail.com¹, chourasia2008@gmail.com²

ABSTRACT

We all have the gradual changes happening in our society, country and the world. But rarely we witness a change that has the capacity to change the human society forever and that too within a month. Covid 19 is one such change and every economy under the Sun is struggling to get over it. But the more challenging task facing us is how to keep on growing and evolving. Education is one tool that has enabled the humans to even dare to conquer the space. But Covid 19 has posed a bigger challenge to all of us. How to keep on continue on this pursuit of knowledge and how to employ our younger generation in this pursuit of knowledge. Social distancing is the need of the hour and schools or colleges are the places where we bring all the youngsters together to show them the power of togetherness and its ability to create synergy. Though the governments and educational institutions are making endless plans to devise a framework to keep on educating our younger generations but one participant is being missed in most of the studies. The student. Everyone is talking about their welfare but no one is asking them that how they can contribute in this entire situation. Identifying the factors that are bothering them the most and how, they, themselves are preparing for the unknown future is the need of the hour. Identification of these factors and the inter-relationship between those factors would enable the planners to create a better plan for the future in which the students themselves would be contributor, and such a plan would have better acceptability.

Keywords: Covid 19, Social Distancing, Educational Institutions, Synergy.

Introduction

Have you ever wondered that out of 1.3 million species, alive on the planet earth, how and why, human race, is the only species, which started at the third level of food chain (from bottom) as secondary consumers, have moved to top of food chain and are regarded as above and over even the quaternary consumers “*The Origins of Virtue: Human Instincts and the Evolution of Cooperation by Matt Ridley*”. It was the ability to record the information, rehearse and revisit the existing information to improve it. This ability to improve the existing information facilitated the improvement of humans as a species. This ability to record, rehearse, revisit and improving the existing information is best displayed in the classrooms. The education systems were developed in every corner of the human civilization and we know that now human race is trying to conquer the unknown and uncharted territories in the outer space as well. With classroom teaching, we were able to formalize and standardize the content and quality of information and knowledge for every age group in human life cycle. This formalization and standardization of knowledge enabled the humans to verifiably

register and measure the growth. So it can be conclusively stated that education and classroom education is a great contributor towards the growth of the human civilization. Till last year we knew it that united, we can perform wonders. We have seen this power of unity, right from animal kingdom to human society. Our bodies have some inherent limitations and our brain can perform miracles when it is synergized with other brains. One more time, the classrooms became the best places to assimilate the different brains with a single agenda, that is to receive, rehearse and improve the existing information. Teacher and the taught(student) became the backbone of the classroom education system.

And then came the Covid-19, social distancing became the need of the hour. Teacher and student both are now scared of attending the traditional classes. In traditional classes there used to be a teacher, who was able to handle the doubts and queries of a student, instantaneously. The order maintained in the school/college, was able to provide the discipline required for learning. And the system was working fine. But Covid-19 changed all this. Now the students are required to be sitting alone in their homes in front of a

computer or mobile screen, imbibing the discipline on their own, focusing on concepts by self-motivation and questioning the information because of self-generated doubts. But like every other pandemic or epidemic, we are sure that we'll survive this one too. And we'll emerge as stronger and more determined species.

The key to recover or survive from any misfortune, calamity, natural disaster, pandemic or epidemic is to bring the life back to normal on priority basis. With normalcy we mean that we keep on producing goods and services, on the basis of demand being generated and it is delivered at the time and place desired by the consumer or buyer. For few segments of the business operating cycles, the transition is comparatively easier. Few professionals are able to plug in their laptops to a power source and get connected via internet and it's a business as usual for them, for few labor-intensive operating cycles the transition is a bit difficult but for teaching community, the transition is quite dramatic and traumatic both. Students being young and energetic are now assumed to be self-disciplined and motivated enough to keep on receiving the information and receive and win over the competition from the unknown faces and personalities (other students).

The pandemic has significantly disrupted the higher education sector, which is a critical determinant of a country's economic future. Add to this the only known method available counter the pandemic cum epidemic is the social distancing. The government, order to prevent the community spread, adopted lockdown as one technique, which further separated the students from their teachers, but teachers being the torch bearers of any and every change they have adopted the digital technology to facilitate the teaching process. Educational institutes, business houses, computer, data management methods and online education systems are now working to improve the quality and delivery time to handle the demands of didactic and or interactive teaching processes. This is an ultimate time to experiment and set up new tools to make education deliverance meaningful to students who can't go to campuses. These are the times to be more efficient and productive while

changing and developing new and improved professional skills and knowledge through online learning and assessment.

Use of technology in education is bringing in entirely new techniques and different concepts in the education system, now there is a move from teacher-centric education to a student-centric education. We have grown up recognizing and praising the dedicated teachers, but now, it is the student who needs to be self-motivated and determined.

We have been talking about virtual classrooms and various online tools, apps and today allow us to make the engagement between the teacher and students as close to a real classroom type experience, as possible.

Pedagogy in digital education is a key link between course content, technology, educationists, and course-takers. Making technology available to masses is now an important issue, it comprises of internet connectivity, telecom infrastructure, affordability of online system, availability of support equipment like laptop, desktop and android or windows mobile phones, software, educational tools, online assessment tools, etc. The most encouraging fact about technology-based education is that it is now able to focus on all the students in a class without making any differentiation between front vs. back benches or boys vs. girls.

Keeping in view, the demands of changing times and the challenges of having the colleges and schools being shut, government of India, as well as state governments and private players are continuously publishing information on various initiatives undertaken by ministries like MHRD, Department of Technical Education, NCERT and others to support and benefit youth/students.

A few of the initiatives are SWAYAM online courses for teachers, UG/PG MOOCs for non-technology courses, e-PG Pathshala or e-content containing modules on social science, arts, fine arts, natural and mathematical science, YouTube channel of CEC-UGC, Vidwan – a database of experts who provide information to peers and prospective collaborators, NEAT – an initiative by AICTE based on the PPP model to enhance the employability skills and expertise amongst the students, in collaboration with Education

Technology Companies and National Digital Library (NDL), a repository of learning resources with single window facility. Many similar and noteworthy initiatives have been taken up by the institutions like Spoken Tutorial, Free and Open Source Software for Education (FOSSEE), e-Yantra, Google Classroom and so on.

National Project on Technology Enhanced Learning (NPTEL), National Knowledge Network (NKN), National Academic Depository (NAD), National Mission on Education Through Information and Communication Technology (NMEICT), among many have along with the government of India as well state governments with their respective ministries and departments, have created infrastructure to deliver e-education. All this has substantiated the ability to connect easily with institutions and enhance the access to learning resources. One such example is NKN providing high speed network which now is a backbone to educational institutions in India.

The various online assessment agencies and private agencies and their business houses are also improving the product, compensating for the limited bandwidth, inadequate infrastructure in many economic or geographical locations in the country, by facilitating the remotely proctored examinations and skills assessments. Fulfilment of minimum requirements like sturdy education delivery platforms, IT infrastructure, PC/Desktop/Mobile for end-delivery and commensurate assessment tools have already been planned and more improvement and execution of the different plans is underway.

It is now being observed that the theoretical classes can actually be delivered easily online if the proper training is provided and the right software is available at all the three vortices of the triangle, Institution, Lecturers and also the students. The professional subjects which inherently incorporate the practical elements like Food Production cooking classes, fitness or tour guiding practice are not so easily done although videos but still can be attempted in some cases.

One major question that warrants an answer on urgent basis is that if a student doesn't have a

device which supports the institutions system at home, then can the society afford to ignore such students and allow them to suffer the lack of infrastructure, which basically is the responsibility if the government. A diverse and highly flexible strategy is necessary to manage the crisis in a large and diverse country like India and build a resilient and flexible Indian education system in the long term to handle any seen or unforeseen changes in the environment.

So far, we have discussed the two vortexes of the triangle, teacher and the institution, but we are missing the third and most important vortex, the student, for whose benefit, all of us are planning all of these. Our students despite their access to the hoards of information and their compulsions to be the part of modern rat race, are still very traditional for educational processes and practices. They like to have a face to face interactions with their teachers and an occasional pat on the back, whenever they meet the expectations or corrective instructions from their teachers if they make a mistake. And now they are sitting in a corner in their homes receiving the information via some digital media, forcing themselves to be attentive in the digital classroom, where they themselves are the student, the monitor, the motivator, the counsellor and much more. They are expected to pat on their own back for meeting the expectations and be strict with themselves so as to not make any mistake. All this is too daunting to expect from an adolescent, teenager, or a budding professional.

So! it is most appropriate to ask from the person, for whose benefit, we all are worried, that how, he/she can make the teaching process more meaningful, participative, interactive and sustainable? And we know that the future of human society is actually hinged to the fact that how well we prepare the younger generations to handle the planned, unplanned changes and the surprises as well. But there are many issues in collecting the information from the youngsters. Even the law starts recognizing the kids as a "person" only when they become eligible to take decisions for their own welfare. So! would it be wise to collect data from youngsters? Why shouldn't we wait till the time they become mature enough to logically contribute to any advancement or growth plan?

Won't it be too late to wait for the youngsters to become mature enough to be able to contribute?

To ward off such questions we deliberately chose the legally adult but still taking the buttress from the family to receive their degrees and about to become the productive member of the society.

Nick Bostrom Future of Humanity Institute Faculty of Philosophy & James Martin 21st Century School University of Oxford in his book "The future of human evolution". Analyzed the dystopian scenarios where non directional evolutionary developments lead to the gradual elimination of all forms of being that we care about, because we continue to produce complex and intelligent forms of organization, and this leads to demolition of the existing norms or structures. Tried to answer the golden question that can we trust evolutionary development to take our species in broadly desirable directions? And the answer was a definitive no. The way human society is changing and incorporating the existing information to generate new information which is working like a blade, productive in the hands of deserving ones and lethal in the hands of undeserving ones. So, the entire responsibility falls on the education system to promote the deserving and correct the undeserving

Brophy (1999) said that in these classrooms' students are expected to "strive to make intellect of what they are learning by connecting it to prior knowledge and by discuss it with others" (p. 49). The class acts as "an erudition community that constructs shared indulgent" (Brophy, 1999, p. 49).

To harmonize this shift in instructional loom, some school reformers and researchers propose a shift in classroom managing approach. Rogers and Freiberg (1999) suggested that any such shift requires teachers to espouse a person-centered, rather than a teacher-centered, direction toward classroom management, which facial appearance shared leadership, society building, and a balance between the desires of teachers and students.

Willower (1975) found that educators vary along a gamut of beliefs about the way children learn to perform and conceptualized this as one's pupil-control principles. At one end of

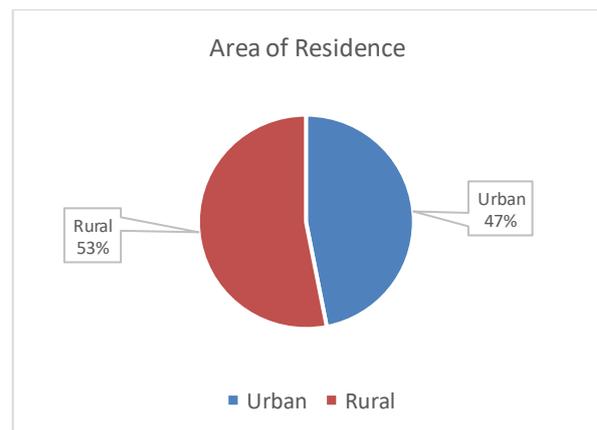
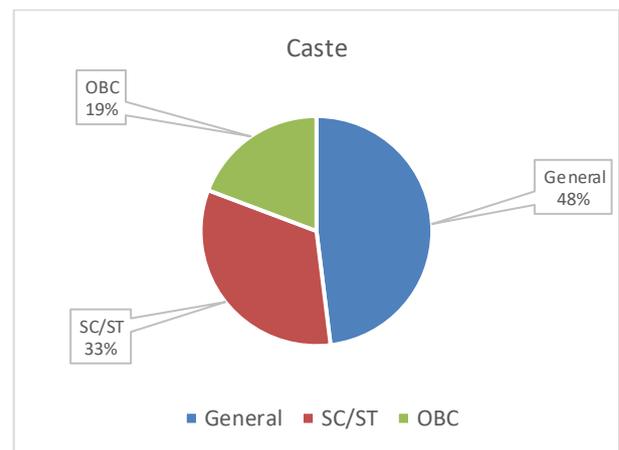
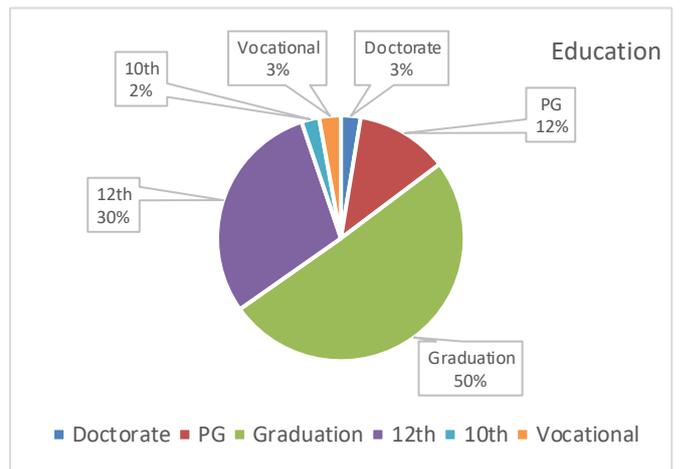
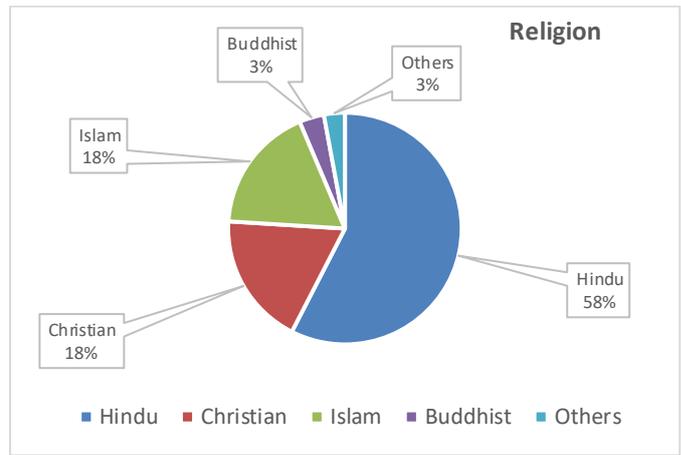
the variety is the custodial (teacher-centered) educator and at the other ending is the humanistic (student-centered) educationalist.

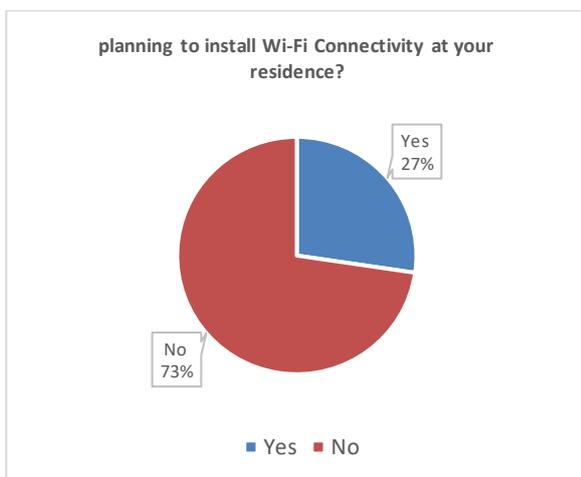
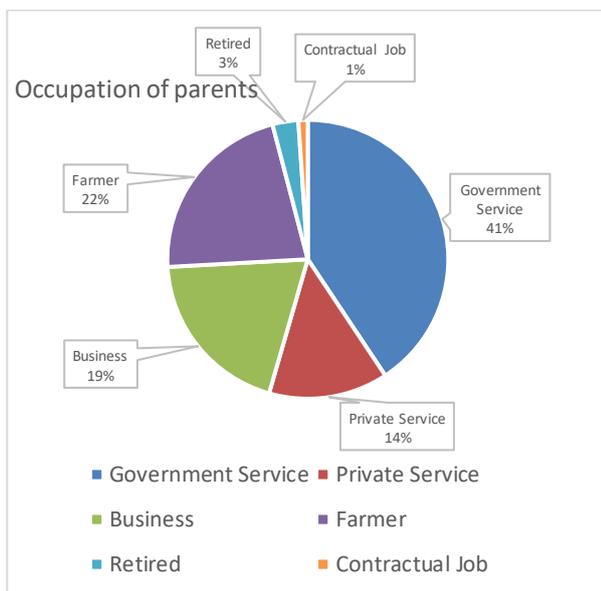
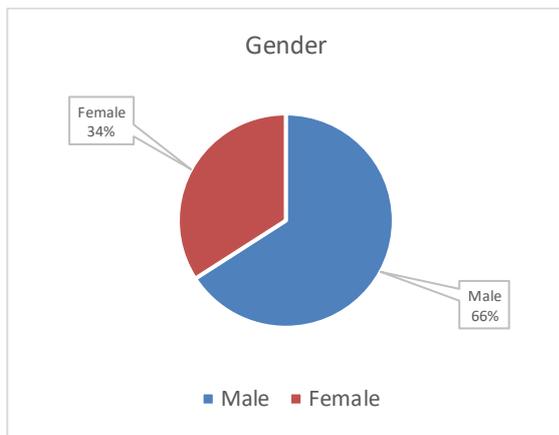
The educator with a more humanistic compass reading is likely to maintain a classroom climate in which active interface and communication, close personal associations with students, mutual admiration, positive attitudes, and elasticity of rules, as well as student self-discipline, self-willpower and independence are foster (Willower, Eidell, & Hoy, 1967).

Similarly, Wolfgang (2001) identifies three idealistic "faces" of discipline, which include liaison-listening, confronting-constricting and rules-consequences. These three idealistic "faces" of discipline may be placed on a power continuum from minimum (student-centered) to utmost (teacher-centered) use of control by the teacher.

The expansion of online courses in higher education doesn't happen suddenly. The 2008 study by the National Center for Educational Statistics (NCES) found that the main factor influence higher-education institutions to offer online courses incorporated meeting students' hassle for flexible schedules (68%), only if access to college for students who would or else not have access (67%), making more courses obtainable (46%), and in search of to increase student enrollments (45%) (Parsad, Lewis, & Tice, 2008). Distance education originate in the United States in the 1800's when teachers and learners at the University of Chicago, who were at diverse locations, tried to join through correspondence programs (Mclsaac & Gunawardena, 1996). Years later, the expansion of radio as a communication medium during World War I opened the door for using that technology for distance learning in colleges and schools such as School of the Air recognized in Wisconsin in the 1920s (Mclsaac & Gunawardena, 1996). With the popularity of television in the 1950s, visual instruction became achievable for the first time between teachers and students who were not in the same location. As computer and e-mailing technology blossomed in the 1970s and 1980s, distance education began to develop dramatically. The first online course was offered in 1981, and Western Behavior Sciences Institute in 1982 established the first

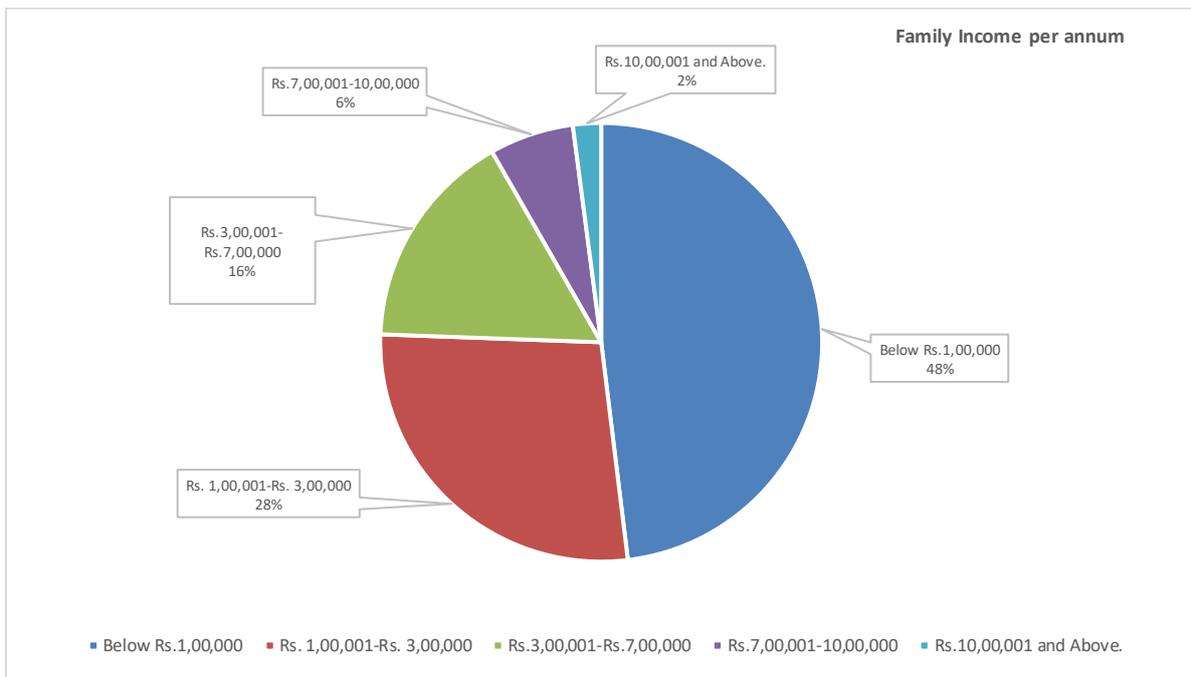
online program (Harasim, 2000). In the mid-1980s, the first online UG and PG courses were initiated by several universities and schools. In the late 1980s, due to a shortage of teachers on math, science, foreign languages, etc., some K-12 schools turned to profit-making courses offered through the then-new satellite technology, which greatly spur still faster growth of distance education (Mclsaac & Gunawardena, 1996). The beginning of the World-Wide Web (www) in 1991 was a powerful mechanism for moving distance education forward, and was a landmark in the rapid expansion and growth of online teaching and learning. WWW enabled the extensive use of web sites and the development of online group of people supported by web pages and various forms of exchanges software” (p.4) as stated by Maloney-Krichmar and Abras (2003). Since then, colleges and universities both in the United States and around the world have open not only just online courses but entire PG and UG programs online as well (Wallace, 2003). The data was collected from three different parts of the country. North Eastern India, Central India and Northern India. This belt is agricultural belt with partial industrialization. Initial observation of data is able to confirm to the various norms which already are established and accepted for the Indian population. We have a majority of population regarded as rural population with dismal figures of girl child education and Hindus, participating more in formal education system along with Christians and Buddhists and Muslims participating more in alternative educational systems. Majority of population is employed with government and the other categories that are providing employment to our population are private sector, agriculture and self-owned business and all the four sectors actually employ the educated people only, hence they keep their children also educated.





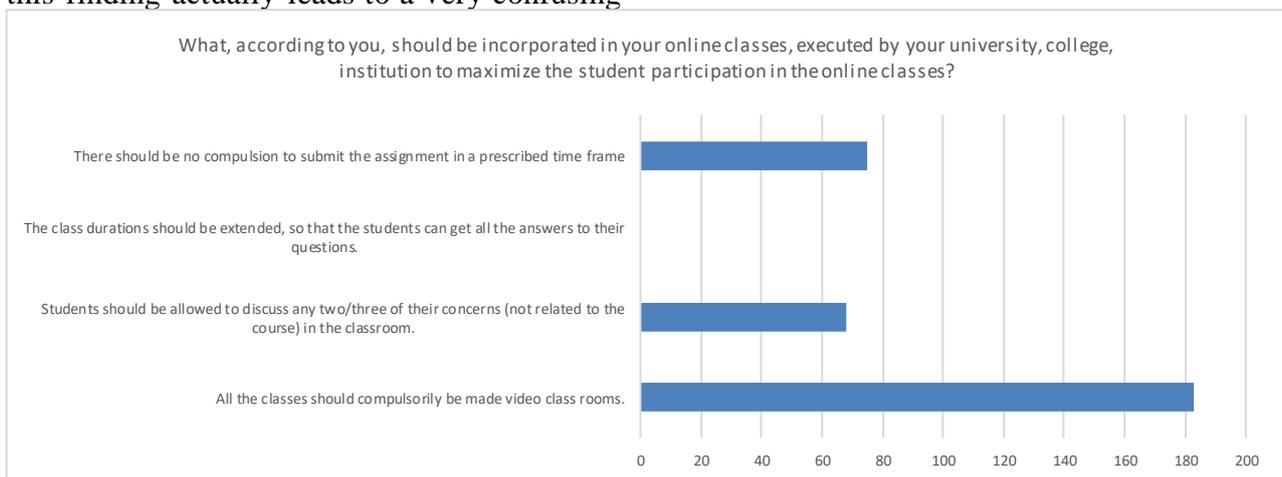
A mean of 2.76 about changes in study habits shows that the student population on their own have started adopting to the changes required by the environment due to corona pandemic. Another mean of 2.82 in the influence of social media on behavioral changes and study style is

warning signal because the quantity, quality, validity, authenticity and reliability of information available on social media is under question and hence the traditional study style where the students used to get the uniform and well calibrated information at every level of their studies is getting tarnished, though variety of information available can insure the cautious selection of profession and more expertise in the area chosen but a decision made on the basis of faulty information can often lead to failure and result in dejection and depression among the students, so this is a cause of worry. Surprisingly the motivation levels among the students is very high with a mean of 3.13, shows the undefeated nature of the human population and hence it can be assumed that the productive changes in the study content and delivery style by the government and the educational institutions will be readily accepted by the population. Availability of e-resources (with a mean of 3.02) and change in study habits to inculcate extra knowledge (with a mean of 3.11) shows the higher degree of positivity in the student population and their willingness to adopt to the changes expected from or forced on them due to sudden changes in the environment. A more surprising change of perception is regarding the practical oriented subjects and their online class effect (mean of 2.91) shows the readiness of the students even to understand the nuances of hands on experience via online education mode. One of the most surprising revelation from the analysis came out as the un-willingness of the population to upgrade their domestic infrastructure to be able to receive the education via online mode and majority wants to rely on the government support system to make them able to receive the education or skills training. But this is understandable if we look at the annual income of the families, majority belong to the middle- or lower-class segment and hence are unable to meet the extra expenses that the upgradation of their domestic infrastructure would require to receive the educ. And hence the reliance on government support system.



One funny finding was also found that the students are not willing to increase the class duration with zero students choosing this option across the India. But majority want the classes to be made accessible by video. And this finding actually leads to a very confusing

situation, a major segment of student is not willing to enhance the domestic infrastructure to receive the information via digital media but they all want the classes to be smart classes and video enabled.



Situations like these require a careful counselling of the population to make them understand the requirements of the system to make them an eligible participant of the system. This has further been supported by the responses on questions regarding what, should be incorporated in online classes to make the classes more interesting or which class type is preferred more and what should be

incorporated regular classes to enhance its effectiveness. Every answer suggests more expectations from the government system and universities. So even though the population is ready to change their style of learning and studying to acquire newer or surplus skills but they believe that it is the responsibility and necessity of the system to make them a part of the change and future.

References

1. Brophy, J. (1999). Perspectives of classroom management: Yesterday, today and tomorrow. In H. Freiberg (Ed.), *Beyond behaviorism: changing the classroom management paradigm*, 43–56. Boston: Allyn and Bacon.
2. Rogers, C., & Freiberg, J. (1999). *Freedom to learn* (3rd Ed.). Upper Saddle River, NJ: Merrill Publishing.
3. Willower, D. (1975). Some comments on inquiries on schools and pupil control. *Teachers College Record*, 77, 219–230.
4. Willower, D. J.; Eidell, T. L., & Hoy, W. K. (1967). The school and pupil control ideology. *Penn State Studies Monographs* No. 24. University Park: Pennsylvania State University.
5. Willower, D. J.; Eidell, T. L., & Hoy, W. K. (1967). The school and pupil control ideology. *Penn State Studies Monographs* No. 24. University Park: Pennsylvania State University.
6. Mclsaac, M. S., & Gunawardena, C. N. (1996). Distance education. In D. H. Jonassen (Ed.), *Handbook of research for educational communication and technology: A project of the Association for Educational Communication and Technology* (pp.403-437). New York: Simon & Schuster Macmillan.
7. Parsad, B., Lewis, L., & Tice, P. (2008). *Distance education at degree-granting postsecondary institutions: 2006-07*. Washington D.C.: National Center for Education Statistics Institute of Education Sciences.
8. Harasim, L. (2000). Shift happens: Online education as a new paradigm in learning. *Internet and Higher Education*, 3, 41-61.
9. Wallace, R. (2003). Online learning in higher education: A review of research on interactions among teachers and students. *Education, Communication & Information*, 3(2), 241-280.
10. Adeyanju, J. L. (1987) *Creativity Learning and Learning Styles*. Isola Ola & Sons: Zaria.
11. Agun, I & Okunrotifa, P (1977) *Educational Technology in Nigerian Teacher Education: NERDDC Press, Lagos.*
12. Burrow, T (1986) *Horizons in Human Geography*. Macmillan: London.
13. Chacko, I (1981) *Learning Out comes in secondary schools mathematics related to teacher and student characteristics*. PhD Thesis University of Ibadan, Ibadan.
14. Chorley, R, J. (1966) *Models in Geography*. Methuen: London.
15. Cuban, L. (2001). *Computers in the Classroom*, Cambridge, M.A. Harvard University Press. Retrieved from <http://www.webpages.uidaho.edu/mbolin/akerele-afolable.htm>
16. Jain,P..(2004); *Educational Technology*, Delhi Moujpur publication.
17. Kishore. N.(2003); *Educational technology*, Abhishek publication.
18. Koç, M. (2005). Implications of learning theories for effective technology integration and pre-service teacher training: A critical literature review. *Journal of Science Education*, 2, (1), 1-16.
19. Kunari ,C (2006); *Methods of teaching educational Technology*, New Delhi.
20. Mohanty, J (2001); *Educational Technology*, Publish by Rajouri garden New Delhi.
21. Orodho, J. A. (2003). *Social Science Research Methods*. Nairobi: Kanezja Publishers.
22. Ranasinghe, A. I. & Leisher, D. (2009). The benefit of integrating technology into the classroom. *International Mathematical Forum*, 4, (40), 1955-1961.
23. Rather,A.R.(2004);*Essentials Instructional Technology*, published by Darya gaj New Delhi.
24. Singh, Y.k(2005);*Instructional Technology in Education*, published by Darya ganj new Delhi.

KALEIDOSCOPE OF THEMES IN INDIAN WRITING IN ENGLISH**M. Kaur**

Department of English, Govt. College for Girls, Patiala

ABSTRACT

The Present research paper aims to unfold the variety of themes in Indian writing in English with a particular focus on Raja Rao's elements of novelty in the novels Kanthapura and The Serpent and the Rope.

Keywords: 1. Vedant - one of the six orthodox schools of Indian Philosophy.

2. allegory - a story, Poem or Picture that can be interpreted to reveal a hidden meaning

3. Innovation - change

4. existence - the fact or state of living on having objective reality

5. duality - dichotomy.

Introduction

When we look into the Kaleidoscope, we see something beautiful. As life continues to change, we are continuously challenged because situations, circumstances, conditions, environment, state of affairs, even the contexts and events of life change.

The Indian writers provide a focus to enhance the understanding of literary pieces of Indian writing in English to new angles, fresh insights and untrodden areas of research. It is in this context we are having a webinar on the proposed topic. The authors who are subject to scrutiny here include three pioneers of Indian - English fiction, namely Mulk Raj Anand, Raja Rao, R.K. Narayan and some other authors like Anita Desai, Kamala Markandaya, Bharati Mukherjee, Khushwant Singh and Arun Joshi. The various themes these writers deal with is a matter of vast discussion. To highlight some, the analyses proceed beyond the Indian women writer's concern with the female psychosis or the gynocritical approach to female sub-culture and its multipronged interpretation. Anita Desai has discussed father-daughter relationship in 'Cry the Peacock' and 'Where Shall We Go This Summer?'. The "band anxiety" and 'profound in security' do not let the female characters "develop" a feeling of belonging.

Then there is the theme of alienation in the novel of Arun Joshi. Khushwant Singh has tried to unburden himself in his novels of things past, of nostalgia, of varying moods and emotional configurations.

The theme of exploitation of the peasant in Mulk Raj Anand's novels and Kamala

Markandaya form as an instrument of social change.

R.K. Narayan's 'The Financial Expert' portrays various facets of rural India in which the author has painted good and evil as two dimensions of the flux that is life.

Bharati Mukherjee's "Maximalist" credo in the character of Jasmine is best seen in 'The Tiger's Daughter'. She focusses on the confessions, desperation and the moments of intensity of such characters as have broken away from their historical and cultural roots and many more. In the present context, so far as the manner of writing is concerned or a fusion of many elements in his mother tongue into the classic pattern of English Language, Raja Rao has depicted one of his most innovative styles.

Born in Mysore on November 5, 1908, Raja Rao belongs to an old and learned Brahmin family.

He went to school in Hyderabad and after matriculation was sent to the University of Aligarh. Here he came under the influence of Prof. Dickinson, the famous educationist, who soon discovered Raja Rao's gift of writing and encouraged him in the study of French and English literature. At the age of twenty he went to France as a research student of literature and Western mysticism. In 1930 his first collection of short stories, 'Jarni', was published in France. Returning to India in 1940, Raja Rao spent the war years searching for the spiritual traditions of his country.

In Banaras, which even today he considers to be the most spiritual place in the world, he shut himself up in a room for several days and tried to decide whether to continue writing or to become a 'Sanyasi'. He stayed in India for eight

years and might never have begun writing again had he not met the great Vedantist philosopher and teacher Swami Atmananda who became his 'guru' and made him see that writing was his true vocation. It is significant to recall that he had given up writing for ten years before 'The Serpent and the Rope' was published. Characteristically, before Raja Rao returned to the world of letters he spent twenty one days in meditation at the temple of Mahakal in Ujjain. That shows his meditative spirit and philosophic bent of mind.

But his works show variety of themes. Raja Rao's first novel 'Kanthapura' appeared in 1938. It presents a story of a South Indian village during the non-cooperation days. Foremost, the novel Kanthapura deals with the theme of Gandhian impact on a village community. The novel is narrated by the village grandmother by a series of happenings. Moorthy is a follower of Mahatma Gandhi. He advises people about swaraj, Khaddar etc. Jai Ramcharn's 'Hari Katha' too has the overtones of Swarajya. Moorthy works for the upliftment of the untouchables and becomes an enemy of the Orthodox Hindus. He is ex-communicated by local guardians like Swami Atmananda, the great Vedantic philosopher. He is thus arrested for his nationalistic activities and sentenced to three months' imprisonment.

After having completed his term of imprisonment, Moorthy returns and starts this civil Disobedience Campaign among the labourers whom he incites not to pay their taxes. Soon he wins the favour of the village community. The movement gains momentum and the police opens fire in the midst of 'vandematram' and 'Inqilab-Zindabad'. The theme of 'Kanthapura' may be summed up as "Gandhi and Our villages but the style of narration makes the novel more a Gandhipurana than a piece of mere fiction. On the Symbolic plane" Gandhi is the invisible God. Moorthy is the invisible 'Avtar'. The reign of the red is the Asuric rule and it is assisted by Deras the 'satyagrahis'.

Bade Khan, the policeman is the symbol of oppression. The atmosphere of 'Kanthapura' is surcharged with nationalism. So it becomes the story of 'Satyagrah Movement', 'Lathi charge, and the ruin that followed. The impact of Gandhi conveyed through Moorthy,

transforms the life of an entire village Community. A profound optimistic note is struck when the narrator articulates that Mahatma - Ram - will go to the red-man's country - Lanka, and he will bring Swaraj - Sita. The Kanthapurians, the Indians are waiting for him like the subjects of Ayodhya.

The novel contains the undertones of allegory. Another theme in, his Foreword to 'Kanthapura', Raja Rao discusses as to why English is his chosen medium. "One has to convey in a language that is not one's own but the spirit that is one's own. One has to convey the various shades and omissions of a certain thought - movement that looks maltreated in an alien language. I use the word 'alien', yet English is not really an alien language to us. It is the language of one intellectual make up like Sanskrit Persian was before - but not of our emotional make up. We are all linguistically bilingual, many of us writing in our own language and in English."

Therefore, Raja Rao in his novels, especially 'Kanthapura' successfully adapts the English language to Indian tune.

The Prose of 'Kanthapura' is an innovation in style. and he has successfully drawn on many resources of his mother tongue. The Kannada strand that he brings in is a conscious and deliberate introduction or a fusion of many elements in his mother tongue into the classic pattern of English language".

Kanthapura, is the product of a mind which thinks and feels both in English and Kanada. Thus making his novel Kanthapura which owes its characteristic flavour partly to the situation of the story and partly to the story and partly to the objective of the writer evolve a distinctive and colourful Indian style".

"The Serpent and the Rope"

It is again Raja Rao's most elaborately discussed novel of Kanthapur is Raja Rao's Ramayan, 'The serpent and Rope' is his Mahabharat.

The serpent and Rope are the symbols of 'illusion' and 'reality' in Indian tradition. This Raja Rao attempts to make Vedant philosophy a subject of the novel proper.

The central character of the novel Rama Swami, a South Indian Brahmin. He is in France writing a doctoral thesis. He marries a French girl Madeline. They are blessed with a child who dies while Ramaswami is on a visit to India. He

meets Savatri and they become lovers while he is researching in London and Cambridge universities. But this girl Savitri marries a govt. official. While Ramaswami is on a second visit to India Madeline's second child is born dead. He returns to France and finds that she has already taken up Buddhist penances for purification. His thesis completed, he applies for divorce and sets out in search of "HIM" without knowing His name.

Thus here

Raja Rao observes :

"The main theme is the futility and barrenness of man in human existence, when man (or woman) has no deep quest, and a thirst for the Ultimate Man's life here in 'Samsara' is an august mission to find the absolute. In the light of the above.

Towards the end of the novel, Raja Rao, through the mouth of the hero, Ramaswami says :

"The world is either unreal or real - the serpent or the rope. There is no in between the two, and all that is in between is Poetry, is sainthood. You might go on saying all the time, "No, no it's the rope," and stand on the serpent. And looking at the rope from the serpent is to see Paradise, saints, gods, heroes, Universe, avatars. For where ever you go, you see only with the serpent's eyes whether you call in

duality or modified duality; you look at the rope from the posture of the serpent; you feel you are the serpent - You are the rope. But, in fact, with whatever eyes you see there is no serpent, there never was a serpent. Only the Guru brings you the Lantern. It is only the rope. He shows it to you and you touch your eyes and know there never was a serpent."

M.K. Naik writes . "It is his encounter with Savitri that makes Ramaswami fully and truly conscious of his true spiritual heritage and his love for her becomes a stepping stone to his ultimate realization of truth. Savitri in this sense becomes a Guru to him, before he sets out to seek his Guru proper in the end.

The Point of view to sum up about the themes is "It is unfair to allege that Raja Rao "all the time blows his one big conch of Vedanta. The Pathos of 'Javni' and 'Akkayya', the lyricism and word painting in 'Kanthapura' and "The serpent and the Rope" and the robust Comedy and the picture of the social scene and life like quality of Madeline and Savitri, must not be forgotten and within his brief corpus of writing, Raja Rao has crammed things which could have been spread out into a dozen books or more. A writer of philosophical amplitude Raja Rao has brought to the Indo- Anglian novel an epic vision, symbolic richness, lyrical fervour and above all an essential Indianness themes.

References

1. Raja Rao: The Serpent and the Rope Delhi : orient Paper back 1968
2. Naik MK: Raja Rao New York: Twayne Publishers 1972 Print
3. Mukherjee Menakshe, The Twice Born fiction: Themes and Techniques of the Indian novel in English
4. New Delhi: Heinemann 1971 Print
5. K.R. Rao: The fiction of Raja Rao: Aurangabad: Parimal Prakashan 1980.
6. Ramamoorthy. K.R The Rise of Indian Novel in English
7. Delhi: sterling Publishers 1987

IMPACT OF HUMAN RESOURCE MANAGEMENT PRACTICES ON EMPLOYEE PERFORMANCE

Gaurav¹, S. Godara² and J. Bhagwan³

^{1,2,3}GJUS & T, Hisar (India)

¹Gkhambra1998@gmail.com, ²SunilaGodara@gmail.com, ³Jaibsingh@gjust.org

Introduction

The impact that different dimensions of human resource (HR) practices have on employee performance has attracted a lot of attention in the human resource management (HRM) literature over the past 25 years (Van De Voorde and Beijer, 2015). In the past two decades, research also began to focus more directly on employee-centered outcomes such as employee well-being and to look more closely at the effect that HR practices have on employee well-being (e.g. Jiang et al., 2012). The empirical evidence regarding the relationships between HRM, and employee performance demonstrates that HRM has a positive effect on the different dimensions of employee performance due to the creation of positive employee happiness effects. However, some studies indicate that HR practices may trigger higher levels of stress, burnout, exhaustion and work intensification, which are elements that negatively affect employee physical well-being. HR practices may thus benefit employee performance and one type of employee well-being, while damaging another dimension of employee well-being. These findings voice the possibility of complex patterns of trade-offs between HRM, different dimensions of employee well-being and employee performance. However, despite growing indications of the existence of trade-offs, many questions remain.

Hence, this study contributes to the discussion by investigating how different dimensions of HR practices are associated with different dimensions of employee performance. Particularly, it draws on the ability, motivation, opportunity model (AMO model) (Appelbaum et al., 2000), examining the effect of the perceived use of the skill-, motivation- and opportunity-enhancing HR practices (Lepak et al., 2006) on in-role and innovative job performance (Fu et al., 2015).

Review of Literature

Dimensions of Employee Performance

For organizations to maximize their efficiency in existing markets while maintaining a focus on creating future innovations, employees need to perform their given duties and be efficient in them (Patel et al., 2013). Simultaneously, employees need to search, discover, experiment, take risks and innovate (Patel et al., 2013). Organizations need to find the correct balance between utilizing rules and procedures to make employee performance predictable (i.e. in role job performance) while providing employees with the freedom to spontaneously innovate to adapt to challenges and atypical situations (i.e. innovative job performance) (Fu et al., 2015). When investigating the effect of different dimensions of HR practices on employee performance, it is thus necessary to examine both dimensions of employee performance: in-role job performance and innovative job performance.

In-role job performance is defined as “actions specified and required by an employee’s job description and thus mandated, appraised, and rewarded by the employing organization”. In-role job performance ensures that work behavior becomes predictable so that basic organizational tasks can be coordinated and controlled in order to achieve organizational goals (Fu et al., 2015).

Innovative job performance is defined as “the intentional generation, promotion, and realization of new ideas within a work role, work group, or organization in order to benefit role performance, a group, or an organization” (Janssen and Van Yperen, 2004). This type of performance involves complex and challenging assignments involving a variety of cognitive and social actions, such as generating, promoting, discussing, modifying and eventually implementing creative ideas (Janssen and Van Yperen, 2004).

Innovative job performance aims to develop and apply novel ideas and practices for which

the necessary knowledge and strategies have yet to be learned. Innovative job performance incorporates change that can lead to resistance because of the insecurity and uncertainty it may generate (Fu et al., 2015).

Dimensions of HR Practices

The AMO model posits that employee performance is a function of three essential components: the ability, motivation and opportunity to perform (Obeidat et al., 2016). According to the model, the use of HR practices that are aimed at strengthening employee performance can be viewed as a composition of three dimensions – skill-, motivation- and

Opportunity enhancing HR practices (Lepak et al., 2006).

Skill-enhancing HR practices aim at facilitating increased levels or types of employee knowledge and abilities, helping employees with career development and expanding their promotion opportunities (Tharenou et al., 2007). These practices include thorough recruitment, accurate selection, and extensive training. Consistent with the model, skill-enhancing HR practices are likely to enhance employee skills and abilities, thus providing them with the socialization tools necessary for integration within an organization (Autry and Wheeler, 2005). Hence, skill enhancing HR practices may assist employees with mastering organization-specific skills and abilities while acquiring the task-related skills and procedural knowledge necessary for increased in-role and innovative job performance.

Motivation-enhancing HR practices are intended to boost employee motivation (Jiang et al., 2012). These practices include developmental performance management, competitive compensation, extensive benefits, promotion possibilities, and job security. Motivation-enhancing HR practices direct employee efforts toward the accomplishment of work objectives and provide employees with the motives necessary to engage in enhanced employee performance (Kinnie et al., 2006). According to the AMO model, when using motivation-enhancing HR practices, employees are expected to work toward the attainment of specific goals, receive task- or behavior-based feedback and be adequately rewarded for

increased employee performance (Subramony, 2009). Furthermore, motivation-enhancing HR practices are suggested as ways to encourage employees to perceive their organization as valuing their contributions (Allen et al., 2003), which has the effect of obliging them to reciprocate by engaging in citizenship behaviors (Wayne et al., 2002). In addition, motivation-enhancing HR practices are likely to communicate organizational expectations regarding expected employee behaviors through an appraisal system, reinforce the behaviors through a compensation system and help employees to develop or maintain the behaviors that are likely to be reinforced through a feedback system – with the result that all three systems lead to increased employee performance. Along the same lines, we argue that in-role performance is evoked by the inspiration provided by the tasks themselves and that motivation is a base for performing innovative activities.

Opportunity-enhancing HR practices are suggested as a way to inspire employees to use their skills and motivation to achieve organizational objectives, encourage employees to share knowledge, learn new skills and seek out challenges at work (Jiang et al., 2012). Flexible job design, teamwork, employee involvement, and information sharing belong to this pool of HR practices. The AMO model posits that opportunity-enhancing HR practices encourage employees to take increased responsibility for goal setting, task completion, and the management of interpersonal processes (Mathieu et al., 2006). By using opportunity-enhancing HR practices, employees may demonstrate flexibility in accommodating customer needs (Peccei and Rosenthal, 2001), engage in process improvements (Kirkman et al., 2004) and solve problems creatively (Heffernan et al., 2016). The use of opportunity-enhancing HR practices is thus likely to result in reciprocation in the form of increased in-role and innovative job performance.

Relationship between HR Practices and Employee Performance

The social exchange perspective may constitute a helpful lens through which to understand the association between HR practices and

employee performance. The perspective suggests that when organizations invest in their employees, employees are likely to reciprocate these organizational investments in positive ways (Cropanzano and Mitchell, 2005). Particularly, employees may engage in a social exchange relationship when they voluntarily act in favor of another party and have the expectation that the favor will be reciprocated in the future. Based on the concept of social exchange and the norm of reciprocity (Gouldner, 1960), inducements, such as positive and beneficial actions directed at employees by the organization, create conditions for employees to reciprocate in positive ways (Settoon et al., 1996). Drawing on the social exchange perspective, we argue that when organizations invest in different dimensions of HR practices, which are likely to be viewed by employees as an indication of the employer’s commitment toward them, employees may, in turn, act in ways that meet organizational interests. Employees interpret such corporate actions as skill-, motivation- and opportunity-enhancing HR practices as commitment or support by the organization, which employees then reciprocate by adopting positive attitudes that encourage the accomplishment of organizational goals. When organizations invest in different dimensions of HR practices, employees may believe their organizations care about their career needs and development, which may indicate to employees that they are valued by the organization (otherwise, the organization would not invest in employees’ career). Hence, when employees use different dimensions of HR practices, they are expected

to reciprocate through increased job performance. On this basis, we hypothesize: **Hypothesis (H1):** *The perceived use of HR practices, i.e. skill-, motivation- and opportunity-enhancing practices, is positively associated with employee performance, i.e. in-role and innovative job performance.*

Objectives of the Research

- a) To study the relationship between HR practices through Ability (Skill), Motivation, and Opportunity enhanced (AMO) model
- b) To examine the association between HR practices and Employee performance
- c) To test the significant impact of Skill enhanced HR practices on employee performance
- d) To investigate the significant impact of Motivation enhanced HR practices on employee performance
- e) To test the significant impact of Opportunity enhanced HR practices on employee performance

Methodology

This study was conducted within in a select IT company located in Chennai, the metro city in south India. Since it is a pilot study to test the scale validity of the measurement scales of each factor i.e. Skill enhanced, Motivation, Opportunity enhanced HR practices propound by Gardner et al. (2011) and employee performance measured by Janssen and Van Yperen (2004), we have collected the data from 50 randomly selected IT employees working in a top IT company. The measurement items of each factor were retrieved from the existing research done by Gardner et al. (2011) and Janssen & Van Yperen (2004). Further scale reliability was assessed by referring the Cronbach’s alpha score of each factor.

Scale Reliability

Sl. No	Measurement Items	Item wise Alpha score	Factor Alpha
Skill-Enhancing HR practices			
1	Applicants undergo structured interviews (job-related questions, same questions asked of all applicants, rating scales) before being hired.	0.812	0.832
2	Applicants for this job take formal tests (paper and pencil or work sample) before being hired.	0.832	
3	Total hours spent on training provided by the	0.811	

4	company in a year is satisfied The results of the performance evaluation process are used to determine the training	0.789	
5	Employees in this job have the opportunity to receive tuition reimbursement for completing college classes.	0.788	
6	Recruitment sources are very easy to access	0.734	
7	Suitable information about the job is provided at the time of selection.	0.831	
8	Procedure followed by organization for selection is satisfactory.	0.812	
9	Training programmes are conducted every year.	0.789	
10	Training is formulated according to my needs and requirements.	0.799	
11	I am acquiring new skills and knowledge in this organization.	0.835	
Motivation Enhancing HR Practices			
12	Employees in this job regularly (at least once a year) receive a formal evaluation of their performance.	0.782	
13	Pay raises for employees in this job are based on job performance.	0.801	
14	Employees in this job have the opportunity to earn individual bonuses (or commissions) for productivity, performance, or other individual-performance outcomes.	0.811	
15	Employees in this job have the opportunity to earn group bonuses (or commissions) for productivity, performance, or other group-performance outcomes.	0.891	0.810
16	Employees in this job have the opportunity to earn company-wide bonuses (or commissions) for productivity, performance, or other operating company-performance outcomes.	0.883	
17	Qualified employees have the opportunity to be promoted to positions of greater pay and/or responsibility within the company.	0.845	
18	I receive pay for overtime or any other work.	0.871	
19	Rewards are linked to the performance of an employee in our organization.	0.791	
20	We receive competitive pay compare to the others.	0.812	
Opportunity to Empower HR Practices			
21	Employees in this job have a reasonable and fair complaint process.	0.789	
22	Employees in this job are involved in formal participation processes such as quality-improvement groups, problem-solving groups, roundtable discussions, or suggestion systems.	0.799	
23	Employees in this job communicate with people in other departments to solve problems and meet deadlines.	0.778	0.795
24	Employees in this job receive formal company communication regarding Company goals (objectives, actions, and so on)?	0.767	

25	Employees in this job receive formal company communication regarding Operating performance (productivity, quality, customer satisfaction, and so on)?	0.801	
26	Employees in this job receive formal company communication regarding Financial performance (profitability, stock price, and so on)?	0.800	
27	Employees in this job receive formal company communication regarding Competitive performance (market share, competitor strategies, and so on)?	0.790	
28	Receive continuous support from the management.	0.811	
29	The complaints are not ignored by the authority.	0.786	
30	I am motivated to do the job in this organization.	0.793	
Employee Performance –In-job Role			
31	Always complete the duties specified in job description.	0.832	
32	Meet all the formal performance requirements of the job.	0.845	
33	Fulfills all responsibilities required by my job.	0.865	0.852
34	Never neglects aspects of the job that I am obligated to perform.	0.878	
35	Often fails to perform essential duties	0.865	
Employee Performance –Innovative			
36	Create new ideas for improvements	0.801	
37	Mobilize support for innovative ideas	0.891	
38	Search out new working methods, techniques, or instruments	0.901	
39	Acquire approval for innovative ideas	0.876	
40	Transform innovative ideas into useful applications	0.812	0.878
41	Generate original solutions to problems	0.843	
42	Introduce innovative ideas in a systematic way	0.821	
43	Make important organizational members enthusiastic for innovative ideas	0.876	
44	Thoroughly evaluates the application of innovate ideas	0.854	

Source: Author's Computation

Interpretation

Cronbach's alpha (Cronbach, 1951), also known as coefficient alpha, is a measure of reliability, specifically internal consistency reliability or item interrelatedness, of a scale or test (e.g., questionnaire). Internal consistency refers to the extent that all items on a scale or test contribute positively towards measuring the same construct. As such, internal consistency reliability is relevant to composite scores (i.e., the sum of all items of the scale or test). Also important to note, reliability pertains to the data, not the scale or test measure.

Researchers have provided acceptable lower limits of acceptability for Cronbach's alpha, including Nunnally (1967) who in the first edition of his book suggested that values as

low as 0.50 are appropriate for exploratory research. For another example, Hair et al. (2010) provide that while a value of 0.70 is generally agreed upon as an acceptable value, and values as low as 0.60 may be acceptable for exploratory research. Additionally, George and Mallery (2003) suggest a tiered approach consisting of the following:

" $\geq .9$ – Excellent, $\geq .8$ – Good, $\geq .7$ – Acceptable, $\geq .6$ – Questionable, $\geq .5$ – Poor, and $\leq .5$ – Unacceptable"

Conclusion

Referring to the above cited researcher threshold limits of scale reliability based on Cronbach's Alpha, it is evident from the present study that all the measured items of

each factor i.e. HR Practices: Skill enhancing (11 items) Cronbach alpha (0.832); Motivation enhancing (9 Items) Cronbach alpha (0.810); opportunity to empower Cronbach alpha (0.795); and Employee Performance: In-role (5

Items) Cronbach alpha (0.852); innovative (9 items) Cronbach alpha (0.878) as good according to George and Mallery (2003). Hence it is conventionally approved to conduct a full scaled study in the present research.

References

1. Appelbaum, E., Bailey, T., Berg, P. and Kalleberg, A. (2000), *Manufacturing Advantage: Why High Performance Work Systems Pay off*, Cornell University Press, Ithaca, New York, NY.
2. Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *psychometrika*, 16(3), 297-334.
3. Fu, N., Flood, P., Bosak, J., Morris, T. and O'Regan, P. (2015), "How do high performance work systems influence organizational innovation in professional service firms?", *Employee Relations*, Vol. 37 No. 2, pp. 209-231.
4. Gardner, T.M., Wright, P.M. and Moynihan, L.M. (2011), "The impact of motivation, empowerment, and skill-enhancing practices on aggregate voluntary turnover: the mediating effect of collective affective commitment", *Personnel Psychology*, Vol. 64 No. 2, pp. 315-350.
5. George, D., & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference. 11.0 update (4th ed.)*. Boston: Allyn & Bacon.
6. Janssen, O. and Van Yperen, N.W. (2004), "Employees' goal orientations, the quality of leader-member exchange, and the outcomes of job performance and job satisfaction", *Academy of Management Journal*, Vol. 47 No. 3, pp. 368-384.
7. Jiang, K., Lepak, D.P., Hu, J. and Baer, J.C. (2012), "How does human resource management influence organizational outcomes? A meta-analytical investigation of mediating mechanisms", *Academy of Management Journal*, Vol. 55 No. 6, pp. 1264-1294.
8. Lepak, D.P., Liao, H., Chung, Y. and Harden, E.E. (2006), "A conceptual review of human resource management systems in strategic human resource management research", in Martocchio, J.J. (Ed.), *Research in Personnel and Human Resource Management*, Vol. 25, JAI, Greenwich, CT, pp. 217-271.
9. Nunnally, J. C. (1967). *Psychometric theory*: McGraw-Hill [1967].
10. Nunnally, J. C. (1978). *Psychometric theory*: New York : McGraw-Hill, c1978. 2d ed.
11. Patel, P.C., Messersmith, J.G. and Lepak, D.P. (2013), "Walking the tightrope: an assessment of the relationship between high-performance work systems and organizational ambidexterity", *Academy of Management Journal*, Vol. 56 No. 5, pp. 1420-1442.

FACTORS INFLUENCING THE DECISION OF STUDENT DURING UNIVERSITY SELECTION: AN EMPIRICAL STUDY ON PRIVATE UNIVERSITIES IN PUNJAB, INDIA

P. Kumar¹, S. Kaur², R. Ahlawat³

^{1,2,3}School of Hotel Management & Tourism, Desh Bhagat University, Mandi Gobindgarh, PB, India
¹meetpalwinder@yahoo.co.in, ²koursukhdeep016@gmail.com, ³rahlawat07@gmail.com

ABSTRACT

Purpose: Examine the factors influence students decisions and how education providers can strategically play role to enhance student enrollment. This paper applies quantitative approach to uncover the parameters that students in Punjab, India value as important while they select the university. The researcher try to explore the independent variables like NIRF ranking, cleanliness, location, safety & Security, internship & Placement, hostel facility, fee structure, tie-up with international universities, fee structure, NAAC accreditation, social media handle, website, extra curriculum activities and transport facilities etc. During the university selection process student perceive each factor differently which researcher try to analyze in order to making marketing strategy.

Findings: The results interpret and suggest factors influence and further helpful to prepare enrolment strategy in order to attract students in university because each factor had its own role while student planning to pursue study in universities.

Research limitations/implications

The research is done in specific geographical region within India on a small population, though its implications are significant to enhance enrolment as well as to the educational marketing literature.

Originality/value

The value of the research lies in its real-time approach to data gathering and analysis; and aids in the design and decision making regarding the university selection by students. The research bears also generic importance and it provides insight to the issues and complexities.

Keywords: Decision Making, Educational Marketing, Enrolment Strategy, Marketing Strategy, University.

Paper type: Research paper

Design/methodology/approach

The aim of this research is to understand the factors that might help to universities to enhance student enrolment. In order to achieve this aim, researcher has put quantitative method in practice. According (Frels & Onwuegbuzie, 2013; Zohrabi, 2013) there are three methods Quantitative, qualitative, and mixed used in research. The research had put in practice online questionnaire based on Likert scale via google forms to collect data from students who are the students of different private universities in Punjab, India. According the website of

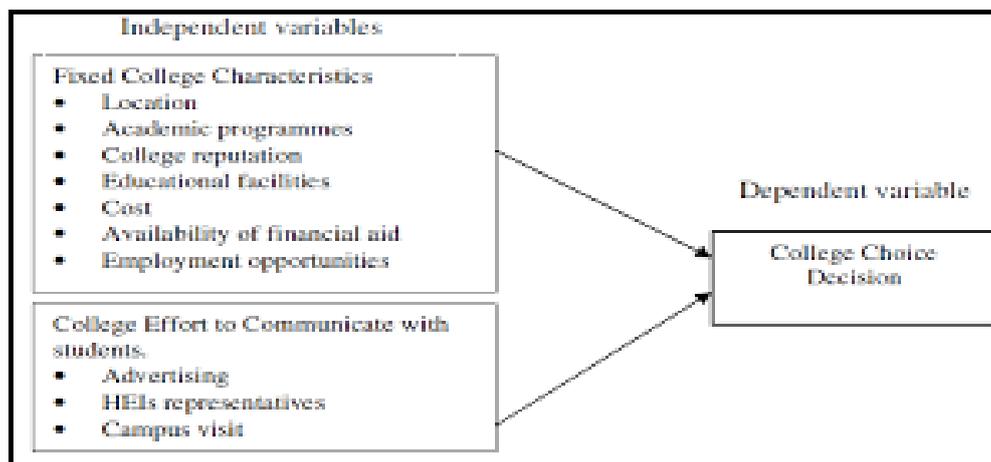
university grant commission there are 15 Universities in Punjab and researcher collected 235 respondents who willingly participate from 10 different universities in this survey. The stratified random sampling technique used in this research. For the data analysis SPSS software was used.

Research aim and Theoretical Background

This research aims to examine the importance of factors to help and enhance enrolment in universities. In such a dynamic environment, students are now carefully choosing their higher educational institution. There are various alternatives for student on selection phase which he/she feel complex in order to decide where to study. Thus, it increases competition among all private education providers. The Ming & Kee (2010) stated that it require universities to develop and implement marketing strategic plan in order to recruit students. Further Avram (2014) also emphasized and stated that the above mentioned independent variable plays strong role and it required to learn and make strategy marketing strategy accordingly. The competition in higher education sector is increasing like other service sectors, which require institutions to differentiate themselves. According to website <https://www.ugc.ac.in/privateuniversitylist.aspx> there are 15 private universities in Punjab such as Desh Bhagat university, CT university,

GNA University, Chitkara University, RayatBahra University, Sant Baba Bhag Singh University, Lovely Professional University, Rimt University, Thapar University, Guru Kashi University, Chandigarh University, Shri Guru Granth Sahib World Univeristy, Adesh University, Akal University, and DAV University.

However, this particular research is on student choice while selecting University. It seems complicated while selecting specific university because choice entirely personal point of view and hence influenced by different factors. According to the Ming &Kee (2010), while examine factors such as institutional and communication characteristics are two different groups.



Student choice influencing factors
Source: Ming Joseph SiaKee (2010)

In this paper the focus of researcher was on institutional factors rather than communication characteristics. Therefore, researcher focuses on the various parameters which affect the perception of student during the university selection process.

While looking at the factors which should include according today’s competition and advancement in higher Education Institutions, research lead researcher on NIRF ranking & NAAC. The NIRF (National Institute Framework) ranking is created by MHRD (Ministry of Human Resource Development, Government of India) to rank higher educational institutes. It ranks institutes based on parameters such as Teaching, Learning, and Resources, Research and Professional Practices, Graduation Outcomes, Outreach and Inclusivity, Perception of the institute by industry, peers and researchers <https://www.nirfindia.org>. It helps students to choose the best university and all institutes strive hard to improve their ranking in order to attract more students to enhance enrollment. According to <http://www.naac.gov.in/> website NAAC (National Assessment & Accredited council) is a government organization to assess

and accredit higher educational Institutions. It determines the quality of the university/institute, in terms of education, faculty, research, infrastructure, etc. It basically gives confidence to students that the institute they are selecting is providing the best services. The Fernandez (2010) stated that, there are several factors such as role of other people; students own perception about cost, institutional characteristics drives students to select university for higher education. Further it also mentioned by other researcher that, decision in university selection process leads by factors such as experienced teaching staff, availability of course, accessibility plays significant role (Napompech 2011).

According to Kim and Hull (2015) academically strong students tend to select highly reputed University. They might evaluate each factor differently like NIRF ranking, NAAC accreditation more important for them in case of this research. On the other hand Online presence becoming very important in these days because majority of students getting information through internet rather than offline (Gregory & T Owen 2014). Therefore university website should design in a manner

that student get clear necessary required information. According to (Bermejo, 2015, Gregory 2014, Keller, 2012), stated that prospective students get information from university website about the university they intend to enroll.

Analysis, results and discussion

The distribution of study population according to gender and level of study among all study participants (n=235), there were 62.6% males and 37.4% females. Majority of study participants were undergraduates (40.4%). Proportion of postgraduate and PhD degree holders were 24.3% and 9.8% respectively. Around 25.5% of them bear other qualifications.

The Frequency of responses of study participants to factors influencing decision of University selection was as follows:

NIRF ranking was assessed as not important at all and not important by 46.4% and 20% of the participants respectively. However, 6.8% and 7.2% of them rated it as very important and important respectively. Location was not important and not important at all according to 31.5% and 45.5% of participants respectively. Cleanliness was not at all an important factor according to 67.7% of study participants. Only 4.7% participants perceived cleanliness as very important. Similarly Safety and Security was perceived as not at all important and very important according to 72.85 and 4.7% participants respectively. Internship and placement was not important at all according to 69.8% participants and was perceived as very important and important according to 5.1% and 5.1% participants respectively. Only 6% and 7.2% study participants perceived hostel facilities as very important and important respectively. Fee structure was very important for 5.5% of participants while 55.7 of them

marked it as not important at all. Only 3% of participants considered Infrastructure as very important while 24.7% and 58.3% considered it as not important and not important at all respectively. Majority of them considered NAAC Accreditation as not important (25.5%) and not important at all (46.4%). Also international tie up was considered not important and not important at all by 23.8% and 57% participants respectively. Presence of social media handle was only considered very important by 3.8% participants. Website was not considered important by 20.9% and was not considered important at all by 58.7% respectively. Majority o participants did not give any importance to extra-curriculum activities (60.9%) and transport service (62.1%).

Comparative assessment of mean scores of factors influencing decision making according to gender shows according the following able which showing Highest mean score for factors influencing decision making among the study population was for NIRF ranking (2.08 ± 1.25) followed by NAAC Accreditation (1.96 ± 1.12), social media handle (1.95 ± 1.09), hostel facilities (1.88 ± 1.22) and fee structure (1.83 ± 1.15). The lowest scores were obtained for safety and security (1.51 ± 1.03) followed by cleanliness (1.59 ± 1.06) (Graph 3a). When compared according to gender, mean scores for NIRF ranking (p=0.004) and location (p=0.003) were significantly higher among males and the mean scores for NAAC Accreditation (p=0.022) and social media handle (p=0.001) were significantly higher among females.

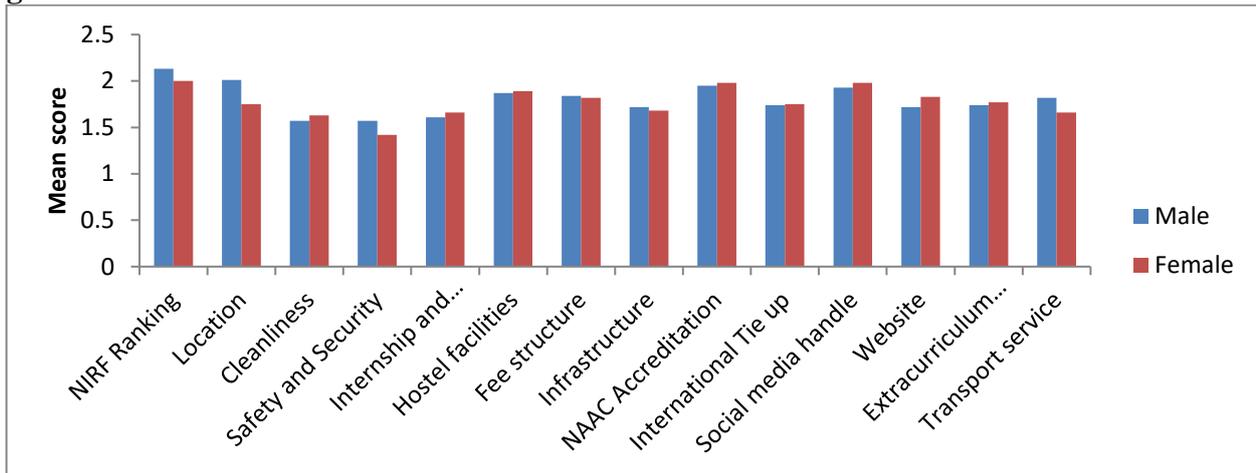
Comparative assessment of mean scores of factors influencing decision making according to gender

Factor	Male (Mean + SD)	Female (Mean + SD)	p-value	Total (Mean + SD)
NIRF Ranking	2.13 ± 1.34	2.00 ± 1.08	0.004*	2.08 ± 1.25
Location	2.01 ± 1.19	1.75 ± 0.83	0.003*	1.91 ± 1.08
Cleanliness	1.57 ± 1.00	1.63 ± 1.15	0.377	1.59 ± 1.06
Safety and Security	1.57 ± 1.07	1.42 ± 0.96	0.166	1.51 ± 1.03
Internship and Placement	1.61 ± 1.09	1.66 ± 1.21	0.669	1.63 ± 1.13
Hostel facilities	1.87 ± 1.21	1.89 ± 1.23	0.713	1.88 ± 1.22

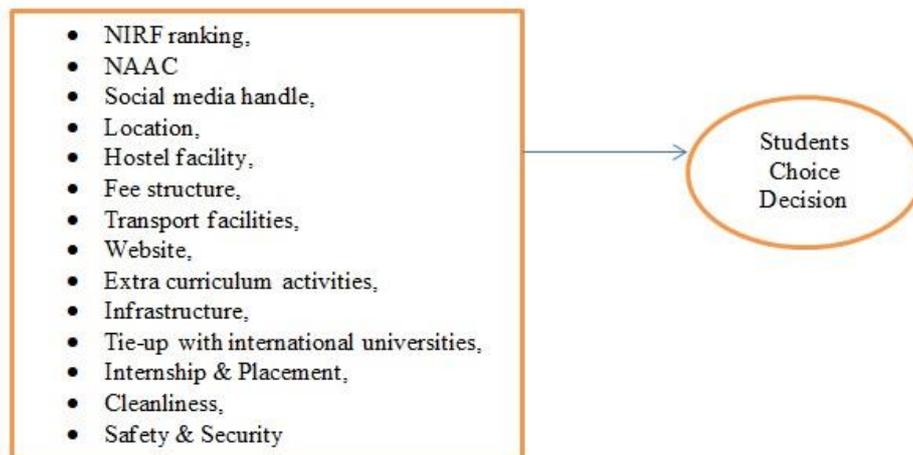
Fee structure	1.84 + 1.13	1.82 + 1.18	0.466	1.83 + 1.15
Infrastructure	1.72 + 1.09	1.68 + 0.95	0.226	1.71 + 1.04
NAAC Accreditation	1.95 + 1.18	1.98 + 1.01	0.022*	1.96 + 1.12
International Tie up	1.74 + 1.08	1.75 + 1.05	0.571	1.74 + 1.06
Social media handle	1.93 + 1.19	1.98 + 0.92	0.001*	1.95 + 1.09
Website	1.72 + 1.16	1.83 + 1.05	0.192	1.76 + 1.12
Extra-curriculum activities	1.74 + 1.16	1.77 + 1.00	0.291	1.75 + 1.10
Transport service	1.82 + 1.23	1.66 + 1.13	0.149	1.76 + 1.19

Test applied: Independent t test, *indicates statistically significant difference

Comparative assessment of mean scores of factors influencing decision making according to gender



The proposed Characteristics of research



Conclusions and recommendations

This research was conducted to understand and determine the effect of factors while student select university for higher education in Punjab, India. It can be concluded that this study provide sufficient evidence that if universities use these factors then students will attract toward that particular institution. It was also found that the mentioned fourteen factors such as NIRF ranking, NAAC most important and followed by Social media handle,

Location, hostel facility, fee structure, transport facilities, website, extra curriculum activities, infrastructure, tie-up with international universities, internship & Placement, cleanliness, safety & Security important and looked by students in selection process and have significant influence on their decision. It will enhance enrolment and help marketing personnel to take appropriate strategy. In Punjab, India the market has very high competition so universities should focus on these factors.

The future research on this topic should plan on promotional tools taking into consideration during enrolment by students. It will help to

find new ways of marketing than conventional one.

References

- Bermejo, R. (2015). 2015 High School Students Perceptions and Preferences. Ruffalo Noel Levitz.
- Cohodes, Sarah, and Joshua Goodman, "Merit Aid, College Quality and College Completion: Massachusetts' Adams Scholarship as an In-Kind Subsidy." *American Economic Journal: Applied Economics*, VOL. 6, No. 4, October 2014 (pp. 251-85) Accessed May 25, 2021.
- Fernandez, J. L. (2010). An exploratory study of factors influencing students' college decision in Malaysia: A conceptual framework. *International Journal of Business and Social Science*, 1(3), 53-58.
- Gregory, J. (2014). 10 Ways Students Search Colleges Today - And How to Adapt. Retrieved from <https://www.ruffalonl.com/papers-research-higher-education-fundraising/2014/10-ways-students-search-colleges-today-and-how-to-adapt>
- Jaret Spearman, Saleh Ghanayem, Nikolina Ljepava, "Factors influencing student enrollment and choice of university", (2016) Proceedings of 35th International Business Research Conference 30 - 31 May 2016, American University in the Emirates, Dubai, UAE ISBN: 978-1-925488-06-7 [accessed May 26 2021].
- Keller, A. (2012) Marketing techniques and recruiting effectiveness at a Public Community College. Field study. The Faculty of the Higher Education Leadership Program State University Missouri
- Rebecca K. Frels, Anthony J. Onwuegbuzie, (2013), "Administering Quantitative instruments With Qualitative Interviews: A Mixed Research Approach" *Journal of Counselling Development*, Volume 91, Issue 2, 05 March 2013 (PP184-194), Accessed May 15, 2021 <https://doi.org/10.1002/j.1556-6676.2013.00085.x>
- Kim, Kyung Hee, and Michael F. Hull. 2015. "Effects of Motivation, ACT/SAT, GPA, and SES on College Choice for Academically Advanced Students and Other Students." *World Journal of Educational Research* 2, no. 2: 140-167. Accessed May 15, 2021. <http://www.scholink.org/ojs/index.php/wjer>
- Ming, J. & Kee, S. (2010). Institutional Factors Influencing Students' College Choice Decision in Malaysia: A Conceptual Framework. *International Journal of Business and Social Science*, 1(3), 53-58.
- Napompech, K. (2011). What factors influence high school students in choosing Cram Schools in Thailand? 2011 International Conference on Business and Economics Research, IPEDR 16, Singapore.
- Norman Rudhumbu, Avinash Tirumalai, Babli Kumari, "Factors that Influence Undergraduate Students' Choice of a University: A Case of Botho University in Botswana", May 2017, *International Journal of Learning and Development* 7(2):27 DOI: 10.5296/ijld.v7i2.10577
- Mohammad Zohrabi (2013), "Mixed Method Research: Instruments, Validity, Reliability and Reporting Findings" ISSN 1799-2591 *Theory and Practice in Language Studies*, Vol. 3, No. 2, pp. 254-262, February 2013 doi:10.4304/tpls.3.2.254-262
- Owen, G. T. (2014). Qualitative Methods in Higher Education Policy Analysis: Using Interviews and Document Analysis. *The Qualitative Report*, 19(26), 1-19. <https://doi.org/10.46743/2160-3715/2014.1211>
- www.ugc.ac.in/privateuniversitylist.aspx

PERFORMANCE OF WOMEN SELF HELP GROUPS IN DISTRICT PULWAMA JAMMU AND KASHMIR

I.A. Reshi¹ and T. Sudha²

^{1,2}Department of Economics Annamalai University
¹Sahilirshad1991@gmail.com, ²Sukeer99@gmail.com

ABSTRACT

Women's empowerment is a mechanism in which women question traditional values and cultures to promote their well-being effectively. Women's involvement in Self Help Groups (SHGs) influenced their social and economic empowerment greatly. Women's empowerment is critical for the country's growth. The government is concerned about bringing women into the mainstream of growth. Women's inclusion in the mainstream of national development is a top priority for the government. Women have special components in the Ministry of Rural Development's programmes, and funds are designated as "women part" to ensure adequate funding. Women's empowerment is a necessary condition for poverty eradication. Many international and national organizations have emphasized the importance of women's empowerment. At the grass-roots level in India, microfinance and Self Help Group (SHG) involvement have made a huge difference in women's lives.

Keywords: Women's participation, decision-making, micro-finance

Introduction

To ensure rural transformation, women are now joining the labour force in large numbers in many areas. Women's culture images are rapidly shifting, but it isn't easy to pinpoint just how they're changing. At this point, everyone should recall Jawaharlal Nehru's terms.

"To awaken the people, it is the woman who has to be awakened. Once she is on the move, the household moves, the village moves, and the community move."

Previously, women's development programmes, especially for rural women, were primarily welfare and relief-oriented. Women were the main beneficiaries of development projects rather than participants. However, there has been a recent movement toward seeing women as participants rather than beneficiaries in the creation process. It means that appropriately inspired women may choose to participate in decision-making in their communities grow. Upreti, H. C., and Nandini Upreti, Nandini Upreti, Nandini Upreti, Nandini Upreti, Nandini Up Women makeup nearly half of India's rural population and are important to the country's rural economy. It's encouraging to see them seen as equal partners in the growth process alongside men. Education is critical to human resource growth. Recent experiences have shown a strong correlation between education and rural women's development Instruction and

preparing would go far toward guaranteeing provincial ladies' equal consideration and hoisting their status. Rural women's training is particularly important to increase their participation in the development process, improve their skills, and make them equal partners in national development. (R. Durain Pandian and S. Ganesan, 2001)

Indian planners tried several rural development methods later on. Initially, an 'institutional approach' was taken to establish a specialized institution focused on rural development. The 'region approach,' which was used to enforce the rural development process, was focused on specific areas and segmenting designated areas for each specialized development institution. These two attempts have yielded unsatisfactory results. Finally, the need-based goal or beneficiary strategy was made available, allowing schemes and services to be introduced to meet local citizens' needs. Both of these strategies failed due to a major factor: beneficiary involvement. Self-Help Groups (SHGs) idea as a rural economic builder incorporates all approaches' strengths while avoiding their flaws. It has filled in the gaps in policy implementation, and the SHG now reigns supreme as the 'value preference' of rural women. Self-Help Groups (SHGs) are a relatively new concept (N. Lalitha and B. S. Nagarajan 2002). They play a critical role in poverty alleviation in rural India and raise awareness among a group of people

who would otherwise go unnoticed. People living in poverty, often women, enter SHGs of their own volition. In India, the number of SHGs and their membership has been steadily growing in recent years. They participate in saving, and credit (investment) practises that are typically associated with SHGs, as well as other more socially and economically beneficial activities such as income generation, environmental protection, literacy, child care, and nutrition

The SHG scheme is intended to empower vulnerable women living below the poverty line. One of the fundamental conditions for women's holistic growth is economic and social empowerment, which the National Perspective Plan for Women, 1988 emphasizes strongly. Other government initiatives, such as the 2001 National Policy for Women's Empowerment and the 2003-2004 National Plan of Action for Women's Empowerment, emphasize maintaining women's rightful position in society by empowering them as agents of socio-economic change and growth. (Economic Survey, Ministry of Finance, Government of India, 2003-04). Ministry of Finance Economic Survey). Women can only influence their circumstances and increase their capabilities if they engage freely in economic activities, especially outside the home. SHGs have a suitable setting for this.

Each individual has the option to a noble life, and poverty impedes that right. Around 70% of the 1.3 billion people living in extreme poverty on the planet are women. Poverty isn't just about deprivation and wants for these women; it also means that their rights are denied, their resources are restricted, and their voices are silenced. Women, who account for half of all human capital, are often overlooked and undervalued due to their social status. Women make up two-thirds of the adults worldwide who cannot read or write, work two-thirds of the world's working hours, earn just 10% of the world's income, and own less than 1% of the world's land, according to estimates from the United Nations Millennium Campaign to halve world poverty by 2015. The poorest of the poor are women. As a result, women's liberation is a matter of fundamental human rights. As a result, the International Conference on Population and Growth (ICPD) in Cairo in

1994 made women's empowerment a central priority. It announced that human development would be jeopardized if it did not occur. Given all of these factors, women's empowerment is unavoidable for the community's and countries overall development, as mentioned in the Millennium Development Goals.

'Empowerment' is a ceaseless cycle by which frail individuals become aware of their circumstance, coordinate aggregately to improve it, and access openings, as a result of which they assume responsibility for their own lives, set their timetable, acquire abilities, tackle issues and create confidence.

In India, Microfinance and Self Help Group (SHG) mediation has gotten colossal completely change women at the grass-roots level by enabling women. In such a manner, the previously coordinated activity was taken in Gujarat in 1954 and was given a more arranged construction in 1972, when Self Employed Women's Association (SEWA) was framed. Significant analyses in little gathering development (SHGs) and their linkage to the bank for credit conveyance at the neighbourhood level were started in Tamil Nadu and Kerala around twenty years back. These activities gave a healthy balance to the SHG development in these States. Self-improvement gathering's territory little intentional relationship of poor and minimized individuals from the equivalent financial foundation, which has become the vehicle of progress for poor people and underestimated individuals to be delivered from neediness grasps.

Review of Literature

Government of India 2020

In the 2020 Union Budget, the government declared capacity facilities set up at the village level, which women SHGs would control. Additionally, the public authority proposed elevating the nano-enterprises of women SHGs to the degree of microenterprises and giving more bank credit to them.

Gurumoorthy 2017

Suggested that a viable SHG was an alternative approach for achieving the rural development goal and getting their community engagement in all SHGs rural

development projects has been promoted the disbursement of microloans to rural women to enable them to participate in entrepreneurial activities. Rural women's credit needs can be fully met through SHGs. The SHGs operated by women have been successfully shown how to organize and manage thrift, determine credit needs, establish ties with banks and implement financial self-discipline. SHG strengthened women's status in the democratic, economic, social and cultural spheres of life as participants, decision-makers and beneficiaries. The study concluded that the community enabled women to participate in the socio-economic development of society.

Bhatia 2016

The position of SHGs led to the recovery of old dues by bank branches, which was emphasized as being higher than other loans provided to borrowers. They found that SHG members' living conditions had improved significantly in terms of wealth ownership, increased savings and borrowing capacity, income-generating activities and income levels, as well as in terms of health.

Theoretical Background

Skills Approach Leadership Theory

Robert Katz in 1955. The skills approach to leadership is based on the idea that leadership requires certain talents, experience, and skills to be acquired or created. This principle measures a leader's success in terms of what they can achieve. This idea encourages leadership to be open to all rather than only a select few with the right leadership qualities by concentrating on what they can do rather than who they are. According to this theory, technical, human, and mental skills are the three key skills required for leadership. Various kinds of pioneers utilize these three ranges of abilities in different manners to accomplish their targets. According to the model for this leadership style, a leader's strengths, personality, and cognitive abilities affect their acquired skills and expertise to solve problems and accomplish tasks. The strengths and skills are influenced by their previous work experiences, while their attributes, skills, and

success are all influenced by environmental factors outside the leader's control. All of this adds up to the leadership skills model. It is an essential and practical leadership principle, in my opinion. Although some people are born with more natural leadership abilities than others, I believe that everyone can lead. All should learn how to be a leader and how to use those skills effectively. It is significant because, regardless of how natural a leader someone is, they will all be put in a leadership position at some stage in their lives. This theory teaches people how to use their characteristics and problem-solving, social judgment, and experience to accomplish or solve any problems that might arise. Leadership Ability to persuade a group to accomplish a common goal

Bargaining theory of wages

John Davidson propounded this theory (1898). According to him, wages are determined by relative bargaining power between workers or trade unions and employers and basic wages, fringe benefits, job differentials, and individual differences tend to be determined by the organization's relative strength and the trade union. According to this theory, wages are determined by workers' unions and employers' relative bargaining power. According to the bargaining theory of wages, wages, hours, and working conditions are determined by the parties relative bargaining power. When Smith said that employers had more bargaining power than workers, he pointed at such a hypothesis. Employers were in a better position to unite their opposition to employee demands, and they were also in a better position to withstand them. The theory also suggests that the spectrum of bargaining is restricted. Person bargaining exposes the worker to two dangers, which can be mitigated by collective bargaining. There's a chance that the worker will be one of many candidates for a single job opening and that the rivalry will drive down wages. There is no single economic concept or power that governs wages in the wage bargaining theory. Instead, employees, employers, and unions determine salaries and other working conditions, negotiating these conditions.

Methodology

The contents have been taken from related books, papers, journals, and websites for in-depth research. Analytical and descriptive methods are used. Knowledge was gathered

from both primary and secondary sources. A well-structured questionnaire was used to collect primary data in the study area.

Analytical results

Economic enhancement of women after joining the Self Help Groups in the study area

Improvement in the economic independence of women after joining SHG					
CATEGORY		Improvement in the economic independence of women after joining SHG			Total
		STRONGLY AGREE	AGREE		
	COMPLETELY TRAINED	51 (25.6%)	10 (32.3%)	61 (26.5%)	
	PARTIALLY TRAINED	73 (36.7%)	9 (29.0%)	82 (35.7%)	
	NOT TRAINED	75 (37.7%)	12 (38.7%)	87 (37.8%)	
TOTAL		199 (100.0%)	31 100.0%	230 100.0%	

Source: Computed from primary data.

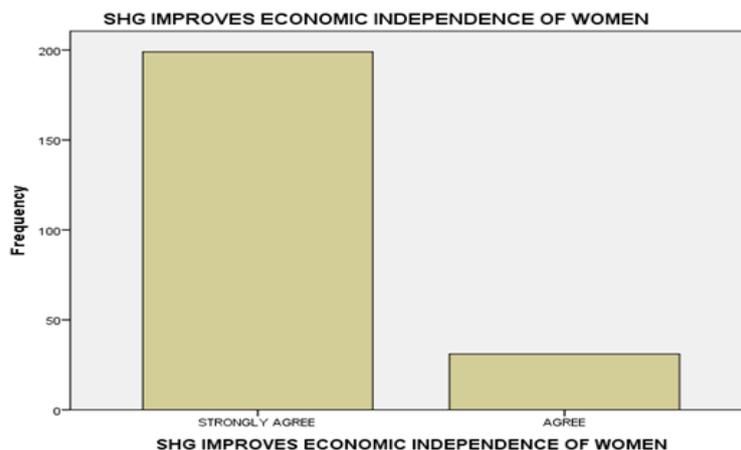
Figures in parentheses denote percentages to the column total.

Table 1 represents the data on SHGs improves economic independence of women –wise classification of Sample. It could be noted from the study of the Table that majority of the Respondent are strongly agreed on SHGs improves economic independence of women.199 respondents out of 230 samples are strongly agree. In which (37.7%) are not trained, (36.7%) are partially trained, and (25.6%) are completely trained. In the Table, it could also be noted that 31, respondents out of 230 samples, agree that SHGs improve the

economic independence of women, among which (37.8%) are not trained, (35.7%) are partially trained, and (26.5%) are completely trained. A study of Table (29) describes that (37.8%) share of the total Sample percentage is not trained. (35.7%) are partially trained and the lowest share of percentage (26.5%) but is completely trained.

It is inferred from Table 1 that the highest share of respondents strongly agrees that SHGs improve the economic independence of women, and very few respondents agree that SHGs enhance the financial position of women but are not trained.

Graphical representation of the performance of women SHGs in the study area



Results

SHGs have been a major movement in India in recent years. In India, the Self-Help Group (SHG) movement has effectively empowered women and eradicated poverty in rural and urban areas. Many Indian women believe in the movement and credit it for helping them improve their lives. Women, on the other hand, are also not encouraged in the way that they should be. SHGs are a new and creative organization for women's empowerment and welfare in India. In India, all women are allowed to join one of the SHGs for training and growth as potential entrepreneurs and skilled workers. As if Indian women aren't resourceful enough to be entrepreneurs, the government encourages SHGs. As SHGs set up training facilities for women in India to do specific work types, the bank must provide financial assistance to carry out manufacturing and trading operations and marketing services. Simultaneously, governments can purchase SHG products, make plans to improve women's leadership ability and make SHG management plans to be self-sufficient in an administrative capacity. SHGs become more or less integrated into society as a social movement with government funding.

The idea of a Self-Help Group, or SHG for short, is now well-known. It's been almost two decades since it was founded. According to reports, SHGs play a role in accelerating a country's economic growth. SHGs have developed into a trend. Women make up the majority of SHG participants.

Subsequently, the investment of women's in the country's monetary advancement is expanding. They likewise assume a significant part in raising the financial status of their families. It has driven lift to the cycle of women empowerment. Bangladesh has been recognized as a pioneer in the field of micro-finance. Dr Mehmud Yunus, Professor of Economics at the Chitgaon University of Bangladesh, was an activity research project 'Grameen Bank.' Generally, the Self-Help Group comprises 10 to 20 women. The women save some sum that they can bear. A month to month meeting is coordinated, where separated

from disbursement and reimbursement of credit, formal and casual conversations are additionally hung on numerous social issues. Women share their encounters in these groups. The minutes of these groups are recorded, and the records are composed. The President, Secretary, and Treasurer are three authority posts in any SHG. If the SHGs are associated with certain NGOs, they partake in other social exercises of those NGOs. Of late, different micro-financial groups classic design is going through critical changes—frugality gatherings; Credit the executive's groups, Income producing gatherings, Self-help groups, and Mutual assistance groups. Some of the time, the establishment that advances the SHG itself gives credit offices. It is called as Micro-finance Institute.

Importance of women empowerment through SHGs

The women are business people answerable for saving and getting to credit. On account of CEMEX, the organization works just with women. Amul, milk agreeable, relies upon women for their milk beginning in towns. Women likewise gather the money for the milk and hence have accomplished another economic well-being. Admittance to financial freedom can change the long custom of concealment of women and refusal of chances. Avon, Mary Kay, and Tupperware in the U.S. what's more, different pieces of the world are likewise founded on the job of women business venture. One of the amazing ways to deal with women strengthening and country business venture is Self Help Groups (SHGs), particularly among women. This technique had gotten observable outcomes in India and Bangladesh as well as the world over. "Women self-improvement gatherings are progressively being utilized as an instrument for different formative intercessions. Credit and its conveyance through self-help groups have additionally been taken to enable provincial women. This coordinated methodology, whereby credit is just a passage point, and an instrument to operationalize different parts of gathering elements and the board, also oblige social intermediation requirements. A self-help

group is imagined as a maintainable group's organization that furnishes the poor provincial women with space and backing important to make successful strides towards accomplishing more noteworthy control of their lives. The SHG approach has demonstrated fruitful in improving financial conditions through pay age and making mindfulness about well-being and cleanliness, disinfection and neatness, ecological insurance, the significance of instruction, and better reaction for improvement plans. Through getting sorted out casual self-help group (SHGs), rustic women in India are given credit and augmentation backing to different creation arranged Income-producing exercises. These exercises generally incorporate clothing making, weaving, food handling, beekeeping, basketry, pearl cutting, weaving, and sewing. SHGs are self-administered, with choices about creation and

advertising taken altogether, albeit the gathering chief is answerable for distinguishing potential showcasing focuses and customers. These gatherings address another culture in country advancement, breaking with customary organization and top-down administration.

Conclusion

Individuals or groups gain power and influence over their lives through empowerment, which is a change mechanism. It entails increased involvement in decision-making and bargaining power and increased control over rewards, wealth, and one's own life, as well as increased self-confidence, self-esteem, and self-respect. It means that 'empowerment' is a multi-faceted term that encompasses economic, social, and political aspects. SHGs not only put women into the mainstream, but they also help them gain economic freedom.

References

1. Karthika, T. 2019. "Women Empowerment through Self Help Group in Velappanadaroor at Sankarankovil Taluk." Shanlax International Journal of Commerce 7(3): 90–94.
2. Nagaraja, Dr N, and H S Kongalappa. "A Study on Women Empowerment through Self-Help Groups." 6.
3. Das Sabyasachi, Self-help groups and micro-credit synergic integration. *Kuruksheetra*, 51 2003,(10) : 25-28
4. Das, S., Self-help groups and micro-credit synergic integration. *Journal of Rural Development*, 2003, 51(10): 25-37
5. Khari D.S., Women empowerment in India, ALH Books, New Delhi, 2009
6. Narashimban Sakunatala, Empowering Women: An Alternative Strategy for Rural India, New Delhi: Sage Publications India Pvt. Ltd. 1999
7. Micro Credit, Self-help Groups (SHGs) and Women Empowerment, New Century Publication, New Delhi
8. Papalo, T. S. and Alakh, N., Sharma, Gender and Employment in India, Vikas Publishing House, New Delhi, 1999
9. Panigrahy R. L. Panigrahy, Nayak S. S, Economic Empowerment of Women, Discovery Publishing House Pvt. Ltd. New Delhi, 2008
10. Singh B.K., Women Empowerment through Self Help Groups, Adhyayan Publishers & Distributors, Delhi, 2006

THE POLITICAL FOUNDATIONS OF RISING INSECURITY IN PAKISTAN: AN ANALYSIS FROM 1958-2015

F.Y. Chaliha

Department of Political Science, Jagannath Barooah College (Autonomous), Assam

ABSTRACT

The main objective of this paper is to examine and analyse the prime causes that led towards the rising insecurities in Pakistan and how it had impacted the very socio-economic developmental goals of the State. After the death of Mohammad Ali Jinnah the political turmoil in Pakistan and lack of leadership skills had opened up many loopholes within the polity of the State because of which the people of Pakistan tuned towards the Pakistan army. But to their surprise in military that stood up to their expectations had instead turned praetorian. The military bureaucracy oligarchy tenanted dominant position and established a parallel State within the State. This lead to rise of various insecurities like three Indo-Pak Wars, Ethnic Nationalism, proliferation of terrorist outfits under the veil of madrasas and socio-economic instability and imbalance. As such, besides, covering the historical background, the present study also examines how their strategic synergy may alter the existing balance of power in South Asia and international peace.

Keywords: Pakistan, India, Conflict, Ethnic Nationalism, Military and Political Economy

Introduction

The very cause for the demand for a separate state of Pakistan for the Muslims of India was the result of the feeling of insecurity and neglect felt by them. On 14th of August 1947 the British colonial power carved out a part of India into an Independent dominion which was named Pakistan. But, it was mired with many problems. Such as, the 1947 war, the refugee flows, the division of the military, the drawing of the borders, etc. Therefore, under such crucial conditions Mohammad Ali Jinnah the then Governor-General and Liaquat Ali Khan the then Prime Minister tried to assimilate the entire population into a unified, secular nation. This is evident when Jinnah during his speech on the day of Independence resolved to make Pakistan a secular and democratic nation where every Muslim and non-Muslim would be equal before law and free to live a respectable and fearless life.

Unfortunately, his vision of a democratic and fearless Pakistan lasted for a year. After his death on 11th September 1948 there was a big vacuum in the leadership that could lead the State. Although, Liaquat Ali Khan was looked upon as his shadow but his honesty, generosity and humbleness made him prey to dirty politics and he too was assassinated in 1951. Lack of leadership and unity further depleted the condition of the country and the people. In the later years from 1951 onwards the country witnessed six Prime Ministers and three

Governor-Generals and none were in a position to form a stable government. Instead, there was political infighting and corruption.

Therefore, under such a leadership crisis Pakistan went into a grip of severe political and economic crisis with rising prices, high poverty, shortage of food, foreign exchange liability, etc. On top of it - smuggling, black-marketing and hoarding had penetrated deep into the economic life of Pakistan. Therefore, there was a general feeling amongst the educated people that there was no possibility of the politicians changing or reforming their methods. The only way out of this turmoil was thought to be the replacement of the parliamentary system by an appropriate system of government which could ensure political stability and economic development. The well-integrated and disciplined organization of the armed forces and their role in the maintenance of law and order made both the people and the few politicians to look upto them to provide strong leadership. Hence, in this way the army was able to make a place for itself in the political arena of the State which paved the way towards the rise of further political insecurities of the State.

General Ayub Khan Regime: The Entry of Military in Politics, 1958-1969

In Pakistan the first military coup under General Ayub Khan brought about many new developments and proved to be a turning point in the country's history and a new threshold in

civil-military relationship. At the same time, it also revealed General Ayub Khan's impact on Pakistan's foundational problems with respect to authoritarian traditions of governance, political institutionalisation, centre-province relations, the armies expansion into Pakistan's polity and society and how both diplomacy and patronage of Islamic groups to counter India's predominance in their enduring rivalry proved counter-reactive to its own existence in the later years that came.

General Ayub Khan from the time he was a minister of defence under the Presidentship of Iskander Mirza, always blamed the unruly politicians for Pakistan's ills. In this sense when he became the Chief Martial law administrator on 8th October 1958, General Ayub delivered a withering attack on the politicians, claiming that they had waged, "a ceaseless and bitter war against each other regardless of the ill effects on the country, just to whet their appetites and satisfy their base demands."¹ Thereupon, under such pretexts, on 27th October 1958 General Ayub Khan led a coup against the President Iskander Mirza, arrested him and later send him to exile.

This act was welcomed by the citizens as they looked upon the army to bring about stability and systematic overhaul. Thus, his takeover was duly christened a 'revolution' and the day of the takeover entered the national calendar as a holiday. Gradually, in the later years, General Ayub Khan with the support and unwavering insistence of the generals promoted himself to the rank of Field Marshal.

Thereafter, to seek legitimacy for his power he introduced the system of 'Basic Democracies' in 1960. Later on, the 80,000 Basic Democrats created under the General Ayub regime, collectively formed the Electoral College which affirmed General Ayub as the President in the January 1960 ballot. Following this General Ayub decided to formulate a new Constitution, which would suit the needs of Pakistan, which in action suited the needs of Gen. Ayub Khan as well. By 1962, a new Constituion was formulated which envisioned a Presidential system, with a President being elected by an indirect method and various

safeguards to ensure that nobody could challenge his power and position.

Governance and Depoliticisation

As mentioned earlier General Ayub Khan had lost all faith or liking for politicians. Therefore, the elite civil service formed the backbone of the system of governance under General Ayub's rule. The civil servant, who had in fact, run the country in the past, happily shifted their loyalties to the new leadership because it released them from the inhibitions from which they were suffering in the past and provided them the cover of Martial Law. Moreover, the civil servants knew that they could not continue in service if they worked against the wishes of the new leaders. The Civil Service of Pakistan (CSP) thus, played an important part in this regime as a result of the central role accorded to commissioners and deputy commissioners in the Basic Democracies scheme. However, military rule through the civil machinery did not mean that real power was in the hands of the civil service. In fact, the army served as the brain and the civil servants as the hands of the regime. This showed that the military had an upper hand within the administration of the country.

Pakistan's already weak institutional political system was dealt a further blow by the General Ayub regime when he banned political parties. In this effect, the indirect elections to the newly constituted National and Provincial Assemblies in 1962 were held on a 'partyless' basis. General Ayub introduced the Public Offices (Disqualification) Order (PODO) and the Elective Bodies (Disqualification) Order (EBDO) respectively in March and August 1959.² All such activities weakened popular participation and the citizens were left with no choices to elect their own rulers instead face injustice and inequality. This further entrenched the power of the local landholders and the 'Biradari' heads who were inimical to the development of grassroot political organisations.

Further, Gen. Ayub also banned freedom of speech and expression as well as the press. General Ayub not only used the Public Safety Ordinance already on the statute

¹ Mohammad Ayub Khan, *Speeches and Statements*, vol.1 (Karachi: Pakistan Publication, 1961), p.2.

² Ian Talbot, *Pakistan: A New History* (London: C. Hurst & Co. Publishers, 2012), p.82.

book to control news items, but in 1963 promulgated the Press and Publications Ordinance, to make the press conform to recognised principles of journalism and patriotism. A tighter grip on news management followed in 1964 when the supposedly independent National Press Trust was established and former radical papers as the 'Pakistan Times' and transformed them into government mouthpieces.³ Thus, General Ayub's actions not only undermined resistance to his particular brand of authoritarianism, but hampered the long-term development of civil society.

Centre-Province Relations

Although the constitution introduced an indirect system of government but ultimate power resided with the hands of the centre. In this regard he modified the 'One Unit Scheme.' The greatest resentment came from the Sindhi and the Bengali leaders whose communities had next to no influence in the powerful bureaucracy and army. The Bengali citizens of East Pakistan being the only province to support Jinnah in his struggle for the establishment of Pakistan found themselves in an unfortunate situation within Gen. Ayub's military regime, which made them have second thoughts. Although they were the majority group in Pakistan, they suffered from a deep-rooted fear of domination by the minority group of West Pakistan. There was a cabinet and a parliament, but the political order in Pakistan could be called 'an oligarchy under a democratic constitution.' It was a 'modernizing oligarchy' in which the Bengalis had no share.⁴ Therefore, in any issue of national interest they could only react; they could never act.

In this context, vital decisions related to political or defence or economic or diplomatic matters, was in the final analysis made by the ruling elite, composed of West Pakistani civil and military officers although East-Pakistan comprised of the majority population. Due to this the educated classes and the politicians of East Pakistan felt completely excluded from the decision-making process. As the federal capital was located in West Pakistan so the

bulk of the country's revenue, particularly in the defence sector, was spent in the West. Similarly, East Pakistan earned most of the country's foreign exchange by the export of jute; yet most of the foreign exchange was spent on the industrialization of West Pakistan. This accentuated economic inequality between the citizens of the two wings. The civil and military officials from West Pakistan stationed in East Pakistan never bothered to develop any real bonds with the local population, who looked upon them as aliens. The officials of West Pakistan considered themselves socially superior to the Bengali Muslims, who were regarded as converts from lower-caste Hindus. Thus, the Bengalis found a new ruling group set over them in place of the former British officials. The rapid but uneven economic development of the 1960s and the 1965 war with India compounded this sense of alienation.

In context to the above, there was hardly any scope for the Bengalis to develop common national feelings with West Pakistan, apart from the religious bond of Islam. The Pakistan Government failed to appreciate that a federal union can be strengthened by giving cultural freedom and autonomy. Henceforth, feelings of alienation and regionalism grew and gradually led to unrest and agitation. Hardly a year passed without Bengalis revolting against alleged maltreatment by the Central Government; the result was shootings and killings, which gave further impetus to the growth of Bengali nationalism. The General Ayub era thereby, fatefully increased this.

The Rise of Milbus under General Ayub Khan

The Gen. Ayub era saw the extension of the army's 'colonisation' of the Pakistan society and polity. He established the 'Fauji Foundation' under which servicemen's welfare funds began to be diverted into large-scale commercial activities. By the beginning of the twenty-first century the 'Fauji Foundation' numbered among the largest business conglomerates in Pakistan and was exempted from taxation. The army was also involved in infrastructural activities. The most famous was the construction by the Frontier Works Organisation of the 805 kilometre Karakoram Highway linking Pakistan and China.

³ Ibid., p.82.

⁴ G.W Choudhury, *The Last Days of United Pakistan* (London: C. Hurst and Co. Publishers Ltd, 1974), p.6

Moreover, profits generated by the Fauji Foundation were ploughed into the construction of schools, colleges and hospitals for the use of military personnel. This laid the foundations for army's corporate interests.

Besides this, General Ayub also extended one of the early policies of rewarding serviceman with agricultural land. As such the amount of land set aside in this way was approximated at anything between 300,000 and 1 million acres.⁵ Senior generals including General Ayub (247 acres), Muhammad Musa the Commander-in-Chief of General Ayub acquired 250 acres. This encouraged the creation of a military agriculturalist class and helped cement links between the army and sections of the feudal elites.

Moreover, by the end of 1959, fifty-three army officers held civilian administrative positions.⁶ As such, the army as an institution embarked upon the creation of an economic empire which was to strengthen both its capacity and motivation for further political intervention. Thus, army's expansion into many areas of Pakistan's public life brought corruption and nepotism in its wake. In the words of Ayesha Siddiq, "militaries that develop deep economic interests or have a pervasive presence in the economy shrink from giving up political control. In fact, the tendency is to establish the organisation's hegemony in the state and society."⁷

Further, the massive arms supply to India by Western powers due to the Sino-India war, this led Pakistan to review their relations with the West as well as paying greater attention to modernising the armed forces so that it may be kept in a state of perpetual readiness. Therefore, the government started with the policy of allocating substantial portion of the national budget to the defence services and procured arms and equipment from abroad. Defence expenditure rose more rapidly during 1962-70 than during the period of direct military rule of 1958-1962.

⁵ Ayesha Siddiq, *Military inc: Inside Pakistan's Military Economy* (Karachi: Oxford University Press, 2007), p.135.

⁶ S.J. Burki, "Twenty Years of the Civil Service of Pakistan: A Re-evaluation," *Asian Survey*, Vol. 9, No. 4, April 1969, p.248.

⁷ Ayesha Siddiq, *Op.Cit.*, p.17.

The Enduring Rivalry with India

Pakistan's utter frustration over the Indians on Kashmir coupled with the rapid rearmament of the Indian armed forces on account of Western military aid from U.S, were factors that played a crucial role in Pakistan's drift toward considering a military solution of the Kashmir issue. This led Gen. Ayub to take resort of the Kashmir Cell who laid the broad concept of 'Operation Gibraltar.'⁸ The plan of this operation (Gibraltar) as finalized by General Malik and approved by Gen. Ayub to infiltrate a sizeable armed force across the cease-fire line (CFL) into Indian Kashmir to carry out acts of sabotage in order to destabilize the government of the state and encourage the local population to rise against Indian occupation.⁹ In case operation Gibraltar got into trouble a backup was also planned i.e., 'Operation Grand Slam.'¹⁰ Thereupon, these Islamic irregular forces which were recruited from Pakistan-controlled Kashmir region and the border Punjabi city of Sialkot were armed with weapons, and Operation Gibraltar was launched in the first week of August 1965, and all the infiltrators made it across the CFL without a single case of detention by the Indians.¹¹ Thus, for the first time since independence, war spread all along the cease-fire line in Kashmir and the India-West Pakistan border and lasted for 17 days.

The war with India marked the downturn in Gen. Ayub's fortunes. He was accused of 'unpardonable weakness' in purchasing peace at the cost of national honour and betraying the just cause of Kashmir. But, here the case in point is the two important legacies of the conflict that led to the war and opened the Pandora's box of militant groups. Firstly, it created a sense of U.S betrayal which was the beginning of a chequered relationship between the two allies that persists till today. Secondly, it marked a further impetus in the Pakistan state's use of irregular Islamic forces. In addition, the war also increased the

⁸ Hasan Abbas, *Pakistan's Drift into Extremism: Allah, the Army, and America's War on Terror* (New York: M.E Sharpe, 2005), p.44.

⁹ *Ibid.*, p.44.

¹⁰ *Ibid.*, p.44.

¹¹ *Ibid.*, p.45.

proliferation of arms and weapons between both the countries.

Thus, the General Ayub decade showed that only economic growth could not sail an authoritarian regime to success. Economic growth must also be accompanied by economic justice and social change. Therefore, realising the seriousness of the political conditions in Pakistan Gen. Ayub handed over power to General Yahya Khan who declared himself as the 'natural heir' to Gen. Ayub Khan.

General Yahya Khan Regime and Dismemberment of Pakistan 1969-1971

General Yahya Khan assumed the powers of Chief Martial Law Administrator and President of Pakistan¹² without facing any opposition although it was not so welcoming for the citizens. A Provisional Constitution order was issued which provided that until a constitution was enforced, Pakistan would be governed under the 1962 Constitution. In this regard, the Fundamental rights, as enumerated in the 1962 Constitution, were suspended and no court was authorised to pass any order, issue any decree or writ against the orders of the Chief Martial Law Administrator or any other Martial Law authority. The political mood in the country was not that of 1958. The five months of rebellion against the Gen. Ayub regime had undermined every political institution and produced total chaos. The atmosphere was charged with left-right confrontation, regionalism in East Pakistan which were showing signs of transforming itself into a secessionist movement and other political issues. Thereupon, within twenty-four hours of taking over on 25th March 1969, Gen Yahya promised free and fair elections based on adult franchise and a Constitution that would be framed by the elected representatives of the people. As such, Gen Yahya's martial law replaced a discredited dictatorship and was accepted with resignation and a shaky hope that it would bring about democracy, which would usher in a dispensation of good governance. But, the transfer of power did not shift political power from the hands of the military and the bureaucracy.

¹² General Yahya Khan assumed the office of the President on 31st of March 1969 within 6 days after taking over power from Gen. General Ayub Khan.

General Yahya Khan and Bengali Nationalism

The Gen. Yahya regime was conscious of the severe criticism of Gen. Ayub's economic planning and distribution as well as development policies. Therefore, the immediate challenge confronting Gen. Yahya was the rise of Bengali nationalism under the leadership of Sheikh Mujib-ur-Rahman and his popular party Awami League. Gen. Yahya in this regard felt that the Bengalis in East Pakistan had been unfairly treated right from the time of independence and therefore he was determined to take all necessary steps to remedy the situation. As such, Gen. Yahya, in order to give the Bengalis some share in the top positions of the administration, nominated six Bengali Civil Service of Pakistan (CSP) "central secretaries", the highest civil service rank in Pakistan.¹³ He also gave directions to all the ministries that whenever a senior post became vacant Bengali candidates should be accorded first priority, even if this meant disregarding the principle of seniority. As a result he came up with the abolition of the integrated province of West Pakistan, i.e. the 'One unit Scheme.'

The Road to Elections in Pakistan

The next main demand of the citizens of Pakistan was that the elections be held on the basis of adult franchise, as promised by Gen. Yahya. Accordingly, he announced that the elections were to be held on October 1970. The two main confusions in this regard were whether the elections would be held on the basis of "one man, one vote" or on the principle of "parity". The second confusion was to determine the center-province relationship in the new Constitution that would be framed after elections. In this regard, Mujibur Rahman was in total opposition to any idea of parity, and demanded that the basis of representation should be the democratic principle of "one man, one vote", which would give Bengalis a clear majority in the national assembly. Consequently, by disregarding the opinions of the rest of Pakistan, General Yahya was willing to accommodate Mujib's demand

¹³ Choudhury, Op.Cit., p.54.

which brought about severe criticism against him.

Meanwhile suspicious of the intentions of Mujib, Gen. Yahya promulgated the Legal Framework Order (LFO) on 31st March 1970. It required the future Constituent Assembly to come up with a Constitution within 120 days after the elections. The Draft Constitution laid down five “fundamental principles” to ensure the integrity of the country. The principles were included because any attempt to limit the provincial autonomy was not acceptable to East Pakistan, particularly Mujib. The Awami League put forward a Six-point Formula, which aimed at converting Pakistan into a very loose federation. The Awami League campaigned that if people did not vote for their party the political, administrative and economic exploitation of East Pakistan by West Pakistan would never end and East Pakistan would continue to be a ‘colony’ of West Pakistan.¹⁴

After the elections, as it turned out, there was no national party to emerge. Neither Mujib nor Bhutto represented Pakistan as a whole. It was a hung Parliament and future was in the hands of two political parties, having a mass support base in two different regions, each of whose leaders wanted to be Prime Ministers. This was the virtual end of Pakistan, but no one in the Western wing could have gathered the wisdom and the courage to accept this.

The only alternative now remaining was between a peaceful split of the country or a civil war. However, meanwhile, the vast majority of the Bengali Muslims were not prepared to see Pakistan dismembered and instead they were interested in having genuine regional autonomy. In fact, their basic demand was for the improvement of their economic lot. Mujib captured their imagination because he promised them a ‘Golden Bengal’ if they would vote for his six points.¹⁵ But, in their endeavour to achieve power no one cared about the wishes of the ‘silent majority’ living in either East Pakistan or West Pakistan. The fate of the country of 120 million people was instead in the hands of the vested interest group - the Western big business and senior civil servants, who had always dominated the

political scene in Pakistan. Thereupon, on 23th March 1971 Mujib finally provided his own draft constitution, rejecting the one offered by Gen. Yahya which granted full autonomy on the basis of the six points minus dismemberment of Pakistan. Thereafter, Mujib on 26th March 1971 declared the independence of Bangladesh.¹⁶ Countering it, on the night of 25th – 26th March 1971 General Yahya ordered the Pakistan army to launch “Operation Search Light” and cracked down on what was described as an armed rebellion in East Pakistan.

Zufiqar Ali Bhutto’s Pakistan: A Missed Opportunity, 1971-1977

The civil war in East Pakistan and India’s intervention dismembered and humbled Pakistan. The vision of an integrative and balanced civil society, governed by sensitive and selfless leaders, was shattered in the tragedy of Bangladesh. Thus, the country created by Mohammad Ali Jinnah and inspired by the Muslim League disappeared and was replaced by another that was yet to be defined.

In the post civil-war, Pakistan lost one-sixth of its territory with the emergence of Bangladesh. In addition, the army was not only divided, but defeated and demoralised. Bhutto sought not just to adjust to these new circumstances but to make a virtue out of them. The bifurcation of Pakistan presented Bhutto with another important challenge. How should the country be ideologically reconstructed?

Bhutto’s Pakistan: The Sindhi and Baloch Nationalism

Bhutto belonged to a minority province and often expressed sentiments in favour of provincial autonomy. This raised hopes that Pakistan’s long-standing problem of composing differences between the Centre and provinces might be finally resolved. But, how far these hopes were fulfilled is still questionable. In this sense, Bhutto’s Sindhi identity was seen to offer *carte blanche* to local Sindhis to resume their movement against the province’s refugee (Mohajir) community. Asserting that the Mohajirs had monopolized

¹⁵ Choudhury, Op.Cit., p.167.

¹⁶ David Ludden, “The Politics of Independence in Bangladesh,” *South Asia Journal*, No. 3, January 2012, p. 77.

the economic life of the nation and hence had intensified the poverty of the native population, Sindhi nationalists precipitated riots in Karachi and Hyderabad.

Sindhis had been traditionally under-represented in Pakistan's bureaucracy and business elite. The Gen. Ayub regime had led to a further diminution in the educational importance of Sindhi. The Sindhis blamed the Mohajirs for their state and declared them exploiters. But, the man behind instigating such hatred was Bhutto. Before, he assumed power, Bhutto's political policies contributed to the rising tension between these communities. His exploitation of anti-refugee sentiment was aimed at winning native Sindhi support for his PPP, but his rhetoric was explosive and the impact extended beyond his political needs. Once in power, Bhutto remained stalwart Sindhi nationalist. He added fuel to the fire that the Sindhi separatists had set in decrying the dominance of the Urdu language. He no longer saw Urdu as a critical unifier. As such, he encouraged those insisting on making the Sindhi language the official language of the province. In this regard the federal government in Sindh introduced a new reservation policy for public service posts which tilted the balance in respect of Sindh's provincial quota in favour of the rural, predominantly Sindhi educated class. The counterproductive nature of this exercise soon led to the creation of a mohajir political party that initially was called the Mohajir Quami Movement (MQM) and All Pakistan Mohajir Students Organisation (APMSO) due to the educational quota and domicile issues. Thus, Bhutto was accused of a divide and rule policy that reminded many of the colonial era.

Like the Sindhis the Baloch also fought against the Pakistan government that centered around under-representation in state structures and a sense of status displacement as a result of the migration of 'outsiders' into the province in this case Pakhtuns and Punjabis. In this regard, Punjabis and other non-Baloch people dominated the administration. Like the Bengalis in pre-1971 Pakistan, the Baloch also felt marginalised in terms of economic development, with their regions natural resources being exploited for national rather than local interests which led to overall

impoverishment of the Balochis. Figures collected by the economists Omer Noman for this period were quite an eye opener: Balochistan's per capita monthly income was \$ 54, only 60% of the Punjab's level. Pakistan's literacy rate was 18%, whereas Balochistan's was 6%. Eighty percent of Pakistan's gas production was from Balochistan, which saved an estimated \$ 275 million in foreign exchange, but royalties for the local government were only \$ 1.2 million. Further, out of 830 higher civil service personnel in Pakistan, only 181 were Baloch. In 1972 out of 20 provincial departments only one was Baloch.¹⁷ Thus, the provincial government of Balochistan challenged Islamabad's such intrusive methods.

Consequently, asserting that the Balochistan provincial government was threatened by PPP directives and actions local Balochi's leaders insisted on reclaiming their traditional autonomy. Since Balochistan's declaration as a province came shortly after partition, its tribal orders continued to dominate the political life of the region. Bhutto was not ready to negotiate with the tribals at any cost, thus, in January 1973, he ordered regular army units in Balochistan. Consequently, the Baloch were not allowed a year to run their own affairs. The Balochi resistance fighters were described as 'miscreants' by the Central Government, the same term used to describe the Bengali. Pakistani citizens had once again fallen prey to selfish interests of the politicians. Bhutto ignored the poor state of the Balochis and justified his actions by declaring Pakistan was at war with insurgent groups.

Under the pressure of such atrocities let out towards the Baloch citizens and the provincial government the high-ranking officers of the Pakistan army began to question Bhutto regarding his aggressive policies and the PPP chairman Bhutto, accused them of 'Bonapartist' behaviour and dismissed the high command. Bhutto claimed all his decision towards the country whether good or bad were centered on the need to establish a democratic political system and to unify its people,

¹⁷ Omer Noman, *Pakistan: A Political and Economic History Since 1947* (London: Kegan Paul International, 1990), pp.64-65.

although behind this his real intention was personalization of power. Khan Wali Khan addressed the PPP leader as ‘Adolf Bhutto.’

Bhutto and Islam

Bhutto’s liberal attitude always portrayed that he was never going to entertain the idea of using Islam as ideological glue in the wake of the discrediting of the Two Nation Theory. Just as his regime was marked by creeping authoritarianism it was also marked by the opening of space for the Islamic redefinition of Pakistan. This was not just in response to his personal excesses, but resulted from his efforts to restore Pakistani pride by linking it more firmly to the Islamic world. In this regard, he steered the country towards the direction of closer relations with the Muslim heartland that lay to the west of its borders. One of the biggest achievements in this context, was the holding of the 1974 Islamic summit in Lahore and leaving the SEATO Security Pact. Bhutto’s decision in this regard was motivated by the need both to deter India’s military superiority after the Bangladesh war and to restore Pakistan’s place in the world after the defeat. While closer ties with the Islamic world were all well and good for Pakistan’s economic position but within two months of the closing ceremony of the Islamic Summit, an eight-party coalition of the Ulema known as the All Parties Tareek Khatm-e-Nabawat (TKN, Movement for the Finality of the Prophethood) Action Committee led by Maulana Muhammad Yusaf Binnawri launched a one hundred-day campaign against the Ahmadi community. This action not only weakened his position with respect to further Islamic demands but, in the words of Farzana Shaikh, ‘established a precedent that enabled a political institution (National Assembly) elected to pronounce on matters of faith pertaining to individual citizens.’¹⁸ This measure opened the way for discrimination against the Ahmadis during the Zia Era. Thus, Bhutto had used the Ahmadis to strengthen his own Islamic credentials and rebut allegations that his party had been funded by Ahmadis. Thus, all these events in the

coming years turned into violent sectarian conflicts within Pakistan.

Bhutto and the Army

Bhutto’s initial purge of army officers had put the military on the backfoot. However, after his bitter issues with the main political powers of North West Frontier Province (NWFP) and Balochistan: the National Awami Party (NAP), Jamaitul-Ulema-i-Islam; formed a Federal Security Force (FSF) a paramilitary organisation. As such, though FSF was designed to assist the police in the maintenance of law and order, but Bhutto’s critics termed it as a private army. Among the leaders of the FSF was Akbar Khan, the accused leader of the Rawalpindi Conspiracy Case and then a close associate of the President. The FSF, and the PPP People’s Guards, likewise an aggressive group, assumed responsibility for protecting Bhutto as he travelled the country. The FSF also was given the task of isolating and, if necessary, arresting anyone believed to be plotting attacks on the head of state or senior members of his government.

The distortion in the economy can be seen in the fact that Pakistan’s spending on defence was almost twice as great a percentage of its GNP as was India’s.¹⁹ A Defence Production Division was set up in the Ministry of Defence in 1973 to encourage and streamline defence production. Thus, for the period 1971-1980 Pakistan’s weapons bill stood at \$1.54 billion.²⁰ The U.S followed by China, were the major suppliers of military hardware following the lifting of its arms embargo in 1975. As a result, every dollar Pakistan spent on arms reduced funding for education, healthcare and housing. It also led to growing budget deficits. Therefore, although Bhutto sought to transform Pakistan, but at its close much remained the same. Despite the claim that he would abolish feudalism, the large Punjabi and Sindhi landowners continued to wield power. The promise to empower the poor had achieved only limited success. The party system displayed instability and immaturity, rather than vitality and development, thereby opening the door for military intervention. In addition, he had not only been able to restructure civil-

¹⁸ Farzana Shaikh, *Making Sense of Pakistan* (London: Hurst and Company, 2009), pp.62-3.

¹⁹ Talbot, Op.Cit., p.114.

²⁰ Ibid., p.114

military relations but he had even failed to resolve once and for all the tensions between the centre and provinces. In its last days, the Bhutto regime made further concessions which opened the way for General Zia's more wide-ranging state-sponsored Islamisation. Bhutto ultimately remained committed to Pakistan's long-established notions that a strong army and a unitary state were crucial to its survival. Thus, Bhutto's career was also a tragedy for the Pakistan nation which witnessed a second missed chance for Democratisation.

Zia-ul-Haq and the Quest for Pakistan's Stability, 1979-88

The army staged the third coup d'état in Pakistan's history when General Zia-ul-Haq overthrew the government of Prime Minister Zulfikar Ali Bhutto and took over as Chief Martial Law Administrator (CMLA) on 5th July 1977. As such, once again the military took over the charge of the government on the grounds of the inability of the political elite to manage the political crisis of 1977 and the gradual erosion of the civilian institutions.

General Zia and Islamisation

Islamisation was the cornerstone of General Zia's regime. General Zia saw Islamisation as holding the key to Pakistan's decade long search for stability and national unity. In one of his earliest pronouncements he declared that, "Pakistan was created in the name of Islamic system as an essential prerequisite for the country."²¹

However, Gen. Zia's Islamization increased tensions and widened sectarian fissures between different expressions of faith whether it was Deobandi and Sufi or Shia and Sunni. The Ulema for their own selfish interest played the religion card. By 1983, a range of Islamisation measures had been introduced covering economy, education and judiciary, etc. In case of judicial reforms, it established Federal *Shariat* Courts which alienated secular-minded lawyers and generated confusing legal competing jurisdictions. The *Shariat* benches in the provincial high courts were not only to apply new *Shariat* laws, but to rule on whether existing laws were consistent with Islam or

repugnant to it. Appeals against the Lower and High Courts were to be presented before the *Shariat* Court for hearing.

In addition these rules contributed to further sectarian divisions, as no Shia Judges were appointed to the Federal *Shariat* Courts. Another cause of sectarian divisions was the states enforcement of Islamic taxes. The *Zakat* and *Ushr* Ordinance to Islamize the economic system was promulgated on 20th June 1980. The *Zakat* was to be deducted by banks on the first day of Ramazan. The Shias saw the *Zakat* Ordinance as part of an attempt to achieve the 'Sunnification' of Pakistan. Thus, such kind of political declaration shows the discriminatory and partial nature of General Zia towards the Shia community. Although Gen. Zia was forced to exempt them from paying the alms tax, but in response a number of Sunni extremists began to claim that Shias were non-Muslims. It was also from this time onwards that the Zia regime began to patronise Sunni madarasa in order to contend with the Shia 'problem,' both within the country and emanating from Iran. Thus, the introduction of the *Zakat* system not only created Shia-Sunni conflict over the legality and distribution of alms but failed in the attempt to establish an Islamic welfare society.

The causes of sectarian division did not just end with the Sunni-Shia conflict. Islamisation further deepened the divisions between the religious establishment and Pakistani liberals. The Pakistan Penal Code and the Criminal Procedure Code, were amended [through ordinances in 1980, 1982 and 1986] to declare anything implying disrespect to the Holy Prophet, a cognizable offence, punishable with imprisonment or sentence to death. Lawyers, human-rights activists and elite women were in the vanguard of the resistance to the punitive and discriminatory elements of Islamisation. Non-Muslims for example were marginalised by the introduction of separate electorates and were increasingly vulnerable to charges of blasphemy.

The Islamic laws of General Zia also included laws for women. General Zia put forward the slogan of *Chadar Aur Chaar Devari* and which was to be applied to women. Thus, for the first time, a woman could be flogged for adultery. Two laws - the Law of

²¹ Shaikh, Op.Cit., p.98.

Evidence and the Operation of the Hudood Ordinances were more like death sentence for the women. The Law of Evidence, under the *Shariat* laws not only undermined women's legal status, but denied them the equality of citizenship guaranteed by the Constitution. It also proposed that the testimony of a woman was not equal to that of a man. In legal matters, two women would have to stand witness against the testimony of one man. Under the Hudood Ordinance, women who had been raped were liable to Islamic punishment of whipping in a public place for adultery (*Zina*). This is because if a rape was reported, four witnesses were to be provided otherwise, legally, the rape could be termed adultery. The status of women was thus undermined by Gen. Zia. The Hudood Ordinances have not yet been repealed, a testament to the strengthened position of conservative attitudes as a result of the General Zia period.

General Zia also left an enduring mark on Pakistan's civilian schools and institutions. In one of the analysis of Pakistani textbooks it notes that three Islamic-related events were discussed in detail: the Objective Resolution, the presentation to the government of a programme of Islamization by thirty-one ulema in 1951 (it became the manifesto of the Jama'at), and the implementation of Islamic principles by General Zia.²² Moreover, Pakistan Studies and Islamic Studies were made compulsory for B. A., B. Sc., Engineering, M. B. B. S., Commerce, Law and Nursing students. For professional studies, extra marks were given to people who were Hafiz. Moreover, the General Zia era also contributed to the mushrooming of madrasas within Pakistan. Many schools were loosely linked to the main Deobandi, Barelvi and *Ahl-e-Hadith* Islamic traditions with which they were associated. The proliferation of schools in areas of concentrated native Pushtun and Afghan refugee population encouraged a jihadist outlook to run strongly alongside sectarian feelings. Later after General Zia's death *Dawat-ul-Irshad* came to be linked with high profile terrorist activities carried out in India by its militant offshoot, *Lashkar-e-Taiba* (LeT). General Zia also patronised the

Deobandi *Jamia-e-Islamia* mosque at Binoria in Karachi founded by a refugee from India Maulana Yusuf Binoria. Presently, it is the second largest Islamic education establishment in Pakistan with around 8,000 pupils.

General Zia and the Rise of Militancy

Gen. Zia-ul-Haq became the perfect role model for the fulfilment of the aspirations of the religious parties who hatched out of their shells after years of hibernation under the previous regimes. One of the favourites of Gen. Zia in the initial years of taking over power was *Jamaat-i-Islami* (JI). Gen. Zia-ul-Haq attempted to resolve Pakistan's long-standing quest for stability by means of Islamisation and depoliticisation although it resulted in increased sectarian violence and ethnic conflict, both of which were to assume major proportions in the decade following his death. Military rule also exacerbated tensions between the smaller provinces and Punjab. Thus, Pakistan's praetorian state was undoubtedly enhanced by Gen. Zia's rule. The army entrenched itself still further into administration and business activities. Likewise, the ISI also greatly increased its capabilities and scope for autonomy.

Further, the Zia regime has long been acknowledged to include the flood of drugs and weapons into Pakistan and its impetus to bigotry and brutalising violence. In addition, the most dangerous inheritance of the Zia regime is the steps he had taken to counter India's regional hegemony. In this regard, the acquisition of arms and weapons from U.S by portraying Soviet-Afghan intervention as a security threat to Pakistan leading to heavy military spending and the expansion of the even earlier Pakistan policy of utilising Islamic extremists as 'strategic assets' in the enduring rivalry with India were some of the conditions to be touched upon leading to insecurities in the coming years.

Pakistan's Democratic Interlude (1988-99)

The transition to democracy following Gen. Zia's death raised hopes that Pakistan would be entering a new era, incipient with a modern party system and the long-standing social inequalities and the centre-state problems would decline which had beset the country for

²² Stephen Philip Cohen, *The Idea of Pakistan* (Lahore: Vanguard Books Pvt. Ltd., 2005), p.169.

long. To this Benazir Bhutto as Pakistan's youngest and first female Prime Minister gave hope to the citizens that gender inequalities would be addressed and Pakistan would move towards becoming a progressive and tolerant Muslim society. But, such expectation was short-lived. Benazir Bhutto was dismissed from her position as Prime Minister by President Ghulam Ishaq Khan on 6th August 1990. The President justified his move by pointing to the government's failure to maintain law and order in Sindh and Karachi and stating that the efficacy of the National Assembly had been defeated by horse-trading for political gains and furtherance of personal interests, corrupt practices as well as inducements in contravention of the constitution.²³

Thereafter, a political grouping called the Islamic Democratic Alliance (IDA) was returned with a majority in the National Assembly, and Nawaz Sharif became Prime Minister of Pakistan in 1990. Although Sharif's administration lasted longer than Bhutto's but like Bhutto, he also ended in confrontation with the President in relation to appointment of the new Chief of Army Staff, General Abdul Waheed Kakar. Gradually the arguments between the President and Sharif came to an end with the dismissal of Sharif by the President on charges of maladministration, nepotism and corruption. Thus, in this way throughout 1998-99 the alternation of governments by Benazir Bhutto and Nawaz Sharif was marked by political infighting, financial scandals, limited legislative enactments, failure to maintain law and order and economic downfall.

As such, the citizens started losing their confidence and hope over the leaders of their State and in particular, the states capacity to find answers to their problems. The perception that the main parties are primarily concerned with political intrigue rather than practical policy-making undermined respect for the National Assembly amongst the public. For example, both Benazir Bhutto and Nawaz Sharif frequently resorted to presidential ordinances rather than parliamentary

discussion as a means of introducing new legislation.²⁴

Further, the conflict between the country's leading political figures also reinforced the power of the army and raised renewed speculation about the possibility of some form of military intervention. Thus, during 1996 Pakistan ranked 53rd out of 54 countries in Transparency International's Survey of business perceptions of corruption.²⁵

Pakistan under General Pervez Musharraf-1999-2008

Pakistan saw the dawn of another 'new era' of military rule on 12th October 1999. He was not the most popular man in the State, but he had ousted a government which had lost credibility with the people. Gen. Pervez Musharraf on 13th October 1999 appealed to the people of Pakistan to remain calm and support the armed forces which had moved in as a last resort to restore stability in the state by removing the PML (N) government of Nawaz Sharif and taking control of the affairs of the State.

He was a former company commander of a commando battalion and member of the elite Special Service Group. On October 1998 he was promoted to chief of army staff because he was seen as an apolitical figure and a Mohajir with no constituency in the army. However, despite General Musharraf's liberalism, he shared the army's traditional traits of gaining legitimacy for his government. As such, Gen. Musharraf's era exemplifies three long-running themes in Pakistan's post-independence history: firstly, that military government are ultimately unable to modernise society, governance and the economy because of their lack of legitimacy. Secondly, that Pakistan's utilisation of Islamic proxies has derailed relations with its neighbours and come at an increasing domestic cost. Thirdly, that military rule had led to increase in ethnic tensions within the smaller provinces of Pakistan.²⁶

The military establishment, as always, thought that they could set the system right, and like all the previous military rulers of Pakistan, Gen. Musharraf did not waste time in making a categorical statement about his future

²³ John Bray, "Pakistan at 50: A State in Decline?" *International Affairs*, Vol. 73, No. 2, April 1997, p.317.

²⁴ *Ibid.*, p.322.

²⁵ *Ibid.*, p.326.

²⁶ Talbot, *Op.Cit.*, p.

plans. He opined that so far Pakistan had experienced democracy only as a label but not the essence of it. Therefore, in a military briefing, he committed himself to rebuilding national confidence and morale; removing inter-provincial disharmony; reviving the economy and restoring investors' confidence; ensuring law and order and to bring speedy justice; strengthening and depoliticizing state institutions; devolving more power to the grassroot level and most important concluding across the board accountability.²⁷ Therefore, General Musharraf declared himself 'Chief Executive' instead of Chief Martial Law Administrator while suspending only parts of the Constitution and continuing the President's office.

General Musharraf and 9/11

When General Musharraf stepped in as head of state on 12th October 1999, the work he was left with was significantly vast than those held by the leaders who had ruled before him. Through the active fostering by Gen. Zia ul-Haq, the funding of Saudi Arabia, espousal by United States, and the abandonment of Benazir Bhutto and Nawaz Sharif, the seed of religious fanaticism sown more than two decades earlier had come to confront him as fully grown trees perversely balanced by the empty coffers of the state.²⁸

In 2001-02, Pakistan was home to fifty-eight religious political parties and twenty-four armed religious militias, the latter category also popularly known as jihadi groups.²⁹ At its most basic level, jihad³⁰ is a struggle with one's inner self against sinful inclinations. In a broader sense of the notion, it is meant to be resistance against aggression and oppression. However, modern day religious extremists interpret Jihad primarily in terms of the use of force to impose their version of Islam on others and to fight "infidels" to conquer the world. In their view, even killing of innocent civilians for their higher cause is justified, though this is

in clear violation of the established laws of Islamic warfare.³¹ These jihadi groups started mushrooming under *Harkat-ul-Jihad-i-Islami* and *Harkat-ul-Mujahideen* in the early 1980s who were fighting in the Afghan Jihad. Thereby, Gen Musharraf's decision after 9/11 towards restoring representative government in Pakistan and curbing jihadism across the board brought about hopes of democratic stability and peace to its citizens. But, in reality Gen Musharraf lacked any political consensus from which to build democracy. The army's pro-extremists policies in Kashmir and Afghanistan's ties with the Islamist fundamentalist parties in Pakistan, made any real curtailment of fundamentalism impossible. Thus, what Gen Musharraf promised in his speech on 12th January 2002³² was hardly put to practice.

Instead, the army and the ISI, still obsessed with India resurrected the Islamists from defeat, who were demoralized due to U.S pressure over Pakistan to hunt for Al Qaeda leaders. Taliban leaders were given refuge in Pakistan. Militant attacks in Indian Kashmir were encouraged in order to persuade the Jihadi groups and to show that the army had not abandoned them. Those militants arrested after 12th January 2002 were freed. In this context, the army had deliberately or unintentionally left the Waziristan and Balochistan door open, which later became not only a safe passage but a new phase of operation to be carried out for Al Qaeda and the Taliban. Thereafter, the insecurities in Pakistan spread to a larger scale when Omar Sheikh an Al Qaeda extremist was sentenced to death under the charges of kidnapping and killing Daniel Pearl, an American correspondent for the Wall Street Journal. The militants came to hero-worship Omar Sheikh and this led to several subsequent terrorist acts in the later years of Gen Musharraf's rule and beyond.

²⁷ Hamid Khan, *Constitutional and Political History of Pakistan* (Karachi: Oxford University Press, 2009), p.479

²⁸ Abbas, Op.Cit., p.201

²⁹ Ibid, p.201.

³⁰ According to the Prophet of Islam, Mohammad (PBUH), "The best jihad is speaking a word of justice to a tyrannical ruler."

³¹ Abbas, Op.Cit., p.201.

³² "The writ of the Government is being challenged. Pakistan has been made a soft state where the supremacy of law is questioned. This situation cannot be tolerated any longer." Text of President Pervez Musharraf's speech, *The Nation*, 13th January, 2002.

Asif Ali Zardari: The Restoration of Democracy, 2008- 2015

Asif Ali Zardari the leader of PPP was sworn in as the President of Pakistan after the judiciary had announced impeachment against Gen Pervez Musharaf and he was forced to vacate his dictatorial position in Pakistan. But, the democratic elections did not pave the way towards a stable democracy; instead it was more of a fragile democracy. The state was left with three basic problem to tackle with - economic crisis, continuing decline in governance and security. The former two were exacerbated by the 'War on Terror' which according to government figures had cost Pakistan \$ 31.4 billion by 2008-09.³³ But, the ongoing security crisis had overshadowed the constitutional achievements made under his regime, like his attempt to roll back Presidential power through the 18th Amendment and his attempts to solve the long-standing grievances arising from the Centre-Provincial relations. Therefore, the three basic problem areas which are mentioned above had generated grave insecurity within the country and thereby paved way for conflicts in the country. The media too played an important role in unfolding the loopholes of the government and generating a public opinion against the government.

Economy during Zardari's Regime

The PPP-led government had inherited a declining economic situation in 2008. Although post 9/11 period brought about debt rescheduling, relief and massive influx of foreign investment and remittances from overseas to Pakistan, which increased Pakistan's GDP to an annual average rate of 6.1 percent in five years yet during President Musharraf's rule he ignored the long-term problems such as low taxation rates, an export sector highly dependent on textiles, increasing budgetary debt and low levels of human development. And by the time he finished his term of office Pakistan's security and

economic crisis had become difficult. In Zardari's time, direct foreign investment started declining along with decline in infrastructure and employment opportunities and on top of that suicide bombings was not only at its rise but was taking a toll on human life. It thus underestimated the growing economic crisis.

By the autumn of 2008, rising oil prices had created a spike in inflation which peaked at over twenty-five percent; foreign investment declined as the international banking crisis hit; the depreciation of the rupee and the collapse of exports at a time of increasingly costly food and energy imports raised the prospects of Pakistan defaulting on its external debt. Under such circumstances, President Zardari had to seek support from the International Monetary Fund (IMF). With this although the situation stabilized thereby narrowing down budget deficit and inflation dropped from its twenty-five percent peak in November 2008 to thirteen percent but tragically the 2010 floods washed away all that was gained in two years.

Security Inheritances

As with the economy, so with the security situation, the Zardari Government inherited a sharply deteriorating position. From 2007 onwards, militant groups linked with Al-Qaeda had increasingly turned their fireworks on Pakistani government. In this regard, the state was paying the price for its long-term strategy of utilising Islamic proxies for its own selfish interest of arms acquisition and establishing its strategic depth in Afghanistan. In this sense, the rising tide of suicide bombings after 2006, the engagement of the Pakistan army in the tribal areas to fight the militant proxies followed by the Lal Masjid (Red Mosque) case in Central Islamabad only intensified the conflicts. Thus, military intervention from 2009 onwards was on a far greater scale than that of the General Musharraf period. The *Tehreek-e-Taliban Pakistan* (TTP) leader Baitullah Mehsud was claimed by the state to be the instigator of numerous suicide attacks, including the assassination of Benazir Bhutto. They had inflicted many atrocities over the citizens of Pakistan. For example, the Camp Chapman 2009 suicide attack and the attempted car bombing at Time Square in

³³ Sartaj Aziz, "The Economic Cost of Extremism," in Usama Butt and N. Elahi (eds.), *Pakistan's Quagmire: Security, Strategy and the Future of the Islamic-Nuclear Nation* (New York: Continuum, 2010), p.80.

United States, 2010. The TTP also claimed responsibility for the 9 October 2012 school-bus shooting of Malala Yousafzai, a young activist blogger, and two other schoolgirls. Supporting the attack, TTP spokesman Ehsanullah Ehsan stated that, “whom so ever leads a campaign against Islam and Shariah is ordered to be killed by Shariah.”³⁴

Another such religious militant group is *Tehreek-e-Nafaz-e-Shariat-e-Mohammadi* (TNSM) whose objective is to fight for the rights of the Shias in Pakistan and in their endeavour to establish *Shariat* in Pakistan they made use of a controversial FM radio station to propagate his demands. In the aftermath of the 2007 siege of Lal Masjid (Red Mosque), Fazlullah’s forces and Baitullah Mehsud’s TTP formed an alliance. The Malakand insurgency included both TTP and TNSM participation. Thereafter, on 21st January 2009 both militant groups enforced complete ban on female education in the Swat district. Some 400 private schools enrolling 40,000 girls were forced to close. Despite these abuses, a fresh peace deal was concluded the following month in which Sufi Muhammad acted as a mediator. It was signed by President Zardari on 13th April 2009 entitled *Nizam-e-Adl* Regulation Act that would formally establish *Shariat* Law in the Malakand division. Later, on 17th October 2009 the military made another rapid progress in its operation, codenamed *Rah-i-Nijat* (Path to Deliverance). Within twenty days, the army had seized all the major towns and villages. Militants chose not to stand and fight, and disappeared into neighbouring North Waziristan. At the same time, they opened up a new front with a wave of suicide bombings in Peshawar, which by December 2009 had also spread to Rawalpindi and Lahore. These attacks continued into 2010. According to the National Crisis Management Cell of the Interior Ministry, 1,835 people lost their lives and 5,194 suffered injuries in the 1,906 terror attacks which occurred in 2009-10.³⁵

Thus, from the above account of the insecurities that have cropped up time and again in some form or the other under various periods of the Pakistani nation gradually undermined the socio-economic goals and the political image of the nation from within no matter how hard it tried to portray itself to be a democratic and stable nation.

³⁴ Zahir Shah Sherazi, “Taliban use Islamic Shariah to Defend Malala Attack,” *The Dawn*, 10th October, 2012. URL: <http://beta.dawn.com/news/755657/taliban-use-islamic-shariah-to-defend-malala-attack>, (Accessed 24th March 2013).

³⁵ *Ibid.*, p.221.

ROLE OF WOMEN IN ENVIRONMENTAL MOVEMENT IN INDIA

U. Saikia

Department Of Political Science
upamasaikia1234@gmail.com

ABSTRACT

Environmental movements are organized from time to time in various parts of the world for the protection and conservation of environment. Environment is degraded due to the over exploitation of natural resources and over population growth. Human beings have been posing threat to the environment to fulfill their own needs. Women have been playing a vital role since ancient time without bothering about their lives. Women have always been in close contact with nature for their household management therefore they can better understand the pain of nature and always been overprotective towards nature. Various environmental movements like Bishnoi movement, Chipko Movement, Aapiko movement, Silent valley movement and Narmada Bachao Andolan are the significant environmental movements of India that reflect the integral leadership of women. Women always play a pivotal role whether it was conservation of biodiversity or water resource or against the construction of hydroelectric project. The government of India has adopted various policies and programmes which include women as decision-makers when making environmental policies by increasing women participation in the grassroots level and spread awareness towards conservation of environment. But India has a long way to go to make equitable gender sensitive environmental policies in true sense.

Keywords: Environmental movement, women, water resource, grassroots level, gender sensitive.

Introduction

India is considered itself as mother of earth. As a mother nurtured their children, take care of her children in their womb, likewise earth also take care of its people reside in it. But the super animal human being has been aggressively exploiting the very natural environment to fulfil their own needs. Overpopulation and technological advancement are continuously putting threat to the environment and exploits the natural resources. At the same time some conscious people regarding environment those we can call environmentalist raise their voice for the protection and conservation of environment. Therefore, time to time environmentalist has been started environmental movement in all over the world and India is not exception of it. Though environmental movement in India has its recent origin but it has intensified rapidly from the last few decades. This paper analysis the role of women in environmental movement. Women are very close to nature and they are more sensitive to the degradation of environment as they are mostly depend upon the nature for the management of household and conserving resources for their family. Women are considered as a weaker section of society, but they play a significant role in raising voice against environmental degradation with the advancement of education

and technology. Women in India largely visible in the movement against deforestation and in conserving water resource. Here we can cite some very important environmental movement in India led by women of India.

Objectives

- To study the history of women participation in various environmental movement.
- To understand various environmental movement of India
- To examine Government policies and programmes related to women and environment.

Methodology

The present study has been based on secondary data include Books, journals, newspaper, government records as well as internet source.

History of women role in environmental movement in india

With the growing environmental crises, the women become as an agent for the environmental conservation. The women participation in environmental protection can be traced back to 1731, near jodhpur, Rajasthan by the Bishnoi women. Amrita Bai of Khejarali village sacrificed her life as she embraced the Khejri tree as the Bishnois regarded this tree as sacred. As a consequence, there was strong

resistance spread in the village. Amrita Bai and her band of women Bishnois can be considered as the first environmental movement of the world. In general, one of the first ecological movement started in Champaran District of Bihar in 1917 led by Mahatma Gandhi, against the indigo cultivation of British planters without giving payment for it and finally plantations were abolished. Secondly, Salt satyagraha movement was also led by Gandhiji in 1930 against British Salt tax monopoly. In both of these movement women had vehemently participated as well as supported but mostly they were from urban areas. It was from 1970s the women of rural India came in to forefront. In 1972, Chamoli district in Uttarakhand, Chipko Movement had started by Sundarlal Bahuguna and Bachni Devi and Gaura Devi, these two women environmentalists played a significant role. Another environmental movement was Silent Valley Movement in 1978, on the Silent Valley, Palakkad district of Kerala. Here also Sughathakumari a women poet had played an important role. The movement was against the construction of hydroelectric project to conserve the evergreen forest runs through silent valley. In 1982, Navdanya movement had started by environmental activist Vandana Shiva. It was an ecofeminist movement as she established Navdanya, an organisation promoting biodiversity and engaging women. Again in 1983, Aapiko movement had started by the villagers of Uttara Kannada district of Karnataka province in southern India shows a large number of rural women participation. The movement was against the commercial forest policy which had caused the destruction on ecosystem of the Sirsi forest. Another most significant environmental movement where women had played a pivotal role is Narmada Bachao Andolan. In 1989, under the leadership of Medha Patkar, had launched this movement against the construction of Sardar Sarovar Dam on the Narmada River, Gujrat.

Currently, there are many more environmental activist who has been working vehemently for the protection and conservation of the environment. Among them Padma Shri award winner Sunita Narain, who focuses on sustainable development and fighting climate change. Another Padma Shri award winner

Jamuna Tadu, who is known as 'Lady Tarzen' of Jharkhand forest. She along with 100 Adivasi women has been protecting Jharkhand forest from mafia from last 20 years. Radha Bhatt, who started Nadi Bachao Abhiyan in 2008 opposing construction of hydroelectric power project which has created the devastation of river Ganga as well as damaged the ecosystem of all tributaries adjoining of it.

Bishnoi movement

The first ever environmental movement is not only in India but also in the world had started in 1731 where women sacrifice their life to save trees. It was in Khejarli, Marwar region of Rajasthan, Amrita Bai along with other women embraced the Khejri trees from cut down by the king's soldier for a new palace. As Bishnois community had consider this khejri trees as sacred. They proclaimed that a chopped head is cheaper than a felled tree. Hence, Amrita Devi, who lead the movement along with other villagers lost their life to save trees. There were 363 villagers were killed by the soldiers for the check of protection of trees. At last the king cease the operation and designated Bishnoi as protected area which is exist as same till now.

Chipko movement

It was in 1973, when in Uttarakhand's Chamoli District the entire ash tree was allotted to the Simon Company for commercial purpose. The same forest had been petitioned by the villagers to make their agricultural tools which had denied. The movement was led by Sundarlal Bahuguna, Gura Devi and Sudesha Devi. Chipko (a hindi word, meaning "to hug" or "cling to") which was used to describe the local women was literally hugging the trees from cutting by the loggers. Gaura Devi referred to the trees as her "maika" (mother's home) and invited the loggers to shoot them instead of harming the forest. Similarly, Sudesha Devi spearheaded the women's drive to protect the Rampur forest from contractors. This movement helps the women to organize themselves to making their own decisions whereas Mahila Mandal became the best local networks. After many days of protest, the government canceled the company's permit and granted it to the villagers.

Narmada Bachao Andolan

Narmada Bachao Andolan (NBA) is the most significant environmental movement in India launched in 1985 against the large Sardar Sarovar Dam project which would be constructed over the Narmada river, which flows through the states of Gujarat, Madhya Pradesh and Maharashtra's project consist of 30 major, 135 medium and 3000 small dams whereas the dam would displace 3,20,000 tribal and submerged over 37000 hectares of forest and agricultural land. Seeing the intensity of the project the NBA was organized under the leadership of Medha Patkar. It was basically a Gandhian way of protest of non-violence as organized satyagraha and hunger strike. As the project was funded by World Bank, after several days of protest world bank withdraw the project in 1993.

Silent Valley Movement

In 1976, in Palakkad district of Kerala, an ecological movement was started for the conservation of Silent Valley biodiversity hotspot. The movement was against the construction of dam for hydroelectric project which would be submerge the entire moist evergreen forest. The movement was led by Malayalam poet and environmentalist Sugatha Kumari. As a result then, Prime Minister Indira Gandhi called off the silent valley hydroelectric project and after that Rajiv Gandhi declared Silent Valley as National Park in 1985.

Women And Environmental Protection Policies And Programmes

There are numerous environmental policies are adopted at the national as well as International level. In India also various policies and programmes has developed by the government, various NGO's and also individually. As women constitute half of population therefore their empowerment is needed to overall growth of the country. To be empowered women need to be part of the developmental policies related to environment as women are very sensitive toward environment. With the growing importance of women in the conservation of environment Indian government undertakes various environmental programmes including

women in environmental protection. These are enumerated as follows:

- 1) Environmental Gender Index (EGI), which ranking the countries on how they mandate gender and environment into their policies and planning. It monitors gender equality and women's empowerment in the environmental arena. India's rank is 46th out of 72 countries.
- 2) National Forest Policy 1988 and Joint Forest Management (JFM) program of the 1990s mandated that women comprise 33% of the membership of the Vana Samarakshana Samitis. The reason of this creation was that the problem of deforestation could be well managed if the state Forest Departments worked out joint management agreements with local communities to reforest degraded forest.
- 3) The National Policies for Women 2016 also give importance to women and adopted policies and programmes gender sensitive. As women get equitable ownership of control and use of natural resources and also secure the asset as the poor women can counter poverty.
- 4) Women participation will be ensured in the use of environment friendly technologies and organically grown produce will be promoted to provide viable livelihood options to women.
- 5) Efforts will be made to recognize women rights using forest products under Forest Rights Act and their roles in forest governance will be strengthen.
- 6) Emphasis is given regarding the role of women as stakeholders and custodians of traditional knowledge. As women have been the seed keepers in farming communities.
- 7) All India Radio and National Television are broadcasting various programmes about environmental protection. Environment Education has become part of education system in schools and colleges which developed awareness among people including women about their duty to protect the environment. They should understand the intensity of environment degradation and importance to protect it.

Conclusion

The World Bank estimated that environment degradation is costing around 5.7% of the country's GDP every year. History witnessed that how women have been playing an integral part and parcel in conserving and protecting

environment which is so much successful so far. In every time they come forward and protect the environment whether it was by tree hugging or doing long time hunger strike without bothering about their life. It is because, women are always close to nature and very much dependent upon the nature. Women have been always considered the symbol of kindness and love. Therefore, being a mother they know the pain when their children get hurt likewise

they know the pain of earth when her plants, rivers are damaged. Development is necessary, but it should not at the cost of environment. Development is fruitless without lives and without environment no lives can be exist in the earth. It is need of hour to pay strong attention towards women involvement in the decision making process and making gender sensitive environmental policies.

References

1. Mallick, Krishna. 'Environmental Movements in India: Chipko, Narmada Bachao Andolan, Navdanya' Amsterdam University Press, 2021.
2. Gupta, M. 'Participation in a Gendered Environment: The Case Community Forestry in India' Human Ecology, Vol 32, 3, June, pp. 365-382 (2004)
3. Jain, Shobhita. 'Women and People's Ecological Movement – A Case Study of Women's Role in the Chipko Movement of Uttar Pradesh, Economic and Political Weekly, Vol XIX, (1994)
4. Sharma, Renu. Kaushik, Baljit. 'Role of Women in Environmental Conservation' EXCEL International Journal of Multidisciplinary Management Studies, Vol. 1 Issue 2, November 2011, ISSN 22498834
5. Aditya, Sandeep Kumar. 'Role of Women in Environmental Conservation' International Journal of Political Science and Development, Vol 4(4), pp 140-145, April 2016, ISSN 2360-784X
6. Prasad, Sheela. 'Women and Environmental Movement and Policies in India' Paper -9, Module 14.
7. Mago, Payal and Isha, Gunwal. 'Role of Women in Environment Conservation', SSRN, 2020.
8. Borah, Bidisha. 'Women and Environment with Special Reference to India: An Assessment', European Journal of Molecular and Clinical Medicine, ISSN 2515-8260, Vol 7, Issue 11, 2020.
9. EARTHA- Environment, Development and Sustainable, Conservation-Guardians of Green: 14 Indian Women Environmentalist You Should Know, 2017.

IMPACT OF COVID-19 ON HUMAN RIGHT TO ACCESS CLEAN & SAFE DRINKING WATER IN INDIA

S.K. Shahi¹ and Moin Athar²

¹Department of Law, KIIT University, Bhubaneswar, Odisha

²Institute of Legal Studies, Shri Ramswarop Memorial University, Lucknow

¹sarvesh.shahi@kls.ac.in

ABSTRACT

Water is the most essential element for survival of living beings on planet earth. To live a healthy life, everyone needs clean and safe water to drink and it is the responsibility of every government to assure the affordability of the same. On July 28, 2010, right to clean drinking water, has been declared as an essential to the realization of all human rights, passed through UN General Assembly Resolution No. 64/292. Mainly, It calls upon developing countries to provide for safe, clean, accessible and affordable drinking water and sanitation for all. 2020-21 has been a testing time for the world where an infectious disease named covid-19 has brought all the nations economy at halt and has been declared as an 'epidemic'. In general, the present paper discusses the impact of this disease on human rights to access to clean water during lockdown situation. Specifically, It investigates the facts related to water scarcity in water stressed states in India and tries to find out how the people are managing the domestic and agricultural use of water in these tough times. Further, it highlights the legal issues have been brought before the court in relation to violation of human and fundamental right to life and health with special reference to accessibility of clean drinking water. All the views expressed in the paper are based on recent reported incidents and cases pending and decided by the court.

Keywords: Human Right, Water, Policies, Laws, Covid-19

Introduction

Not less than Two-third of the surface of the earth is enclosed with water. The freshwater contained in the entire earth is about 0.3% comprising of rivers and lakes which are the main sources of freshwater for drinking, feeding, and various other human usages (Karamouz, Szidarovszky, and Zahraie 2003). The advancement in human inhabitants is the primary source for upliftment in the call of water and food products across the globe. Predictions have been made that the population of this world may grow up to 9.2 billion by 2050. This speedy demographic growth coupled with the increase in the production and manufacturing of agricultural commodities has strained the water resources as well as put more restraint on the earth's natural environment.¹ The obtainability of renewable freshwater has a massive decline of 60% from the year 1950 to 2000. In 1950 the obtainable freshwater was around 17000 m³/capita/year which decreased to 7000 m³/capita/year. It has been predicted that in the year 2050 the availability of freshwater would deteriorate up to 5000

m³/capita/year resulting in a consecutive decline of 70% since 1950 (Abdullah 2017).

Demands have not always been purposefully been fulfilled if we talk about water. In the year 2025, the population may increase near about 3 billion due to which the people will be living in water stress. Moreover, approximately there will be 14 countries with a population of 1.8 billion that will face water scarcity [UNDP (United Nations Development Program) 2006]. The UN approximates that around 2.2 billion population will lack securely accomplished clean water to drink and 4.2 billion population will not have proper access to safety and cleanliness, while 3 billion population will not have proper handwashing amenities in their homes (WHO and UNICEF 2017). but, a massive number of these people will be deprived of access to clean water and hygiene residing in low-income countries (LICs).²

A study conducted by the Asian Development Bank stated that South Africa's access to water has declined up to 80% from 1951 to 2011. The study also pointed that India is on the verge of experiencing chronic water shortage

¹ S. Haddout, K. L. Priya, A. M. Hogueane, I. Ljubenkov, *Water Scarcity: A Big Challenge to Slums in Africa to Fight against COVID-19*, 39:3, Science & Technology Libraries, 281 – 288, 2020

² Ellis Adjei Adams, Yenupini Joyce Adams & Christa Koki. *Water, sanitation, and hygiene (WASH) insecurity will exacerbate the toll of COVID-19 on women and girls in low-income countries*, 17: 1 Sustainability: Science, Practice and Policy, 86-90, 2021

as it has the access to one out of the eight freshwaters available globally per capita each year. If we say in another sentence, India comes into the category of quality water-tensed country, with per individual obtainable water is dwindling from 5,177 cubic meters to 1,544 cubic meters in the span 1951 to 2011.

If we take into consideration, the present situation, in India, 91 million people, live in scarcity of basic water supply, this is in accordance with a 2019 joint report by the remarkable hard work of the World Health Organization and the United Nations Children's Fund. Though there was a 14 percentage-point jump in basic availability to water supply over 17 years to 2017, near about 600 million Indians are facing extremity water stress unavailability. Only 70 million Indians are there who have household piped water. ₹3.6 trillion development program will set up piped water in all of India's 192 million rural homes by the year 2024 (the target set by the current Government).³ Presently, India is one of the world's major extractors of groundwater as compared to China and the U.S.A combined which amounts to almost a quarter of the total extracted globally, according to Water Aid. India's groundwater level has declined by 61% between 2007 and 2017, the government communicated to parliament in November 2019 quoting statistics from an irrigation census. India is in the capacity of 4% of the world's freshwater resources that supply drinking water but nearly 9% of the country's GDP is straightly linked to groundwater, which assists 85% of rural drinking needs and over 50% of urban domestic requirements⁴. As per an NSO Survey, about 43% of rural households use hand pumps as the principal source.

India is facing one of the nastiest water crises at the national level. It is one of the biggest crises that India has ever faced in its long-drawn history. It is pertinent to mention that Covid 19 has no role in this crisis even though India is now at the center of the global water crisis and sanitation. This current situation will have a massive impact on the lives of the individuals at present and in near future. The

³ Archana Chaudhary, Bloomberg, Clean Water in all Rural Homes by 2024, THE MINT, 14 Mar 2021, 07:14 PM IST.

⁴ <http://icrier.org/> (Jan 29, 2021, 10:04 A.M)

livelihood of the individuals will be at greater risk and no amount of water pumps, purifiers, and packaged drinking water bottles could solve this problem.

The impact of novel coronavirus (COVID-19) has led to focus on the issues related to the provision of public water services. The issues regarding the affordable rates of long-standing water, highlighting the essential need for clean water for public health concerns and focusing on the issue related to the sustainability of other public water systems including the finances for maintaining the water systems either publicly or privately owned and operated. Since the pandemic began, safely managed drinking water was promoted as an essential good and water businesses were promoted as crucial COVID-19 fighters.

According to the survey conducted by Peoples Health Movement, there was a lack of fresh drinking water, sanitization availabilities, and mobile toilets which has modeled perilous effects to health and hygiene of persons who have accumulated there for the protest at the Delhi borders.

Simultaneously, there were too many complaints regarding skin contagions at various health camps. The elderly campaigners were at an advanced risk because of their beforehand conditions which include diabetes and hypertension. An ample amount of protesters had reported at medical spots with wound infections because of increased diabetes. Protesters sleeping inside the tents or under tractors or trucks were also vulnerable to flu.⁵

Thus, the current paper points out reasons for water unavailability and analyzes what will be the impressions of lockdown during pandemic on schemes highlighting water purification and availability to stakeholders. Further, it focuses on the present legal management which pledges the inhabitants to claim the right to access clean drinking water along with the right to health.

Science of Water

It is a universal solvent in which all the minerals are present in the soil, may be dissolved. Water consists of atoms of oxygen

⁵ Lack of clean water, mobile toilets pose a grave health hazard: Survey, THE HINDU, January 11, 2021.

and hydrogen, one atom of oxygen, and two atoms of hydrogen. It can wipe out as a gas in the atmosphere; reemerge as dew, fog, clouds, rain, and snow, and in the cold change into a solid.⁶

Based upon an existing logical acquaintance, enduring exposure to organic chemicals in drinking water poses a peril to public health, including cancer risk, and should be controlled as prearranged under the provisions of the Safe Drinking Water laws. The guidelines must be grounded upon recent findings concerning the widespread prevalence of these substances and their potential health risk⁷.

Water is polluted when it gets mixed up with chemical, radioactive, or pathogenic microbial substances which may result in large-scale illness and hence may prove to be fatal⁸.

To ensure that water is fit for consumption and irrigation purposes, the most common desalination technologies have been used to make sure the purity of water is maintained. In this regard the technologies commonly used are mentioned hereunder:

- i. Multi-stage flash distillation (MSF)
- ii. Vapor compression (VC)
- iii. Multi-effect distillation (MED)
- iv. Electro-dialysis (ED)
- v. Reverse osmosis (RO)

The first three processes like multi-stage flash distillation process, the vapor compression process, and the multi-effect distillation process tend to change the state or bodily structure of water. The other two processes namely electro-dialysis and reverse osmosis are the thermal refinement process which is effective in treating Industrial high-quality waste. The heat energy is available at 20. The electro-dialysis can indulge the solids charged at a very high level which can suspend the solids and dissolve them but the leftover impurities in the product water require further treatment. On the other side, the Reverse Osmosis (RO) process is convenient than the distillation plants comprising 300 to 400kg/day Capacity. Usually, the Reverse osmosis process

consumes less energy than the distillation process to separate salts from the water, therefore, the overall cost of desalination decreases.⁹

The technology such as the PV-RO has been properly established though it has some underlying issues which require further improvements. They are as follows:

- i. To develop the OV-RO system to such an extent that it can be used in non-electrified areas of developing countries for household and drinking facilities
- ii. Improving the overall efficiency and the performance of this system.
- iii. To adopt less costly aspects like Solar-powered PV-RO systems.

After all the consideration undertaken the future of this technology will be valuable and has an extraordinary potential to reduce the energy demand and to have an advantage over the cost with other competing technologies..

Water and Health

Peter Gleick (2002: 2-8) disaggregates the water-related health concerns into four types:

- a. Waterborne diseases: caused by the ingestion of water contaminated by human or animal faces or urine containing pathogenic bacteria or viruses; include cholera, typhoid, amoebic and bacillary dysentery, and other diarrheal diseases.
- b. Water-washed diseases: caused by poor personal hygiene and skin or eye contact with contaminated water; include scabies, trachoma, and tick-borne diseases.
- c. Water-based diseases: caused by parasites found in intermediate organisms living in water; include dracunculiasis, schistosomiasis, and other helminths.
- d. Water-related insect vector diseases: caused by insects that breed in water; include dengue, filariasis, malaria, onchocerciasis, trypanosomiasis, and yellow fever.

According to eearth.org sickness related to water amounts to 50 million death across the globe, to a greater extent in Africa and

⁶ ROBERT LEA SMITH, *ECOLOGY & FIELD BIOLOGY*, 64, 1995.

⁷ Victor J. Kimm, *Drinking Water Reform*, 4 EPA J. 28 (1978).

⁸ Cited in *Atma Linga Reddy v. Union of India*, (2008 7 SSC 788).

⁹ Manoj Chandra Garg, Himanshu Joshi, *A Review on PV-RO Process: Solution to Drinking Water Scarcity due to High Salinity in Non-Electrified Rural Areas*, 50:8, *Separation Science and Technology*, 1270-1283, 2015.

Asia.¹⁰ Water Pollution is defined as adding something to change the natural quality of water. As soon as the water is contaminated it loses its original quality. Polluted water is a big threat to human beings, birds and animals, etc. Thus, water pollution amounts to means rendering the water incapable of human feeding by bringing fluctuations in its original quality.

Currently, there is an estimation of 1.2 billion people who do not have access to better-quality water supplies, and “some 2.6 billion people—half of the emerging world and 2 billion of whom live in rural areas—live without amended sanitation” (UNESCO 2006: 221). The consumption of contaminated water may cause various illnesses along with cholera, typhoid, and dysentery. The diarrhoeal disease has caused up to 2.1 million deaths these diseases are attributable to the “Water, Sanitation, and Hygiene” the children are the worst affected victims having the risk factor of 90 percent especially the children under the age of five. The malnutrition combined with the diarrhoeal disease will lead millions of populations to a vulnerable state which would result in death due to other illnesses. Parasites born out of the water also cause illness.¹¹

It is pertinent to notice the evidence stating that to produce one Kilogram of tomatoes the water requirement is 214 liters, to produce one kilogram of rice water requirement is around 2500 liters, to produce a kilogram of cheese the water requirement is 3180 liters and for a kilogram of beef the water requirement is 15400 liters. Thus, this means that scarcity of water will be leading to an increase in the prices of food. Are we aware of the fact that how much water we consume in a single day? The World Health Organisation in 2017 described the position of water scarcity based on consumption made by a single person between 50 liters to 100 liters of water per day to meet the essential needs.

During transferable disease outbreaks, questions may come out safe water supplies, Water supply, and safety is a crucial aspect for the protection of public health. As nations of

the world have responded to the COVID-19 outbreak questions arose regarding the virus that exists in water supplies.¹²

Evidence involving water uncertainty to mental as well as psychosocial health has been coming out gradually. A recent discussion by Wutich, Brewis, and Tsai (2020) is largely informative in giving a wide-ranging analysis of the probable relationships between water uncertainty and mental well-being. COVID-19 position enables the manifold lanes between water insecurity and poor mental health.

Water Rights

With the help of human rights, tactic water requirements can be altered into water rights. The human rights law plays an essential role in the middle of the state and the individual means that the water right is essential and authentic for everybody within the state, along with weaker groups. By the creation of water as a human right, it will make sure that this right can never be taken away from the people.¹³ The right to water combined with life shall take priority over the water rights, if any, for other usages along with industrial, agricultural, and recreational uses.¹⁴

Right to life is most valuable, and life without water is not possible. The legal documents of each and every country emphasize the holiness of human life. Numerous International Agreements and Announcements integrate the provisions of the right to life. Article 3 of the Universal Declaration of Human Rights, 1948 talks about the provisions of the right to life. It has also been stated in this Declaration that every individual has the right to life and proper standards of living for health etc. In the same way, Covenant on Economic, Social and Cultural Rights, 1966 and European Convention for the protection of Human Rights and Fundamental freedom has documented the right to life and it shall be protected by State.

¹² COVID-19 and Regulation of Public Drinking Water, 11 (March 26, 2020).

¹³ Amanda Cahill, *The Human Right To Water—A Right of Unique Status’: The Legal Status and Normative Content of the Right to Water*, 9:3, International Journal of Human Rights, 389-410, 2005.

¹⁴ N. R. Madhava Menon. *Toward a National Framework Law on Water for India*, 5:1 World Bank Legal Rev., 231, 2014.

¹⁰ [http://www.eoearth.org.](http://www.eoearth.org;); (May 01, 2021, 11:45 A.M).

¹¹ Patrick Bond, *Water, Health, and the Commodification Debate*, 42(4) Review of Radical Political Economics, 445–464. .

The UNO has passed a resolution in 1977, in its United Nations Water Conference. India is also a signatory country. It resolved unanimously, inter-alia, as under:

*“All people, whatever their stage of development and their social and economic conditions, have the right to have access to drinking water in quantum and of a quality equal to their basic needs.”*¹⁵

On November 10, 1980, when International Drinking Water Supply Sanitation Decade was announced by the UNO, which highlighted the importance of purity of water. India is also a participant in this Declaration.

Water Rights in India

India recommends a captivating lens through which to keep an eye on the subjects put up a right-based method to gain and access water. The Indian Constitution is an everlasting codified document with an obvious reformatory purpose, incorporated at that time when morals and aims of human rights were quietly new to the newly independent India. The recognition of the role of the rules and importance of rights in alleviating the sharp inequities of the colonial rule in India. Indians as a colony were divided based on caste, class, gender, and religion. The constitution of India put forth the sense of Universal Human Rights as an integral part of the country.¹⁶

By taking the post-colonial legitimate as a mandate for social reforms by using judicial activism utterly, the Supreme court of India has been inquisitively fervent about considering the Indian constitution to reach the decision favoring the justiciability of social and economic rights. Even though the right to access water is not vital. Over the years the Apex Court ingeniously brought the right to water under the purview of the right to life.¹⁷

Presently, the conversation on water rights in India is about whom shall the water rights be given to either the state or the individual. The view of the government is that the rights of

water must be conferred to the state whereas there is a contention made by the NGOs and academics is that the rights of water must be vested at various levels rather than giving everything to the state. The latter position states that the cooperatives together shall be vested with a system of correlative rights whereas the state shall be vested with few rights via public trust doctrine.¹⁸

Public trust is a concept that is based on the idea that an entity or state is possessing something based on public trust because it is inherently valuable for the public and cannot be given or reserved for any person.¹⁹ Another implication is that a trustee is a person who has a fiduciary role to take responsibility and good care of the general public. When it comes to the context of water it possesses a foundation for bearing in mind water without initiation from the perception of property rights. further, following the doctrine of public trust, the trustee assures the distribution of water to the public so that it neither refuses any person or a group from availability to drinking water nor it affects the needs of the ecosystem. The trustee does not have the ability or power to change the nature of the trust nor it can hold a usufructuary right on the water.²⁰

Arguably some specialists suggested that in a structure where an individual uses the rights and the market forces are intervened by the government structure then there would be a pragmatic reaction to the rising scarcity of water resources.²¹

Judicial Interventions

The Supreme Court of India has been vigorously involved in protecting the environment. The legislative and the executive play a pivotal role in the governance of the country. The judiciary plays an active role in resolving the environmental dispute and

¹⁸ Marcus Moench, *"Allocating the Common Heritage: Debates over Water Rights and Governance Structures in India"*, Economic & Political Weekly, June 27, Pg. A-46, A-48, 1998

¹⁹ M. Moench, *'Approaches to Groundwater Management: To Control or Enable?'*, 29:39, Economic & Political Weekly, Pg. A135, 1994

²⁰ Philippe Cullet, *Water Sector Reforms and Courts in India: Lessons from the Evolving Case Law*, 19, REV. EUR. COMP. & INT'L ENVTL. L. 328 (2010).

²¹ *Supra* note 17.

¹⁵ Subhas Kumar v. State of Bihar, (1991) 1 SCC 598.

¹⁶ Chandrani Das, *Water Pollution in India: An Overview of Existing Statutory Frameworks in Management of Ecosystems*, 5:2, Indian J.L. & Just, 137, 2014.

¹⁷ *"What Price for the Priceless? Implementing the Justiciability of the Right to Water"*, 120 HARV. L. REV. 1067, 1068-69 (2007).

resolving other environmental issues in comparison with the western courts. The Supreme Court of India from the 1980s has been interpreting and formulating new changes in the environmental jurisprudence which is well-founded and unique. When it comes to the roles assigned by the courts in interpreting and adjudicating²² environmental laws. The court stated the new principles for protection of the environment which include a reinterpretation of the environmental laws, creating of new mechanisms and institutions, and giving additional powers to the existing environmental institutions through directions and judgments. The approach of the court on environmental issues is not limited to the general question of the law but it also deals with all the technicalities and details regarding the environmental cases. As a matter of the fact, someone from the critics of the Supreme Court has described the Court as 'Lords of Green Bench' or 'Garbage Supervisor'.²³

In 1991, the supreme court of India changed the position of the right of water as a constitutional right and basic fundamental right in the constitution this lead to drastic changes in water jurisprudence in India. Now the water right has been brought under the purview of Article 21 of the Indian constitution which elucidates the right to life and personal liberty. After such a drastic change the legislation and executive are bound to provide water as a matter of right to each and every citizen of the country even in a situation like the unfavorable economy and other disabilities the state can not avoid from its responsibility. But in the present dean water is not considered as a matter of fundamental right but it is still seen as a legal right for the citizens here the citizens are bound to pay charges to the municipal corporation to access the right of drinking water these charges are fixed by the municipal corporation. After the 1991 judgment the interpretation of water has changed and the government at all levels

²² Article 141 of the constitution of India is to 'declare' the law that shall be binding on all courts in India. As such, it does not envisage interaction, much less a direct dialogue, with the executive government of the day.

²³ S.S. Prakash and P.V.N. Sarma, 'Environment Protection vis-a-vis Judicial Activism', 2, Supreme Court Journal, 56, 1998.

has to take matters related to water seriously and provide justice as soon as possible. If any aggrieved party reaches the apex court for water disputes the court shall take the matter in its own hand under the context that the government fails to resolve the water dispute of the aggrieved persons. A common legal framework is necessary to be followed by the center, state, and local governments to ensure the access of water to the citizens as the crucial fundamental right of the citizens.²⁴

Covid-19 And Water: Impact

At the end of 2019, a pathogen responsible for the respiratory disease appeared known as SARS-Co-V-2 also known as COVID-19 as this new pathogen is a member of the Coronavirus family therefore it has been named as a novel coronavirus (World Health Organisation2020). To counter such a widespread disease of COVID-19 WHO published various technical guidelines through a document on specific topics which also includes the Infection Prevention and Control(IPC) like frequent washing of hands and clothes.

As based on the current evidence it is noted that the Novel Coronavirus has not been detected in water supplies and that's why the risk of getting infected by water supplies is low (World Health Organisation2017). A study was conducted in a laboratory on the surrogate coronavirus in the well-maintained environment the study indicated that the virus could be infectious if it is kept in the contaminated water for weeks (Casanova et al .2009) but to achieve an effective and centralized infection there must be a residual concentration of free chlorine of ≥ 0.5 mg/L for a duration of minimum 30 minutes from the point of contact time at pH < 8.0 (World Health Organisation2017).the chlorine residual must be retained all over the distribution system.

It is not astonishing that why the most recommended method to curb down the COVID-19 infection is washing hands with running water. The methods elucidate to use soap enough to cover the wet hand and scrub

²⁴ N. R. Madhava Menon, *Toward a National Framework Law on Water for India*, 5, World Bank Legal Review, 231, 2014.

your complete hand including fingers, back of the hand, between the fingers and under the nails for about 20 seconds duration and rinse the hands properly with the running water. It can be concluded that the expenditure on the water shall increase on a daily basis. But if we see the rest of the developing countries and the rural areas often people living in these areas use buckets or containers to wash dishes and hands. The water consumed for washing hands is less than 1litres and that too on occasion before or after taking a meal or after dirty work. It is pertinent to include that there is a shortage of water that's the water is collected from far place and stored in tanks and buckets. Therefore to cover the sanitation requirements, much effort has to be made in saving water mostly in developing countries.²⁵

Though India is giving a fierce fight to stop the spread of novel coronavirus in this pandemic by promoting washing of hands as a key element to protect the individuals from the virus. A new incident has been brought to light that is the shortage of water supplies emerging in the rural areas. Also in Urban locations, there is an upsurge in water tanker mafias taking advantage of this grave situation. In 2019 it was seen that due to over extensive use of grounds water and delayed monsoon in India the country was 44% in drought. The states like Bihar, Madhya Pradesh, Maharashtra, Uttar Pradesh, and West Bengal faced a lack of access to drinking water, location of water in discreet and unfavorable locations, and poor sanitation conditions make it impossible to deal with the pandemic of the novel coronavirus.²⁶

Impact on urban cities

When it comes to the management of water supply in urban areas it is noted that these areas are at greater risk since the population in these areas and semi-urban areas are abundant. Many countries imposed lockdowns in their domain nonetheless it was still impossible to maintain social distancing and giving adequate access to running water for washing hands. There is a

greater impact on the informal urban area and the cities surrounded by it due to the heavy population at these places. There is an imminent threat to human lives and the health care facilities' ability to manage the increasing number of covid cases.²⁷

The Covid -19 pandemic has shaken the entire foundation of the countries especially in India the urban planners and the municipal bureaucrats will have to rethink their plans to make water-sensitive urban structures and smart cities with water facilities in their policy and practice including the peri-urban settlements. To get abundant access to the basic facilities and various other services, there needs to be an adequate urban infrastructure comprising of cities with proper channels of using water that requires an abundant supply of clean water and adopt safety measures to counter flood, restoring drains from a concrete method to a more natural approach, schemes for replenishing the groundwater levels, methods to favour food production, community parks, and gardens, and various other methods to use and efficiently recycle water.²⁸

SDG 11 is to 'make cities and human settlements inclusive, safe, resilient and sustainable.' The scarcity of water has a serious impact on the resilience and liveability of cities.

Impact on food production

The Covid -19 pandemic has disrupted all the agricultural activities and supply chains in India. the tough measures used by the officials for maintaining nationwide lockdown and social distancing rules had led to the interruption of the migrant workers from carrying out their harvesting activities in their areas. The knock-on effects of food availability and the other supply chains have created a worst-case situation of wide plead famine in the country.²⁹ The consequences of the pandemics being suffered by many nations around the world even to those nations who try

²⁵ S. Haddout, K.L. Priya, A.M. Hogueane, I. Ljubenkova, *Water Scarcity: A Big Challenge to Slums in Africa to Fight against COVID-19*, 39:3, Science & Technology Libraries, 281-288, 2020

²⁶ Swasti Pachauri, 'Drought, literature and the lessons' Down To Earth (15 July 2020).

²⁷ Marian J. Neal, *COVID-19 and water resources management: reframing our priorities as a water sector*, 45:4, Water International, 435-440, 2020

²⁸ <https://watersensitivecities.org.au>. April 22, 2021, 08:45 P.M

²⁹ <https://www.thethirdpole.net/en/2020/04/14/will-covid-19-force-india-to-face-up-to-its-water-crisis>, May 16, 2021, 05:32 P.M

their level best to act against the impact of the pandemic afterward focusing on restructuring their economic conditions and rebuilding it after a COVID-19 peak.

The second SDG showing the issues concerning the food as their primary focus. They aim to end hunger and malnutrition as well as promoting agricultural activities for production along with focusing on incomes for small-scale food producers. It also seeks to promote resilient agricultural activities and focusing on investment in infrastructure and agricultural research and facing trade limitations and correcting world agricultural markets.³⁰

Impact on women and children

Water is a very essential commodity for women and children in maintaining their menstrual health and perennial care. The need for water increases in cleaning the clothes and other items used while they are on the menstrual cycle and especially for maintaining their hygiene within this duration (Wenham, Smith, and Morgan 2020).

The poor countries or low-income countries whose household depends on water and toilets outside their premises. The girls and the woman are responsible for the collection of water including household work and sanitation uses in the community. They have to fetch water from a long distance then they carry, and transport water; spend countless hours queuing for water, and devote a high amount of their income for securing water that can be used by their families (United Nations Women 2014).

Women and girls living in rural areas need to maintain their menstrual health and hygiene for this purpose they need an abundant supply of water. It is used to maintain hygiene which may include personal clothes, undergarments, menstrual wear, and so on. These clothes need to be washed with soap in clean water to maintain their hygiene and also there are reusable menstrual clothes that need efficient washing to prevent themselves from any kind of infection. The Impact of the Covid-19 pandemic results in the inability to access water in the rural areas which means this will have serious repercussions on the menstrual

health of the young girl's woman living in the rural areas. also, it will lead to various infections, poor access to water means the clothes won't be washed properly which may lead to poor hygiene especially the reusable cloths. Since the pandemic is widespread the need for regular washing of hands with soap has become quite necessary therefore the need for access to clean water is higher in demand.³¹ Women have a natural tendency to look after their families before they care about their personal needs. They may sidetrack the domestic water supply by washing hands with soap while ignoring their menstrual health and hygiene which might cause them vaginal contaminations and urinary zone infections (Das et al. 2015).

It extends where the woman and girls are involved in collecting water they have to stand in huge queues and since there is a highly irregular supply of water the safety of the woman and the girl is compromised. There has been a lot of evidence supporting that the COVID-19 is being spread through droplets when people are in close contact with one another, therefore huge queues could increase the chances of infection in women and girls. Howard et al. (2020) reported that the water resources which are being shared via public tap to a group of households could risk the transfer of infection as a large number of people are present for collecting water at the same time. It is a customary practice that when women queue for collecting water at some point they exchange, rearrange and touch the water containers. There is also an activity of close contact when women help one another to lift the heavy water container on their heads. In village areas where the people come to collect waters at borehole points take water from the pump one by one by holding the handle and due to this there is a multiple touching which might lead to increase in the infection among young girls and woman.

Financial Impact

³¹ Ellis Adjei Adams, Yenukini Joyce Adams, Christa Koki, *Water, sanitation, and hygiene (WASH) insecurity will exacerbate the toll of COVID-19 on women and girls in low-income countries Sustainability*, 17:1 Science, Practice and Policy, 86-90, 2021

³⁰ *Supra* note 23.

The water service sector and drinking water sector have hit massive losses in revenue. They incurred heavy costs for the maintenance of the services to financially vulnerable houses in the Covid-19 situation. This sector has been committed to the task of providing water to economically weaker households in this pandemic without considering their ability to pay, however, these facilities do not come free. The cost incurred in providing these services and since the revenue is at the lowest then this public service utility may face hardships related to shortfalls and delaying the investment for planned water structure. The other effects faced are issues related to paying staff and facing pressures for raising the rates at the time when many households who can not afford the services have increased.³²

The impacts on the finances led to affect the utilization of clean water. Since there is a huge decline in the use of water in the industrial and commercial sector due to which has led to the economic downturn and has affected the clean water utilities financially. The earnings have dropped and it varies from country to country over time. Some of the major commercial and industrial sectors show losses of about 30% to 40%. If these losses aren't dealt with appropriately then the only way left for the service provider is to increase the rates of the services in the future which will be a bigger challenge for small household earners.

Conclusion

The conservation and saving of water increase the efficiency of the energy obligatory to process and transfer water to the households. This helps save resources and to reduce pollution. Thus we need to save water so that our future will be happier and secure. We should start using water judiciously and efficiently so that we can be better agents in saving water and finally, it can meet the needs to fight against COVID-19. When water is being transferred through an urban delivery system the major portion of drinking water approximately a third of the world's drinking water vanishes before it reaches the final consumers. The prime importance should be to

save water and not waste it during the fights against this pandemic

This pandemic has become one of the greatest examples as to how it has perpetrated and disrupted every essential part of our lives – a cruel lesson in knowing and understanding the complex systems and how ‘when we try to pick out anything by itself, we find it hitched to everything else in the universe³³’.

The government, the donors and various banks, and other establishments must be aware that this pandemic can not only affect the health sector but it can affect the other sectors, therefore, they should also focus on the situation and help one another in tackling the pandemic when the country is at recovery phase from the COVID-19. They also need to understand that this pandemic is not only a health problem but it can bring more problems into our lives than anyone could have imagined. At this moment when everything has been disrupted and is out of balance, the water sector has a huge role to play by acting strongly and providing better leadership during this time for tackling the pandemic. The government must make themselves reportable to prepare policies and change practices to protect their citizens and also focus on long-term positive outcomes of the COVID-19 legacy.

So finally, I think that the impact of covid19 on the worldwide economy will be more troubling than the last economic breakdown, and water structures are a part of the economy, so the development of such structures will be affected by the lack of investments. We will feel the impact after few years.

³² <https://www.cifanet.org/coronavirus>, July 21 2021, 03:23 P.M.

³³

https://vault.sierraclub.org/john_muir_exhibit/writings/my_first_summer_in_the_sierra/chapter_6.aspx, 11 June 2021, 11:45 A.M.

A DESCRIPTIVE STUDY TO ASSESS THE LEVEL OF STRESS AND COPING BEHAVIOR AMONG WIVES OF ALCOHOL DEPENDENTS ATTENDING SELECTED DE-ADDICTION CENTERS IN SHIMOGA, KARNATAKA

Siddesh .M¹ and Ravindra. H. N²

¹Sumandeeep Vidyapeeth deemed to be University, Piparia, Waghodia, Vadodara –391760, Gujarat, India.

²Department of Medical Surgical Nursing, Sumandeeep Nursing College, Sumandeeep Vidyapeeth deemed to be University, Piparia, Waghodia, Vadodara – 391760, Gujarat, India
siddeshm4@gmail.com

ABSTRACT

The World Health Organization estimated that there are about 2 billion people worldwide who consume alcoholic beverages and 76.3 million with diagnosable alcohol use disorder. The global burden related to alcohol consumption both in term of morbidity and mortality is considerable in most part of the world. Alcoholics may have young, teenage, or grown-up children, they have wives or husbands, and they have brothers or sisters, parents or other relatives. An alcoholic can totally disrupt family life and cause harmful effects that can last a lifetime. Hence the focus of the study was to assess the level of stress and coping behaviour among wives of alcohol dependents attending selected de-addiction centers in Shimoga, Karnataka". Major findings of the study were among the participants 60% of the wives of alcoholic patients experience moderate level of stress, 36.7% experience mild stress, 1.7% experienced severe stress and only 1.7% had no stress during hospital stay. Among the participants 38.3% of the wives of alcoholic patients mild level of coping ability, 55% had moderate coping ability, 5% had high coping ability and only 1.7% had inadequate coping.

Keywords: stress, Coping behaviour, Wives of alcoholic patients, Alcohol Dependents.

Introduction

The use of alcohol can be traced back to the Neolithic age. Beer & wine are known to have been used around 6400BC. Early Egyptian and Greek writings made several references to alcohol. Hippocrates recognized many of the medical complications of excessive drinking & Seneca introduced the idea of loss of control and habituation 1.

The term alcoholism is defined as “a diseased condition due to the excessive use of alcoholic beverages”. Silverstein in his book “Alcoholism” gives three criteria that the American Psychiatric

Association listed for physicians to diagnose this disease. They are (a) Physiological problems, such as hand tremors and blackouts. (b) Psychological problems, such as an obsessive desire to drink. (c) Behavioral problems that disrupt social or work life 2.

The World Health Organization estimated that there are about 2 billion people worldwide who consume alcoholic beverages and 76.3 million with diagnosable alcohol use disorder.3

In India 62.5 million peoples were estimated to be alcohol users with per capita consumption of alcohol had increased by 106.7% over the 15 year period . The sale of alcohol in India has

been steadily growing at 6% and is estimated to grow at the rate of 8% per year.. During the last few decades the mean age of initiation of alcohol use has decreased from 23.6 years to 19.45 years indicating that peoples are drinking alcohol at an earlier age than previously. A two year survey on the extended pattern and magnituded the drug abuse in India. Survey showed that drug users were predominantly young and male 4.

Coping is a complex process; it is variously described as a situation and as trait-like response to stress and as a disposition to respond to change. Coping with stress is one of the biggest health concerns and its effect can be different from person to person 5.

In India about 4% males and 0.6% females were found to be alcohol dependents. The incidence rate was found to be 15.1% in Mumbai, 14.3% in Bangalore, 12.2% in Delhi and 9.5% in Chennai 8. There are approximately 500 thousand alcohol dependent individuals in Karnataka. A report on ‘study of alcohol dependent person’ submitted to Health Risk Force of Karnataka shows the social cost of alcoholics in the state. The study explained the following emerging findings 6.

- Individual spent more than they earn.

- Most people take loan to support their habit.
- Averages 12.2 working days were lost.
- 18% lost their job in one year.
- 59.4% families were supported by income from other family members.
- 9.7% sent children under 15years to work to supplement family income.

A study reported that alcoholism should be considered as the no.1 major health problem in India. 7. Alcoholics may have young, teenage, or grown-up children, they have wives or husbands, and they have brothers or sisters, parents or other relatives. An alcoholic can totally disrupt family life and cause harmful effects that can last a lifetime.2

Alcoholism in family systems is the conditions of families that enable alcoholism and the effects of alcoholic behavior, by one or more family members on the rest of the family. Mental health professionals are increasingly considering alcoholism and addiction as diseases that flourish in and are enabled by family systems. Family members react to the alcoholic with particular behavioral patterns. They may enable the addiction to continue by shielding the addict from the negative consequences of his actions and such behaviors are referred to as codependence. In this way, the alcoholic is said to suffer from the disease of addiction, whereas the family members suffer from the disease of codependence 3.

Wives who live with alcohol dependents are always engrossed with reacting to the alcohol dependant's behavior, compensating for it and feeling angry about it. They forget how to enjoy the many things life has to offer. They try to pretend that everything is normal and avoid provoking their husband into another bout of drinking. They have to cope up with the bewildering, unpredictability and frequent unpleasantness of life with a problem drinker. Wives question their perception, deny or suppress their feelings and stop communicating freely, thus they become rigid and against to growth. Wives of alcoholic becomes so desperate to rescue the drinker from blind compulsion that they neglect their other responsibilities, including self care and began to suffer a serious decline with their own emotional, psychological or physical health.

Methods

Participants

Convenient sampling technique was used to select the samples for the present study. Sample size of the present study consists of 60 wives of alcoholic patients in selected De-addiction Centre, Shimoga. The samples were selected with the following predetermined set of criteria. Inclusion criteria: Only wives of alcoholic inmates present in de-addiction center where the study is conducted and age range of wives - 20-50 years. Exclusion criteria: Wives of alcoholic inmates who are not interested to participate in the study and wives of alcoholic inmates, who cannot read, write or understand Kannada, or English.

Instruments

Structured interview schedule by using the modified perceived stress scale and modified Jaloweic coping behavior scale.

Description of the Tool

Structured interview schedule consist of 3 parts i.e. Part I, Part II and Part III.

Part I: Consists of items on demographic variables such as age, religion, educational status, occupation, family income, family type, place of residence and duration of alcoholism.

Part II: consists of 35 items on modified perceived stress scale which are in both positive and negative direction.

Part III: 40 items in Jaloweic coping behavior scale.

Scoring Key

Part-I: Scoring key is prepared for Part-I by coding the demographic variables.

Part-II: Responses to the items should be scored from '1' representing strongly never to '4' representing very often.

The negatively worded items should be reverse scored. Below are the reversals for the original item score in the left column and reversed item score in the right. The rightmost values should be substituted for the leftmost. This can also be accomplished by subtracting the original values for the internal items from 4.

1 = 4

2 = 3

3 = 2

4 = 1

Individual scores on the perceived stress can range from 35 to 140 with higher scores indicating higher stress. Out of 35 items in the stress scale, 4, 5, 7, 8, 11, and 34 are positively stated

questions. For which, the score will be 1=4, 2=3, 3=2, and 4=1.

- Scores less than 35 indicates no stress
- Scores ranging from 36-70 would be considered mild level of stress.
- Scores ranging from 71 – 105 would be considered moderate level of stress.
- Scores ranging from 106-140 would be considered severe stress.

Part III: Responses to the items should be scored '1' representing 'does not apply' and '4' representing 'do more' with each.

The negatively worded items should be reverse scored. Below are the reversals for the original item score in the left column and reversed item score in the right. The rightmost values should be substituted for the leftmost. This can also be accomplished by subtracting the original values for the internal items from 4.

1 = 4

2 = 3

3 = 2

4 = 1

Out of 40 items in the coping scale, 8, 9, 11, 19, 20, 21 and 24 are negatively stated questions. For

which, the score will be 1=4, 2=3, 3=2, and 4=1.

Individual scores on the coping can range from 1 to 160 with higher scores indicating higher coping.

- Scores ranging from 1 - 40 would be considered inadequate coping.
- Scores ranging from 41-80 would be considered mild level of coping.
- Scores ranging from 81-120 would be considered moderate level of coping.
- Scores ranging from 121-160 would be considered adequate level of coping.

Part III: consists of 40 items on Jaloweic coping behavior scale which describes a broad range of behavioral, emotional and cognitive coping responses.

3. Results:

SECTION-I: DEMOGRAPHIC VARIABLES
:Results showed that, among the wives of

alcoholic patients majority 40% belongs to the age group of 31-40 years, 48.3% belonged to the age group of 41-50 years, 11.7% belongs to the 21-30 years (Table 1). Majority 51.7% of the wives of alcoholic patients were Hindus and remaining 41.7% were Christians (Table 2). 35% of the subjects had primary education, 28.3% has completed secondary education, 20% of them were illiterates, 13.3% has completed their pre-university education and remaining 3.3% were graduates (Table 3). Majority 31.7% of the wives of alcoholic patients were private employees, 36.7% were self employed, 25% were housewives and remaining 6.7% were government employees (Table 4). Majority 33.3% of wives of alcoholic patients family income was between Rs. 5001-10000, 31.7% had family income between Rs. 10001-15000, 23.3% of them had income more than Rs.15001 and remaining 11.7% had the income less than Rs. 5000 (Table 5). 13.3% of the wives of alcoholic patients were living in joint family and 86.7% subjects living in nuclear family (Table 6). Majority 56.7% of the wives of alcoholic patients were living in urban areas and remaining 43.3% were lives in rural areas (Table 7). Majority 43.3% of the alcoholic patients consume alcohol since 5-10 years, 35% of them take alcohol since last 5 years, 20% of them take alcohol since 11-15 years and remaining 1.7% were taking alcohol since more than 16 years (Table 8).

SECTION-II: STRESS LEVEL OF WIVES OF ALCOHOLIC PATIENTS: 60% of the

wives of alcoholic patients experience moderate level of stress, 36.7% experience mild stress, 1.7% experienced severe stress and only 1.7% had no stress during hospital stay (Table 9). 38.3% of the wives of alcoholic patients mild level of coping ability, 55% had moderate coping ability, 5% had high coping ability and only 1.7% had inadequate coping (Table 10). mean stress score the subjects was 75.53 (53.95%) with standard deviation of 18.95 and the obtained mean coping scores the subjects was found to be 86.8 (54.25%) with standard deviation 21.24 (Table 11).

SECTION III: CORRELATION BETWEEN STRESS LEVEL AND COPING ABILITY

OF WIVES OF ALCOHOLIC PATIENTS: Pearson's correlation (r) value 0.985. It reveals

that there is high statistical positive correlation between stress and coping score (Table 12).

SECTION IV: ASSOCIATION BETWEEN STRESS LEVEL OF WIVES OF ALCOHOLIC PATIENTS AND THE SELECTED DEMOGRAPHIC VARIABLES : X2

value computed between the stress level of wives of alcoholic patients and selected demographic variables. Variables such as age, religion, education, occupation, family income, family type, place of residence and duration of alcoholism were significant at 0.05 level of significance. Thus it can be interpreted that there is significant association between the stress level of wives of alcoholic patients and selected demographic variables (Table 13).

SECTION V: ASSOCIATION BETWEEN COPING LEVEL OF WIVES OF ALCOHOLIC PATIENTS AND THE SELECTED DEMOGRAPHIC VARIABLES: X2

value computed between the coping level of wives of alcoholic patients and selected demographic variables. Variables such as age, religion, education, occupation, family income, family type, place of residence and duration of alcoholism were significant at 0.05 level of significance. Thus it can be interpreted that there is significant association between the coping level of wives of alcoholic patients and selected demographic variables such as family income, family type, place of residence and duration of alcoholism

Discussion

Majority 40% belongs to the age group of 31-40 years, 48.3% belonged to the age group of 41-50 years and 6% belongs to the age group of 60 years and above. Majority 51.7% of the wives of alcoholic patients were Hindus and remaining 41.7% were Christians. 35% of the subjects had primary education, 28.3% has completed secondary education, 20% of them were illiterates, 13.3% has completed their pre-university education and remaining 3.3% were graduates. Majority 31.7% of the wives of alcoholic patients were private employees, 36.7% were self employed, 25% were housewives and remaining 6.7% were government employees. Majority 31.7% of wives of alcoholic patients family income was

between Rs. 10001- 15000 and 11.7% had the income less than Rs. 5000. Among the participants 13.3% of the wives of alcoholic patients were living in joint family. Majority 56.7% of the wives of alcoholic patients were living in urban areas and remaining 43.3% were lives in rural areas. Majority 43.3% of the alcoholic patients consume alcohol since 5-10 years, 35% of them take alcohol since last 5 years, 20% of them take alcohol since 11-15 years and remaining 1.7% were taking alcohol since more than 16 years.

Among the participants 60% of the wives of alcoholic patients experience moderate level of stress, 36.7% experience mild stress, 1.7% experienced severe stress and only 1.7% had no stress during hospital stay.

Smilar study was conducted by Savita, sulekha, swatadadwal., (2014), a descriptive study to assess the level of stress among 50 spouses of alcoholic men at ranipokhri community, Dehradun. Purposive sampling technique was used for selecting the samples and a modified four point likert scale was used to assess the stress level among spouse of alcoholics. The study results revealed that majority of the alcoholic wives, whose husband are victim of alcohol addiction (42.3% women; M = 17.18, SD = 6.08) were belongs to moderate level of stress.8

Among the participants 38.3% of the wives of alcoholic patients mild level of coping ability, 55% had moderate coping ability, 5% had high coping ability and only 1.7% had inadequate coping.

Similar study was conducted by Sreedevi.M, H.M Gangadhariah & V.Benegal (2001) conducted an explorative study to explore the problem of domestic violence experienced by wives of alcohol dependent individuals. The study was carried out in de-addiction centre in NIMHANS, Bangalore. The results indicate that intellectual violence was the commonest variety of violence (69%) followed by emotional violence (58.6%) and social violence (57.8%). Physical violence was found in 47% of the women and economic violence in 41.6%. The least commonly reported violence was sexual 18 violence (27.4%). High levels of stress were seen in wives of alcoholics. Wives with higher levels of domestic violence showed higher level of stress. The major coping styles

adopted were avoidance (53%), discard (51.5%), fearful withdrawal (40.4%) and sexual withdrawal (25.8%).⁹

The overall mean stress score obtained by the subjects was 75.53 (53.95%) with standard deviation of 18.95. The overall mean coping score obtained by the subjects was 86.8 (54.25%) with standard deviation of 21.24.

Section III: Correlation between stress level and coping ability of wives of alcoholic patients: Pearson's correlation between stress scores and coping ability was 0.985 and it reveals that there is high positive correlation between stress and coping ability.

Section IV: Association between stress level of wives of alcoholic patients and the selected demographic variables: It was evident that there was a statistically significant association between the stress level of wives of alcoholic patients and selected demographic variables such as age, religion, educational status, occupation, family income, family type, place of residence and duration of alcoholism at the probability level of $p < 0.05$. Hence the research hypothesis stated that there will be significant association between the stress level of wives of alcoholic patients with selected demographic variable was accepted.

An another similar study revealed that, The obtained chi-square value was significant for variable like age, the obtained chi-squares values for the variables like education, occupation, family income, religion, type of family, duration of marital life, no of children. Duration of husband's

alcoholisms, alcohol drinking in last 1 year, nature of alcohol consumption. any other substance abuse and level of stress were not significant at 0.05 level.¹⁰

Section V: Association between coping level of wives of alcoholic patients and the selected demographic variables: It was evident that there was a statistically significant association between the coping level of wives of alcoholic patients and selected demographic variables such as age, religion, educational status, occupation, family income, family type, place of residence and duration of alcoholism at the probability level of $p < 0.05$. Hence the research hypothesis stated that there will be significant association between the coping levels of the

wives of alcoholic patients with selected demographic variable was accepted.

Conclusion

Majority 40% belongs to the age group of 31-40 years. Majority 51.7% of the wives of alcoholic patients were Hindus. 35% of the subjects had primary education and 3.3% were graduates. Majority 31.7% of the wives of alcoholic patients were private employees and 6.7% were government employees. Majority 31.7% of wives of alcoholic patients family income was between Rs. 10001- 15000 and 11.7% had the income less than Rs. 5000. Among the participants 13.3% of the wives of alcoholic patients were living in joint family. Majority 56.7% of the wives of alcoholic patients were living in urban areas and remaining 43.3% were lives in rural areas. Majority 43.3% of the alcoholic patients consume alcohol since 5-10 years and 1.7% were taking alcohol since more than 16 years.

Over all mean stress score obtained by the subjects was 75.53 (53.95%) with standard deviation of 18.95 found to be moderate level of stress. Over all mean coping score obtained by the subjects was 86.8 (54.25%) with standard deviation of 21.24 found to be moderate coping ability. Pearson's correlation between stress scores and coping ability was 0.985 and it reveals that there is high positive correlation between stress and coping ability. There was a statistically significant association between the stress score of wives of alcoholic patients with demographic variables such as age, religion, educational status, occupation, family income, family type, place of residence and duration of alcoholism at the probability level of $p < 0.05$.

There was a statistically significant association between the coping score of wives of alcoholic patients with demographic variables such as age, religion, educational status, occupation, family income, family type, place of residence and duration of alcoholism at the probability level of $p < 0.05$.

Table – 1: Distribution of wives of alcoholic patients according to their age.

n = 60

Age	Frequency	Percentage
a. 21- 30years	7	11.7
b. 31- 40 years	24	40.0
c. 41- 0 years	29	48.3
Total	60	100.0

Table – 2: Distribution of wives of alcoholic patients according to their religion

N = 60

Religion	Frequency	Percentage
a. Hindu	31	51.7
b. Christian	25	41.7
c. Muslim	4	6.
Total	60	100

Table – 3: Distribution of Wives of alcoholic patients by their Educational status.

N = 60

Educational Status	Frequency	Percentage
a. Illiterate	12	20.0
b. Primary	21	35.0
c. Secondary	17	28.3
d. PU	8	13.3
e. Graduate & above	2	3.
Total	60	100

Table – 4: Distribution of wives of alcoholic patients according to their occupation

n = 60

Occupation	Frequency	Percentage
a. Housewife	15	25.0
b. Private employee	19	31.7
c. Self employee	22	36.7
Government employee		

	4	6.
Total	60	100

Table - 5: Distribution of wives of alcoholic patients according to their family income.

n = 60

Family Income	Frequency	Percentage
a. Less than Rs.5000	7	11.7
b. Rs. 50 01-10000	20	33.3
c. Rs. 1 001-15000	19	31.7
d. Rs. 1 001 and above	14	23.3
Total	60	100

Table - 6: Distribution of wives of alcoholic patients according to family type.

N = 60

Family type	Frequency	Percentage
a. Joint Family	8	13.3
b. Nuclear Famil	52	86.7
Total	60	100.0

Table – 7: Distribution of wives of alcoholic patients according to their place of residence

N = 60

Place of residence	Frequency	Percentage
a. Urban	34	56.7
b. Rural	26	43.3
Total	60	100

Table – 8: Distribution of wives of alcoholic patients according to the duration of alcoholism.

N = 60

Duration of alcoholism	Frequency	Percentage
a. Less than 5 years	21	35.0
b. 5-10 ears	26	43.3
c. 11-15 years	12	20.0
d. Above 16 years	1	.7

Total	60	100.0
-------	----	-------

Table – 9: Stress level of wives of alcoholic patients.

N = 60

Stress Level	Frequency	Percentage
a. No stress	1	.7
b. Mild level of stress	22	36.7
c. moderate level of Stress	36	60.0
d. Severe stress	1	.7
Total	60	100.0

Table – 10: Coping level of wives of alcoholic patients

N = 60

Coping Level	Frequency	Percentage
a. Inadequate coping	1	1.7
b. Mild level of coping	23	38.3
c. Moderate coping	33	55.0
d. High level of coping	3	5.0
Total	60	100.0

Table – 11: Mean, Mean percentage and standard deviation for stress and coping scores of the wives of alcoholic patients.

N = 60

Scale	No. of Items	Max Score	Mean	Mean %	Median	SD
Stress scores	35	140	75.53	53.95	75.5	18.95
Coping scores	40	160	86.8	54.25	86.5	21.24

Table 12: Correlation between stress level and coping ability of wives of alcoholic patients

N = 60

	Mean	SD	Pearson's r value
Total stress score	75.53	18.95	0.985
Total check score	86.8	21.24	

Table 13: Association between stress level of wives of alcoholic patients and the selected demographic variables

N = 60

Variables	Below Median	Median and above	Chi square	Df	P value	Inference
1. Age						

a. 21-30 years	6	1	9.244	2	0.010	S
b. 31-40 years	15	9				
c. 41-50 years	9	20				
2. Religion						
a. Hindu	9	22	15.452	2	0.000	S
b. Christian	20	5				
c. Muslim	1	3				
3. Education						
a. Illiterate	10	2	11.906	4	0.018	S
b. Primary education	8	13				
c. Secondary education	5	12				
d. PUC	5	3				
e. Graduation and above	2	0				
4. Occupation						
a. Housewife	5	10	12.686	3	0.005	S
b. Private employee	8	11				
c. Self employee	17	5				
d. Govt employee	0	4				
5. Family Income						
a. Less than Rs.5000	7	0	35.838	3	0.000	S
b. Rs. 5001-10000	18	2				
c. Rs. 10001-15000	3	16				
d. Rs. 15001 and above	2	12				
6. Family type						
a. Joint Family	0	8	9.231	1	0.002	S
b. Nuclear Family	30	22				
7. Place of residence						
a. Urban	8	26	21.991	1	0.000	S
b. Rural	22	4				
8. Duration of alcoholism						
a. Less than 5 years	16	5	10.377	3	0.016	S
b. 5-10 years	11	15				
c. 11-15 years	3	9				
d. Above 16 years	0	1				

References

1. Johnstone EC, Freeman CPL, Zealley AK. Companion to psychiatric studies. Toronto: Churchill Livingstone; 1998. p. 329.
2. Alcoholism and its effect on the family; Available from: URL: <http://www.alcoholconcern.org>.
- a. The global burden related to alcohol consumption; Available from: URL: http://www.who.int/substance_abuse.
3. Sampath Kumar. A study to assess the personality traits in drug abuse and alcoholism, Unpublished Master of Nursing Dissertation, University of Mangalore, 1996.
4. Jaun Rousenbaum. Coping and stress in families of child psychiatric in parents of children with depressive and schizophrenia spectrum disorders. Los Angeles: Neuropsychiatric institute, UCLA School of Medicine; 2006.
5. De-addiction center, NIMHANS. Alcohol related problems - a manual for Medical officers, Bangalore. 2001.
6. Gouri Devi. News letter NIMHANS, Bangalore 2002.
7. EFFECTIVENESS OF GUIDED IMAGERY ON STRESS AMONG SPOUSE OF ALCOHOLICS AT DE ADDICTION WARD IN GOVERNMENT RAJAJI HOSPITAL, MADURAI. MS. DIVYABALA.S, <http://repository-tnmgrmu.ac.in/1844/1/3005275divyabalas.pdf>
8. EFFECTIVENESS OF GUIDED IMAGERY ON STRESS AMONG SPOUSE OF ALCOHOLICS AT DE ADDICTION WARD IN GOVERNMENT RAJAJI HOSPITAL, MADURAI. MS. DIVYABALA.S, available at <http://repository-tnmgrmu.ac.in/1844/1/3005275divyabalas.pdf>
9. Stress and Coping among the Wives of Alcoholics admitted in Selected De-Addiction Centers Nagesh V. A. Department of Mental Health Nursing, SDM Institute of Nursing Science, available at <https://ajner.com/HTMLPaper.aspx?Journal>

A STUDY ON CONSUMER PERCEPTION TOWARDS E-BIKES IN CHENNAI**S. Poulouse**UG Department of Commerce, Women's Christian College, Chennai-06
smipou@gmail.com**ABSTRACT**

Global warming could be a huge concern of this era whenever the complete world is functioning towards finding ways that to be setting friendly and delivering solutions for the same. All the sectors try to figure out their go green techniques and being environmentally friendly. Even the two-wheeler sector is making an attempt to help the environment with the innovation of electric two-wheelers and avoiding fuel which may cause higher pollution and harm to the environment also. The concept of e-bikes is unique and is useful for the environment. The purpose of the study is to investigate the consumer perception towards environment-friendly e-bikes in the market. It is necessary for the point of view of marketers of e-bikes manufacturers to create awareness among customers about the importance of saving the environment. Eco friendly initiatives in the automobile sector prompted the development of e-bike sector which helps the consumers to save money on spiralling fuel prices.

Electric bikes are free from environmental pollution and it can be charged with the help of an inverter and generator too. It is also free from registration and licensing norms. This research investigates the Social and environmental benefits of e-bikes and also measures the sale of e-bikes with reference to Chennai city. The article closes with some future research directions and conclusions.

Keywords: Valve regulated lead-acid, E-bike, Komoot, Sustainable transportation

Introduction**An Overview of Eco-friendly Transportation**

In every dimension of the future generations, especially due to the growing scarcity of natural resources is also one of the greatest challenges for environment and society, because of which the demand for eco-friendly transportation such as e-bikes is growing. Electric bikes become the bicycle of the future. E-bikes are considered eco-friendly, recreational modes of transportation, reliable, as they offering health benefits to humans. In this Covid-19 pandemic, people are avoiding public transportation. E-bikes are the alternative option to the public, which is considered safe, convenient, cheaper, easier to charge, and affordable. It does not require large investments. This is estimated to increase the sales of e-bikes in 2020 and 2021. E-bikes are already set a prominent footprint in India, especially in the states of Tamil Nadu, Maharashtra, Uttar Pradesh, etc, In the first quarter of 2020, the sale of e-bikes was lower as e-bikes stores were closed due to lockdowns. However, now the sales of e-bikes have increased post lockdown in most countries including China, Japan, France, and Italy. E-bikes are increasingly considered as an ideal transportation mode as cities emerge from

quarantine. The e-bikes market is estimated to observe a huge boost in sales post- COVID-19 in 2021. The other factors that have influenced the consumption of e-bikes are rising concern over air pollution and its low maintenance cost (1).

Adoption of any technology by consumers is based on perception and awareness regarding the innovation. The research shows that the adoption and perception of e-bikes focus on reducing the negative impact against the environment, infrastructure (charging points), social acceptance. This study mainly focuses on perception regarding the acceptance, reliability of e-bikes in Chennai city. It helps us to understand and explore the driving parameters that would lead to change in the adoption of e-bikes in changing Indian Ideologies. Nowadays, there are lots of technological advancements in the field of e-bikes. One such advancement is the connected e-bikes, the SIM module installed in e-bikes enables it to send and receive data to and from the cloud without a connected smart phone. Some of the important features of connected e-bikes are automatic emergency calls, social media connection, an integrated navigation system, remote diagnostics, and also there is a platform called Komoot, which enables millions of users can communicate with each other and discover new routes with

recommendations and tips from the community. E-bikes are not only making the environment better but also there are technological advancements that satisfy the consumer needs with the current trend (2).

A sketch on global e-bikes markets in India

The international e-bike market size is big to USD seventy billion by 2027 from USD forty; Ten billion in 2020, at a CAGR of 9%. Government supports to increase the e-bikes sale that would boost the e-bikes industries globally. The effort of manufacturers of e-bikes to produce lightweight e-bikes is becoming the most reason for the higher adoption of lithium-ion batteries. Manufacturing the e-bikes in China was equipped with a Valve regulated lead-acid (VRLA) battery. The lithium-ion battery segment is estimated to get the largest share of the e-bike market due to its benefits. Lithium-ion batteries have a better life cycle, eco-friendly, etc. In recent years, these batteries have a sharp decline in their price. In India, the usage of bikes is more when compared to other vehicles because they are cheap in cost, low in maintenance, and also easy to manage. Majority of Indians, especially the youngsters prefer bikes rather than cars. Therefore, India is the second-largest manufacturer and producer of two-wheelers in the world which is next to China and Japan (3). Although the global economy and technology have improved, it had also devastated the global ecological environment. As India is one of the oil importers in the world, it requires an alternative energy solution. Generating solar energy, nuclear power, and hydrogen fuel is a tedious process and cannot achieve mass production in a short span of time. Electric energy is the only feasible energy solution to solve oil dependency to a certain extent. Fuel-bikes usage is an important reason for environmental pollution. According to the International Energy Agency (IEA), there are more than about 60 million barrels of oil per day which are consumed by about 1 million vehicles in the world. Private vehicles consume about 36 million barrels of oil per day which emitting 14 million tons of carbon-di-oxide (4). Therefore, the best solution to improve environmental pollution is to replace fuel bikes with e-bikes. E-bikes are making India the

largest electric vehicle market in the world. In this situation, research on e-bikes is highly necessary to develop the usage of e-bikes. When e-bikes manufacturing has less emission than fuel-bike manufacturing and carbon-di-oxide emissions are reduced. The e-bikes can reduce greenhouse gas emissions compared to other bikes. In the usage of low-carbon and its energy-saving method, e-bikes are the best solution to the shortage of resources and environmental changes. It will become the mainstream trend of the future automotive industry (5).

Statement of the Problem

People in India mostly prefer to travel on economical bikes. In our country, the cost of fuel is increasing day by day and also vehicles are creating air pollution which is hazardous to the environment. The Majority of the middle-class families in India cannot afford high-cost fuel. When it comes to e-bikes, they are low-cost in maintenance as there is no fuel required. E-bikes will not pollute the environment. Since there is a lack of awareness among the people, the usage of e-bikes is minimal. In this context, the study is undertaken to measure the awareness and perception of consumers towards e-bikes.

Objectives of the Study

1. To identify the perception of respondents towards e-bikes in Chennai city.
2. To understand the influencing factors and preferences of respondents towards e-bikes.
3. To analyze the measures to boost the sale of e-bikes.
4. To provide suggestions to enhance sustainable transportation solutions for consumers.
5. To determine the influence of socio-economic characteristics of consumers towards e-bikes. .

Need of the Study

Nowadays, the popularity of e-bikes is increasing but the market ratio level of consumption of e-bikes is still very low. The objective of this study is to identify the consumption of e-bikes to the next level and explore the conditions which influence the same. This study aims to investigate the factors that induce the consumer to purchase e-bikes. It

aims to create awareness of global warming among people. It aims to study the need for educating people to consume e-bikes and also aims to study the E market.

Hypothesis

H1: There is no significant relationship between monthly income and the factor of maintenance and repairs do they get influenced.

H2: There is no association relationship between gender and factors that encouraged you to buy e-bikes.

Results

Aim: To analyse the relationship between monthly income and the factor of maintenance and repairs do they get influenced.

H1: There is no significant relationship between monthly income and the factor of maintenance and repairs do they get influenced.

Table 1: Correlation analysis showing the significant relationship between ‘Monthly Income’ and ‘Superiority of e-bikes over conventional bikes’

Particulars		Monthly Income	Factors that influence the superiority of ‘e-bikes’ over ‘Conventional Bikes’
Monthly Income	Pearson Correlation	1	.042
	Sig.(2 Tailed)		.580
	N	174	174
Rate the factors that influence the superiority of e-bikes over conventional bikes	Pearson Correlation	.042	1
	Sig.(2 Tailed)	.580	
	N	174	174

Interpretation

The two-variable used to test the Pearson’s correlation coefficient is “Monthly income” and “the factors that influence the superiority of e-bikes over conventional bikes [Maintenance and repairs]”. As per the above table the significance value (2-tailed) is .580 which is > 0.05. Hence there is no linear significant relationship between the two variables and there is positive low correlation since the Pearson correlation of $r = .042$ and thus fall between 0 – 0.6. Monthly income seems to not have any impact on the factors of maintenance and repairs do they get influenced.

Aim: To investigate the relationship between gender and factors that encouraged you to buy e-bikes

H2: There is no relationship between gender and factors that encouraged you to buy e-bikes

Table 2: Chi-Square Analysis showing the relationship between gender and factors that encouraged you to buy e-bikes

Particulars	χ^2 Value	H0 No.	P	Decision
Gender and factors that encouraged to buy e-bikes	9.397 ^a	2	0.052	Accept

Interpretation

As per the above analysis, the Chi-square value is more than 0.05 (.052). This tells us that there

is a no statistical association between gender and the factors that encourage you to buy e-bikes. So, we can conclude that the null hypothesis is accepted, and the alternative hypothesis is rejected. Therefore, the Null hypothesis (H0) is accepted and the Alternative hypothesis (H1) is rejected.

Results and Discussion

The analysis shows that although people have enough knowledge of the features of e-bikes there is not much awareness of the brand names. Also, the manufacturer of e-bike couldn't register their brand images among the people. So, the manufacturers have to concentrate on the promotional activities of their brand names to reach better. The reach of e-bikes is more in urban areas, but most people don't have that much knowledge about e-bikes and their benefits. Therefore, the manufacturers have to concentrate on the rural areas by making campaigns to better understand about it, also to increase the sales. E-bikes industries should focus on the particular parameter while marketing the product to increase sales. Electric Vehicle (EV) consumes a large quantity of your time to get charged. The charging technology, even with the most superior ones, takes up to fifty minutes to deliver a full charge. Electric Vehicle (EV) manufacturers have instructed the government to open charging stations not only at fuel stations but also in other places like movie halls, cafes, cinema halls. Additionally, Electric Vehicle (EV) manufacturers would hope for policy changes similarly to simple finance and reduction of GST on batteries. Although the Government reduced GST on

lithium-ion batteries to eighteen percent, it's still higher in comparison to the factory-fitted battery in an electric vehicle. A lithium-ion battery fitted in an Electric Vehicle (EV) attracts twelve percent GST, the same as an EV, but it would attract eighteen percent GST when sold separately. E-bike industries have to implement innovations with the latest technologies to create competition in the market to increase sales as well as to implement sustainable transportation. More service centers need to be opened at least in major areas to solve the problems and needs of the customers when needed. E-bikes companies should increase the number of dealers to carry the major urban areas and the distribution network should be stronger. In fact, the Government has to provide subsidies to encourage sales.

Conclusion

In a nut shell, the study analyses that most of the people in Chennai are aware of e-bikes and their benefits. The features of e-bikes such as navigation system, musical system attracted most of the people especially its gear system, pickup, speed among the young generation which enhances the sales of e-bikes. Thus, the significance of the study is to understand the environmental problems and to make the environment better. This research is to take action on eco-friendly initiatives by creating awareness among consumers towards ebikes. This will help people save a few bucks by reducing the consumption of already spiraling fuel prices, besides fight against global warming.

References

1. Chi Xie (2017). Usage Patterns of Electric Bicycles: An Analysis of the WeBike Project
<https://doi.org/10.1155/2017/3739505>
2. Rajiv P, Dr. Kavitha S (2016). A study on go green battery-operated vehicles. 02(05), 63-3.
3. Roshani B. Green Marketing.
<https://www.economicdiscussion.net/marketing-2/greenmarketing/green-marketing/32399>
4. Kapurthala (2017). Green Marketing in India –An Overview,
[http://cbsmohali.org/img/Journal_2-\(1\)-55-60.pdf](http://cbsmohali.org/img/Journal_2-(1)-55-60.pdf)
5. <https://www.adb.org/sites/default/files/publication/27519/electric-bikes-ind-vie.pdf>
6. Cision PR Newswire (2020). Indian's Electric Bikes Market to 2024: Drivers & Trends, Government Initiatives, Competition Analysis & Vendor Profiles.
<https://www.prnewswire.com/news-releases/indias-electric-bikes-market-to->

- 2024drivers--trends-government-initiatives-competition-analysis--vendor-profiles301065332.html#:~:text=Market%20Insight&text=Although%20electric%20bikes%20comprised%20a,towards%20the%20electrification%20of%20bikes.
7. Cision PR Newswire (2020). Indian Electric Two-Wheeler Industry to Witness Massive Growth Ahead. <https://www.prnewswire.com/news-releases/india-electric-two-wheelerindustry-to-witness-massive-growth-ahead>
 8. https://en.wikipedia.org/wiki/Electric_bicycle#:~:text=Two%20years%20later%2C%20in%201897by%20Giant%20Lafree%20e%2Dbikes
 9. Market and market website (2020). Global Forecast to 2027 <https://www.marketsandmarkets.com/Market-Reports/electric-bike-market110827400.html>
 10. IEA Technology Report (2020). Global EV Outlook 2020, <https://www.iea.org/reports/global-ev-outlook-2020>