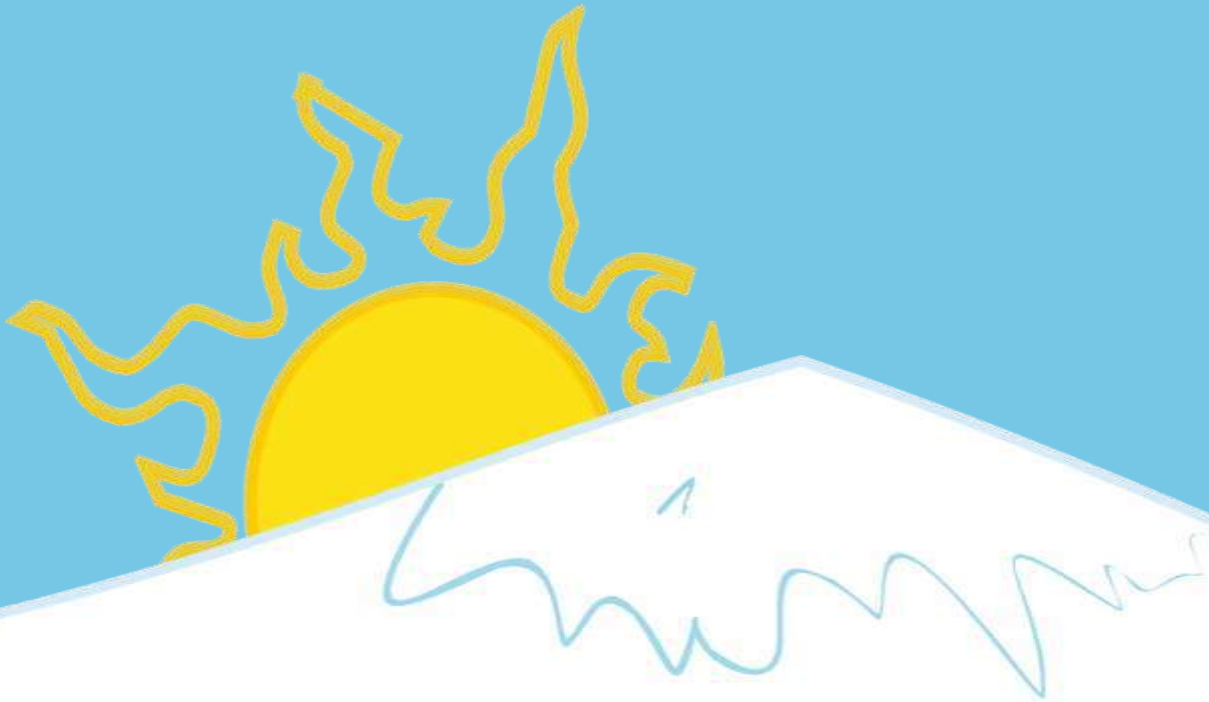


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ADMINISTRATIVE DEVELOPMENT

A Journal of HIPA, Shimla



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SHIMLA**

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HIMACHAL INSTITUTE OF PUBLIC ADMINISTRATION (HIPA)

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CONTENTS

Articles	Page
Evaluation of Start-up Village Intrepreneurship Program (SVEP) in Samnapur Block of Madhya Pradesh -Abhishek Pandey	1-35
General Elections and Women's Representation in the North-Eastern States of Meghalaya, Nagaland, Tripura -Amar Kumar	37-54
Surrogacy : Human Rights Implications -Anjna Kumari, & Prof. Dr. Kuldeep Chand	55-74
Uttarakhand Right to Service Act 2011: A Step toward Citizen Centric Governance -Chandan Singh & Dr. Pradeep Kumar Singh	75-94
The Regret Paradox -Hridayansh Kherra	95-103
Refining Financial Inclusion in Era of VUCA World -Jitender Kumar Goyal, & .Prof. (Dr.) Yamini Agarwal	105-125
Mahila Mandals of Manali: An Assessment of their Role In Covid-19 Lockdown -Manvi Sharma & Bhawna Gupta	127-146
Different Occupational Mortality Risks of Assam Government Employees after Retirement -Parag Saharia & Sangeeta Kalita	147-168
Politics of Trade Unionism among Employees of Hindu Relogious Institutions in Kerala -Dr. Rajagopal. P.K	169-188
Public Healthcare Infrastructure in Scheduled Areas of Himachal Pradesh -Sanjeev Kumar, Lalit Kumar & Diksha Kumari	189-209

An Overview of the Radiation Protection Knowledge and Work Conditions among Radiographers in Himachal Pradesh (A State in India) -Shama Patyal, Dr. Neha Patyal & Tejasvi Pandey	211-228
The Growth Effect of Government Expenditure in Jammu & Kashmir -Dr. Tasleem Araf Cash	229-254
International Aid Effect on Afghanistan Improvement: A Study of Its Afghanistan Fiscal Policy -Tawfiqullah Muradi & Dr. Vikram Sandhu	255-269
Building Climate Resilient 'Agro-Communities Convergence Based' Through Multi-Cropping: A Case Study from Bodoland Territorial Region (BTR), Assam -Varnali Deka, (IAS), Simanta Mazumdar & Dr. Ayekpam Ibemcha Chanu	271-283

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EVALUATION OF START-UP VILLAGE ENTREPRENEURSHIP PROGRAM (SVEP) IN SAMNAPUR BLOCK OF MADHYA PRADESH

Abhishek Pandey¹

Abstract

SVEP is one of the world's most extensive village entrepreneurship programmes to transform rural India into an entrepreneurial hub. This paper performs the first impact evaluation of this scheme in one of the implementing blocks of Madhya Pradesh. The study uses mixed-method research to complete the programmatic, quantitative and qualitative analysis, thereby highlighting the bottlenecks in the existing policy from the grassroots. As per the quantitative analysis, the scheme has achieved a 45.3 per cent decrease in migration. 84.2 per cent of respondents reported an increase in monthly food consumption, and 53.5 per cent of respondents reported improvement in their socio-economic condition. Moreover, the case narratives and cross-case analysis provide the beneficiaries' perception of the scheme and how SVEP has created an entrepreneurial attitude among women. The study also focuses on delivering programmatic suggestions to overcome the scheme's bottlenecks and build a rural startup ecosystem.

Keywords

Evaluation, Local area development, Self-Help Groups, Start-ups, Village entrepreneurship

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Entrepreneurship in today's dynamic world is accessible to the creative community and deeply ingrained into the masses of diverse backgrounds, cultures and social statuses. Some scholars define entrepreneurship as starting a new venture, whereas others describe it as a process of innovation (Morianio et al., 2012). As per Cole (1946), entrepreneurship is a bridge between business and society to fulfil both economic benefit and the needs and wants of society. On the one hand, entrepreneurship creates value for society (Timmons & Spinelli, 2008); Schumpeter (2017) says entrepreneurship is a process of creative destruction. Consequently, Ireland, Kuratko and Morris (2006), Yildiz (2014), and Antonic (2006) have all propounded that innovation is the basis for germinating the seed of entrepreneurship.

Thus, entrepreneurship involves a series of steps from research to innovation to design to market an innovative product - goods or services - satisfying the society's needs and providing economic profit to the individuals taking the risk in setting up such an enterprise.

Entrepreneurship in developing countries is considered a way to counter the jobless growth and rising unemployment over the last decade. It promotes self-employment and augments the economy's competitiveness in the dynamic world order (Aggarwal, 2018).

A developing country like India sees entrepreneurship as a strategic development intervention for rural development. For any economy to graduate from developing to developed nations, the majority workforce must engage in secondary and tertiary activities. But India has most of the workforce employed in rural areas and primary sectors such as agriculture, fishing, animal husbandry, etc. Hence, institutions operating in the rural development sector see entrepreneurship as a driver of economic growth in rural areas (Rena & Kefela, 2007).

The Indian government has promoted rural entrepreneurship since the second half of the twentieth century. But with the growing population, the slowing economy and fewer jobs created, it has failed to achieve intended progress. Thus, to cater to this, India launched its flagship and one of the world's most extensive rural entrepreneurship programmes called Start-up Village Entrepreneurship Programme (SVEP) in May 2015. The scheme is a sub-component of the Deendayal Antyodaya Yojana - National Rural Livelihoods Mission (DAY-NRLM) of the Ministry of Rural Development. Being part of DAY-NRLM, its beneficiaries are mobilised directly from the Self-Help Groups (SHGs) created at the grassroots. It is a centrally sponsored scheme which will get resources from the central government, and the implementation will rest with the states.

The programme is initiated with tremendous hope to uplift rural India and create the best out of the demographic dividend of India. The programme's first phase started in 2016 with implementation in multiple states, including Madhya Pradesh. It is a block-level programme implemented by a dedicated staff stationed in blocks. The programme timeline is four years, post which it is handed over to the community organisation via a formal handholding process.

This paper attempts to evaluate the impact of the SVEP programme based on several criteria such as structure, administration, fund utilisation, enterprises created and their sustainability, number of beneficiaries and change in their socio-economic status, and the perception of the beneficiaries towards such a large-scale programme with other employment generation initiatives of Government of India. The impact evaluation study is performed in one of the three implementation blocks of Madhya Pradesh selected in the first phase of the SVEP scheme. It is

called Samnapur, located in the Dindori district on the Eastern border of Madhya Pradesh.

The specific research objectives of this study are:

- a. To study the roles of the state, district and block level officials responsible for the planning and implementation of the scheme and create an understanding of the challenges in its implementation from the supply side.
- b. To identify the impact of the scheme on the beneficiaries of the programme and their perception in relation to other employment generation programmes.
- c. To suggest ways to overcome existing challenges and provide a scale-up plan to be utilized in future phases of implementation.

The paper is organized as follows: the forthcoming section provides a literature review that will help to set up the context for highlighting the research gap and how this study can be vital in fulfilling those gaps. After that, the section will mention the study region, research design, sampling process and methodology. After this, the results and discussion section are followed by the conclusion. Finally, the paper suggests ways to overcome existing challenges and improve the programme outcomes for states undergoing implementation or yet to start the programme.

Literature Review

Entrepreneurship has been of enormous interest to researchers, and it has been centuries since scholars have made several attempts to understand the nuts and bolts of entrepreneurship. Cantillon (1755), the first economist, gave the term entrepreneurship in the eighteenth century. Schumpeter added the concept of innovation to entrepreneurship (Schumpeter, 1934), whereas Drucker proposed that “entrepreneurship” is a practice (Drucker, 1986). Entrepreneurship cannot be imagined without

an entrepreneur. The entrepreneur identifies gaps in the market and creates an enterprise to fill them (Leibenstein, 1968). Entrepreneur takes all the risks and is awarded profits for it (Knight, 1921). Weber proposed the relationship between capitalism and entrepreneurship in the first half of the twentieth century (Weber, 1947). Indeed marginalised communities see entrepreneurship as a pathway to achieving equality and respect (Hagen, 1960). However, Cochran proposes cultural values, societal expectations and abilities of the entrepreneur as critical factors in promoting entrepreneurial activities (Cochran, 1968). Thus, entrepreneurship brings together capital, labour, and machine that a risk-taker individual utilises called an entrepreneur to provide innovative products to society.

Later, in the late twentieth century, many scholars propounded the role of entrepreneurship in economic development. For instance, Shapero (1985); Daneke (1989); Schmitz (1989); Baumol (1990); Sage (1993); Osborne (1994). Indeed entrepreneurship and economic growth have emerged as a significant research area in developing countries, and much of the literature revolves around this (Leibenstein, 1968). Kirchhoff proposed that entrepreneurship is responsible for creating employment, thereby contributing to the economic growth of the nations (Kirchhoff, 1991). However, despite the many positives of entrepreneurship, it is not free from negatives. In the innovation process, entrepreneurial activities can also bring significant socio-economic harm (Schumpeter, 1942). These can be negatively impacting the economic system, loss of income, unemployment, environmental degradation, and harming the societal social norms (Hannafey, 2003). Although there can be potential negatives of entrepreneurship, it is still a firmly propounded approach across

countries worldwide, particularly developing countries, to cater to socio-economic problems.

In developing countries, information asymmetry exists between the entrepreneur and the market due to several roadblocks such as financial resources, multiple approvals, human resources, land access, etc. (Malhotra, 2006). Despite this, entrepreneurs fill in the critical gaps overlooked by existing underdeveloped markets (Leff, 1979). Sometimes these gaps are filled in by large indigenous business houses in the developing countries (Leff, 1978). Entrepreneurship in developing countries also includes the large parallel informal sector in the economy (Smart & Smart, 2005). Additionally, entrepreneurship in developing countries focuses on utilising the unutilised natural resources and creating prospective business opportunities (Ratten, 2014). It is achieved through the collaboration of both public and private enterprises that come together to tackle the diverse socio-economic issues.

Entrepreneurship in India is the major driving force toward rural development, particularly women's empowerment. Petrin (1992) studied that to counter the slow growth of rural areas, many first-generation entrepreneurs who can be mobilised in productive activities are required. Similarly, a study conducted in the UK showed that rural enterprises are much more effective than urban enterprises in reducing unemployment (Keeble, 1992). Rural entrepreneurship has the potential to provide better living standards to the majority of the rural population (Ramalingam & Gayatri, 2009). There has been tremendous growth in India's Micro, Small, and Medium Enterprise (MSME) sector in the last decade (Shamika, 2010). MSME has emerged as a prospective sector for growth in the Indian economy. However, to ensure gender parity in entrepreneurial activities, women entrepreneurs are provided extensive support through several

government initiatives. They struggle with gender norms, stigmatisation, financial accessibility, and the market. Hence, the SHGs have the enormous potential to overcome such barriers and promote women's entrepreneurship. The SHGs function based on social capital and consist of small savings by rural women that are augmented with the help of economic activities and government support. Suganthi has defined women entrepreneurs as those who embark on their journey on the path of initiating, developing and managing their enterprise (Suganthi, 2009). Women entrepreneurship is common at a younger age compared to older age with service-based enterprises (Dhameja, 2000; Gupta, 2013). But it is also essential to see that many women entrepreneurs are still engaged in traditional and informal sectors of the Indian economy (Tiwari, 2017). They also face struggles such as lack of working capital, the burden of household responsibilities, labour issues, limited or no manufacturing experience, lack of social and family cooperation and so on.

To counter the issues faced by entrepreneurs, especially women entrepreneurs, policies are realigned to incorporate the gender differences and provide adequate technical and managerial skills to women for running their enterprises (Jerinabi & Santhiyavalli, 2001). There is also a need to inculcate the entrepreneurial qualities among the female at the school level (Gupta, 2013). At the same time, the outcome of rural development or women empowerment cannot be achieved just with entrepreneurial policies. The policies must be implemented in full faith; there must be political will to achieve the outcomes and a comprehensive framework for impact assessment of the policies to make them contextual and embed critical factors in future approaches for achieving the desired objective (Bharti, 2014).

Research Gap

Despite having several rural developments, entrepreneurship promotion and women empowerment programmes, India has been slow in achieving the progress. The SVEP programme is launched to mobilise the SHG women in rural areas to set up enterprises based on market demand. It is a unique programme with convergence among multiple government departments and resolving the ever-growing unemployment issue through systematically implementing entrepreneurial activities in rural areas. Thus, this study is the first impact assessment of the SVEP programme. It attempts to contribute academic literature via analysing the programmatic issues, develop specific suggestions to overcome the bottlenecks, and strengthen the government's policy response in achieving the desired outcome at a large scale with optimum utilisation of resources.

Methodology: Mixed Method Approach

The study follows a multi-stage approach where qualitative and quantitative methods are charted for data collection. It is referred to as a mixed-method approach informed by the works of Teddlie and Tashakkori (2003), Creswell (2015), and Ivankova and Stick (2007).

The study is conducted in the Samnapur block of the Dindori district in Madhya Pradesh.

Data Collection and Analysis

Quantitative data: The researcher conducted a representative survey of SVEP beneficiaries in 46 Samnapur block villages with 303 respondents. The data collection involved three significant steps - first, to determine the sample frame based on the beneficiary list provided by the block office. The second was to use simple random sampling to determine the sample respondents for quantitative data collection. The list provided by the

block office contained 1410 beneficiaries. Hence, with a confidence level of 95 per cent and a margin of error of ± 5 per cent, the sample size obtained was 303 using a random sampling method to minimize bias. The third and final step was to collect data using a questionnaire via a data collection team by visiting the households.

Qualitative data: Three case study subjects were identified using purposive sampling from the sample determined above (Teddlie & Yu, 2007). Additional case study subjects were identified for programmatic analysis.

The qualitative data analysis followed three significant steps: first, the interviews were coded as per the theme of the study; second, the interaction was framed as a narrative forming case studies. Finally, in the third step, each case study narratives were compared to the other in a tabular form. The case studies help to understand the quantitative data analysis and see what worked and what did not regarding programme evaluation from inputs to outcomes.

Results and Discussion

Phase 1: Programme Analysis

The programme analysis provides an understanding of the SVEP scheme which is different from the other schemes implemented in India.

The usual structure of central-level schemes in India follows the National-State-District-Block-Village level hierarchy. If it is a state-level programme, the hierarchy remains the same except that it starts from State. However, SVEP is a central-level scheme but follows a different hierarchy as the National-State-Block-Village. This structure doesn't imply that the district is absent. It has its presence but is more like a facilitating agency rather than active involvement in controlling the programme inputs. A dedicated team is set up along with office space at the block level for

implementing the SVEP scheme. The team includes Block Manager and a community cadre called Community Resource Persons for Enterprise Promotion (CRP-EP). In addition, there is a Block Mentor representing technical agency to provide entrepreneurial expertise to the programme. The block manager and CRP-EP represent the government agency, whereas the block mentor represents the technical agency.

The hierarchy of the SVEP scheme is shown in Figure 1. The roles of each stakeholder mentioned in figure 1 are elaborated on below.

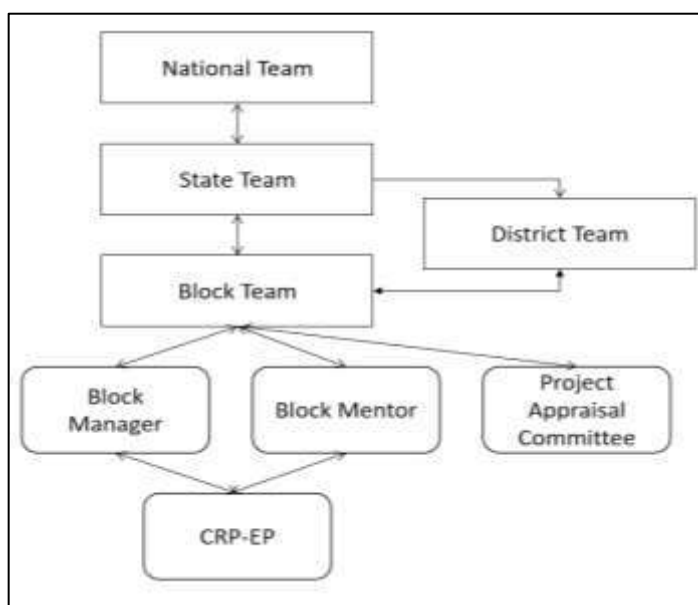


Figure 1: Programmatic structure

Source: The authors.

National Team: The national team is responsible for the overall monitoring of the scheme in all the states and creates the national guidelines for the programme. It releases requisite funds for implementation to the state agency.

State Team: The state team is responsible for monitoring the scheme in the state. It performs recruitment of the block manager and technical agency. It releases funds to the respective blocks.

District Team: It is responsible for supporting the block team with its expertise of the area. It acts as a facilitating agency. It is also responsible for providing the remuneration to block managers'.

Block Team: It is a dedicated team created for the SVEP programme. It includes a block manager, block mentor and CRP-EP. The block manager and block mentor are responsible for recruiting the CRP-EP from the local area based on national guideline. The block manager carries out the administrative functionalities such as managing funds, documentation of enterprises, tracking the work of the CRP-EP and as asked upon by the state team.

On the other hand, a block mentor is responsible for identifying the proper beneficiary from the SHGs, providing them entrepreneurial training, support in setting up the business, and other support as needed by the entrepreneurs. The CRP-EPs are responsible for providing micro-level support to the entrepreneurs, submitting their application, ensuring repayment of credit and banking support, market accessibility, etc. Thus, CRP-EPs are the backbone of this programme and the first point of contact between administration and beneficiaries. The block team also included Project Appraisal Committee (PAC), which are responsible for appraising the beneficiary on the social background. The members of the PAC committee are selected from the SHGs who are highly active in the community.

The beneficiary selection is an exhaustive task coordinated by the block team. There is a degree of priority given to marginalized communities, Scheduled Tribes, Scheduled Castes, women, etc. However, the beneficiary

should be mandatorily selected from the SHGs as the SVEP scheme is part of DAY-NRLM.

Figure 2. represents the flow of the programme.

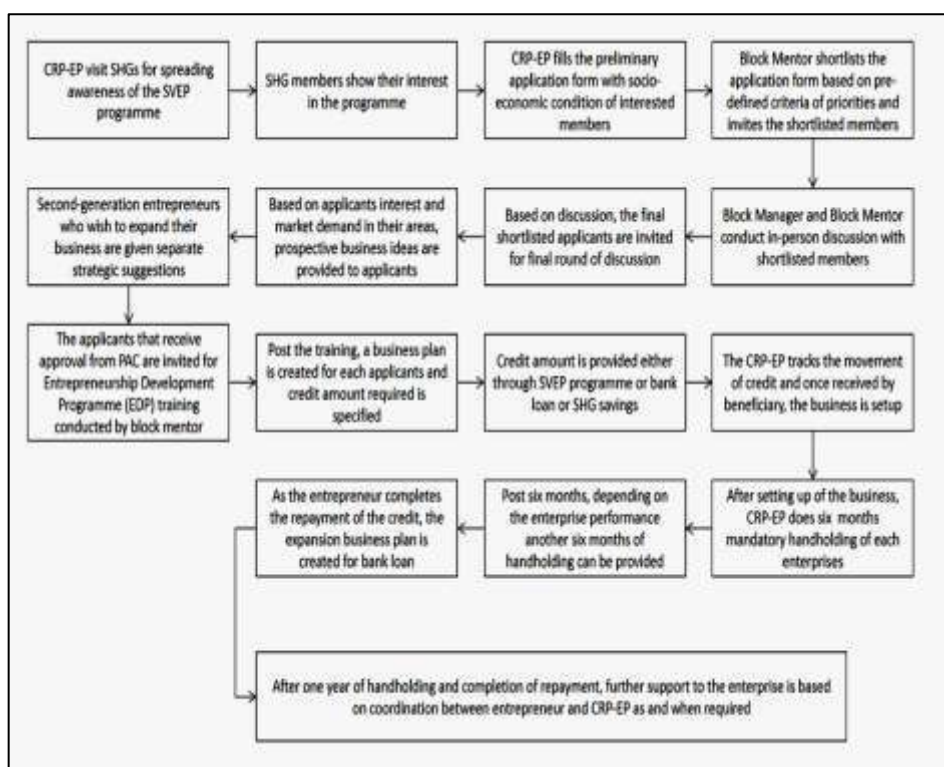


Figure II: Programme Flow diagram

Source: The authors.

From Figure 2. it is clear that the programme design is structured with a clear division of roles and responsibilities to the block team. However, despite this, there are some challenges highlighted in conversation with the block team. It is provided based on qualitative analysis converted into single case narratives. The interaction with each case study subject is seen through the lenses of programme appraisal, enterprise appraisal, and beneficiary appraisal.

Case 1: Block Manager

Block Manager (BM), the male 28 years old, had worked for around two years in this programme and has vivid experience of grassroots and community engagement. The interaction resulted in the following understanding:

- a) Programme appraisal: The Block Manager appreciated the programme hierarchy as it allowed direct disbursement of credit to beneficiary's account. It was not the case with other schemes where district team's approval or lengthier pathway for credit disbursement was followed. However, he mentioned the programme became challenging to manage as the number of beneficiaries increased without increasing the number of CRP-EPs who were the vital link with the entrepreneurs. There was not sufficient mechanism available to trace the repayment of the credits, and with increasing beneficiaries, the repayment schedule became too complex to manage manually.
- b) Enterprise appraisal: The number of enterprises promoted was as per the Detailed Project Plan (DPR) prepared at the beginning of the programme. The DPR provided a year-wise breakup of the number of enterprises to be created. As the years passed, it acted as a compromising factor and failed to achieve the targets. However, the enterprises promoted at the start of the programme excelled, and some expanded from village to block to district level.
- c) Beneficiary appraisal: Looking at the ease with which the credit disbursal was done and the support provided along with regular monitoring, the SVEP programme was a highly acceptable initiative among the SHG members compared to other similar programmes. Many SHG members were interested in enrolling in the project and

setting up enterprises. In this process, several marginalized households got an opportunity to set up their enterprises. Some of the beneficiaries earned more than INR 100 thousand per year, which was an accomplishment for the programme.

Case 2: Block Mentor

Block Mentor (BM), the male 29 years old, had worked for around three years in this programme. He has significant experience in entrepreneurship development. The interaction resulted into the following understanding:

- a) Programme appraisal: The Block Mentor found the programme well-designed compared to other entrepreneurship programmes in the country. He appreciated the multiple rounds of discussion with the applicant before identifying the final beneficiary leading to selection of needy applicants. However, he mentioned that the year-wise target approach resulted in the weakening of the processes to be followed as per guidelines.
- b) Enterprise appraisal: He mentioned that 12 months of handholding support and constant monitoring of the repayment schedule increased the creditworthiness of the entrepreneurs. However, as the years passed and looking at the positive outcome of the programme, many individuals opened enterprises on their own or under other government schemes resulting in stiff competition in the market. Hence, the enterprises promoted in the fourth year could not perform well, affecting the programme outcome.
- c) Beneficiary appraisal: The programme ensured socio-economic changes among the beneficiaries. Since most of the beneficiaries were women, they were trained in bookkeeping, managing enterprises, bargaining with suppliers, dealing with customers, etc. Their

mobility increased and also received respect in the family from their husband and relatives. Many beneficiaries even applied for bank loans to expand their enterprises.

Case 3: CRP-EP

Two CRP-EPs - one female and another male - had worked for around four years in this programme. They are well-trained and aware of the programme. They are also a master trainer for this programme, implemented in other blocks. The interaction resulted in the following understanding:

- a) Programme appraisal: They were happy with the programme inputs as it was well-structured. They had dedicated tasks, and their remuneration was based on the functions performed. It gave them enough time to manage both their household and official work. However, with the increasing workload, they highlighted a common issue of no remuneration increase.
- b) Enterprise appraisal: The CRP-EPs felt satisfied with their work as it was tangible to see the outcome. They were religiously following up with the enterprises to prevent them from losses. However, they mentioned that well-performing enterprises became a common business idea among the applicants, reducing the profitability and increasing competition slowly affecting the programme outcomes.
- c) Beneficiary appraisal: The female CRP-EP said, “The beneficiary of the SVEP scheme in my village have become aware of the market and smart in dealing with suppliers.” Whereas male CRP-EP mentioned that some of the beneficiaries had utilized the profits from the business in their children's education. He said, “one of the beneficiaries sent her girl child for doing B.A. at Jabalpur by paying the expenses from the profit made out of enterprise”.

Case 4: Project Appraisal Committee (PAC)

PAC committee consisted of 16 members. However, the interaction was done with the President of the committee. She is 39 years old and active in community development. The interaction resulted in the following understanding:

- a) Programme appraisal: PAC members mentioned that the programme is effective as it doesn't have overlapping responsibilities with other initiatives in the block. It helps the cadre focus on delivering and allows the PAC committee to review the work of the block team with ease. She mentioned that the scheme creates a sense of ownership for the community. She said that sometimes there is a bias in approving an applicant if she is related to any PAC members, resulting in delayed repayment. It is a demotivating factor for needy beneficiaries as they are neglected, and resentment is created against the programme.
- b) Enterprise appraisal: PAC members mentioned that the enterprises promoted had helped the villages to a large extent. It has acted as a mechanism to increase the savings of households. She said, "earlier villagers had to go far distances or block markets for purchasing essential items. But with SVEP promoted enterprises, we can get these items in our village itself thereby saving the transportation costs for us".
- c) Beneficiary appraisal: She mentioned that some of the beneficiaries deliberately delay the repayment despite their business running well. The reasons are not very clear as there is no mechanism of enforcing anyone to make repayment. It depends on social capital that is diluted in some villages due to biases of PAC members towards their relatives.

However, apart from above interactions, following are some of the additional comments:

The female CRP-EP mentioned that “I learnt a lot in this programme, and I have started my enterprise based on my experience in this programme.

- a) The male CRP-EP said, “I am handholding around 36 enterprises which are performing well and hence, the entire village comes to me for the business suggestion which makes me feel happy about my work.”

Phase 2: Quantitative Analysis

Respondents Profile

The quantitative analysis involves surveying 303 respondents who are beneficiaries of the SVEP scheme. The respondents were randomly sampled and consisted of varying demographic spread, which is in Table 1.

Table 1. Respondents Profile

Variables	Total
Number of respondents	303
Sex of respondents (in number)	
Male	0
Female	303
Age distribution (%)	
18-25 years	12.2
26-45 years	70.3
46+ years	17.5
Caste distribution (%)	
ST	67.3
SC	2.6
OBC	28.7
GEN	1.3
Education profile (%)	
No formal education	34.0
Primary School	42.2
Secondary School	13.2
Higher Secondary	7.9
Graduation and above	2.6

Source: The authors.

The majority of the respondents, i.e. 70.3 per cent, belong to the age category of 26-45 years. The caste distribution is heavily skewed towards Schedule Tribes comprising 67.3 per cent, as the study area is tribal. Education level was low, with 42.2 per cent of respondents having completed primary education, followed by 34 per cent having no formal education. It implies that most of the beneficiaries had low educational status reflecting the backwardness of the area. Since the beneficiary of the SVEP programme were SHG members, the survey was conducted with female respondents only who had availed credit under the SVEP scheme.

Enterprise Profile

The enterprise established under the SVEP scheme was diverse and per the market's requirements. Much of the assessment for establishing enterprises was performed during DPR preparation before the start of the project. A comprehensive evaluation was performed by considering the supply and demand of different products stratified at the village level. Hence, there was a sense of understanding of the type of natural resources available in the study area.

Table 2. provides the distribution of enterprises promoted under SVEP scheme.

Table 2. Profile of Enterprises promoted under the scheme

Variables	Total
Number of enterprises	303
Enterprise type (%)	
Manufacturing	18.8
Trading	40.9
Service	40.3
Enterprises registration Status (%)	
Registered	90.8
Unregistered	9.2
Credit status on enterprise (%)	
Pending credit repayment	21.8
No pending credit	78.2

Source: The authors.

Notes: Some information has been obtained from block project reports such as DPR

As per the DPR, the Samnapur block has rich natural resources. It is surrounded by forests and receive sufficient rainfall for good agricultural growth. However, patches of hilly tracts affect agricultural productivity. The area is fertile for one of the most nutritious millets called Kodu and Kutki. There is a good presence of Sal leaves, used for making leaf bowls. Thus, the DPR mentions the prospects of many manufacturing based enterprises. However, based on enterprise profiling, only 18.8 per cent of respondents opened manufacturing enterprises. Most of the enterprises operate in the trading or services sector. Upon enquiring, the respondents mentioned that manufacturing-based enterprises require access to natural resources, which are not equally distributed across all villages; need higher labour, and high investment. The trading and service enterprises need less investment compared to manufacturing enterprises. Hence, the population were reluctant to take high risk from the start.

The beneficiaries receive regular support from CRP-EP for one year. There is several convergence schemes available post enrolling in SVEP. The CRP-EP is responsible for performing linkages with other schemes. For instance, enterprises provide their services locally for other schemes like bricks for Indira Awaas Yojana, tailoring services for stitching school uniforms, xerox services to offices, etc. However, the pre-requisite to enrol in such convergence requires enterprise registration. Hence, more than 90 per cent of enterprises registered under the MSME portal.

The MSME portal provided access to bank loans for expanding the enterprise, provided they have no pending credit for the enterprise. It acted as an incentive for repayment; hence, 78.2 per cent of enterprises had no pending credit. The remaining 21.2 per cent either faced a loss in

business or were reluctant to repay despite making profits. It complements the understanding shared during PAC committee interaction where they mentioned the biasness in providing approvals to applicants, and increasing workload decreased the stringent monitoring of enterprises.

Changes in Socio-economic Status

A clear understanding was observed in group discussion and one-to-one survey that the SVEP scheme has contributed to the development of the Samnapur block when compared with nearby blocks where SVEP is not present. Table 3 highlights socio-economic changes.

Table 3. Changes in socio-economic condition of both the beneficiary and the area

Variables	Total
Number of respondents	303
Migration status (%)	
Before SVEP	45.9
After SVEP	25.1
Change in Financial status (%)	
Increased	80.5
Decreased	19.5
Monthly consumption of food items (%)	
Increased	84.2
Decreased	15.8
Presence of Non-farm activity (%)	
Before SVEP	34.3
After SVEP	62.7
Enrollment in health insurance (%)	
Before SVEP	13.5
After SVEP	96.7
Handling of cash flow by sex (%)	
Male	20.8
Female	23.1
Both	56.1
Change in socio-economic condition (%)	
Improved	53.5
Deteriorated	17.5
No change	29.0

Source: The authors.

One of the objectives of SVEP is to provide alternative sources of income that should be sustainable to reduce migration. The data shows 45.3 per cent decrease in migration of the household members from pre to post-SVEP. The primary reason cited is increased household income and a feeling of ownership of the enterprise. They can compensate for the loss of income from migration through enterprise income. SVEP scheme has contributed to women's empowerment as they are owners of the enterprises. Most of the financial decisions in enterprises are handled jointly, whereas only 20 per cent of enterprises are controlled by men alone. 84.2 per cent of respondents reported an increase in their monthly food consumption, which is a positive spillover impact of the scheme. There is a causal link that increase income leads to increased food consumption and well-being of the family.

SVEP scheme has increased the engagement of the population in non-farm activities. There is an 82.7 per cent increase in non-farm activity in the Samnapur block. The CRP-EP are entrusted with ensuring enrollment of SVEP beneficiaries in government insurance schemes. It increases women's access to the banking system and health services. It builds the entrepreneur's credibility while applying for bank loans. There is a six-time increase in insurance enrollment post SVEP, reflecting the importance of health among the respondents.

The scheme has contributed to socio-economic development of villages; 53.5 per cent of respondents quoted there was an improvement. In comparison, 46.5 per cent responded either with no improvement or deterioration. However, it cannot be concretely correlated that the improvement observed is entirely because of the SVEP scheme. But there is an increase in the accessibility of services available to the villagers without travelling to blocks or districts for its access.

Perception of SVEP Beneficiary

The study provides the respondents' perception of the SVEP scheme. It also captures the perception of the SVEP scheme compared to other similar employment generation schemes.

Table 4. provides the data on respondent's perception.

Table 4. Perception analysis of SVEP beneficiaries

Statement	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)
SVEP has helped you to better negotiate with the suppliers and customers in the market	26.1	48.2	15.5	7.3	3.0
SVEP intervention has improved standard of living	45.5	31.7	14.5	6.6	1.7
Despite SVEP, you face struggle in bargaining with the suppliers for raw materials	6.3	6.9	14.9	31.0	40.9
SVEP training is useful in building managerial and soft skills	55.1	34.7	7.9	1.7	0.7
SVEP has made it easy to approach banks	49.5	33.7	11.2	4.0	1.7
SVEP has build a positive perception towards non-farm activities	22.4	34.0	8.6	22.1	12.9
SVEP has made credit access difficult	4.0	6.9	9.2	37.6	42.9
Post SVEP usage of mobile phone for digital transaction has increased	20.1	30.7	33.7	9.2	6.3
SVEP has increased participation of women in social gatherings such as community meetings, gram sabha meetings, etc	44.2	33.7	18.5	2.6	1.0

SVEP has changed the perception that women cannot run a business	22.1	34.0	29.0	10.6	4.3
SVEP has given more decision making power to men	1.3	7.6	22.1	32.3	36.6
Non-SVEP supported enterprises or households consult you for non-farm business activities	29.0	31.7	8.3	22.1	12.9
SVEP has increased employment opportunities in the villages	17.5	36.6	30.7	11.2	4.0
SVEP scheme is better than other employment generation schemes such as Stand-up India, PMEGP, Mudra Yojana, etc	42.2	27.1	12.9	11.6	6.3

Source: The authors.

To ensure the validity of the perception and sufficient understanding of the question asked to the respondents before giving their responses, negatively worded statements were added to break the monotony. The reactions show a highly positive perception towards the scheme and have several spillover benefits that are crucial in bringing intended behavioural change towards entrepreneurship.

Phase 3: Qualitative Analysis

In qualitative analysis, three women entrepreneurs having similar social backgrounds were selected. They operate different enterprise categories - manufacturing, service and trading. This one-to-one in-person discussion helps to understand the SVEP scheme's achievement better.

First, the case study will be presented in narrative form, and then there will be cross analysis to correlate with the quantitative analysis. The case study will be analysed on two parameters: poverty and entrepreneurial attitude

Note: The respondent names will be coded to maintain privacy.

Case 1: Respondent X is a female 27 years old. She is married and has two children - both girls. She became part of the SVEP programme in 2016 and opened a brick manufacturing enterprise.

- a. **Poverty:** Respondent X's husband migrated to the capital city Bhopal to earn a livelihood. The family's yearly income was around INR 80 thousand. They have 0.2 hectares of land which is not sufficient to feed all. Respondent X said, "I want my girls to pursue higher education, and with limited income, it is challenging to achieve this dream.". When she started her enterprise, she could make enough money to pay the credit within one year. She mentioned, "I was afraid to take a loan for starting an enterprise, but CRP-EP motivated me and politely explained my husband who opposed it. Now, I and my husband are working together to manufacture bricks and earning more than INR 150 thousand per year. I am hopeful that I can educate my girls nicely".
- b. **Entrepreneurial attitude:** Respondent X is seen as a role model to many other women. Indeed many people approach her to ask about opening an enterprise. She said, "I feel happy to see that the SVEP programme has drastically changed my living standard and status in the village. Village panchayats approach me for ideas on village development. My experience of running the enterprise enables me to give valuable and feasible solutions to village problems."

Case 2: Respondent Y is a female 44 years old. She is married and has two children - a boy and a girl. The girl is at marriageable age, and the boy has just completed his 12th. She became part of the SVEP programme in 2016 and opened Common Service Centre (CSC) enterprise.

- a. Poverty: Respondent Y has one hectare of land, which her husband farms. However, the agricultural income is insufficient; hence, both husband and wife are enrolled in the MGNREGA scheme. She registered in the SVEP scheme to open a CSC that will be run by her male child, who has just passed 12th and doesn't want to migrate. Her village is remote from the block headquarter. Hence, any documentation work requires villagers to travel far, incurring transportation cost. She said, "Opening CSC centre has reduced the issue of travelling far away for xerox work or enrollment in any scheme that can be done via CSC. We are able to make a daily income of around INR 400-500, which is even higher on weekly market days."
- b. Entrepreneurial attitude: Respondent Y has expanded her CSC business and opened another branch in a nearby village. She has even enrolled in the bank for higher credit to grow the business further. Seeing her, a few more households have opened a smaller CSC centre under the SVEP scheme. Her son provides training to new entrepreneurs on working in a CSC centre.

Case 3: Respondent Z is a female 23 years old. She is just married and has no children. She has passed till 10th standard. She became part of the SVEP programme in 2018 and opened a general store as a trading enterprise.

- a. Poverty: Respondent Z said, "When I got married and came to this village, my husband or I had to go 2-3 km walking to purchase daily essential items. We did not have enough money to purchase it once a month, and the daily purchase was a costly affair. I heard about SVEP from my mother-in-law, and CRP-EP helped me in opening a general

store. We can earn INR 10-15 thousand per month from this general store.”

- b. Entrepreneurial attitude: Respondent Z has expanded her general store to support other enterprises in her village. She said, “After opening a general store and having a constant source of income, I started identifying other ways to expand my shop. I realized that other SVEP enterprises in my village sell different products such as leaf bowls, spices, grains trading, etc. However, it was common for people to visit my shop for daily items. I saw this as an opportunity and approached other SVEP enterprises in my village with the help of CRP-EP. I asked all other entrepreneurs to provide their products for sale in my shop. It will give them visibility, and each product sold will give me a margin leading to a win-win situation. Everyone agreed, and now around seven enterprises are linked with me. My family and villagers feel proud because of this initiative”.

Cross-case Analysis

As the narratives are already presented, the cross-case analysis will help understand and compare responses with the quantitative analysis. Table 5. provides the cross-case analysis.

Table 5. Cross-case Analysis

Factor	Case	Effect	SVEP's Role
Poverty	Respondent X	“My husband doesn't migrate for work and we are earning more by being together. I feel hopeful that I can educate my girls nicely.”	Positive (increase in income and aspiration for better education of girl)
	Respondent Y	“I never wanted my child to migrate to cities for jobs. And SVEP has provided us with this opportunity.”	Positive (reduced migration and provided job opportunity)

Entrepreneurial attitude	Respondent Z	<p>“I have learned financial management through my business and even support my father-in-law in agriculture by identifying areas where cost can be minimized. This year we saved around INR 12-15 thousand in agriculture as a result of my financial experience.”</p>	Positive (enabled to learn financial and managerial skills)
	Respondent X	<p>“I am approached by village sarpanch for negotiating with vendors for cost reduction or understanding the market before village development work starts. I feel confident and even motivate other SHG members to start an enterprise.”</p>	Positive (women empowerment and enhancement of decision making roles)
	Respondent Y	<p>“I was afraid to visit banks and talk to bank manager. I used to depend on Bank Mitras for this. But now I not only feel confident to visit bank, I have also applied for a bank loan which is going to be disbursed soon.”</p>	Positive (women empowerment and ability to take initiative in expanding business)
	Respondent Z	<p>“I engaged with seven SVEP enterprises to work together and we all gained higher income from this.”</p>	Positive (motivation to form collaborative entrepreneurship)

Source: The authors.

The case studies and their cross-analysis represent a positive impact of the SVEP programme concurrent with the quantitative analysis and perception of the beneficiaries.

However, the programme has still scope for improvement, as highlighted in the programme analysis section.

Policy Suggestions

The SVEP programme starts with the preparation of DPR, which acts as a progress monitoring document for four years of the project timeline. However, in today's dynamic world, four years is a vast timeline to predict entrepreneurial activities, and it hinders achieving the intended objectives. Thus, there can be a mid-term evaluation of DPR to incorporate the changing environment. Another way could be creating DPR for two years and then updating it after two years. In either case, there will be enough learning to incorporate after two years in the DPR and set realistic targets.

The role of CRP-EP is essential, and without them, the beneficiaries cannot be trustful of the scheme. However, the recruitment of CRP-EP is not a continuous process; instead, it is a one-time process, and with increasing enterprises, the quality gets compromised. They are critical to the programme's success, and their support is needed even during expansion, as highlighted in case study narratives. Hence, the manpower, particularly CRP-EP, could be increased with time as enterprises increase. Moreover, the entrepreneurs can pay a minimal consultative fee to CRP-EP for support post 12 months of handholding which will not lead to an increase in the scheme budget.

The PAC committee highlighted the issue of biasness in approving the applicant. Currently, only signing the application is considered approved without citing any reasons for doing so. There can be an additional layer of validation wherein the PAC committee supporting the application must

mention the reason for accepting particular applicants and rejecting the others. The block manager and mentor should objectively evaluate these reasons to overcome biases.

Finally, with increasing number of enterprises, manually tracking repayment schedules becomes complex and prone to human errors, which could affect the SVEP's objective. To resolve this issue, an automated application can be designed to have the electronic entry of all records and repayment schedules that should be accessible to the entrepreneur for transparency. It would increase the programme cost, but in the long run, the benefit will outperform the costs by looking at the quality delivered by the less burdened block team.

Concluding Observations

The study is the first such impact evaluation of SVEP scheme using mixed method approach in the Samnapur block of Madhya Pradesh.

The quantitative analysis represented the socio-economic development achieved through the scheme. The beneficiaries have shown an improvement in their living standard, and the tribal area devoid of employment opportunities is now engaging in non-farm entrepreneurial activities. The study presents the positive perception of the beneficiaries towards the scheme. The qualitative analysis validates the positive impacts as female entrepreneurs feel confident, empowered and up-skilled post SVEP. They have started taking ownership of village development works. The migration level has reduced, and women's role in financial matters has increased.

However, there are programmatic issues with the scale-up, as highlighted in the study by different stakeholders. There is a need to fine-tune the scheme by incorporating minor aspects that could further enhance the achievement of the desired objectives. One of the practical approaches is

to ensure mid-term evaluation of the scheme and DPR to incorporate the contextual learning of the area where it is being implemented.

The impact evaluation of this scheme provides learnings from phase I that could be incorporated into the future phases. However, despite this, there will always be room for improvement, which can be explored further. Also, the scheme has been successful in one of the blocks of Madhya Pradesh, and as it is implemented in other parts of the country, analysis across states can be done to highlight best practices and learn from other states.

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GENERAL ELECTIONS AND WOMEN'S REPRESENTATION IN THE NORTH-EASTERN STATES OF MEGHALAYA, NAGALAND, TRIPURA

Amar Kumar¹

Abstract

In the 2022 Lok Sabha and Vidhan Sabha elections, this representation of women is constantly being surrounded. The results of the Meghalaya, Tripura and Nagaland assembly elections, which are being held two months after the Himachal and Gujarat assembly elections, have confirmed this under-representation of women, which is a danger bell for Indian democracy.

Keywords

Education, Interest of Political Parties, Election Process, Representation, PTI

Preface

Introduced in the Lok Sabha on 9 December by Kiren Rijiju¹, Minister of Law and Justice in the Indian Parliament; According to the data, Andhra Pradesh, Assam, Goa, Gujarat, Himachal Pradesh, Kerala, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Odisha, Sikkim, Tamil Nadu and Telangana have less than 10 per cent women legislators. Women's representation in Parliament and most state legislatures across the country is less than 15 percent, and 19 state assemblies have less than 10 percent women MPs. This information has been revealed in government statistics. Bihar (10.70), Chhattisgarh (14.44), Haryana (10), Jharkhand (12.35), Punjab (11.11), Rajasthan (12), Uttarakhand (11.43), Uttar Pradesh have more than 10 percent women legislators. (11.66), West Bengal (13.70) and Delhi (11.43).

Women constituted 8.2 per cent of elected representatives in the Gujarat assembly elections last December, while only one woman was elected to the 68-member Himachal Pradesh assembly. As per the data, the share of

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women MPs in Lok Sabha and Rajya Sabha is 14.94 per cent and 14.05 per cent respectively. At the same time, the average number of women legislators in assemblies across the country is just eight per cent. Also asked about the steps taken to increase She further asked whether the government has any plans to bring the Women's Reservation Bill in Parliament. On this subject, Law Minister Rishabh Singh said, "Gender justice is an important commitment of the government. All political parties need to carefully discuss the issue on the basis of consensus before bringing the Constitution Amendment Bill before the Parliament. Recently, political parties like Biju Janata Dal (BJD), Shiromani Akali Dal (SAD), Janata Dal United JD(U) and Trinamool Congress (TMC) urged the government to re-introduce and pass the Women's Reservation Bill in Parliament. asked to do.

The BJD has asked the Center to pass the bill in the current winter session of Parliament, Rajya Sabha member Dr Sasmit Patra told PTI. "If the government brings the bill, our party will support it. In the Business Advisory Committee meeting convened by Chairman Om Birla, Trinamool Congress's Sudip Bandopadhyay demanded an all-party meeting on the issue, which was supported by other parties. The time has come to give women their due. JDU MP Rajeev Ranjan Singh said it is time to empower women and the government should bring this bill. The bill, which reserves one-third of the seats in the Lok Sabha and state assemblies for women It was first introduced in Parliament in 1996. It was passed in the Rajya Sabha in 2010, but the bill lapsed after the dissolution of the 15th Lok Sabha. This statement of December 9 has attracted the whole country towards this issue. In the world's largest democracy, what are the reasons for women's representatives not being elected in Parliament and Assemblies. Vidhan Sabha elections, this Representation of women is constantly being surrounded. The results of the Meghalaya, Tripura and Nagaland assembly elections, which are being held two months after the Himachal and Gujarat assembly elections, have confirmed this under-representation of women.

Literture review

1. The Great Indian Election" by Ramachandra Guha - This book provides an in-depth analysis of the Indian electoral system and its evolution over

time. Guha delves into the various factors that influence elections in India, including caste, religion, and regionalism.

2. "India After Gandhi: The History of the World's Largest Democracy" by Ramachandra Guha - This book provides a comprehensive account of India's political history after independence. It covers the period from 1947 to the present day, including a detailed analysis of the various elections that have taken place in India during this time.

3. "Elections in India: Data Handbook on Lok Sabha Elections 1952-2012" by N Bhaskara Rao and Uma Medury - This book is a comprehensive guide to Indian elections, providing data and analysis on every Lok Sabha election held in India from 1952 to 2012. It includes information on the number of candidates, voter turnout, and the results of each election.

4. "India's 1999 Elections and 20th Century Politics" by Paul Wallace - This book provides an analysis of the 1999 Indian general elections, which were significant for a number of reasons, including the emergence of regional parties and the decline of the Congress Party. Wallace explores the impact of these developments on Indian politics in the 20th century.

5. "India Decides: Elections 1952-2019" by Rajdeep Sardesai - This book provides an overview of Indian elections from 1952 to 2019. It covers key events, such as the Emergency, and the rise of the BJP to power in 2014. Sardesai also provides insights into the personalities and strategies of key political leaders.

6. "The Verdict: Decoding India's Elections" by Prannoy Roy and Dorab Sopariwala - This book provides an analysis of the 2014 Indian general elections, which were notable for the BJP's landslide victory. Roy and Sopariwala provide insights into the factors that contributed to the BJP's success, including the use of social media and Narendra Modi's leadership.

7. "The Election That Changed India" by Rajdeep Sardesai - This book provides an analysis of the 1984 Indian general elections, which were held in the aftermath of Indira Gandhi's assassination. Sardesai explores the impact of the election on Indian politics and society, including the rise of Rajiv Gandhi to power.

8. "India's 2009 Elections: Coalition Politics, Party Competition and Congress Continuity" by Paul Wallace - This book provides an analysis of

the 2009 Indian general elections, which were significant for the Congress Party's return to power. Wallace explores the reasons for the Congress Party's success, including its alliance with regional parties.

9. "The Indian Voter: Perspectives on Indian Electoral Behaviour" edited by Myron Weiner - This book is a collection of essays on Indian electoral behaviour, covering topics such as caste, religion, and gender. The essays provide insights into the factors that influence voter behaviour in India.

10. "Electoral Politics in India: The Resurgence of the Bharatiya Janata Party" by Suhas Palshikar, K.C. Suri and Yogendra Yadav - This book provides an analysis of the rise of the BJP to power in India. The authors explore the factors that contributed to the BJP's success, including the use of Hindutva as a political strategy.

Research objectives:

1. To study the percentage of women candidates and star campaigners by political parties in all the three assemblies.
2. To study economic, criminal, educational status of male candidates and female candidates.
3. To study the representation of women in the cabinet.

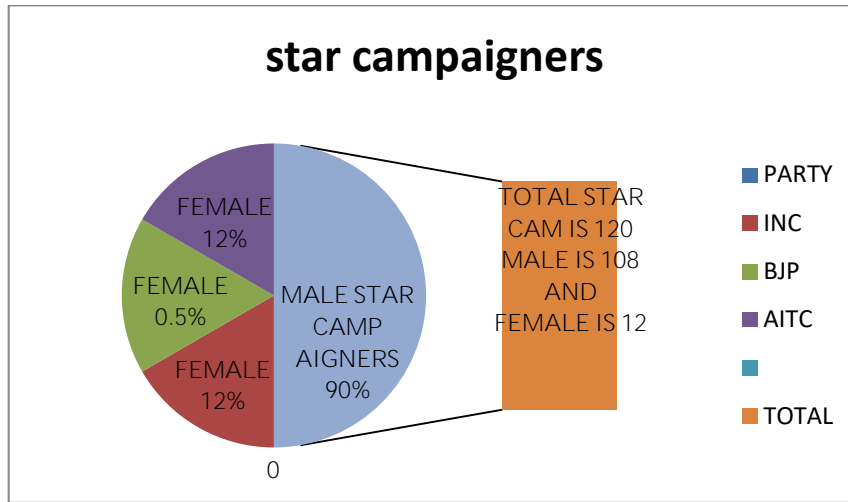
Research method & Comparative study of data:

It is very important for any researcher to follow the field methodology of research. Without following which errors can remain in the research work. To examine the **declining representation of women representatives in Indian legislatures, a case study of general elections in Tripura, Meghalaya, and Nagaland** is done. Analytical study of the data displayed by the Election Commission and various political parties. Conclusions and suggestions have been drawn on the basis of seats given by political parties and elections results .

Meghalaya elections:

Female and male star campaigner declared by political parties in Meghalaya:

T – 1 Male and female star campaigners declared by political parties in Meghalaya²



Level of education, cases of corruption, murder etc. and total income of female and male candidates in Meghalaya:

Including publication and recording of criminal cases by candidates and political parties dated 25th September, 2018 and 13th February, 2020 in the directions of the Election Commission (in letters dated 6th March, 2020 and 10th October, 2018) in compliance with the orders of the Supreme Court Reason for selection must be given. Election Commission of India's letter dated March 6, 2020, in compliance with the direction of the Supreme Court dated February 13, 2020:

1. It is mandatory for the political parties at the central and state election level to post on their website the nature of the crimes, related details of the candidates with pending criminal cases including the charges against them. Provide detailed information about the concerned court case number etc.
2. The parties will also have to give reasons for such selection and why other persons without criminal antecedents cannot be selected as candidates.
3. Relevant reasons will be in the context of the candidate's qualifications, achievements and merit, not merely the ability to win an election.
4. This information will also be published in (3) a local newspaper and a national newspaper (b) on official social media platforms of political parties including Facebook and Twitter

5. These details will be published within 48 hours of the candidate's selection or at least two weeks before the first date of filing nominations, whichever is earlier.

6. The political party concerned shall submit a report of compliance of these directions with the Election Commission within 72 hours of the selection of the said candidate.

7. If any political party fails to submit such compliance report with the Election Commission, the Election Commission shall bring such non-compliance by the concerned political party to the notice of the Supreme Court as contempt of court orders/directions .

Election Commission of India's letter dated October 10, 2018 in compliance with the direction of the Supreme Court dated September 25, 2018³

Phase- 1

The affidavits of all the 375 candidates contesting in the Meghalaya Assembly Elections 2023 have been analysed. Out of 375 candidates, 233 are contesting from national parties, 89 from state parties, 29 from unrecognized parties and 44 from independent candidates.

Criminal Cases:

Criminal cases against themselves. 25 (7 percent) out of 370 candidates analyzed in the Meghalaya Assembly Elections 2018 had declared criminal cases against them. Serious criminal cases declared by candidates - 154 (percent) candidates declared serious criminal cases against themselves. In the Meghalaya Assembly Elections 2018, 21 (6%) candidates had serious criminal cases declared against them. And 3 out of 56 (5 percent) AITC candidates have declared criminal cases against themselves.

Serious criminal cases declared by candidates Party Wise INC 47 out of 60), NPP 47 out of 57) BIP 12 out of 60 and AITC 2 out of 56 (4 per cent) AITC candidates declared serious criminal cases against themselves Have done

Candidates declared cases related to murder 2 candidates declared cases related to murder (IPC-302). Candidates declared cases related to attempt to murder 3 candidates declared cases related to attempt to murder (IPC-

307) have declared related cases. Candidates who have declared cases related to atrocities on women 5 candidates have declared cases related to atrocities on women 1 out of these 5 candidates have declared cases related to rape (IPC-370) Is. 1 candidate has declared a case relating to repeated rape (IPC-376(2)(n)) on the same woman.

Asset:

Crorepati candidates 186 out of 375 (50 per cent) are crorepati candidates In the 2018 Meghalaya Assembly elections, 152 out of 370 (41 per cent) candidates were crorepati. Crorepati candidates - party wise The role of money power in our elections is evident from the fact that all major political Parties give tickets to rich candidates. NPP 43 out of 57 (75 percent), UDP 30 out of 46 (65 percent), AITC 27 out of 56 (48 percent). 25 out of 60 (42 percent) of INC and 23 out of 60 (38 percent) of BJP candidates are crorepatis (declared assets more than 1 crore). Average assets of candidates in Meghalaya Assembly Elections 2023 is 5.91 crore. The average assets of the 370 candidates in the Meghalaya Assembly Elections 2018 was 354 crores. The average assets party-wise of the 60 candidates from the main parties was 2.21 crores. Average assets of 57 candidates of 60434 NPP of INC is 100 crores, average assets of 56 candidates of AITC is 405 crores and 46 candidates of UDP are 10.50 crores.

Education:

Educational Qualification 132 (35 per cent) candidates have declared their educational qualification as between 5th and 12th while 235 (63 per cent) candidates have declared their educational qualification as graduation and above. 7 Candidates have declared their Educational Qualification as Diploma Holder and 1 Candidate have declared their Educational Qualification as Literate. Age of Candidates 134 (36%) Candidates have declared their age between 25 to 40 Years. While 215 (57 percent) candidates have declared their age between 41 and 60 years, 26 (7 percent) candidates have declared their age between 61 and 80 years. Female representation 36 (10 percent) women in Meghalaya Assembly Elections 2023 The candidate is contesting the election. In the 2018 Meghalaya Legislative Assembly elections, 33 out of 370 (9 per cent) women candidates contested⁴.

T -2 Meghalaya elation party wise seats given (woman percentage)

Sr no	Party name	SEATS GIVAN	Male	Female	Female percentage
1	INC	60	50	10	17%
2	BJP	60	54	6	10%
3	NPP	57	51	6	11%
4	AITC	56	51	5	9%
5	UDP	46	45	1	2%
6	VPP	18	16	2	11%
7	HSPDP	11	10	1	9%
8	PDF	9	9	0	0%
9	RP1(A)	6	5	1	17%
10	JD(U)	3	2	1	33%
11	GARO (NC)	2	2	0	0%
12	RPI	2	1	1	50%
13	GARO(SP)	1	1	0	0%+
14	IND	44	42	2	5%
	Total	375	339	36	10%

T – 3 Meghalaya elation party wise seats & woman winning percentage:

Sr no	Party name	SEATS			percentage
1	INC	5			%
2	BJP	2			%
3	NPP	26			%
4	AITC	5			%
5	UDP	11			%
6	VPP	4			%
7	HSPDP	2			%
8	PDF	2			%
9	RP1(A)	0			%
10	JD(U)	0			%
11	GARO (NC)	0			%
12	RPI	0			%
13	GARO(SP)	0			%
14	IND	4			%
	Total	59			100%

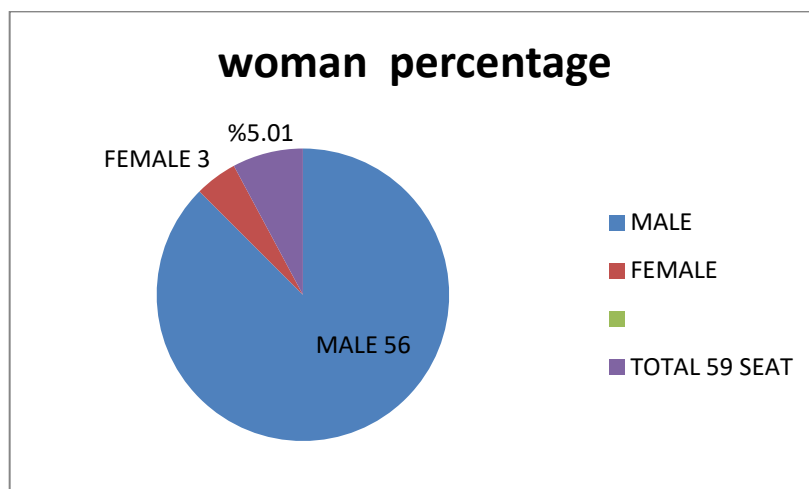


Table 4- Cabinet of Meghalaya⁵ :

Sr	Cabinet seats	Man	Woman	Female percentage
1.	12	11	1	10.5%
Total	12	11	1	More then 10%

Tripura elation .

He self-sworn affidavits of all 259 candidates who are contesting in the Tripura Assembly Elections 2023. Out of 259 candidates analyzed, 140 are from National parties, 9 are from State parties, 52 are from registered unrecognized parties and 58 candidates are contesting independently.

T – 5 Female and male star campaigner declared by political parties in Meghalaya⁶

SR NO	PARTY	STAR C	MALE	FEMALE	%
1	INC	40	37	3	7.5%
2	BJP	40	36	4	10%
3	AITC	25	21	4	16%
4	CPI	11	10	1	10%
5	CPIM	40	36	6	15%
6	RPP	10	7	3	30%
TOTAL		166	145	21	12.65 %

Table -6 elation party wise seats given (woman percentage)

Sr no	Party name	SEATS GIVAN	Male	Fem.	Female percentage
1	BJP	55	43	12	22%
2	CPI(M)	43	41	2	5%
3	TRIPURA MOHTA PARTY	42	36	6	14%
4	AITC	28	25	3	11%
5	INC	13	12	1	8%
6	IPFT	6	5	1	17%
7	RPI(A)	3	3	0	0%
8	NCPI	2	2	0	0%
9	RPI (AT)	2	2	0	0%
10	TPP	2	2	0	0%
11	TSP	1	1	0	0%
12	AIFB+RSP	1+1	1+1	0+0	0%
13	CPI(ML)(L)+CPI	1+1	1+1	0+0	0%
14	INDEP	58	53	5	9%
	Total	259	229	30	12%

Criminal Background

Candidates with Serious Criminal Cases: 21(8%) have declared serious criminal cases against themselves. In 2018 Tripura Assembly Elections, 17(6%) candidates had declared serious criminal cases against themselves

Party wise Candidates with Criminal Cases: Among the major parties, 7(54%) out of 13 candidates analysed from INC, 13(30%) out of 43 candidates analysed from CPI(M) and 9 (16%) out of 55 candidates analysed from BJP have declared criminal cases against themselves in their affidavits. Party wise Candidates with Serious Criminal Cases: Among the major parties, 2(15%) out of 13 candidates analysed from INC, 5(12%) out of 43 candidates analysed from CPI(M) and 5 (9%) out of 55 candidates analysed from BJP have declared serious criminal cases against themselves in their affidavits. Candidates with declared cases related to attempt to murder: 8 candidates have declared cases related to Attempt to murder (IPC Section-307) against themselves.

Property

Crorepatis Candidates: Out of the 259 candidates, 45(17%) are crorepatis. In 2018 Tripura Assembly Elections, out of 297 candidates, 35 (12%) were crorepatis. **Party wise Crorepatis Candidates:** The role of money power in our elections is evident from the fact that all major political parties give tickets to wealthy candidates. Among the major parties 17(31%) out of 55 candidates analysed from BJP, 6(46%) out of 13 candidates analysed from INC and 7(16%) out of 43 candidates analysed from CPI(M) have declared assets valued more than Rs 1 crore.

Average assets: The average of assets per candidate contesting in the Tripura Assembly Elections 2023 is Rs 86.37 Lakhs. In 2018 Tripura Assembly Elections, average assets per candidate for 297 candidates was Rs.46.92 lakhs.

Party wise assets: Among major parties, the average assets per candidate for 55 BJP candidates analysed is Rs. 1.86 Crores, 13 INC candidates analysed is Rs 2.20 Crores, 43 CPI(M) candidates analysed is Rs 53.94 Lakhs and 42 Tipra Motha Party candidates have average assets worth Rs.78.57 Lakhs.

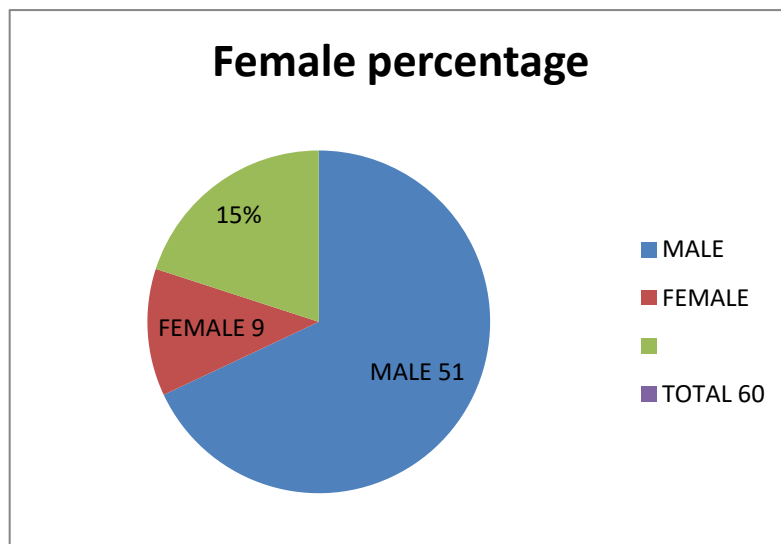
Education & Background Details:

Education details of candidates: 139 (54%) candidates have declared their educational qualifications to be between 5th and 12th standard while 116 (45%) candidates have declared having an educational qualification of graduate or above. 2 candidates are Diploma holders and 2 candidates have declared themselves to be just literate.

Age details of candidates: 63(24%) candidates have declared their age to be between 25 to 40 years while 142(55%) candidates have declared their age to be between 41 to 60 years. There are 54(21%) candidates who have declared their age to be between 61 to 80 years. **Gender details of candidates:** 30(12%) female candidates are contesting in the Tripura assembly election 2023. In 2018 Tripura Assembly Elections, 24(8%) out of 297 candidates analyzed were women⁷.

Table -7 Tripura elation party wise seats & woman wining percentage:

Sr no	Party name	SEATS			percentage
1	BJP	32			%
2	CPI(M)	11			%
3	TRIPURA MOHTA PARTY	13			%
4	AITC	0			%
5	INC	3			%
6	IPFT	1			%
7	RPI(A)	0			%
8	NCPI	0			%
9	RPI (AT)	0			%
10	TPP	0			%
11	TSP	0			%
12	AIFB+RSP	0			%
13	CPI(ML)(L)+CPI	0			%
14	INDEP	0			%
	Total	60			100%

Table 8- Cabinet of Tripura⁸

Sr	Cabinet seats	Man	Woman	Female percentage
1.	9	8	1	10 %
Vacant	3			
Total	12	8	1	10%

NAGALAND ELECTION :-1

Analyzed the self-sworn affidavits of all 184 candidates who are contesting in the Nagaland Assembly Elections 2023. Out of 184 candidates analyzed, 68 are from National parties, 72 are from State parties, 25 are from registered unrecognized parties and 19 candidates are contesting independently

T-9 STAR CAMPENER IN NAGALAND ELECTION 2023⁹

SR NO	PARTY	STAR C	MALE	FEMALE	%
1	INC	40	38	2	0.50%
2	NCP	25	21	4	16%
3	JD(U)	20	20	0	0%
4	NPF	40	39	1	0.25%
5	NDPP	40	37	3	0.75%
6					
TOTAL		165	155	10	6.06 %

Criminal Background:

Candidates with Criminal Cases: Out of 184 candidates analyzed, 7(4%) candidates have declared criminal cases against themselves. In 2018 Nagaland Assembly Elections, out of 193 candidates analysed, 3(2%) had declared criminal cases against themselves. Candidates with Serious Criminal Cases: 4(2%) have declared serious criminal cases against themselves. In 2018 Nagaland Assembly Elections, 3(2%) candidates had declared serious criminal cases against themselves.

Party wise Candidates with Serious Criminal Cases: Among the major parties, 1(3%) out of 40 candidates analysed from NDPP, 1(5%) out of 20 candidates analysed from BJP and 1 (5%) out of 22 candidates analysed from NPF have declared serious criminal cases against themselves in their affidavits. Candidates with declared cases related to murder: 2 candidates have declared cases related to murder (IPC Section-302) against themselves. Candidates with declared cases related to attempt to murder: 1 candidate has declared case related to Attempt to murder (IPC Section-307) against himself.

Assets:

Share of wealth among candidates: The share of wealth amongst the candidates contesting in the Nagaland assembly elections 2023 is as follows:

Crorepati Candidates: Out of the 184 candidates, 116(63%) are crorepatis. In 2018 Nagaland Assembly Elections, out of 193 candidates, 114 (59%) were.

Party wise Crorepati Candidates: The role of money power in our elections is evident from the fact that all major political parties give tickets to wealthy candidates. Among the major parties 18(90%) out of 20 candidates analysed from BJP, 34(85%) out of 40 candidates analysed from NDPP, 13(59%) out of 22 candidates analysed from NPF, 4(57%) out of 7 candidates analysed from JD(U) and 6(26%) out of 23 candidates analysed from INC have declared assets valued more than Rs 1 crore.

Average assets: The average of assets per candidate contesting in the Nagaland Assembly Elections 2023 is Rs 5.13 Crores. In 2018 Nagaland Assembly Elections, average assets per candidate for 193 candidates was Rs.3.76 Crores.

Party wise average assets: Among major parties, the average assets per candidate for 40 NDPP candidates analysed is Rs. 7.47 Crores, 23 INC candidates analysed is Rs 65.98 Lakhs, 22 NPF candidates analysed is Rs 2.32 Crores, 20 BJP candidates analysed is Rs 6.58 Crores and 7 JD(U) candidates have average assets worth Rs.5.14 Crores.

Education :

Education details of candidates: 49(27%) candidates have declared their educational qualifications to be between 8 and 12 standard while 128 (70%) candidates have declared having an educational qualification of graduate or above. 4 candidates are Diploma holders. 1 candidate has declared himself to be just literate and 2 candidates are Illiterates.

Age details of candidates: 19(10%) candidates have declared their age to be between 25 to 40 years while 112(61%) candidates have declared their age to be between 41 to 60 years. There are 51(28%) candidates who have declared their age to be between 61 to 80 years. 2 candidates have declared their age above 80 years. Gender details of candidates: 4(2%) female

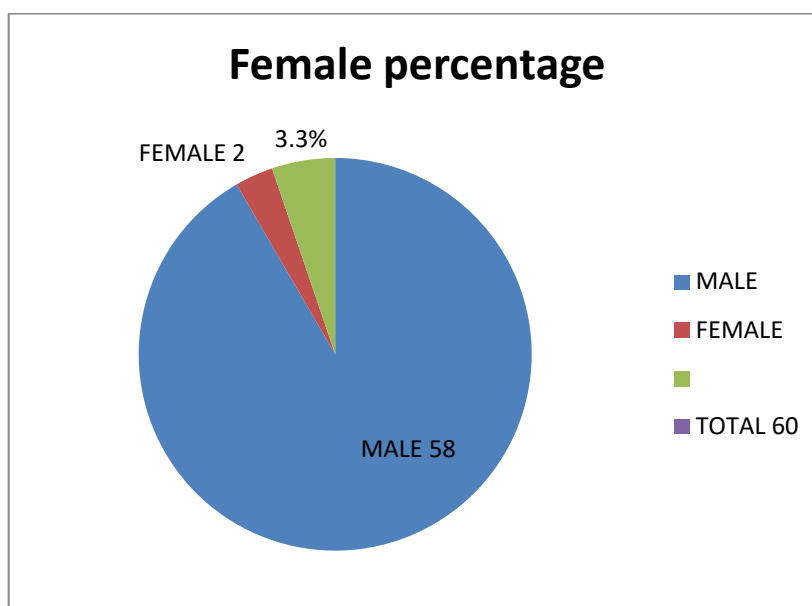
candidates are contesting in the Nagaland assembly election 2023. In 2018 Nagaland Assembly Elections. 5(3%) out of 193 candidates analyzed were women¹⁰.

T-10 NAGALAND PARTY WISE SEATS GIVAN

Sr no	Party name	SEATS GIVAN	Male	Female	Female percentage
1	NDDP	40	38	2	5%
2	INC	23	22	1	4%
3	NPF	22	22	0	0%
4	BJP	20	19	1	5%
5	IND	19	19	0	0%
6	LJP	16	16	0	0%
7	NCP	12	12	0	0%
8	NPP	12	12	0	0%
9	RPI	8	8	0	0%
10	JD(U)	7	7	0	0%
11	RJD	3	3	0	0%
12	CPI	1	1	0	0%
13	RPP	1	1	0	0%
	Total	184	180	4	2%

Table -11 Nagaland elation party wise seats & woman winning percentage

Sr no	Party name	SEATS			percentage
1	NDDP	25			%
2	INC	0			0%
3	NPF	2			%
4	BJP	12			%
5	IND	4			%
6	LJP	2			%
7	NCP	7			%
8	NPP	5			%
9	RPI	2			%
10	JD(U)	1			%
11	RJD	0			0%
12	CPI	0			0%
13	RPP	0			0%
	Total	60	58	2	3.3%

Table 12- Cabinet of Nagaland¹¹

Sr	Cabinet seats	Man	Woman	Female percentage
1.	12	11	1	10.5%
Total	12	11	1	10.5%

Assessment of women candidates in all the three assemblies:

The year 2023 of Indian democracy has once again come out with a bad message for the representation of women. In the assembly elections of Himachal and Gujarat in the year 2022, only one woman representative was elected, due to which only one woman representative was elected in the Himachal 68-member assembly. The number of female public representatives remained zero and only one female public representative got a place in the Gujarat cabinet. In Tripura, Meghalaya and Nagaland,

only 13 women representatives were elected in 179 constituencies, whose percentage was 7.5. Analyzing the cabinet formed in all three states, it was found that out of 21 ministers, only 3 women were made ministers, which was 10.5 of the total. %Is . Many reasons behind the decline in the representation of women have come to the fore on analysis, in which national and regional parties give less number of tickets to women representatives, male-dominated approach of the society, less number of star campaigners in the list, by star campaigners. There is less campaigning in women's election and economic weakness of women. Our society, which is promoting women's equality, political parties are still behind in the upliftment of women. The following suggestions to stop the falling public representation of women have been presented.

Suggestion:

1. The Election Commission should reserve 40% seats for women in the Lok Sabha elections.
2. Election Commission should reserve 40% seats for women in assembly elections.
3. All political parties should give 40% space to women in the list of star campaigners.
4. Political education and voting behavior should be given a mandatory place in education.

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SURROGACY : HUMAN RIGHTS IMPLICATIONS

Anjna Kumari¹

Abstract

Surrogacy is the option for the couples who are hopeless and childless. It has provided new possibilities for many individuals and couples wishing to found a family. The various human rights implicated by surrogacy are established by international law. These include women's rights such as reproductive own right freedom, bodily autonomy and the right to just and favorable working conditions, children's rights, including the right to an identity and the right to have their best interests promoted and the rights of individuals and couples to found families or complete a family tree. International law prohibits, such as the prohibition on forced labor and human trafficking etc. This holistic assessment of the rights involved in surrogacy ultimately reveals that human rights law can promote or protect the rights of all parties involved in surrogacy. The practice of surrogacy does not violate human rights, and can promote important rights of women to bodily autonomy, reproductive choice, and self-determination decisions they possess. However, there are various aspects of the practice of surrogacy that can, in certain contexts, impair the rights of surrogate women, children born through surrogacy, and intended parents. The surrogacy process to recognize that the way surrogacy is practiced varies greatly in different contexts, depending on the context, different human rights concerns may arise, and diverse policy approaches may be needed.

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In addition to the same, the surrogacy industry is fairly new, and much of surrogacy has occurred in an unregulated market or in contravention of surrogacy laws. Policy approaches to surrogacy must therefore consider regulatory options that provide effective protections for all parties, especially women and children, against abuses without unnecessarily restricting women's reproductive freedom.

Keywords: Reproductive Freedom, Human Trafficking, Human Right, Global Surrogacy and Surrogacy arrangements.

Introduction

Surrogacy is an arrangement in which a woman willfully agrees to become pregnant and gives birth in order to provide a child to a third party according to their agreement, who agrees to act as the parent. The surrogacy process involves a surrogate, intended parents, and medical professionals who perform and monitor the surrogacy procedure. Other parties may also be involved, including sperm and egg donor banks, intermediary agencies and legal counsel. A surrogacy arrangement begins with an individual or couple, referred to as intended parents, who seek to conceive and raise a child but are unable to do so without assisted reproductive technology (ART) is a real helping hand². There are two primary forms of arrangements -- altruistic and commercial. In altruistic surrogacy, the surrogate receives no compensation from the intended parents for the service provided, but is reimbursed for costs and expenses. Reimbursed expenses can include lost-wages, medical expenses and other costs incurred. In commercial surrogacy, the surrogate is also compensated for her labor, including the labor of becoming pregnant,

² S S. Das, "Commercialization of Surrogacy in India: A Critical Analysis" Researchgate 19 October, 2016. Available at: <https://www.researchgate.net/publication/281710247>

carrying the fetus, and giving birth to child, as well as the after-effects of the pregnancy. Over the last few decades, the surrogacy industry has expanded its area of working, as more individuals and couples previously unable to reproduce pursue the possibility of having biological children through the practice of surrogacy. This process is adopted in the two ways usually.

First, there is **Traditional Surrogacy** under which there are typical Surrogates, a woman that is artificially inseminated with a father's sperm and reproduces with her own egg.

Second, there is **Gestational Surrogacy** where the Surrogate Mother carries an embryo comprised of the egg of the biological (intended) mother and the sperm of the biological (intended) father. The Surrogate's egg is not used³.

Research Methodology

The study is based upon partly doctrinal and analytical method. The researcher has gathered information from various books, journals, research papers and research reports. The recent position is being studied with the use of the internet, reports, booklets, journals, newspaper and films etc. The study is focused on various Human Rights Reports, U.N. Conventions, and other national and international statutes dealing with surrogacy and its related aspects. These types of researches have hypotheses which are to be proven by analyzing various sources of data. The secondary sources in the form of book reviews, Articles, Journals, dictionaries, newspapers and internet etc. and primary sources such as judgments of supreme courts, high courts, reports of law commission, parliamentary assembly debates and Conventions etc. The research method which has been adapted by researcher is analytical and observe

³ Report of the Law Commission of India, No. 228, P. 9

the data to get the results for verification of total hypotheses.

Scope of the study

The scope of this study is also equally significant to educate the society for the childless couple, couple's reproductive rights and the remedies available to have their biological children. In the event of infertile couple is dire need to educate and protect their available national or international legal rights as well as human rights.

Hypothesis

1. Reproductive rights of women in general and health rights, affected by Surrogacy in particular directly or indirectly.
2. Does Human Rights Implications of Surrogacy arrangements fulfill the criteria?

Discussion- The International Human Rights Framework

Children, surrogates, and intended parents and intermediaries, have distinct and often competing interests that must be considered and balanced when assessing the human rights implications of the practice of surrogacy. There are currently no international legal instruments directly addressing surrogacy. However, experts, judicial entities and interpretive treaty bodies have addressed the practice of surrogacy and assisted reproductive technologies more generally within the concept of the rights and interests expressed under international law. Among the relevant treaties are the International Covenant on Civil and Political Rights (ICCPR)⁴, the International Convention on Economic, Social and Cultural Rights (ICESCR)⁵, the Convention on the Elimination of All Forms of

⁴ International Covenant on Civil and Political Rights 1966, at available: <https://www.ohchr.org/en/professionalinterest/pages/ccpr.aspx>

⁵ The International covenant on Economic, Social and Cultural Rights 1976 at available: <https://www.ohchr.org/en/professionalinterest/pages/cescr.aspx>.

Discrimination Against Women (CEDAW)⁶, the Convention on the Rights of the Child (CRC) and the Convention on the Rights of Persons with Disabilities (CRPD)⁷. These treaties address various rights relevant to the surrogate, including reproductive rights and the right to fair working conditions, and various rights relevant to the child born through the process of surrogacy arrangements, including the best interest of the child and the right to an identity and nationality. Treaties also address rights and interests relevant to intended parents in the surrogacy process, such as the right to found a family and to do so without discrimination⁸. This section addresses the human rights law implications of the practice of surrogacy.

1. Rights of Women

A. Non-Discrimination And A Woman's Right To Equal Protection

Prohibitions on gender discrimination and promoting women's equality are also significant to surrogacy or its context. Since only women can become surrogates, laws restricting or prohibiting surrogacy essentially restrict the rights of women alone. CEDAW requires countries to address gender-discrimination and to do so in the context of reproductive choices and activities, which often impact women disproportionately. In addition, the European Convention on Human Rights (ECHR), the American Convention on Human Rights (ACHR), the African Charter on Human and

⁶ The convention on the elimination of all forms of discrimination against women, 1979, at available: https://www.ohchr.org/en/professional_interest/pages/Cedaw. Aspx.

⁷ Convention on the Rights of Person with Disabilities at available: <https://un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities>.

⁸ Mohan Mohnot & Richa Vinod Singh, "*surrogacy & The Law*", (Mohan Law House, new Delhi 2018)

Peoples' Rights (ACHPR), as well as the ICCPR, also require states to ensure non-discrimination in the context of laws and policies around reproductive rights and choices. This includes ensuring laws on reproductive choices are not based on gender stereotypes including traditional conceptions of motherhood and maternity.

Surrogacy may violate the human rights treaty provisions on non-discrimination, especially where policymakers cannot show compelling justifications for the restrictions, such as evidence that they are essential to protecting rights of other parties that overburdens women's rights to be free from discrimination in all aspects. Even where surrogacy restrictions do not violate antidiscrimination laws, a legal system that values women's rights and equality should ensure that surrogacy regulations are consistent with those values by avoiding undue restrictions on women's freedom.

B. Right to health- Under Article 25 of the Universal Declaration of Human Rights, 1948 states that everyone has the right to standard of living adequate for the health and well-being of himself and of his family, including food, clothing, shelter and medical care and necessary social service and right to security in the event of unemployment, sickness, disability, widowhood or other lack of livelihood in circumstances beyond the control of human being⁹. According to International covenant on Economic, Social and Cultural Rights (ICESCR) 1976, U/A 12 states that it is right of everyone to the enjoyment of the highest attainable standard of physical and mental health and prevention or treatment of the diseases¹⁰. According to Convention on Elimination of all forms of Discrimination against women (CEDAW) 1979 under Article 11(1) (f)

⁹ Universal Declaration of Human Right 1948, available at: <https://www.un.org/en/about-us/universal-declaration-of-human-rights>.

¹⁰International covenant on Economic, Social and Cultural Rights 1966, available at: <https://www.ochr.org>. (Last Visited on 1st Oct.,2020)

describes the right of protection of health and to safety in working condition, including the safeguards of the function of reproduction and Article 12(1) states that the parties shall take all appropriate measures to eliminate discrimination against women in the field of health care in order to ensure, on the basis of equality of men and women, access to health care services, including those to family planning especially¹¹.

C. Right to privacy- Right to life and personal liberty is one of the most basic and fundamental rights enshrined in the Universal Declaration of Human Rights, 1948¹². It has strong foundation in the International Covenant on Civil and Political Rights (ICCPR) 1966 as well as various regional human rights documents. These covenants have added these rights to propagate and to flourish to all individuals¹³.

D. Bodily autonomy- Under Article 7 of the International Covenant on Civil and Political Rights (ICCPR), 1966 states that no one must be subjected to torture or to cruel, inhuman or degrading treatment or punishment. In particular no one must be subjected without his free consent to medical or scientific experimentation¹⁴. And u/a 17 says that no one must be picked off to arbitrary or unlawful interference with his privacy, family and home even.

E. Reproductive autonomy- According to the Committee on Economic, Social and Culture Rights (CESCR) 2016 under Article 22(2) of the covenant provides that all individuals and groups must not be discriminated on the basis of equal rights and reproductive health

¹¹ Naman Mohnot and Richa Vinod Singh, *Surrogacy & the Law* (Mohan, Delhi, 2018).

¹² Universal Declaration of Human Rights 1948, available at: <https://www.un.org> (last visited on Sep.,2020)

¹³ The International Covenant on Civil and Political Rights (ICCPR), 1966 available at: <https://www.ohchr.org>. (last visited on Sep.,20, 2020)

¹⁴ Id. at Article 7.

facilities¹⁵. According to Convention on Elimination of all forms of Discrimination against women (CEDAW) Article 12(1) States that the parties must take all appropriate measures to eliminate discrimination against women in the field of health care in order to ensure, on the basis of equality of men and women, access to health care services, including those to family planning etc. Article 12(2) states that parties must ensure to women appropriate service in connection with pregnancy, confinement and post-natal period, granting free services where necessary, as well as adequate nutrition during pregnancy and lactation¹⁶.

F. Right to Work And Favorable Working Conditions

Women have the right to work and to choose work freely as equal to men. While commercial surrogacy has not been designated as “labor” under international law, it is an arrangement in which parties agree, through a contractual arrangement, that a service will be performed in exchange for payment. Common definitions of labor or work require an activity that involves mental or physical exertion in order to achieve a purpose or result. This definition suits the services performed by the surrogate which include becoming pregnant, being pregnant, engaging in various behaviors and duties while pregnant and giving birth, a process that takes approximately one year. In exchange, the intended parents provide compensation and additional benefits and services. In many jurisdictions, the intended parents will also cover any lost wages if the woman has to temporary leave other employment. Commercial surrogacy provides economic opportunities that may be no less desirable than other forms of difficult working women might otherwise have available such as domestic

¹⁵ The Committee on Economic, Social and Culture Rights (CESCR) 2016.

¹⁶ Naman Mohnot and Richa Vinod Singh, Surrogacy & the Law (Mohan, Delhi, 2018).

work, and factory or agricultural work. But no international body has recognized surrogacy as a form of work, the assumption that surrogacy is not decent work may rest on stereotypical assumptions about women and their roles, which **historically has led to undervaluing women's work and** seldom leads to greater protection of women and their autonomy. Articles 3 and 5 of CEDAW require states to work towards eliminating such stereotypical assumptions and to adopt appropriate measures to ensure full and equal enjoyment of social, political and economic rights for women¹⁷.

In so far as surrogacy may be understood to constitute work, women engaged in surrogacy are entitled to just and favorable working conditions under Articles 23 of UDHR and 7 of ICESCR. Just and favorable working conditions include fair wages that ensure workers and their families a decent living, as well as safe and healthy working conditions. This applies to altruistic surrogates as well as commercial surrogates: General Comment 23 of the UN Committee on Economic, Social and **Cultural Rights** states that “unpaid workers, such as workers in the home or in family enterprises, volunteer workers and unpaid in terms, have a right to just and favorable conditions of work and should be protected by laws and policies on occupational safety and health, rest and leisure, and reasonable limitations on working hours, as well as social security”.

To ensure just and favorable working conditions, surrogates' relationships with agencies and intended parents should be governed by written contracts that are fair and respectful of their rights. Where such contracts provide for fair compensation, describing provision of health care or health insurance for pre and post-natal care, these provisions must be guaranteed and enforceable by law.

¹⁷ Ibid.

2. Rights of Children

Surrogacy, both commercial and altruistic, has important implications for the rights of children born through surrogacy. Surrogacy does not constitute the sale of children, children must be protected from potential misuse of the surrogacy process through standards, regulations and monitoring. Mechanisms that screen intended parents are critical but not the only concerns regarding children's rights. Beyond the right to be free from abuse, exploitation or trafficking, children have a general right to have their best interests protected, as well as a specific right to identity and nationality, and these rights must be protected in surrogacy arrangements.

A. The Best Interests Of The Child

Surrogacy must comply with the 'best interests of the child' standard of the CRC. According to Article 3(1) of the CRC requires that "in all actions concerning children the best interests of the child shall be a primary consideration". Commercial and altruistic surrogacy are not at odds with 'the best interests of the child's standard. In certain circumstances, prohibiting or criminalizing surrogacy may itself violate the 'best interests of the child'¹⁸.

Children born through surrogacy must be protected from discrimination based on the circumstances of their birth. However, the CRC does not establish that the best interest of the child standard applies to a child prior to birth, and there are compelling reasons not to introduce this standard until birth. The best interests standard includes, among other things, the right to be free from discrimination and protection from being rendered stateless. Article 2 of the CRC protects children from discrimination based on 'birth or other status.' As the Committee has explained, "children may

¹⁸ The Convention on the Rights of the Child, available at: https://www.ohchr.org/en/professional_interest/pages/crc.aspx.

also suffer the consequences of discrimination against their parents, for example, if children have been born out of wedlock or in other circumstances that deviate from traditional values.” Where children born through surrogacy are prevented from enjoying the same rights, including the right to be with the parents that created them and the citizenship rights that derive from that parentage, their best interests may be violated. For example, a rule or a decision that leaves a child stateless or with a woman/family who did not intend to have a child may violate the best interests of a child born through adoption of surrogacy.

In fact, the European Court of Human Rights, in *Mennesson v/s France*, found a violation of the children’s right to respect for private life when French authorities refused to recognize in law the parent/child relationship between intended parents and the children born through surrogacy¹⁹. In addition, the CRC Committee in General Comment No. 14 stated that the term “family” should be interpreted in a broader sense to include biological, adoptive or foster parents”. Under Article 9 of the CRC, children should not be separated from their parents against their will unless a judicial determination is made of abuse or mistreatment and it is determined such separation is in the best interests of the child.

B. Right To Citizenship And Identity

Surrogacy implicates the child’s right to an identity that is his. According to CRC under Articles 7 and 8 it includes the right to a name, a nationality and family relations, and must be enjoyed by the child from birth. The European Court of Human Rights, for example, has directed states to register children as the intended parent’s child, notwithstanding national laws to the contrary, given the citizenship, nationality and identity rights

¹⁹ *Mennesson v/s France*, application no 65192/11, council of Europe, European court of Human Rights 26 June 2014. Available at: <https://hudoc.echr.coe.int/sites/eng/pages/search.aspx?i001-145179>

of the child. International cooperation may help to address them. States have the duty to take all appropriate measures to ensure that children's rights are well secured, protected and that they have acquired citizenship and parentage from birth, in line with their best interests.

3. Rights and Interests of Intended Parents

a) Discrimination In The Enjoyment Of Reproductive Freedom

Surrogacy facilitates the intended parent's right to found a family without discrimination on the basis of sexual orientation or disability. The right to found a family is widely recognized in international law, it is explained in Article 16 of the UDHR, Article 23 of the ICCPR, Article 10(1) of the CESC, Article 12 of the ECHR, Article 17 of the ACHR, Article 18 of the ACHPR, and Principle 19 of the ASEAN Human Rights Declaration. Article 10 of ICESCR emphasizes that "the widest possible protection and assistance should be accorded to the family particularly for its establishment"²⁰. CCPR General Comment No. 19 provides that "the right to found a family implies, in principle, the possibility to procreate and live together". The right to found a family, combined with reproductive rights, can establish a right to reproductive assistance and communion. Article 11 of ACHR protects access of couples to artificial reproductive technology. While the European Court of Human Rights has extended states deference through the margin of appreciation for regulating reproductive technologies, especially when the states have engaged in careful deliberative processes, the Strasbourg court has noted that the Court would have to keep the issue under review to keep pace with the nature of social and scientific developments in the field. Article 23 of the CRPD requires states to take measures to end discrimination in order to ensure recognition of the right

²⁰ Article 16 of the UDHR, Article 23 of the ICCPR, Article 10(1) of the CESC, Article 12 of the ECHR, Article 17 of the ACHR, Article 18 of the ACHPR, and Principle 19 of the ASEAN Human Rights Declaration.

of persons with disabilities to found a family, to retain their fertility on an equal basis with others, and to decide freely and responsibly on the number and spacing of their children. Infertility may constitute a form of disability, defined as “including those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others”. Providing infertile people access to surrogacy is a way of allowing them to fully enjoy their reproductive rights on an equal basis with those who are fertile. According to the World Health Organization (WHO) more than 180 million couples suffer infertility in developing countries. These couples are severely stigmatized due to childlessness and often isolated and excluded as a result²¹. Inequality in access to reproductive technologies and processes may violate the right of all to share in scientific advancements and technology, as enshrined in the Universal Declaration of Human Rights and the ICESCR. Access to surrogacy is also a way of granting same-sex couples to exercise their reproductive rights and their right to found a family on par with heterosexual individuals. Principles of equal protection of the law and freedom from discrimination on the basis of sexual orientation can therefore be disappointed by the limitation of access to reproductive technologies, including surrogacy.

Right To Benefit From Scientific Progress

Article 27 of the Universal Declaration of Human Rights, 1948 which stipulates that everyone has the right to share in scientific advancements and its benefits²². This right gained more prominence when it was included in Article 15 of the International Covenant on Economic, Social

²¹ Vayena E, Rowe P, Griffin PD, eds. Current practices and controversies in assisted reproduction: report of a WHO meeting Geneva, WHO, 2002

²² The Universal Declaration of Human Rights, 1948

and Cultural Rights (ICESCR) 1966 which recognizes the right of everyone to enjoy the benefits of scientific progress and its applications²³.

Recommendations and Suggestions

Current trends in parenting, alternative family structures and women's advancement in the workplace suggests that high demand for surrogacy will continue, and may expand in the coming era. A thoughtful approach to surrogacy and the rights and interests of all parties involved is needed. Among the many rights implicated in surrogacy practices are, women's reproductive freedom, bodily autonomy and privacy, the rights of children to protection from exploitation and to be raised in circumstances that meet their needs and best interests and the right of individuals who are unable for reasons of infertility, sexual orientation and otherwise to found a family without this form of reproductive assistance and to do so in a manner that is free from discrimination in any form.

A. Legalization of Surrogacy

The initial policy question for states is "whether surrogacy should be severely restricted or banned". If not all contexts, bans that prohibit surrogacy wholesale unduly infringe on women's rights to bodily autonomy and privacy as well as self-determination and in the context of commercial surrogacy, potentially the freedom of choice of labor. Bans also compromise the ability of individuals unable to reproduce due to infertility, sexual fulfillment or other circumstances to found families. While these rights are not absolute, restrictions should be justified. Care must be taken to ensure bans or severe limitations on surrogacy are not based on speculation or uncalculated fears of abuse or on conditions of inequality and exploitation that are present more broadly outside the

²³ Article 15 of the International Covenant on Economic, Social and Cultural Rights (ICESCR) 1966

surrogacy context. Finally, restrictions on surrogacy should be considered in light of the benefits that surrogacy may promote, such as the opportunity to found a family for infertile, LGBTQ, individuals and couples.

B. Compensation

Compensation for the service of surrogacy has proven to be the matter of controversy. Women in economic need are thought to be more likely to enter commercial surrogacy arrangements. Altruistic surrogacy arrangements are applied between close friends and family members, where risk of exploitation may be further reduced. Altruistic surrogacy arrangements better protect against the potential for exploitation but several considerations relevant to women's human rights should be accounted for. First, altruistic surrogacy limits an economic opportunity for women and requires them to engage in a service that only women can provide. It involves a significant amount of labor, risk, time and investment for no compensation. Second, women may be pressured by family dynamics to provide such a service altruistically as many family structures continue to be organized around women's disempowerment and disproportionate responsibility for familial duties. Altruistic surrogacy limits the ability of intended parents to engage a surrogacy service, as there is likely to be a more limited pool of women willing to perform this service with no compensation which should morally be granted to her.

C. Protection: Surrogates, Children And intended Parents

Surrogates

Various policies, rules and regulations should protect women in the surrogacy procedure, ensuring voluntariness and informed consent safeguarding reproductive rights and adequate access to health care and

ensuring fair contract terms and favorable working conditions.

a. Ensuring Women's Choice And Informed Consent

Any woman who chooses to participate in surrogacy must do so voluntarily and with full knowledge of the surrogacy process. The requirement of informed consent protects women's right to make decisions about their bodies and reproductive choices freely, and guards against any undue pressure, coercion and deception. Women's consent must be voluntary and informed as to every aspect of the process, including the decision to become pregnant, the conditions of the pregnancy and the process of giving birth and post-natal medical care. Policies that would strengthen women's ability to provide informed consent include a mandatory written agreement between the parties in a language understood by surrogate, regulations that determine the format and content of information provided to surrogate mother about the surrogacy process and implications, the provision of free independent counsel or advisor throughout the process to the surrogate mechanisms that ensure terms of surrogacy agreements are enforceable and an independent body that is available to the surrogate for consultation, information and monitoring.

b. Adequate Standards Of Medical Care

The surrogacy process must be conducted in a manner that meets the best practices in the field of reproductive medicine set up. It must be conducted by licensed medical professionals with adequate resources and facilities. Surrogate women must receive the necessary medical care prior, during and for a reasonable period of time after the pregnancy. Financial limitations or interference by third parties can limit women's access to adequate healthcare issues. If the state in which surrogacy is taking place does not have the infrastructure for such medical care, regulations on

surrogacy should ensure an alternate form of private care is provided to surrogates.

c. Enforceable Agreements And Accountability Mechanisms

Surrogacy arrangements must be governed by contractual commitments, the least terms of which, must be set in law and enforceable through an effective and accessible mechanism. The state or transnational body should define least fair terms and provide adequate administrative and judicial mechanisms for their enforcement. In certain contexts, the contractual terms may be the only explicit provisions governing the parties interactions and should, therefore, be aimed at protecting all parties. To best ensure fair terms, surrogates should be assisted or represented by legal counsel or an advisor, independent of the intermediary or intended parents.

d. Favorable Conditions Of Surrogacy

Surrogates are entitled to favorable conditions during the surrogacy process, regardless of whether they are providing the service for commercial or altruistic reasons. Whether or not a state designates surrogacy as “work” or “labor”, the conditions of surrogacy should be regulated, especially because the labor of surrogacy involves a commitment to the process for a fixed term. Conditions defined by regulations could include compensation mechanisms, benefits etc.

Children

The welfare of children born through surrogacy must be a primary concern of any surrogacy mechanism. Children’s rights to be protected from exploitation and abuse, to have their best interest taken into account as primary consideration in all decisions involving them, and to have an identity, including legal parentage and citizenship, are all implicated in the practice of surrogacy.

a) Protection From Exploitation And Abuse

States have a duty under international law to protect children from exploitation and abuse. To prevent such abuses, states should put in place a mechanism to insure intended parents are willing and able to care for the resulting child. For example, certain existing regulations require that intended parents meet the same standards of fitness that are required for adoptions domestically. Pre-conception fitness determinations are advisable and should be made with regulatory guidance. Fitness determinations should not perpetuate stereotypes or discriminate against same-sex couples or single parents. States should not presume that the risk of exploitation solely arises from intended parents. In certain circumstances the risks to children may be most acute from unscrupulous intermediaries, or from policies that interfere with the relationship between the child and intended parents.

b) Best Interests Of The Child

The best interests of the child should guide all policies and mechanisms impacting children. As a consequence, even where a state bans surrogacy, the state should provide some mechanism for children born through surrogacy and intended parents to remain together if that is in the best interest of the child. Children should not be discriminated against based on the conditions of their birth. Decisions about the best interest of the child in the surrogacy context should not be based on preconceived assumptions about the intended parents and the practice of surrogacy but on a close examination of the best environment for the child to develop her or his full potential. Careful review of surrogacy practices and policies should be made to determine how best to support children born through surrogacy. Important questions include whether the child should be able to access information about her or his genetic origins and heritage at a

certain age.

c) Right To Parentage And Citizenship

No child born through surrogacy should be left stateless or have their right to identity, parentage and citizenship violated by state laws or the incompatibility of different states' laws on surrogacy and parentage. States must protect children's right to an identity, including legal parentage and citizenship. States must therefore recognize the legal relationship between the child and the intended parents and grant citizenship to the child born to a surrogate abroad if that is in the child's best interest. States should avoid interference with child-parent relationship formed through surrogacy where there is no evidence of exploitation or abuse.

Intended Parents

Intended parents have also been impacted by the lack of regulation and standards in the surrogacy industry. Intended parents have been victims of fraud and misrepresentation by intermediary organizations. Intended parents right to found a family and to do so without discrimination is implicated in policy decisions around surrogacy. Child bearing through surrogacy is an important advancement in assisted reproduction for individuals unable to procreate through traditional means. Access to surrogacy has become an important path for same-sex couples to exercise their reproductive rights and found families. Similarly, older couples suffering from infertility and single parents are increasingly benefitting from surrogacy practices. In this context, surrogacy can enable enjoyment of the basic right to found a family for many previously unable to do so. A human rights protective and promoting approach must work toward protecting the rights of all, striking the right balance through well informed and measured laws and policies.

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UTTARAKHAND RIGHT TO SERVICE ACT 2011: A STEP TOWARD CITIZEN CENTRIC GOVERNANCE

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Abstract

The concept of governance during the 1990s was focused on service delivery as the most important element in the global governance system. The formulation and implementation of the citizen charter, emergence of the concept social audit, e-Governance and Public Service Guarantee Act have transformed the governance structure in India. The Gandhian philosophy of Sarvodaya and its principles provide moral and ethical support for the right to public service act in India.

The Government of Uttarakhand has implemented right to public service act in 2011. The primary objective of this act is to provide notified services within stipulated time- frame to the citizen and the resolution of their grievances. This paper will examine the functioning of Uttarakhand Right to Service Act 2011. It will also throw light on how this Act has achieved the goal of citizen centric administration.

Keyword- New Public Governance, Uttarakhand Right to Service Act 2011, Citizen Charter, Citizen Centric Governance, E-governance

Introduction

Citizen-centric governance refers to a model of governance where citizens are at the center of all government policies and services. This means that the government designs its policies and services based on the needs and preferences of citizens, and makes them easily accessible to them. The Uttarakhand Right to Service Act is a good example of citizen-centric governance, as it aims to provide time-bound delivery of public services to citizens of the state.

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The act empowers citizens by giving them the right to demand services from government officials within a stipulated time frame. It also specifies penalties for government officials who fail to deliver services on time. This has helped to create a culture of accountability among government officials, who are now more responsive to the needs of citizens.

The Uttarakhand Right to Service Act, 2011, is a legislation enacted by the government of Uttarakhand to provide time-bound delivery of public services to citizens of the state. The act came into effect on 1st August 2011.

Under this act, citizens can avail of various public services such as issuance of driving license, birth certificate, and other government-related documents within a stipulated time frame. The act also specifies a penalty clause for government officials who fail to provide services within the specified time limit.

Moreover, the act has also led to the creation of a State Public Service Delivery Commission, which oversees the implementation of the act and addresses grievances of citizens. This has further enhanced citizen participation in governance, as citizens can now approach the commission with their grievances and get them resolved in a timely manner. The commission also conducts regular audits of the functioning of government offices to ensure compliance with the act.

The objective of the act is to create a transparent and accountable system of governance, where citizens can access public services easily, and government officials are held responsible for their actions. The act covers all the departments of the state government and all public authorities, including municipal bodies.

Overall, the Uttarakhand Right to Service Act is a significant step towards improving governance and delivering better public services to citizens.

Provisions of Uttarakhand Right to Service Acts (URTSAct), 2011

The Uttarakhand Right to Service Act, 2011, contains several provisions aimed at providing time-bound delivery of public services to citizens of the state. Some of the key provisions of the act are as follows.

1. Short title, extent and commencement- This act explicitly mentions the name of the act, the number of services, and the date of enactment. The act is known as Uttarakhand Right to Service Act, 2011.
2. The act defines the designed officer, appellate hierarchy, the notified services, and eligible persons etc. under section 3 of Uttarakhand right to service act 2011.

3. The act mentions notified services that must be provided to eligible individuals. The state government will update services from time to time by its own executive order.
4. Time-bound delivery of services: The act mandates that all public services covered under it should be provided to citizens within a stipulated time frame. For instance, the issuance of a driving license should be completed within 30 days from the date of application.
5. Citizen's charter: The act mandates that every public authority covered under it should publish a citizen's charter that specifies the services provided, the time frame for delivery of services, and the procedure for grievance redressal.
6. Every eligible citizen has the right to get public services within a stipulated timeline. In the event that the officials fail to provide the services, they will be held accountable for their actions.
7. The person who did not obtain services within the stipulated time limit or whose application for services has been rejected by the designated officer can file an appeal with the first and second appellate authorities and finally Uttarakhand right to service commission. But the provision of second appellate authority was deleted by the amendment act of 2014.
8. The act has provision for imposing a penalty on erring officers, who fail to comply with their duty. This provision of imposing a penalty is inspired by the right to information act.
9. The act has provision for protection of action taken by an official in good faith. There will be no suits, prosecutions, or legal actions against public officials.
10. The state government has the power to issue an official notification to make rules to carry out the provisions covered under the acts. It also mentions that all the rules made under this act by the state government shall be laid before the state legislature.
11. The state government has power to issue orders which are in conformity with the provisions of the act to remove difficulties in the implementation of the act.
12. The act has defined the power, function, duties, and responsibility of designated officials to ensure proper functioning.
13. The second appeal is handled by the relevant department in the majority of states. To ensure appropriate application of the Act, states like Punjab and Uttarakhand have "Right to Service Commission" provisions.
14. Under this act, there is a provision of establishment of Uttarakhand right to service commission. There will be one chairman and two members. They will be appointed by governor.
15. Monitoring and review: The act provides for regular monitoring and review of the implementation of the act by the State Public Service Delivery Commission. The commission is required to conduct regular audits of the functioning of government offices to ensure compliance with the act.

Review of Literature

The Right to Service Act has been the subject of several research studies and scholarly articles. These studies have provided insights into the implementation of the Act, its impact on service delivery, and the challenges faced in its implementation. Here are some research articles and publications related to the right to service act in India, good governance and e-governance and Uttarakhand Right to Service Act, 2011.

Yamini Aiyar (2014)³: -This research paper provides an overview of the implementation of the Right to Services Acts in various states in India, including the Uttarakhand Right to Service Act. The paper highlights the challenges faced by the Indian government in implementing the Right to Services Acts, which aim to ensure timely and efficient delivery of government services to citizens. These challenges include bureaucratic resistance, inadequate staffing and training, lack of political will, and poor accountability mechanisms. Despite these challenges, the author identifies several opportunities for improving service delivery and citizen participation. These include using technology to streamline service delivery, building strong citizen grievance redressal mechanisms, and encouraging civil society participation in monitoring the implementation of the Acts. The paper also provides a detailed analysis of the Uttarakhand Right to Service Act, which was passed in 2011 and is considered to be one of the most effective Right to Services Acts in the country.

Jonathan Fox and Archon Fung (2015)⁴: -The authors compare the RTPS legislation in various Indian states and highlight their similarities and differences. They note that the RTPS laws are aimed at ensuring timely and efficient delivery of public services to citizens and emphasize the need for transparency, accountability, and citizen participation in governance. The article provides a comprehensive overview of the RTPS legislation in India and its potential to improve public service delivery and promote good governance. The authors highlight the need for effective implementation and suggest measures to address the challenges faced in the implementation of RTPS laws.

Pradeep Kumar and Poonam Kapoor (2015)⁵: - This article provides an overview of the Right to Services Acts in India, including the Uttarakhand

³Aiyar, Y. (2014). Challenges and opportunities in implementing the right to services in India: A review of state-level experience. Accountability Initiative, Centre for Policy Research. New Delhi. PP 180-192.

⁴Fox, J., & Fung, A. (2015). Right to public services legislation in India: A comparative overview of state-level laws. *Journal of Development Studies*, Vol-II, PP.1275-1290.

⁵Kumar, P., & Kapoor, P. (2015). The Right to Services in India: Opportunities and Challenges. *International Journal of Advanced Research in Management and Social Sciences*, Vol-II, pp.161-172.

Right to Service Act. The authors highlight the opportunities and challenges associated with implementing these acts and the potential for improving service delivery and citizen participation in governance.

Dr. Mukesh Chandra Joshi and Dr. Sanjeev Kumar(2016)⁶: - The authors highlight the significance of the Act in promoting transparency, accountability, and citizen participation in governance. They note that the Act has brought about a paradigm shift in the delivery of public services in Uttarakhand, making it more citizen-centric and efficient. The authors also discuss the impact of the Act on the delivery of public services in Uttarakhand. They note that the Act has led to a significant improvement in service delivery, reduced corruption, and increased citizen satisfaction. Citizen participation has been critical in ensuring that the Act is implemented effectively, promoting transparency and accountability in governance, and enhancing citizen trust in the government.

Dr. K. V. Thomas and Dr. K. M. Mathew (2016)⁷: -This research paper provides a comparative analysis of the Right to Service Acts in India, including the Uttarakhand Right to Service Act. The authors highlight the importance of such acts in promoting citizen-centric governance and improving service delivery.

Manish Kumar (2016): - The article provides an assessment of the implementation of the Uttarakhand Right to Service Act and its impact on the delivery of public services in the state. The author highlights the challenges faced in implementing the Act, including the lack of awareness among citizens, the resistance from bureaucrats, and the absence of an effective grievance redressal mechanism. The author also notes that the Act lacks a comprehensive framework for monitoring and evaluation, which has hindered its effectiveness. He has suggested measures to overcome them, emphasizing the need for effective awareness campaigns, training for government officials, and a comprehensive framework for monitoring and evaluation.

Dr. Ruchi Singh and Dr. Ashwani Kumar Singh (2018)⁸: -The authors highlight the role of e-governance in improving service delivery and

⁶Joshi, M. C., & Kumar, S. (2016). Right to service act: A boon for good governance. *International Journal of Research and Analytical Reviews*, Vol-III, pp. 534-538.

⁷Thomas, K. V., & Mathew, K. M. (2016). Right to Service Acts in India: A Comparative Study. *Journal of Public Administration and Governance*, Vol-IV, pp. 25-38.

⁸Singh, R., & Singh, A. K. (2018). E-Governance in Uttarakhand: An Overview. *International Journal of Advanced Research in Management and Social Sciences*, Vol-VII, pp. 121-128.

promoting transparency and accountability in governance. They note that e-governance initiatives have been implemented in Uttarakhand to enable citizens to access government services more easily, reduce corruption, and enhance government efficiency. The authors highlight the implementation of the Uttarakhand Right to Service Act as a significant e-governance initiative in the state. The authors note that the Act has been successful in improving service delivery and reducing corruption in the state. The authors also discuss other e-governance initiatives implemented in Uttarakhand, including the creation of a state portal for citizens to access government services and the use of mobile applications for service delivery.

Overall, the literature review suggests that the Uttarakhand Right to Service Act has been instrumental in promoting citizen-centric governance and improving the delivery of public services in the state. However, there are challenges in implementing the act effectively, and there is a need for regular monitoring and review to ensure its successful implementation. The use of e-governance has also been identified as a potential tool to support the implementation of the act.

Objectives: - The major objectives of this paper are as follows:

1. To outline the key provisions of Uttarakhand Right to Service Act,2011
2. To make a comparison among right to service acts of different states.
3. To assess the progress of implementation of Uttarakhand Right to Service Act,2011
4. To assess the obstacles in the implementation of Uttarakhand Right to Service Act,2011

Methodology of the study

The study is qualitative and quantitative in nature. The comparative research method is used to make comparisons between different provisions in different state public service guarantee acts. The content analysis approach is adopted in study the key provision of the act. The secondary data is collected from the annual report of the commission. The other secondary sources are books, research articles, and various government reports and acts. The desk-based research method has been followed.

Comparison of main provisions of the right to public service guarantee act across states: -The five states are selected for comparison. The states include Uttarakhand, Madhya Pradesh, Uttar Pradesh, Karnataka and Delhi.

1. **Short Title of various Acts and their commencement date:** The different states have different name with different date of commencement of the act which is shown below. Madhya Pradesh was the first state which enacted right to services act in India. Madhya Pradesh was followed by Bihar, Delhi, Uttarakhand and Uttar Pradesh.

Table No. 1: Short Title and Year of Commencement

State	Short Title of the Act	Year of commencement
Karnataka	The Karnataka (Right of Citizens to Time Bound Delivery of Services) act, 2011 (SAKALA)	02-04-2012
Uttarakhand	The Uttarakhand Right to Service Act, 2011	04-10-2011
Delhi	Right of Citizen to Time Bound Delivery of Services Act, 2011	28-04-2011
Uttar Pradesh	Uttar Pradesh Janhit Guarantee Adhinyam, 2011	13-01-2011
Madhya Pradesh	Madhya Pradesh Lok SewaonkePradan Ki Guarantee Adhinyam, 2010	18-07-2010

Sources: Retrieved from the official website of the respective state government

2. **Penalty amounts payable under different Acts:** The amount of penalty varies from state to state under the acts. It ranges from Rs. 250 per day to maximum Rs. 5000.

Table No. 2: Provision of Penalty across the State

State	Penalty for non-compliance
Uttar Pradesh	Rs. 250 per day, maximum Rs. 5000
Madhya Pradesh	Rs. 250 per day, maximum Rs. 5000
Delhi	Rs. 10 per day, maximum Rs. 200 per application
Uttarakhand	Rs. 250 per day, maximum Rs. 5000
Karnataka	Rs. 20 per day, maximum Rs. 500

Sources: Retrieved from the official website of the respective state government

3. **Nodal Department for implementation of the act:** The nodal department for implementation of the act varies from state to state. Madhya Pradesh has separate independent department for

implementation of the act. The government of Madhya Pradesh has established separate department in 2020 by gazette notification.

Table No. 3: Nodal department responsible for implementation of act

State	Nodal Department
Uttar Pradesh	Revenue Department
Delhi	Information Technology Department
Uttarakhand	General Administration Department
Karnataka	Department of Personel& Administrative Reforms
Madhya Pradesh	Public Service Management Department

Sources: Retrieved from the official website of the respective state government

- 4. Number of notified services and departments to be covered under the various act:** -The number of services notified under the various Acts varies significantly. The biggest number of services have been announced under the Karnataka Act, followed by Maharastra and Delhi. State of Uttar Pradesh is ranked fourth out of 20 states. The following list includes the number of notified services and departments that are regulated by various state acts.

Table No. 4: Coverage of Department and Notified Services

State	Department covered	Notified Services
Uttar Pradesh	47	346
Karnataka	62	729
Uttarakhand	27	243
Delhi	22	361
Madhya Pradesh	23	164

Sources: Retrieved from the official website of the respective state government.

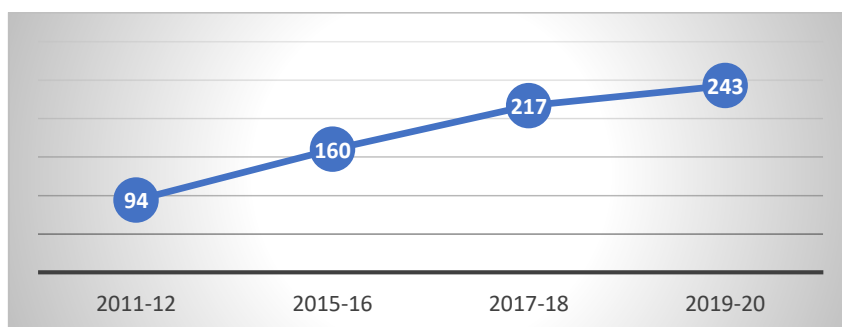
Assessment of Progress in Implementation of Uttarakhand Right to Service Act 2011

The Uttarakhand Right to Service Act, 2011 was enacted to provide time-bound delivery of services to citizens and to ensure transparency and accountability in governance. The act came into effect on October 15, 2011. It has had a positive impact on service delivery and citizen empowerment.

However, there is a need to address the challenges to ensure the effective implementation of the act. Since its implementation, there have been efforts to assess the progress of the act. The following are some of the findings of the assessment.

1. **Notification of Public Services:** - The Uttarakhand Right to Service Act was enacted in 2011 with the aim of providing time-bound delivery of services to citizens of the state. Under this act, every public authority is required to notify a list of services along with the timeline within which the services will be provided to the citizens. The public authority is also required to ensure that the services are provided in a transparent and efficient manner. The list of services covered under the act includes various departments such as revenue, police, health, education, and transport etc.

Line Graph No:1- Number of Public Services notified by the Government of Uttarakhand



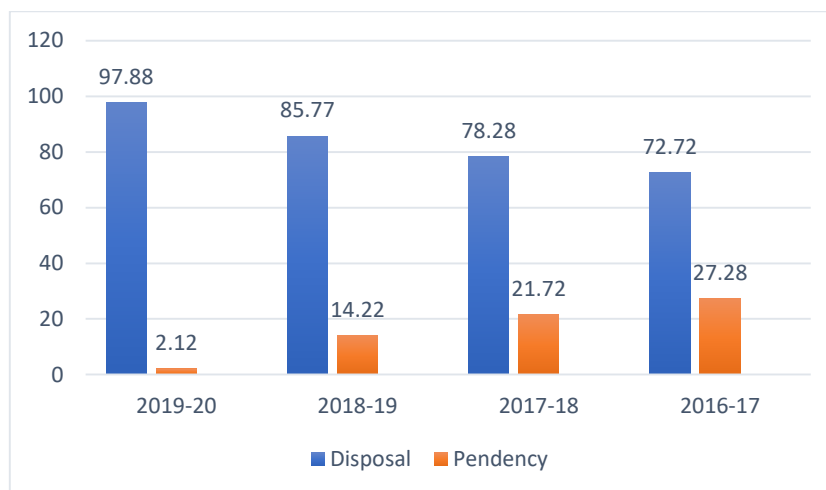
Source: Annual Report (2019-20) of Uttarakhand Right to Service Commission.

The above graph shows that in year 2011-12, the government has notified 94 services. But after the establishment of Uttarakhand Right to Service commission in 2014, the notification of services has increased continuously.

2. **Receipt and Disposal of Application Under URTS Act, 2011:** -As per the Act, when a citizen applies for a service covered under the URTS Act, 2011 the public authority must issue an acknowledgment receipt immediately. The receipt should contain the name of the applicant, the service applied for, the date of application, and the expected date of delivery of the service. After receiving the application, the public authority is required to process the application and dispose of it within the specified timeline. If the application is complete and all necessary documents have been submitted, the public authority must provide the service within the specified time. If the application is incomplete, the public authority must notify the applicant of the deficiencies within 5 days of receiving the application. In case the public authority is unable

to deliver the service within the specified timeline, it must provide a valid reason for the delay and inform the applicant about the new expected delivery date. The Act also provides for a grievance redressal mechanism in case of any delays or non-delivery of services.

BarDiagram:1- The Rate of Disposal and Pendency of the application (In Percentage)



Source: Annual Report of Uttarakhand Right to Service Commission

The above bar diagram represents the disposal and pendency rate of the application received. It shows that the rate of disposal is increasing continuously and the rate of pendency is decreasing continuously.

Table No:4- Application and their rate of disposal and pendency

District	Application Received	Disposal Rate (%)	Pendency Rate (%)	1st Appeal	Disposal of 1st Appeal	2nd Appeal	Disposal of 2nd Appeal
Pauri	168712	100	0.00	0	0	0	0
Rudrapryag	291217	99.75	0.25	0	0	0	0
Chamoli	385136	99.87	0.13	330	0	0	0
Tehri	186020	99.69	0.31	2	1	1	1
Uttarkashi	137466	99.75	0.25	10	0	0	0
Dehradun	409071	96.39	3.61	2	0	0	0

Haridwar	542929	91.86	8.14	9440	46	20	20
Almora	318533	99.24	0.76	0	0	3	0
Pithoragarh	127187	99.91	0.09	0	0	0	0
Bageshwar	122733	99.76	0.24	0	0	0	0
Nainital	179498	99.98	0.02	0	0	0	0
Champawat	148815	98.83	1.17	0	0	0	0
Uddham Singh Nagar	462595	98.27	1.73	4	0	0	0
Total	3479912	97.88	2.12	9788	47	24	21

Source: Annual Report (2019-20) of Uttarakhand Right to Service Commission

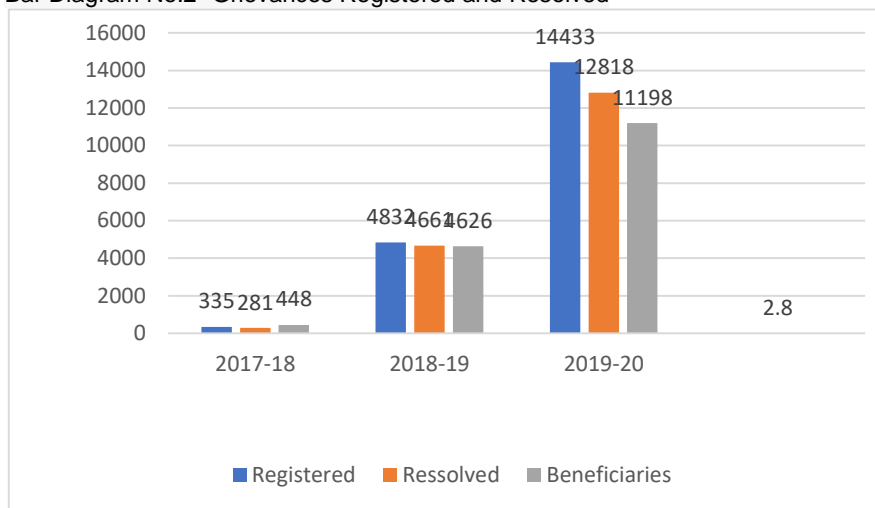
The above table shows that the maximum number of disposed applications was in Pauri district with zero pendency rate while the least number of disposed applications were in Haridwar district with highest pendency rate.

Functioning of Uttarakhand Right to Service Commission

The Uttarakhand Right to Service Commission is responsible for ensuring the effective implementation of the Uttarakhand Right to Service Act, 2011. The Commission is an independent body that works to ensure that the citizens of Uttarakhand receive timely and efficient public services from government departments and agencies. Here are the functions of the Uttarakhand Right to Service Commission

- 1. Receiving of the Grievances and their disposal-**The Commission is authorized to receive complaints from citizens regarding the delivery of public services. The complaints can be made in writing or online, and the Commission is obligated to investigate and resolve them within a specific time frame.

Bar Diagram No:2- Grievances Registered and Resolved



Source: Annual Report of Uttarakhand Right to Service Commission

The above shows that minimum number of complaints were registered and resolved in the year 2017-18 and maximum number of complaints were registered and resolved in the year 2019-20.

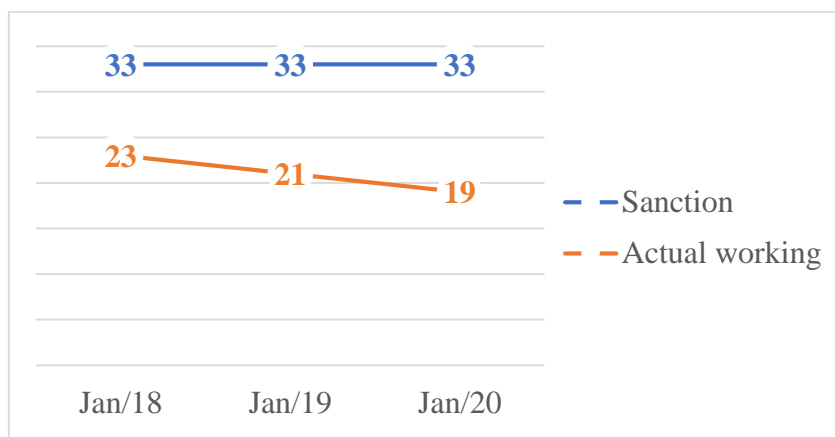
2. **Impose penalties:** The Commission can impose penalties on government officials who fail to provide services within the specified time frame. According to the annual report 2019-20, the commission has issued warning to the public official for not comply with the provision of the act. The commission has imposed penalties on 91 public official amounts vary from 250 rupees to 5000 rupees. (Annual Report 2019-20)
3. **Public awareness:-** The Uttarakhand Right to Service Commission is responsible for creating public awareness about the provisions of the Uttarakhand Right to Service Act and the procedures for filing complaints. The Commission undertakes several measures to create awareness among the public, such as:
 - **Conducting outreach programs:** The Commission organizes various outreach programs, such as workshops, seminars, and public meetings, to educate the public about their rights under the Act.
 - **Launching awareness campaigns:** The Commission launches awareness campaigns through various media channels, such as television, radio, newspapers, and social media, to spread the message about the Act and its provisions.
 - **Publishing information:** The Commission publishes information about the Act and its provisions on its website, as well as in brochures and pamphlets that are distributed to the public.

- **Working with civil society organizations:** The Commission works closely with civil society organizations to create awareness among the public. It collaborates with these organizations to organize outreach programs and awareness campaigns.

Overall, the Uttarakhand Right to Service Commission takes several steps to create awareness among the public about their rights under the Act and encourages citizens to use their right to seek timely and efficient public services from government departments and agencies.

4. **Orientation program by commission for officials:** - The Uttarakhand Right to Service Commission conducts orientation programs for government officials to familiarize them with the provisions of the Uttarakhand Right to Service Act and their roles and responsibilities in ensuring the timely and efficient delivery of public services. The orientation program aims to create a better understanding among government officials about the Act and its provisions, and to sensitize them towards the needs and concerns of citizens. In 2019-20, 351 officials were trained by the commission in the Tihri, Uttarkashi and Rudrapryag district. (Annual Report 2019-20).
5. **Sanction vacancy and staff in commission:** -The Commission has the power to sanction the necessary staff and resources required for its functioning. The government of Uttarakhand is responsible for providing the necessary budget and resources to the Commission to enable it to perform its functions effectively. The Commission has the power to appoint its own staff, subject to the rules and regulations of the government of Uttarakhand. The Commission can also hire experts and consultants to assist it in its work. The Commission is required to maintain a proper record of its staff and resources, and to provide regular reports to the government of Uttarakhand on its activities and expenditure. The total vacancy sanction is 33 as par annual report 2019-20.

Line Graph:2- Sanction Vacancy and Action Working in the Commission



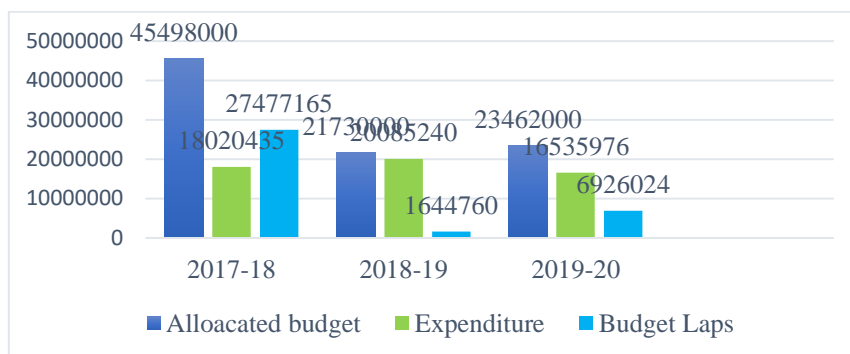
Source: Annual Report of Uttarakhand Right to Service Commission

The above line graph shows that the sanction post is 33. But commission is working with 60 percent staff.40 percent post are vacant in the commission.

6. Financial Allocation to the Commission by the Government of Uttarakhand: - The budget for the Commission is allocated by the government of Uttarakhand as part of its annual budgetary process. The allocation of funds is based on the requirements of the Commission, and takes into account the various activities and programs that the Commission plans to undertake during the fiscal year. The Commission is required to prepare a detailed budget proposal for the upcoming fiscal year, which includes estimates of the funds required for its various activities and programs. This proposal is submitted to the government of Uttarakhand for consideration and approval.

Once the budget is approved, the funds are disbursed to the Commission in a phased manner, usually on a quarterly basis. The Commission is required to maintain proper records of its expenditure and to submit regular reports to the government of Uttarakhand on its activities and expenditure. The government of Uttarakhand may also provide additional funds to the Commission, if required, for special projects or initiatives. In such cases, the Commission is required to submit a detailed proposal outlining the need for additional funds and how they will be utilized.

Bar Diagram No:3- Budgetary Allocation and Expenditure



Source: Annual Report of Uttarakhand Right to Service Commission

Assessment of obstacles in the implementation of Uttarakhand Right to Service Act, 2011

The Uttarakhand Right to Service Act, 2011 was enacted with the aim of providing time-bound delivery of public services to citizens of the state of Uttarakhand. However, the implementation of the act has faced several obstacles, which include:

- ❖ **Lack of Awareness:** One of the major obstacles in the implementation of the Uttarakhand Right to Service Act, 2011 is the lack of awareness among the citizens about their rights under the act. Many people are not aware of the services covered under the act and the timelines within which these services should be delivered. This leads to a lack of demand for services and makes it difficult for the authorities to enforce the provisions of the act.
- ❖ **Lack of Infrastructure:** The implementation of the act requires the creation of a robust infrastructure to handle the service delivery process. This includes setting up online portals for application and tracking of services, hiring personnel to handle grievances, and creating a system to monitor service delivery. The lack of infrastructure in the state has hindered the implementation of the act.
- ❖ **Resistance from Government Officials:** The implementation of the act requires the cooperation of government officials at all levels. However, there has been resistance from officials who are not willing to change their traditional ways of working. This has resulted in delays and non-compliance with the provisions of the act.
- ❖ **Limited Coverage:** The act covers only a limited number of public services, leaving out several essential services such as healthcare and education. This has resulted in the exclusion of a large section of the population from the benefits of the act.
- ❖ **Lack of Political Will:** The implementation of the act requires strong political will and commitment from the government. However, there has

been a lack of political will to enforce the provisions of the act, leading to its ineffective implementation.

- ❖ **Insufficient Penalties:** The act provides for penalties and compensation for delays and non-delivery of services. However, the penalties are not significant enough to deter officials from violating the provisions of the act. This has led to a lack of accountability and transparency in the delivery of services.
- ❖ **Political Interference:** Political interference is another obstacle in the implementation of the Act. Politicians often use their influence to get their work done quickly, which results in delays and denial of services to ordinary citizens.
- ❖ **Complex Procedures:** The procedures for availing the services under the Act are often complex and time-consuming, which discourages citizens from using the Act to get their work done. Simplification of the procedures is necessary to ensure the effective implementation of the Act.
- ❖ **Lack of Monitoring Mechanism:** The Act requires a robust monitoring mechanism to ensure the timely delivery of services. However, the lack of an effective monitoring mechanism makes it difficult to hold the officials accountable for delays or denials of services.

Suggested Reform in Implementation of the URTS Act 2011

Here are some suggested reforms that could help improve the implementation of the Uttarakhand Right to Service Act, 2011:

- ❖ **Awareness Campaigns:** The government can launch awareness campaigns to educate the citizens about their rights under the Act and the services they are entitled to receive. This can be done through various mediums such as television, radio, print media, social media, and community outreach programs.
- ❖ **Training for Officials:** The officials responsible for delivering the services under the Act should be given training on the provisions of the Act and the importance of timely delivery of services. This would help in improving their motivation and accountability towards the delivery of services.
- ❖ **Use of Technology:** The government should invest in technology to develop a robust monitoring mechanism that can track the delivery of services in real-time. The use of technology such as online portals, mobile applications, and SMS alerts can help in improving the delivery of services and reducing corruption.
- ❖ **Simplification of Procedures:** The procedures for availing services should be simplified and made user-friendly to encourage citizens to use the Act. This could involve the use of common service centers, online portals, and single-window clearance systems.

- ❖ **Strengthening the Grievance Redressal Mechanism:** The government should strengthen the grievance redressal mechanism to address complaints related to the delivery of services under the Act. This could involve setting up a toll-free helpline, establishing an ombudsman, and conducting regular audits to ensure the effective implementation of the Act.
- ❖ **Accountability:** There should be strict accountability measures in place for officials who fail to deliver services within the stipulated time. This could involve imposing penalties, disciplinary action, or even criminal charges for serious violations.

In conclusion, the implementation of the Uttarakhand Right to Service Act, 2011 has faced several obstacles, including lack of awareness, infrastructure, resistance from government officials, limited coverage, lack of political will, and insufficient penalties. Addressing these obstacles requires a concerted effort from the government and civil society to ensure effective service delivery to citizens.

Overall, the successful implementation of the Uttarakhand Right to Service Act, 2011 requires a concerted effort from all stakeholders, including the citizens, officials, and the government. Addressing the above-mentioned obstacles is crucial to ensure the effective implementation of the Act and the delivery of services to the citizens of Uttarakhand within the stipulated time.

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THE REGRET PARADOX

Hridayansh Khera¹

Abstract

This study aims to elucidate the human tendency to harbour regret over medical expenses despite reassurance over physical well-being. This study shows the application of behavioural economics in the healthcare sector and explains the hypothesis, using the theoretical construct of Loss Aversion. In order to provide a behavioral perspective on the paradoxical and peculiar nature of humans to regret medical expenses even when confronted with positive results, primary data has been collected from a random sample of 100 individuals belonging to specific age groups from middle income strata of society. This analysis in the healthcare sector successfully demonstrates how psychological, cognitive, and emotional factors influence economic decision-making - Behavioural economics.

Keywords: Loss aversion, Psychology, Financial Burden, Medical, Patients, Money.

Literature Review

The existing body of literature has primarily concentrated on the relations between economic preferences and health behavior. However, the findings from these investigations have not explored the psychological risk in the form of regret and have failed to establish a clear consensus regarding the influence of these preferences on health-related decision-making. In contrast, loss aversion, another pivotal preference parameter, has been garnering attention within behavioral economics, particularly in the formulation of health programs.

Notwithstanding the growing recognition of loss aversion across diverse economic and behavioral contexts, its potential role as a determinant of psychological well-being remains an area requiring more extensive exploration. Loss aversion, as delineated by prospect theory, posits that

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individuals are typically more responsive to losses than to equivalent gains. This inherent proclivity to avoid losses may bear implications for decision-making in the healthcare sector.

The primary objective of this study is to bridge this existing research gap by delving into the intriguing phenomenon of individuals experiencing remorse over medical expenses, even when they attain favorable health outcomes and receive reassurance about their physical well-being. The complexities of this paradoxical behavior leverage insights from behavioral economics, with a particular emphasis on two core theoretical constructs: Loss Aversion and Opportunity Cost.

This research seeks to offer a fresh perspective on economic preferences, especially loss aversion, and the decision-making processes in the healthcare sector. To accomplish this, the study collects and meticulously analyzes primary data, with a particular focus on individuals hailing from middle-income strata. By scrutinizing the relationship between loss aversion and choices related to health, this research aims to contribute to a deeper comprehension of the multifaceted factors that shape individual decisions concerning medical expenditure and the accompanying emotional responses associated with these decisions.

Methodology:

Research Design: This study employed a cross-sectional survey design to investigate the human tendency to harbor regret over medical expenses despite receiving reassurance regarding physical well-being. The cross-sectional design enabled the collection of data at a single point in time, providing insights into participants' perspectives on medical expenses and subjective well-being.

Sample Selection: The target population for this research comprises middle-income families. To ensure representation across various age groups, a stratified random sampling method was employed. This approach ensured that participants from different age categories within middle-income families are included in the study.

Results

Given assurance about your medical conditions, which of the following characterise your response?

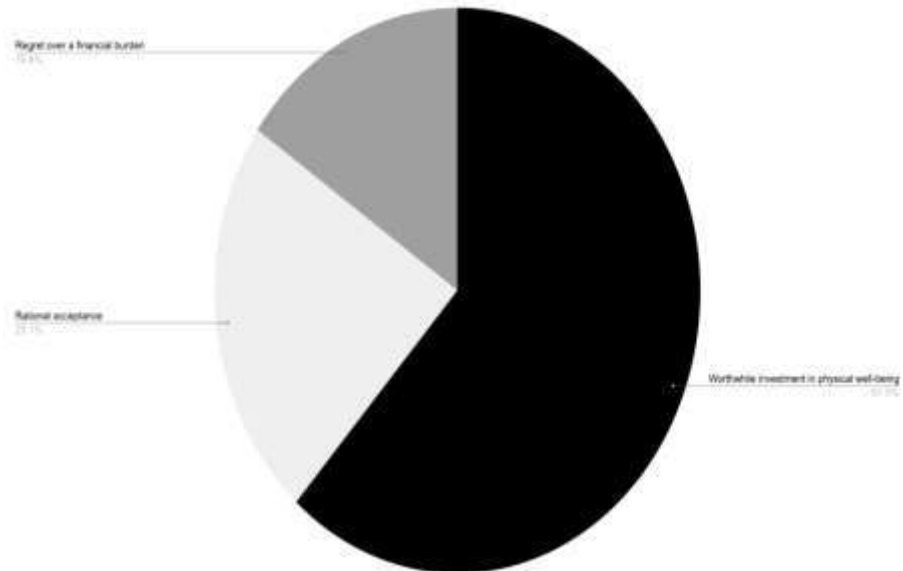


Chart 1: Responses for ages 8-17

Given assurance about your medical conditions, which of the following characterise your response?

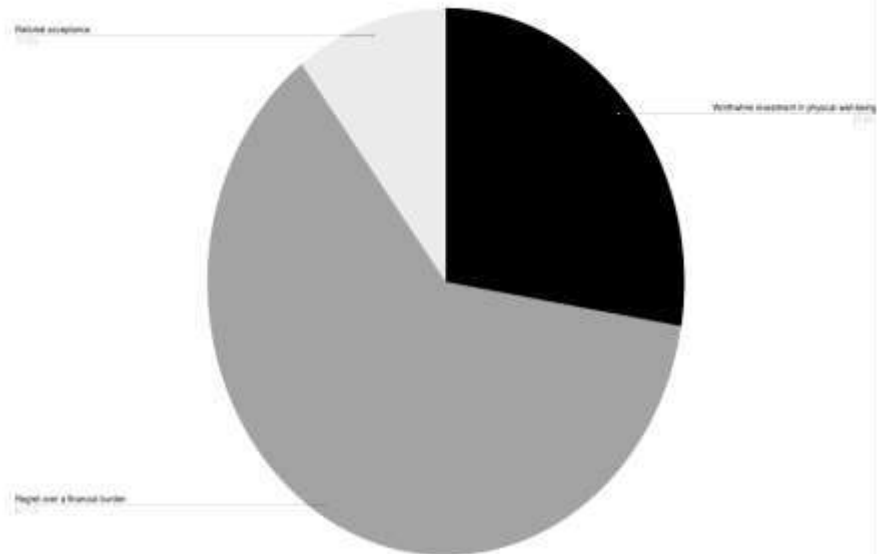


Chart 2: Responses for ages 17-40

The survey data, collected from middle-income individuals across different age groups, provides valuable insights into the phenomenon of regret over medical expenses in the healthcare sector. The analysis revealed striking variations in responses among distinct age categories, shedding light on the contrasting perceptions of medical costs.

Age Group 8-17 years: Surprisingly, individuals in the 8-17 years age group (Chart 1), who typically do not earn and have limited experience in handling finances, exhibited a noteworthy perspective. A significant portion of this demographic sample regarded medical expenses as a worthwhile investment, despite the financial burden incurred. This perspective challenges conventional economic behavior, showcasing the influence of behavioral economics on decision-making in the healthcare domain.

Age Group 18-40 years: In contrast, individuals in the 18-40 years age group (Chart 2) expressed substantial regret regarding the financial burden imposed by medical expenses. This demographic sample, characterized by greater financial independence and responsibility, appears to weigh the immediate financial impact more heavily. The regret they experience underscores the tangible costs associated with healthcare, reflecting a rational, economic decision-making approach. This finding aligns with the hypothesis that factors like loss aversion and opportunity cost play a pivotal role in shaping individuals' responses to medical expenditures.

Discussion and analysis

The results of this survey offer intriguing insights into the dynamics of regret associated with medical expenses in healthcare decisions across distinct age groups.

The surprising outlook of the 8-17 years age group, where a significant portion considered medical expenses a worthwhile investment, underscores the influence of external factors, notably parental guidance. It is apparent that this age group, possibly guided by parents or caregivers, perceives healthcare expenditure as an essential and beneficial allocation of resources, emphasizing long-term health and well-being over immediate financial implications. Research in behavioral economics supports this perspective, suggesting that younger individuals may be more susceptible to nudges and paternalistic decision-making. As a

society, recognizing the potential for parental influence in healthcare decisions for minors becomes crucial. Interventions designed for this age group should take into account this inclination towards long-term well-being over immediate financial concerns.

The substantial regret expressed by individuals in the 18-40 years age group reflects a more pragmatic and self-reliant perspective, rooted in economic principles. They prioritize the tangible costs of medical expenses more heavily, aligning with the theories of loss aversion and opportunity cost. This suggests that, as individuals gain financial independence, they tend to weigh the immediate economic impact more significantly in their healthcare choices. The findings resonate with previous studies highlighting that financial burden is a significant factor affecting healthcare decisions.

When people undergo medical testing and spend money on those tests, they are essentially taking a risk. They are spending money in the hope of early identification of a potential medical issue, which could ultimately save them money and/or improve their health outcomes. However, if the tests come back stating there were no medical issues to begin with, people may feel like they have "lost" the money they spent on the test. This loss can be particularly painful if the person is already financially strained. Thus, the concept of Loss Aversion explains the hypothesis.

Name of Diagnostic Tests	Costs of Diagnostics (In ₹)		Average Costs of Diagnostics (In ₹)	
	Minimum (of all cities)	Maximum (of all cities)	Minimum (of average price of cities)	Maximum (of average price of cities)
Lipid Profile Test (125)	90	7110	217	759
ANC test (74)	110	6500	389	2396
Albumin test (120)	20	1810	100	203
2d echo test (51)	500	5200	856	2412
Electrolyte test (121)	30	3000	245	627
Liver Function test (117)	100	2500	210	1186
Thyroid test (123)	100	3100	300	721
ESR test (103)	10	1100	35	116
Dengue IgG test (114)	100	3600	314	1312

Chart 3

Source: Economic Survey

High medical costs are a persistent concern in healthcare, often placing a significant burden on individuals and families. According to Chart 3, the data illustrates the substantial financial outlays associated with medical expenses, which can lead to substantial regret among individuals, particularly in the 18-40 years age group. The table underscores that healthcare costs encompass various components, from hospital fees to prescription medications, making it clear that these expenses can escalate rapidly.

Recognizing the potential for parental influence on the younger demographic group, healthcare policies and educational initiatives should promote responsible decision-making while accommodating their unique perspective. Meanwhile, for the more self-reliant 18-40 years age group, healthcare strategies should emphasize cost transparency and provide information about financial assistance or insurance options.

Expanding on the existing research gap and the influence of loss aversion on healthcare decisions, it is crucial to recognize the potential implications on public health policy and the broader healthcare system. A deeper understanding of how loss aversion influences healthcare choices can aid policymakers in crafting more effective health programs and initiatives. For example, if loss aversion plays a significant role in individuals' reluctance to invest in preventive healthcare measures or timely medical interventions, public health campaigns can be tailored to address these psychological barriers. Tailored interventions may include emphasizing the potential losses associated with delayed or inadequate healthcare, providing information on the long-term cost-effectiveness of preventive care, or even introducing financial incentives to mitigate perceived losses.

Furthermore, exploring the intersection of loss aversion and healthcare decisions may shed light on how patients perceive the value of health insurance. Individuals may be more inclined to invest in health insurance when presented with scenarios that emphasize the potential financial losses associated with unexpected medical expenses. Understanding loss aversion with insurance choices can inform insurance providers and regulators about the design of policies that resonate more effectively with consumer preferences.

Incorporating insights from behavioral economics into healthcare decision-making may also influence patient-provider interactions. Medical professionals who are aware of the role of loss aversion in patient decision-making can adapt their communication strategies to better address patient concerns and anxieties related to medical costs and outcomes. This shift in healthcare provider behavior can lead to more collaborative and informed decision-making processes, ultimately benefiting patient well-being.

Future research can delve into the role of cultural factors, as they may interact with age to influence healthcare decisions. By considering these varying perspectives, healthcare systems can become more patient-centric and effective in addressing the diverse needs and concerns of individuals across different life stages.

Conclusion

In conclusion, this study has revealed the paradoxical nature of individuals experiencing regret despite benefiting from medical interventions through Loss Aversion. The analysis of primary data collected from diverse age groups highlights the substantial influence of psychological, cognitive, and emotional factors on healthcare decision-making.

The analysis of responses from different age groups regarding regret over medical expenses has provided valuable insights into the multifaceted dynamics of healthcare decision-making. The survey results underscore a significant contrast between the 8-17 years age group and the 18-40 years age group, shedding light on the impact of age, external influences, and economic principles in shaping individuals' responses to medical costs.

These findings underscore the critical role of behavioral economics in shaping healthcare choices and emphasize the need for patient-centric strategies that consider age-specific perspectives. By integrating these insights, healthcare systems can better address the diverse needs and concerns of individuals across different life stages, ultimately leading to more effective and patient-focused healthcare services.

Thus, the exploration of loss aversion's impact on healthcare decisions goes beyond individual psychology; it has significant implications for

public health policy, healthcare system design, and patient-provider relationships. By addressing these complex decision dynamics, we can work towards creating a healthcare system that is not only medically effective but also psychologically attuned to the needs and preferences of patients, leading to better health outcomes and overall well-being.

Appendix A: Survey Questions

Experimental procedures.

All data was collected in India in an online experiment. Subjects were from middle income groups between the age of 8-40 years.

The online experiment was carried out using the e-Questionnaire platform. In the online experiment, all subjects had to go through instructions for the choice questions.

The following questions were used to arrive at the results:

Age

1. 8-17 years
2. 18-40 years

How many times a year do you visit the hospital on an average?

1. 0-5 times
2. 5-10 times
3. More than 10 times

What is the average amount you spend on medical testing in each visit?

1. Rs. 1000 - Rs. 3000
2. Rs. 3000 - Rs. 10000
3. More than Rs. 10000

Given assurance about your medical conditions, which of the following characterise your response?

1. Regret over a financial burden
2. Worthwhile investment in Physical Well-being

3. Rational Acceptance

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REFINING FINANCIAL INCLUSION IN ERA OF VUCA WORLD

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Abstract

The expectations and demands of the people who live in the VUCA environment are constantly evolving. As a result, it is critical to adapt regulations and deliver financial services in accordance with individual expectations, therefore increasing the degree of financial inclusion in the economy. As a result, the purpose of this research is to identify the elements that are most important in increasing the country's degree of financial inclusion. This empirical research was chosen, and a questionnaire was sent both online and offline. So far, 271 replies have been collected. SPSS and Amos were used to analyse the data and achieve the study's objectives. The findings revealed a substantial association between financial inclusion and access, usage, affordability, and technology. Based on the findings, the government should prioritise boosting access and utilization of banking services within the country.

Keywords: VUCA, Financial Inclusion, Financial Services, Access, Usage, Affordability, Technology

Introduction

Due to the dynamic development of the global economy, future challenges for the world economy will be even more severe. The current pandemic crisis was more severe and lasted longer, but recovery will take longer than it did in the 1950s, 1960s, and 1980s (IMF Reports). Based on the current world's variability, uncertainty, complexity, and ambiguity, or VUCA, banks' approach to financial stability analysis is altered by the chaotic and

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constantly changing corporate environment (Khalatur et al., 2021). The analysis of significant macroeconomic indicators that enable the development of long-term connections throughout the value chain is taken into account in the VUCA-world conditions. The uncertainty caused by the VUCA-world makes it difficult for banks and corporations to plan ahead, leading to a need for more detailed analysis of macroeconomic indicators. To this end, banks need to develop an understanding of the underlying macroeconomic dynamics and a keen sense of how these dynamics are influencing their businesses. Through this understanding, banks can better assess the risks and opportunities associated with the VUCA-world, identify and plan for potential threats, and prepare for uncertain future economic outcomes. To ensure that businesses are able to properly evaluate and address the uncertainty associated with the VUCA-world, banks and corporations must take a more proactive approach to understanding macroeconomic indicators. Rising protectionist sentiments, slower projected growth, and financial weaknesses in many nations, particularly in several developing market economies, are anticipated to make the VUCA worse. The development of a "VUCA" model for identifying the factors promoting financial inclusion in the nation's contemporary business environment should receive attention. This model is focused on ongoing observation of the internal and external dynamics of swift changes in the national and international economic systems, which calls for prompt adjustments in bank strategy formulation to coordinate efforts for economic leadership (Juhro et al., 2017). Trends in perception and information gathering, as well as the creation of numerous future strategies and plans, are necessary in a VUCA environment. Banks and other financial institutions should focus on gathering detailed information from various sources and develop strategies to assess the current environment as well as emerging risks. As a result, a successful model of financial inclusion should not only emphasize on preventive approaches to sustain the resilience of the banking system, but also focus on proactive approaches to formulating strategies that are adaptable and flexible in order to manage current conditions as well. In this way, financial inclusion initiatives can help organizations to understand the ever-changing and complex business environment. Due to its ability to address the issue of information asymmetry in the lending market, the bank occupies a special position in the financial system (Supartoyo et al., 2017). At the moment, the banking system works in a complex socioeconomic and legal environment, the most of which are the technological crisis, imperfect access to financial services, lower usage of financial services, lack of faith, low technical innovation of the banking sector, and increased economic competitiveness. Given the foregoing, new methods for defining and evaluating financial stability in the context of the VUCA-world are required due to the evolution of banks. The

financial sector may have an effect on regional economic development or contribute significantly to the economic advancement of a region (Supartoyo et al., 2017). Banks are therefore in a unique position to promote economic development and growth, particularly in areas that have inadequate access to traditional financial services. On the other hand, with an increase in adult population ownership of formal savings and credit accounts, the Indian financial sector is making progress toward the objective of financial inclusion. Financial inclusion and financial sector development have the potential to become a new approach for poverty reduction as well as economic growth and development. The focus on obstacles to financial development has shifted in recent years to the distribution of microloans to middle- and low-income people through financial inclusion legislation. The push to increase financial inclusion started in 2013, when the G20 group of nations committed to doing so by creating financial inclusion policies in each nation as a means of reducing poverty (Cull et al., 2014). By encouraging a greater use of digital financial services and increasing access to formal financial services, government policy has sought to bring more people into the formal financial system. This shift in approach has had a positive impact on the number of individuals using formal financial services and has been associated with greater financial inclusion, leading to increased economic activity, employment opportunities, and improved standards of living for those previously excluded from access to financial services. This drive towards financial inclusion has enabled millions of people around the world to benefit from access to financial services, with many now enjoying higher standards of living due to improved economic security and a greater ability to manage their finances. While there is still a long way to go in terms of achieving universal access to financial services, the drive towards increasing financial inclusion has enabled many people to benefit from the advantages associated with accessing formal financial services.

Literature Review

A term from the military, VUCA stands for Volatility, Uncertainty, Complexity, and Ambiguity. Conditions in the military are very unstable. You never know where the next hostile ambush may appear because they are dynamic. They are hazy; you don't know whether nature will support your mission. They are intricate and each mission is dependent on multiple variables. They are hazy, and we don't know where we are. Business scenarios fall short of the VUCA coefficients and Smart Thought Pattern employed by the military when compared to regular military events. VUCA perceptions in the business sector are unstable because they have an impact on firm revenue and the overall health of the national economy (DIXIT & MOID, 2021). These VUCA perceptions have become a

benchmark for businesses across the globe and are considered when deciding on investments and business strategies. This volatility has created a great sense of uncertainty, as businesses must now navigate a landscape which is far from clear and predictable. As a result, businesses must be increasingly agile and flexible, capable of quickly adapting to unexpected changes in the marketplace.

Financial Inclusion in India

Over the past 10 or so years, the globe has become more computerised. One of the most important policy concerns facing India now is financial inclusion. More than 53% of Indians have access to formal financial services in 2014. Since then, the government has launched several programmes to include a significant portion of India's population inside the purview of formal financial services (World bank). The most well-known initiative in this field is the Pradhan Mantri Jan Dhan Yojana (PMJDY). Since its start, the PMJDY has opened over 25.68 crore bank accounts, a remarkable achievement. Since almost everyone needs payments, they are typically the earliest and most popular financial services. A robust payment system and simple access to a basic transactional account, which is a financial service distinct from a savings account, can support traditional banking measures to increase financial inclusion (World bank).

Access to Financial Services

Early empirical approaches frequently relied on fairly easily calculated metrics to examine spatial variations in those "opportunities" currently offered, such as those based on closest available distance/proximity approaches derived from Euclidean ('as the crow flies') distance or basic catchment analyses. Accessibility is defined as "the ability of people to reach and engage in opportunities and activities" (Farrington and Farrington, 2005). It is believed that ensuring fair public access to financial services is essential to promoting economic development and the eradication of poverty (Andrew et al., 2021). Early in the 2000s, the Commission for Rural Communities (CRC) in England included empirical data in its annual State of the Countryside reports (CRC, 2008, for example) to derive measures of potential accessibility based on the "reachability" of services within some normatively defined distance to services deemed "essential" to rural living (Page et al., 2019). The Access to Cash Review (2019), which focused on those people most likely to rely on bank branch services, particularly those who rely on cash or do not have digital access to financial services, was prompted by worries that vulnerable populations may be financially excluded as a result of these closures (Hall et al., 2022). A increasing corpus of research is being done to look at access disparities (the physical separation of population demand and

service supply locations). There is a wealth of literature on the advantages and disadvantages of the many approaches used to quantify geographical accessibility (Talen and Anselin, 1998; Neutens, 2015; Kwan, 1998; Handy and Niemeier, 1997; Guers et al., 2015).

Usage of Financial Services

The functioning of an economy depends on financial services. Others with money to save could have trouble finding people who need to borrow money without them, and the reverse is also true. Without financial services, people may not purchase as many goods and services because they would be so concerned with conserving money to offset risks. Financial inclusion has increased along with the usage of financial services. It is quite likely that the adoption of digital wallets will be a solution for the unbanked populace to obtain access to financial services. The use of digital wallets is intended to speed up the process of transaction actions taken out by users and make it simpler for users to not need to carry a physical wallet because all transaction activities can be done with one hand (Chotiyaputta and Savira, 2020). Digital wallets' versatility, flexibility, and convenience encourage consumers to adopt and utilise them for mobile transactions (Karim et al., 2020). Digital wallets have succeeded in democratising payments in a number of countries by enabling anybody to use this service for transactions, regardless of whether they have a bank account or not (Bhargava, 2022). According to the general definition of financial inclusion, which is the capacity of people and businesses to have basic access to and usage of financial products (World Bank, 2021), e-wallets integrate the unbanked society into the financial institutions ecosystem through digital channels by offering remittance and payment services quickly and affordably, thereby assisting in meeting the unbanked society's basic financial needs (Bhargava, 2022).

Affordability of Financial Services

To ensure that those who were previously financially excluded may communicate, make payments, borrow money, and save money, mobile money platforms have significantly aided in addressing access and affordability issues (Shipalana, 2019 & Simatele, 2021). Millions of formerly financially excluded people are now able to conduct financial transactions in an affordable and reliable manner thanks to the advent of mobile money banking services (Cull et. al., 2012). Financial inclusion, as defined by the World Bank, is the provision of access to and usage of reasonably priced financial services and products (Munoz et al., 2022). Providing financial services to the majority of the population, especially to vulnerable groups including women, the unemployed, and those who work in the informal economy; increasing the use of financial services; improving their quality;

and ensuring their affordability (Mpofu, F. Y. 2022). The pricing of banking services and the accessibility of banking infrastructure, two key concerns that have an influence on financial inclusion, may be addressed through mobile money as a way to reduce financial exclusion (Okello et. al., 2018 & Morawczynski, 2009).

Technology

Financial technology is a significant instrument in financial infrastructure that is used to enhance and streamline the delivery of financial services to the broader market. Financial technology refers to software, programmes, and other technologies that are aimed to improve and automate conventional types of financial services for organisations in many industries (Gautam et. al., 2022). With technology-enabled financial solutions, the financial technology industry enters the scene. FinTech (financial technology) is one of the most significant advances in the financial services sector, fueled by information technology, economic sharing, regulation, and policy (Lee and Shin 2018). FinTech is a financial sector made up of firms that provide technology-based financial service platforms to make financial services more efficient and accessible (McAuley 2015). Ordinary Indians in urban and rural regions should take benefit of financial technologies (Gautam et. al., 2022). FinTech has revolutionised the financial services business. Following the 2008 global financial crisis, advancements in e-finance and mobile technology for financial institutions fueled the growth of FinTech (Suryono et al. 2020). Governments are now developing measures to enhance digital literacy among residents in their own nations. The Pradhan Mantri Gramin Digital Saksharta Abhiyan Yojana is one of the most recent programmes launched by the Indian government. The Government of India intends to use this programme to teach digital literacy to 60 million residents in rural India (Nedungadi et al. 2018). The Indian government is also supporting Digital India, which aims to reduce bureaucracy and make government services available to residents electronically (Goswami 2016). The primary reason for such a strong emphasis on digital literacy is because everything in our world is getting digitalized. This digitalization era necessitates that a person be completely prepared to use digital equipment, machines, and other electronic gadgets in any city or nation (Gautam et. al., 2022).

Conceptual Model/Theoretical Model

On the basis of literature review following association between variables has been drawn and alternate hypothesis have been framed for the same.

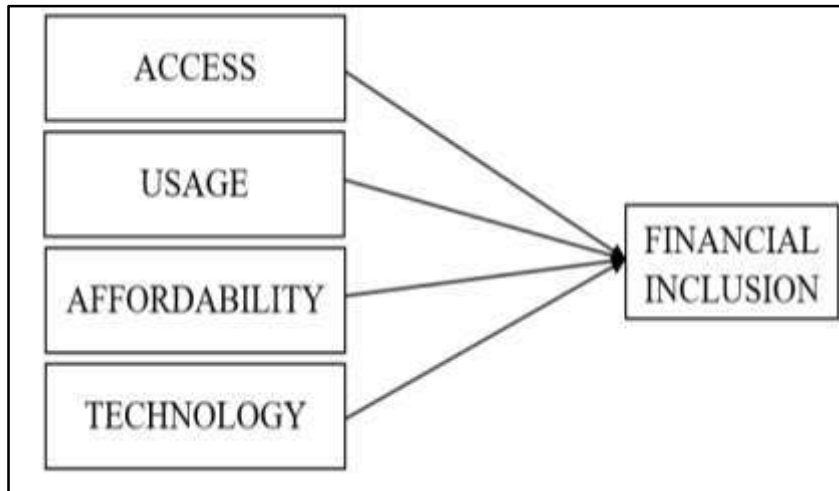


Fig 1: Conceptual Framework

H1: Access to financial services influence financial inclusion significantly.

H2: Usage of financial services influence financial inclusion significantly.

H3: Affordable financial services influence financial inclusion significantly.

H4: Technology in financial services influence financial inclusion significantly.

Research Methodology

In this study, empirical research design is used, as it helps in discovering the relationship between or among the selected variables. Therefore, objectives of this study can be achieved by using Empirical Research design.

Data is collected through primary method through questionnaire. This research is based on observation and measurement of phenomena. Both online and offline method is used to collect the data. A structured survey questionnaire will included statements related to 5 factors i.e., Access to Financial Service, Usage of financial service, Affordability of financial service, and Technology related to Financial Inclusion. Data has been collected with a sample size of 271 respondents (Kline (1998) sample size should be, $26 \times 10 = 260$ (number of statements * 10)) through questionnaire (primary data). Random sampling Method has been adopted for data collection. Respondents included College students & teachers, households, business workers, Gig-workers, industrialist, daily-wage worker, working professionals, non-working individuals.

Data Analysis

Factor Analysis was run to obtain the results. For analysing the results of the study, firstly, the codes were assigned to each variable. The Table 1 below shows the codes given to each variable.

S No.	Codes	Variables
1	A	Access to Financial Service
2	U	Usage of financial service
3	AF	Affordability
4	T	Technology
5	FI	Financial Inclusion

Table 1: Codes to Variables

The adequacy, reliability and validity of the data was measured through KMO & Bartlett's Test and Cronbach Alpha. The KMO test showed the value greater than 0.60 which was considered acceptable. The Bartlett's test of sphericity provides a significant χ^2 value of 12558.000 ($p < .000$, $df = 325$). The sampling adequacy value of KMO was found to be 0.895, indicating that the sample was sufficiently decent.

The overall α for all factors are above .8 which is considered to be excellent for the study.

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.895	
Bartlett's Test of Sphericity	Approx. Chi-Square	12558.000
	df	325
	Sig.	.000

Communalities indicate the total variance in the set of variables. The column labelled Initial reflects values on the diagonal of the correlation matrix. Researchers have suggested that communality for each item should be at least 0.5. All the items whose extracted communality was less than 0.5 were eliminated from the further analysis. The table the communalities

Table 2: KMO and Bartlett's Test

Summary of Reliability Analysis of Individual Constructs				
S No.	Variables	Items	Cronbach's Alpha Coefficient	Reliability Results
1	Access to Financial Service	7	.950	Excellent
2	Usage of financial service	7	.870	Good
3	Affordability	4	.856	Good
4	Technology	4	.741	Acceptable
5	Financial Inclusion	4	.806	Good

Table 3: Summary of Reliability Analysis of Individual Constructs

for all the items greater than 0.5. The total variance explained is reflected as approximately 74% by the components, which is considered satisfactory in social sciences, as the desired result is anything above 0.60 or 60% (Hair et al., 2007). Total 5 factors have been extracted by the total variance explained. These 5 factors have been further identified in rotated component matrix.

The loadings of each of the items of the five factors that were identified in the EFA presented in the rotated component matrix as represented in table.

The items holding factor loading greater than or equal to 0.50 values were

Communalities					
	Initial	Extraction		Initial	Extraction
A1	1.000	.704	U7	1.000	.874
A2	1.000	.552	AF1	1.000	.701
A3	1.000	.692	AF3	1.000	.678
A4	1.000	.742	AF4	1.000	.770
A5	1.000	.745	AF5	1.000	.677
A6	1.000	.747	T2	1.000	.747
A7	1.000	.760	T3	1.000	.824

Rotated Component Matrix ^a					
	Component				
	1	2	3	4	5
U6	.912				
U5	.907				
U7	.902				
U2	.900				
U1	.779				
U3	.760				
U4	.740				
A4		.858			
A1		.832			
A3		.822			
A7		.804			
A5		.795			
A6		.788			
A2		.717			
T3			.868		
T5			.848		
T4			.830		

4	2.065	7.942	67.896	2.06	7.942	67.89	2.848	10.95	63.400
				5		6		2	
5	1.655	6.365	74.261	1.65	6.365	74.26	2.824	10.86	74.261
				5		1		1	
6	.826	3.176	77.438						
7	.647	2.489	79.92						
			6						
8	.596	2.294	82.22						
			1						
9	.497	1.913	84.13						
			3						

Extraction Method: Principal Component Analysis.

retained and rest of the items were removed from the schedule. All the statements have been clubbed in in 5 components. The First component has been identified as Usage to financial services as it includes statement from U1 to U7. The second component has been identified as Access to financial services as it includes statement from A1 to A7. The third component has been identified as Technology as it includes statement from T2 to T5. The fourth component has been identified as Affordability of financial services as it includes statement from AF1 to AF5. The last component i.e., The Fifth component has been identified as Financial Inclusion as it includes statement from DF11 to DF14.

T2			.819		
AF4				.854	
AF3				.795	
AF1				.781	
AF5				.738	
FI3					.799
FI2					.785
FI4					.767
FI1					.668
Extraction Method: Principal Component Analysis.					
Rotation Method: Varimax with Kaiser Normalization.					
a. Rotation converged in 5 iterations.					

Table 6: Rotated Component Matrix

Measurement model

Figure 2 Path Analysis

Through Amos the following path analysis have been formulated and various model fit indices have been observed.

The Table7 represents the model fit indices for the figure 2. All the indices are in the range as per table 8. Hence the model is considered to be fit. Also, the factors were found to be significant i.e., $p=0.000$. The Convergent Validity (CR) for Ideal Standardized loading of each item is higher than 0.7 and the average variance extracted (AVE) estimate is more than 0.5. Also, Convergent Validity (CR) is greater than average variance extracted (AVE) (Hair et al., 2007). The discriminant validity indicators Maximum Shared Variance (MSV) and Average Shared Variance (ASV) are also lower than AVE (Hair, 2006). Hence the model's convergent validity and discriminant validity is achieved.

MODEL FIT INDICES				
CMIN/DF	CFI	GFI	RMSEA	SRMR
3.790	0.899	0.873	0.070	0.0629

Table 7: Model Fit indices for fig 2

	CR	AVE	MSV	ASV
ACCESS	0.844	0.501	0.429	0.201
TECHN_OLOGY	0.885	0.620	0.129	0.053
AFFORD_ABILITY	0.850	0.589	0.129	0.056
USAGE	0.869	0.505	0.036	0.023

Table 9: Convergent and discriminant validity for fig 2

Model Fit Indices	Author	Recommended Value
CMIN/DF	Marsh & Hocevar 1985	<5 indicating a reasonable fit
	Kline 1998	< 3 indicates an acceptable fit
GFI	Byrne 2001, Hair et.al 2006	> 0.7 indicates an acceptable fit
CFI	Bentler 1990	close to 0.9, indicates a relatively good fit
	Hu and Bentler 1999	>0.80 is permissible, >0.90 indicates a good fit, >0.95 indicates a great fit
RMSEA	Bentler 1990	<0.05 indicates a good fit, 0.05-0.10 indicates moderate fit,
SRMR	Sharif & Nia 2018, Bentler 1990	< .09 acceptable fit

Table 8: Model Fit indices recommended by Authors

Since, all factors are found to be significant and all the values are in the acceptable limits the model is found to be fit. It is observed that access and usage of financial services are important in boosting financial inclusion as a positive and significant relationship is observed between access to financial services & financial inclusion and usage of financial services and financial inclusion. Usage has been identified as a major influencer in increasing financial inclusion in the country, as access to financial services alone cannot help achieve maximum financial inclusion. Therefore, the usage of financial services is very important. Providing financial services at an affordable cost increases the utilization of services by the underprivileged section of society as well and hence helps in the inclusion of each and every individual in the financial system. It is clear, therefore, that access and usage of financial services are both vital components in achieving successful financial inclusion. As a result, policy makers have to take into account the need for access and usage of financial services when designing policies to promote financial inclusion. Because technology allows for widespread access and utilization of services, it has become a critical component of digital financial inclusion and the transition to a digital economy. Since the environment is rapidly changing and the introduction of new technology is disrupting new market opportunities, the access and usage of services must be in accordance with the present needs and desires of the consumers so that there is wider usage of services can be taken place thereby increasing the financial inclusion in the country as per the current VUCA world. This can be done through the use of advanced analytics and artificial intelligence, which are helping to identify customer needs in real-time. By leveraging these technologies, policy makers can not only identify customer needs, but also develop strategies that make financial services more accessible and cost-effective. Hence all hypothesis are found to be supported. By understanding the implications of

technological disruption and implementing strategies to cope with them, organizations can create a strong base for financial inclusion. This shift to a digital economy and widespread access of services has been seen as the primary driver for the success of financial inclusion in many countries. The use of technology to meet customer needs, combined with the development of strategies to make financial services more accessible and cost-effective, is key in enabling financial inclusion.

Conclusion

Because of the unprecedented magnitude of the COVID-19 outbreak and the massive alterations that businesses throughout the world have had to make in response, today's world is chaotic. The rate of development has been tremendous and full of unanticipated changes in recent months, and so the VUCA world will not vanish. While the current level of uncertainty may abate over time, it is likely that we have now entered an era of Volatility, Uncertainty, Complexity and Ambiguity (VUCA) that will be a permanent feature of the global. The world has grown more turbulent, unpredictable, complex, and ambiguous than ever before, yet analysts anticipate that the next five years will be packed with challenges, disruptions, and opportunities in equal measure. There is no place to hide as technology advances and the globe becomes more of a global market place. Change is continuous, and the environment in which we operate is continually evolving (Singhwal, 2021). In this world of VUCA, we must be prepared to face challenges head on, with resilience and the ability to quickly adapt and find solutions. Since roughly 2003, financial inclusion has been at the forefront of improvement agenda (World Bank, 2003). As a result, rising nations have begun to focus on expanding the level of financial inclusion by ensuring that financial administrations are accessible to and utilised by the nation's inhabitants (ADB,2014). VUCA is transformed into an opportunity for growth and stronger cooperation, rather than a danger to be addressed. In the Industry 4.0 age, financial planning must be dynamic, networked, and accessible. Planning tools may now be digitalized, automatically updated, tweaked, or fully redesigned (Yvanovich, 2019). Digitalisation has emerged as an integral part of the financial sector and it is necessary to identify and take advantage of the opportunities that come with it . The findings revealed a substantial association between financial inclusion and access, usage, cost, and technology. Increasing access to low-cost financial services would boost financial inclusion in the VUCA economy. The use of financial services shows a financial system's efficiency, as increasing access is insufficient for an inclusive financial system. It is critical to distinguish between using and having access to financial services. Some people may have access to yet refuse to utilise certain things. One of the most important variables influencing financial

inclusion is affordability. If the cost of financial products is reduced, all sectors of society may easily afford financial services; otherwise, the low-income group would stay trapped, preventing us from reaching the highest degree of FI. This is especially true for the lower-income groups, who may have difficulty accessing financial services due to higher costs. To solve this problem, we need to focus on creating an inclusive financial system that reaches out to all groups of people, regardless of their income level or social standing. There is a mandatory necessity that financial institutions and the insurance industry offer a product that is easily accessible to everyone in the country, which would assist to expand FI. Financial inclusion encourages the use of technology to supply financial solutions at a lower cost. Developments in information technology (IT) enhance the expansion and inclusivity of the banking industry, facilitating inclusive economic growth. By creating an enabling environment that is customer centric, affordable, and secure, all members of society can gain access to a full range of banking services such as payments, savings, credit and insurance. This would ensure that everyone, regardless of their financial standing or geographic location, is able to reap the benefits of access to financial services and thus become economically empowered. IT not only increases the banking sector's competitive efficiency by enhancing back-end administrative procedures, but it also improves front-end operations and helps to reduce transaction costs for clients. Finally, it may be argued that financial services must be tailored to individuals in light of the world's volatility, uncertainty, complexity, and ambiguity (VUCA).

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MAHILA MANDALS OF MANALI: AN ASSESSMENT OF THEIR ROLE IN COVID-19 LOCKDOWN

Manvi Sharma¹ & Bhawna Gupta²

Abstract

COVID-19 brought the entire world to a standstill, disrupting the normal functioning of nations, making it every nation's prerogative to control the spread of the virus. Following the WHO guidelines, India too initiated lockdowns and adopted various measures to restrict the proliferation of the virus. The State efforts were supplemented by the local traditional organisations such as mahila mandals, self-help groups, panchayats and others. Himachal Pradesh has a rich tradition of such women groups who are working actively in entrepreneurial activities, developing local handicrafts and empowering other women. Even though historically women have had lower political participation, lower access to social protection, lesser decision making power and have been paid less than men, despite this Mahila Mandals have played an important role of creating awareness in the community about COVID-19 and also enforcing travel restrictions in remote areas of Himachal Pradesh. However, little has been researched about these local informal women organisations, mahila mandals at the rural level, and their role in the pandemic. The aim of the paper is to study the role played by mahila mandals in preventing the spread of coronavirus during the lockdowns. It focuses on their awareness of the grave ill effects of the virus, their activities to prevent entry of outsiders to the village, coordination with the local government and collective work to assist the most affected in the community. Primary data was collected by structured interviews of 50 women from 25 mahila mandals in the months of October and November of 2020 and July of 2021. Secondary data sources like the reports of Government of India and Government of Himachal Pradesh, public records, newspaper articles, journals etc. were also examined. The study highlights the strength of collective identity of women when their capacities are given an opportunity to flourish. It can be concluded from the study, that the 25 mahila mandals interviewed, were successful to seal the villages from foreign entry by standing at guard on borders of their villages,

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along with being well coordinated with the local government in providing information to the villagers and were fully supported by their families and the community in executing their actions.

Keywords: Rural, Himachal Pradesh, Mahila Mandals

Introduction

Most of the world was brought to an abrupt halt due to coronavirus. The pandemic highlighted a deep divide amongst countries (Stiglitz, 2020), amongst rural and urban areas (Banaji, 2021) and magnified gender inequalities (Chatterjee, Gupta, & Upadhyay, 2020) in combating and recovering from the virus. It became evident from the global experiences that in order to fight against the egregious virus the entire nation had to work together as a single unit wherein the local governmental bodies and local community organisations were to be the first points of immediate action. In this respect, the central government took the leadership and issued the guidelines under the Disaster Management Act, 2005, as early as 24.03.2020, directing the Ministries/ Departments of Government of India, and the State/Union Territory Governments and State/ Union Territory Authorities to take effective measures to prevent the spread of COVID-19 in the country (Ministry of Home Affairs, 2020). To follow these guidelines it was recognized that panchayats and local actors, being the first point of contact, had to undertake concrete actions to prevent the spread of the virus and ensure provision of essential commodities to the most vulnerable (Dutta & Fischer, 2020). Local actors, especially women and community based organisations at the grass root level, working not just as frontline workers like the Accredited Social Health Activists (ASHA), Auxiliary Nurse Midwives (ANM), anganwadi workers (Rao & Chowdhury, 2020) but also as women SHGs and as local community members like teachers and Mahila Mandal organisations, not under the direct order of the administration. (Bhowmick, 2020). The community based organisations are voluntary organisations providing social services at the local level (Chechetto-Salles & Geyer, 2006). Their partnership with the local government and administration highlight the locally-identified priorities. The insights, access and awareness of the local needs presented by these organisations result in better allocation of services in the region. An advantage of this partnership is that different stakeholders pool in all of their resources and direct them to achieve the objectives. This partnership becomes more important when the local government is mandated to perform a specific function or when it does not perform the mandated function. These organisations are very effective in areas where the local government is for a larger area and the various communities are not being equally prioritised. Community based organisations also mobilise people

and organise collective action leading to citizen's participation in local governance (Krishna, 2003). In cases which require greater citizen and community participation, public engagement should be in design, implementation and budget management of the plan because the community based organisations design area-based strategies, policies are adapted to the local conditions and initiatives taken are in consistency with shared priorities (OECD, 1998). Partnering with the community and collaborating with its members has always been identified as cornerstones of efforts to improve public health (Michener, et al., 2020).

The paper has been divided into four sections. In section I, the theoretical framework of the study, historical background of mahila mandals in HP and objectives and methodology has been included. Section II covers major findings of the study. Suggestions to improve their working have been included in section III. Section IV contains concluding remarks.

I

Theoretical Framework of the Study

A rediscovery illuminated by one of the contemporary feminist theory, highlighted that shared gender as a basis of solidarity and common interests (Whitehead, 1984) emphasising that common goals, interests, shared difficulties of women bring them together. Since ages, women in rural communities have gathered to assist each other because traditionally they have always been burdened with responsibilities for preparation of festive and crisis events including the festivities of birth, weddings, local functions or crisis of death, epidemics, poor sanitation, water shortage etc. (Das, 2000). Keeping up with the tradition, informal community level associations of women who come together in crisis and celebration, were formed, known as Mahila Mandals. At the most basic level, they are women's clubs which are traditional local organisations of women.

In Mahila Mandals, women discuss their social, personal, economic, political and spiritual distress. These bodies have been instrumental in bringing women together and have unified them to express their grievances. This leads to a collective effort to find solutions through appropriate methods. From a development perspective, the group is described as a platform that brings women's practical needs to the forefront along with highlighting a woman's role in the public domain (Das, 2000). The group mostly has a strong moral philosophy with social, political and financial objectives to achieve the goal towards its development. One of the primary objectives of this organisation is to raise the standard of living of women and their families. It has also become the training grounds for

women standing for elections and entering politics (Das, 2000). Further they provide forums to discuss about the practical issues of village including problems such as sanitation, water access, health facilities, education, employment, and sometimes fight against social evils and alcoholism with the support of the local and block level administration and also organize small savings through formation of self-help groups. They also act as movements for resistance against the patriarchal customs in the villages and often form a collective identity irrespective of caste and kinship (Berry, 2001).

These activities encompass an important theory of participative administration. It became a topic of focus in governance in the 1960s when it was realized that the development initiatives were failing as the beneficiaries were not involved in the process of development (Ako, 2017). The development plans were not based on the knowledge of local resources, culture and society but on the perceptions of planners which resulted in poor results. Thus, a bottom-up approach to the traditional top-down bureaucratic model was adopted which helped in effective remedy of the societal problems. Also with time the scope of governance was extended beyond the government, hence participation of various stakeholders in the administration was vital. This gave an impetus to growth of participative administration. It has been recognised that a responsive, active and transparent civil society is an integral part of democratic governance.

The opening line of the preamble “We the people of India” declares people as the source of the constitution, signifying the importance of public involvement. Participation is a method of practicing democracy wherein indirect participation has been followed via elections since 1951. Participative administration imparts an opportunity for the participants to be part of direct democracy and fulfil his/her obligation of being a citizen. According to Mary Parker Follett, “an authentic democracy is one in which everyone participates in self-government” (Morse, 2006). It provides the marginalised section of community to come forward and engage in the process of administration so that their voices are heard where initially their opinions and interests were not acknowledged. It has been recognised that an active, transparent and responsive civil society is an integral part of participative democracy. In this case, we talk about the women in the society who traditionally have lesser say in any decision.

Another aspect of participative administration involves the assimilation of local knowledge with professional expertise to solve the societal problems at the community level (Gustafson & Hertting, 2016). In this context, Mary Parker Follet has given the “neighbourhood model” that focuses on in-

person interactions and deliberations of issues amongst the residents of the area. As these problems affect the residents directly, their participation in solving them is greater due to self-interest, common good or professional competence (Gustafson & Hertting, 2016).

Mahila Mandals in HP – Historical Background

The concept of Mahila Mandal came into existence in 1952 under the Community Development Programme (Davidson-Hunt, 1995). The women were organised into mahila mandals during the second five-year plan with stress on women education, health services for the mother and child, supplementary feeding for the children and women's economic development in Himachal Pradesh (Planning Commission, Government of India, 2003).

But the birth of the movement started in the late seventies and early eighties with the committee on Panchayat Raj Institutions headed by Asoka Mehta (1978) under the Indira Gandhi government, laying stress on the effective organisation of mahila mandals as an important component in the rural development programmes. It also emphasized on the need for recognizing and strengthening women's role in the decision making process. It also made them instruments of social change by improving their economic standard and thus mainstreamed the rural women towards development. Additionally, the Draft Approach to the eighth plan also recommended that empowerment of women has to occur not merely by registering them as beneficiaries but by providing them opportunities to become contributors towards national development. These local organisations provide an effective opportunity to women to contribute towards national development by working for the communities' development.

A glance at the organisational and functional aspects of the mandals bring home the long cherished ideal of social justice through social action by organising women into these local organisations by offering membership to any or all women between the age of 18 to 45 years with a minimal membership fee and monthly subscription determined by themselves. The amount collected through fees and subscriptions is used for their own utilisation in the form of loans towards members in financial distress. There are rules and regulations of mahila mandals that are adopted after the approval of the members.

The Mahila Mandals exhibit the democratic values and processes it is based on as it comprises of a formally elected Executive Committee consisting of seven, nine or eleven members, depending upon its strength.

The offices comprise of a president (Pradhan), a secretary and a treasurer. Therefore, it is a formalized institutional structure, registered with Registrar of Cooperative Societies under the Societies' Registration Act, 1860 and also registered under the Block Development Officer (B.D.Os) in the areas concerned. In order to access government benefits as a group, they have to be registered with the Directorate of Women and Child Welfare. The Department of Rural Development has a Mukhiya Sevika (Lady Social Education Organiser) and 3 to 4 Gram Sevikas (Lady Village Development Co-Ordinator) per block, actively organising women to form mahila mandals. Also, under the new District Rural Development Agency (DRDA) pattern one Assistant Project Officer (Women Programme Officer) has been appointed in each DRDA to regularly train the women so as to increase the activities of the mahila mandals. These local women organisation not only mobilize and organize women but provide them with independence.

Himachal Pradesh is a rural community with 89.9% (Department of Economics and Statistics, 2011) of its population in rural areas comprising of 49.6% females (Department of Economics and Statistics, 2011). Even though gender bias is firmly implanted in the family norms of the local social value (Shukla, 2003), however, with the literacy rate of 67.4% (Ministry of Home Affairs, 2011) Himachal Pradesh has empowered its rural women (Devi, 2017) (Nayak & Mahanta, 2008). Thus, most of the rural areas have successfully formed Mahila Mandals or the women social groups.

Objectives of the Study: The present paper aims to study women's participation in prevention of entry of outsiders in their villages during COVID-19 lockdowns. Further, it explores the level of Mahila Mandal's awareness about the pandemic and local needs and the assistance/cooperation of the community and the local authorities (panchayat and ASHA worker) with Mahila Mandals.

RESEARCH METHODOLOGY

- **LOCALE OF THE STUDY**

The present study is conducted in 25 villages of tehsil Manali (Naggar Block) of District Kullu, Himachal Pradesh.

Villages- Bran, Vashisht, Kaniyal, Siyal, Chiyal, Balsari, Simsa, Manali, Old Manali, Chichoga, Aleo, Sethan, Prini, Shuru, Shaminala, Jagatsukh, Chhanal, Bahnu, Jura, Gojra, Khakhnal, Haripur, Batehad, Archandi and Dhamsu.



Image 1: Map of District Kullu

- **SAMPLING DESIGN**

The sample of the study consists of 25 Mahila Mandals out of the 119 in Naggar block of district Kullu. Convenience sampling has been adopted while selecting the samples. And an in-depth structured interviews of 50 women from these Mahila Mandals was done to get a clear understanding of the role played by these women during COVID-19 lockdowns.

Table 1: Sample Size

Total Number of Mahila Mandals in Naggar Block	119
Total Number of Mahila Mandals in the study	25
Total Number of women in the study	50

- **PERIOD OF THE STUDY**

25TH March to 30th September, 2020

After the strict 21-day lockdown the residents of Himachal Pradesh stranded in other states could enter after receiving a pass from the government, succeeded by the entry of tourists with certain essential documents (COVID-19 negative report not less than 72 hours late, booking in a hotel for five days, quarantine period etc.) which were checked at state and respective district borders. It was announced by the state government on 16th September that the state borders would open for all and there was no need for any documents as such for entry into the state. But the influx of tourists only started after 1st October as the hoteliers of Manali had collectively decided not to entertain any tourists till then. (Times of India, 2020).

7th May to 14th June, 2021

After the onset of the second wave in the metropolitan areas, the state issued many guidelines barring the entry of the people from these hotspot areas. Eventually, with most of the states closing their borders Himachal Pradesh too decided to close its border on 25th April and only people with the requisite documents could enter and on 7th May 'Corona Curfew' was announced wherein public transport, government offices were shut down (The Economic Times, 2021). Unlike the previous lockdown which was very strict and for the initial days disallowed anyone to enter the state, this time, from the very beginning people with e-passes were allowed to enter. Hotels too opened up for the tourists after 15th June, 2021. (Hindustan Times, 2021)

- **DATA ANALYSIS**

Inductive Approach has been used, wherein after data collection the empirical generalisations have been developed.

II

FINDINGS OF THE STUDY

The Mahila Mandals of Manali comprise of rural women most of them housewives only a few employed with the government as anganwadi worker, anganwadi helper or ASHA worker and a few were shopkeepers, all with the basic primary level education and almost all had additional agricultural responsibilities.

The members actively engaged in the plans framed by the mahila mandals to prevent the entry of outsiders in the village and to help the unfortunate in the village during the lockdown. And with the data collected, a clear picture could be seen which implied that the women participated freely in implementing their plans in the village, especially during the pandemic lockdown.

Through the interviews, the following role of the mahila mandal during the COVID-19 lockdown can be interpreted as:

- **Targeting the COVID – 19 Spread**

The virus responsible for causing COVID-19 spreads, mostly by respiratory droplets released by people while coughing, sneezing or talking. Another means of spread is by coming in contact with a surface or object that is contaminated with the virus and then touching one's own nose, mouth or possibly the eyes. Thus to prevent the spread of the virus certain preventive measures like social distancing, wearing a mask, handwashing and quarantining when sick and certain environmental prevention practices like cleaning, proper sanitation and disinfection are adopted.

The women targeted these measures and disallowed people to enter and leave the villages. With the eventual relaxations in the government guidelines a strict check was kept on the quarantine period of the outsiders. They also propagated the practices of social distancing, wearing a mask, disinfection, sanitization and handwashing.

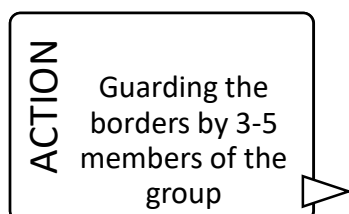
- **Discipline in sealing villages from outsiders**

The members of the mahila mandals collectively made plans to check the entry of outsiders into the village and also restrict the movement of the villagers to essential services only. This was according to the government guidelines to contain the spread of coronavirus. It was neither an order from the state government nor the local authorities to the mahila mandals to maintain discipline of movement in the villages. It was the self-motivated women of the villages who took it upon themselves to keep a check on the entry of people. The panchayats in the study have different geographical access, some of them have forests and rivers near them which too were kept in check and guarded against any foreign entry. The Mahila Mandal of Mansari, Archandi, Kaniyal, Simsa and Siyal had assigned duties to members of the mahila mandals (groups of 3-5 women) to guard the entry points to the village for fixed hours (4-5 hours) as the villages were accessible by foot and mostly no checkpoints were available. Some even had lathis to guard the entry points. Thus ensuring that no outsider entered the village during the first and second phase of the lockdown.

As the lockdown measures eased, the mahila mandals changed their role from guarding the checkpoints to keeping a check on the people entering the village with valid documents as prescribed by the government of the state in coordination with the local authority.

The villagers were also remanded by the women if they were seen roaming around the village purposelessly. The members educated the villagers to avoid gatherings when the restrictions started to ease a bit.

An important point which the women followed was discipline amongst themselves with social distancing, wearing masks and washing or sanitizing



hands regularly whenever they were outside of their houses and performing their duties. This was done during both the lockdowns.

Figure 1: Process for Sealing of Villages

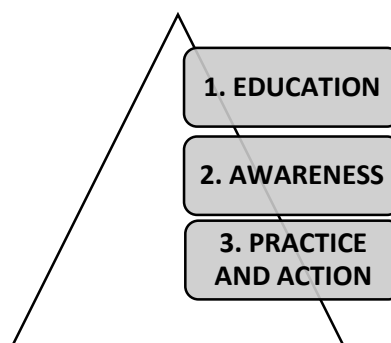
- **Role in spearheading awareness**

During the first lockdown in 2020, most of the mahila mandals were educated by the local authorities such as the ASHA worker and the panchayat members and Pradhan about the virus and how to prevent it, only a few villages were observed where the members educated themselves through the news and contacted each other through the telephone. The members further educated the villagers to maintain social distancing, avoid social gatherings and emphasized on the importance of hand washing and hand sanitization. Some of the Mahila Mandals like Siyal, Kaniyal, Simsa and Mansari also distributed hand sanitizers to the villagers to keep the virus at bay.

- **Promoting Healthy Behaviours**

Proper hygiene and sanitation was advocated by the members. They undertook cleaning of villages to avoid transmission. They also educated the villagers to have proper diet and proper sanitation by avoiding defecating in the open i.e. the forests and the riversides, not just to maintain hygiene but also to prevent the spread of the virus. Women created awareness in the local communities by means such as telephone calls or in person by maintaining the proper standards of social distancing and wearing masks. But in the second lockdown, this role was reduced to a great extent as most of the villagers were already familiar with the precautionary measures and also they were less paranoid than the first lockdown as they had been exposed to it for a longer time.

Figure 2: Steps for Promotion of Healthy Behaviour by Mahila Mandals



- **Coordination with the local authority:**

The ground level government, like the ASHA workers and Panchayat members, the main pillars of governance, educated the members of the mahila mandals about the pandemic and also the means of preventing it in the 2020 lockdown in most of the villages except in Dhamsu and Aleo. They informed about the importance of wearing mask and social distancing to limit the spread of the virus with the slogan “2 gaj ki duri mask hai zaroori” in addition to washing or sanitization of hands to remove the germs. All of this was done during the first lockdown. This information was forwarded by the mahila mandals to the villagers through their family members, being the first point of contact, and furthering the information to all.

In some of the villages the local administration also provided with material for stitching the masks. With the easing of restrictions, the entire information was not communicated with the mahila mandals but any enquiry regarding the entry of people from outside was welcomed and answered by the local administration.

In the second lockdown, the coordination shifted towards providing information of COVID positive patients and checking upon the need for oxygen in their respective villages by the ASHA workers and the panchayat. The ASHA workers also provided these patients with the necessary medication and kept a check on their recovery through telephonic conversations if they were home isolated.

- **Strengthening grass root democracy**

They have been found to be effective communicators and channels of information between the community and local administration with their near universal presence in the rural areas (Himachal Pradesh Total Sanitation Campaign, 2008). Their role during epidemics and crises has been particularly important especially as witnessed in the current pandemic by preventing the entry of outsiders without completing the quarantine time (Vardarajan, 2020), distributing masks amongst the people (Thakur, 2020) and contributing towards the covid-19 relief funds (United News of India, 2020) unaffected by the COVID-19 related stigmas (Ransing, et al., 2020). Hence they function as an instrument to strengthen grassroots democracy along with working towards empowering women by organizing rural women towards common objectives.

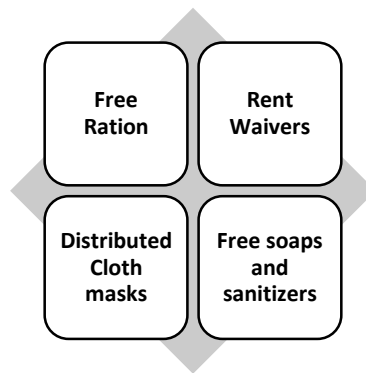
- **Developing emergency responses and harnessing existing knowledge on health emergencies**

The mahila mandals developed emergency response plans targeting the spread of the virus and containing it. The knowledge of the diseases in the past that had caused havoc in the community like tuberculosis and managing the epidemic was very helpful to formulate the plans for the present pandemic.

- **Supporting the most vulnerable groups**

It was seen world over that the financially poor sections of the society were the worst affected because of the overcrowded areas of their habitation, lower accessibility to health facilities, unhygienic sanitation practices and poor health conditions. Thus the mahila mandals focused on assisting this vulnerable section of the society. They were given free ration, masks, rent free accommodation for the duration of lockdown along with proper guidance to prevent the spread of the virus.

Figure 3: Help provided to the vulnerable groups



- **Close knit Community**

The women were very well coordinated and together everyone performed their duties without any hesitation. As soon as the first lockdown in 2020 was announced the members contacted each other and informed about the situation and discussed how they can protect their family and community from the pandemic. There was not even a single case in the study where a member denied to participate in the plan formulated by the mahila mandal. Every member enthusiastically joined in to protect the village. The efforts were appreciated and applauded by the family members and also the entire village. Everyone supported them to maintain discipline. This showcases the close knit community these villages are and how they support each other even in times of a pandemic.

A special act highlighting this emotion was observed when the women contacted the people affected by the virus and comforted them to reduce their anxiety.

- **Ensuring supply of Essential Services**

During the first lockdown the entire nation witnessed an abrupt halt of essential commodities like food, shelter and source of income. The main affected were the migrant labourers who lost their source of income making them unable to have basic amenities like food and shelter. The Mahila Mandals of Shuru, Jagatsukh, Kaniyal, Siyal, Aleo, Manali and Vashisht collectively provided rations to them for the entire period of the lockdown as they had no jobs because of the government restrictions. The other mahila mandals also provided rations on an individual level because the number of such unemployed people was low in their village.

Most of the tenants had lost their employability because they were either migrant labourers or were employed in the tourism sector. Not only the members of the mahila mandals but also the villagers pardoned their rents. For the second lockdown, as the time period was much shorter there was no acute shortage of food in the community. But help was provided to anyone who needed it.

- **Cottage industry**

The members of the mahila mandals actively participated in the message of the Prime Minister of producing home-made cotton masks to avoid any shortage for the people who could not afford the surgical masks and the N95 masks. Most of the women had a sewing machine at home which made the work easier. Some were provided by the panchayats and some by the MLA of the region. Some got the cloth from the panchayats and some from the MLA of the region. To ensure sanitization the material was washed properly before stitching it. The women took the initiative and stitched many masks and distributed them among the villagers mostly the poorer households of the village. There was almost no difference in the distribution of masks in the two lockdowns.

- **Service before Self: An example of courage and humanitarian service**

The mahila mandals showcased an exemplary behaviour wherein their humanitarian service was always ahead of their own self. Although they were working for the benefit of the entire community still they were at a higher risk of being contaminated by the virus by coming in contact with more people. To reduce the risk, they practiced all the preventive measures of social distancing, wearing masks and sanitizing their hands frequently. Their selfless efforts resulted in securing a safer community. The motherly affection towards the community motivated them to work for its protection.

III

SUGGESTIONS:

There are certain recommendations which can strengthen women's positions in such challenging times:

1. The district administration should acknowledge their valuable efforts in containing the spread of the virus at the lowest level of administration, villages. This will boost their confidence and encourage them to continue their good work.
2. The different mahila mandals should have a common platform for communication and discussion of the challenges faced by them along with the chosen solutions so that everyone should be benefitted by them.
3. The community members could assist them financially during the pandemic in providing relief to the underprivileged.
4. Their work could have been more progressive if the administration provided them with basic training to mitigate the effects of such unprecedented events.
5. Sustainable development at the community level requires responsive, responsible, accountable and people-focused leadership.

6. The mahila mandals should themselves network and collaborate amongst themselves to share and learn from successful practices and mistakes to build better.

IV

CONCLUSION:

Solidarity among women results in great changes in the society. The traditional women clubs have developed and become strong fronts which have brought substantial freedom in women's life. In recent times we saw the efforts of mahila mandals, especially during the pandemic, when they donated large funds to help during the tough times and also stood up against individuals even ministers who violated the quarantine rules, all for safeguarding their community. The above study tries to portray the effective role of local women organisation during the COVID-19 lockdown, in keeping a check on the entry of outsiders into their villages. It exhibits the importance of women organization at the rural level during a pandemic. They worked to generate awareness among the households, especially the women so that the entire family is well educated about the contagion. The study highlights that how women organisations can benefit the community when they are encouraged, motivated and free to take their own decisions. The women organisation could stand together and protect their community because of the support they had from each other, their family and the community. Thus again the women rose up to a difficult and tedious situation and handled it so well that no cases were seen in these villages until the influx of tourist in the region.

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DIFFERENT OCCUPATIONAL MORTALITY RISKS OF ASSAM GOVERNMENT EMPLOYEES AFTER RETIREMENT

Parag Saharia¹ & Sangeeta Kalita²

Abstract

In this research paper, an attempt is made to study the occupational differentials in the risks of mortality among the pensioners in Assam. The study is based on the mortality experience of the pensioners who retired from the Assam Government jobs after attaining the age of superannuation during the period 2010-2020. We use Hazard model methodology to study the differential risks of mortality by occupation among the pensioners. The estimation of the Hazard model is carried out through non-parametric approach.

Keywords— Mortality, Synthetic Life table, Pensioners, Hazard Model, Survival Function.

1. INTRODUCTION

Retirement creates a major problem for many older people because their professional role plays a central role in defining their total social position, and the loss of this role therefore generates a traumatic change in their personal situation. Work is often the most important dimension that integrates an individual into society. Identity, lifestyle and models of participation in life in general are conditioned by work. Therefore, the retirement process undermines the main social supports of an individual by removing them from the world of work in which these supports are embedded. There has been a lot of concern about the practice of retirement, especially if retirement is mandatory.

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The regulation of compulsory retirement is a key issue faced by many developing countries due to their rising levels of general unemployment. Rising unemployment increases the social pressure to reduce the volume of older skilled workers in the workforce, whether they are physically, mentally or financially ready for retirement. Sudden and sudden disconnection from active economic and social life can contribute to numerous socio-psychological problems among retirees. These problems can affect their personal and social life when they move into a non-productive role with less income, possibly more social isolation, and possibly a reduced status within the family. This loss of roles and concomitant feelings of worthlessness can have deleterious effects on the health of retirees in terms of tension, stress and worry. In societies where the process of withdrawal from the workforce is gradual, these adverse socio-psychological effects may not be very important. But in the event of an abrupt withdrawal from the workforce, the effects can be much more pronounced and experienced by most people.

Retirees make up a significant subset of the elderly population in India, and its problems can vary according to urban, rural, socio-economic and cultural areas differences. No such study has been carried out in Assam to observe the socio-economic situation psychological effects on the mortality differentials of pensioners. Assam is a state that it is socially, economically and educationally lagging behind other states from India. The socio-economic problems of retirees in Assam may not be similar those who have faced retirees in some other states of India. Hence, psychological stress and the stress experienced by retirees in Assam in the post-retirement period can lead to different level of deleterious effect on their health and vigor which results in a different risk scenario of occupational mortality. In addition, the level of psychology can be expected problems faced by retirees in the post-retirement period, which belong to high profile jobs; it would be different from those retirees who belong to middle or low category jobs. This, in turn, can result in several morbid conditions that can affect mental and physical health. the health of retirees ultimately leads to differentiated risks of employment mortality. Therefore, the need for studies that focus on the mortality risks of retirees after retirement in Assam seems to be important.

The retirement process in the formal labor sector in India and in most developing countries is such that the retirement age is fixed and normally

a person cannot remain in service after a certain age. Unfortunately, however, little is known about the age-specific mortality pattern among retirees who retire after reaching retirement age, which is the normal retirement age. Accordingly, the present study attempts to estimate the relative mortality risks, by occupation, of those who retired from Assam state government service after attaining the age of superannuation during the period 2010-2020.

2. LITERATURE REVIEW

Emmanuelle Cambois in their research article "Occupational inequalities in health expectancies in France in the early 2000s: Unequal chances of reaching and living retirement in good health" have computed health expectancies (HE) to assess the unequal chances of social/work participation after age 50 in the context of France in 2003. They've considered five HEs, covering various health situations which can jeopardize participation, and focused on both older ages and the pre-retirement period. Their findings reveal large inequalities for both sexes in their chances of staying healthy after retirement and even reaching retirement age in good health and without disabilities, especially in low-qualified occupations.

In this article, "Differential Risk of Mortality among Pensioners after Retirement in the State of Maharashtra, India," the authors investigate the adverse effects of mandatory retirement on the health and mortality patterns of government employees in India. Their study focuses on retirees who left service at normal retirement age and uses a new set of data collected from PPOs from government Treasury records. The results of the survival analysis revealed that the risk of mortality was relatively high after retirement for those retired from the police service, followed by occupations involving public relations and administration, compared to retirees from trades and other similar occupations.

D E Moore & M D Hayward in their research article "Occupational careers and mortality of elderly men" presents the findings from an analysis of occupational differentials in mortality among a cohort of males aged 55 years and older in the United States for the period 1966-1983. The maximum likelihood estimates of hazard-model parameters show that the mortality of current or last occupation differs substantially from that of longest occupation, controlling for education, income, health status, and other sociodemographic factors. It is seen that the rate of mortality is

reduced by the substantive complexity of the longest occupation while social skills and physical and environmental demands of the latest occupation lower mortality.

Ramananda Rajbongshi made an attempt to study the occupational differentials in the risks of mortality among the pensioners in Assam in one of the chapters in his thesis. The study is based on the mortality experience of the pensioners who retired from the Assam Government jobs after attaining the age of superannuation during the period 1985-95. In their study they have found that pensioners in occupational category-I belong to that high profile jobs had a relatively high risk of mortality in the first few years after retirement as compared to category-II and throughout the nine years of retirement as compared to category-III.

3. OBJECTIVE OF THE STUDY

The objective of this is to study the occupational differential in risks of mortality among the pensioners after superannuation retirement in Assam who retired during the period 2010-2020.

4. SOURCE OF DATA

The PPO provides various information about a pensioner such as name, type of pension, date of birth, date of retirement, the department and the post held, age, sex, amount of monthly pension, the date of death of the pensioner (if death occurs) and the residential address. In order to study the mortality differentials by occupation among the pensioners who retired from various jobs of the Assam Government after attaining superannuation age during the period 2010-20. We have used information derived from the PPOs available in the Treasury Offices located at Panbazar, Chandmari and Dispur of Guwahati City.

5. OCCUPATIONAL CATEGORY

Employment, education and income determine people's socioeconomic status in the society. Employment is probably the most significant factor in indicating the present social status of an individual. Employment also has great social importance for a retiree. person because he seeks to derive current welfare status through his pre-retirement employment (Clark, 1972). Therefore, employment is a single socioeconomic variable that can

account in order to study the mortality differentials between retirees in the post-retirement period.

The social status of an individual depends on factors such as occupation or profession, education, income, behavior, morality etc. Occupation is probably the most significant factor to indicate the present social status of an individual. For retired people, occupation often has more social importance since they may try to derive present social status through their pre-retirement occupation (Clark, 1972). Thus, occupation is the only socio-economic variable which may be taken into account in order to study the mortality differentials among pensioners in the post retirement period.

Various studies identified two main dimensions underlying occupational differentials in mortality, for example. "Exposer" and "Lifestyle". Exposure refers to the environment in which a person spends greater part of his working hours and the "lifestyle" is defined as a by-product of social status including health behavior, access to health facilities and attitudes towards health care. Saxena and Kumar (1997) in their studies differential in the mortality of retirees, considered two more factors to redefine the "Lifestyle" of retirees, that is. "Administrative power to make decisions" and "extent of public dealing when in government positions". In this present study, we propose include an additional factor: "nature of work" to examine the effect of lifestyle change on mortality differences among retirees after retirement. Here "Nature of the work" refers to the fact that the occupation involves hard physical work along with presence of lack of power to take administrative and public negotiation decisions. In this study, we create three occupational categories, viz. category-I, which includes those government jobs that involve the power to take administrative decisions and also a large part of public dealing, but not hard physical work. Category-II includes those professions that do not have the power to perform administrative decisions or direct public dealing, but they require a lot of paperwork to give effect to administrative decisions. The category-III includes those government jobs that involve direct physical hard work to in their service, but do not have the power to undertake administrative decisions and public dealing.

It generally happens that workers with a higher level of education and working status they have less desire to retire and obviously these workers experience greater psychological stress in the years following retirement due to your inability to fully cope with the modified phase of their lifestyles. On the other hand, workers with low-level jobs that require

hard physical work they often voluntarily accept retirement and when they stop working their health is likely to improve.

Based on the discussion above, let's classify the retirees who retired after superannuation from various Assam government services (jobs) during the period 2010-2020 in three categories. Category-I includes retirees who have retired as officers of the Assam Police Services, Assam Civil Services, Health and Medical Services, Public Health and Assam Departments of Public Works and Educational Services. Category-II consists of those retirees who have retired from administrative services, such as Lower division assistants, upper division assistants, superintendents, ministerial assistants, section assistants, Auditors and accountants from various departments. The category-III includes retirees who retired as Grade-IV employees who had to do hard physical work and, as such, this category includes drivers of government vehicles from different departments, Department of Public Works workers, trainers and workers of the Department of Agriculture, mechanics and government machine operators and others departments etc.

It is worth mentioning here that category-I pensioners enjoyed authority and power while serving along with a good amount of income, respect and identity. Whereas the retirees of categories-II and Category-III had a low-profile status in the society than Category-I. So, we hope the classification of retirees in these three categories will be used to analyze the different mortality risks due to occupation among retirees in Assam in the period 2010-2020.

6. METHODOLOGY

To study the different risks of occupational mortality among retirees, the hazard model methodology is used. The estimation of the hazard model is carried out by non-parametric approaches.

The hazard model methodology is widely used in demographics for the study various problems viz. marital dissolution, mortality etc. In the present study, the Mortality risk rates among retirees for each year of survival after retirement are estimated using non-parametric estimates of Kaplan-Meier (1958) survival function through the construction of synthetic life tables that incorporate censored information. To produce mathematically strong analysis, the increasing failure rate model (parametric) is also considered, trying to provide parametric estimates of survival function and tests of the goodness of the fit.

6.1 Construction of Life Table by Incorporating Censored Information:

We make the following assumptions in order to prepare the synthetic life table for pensioners who retired during the period 2010-2020.

- i) The population is homogeneous; i.e. the mortality risk of retirees is constant for all individuals under study during the time period (0, t)
- ii) The failure and censorship mechanisms are independent, i.e. the experience of a number of people with different entry dates has been consolidated to produce a representation of the experience of a synthetic cohort with a common entry date.

Description of life table columns:

Column (1): The time interval for observations have length of one year.

Column (2): n_j = The number of pensioners who are alive and are at the risk of death in the beginning of j^{th} interval, $j=1, 2, \dots, 10$ and $n_{j+1} = n_j - d_j - c_j$

Column (3): d_j = The number of deaths occurring during the j^{th} interval

Column (4): c_j = The number of retirees who got lost while under observation and it is assumed that they have not experienced death until the end of observation period, the reference date of the study, 31st December, 2020

Column (5): n'_j = The average number of pensioners who are at risk of death during the j^{th}

interval of survival time and is given by $n'_j = (n_j - c_j) / 2, j = 1, 2, 3, \dots, 10$

Column (6): q_j = Estimated probability of death during the j^{th} interval, given that the pensioner was alive at the beginning of the interval $q_j = d_j / n'_j, j = 1, 2, 3, \dots, 10$.

Column (7): p_j = The probability of survival of pensioner during the j^{th} interval and is

Given by- $p_j = 1 - q_j = 1, 2, 3, \dots, 10$.

6.2 Hazard Model:

To study the differentials in mortality patterns among pensioners, hazard analysis is performed on the basis of the estimated risk function. The risk

function provides Instant death rate at time 't' which is defined as a pensioner's probability of dying in the next small interval provided, he has already survived to the beginning of the interval. It is defined as-

$$h(t) = \lim_{\Delta t \rightarrow 0} \frac{\text{prob}(t < T < t + \Delta t)}{T \geq t} \dots\dots\dots (i)$$

Where,

h(t)= Conditional probability that a pensioner will die in the interval (t, t+Δt), given that he was alive at age t.

Thus,

$$\begin{aligned} h(t) &= \lim_{\Delta t \rightarrow 0} \frac{F(t+\Delta t) - F(t)}{\Delta t [1 - F(t)]} \\ &= \frac{\frac{d}{dt}F(t)}{1 - F(t)} \\ &= \frac{\Phi(t)}{S(t)} \dots\dots\dots (ii) \end{aligned}$$

Where,

Φ(t) = probability of a death occurring at time t which is contained in a very small interval between t and t + Δt

i.e,
$$\Phi(t) = \lim_{\Delta t \rightarrow 0} \frac{\text{Prob [Death in the interval (t, \Delta t)]}}{\Delta t} \dots\dots\dots (iii)$$

and,
$$S(t) = 1 - \int_0^t \Phi(u) du = 1 - F(t) \dots\dots\dots (iv)$$

Where,

S(t)= Survival function defined by the probability that an individual survives longer than time t.

6.3 Comparison of Differential Risks of Mortality by Occupation:

We calculate the relative risk of mortality for each category of pensioners in order to compare the mortality differentials by occupation. The relative risk of mortality of the j^{th} category compared to the k^{th} category is obtained by,

$$R_{jk}^t = \frac{\text{Hazard rate for } j\text{th category of pensoiners during the given survival time interval}}{\text{Hazard rate for } k\text{th category of pensoiners during the same survival time interval}}$$

----- (v)

$R_{jk}^t > 1$ implies that the risk mortality of j^{th} category of pensioners is higher than the k^{th} category of pensioners for the given time interval.

Here, R_{jk}^t satisfies the relation –

$$R_{jk}^t = 1 / R_{kj}^t \quad ; j \neq k ; j=1,2,3 ; k= 1,2,3 \quad \forall t$$

Accordingly, interpretations of R_{kj}^t can be made conversely to R_{jk}^t

6.4 Non- Parametric Estimation of Survival Function:

Here we use Kaplan Meier estimate to calculate the values of survival function in each single year interval of survival time of the pensioners after retirement.

It is convenient to consider time ‘j’ as the beginning of a short time interval ending at time (j + 1). Then we use n_j as the number of people alive at the beginning of the interval and therefore at risk of death during that short interval. We indicate the number of people who die in that short time just after ‘j’ as ‘ d_j ’. And hence, the number of people surviving the interval is (n_j-d_j) . This number, in turn, becomes the number of persons alive at the beginning of the interval starting with (j + 1) and is denoted by n_{j+1} . Thus, the probability of survival at any time ‘j’ is given by,

$$P_j = \frac{n_j-d_j}{n_j} = 1 - \frac{d_j}{n_j} \quad \text{----- (ix)}$$

The overall probability of survival to time 'j' after survived through each of the (j -1) preceding time points is given by,

$$S(t) = \left(1 - \frac{d_1}{n_1}\right)\left(1 - \frac{d_2}{n_2}\right) \dots \dots \left(1 - \frac{d_{(j-1)}}{n_{(j-1)}}\right)\left(1 - \frac{d_j}{n_j}\right) = \prod_{i=1}^j p_i$$

The successive probability of survival S(1), S(2),S(t) are called the Product-Limit Estimation or Kaplan-Meier of survival function.

The estimates of the survival function in this present study is calculated by,

$$\begin{aligned} S(t) &= \prod_{i=1}^j \frac{n_j - d_j}{n_j} \\ &= \prod_{i=1}^j \left(1 - \frac{d_j}{n_j}\right) \\ &= \prod_{i=1}^j (1 - q_j) \\ &= \prod_{i=1}^j (p_j) \quad \text{for } t_k < t < t_{k+1} ; k= 1,2,\dots,9 \end{aligned}$$

(x)

The estimated probability of surviving until the start of the first interval is unity, i.e. S(0) = 1.

Now, on the basis of the following information, Synthetic life tables are constructed-

- 1). Date of entry; i.e. the date of retirement of the pensioner from government job.
- 2). Date of failure; i.e. the date of death of the pensioners.
- 3). Date of exit from the study; i.e. the reference date of our study (i.e. December 31st, 2020)

7. RESULTS AND DISCUSSION

7.1 Occupational Differential Risks of Mortality Among Pensioners In Assam:

To study the differences in occupational mortality risks among retirees grouped into three categories based on the similarity of their pre-retirement lifestyles, we constructed synthetic life tables and separately estimated risk rates for each occupational category. We then calculate the relative mortality risks $R_{jk}^{(t)}$ of the j^{th} category of pensioners with respect to the k^{th} category. The results of the synthetic life tables and the estimates of the risk function for each category of pensioners are presented in Tables 2 and 3 for category I, tables 4 and 5 for category II and tables 6 and 7 for category III.

From the last Columns, i.e. column 5 of Tables 3, 5 and 7, it is observed that the risk rate increases with the increase in the duration of survival after retirement, but the increase is not uniform. From the estimated risk rates, we can interpret the risk of a retiree dying within a given year, given that he was alive at the beginning of that particular year. In other words, the risk rate provides the instant death rate of retirees in a short period of time. For example, the risk rate $h(I) = 0.048681$ [Table-3, column-5] implies that the risk of death of a pensioner belonged to occupational category I in the first year of retirement since he was alive at the beginning of that year was 0.048681 or 4.8 per 100 person-years of exposure during the first year of survival. The risk increased to approximately 8.3 per 100 person-years of exposure during the 1st four years of retirement and it remained at around 5 per 100 person years upto the 5th year. The change in the risk rate during the first 4 years of retirement was $(8.3-4.8) = 3$ (approximately) per 100 person-years. It can therefore be interpreted that the first four years of retirement were the most dangerous for pensioners belonging to professional category I, who retired in Assam in 2010-2020. Similar interpretations can be made with respect to the risk rates of pensioners in Tables-5 and 7. It is worth mentioning here that the rising trend in risk rates over the considered lifetime of retirees incidentally portrays an individual's post-retirement life, which is recognized as one-third of the "Bath Tub" curve. human this mention can be made in this regard because it is the aging process that would lead to more instant mortality.

The estimated relative risks of mortality of retirees are presented in Table-8. Columns (2) and (3) of the table provide the relative mortality risks of pensioners belonging to occupational category I with respect to categories II and III i.e., and $R_{12}^{(t)}$ and $R_{13}^{(t)}$ respectively and column (4) represents the risks of relative mortality of pensioners belonging to occupational

category II compared to category III, i.e., $R_{23}^{(t)}$. In column (2) it was noted that the mortality risk of occupational category I pensioners was relatively higher up to 5 years of retirement than category II pensioners. However, the relative risk of mortality in the years remaining after retirement during the observation period was found to be lower. It is clear from the result of column (3) that the mortality risk of pensioners belonging to occupational category-I was relatively higher than that of pensioners belonging to category-III during the nine years following retirement. Similarly, the values of $R_{23}^{(t)}$ in column - (4) indicate that retirees in occupational category-II had a higher mortality risk than in category -III in during the eight years following retirement. Interpretations related to $R_{21}^{(t)}$, $R_{31}^{(t)}$ and $R_{32}^{(t)}$ can be made conversely to that of $R_{12}^{(t)}$, $R_{13}^{(t)}$ and $R_{23}^{(t)}$.

8. CONCLUSION

Here we try to give an explanation of the results that emerged from this study. This study is based on the change in the "lifestyle" of retirees that could occur in the post-retirement period. The various problems that retirees face may be due to reduced income, deterioration of health due to aging and socio-psychological adjustment due to change of status in the family and in society (Desai and Naik, 1982; Mahajan, 1988). Lack of adequate planning for using additional leisure time after retirement exacerbates existing problems (Sati, 1988; Mohanty, 1982). Therefore, the loss of the target group (i.e. the loss of work organization and collaborators), as well as status and power and the loss of roles with age can have a negative effect on the health and well-being of the retiree. As a result, different levels of disease incidence may emerge among retirees, which in turn may entail different death risks among retirees of different occupational categories. Furthermore, it is generally the case that workers in higher education and occupational status are less willing to retire (Butler and Lewis, 1977). Obviously, this worker experiences increased stress in the first years after compulsory retirement due to his inability to fully cope with a new stage of life and, as a result, these workers have a high risk of mortality at least in the first years after retirement (Saxena and Kumar, 1997). It has also been mentioned that workers in low-level jobs requiring hard physical labor often voluntarily accept retirement and when they stop working their health is likely to improve (Shanas et al, 1968). Due to the quick acceptance of their modified lifestyles after

retirement, these retirees may experience less anxiety and therefore may have a lower risk of mortality after retirement.

Thus, the observed differentials in the mortality risks among retirees fall into three categories that can be attributed to the effects of varying levels of post-retirement lifestyle changes. In general, it is observed that retirees from senior positions who have leadership power and power to make administrative decisions along with a good amount of public contact, attach great importance to the occupation they held before retirement. They want to have the same status in family and society as they enjoyed in the active world of work, even after retirement. During the tour they enjoyed authority and power and sought compliance without questioning what they had ordered. But shortly after retirement, the sudden loss of power and respect can create a feeling of loss of status in the family and society, which can lead to emotional shock and psychological distress. These, in turn, can adversely affect the health of retirees and lead to a high risk of mortality. In our study, the best occupational category-I retirees belong to those high-profile jobs and it is evident from this empirical study that these retirees had a relatively high mortality risk in the first few years after retirement compared to category-II and throughout the nine years of retirement with respect to category- III. The continuity of the high mortality risk up to six years of retirement of occupational category- I pensioners compared to category- II indicates that it takes time for these pensioners to adapt to the new situation and therefore to its negative effects. psychological factors may persist for a few years after retirement. If these people were able to overcome adaptation problems in the family and in society during the first years of retirement, then they could live longer than retirees belonging to occupational category- II.

In the event that retirees belong to occupational category- II, factors such as loss of status, loss of role, discontinuity of service and loss of organizational collaborators after retirement can have a deleterious effect on them, but not to have so much change in their "lifestyle" after retirement, they may not experience as much stress and psychological distress as do category- I retirees. Therefore, from this empirical study, it appears that occupational category- II retirees had relatively lower mortality risks in first years after retirement compared to category- I. However, in the last years of retirement, the loss of physical health due to aging, the problem of using free time, etc., can create a sense of loneliness,

meaninglessness which, in turn, can carry a higher mortality risk than category- I pensioners.

The pensioners of occupational category-III may not find much change in their lifestyle in the pre as well as post retirement period. It may be mentioned in this context that due to the ready acceptance of their **changed 'life-style' following retirement**, such people are less likely to suffer from psychological strain and may experience a low risk of mortality compared to the pensioners belong to occupational category-I and II. Moreover, while in service, the persons in occupational category-III have to perform hard physical labour which may, in turn, render them a physical fitness and fins factor o physically well-being' perhaps keeps them physically and mentally sound even after retirement resulting a low risk of mortality compared to the pensioners belong to occupational categories-I and II

Occupational Category- III retirees may not find many lifestyle changes both before and after retirement. It can be mentioned in this context that, due to the rapid acceptance of their "lifestyle" change after retirement, these people are less likely to suffer from psychological distress and may experience a lower risk of mortality than retirees belonging to the occupational Category-I and II. In addition, during service, people in occupational category- III have to do hard physical work which, in turn, **can make them a factor of physical fitness and 'physical well-being'** perhaps keeping them physically and mentally healthy even after retirement, resulting in a low mortality risk compared to pensioners belonging to professional categories-I and II.

In this study, mortality patterns and differentials among retirees were examined, and interpretations of occupational mortality differentials were made based on the results of past studies on the elderly and retirees. We also attempted to establish the results of some of the previous studies mentioned above through empirical studies based on information derived from pension payment orders available from the Guwahati Treasury Office, Kamrup. A simple implication of the findings of this study could be the urgent need to formulate retirement policies that include an early retirement program to educate people, particularly those who achieve high-level positions in government services in their region, prepare themselves for retirement so that in the post-retirement period the negative effects of various psychological factors associated with retirement

can be significantly reduced. If such programs are properly planned and implemented, the risk of mortality would certainly be minimized among retirees after retirement.

Figure-1: Mortality Risk by different Occupational Category

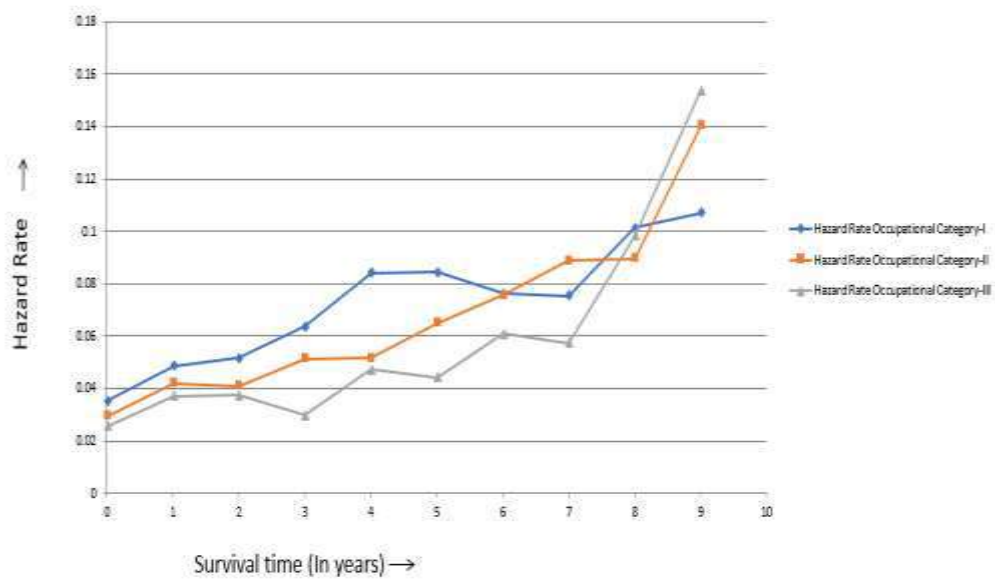


Table-1: Pensioners on Attaining Superannuation Retired during the Period 2010-2020

Year Of Retirement	Number of Pensioner			Total
	Category-I	Category-II	Category-III	
2010-2011	90	145	132	367
2011-2012	132	205	186	523
2012-2013	155	251	219	625
2013-2014	135	282	135	552
2014-2015	170	265	278	713
2015-2016	144	241	236	621
2016-2017	160	224	199	583
2017-2018	172	176	131	479
2018-2019	106	142	99	347
2019-2020	119	109	102	330
Total	1383	2040	1717	5140

Table-2: Synthetic Life Table for Pensioners in Occupational Category-I Retired during the Period 2010-20

Survival Time	n_j	d_j	c_j	n'_j	q_j	p_j
(1)	(2)	(3)	(4)	(5)	(6)	(7)
0-1	1383	44	221	1272.5	0.034578	0.965422
1-2	1118	48	216	1010	0.047525	0.952475
2-3	854	38	198	755	0.050331	0.949669
3-4	618	33	169	533.5	0.061856	0.938144
4-5	416	29	112	360	0.080556	0.919444
5-6	321	22	98	272	0.080882	0.919118
6-7	255	16	74	218	0.073394	0.926606
7-8	165	10	54	138	0.072464	0.927536
8-9	101	8	36	83	0.096386	0.903614
9-10	57	3	55	29.5	0.101695	0.898305

Table-3: Estimates of Survival Function (S_t) Probability Density (ϕ_t)

and Hazard Function (h_t) of Pensioners of Occupational Category-I

Survival Time in Years (t)	(S_t)	(ϕ_t)	$St = \frac{s_j + s_{j+1}}{2}$	$(h_t) = \frac{\phi t}{St}$
(1)	(2)	(3)	(4)	(5)
0	1	0.034578	0.982711	0.035186337
1	0.965422	0.045881	0.942481468	0.048681131
2	0.919541	0.046282	0.896400171	0.051630435
3	0.873259	0.054016	0.846251383	0.063829787
4	0.819243	0.065995	0.786246058	0.083936324
5	0.753249	0.060925	0.72278649	0.084291188
6	0.692324	0.050813	0.666917831	0.076190476
7	0.641511	0.046486	0.618268269	0.07518797
8	0.595025	0.057352	0.566349193	0.101265823
9	0.537673	0.054679	0.510333965	0.107142857
10	0.482995			

Where

$$S(j) = P_0 * P_1 * P_2 * \dots * P_{j-1} * P_j ; j = 1, 2, \dots, 9$$

$$K(t) = S_j - S_{j+i} ; j = 0, 1, 2, \dots, 9$$

$$S(t) = \text{Average Survival Function} = \frac{s_j + s_{j+1}}{2}$$

Table-4: Synthetic Life Table for Pensioners in Occupational Category-II Retired During the Period 2010-20

Survival Time	n_j	d_j	c_j	n'_j	q_j	p_j
(1)	(2)	(3)	(4)	(5)	(6)	(7)
0-1	2040	55	298	1891	0.029085	0.97091486
1-2	1687	63	320	1527	0.041257	0.958742633
2-3	1304	47	259	1174.5	0.040017	0.959982971
3-4	998	44	239	878.5	0.050085	0.949914627
4-5	715	31	197	616.5	0.050284	0.949716139
5-6	487	26	148	413	0.062954	0.937046005
6-7	313	19	104	261	0.072797	0.927203065
7-8	190	14	51	164.5	0.085106	0.914893617
8-9	125	9	40	105	0.085714	0.914285714
9-10	76	4	91	30.5	0.131148	0.868852459

Survival Time in Years (t)	(S_t)	(q_t)	$S_t = \frac{s_j + s_{j+1}}{2}$	$(h_t) = \frac{\varphi t}{S_t}$
(1)	(2)	(3)	(4)	(5)
0	1	0.02908514	0.98545743	0.029514355
1	0.97091486	0.040057391	0.950886164	0.042126379
2	0.930857469	0.03725015	0.912232394	0.040834057
3	0.893607319	0.044756656	0.871228991	0.051371862
4	0.848850663	0.042683488	0.827508919	0.051580699
5	0.806167175	0.050751444	0.780791453	0.065

6	0.75541573	0.05499195	0.727919756	0.07554672
7	0.700423781	0.059610535	0.670618513	0.088888889
8	0.640813246	0.05492685	0.613349821	0.089552239
9	0.585886397	0.07683756	0.547467616	0.140350877
10	0.509048836			

Table-5: Estimates of Survival Function (S_j) Probability Density (ϕ_j) and Hazard Function (h_j) of Pensioners of Occupational Category-II

Where

$$S(j) = P_0 * P_1 * P_2 * \dots * P_{j-1} * P_j ; j = 1, 2, \dots, 9$$

$$K(t) = S_j - S_{j+1} ; j = 0, 1, 2, \dots, 9$$

$$S(t) = \text{Average Survival Function} = \frac{s_j + s_{j+1}}{2}$$

Table-6: Synthetic Life Table for Pensioners in Occupational Category-III Retired During the Period 2010-20

Survival Time	n_j	d_j	c_j	n'_j	q_j	p_j
(1)	(2)	(3)	(4)	(5)	(6)	(7)
0-1	1717	42	98	1668	0.02518	0.974820144
1-2	1577	56	87	1533.5	0.036518	0.96348223
2-3	1434	51	92	1388	0.036744	0.963256484
3-4	1291	36	117	1232.5	0.029209	0.970791075
4-5	1138	47	235	1020.5	0.046056	0.953944145
5-6	856	31	276	718	0.043175	0.956824513
6-7	549	28	152	473	0.059197	0.940803383
7-8	369	15	199	269.5	0.055659	0.944341373
8-9	155	11	75	117.5	0.093617	0.906382979
9-10	69	6	54	42	0.142857	0.857142857

Table-7: Estimates of Survival Function (S_j) Probability Density (ϕ_j) and Hazard Function (h_t) of Pensioners of Occupational Category-III

Survival Time in Years (t)	(S_j)	(ϕ_j)	$St = \frac{s_j + s_{j+1}}{2}$	$(h_t) = \frac{\phi t}{St}$
(1)	(2)	(3)	(4)	(5)
0	1	0.025179856	0.987410072	0.025500911
1	0.974820144	0.035598258	0.957021015	0.037196945
2	0.939221886	0.034510314	0.921966729	0.037431193
3	0.904711572	0.026425652	0.891498746	0.029641828
4	0.87828592	0.040450209	0.858060815	0.047141424
5	0.837835711	0.036173965	0.819748728	0.044128114
6	0.801661745	0.047455664	0.777933914	0.061002179
7	0.754206082	0.041978075	0.733217044	0.057251908
8	0.712228007	0.066676664	0.678889675	0.098214286
9	0.645551342	0.09222162	0.599440532	0.153846154
10	0.553329722			

Where

$$S(j) = P_0 * P_1 * P_2 * \dots * P_{j-1} * P_j ; j = 1, 2, \dots, 9$$

$$K(t) = S_j - S_{t+1} ; j = 0, 1, 2, \dots, 9$$

$$S(t) = \text{Average Survival Function} = \frac{s_j + s_{j+1}}{2}$$

$$(h_t) = \frac{\phi(t)}{S(t)}$$

Table-8: Estimates of Relative Risks of Mortality among Pensioners of Occupational Categories I, II, III, Assam, 2010-2020

Survival Time (Years)	$R_{12}^{(t)}$	$R_{13}^{(t)}$	$R_{23}^{(t)}$
(1)	(2)	(3)	(4)
0	1.192177064	1.379807062	1.157384338
1	1.155597314	1.308740038	1.132522568
2	1.264396392	1.379342498	1.090909865
3	1.242504836	2.153368794	1.733086852
4	1.62728164	1.7805216	1.094169292
5	1.296787504	1.910147077	1.472983871
6	1.008521303	1.248979592	1.238426583
7	0.845864662	1.313283208	1.552592593
8	0.795801688	1.031070196	0.911804613
9	0.763392857	0.696428571	0.912280702

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POLITICS OF TRADE UNIONISM AMONG EMPLOYEES OF HINDU RELIGIOUS INSTITUTIONS IN KERALA

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Abstract

The Indian Constitution ensures everyone's right to practise their religion without restriction because religious freedom is a defining characteristic of a secular state. Secularism's defining characteristic is equality in religious matters for all facets of society. However, with the establishment of Devaswom Boards, which are intended to be autonomous entities charged with the administration of temples in this state, politicisation has struggled with the management of Hindu temples in Kerala. Given that other communities' religious organisations are mainly free from political authority, this is against secular norms. Today, trade unions and their activities are commonplace in Kerala's temples. Trade unionism is nothing other than the direct result of the politicization of temple administration. Though trade unionism is significant for protecting the rights of employees, often its politicization affects the serenity of temples and the unity and general discipline of employees as it involves direct action methods for achieving goals. Various Commission Reports and Court verdicts often pointed out that politically affiliated trade unionism is detrimental to the temples. The administration of Devaswom boards has

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been deteriorated to the level of a business establishment due to the presence of strong and highly politicized trade unions. The study tries to examine the historical and contemporary role of trade union movements existing among the temple employees of public temples in Kerala.

Keywords: Devaswom, trade unions, politicization, labour laws, temple administration

Introduction

Administration of Hindu Religious Institutions (HRI) by a secular state is a matter of great concern to the stakeholders. Now both the sacred and secular spheres of activities of temples are being managed by the government and the bureaucracy. As a secular polity, the state has to refrain from direct involvement in temple affairs and so Devaswom Boards are working for temple governance in the state. Though envisaged as autonomous bodies, actually the Devaswom Boards become puppets in the hands of the government and politicians. It should be noted here that even the rulers who built temples in the past had never interfered in their affairs except when their mediation became necessary for settling disputes over the administration of these temples.

Religion has a crucial role in Indian culture, politics, and society and cannot be ignored; it exerts a strong influence on a person's socio-political existence in this country. Ideological neutrality in religious questions is one of the Constitution of India's distinguishing characteristics. Secularism is portrayed as one of the fundamental ideas that distinguish religion from public affairs and vice versa. The state is required to maintain strict neutrality in the question of religion, meaning that it should not aggressively promote the beliefs or doctrines of any one religion over others, despite the fact that there is no impassable barrier between the

state and religion.

Though the underlying principle of secularism is the withdrawal of state from religious affairs, the governments in the modern period generally involve in the affairs of temples, the religious institutions of the Hindus. Their motive mainly is to establish a presence in temple management and thereby to regulate the use of the temple's material and influence on society to their own benefits.

Statement of the Problem

Kerala has higher degree of political awareness and mobilization among the working class as compared to most other states in the country. The labour force here is more conscious of its rights and usually, the militant behaviour of labourers has disturbed the industrial production and the region remains unattractive for industrial investment as compared to other parts of India. Another interesting peculiarity of Kerala's trade union movement is its close affiliation with political parties. Political parties usually exploit the trade unions for their ideological purposes. In the sphere of temple administration also, trade unions emerged as offshoots of politicization process. The curious thing is that the nature of work of temple employees is poles apart from that of the employees in other sectors. Even the priesthood class has its own service organizations, sometimes with the backing of revolutionary ideology. Temples are intended for worship of God and expected to have serene atmosphere where trade union activities may create disturbances in the temple premises which is a strange thing expected in temples.

Objectives of the study

The major objectives of the study are the following;

- i. To identify the nature of the state- temple relations in a secular polity;

- ii. To explore the historical evolution of trade union movements in Kerala;
- iii. To trace out the emergence of trade unionism among the temple employees in the state and the political movements associated with temple employees in Travancore;
- iv. To analyze the recommendations of various commission reports and judicial verdicts on trade union activities among temple employees in the state;
- v. To examine the impact of politicization of temple administration and trade unionism that affects the serenity of temples.

Methodology

This study's methodology is descriptive and analytical. Primary data was obtained through interviews with trade unionists, followers, and leaders of significant political parties. Books, journals, commission reports, administrative reports of Devaswom governing organisations, and court judgements are employed as secondary sources in this study.

Trade Union Movements in Kerala

The trade union movement had been instrumental in protecting labour rights. The origin of trade unions can be traced back to the second half of the 18th century in the industrial sector in England. Labour rights have become integral to the social and economic development since the industrial revolution that turn out to be a part of social movements, enunciated the interest of working-class people. They serve not only to protect the labour class from exploitation, but also ensure better service conditions and fair wages. Labour laws are applicable to the working of trade unions and collective labour laws relate to the tripartite relationship between employee, employer and union.

Trade union, according to the Trade Union Act of 1926 is an association

formed primarily for the purpose of regulating the relations between workmen and employers or between workmen and workmen, or between employers and employers, or for imposing restrictive conditions on the conduct of any trade or business, and includes any federation of two or more Trade Unions (Section 2(h) Trade Union Act of 1926.). Trade unions are commonly found in industrial sectors or business establishments for the common interest of their members. According to Webb Trade unions are a continuous association of wage earners to maintain or improve the conditions of their working lives (Webb, 1950:1; Sinha, 2017: 3). They help the workers to better their service conditions, job security, welfare measures, healthy working conditions etc. Trade unionism creates class consciousness among its members and usually becomes part of political struggle pursuing radical methods like strike, *dharna*, demonstrations and protest movements. All India Trade Union Congress (AITUC) was the first trade union movement in India founded in 1920. In Kerala, the Travancore Coir Factory Workers Union (TCFWU) became the first of the trade unions for the benefit of the working class.

Trade Unionism in Temples of Kerala

An interesting development in Kerala is that trade unionism is very much active even among the temple employees, including the priestly classes. It becomes paradoxical in the sense that the nature of work of the temple employees is entirely different from that of the employees in other sectors. Also, the idea of trade unionism is against the serene and holy atmosphere expect in temples. Trade unions are founded in industrial sectors as a bargaining force following direct action methods like strike, *dharna*, *satyagraha* etc. for achieving their political and other objectives. Today, trade unions with revolutionary backgrounds are very active in temple governing bodies (TGBs) in the state. Leftists are generally presumed as

atheists, but trade unions with their backing are very vigorous among the TGBs employees. In the beginning, the *Hindutva* organizations were kept aloof themselves from making trade unions in temples, but later they identified the requirement and organized employees under their banner in various Devaswoms in the state. Thus, came into being the BMS affiliated trade unions in the Devaswoms of Kerala. Trade unionism in the temples of Kerala can be viewed as the result of politicization of temple administration.

The *modus operandi* of the trade unions has its pros and cons among temple employees in Kerala. The employees are forced to join in various trade unions to protect their service conditions and as a safety tool for protecting their personal matters. Thanks to trade unionism that the temple employees get decent salary today as the employees of the state government with all the benefits. Coming to the cons, the plurality of trade unions and their political affiliations create disunity and mess in temple administration. Their direct actions and radicalism affect the serene atmosphere of temples and also the dedication to work of the temple employees. Category wise unions are there among Devaswom Board employees, most of them are politically affiliated ones. Subgroup officers Association, Devaswom Officers Association, Temple Employees Union, Maramath Employees Association etc. are a few among them. Through the formation of trade unions, the working atmosphere in Devaswom Boards has become deteriorated to the level of a business establishment. The tussle between Devaswom Board management and employees and the overflow of trade unionism have further changed temple atmosphere similar to that of a bargaining market place (Jayaprasad.1989:272).

History of Temple Trade Union Movement

Passing through the history of temple administration, it can be seen that the temples in Travancore witnessed organized movements of temple employees; some of them attracted wide attention in state politics. Earlier, the Devaswom employees got meagre salary and the service conditions were not good. After a series of agitations with political support, they could achieve better salary at par with the state employees. But these types of agitational politics and direct-action methods create disorder and factionist attitude among the temple employees.

The genesis of trade unions among temple employees in Travancore is traced back to the formation of Devaswom Boards for Travancore and Cochin temples in 1950. The Devaswom Servants Recruitment and Conduct Rules of 1952 banned service associations with political bearing under the Devaswoms. In the early years of the Board, a Temple Employees' Union was formed under the Devaswom Commissioner. The Union organized a hunger strike in front of the Board office in 1953 demanding pay revision to the employees and the strike was withdrawn on the assurance of Pattom Thanu Pillai, the then Chief Minister. But the government under Pattom Thanu Pillai turned a deaf ear to the demands of the employees that created resentment among temple employees and several members of the Union left from it (Vamadevan, 1974:15).

Revolutionary Socialist Party (RSP) is the first political party in Kerala that mobilized temple employees. In 1956, Maramath Work Establishment Employees Association was formed under the Presidentship of N. Sreekandan Nair, a veteran RSP Leader and K. C Vamadevan as General Secretary. They organized an agitation demanding pay hike at par with that of Public Works Department (PWD) employees in the state government. The Labour Department interfered in the issue, referred it to

the Industrial Tribunal and the Tribunal issued its order in favour of the Union.

In 1964, the state witnessed a prolonged strike of different categories of employees under TDB that resulted in the appointment of Devaswom Employee's Salary Revision Committee headed by Kainikkara Padmanabha Pillai. The Committee in its Report (1966) recommended the scientific reorganization of the whole contingent services, grouping them according to their functions, dividing each group into grades on the basis of the quality and quantity of their work and fixing them the proper scale of pay. It would also mean guaranteeing them the security of tenure instituting some pension or provident fund and bringing them under Kerala Service Rules (KSR) both regarding rights and restrictions (GoK,1966: 169). The most fundamental aspect of the Committee recommendation was that for the first time the contingent employees have been brought under regular service patterns and modern salary structure. The employees belonged to about 85 categories have been grouped under ten categories; each group has been graded and each grade given suitable pay and allowances (GoK, 1966:170). The Committee proposed creation of five selective posts to accommodate a few of the most outstanding artists like *nagaswaram*, *takil* etc. (GoK, 1966:174).

The temple employees raised objections against many of the recommendations of the Committee. Despite all objections, the Board decided to implement the recommendations. The employees' union organized a march to the residence of the Devaswom Board President, Mankuzhi Madhavan to press their demands. But the Board was not ready to heed the demands of the Union. So, the employees started a hunger strike and extended their agitation to all the temples premises in central Travancore region. They organized a demonstration at

Thiruvananthapuram raising slogans like, "We are unable to perform rituals on an empty stomach, jail or wage" to indicate their plight (Nair, 2006: 433-34).

The Union resorted to direct action by starting a satyagraha in front of the Devaswom Group Offices and finally before the Board office. Unfortunate incidents happened including, police action of arresting employees including the priests who were sentenced to undergo imprisonment. The Union began a hunger strike before the residence of the Devaswom Board President which lasted for 13 days. Again, a mass picketing and demonstrations before the Board Office were organized. Finally, the Board referred this matter to a Committee consisting of Kumbalathu Sanku Pillai, N. Govinda Menon and K. R. Narayanan. The Committee recommended removal of 147 employees from service and 726 employees placed under suspension (TDB, 1968:19-20). When the United Front (U.F.) Ministry came to power in 1967, the union leaders became Ministers and MLAs. A new Board was constituted with members nominated by the U.F. Government which took the initiative to revert the decisions of the previous Board and to reinstate all dismissed employees (TDB, 1968:18). The Board implemented the scheme of pension and gratuity to the Devaswom employees on a par with the state government employees with effect from 1st April, 1969 (GoK, 1970: 331).

In 1974, Kerala witnessed another agitation of temple employees demanding a revised pay structure equal to that of the last grade staff in government service. The Board decided to implement their demand on the same day the Union declared their strike. Consequently, the strike was withdrawn. In 1975, temple employees again organized protest demonstrations and 24-hour strike in front of the temples without affecting the temple rituals. These agitations of politically affiliated trade

unions created concerns among the devotees. This was the first organized political movement of temple employees in front of temples. Later, they shifted their satyagraha in front of the Board Head Office (Nair, 2006: 435). Expressing solidarity with the agitators, UTUC, the trade union wing of RSP issued a call to all unions affiliated with it to extend support to the strike of temple employees (Nair, 2006: 436). Several employees were suspended by the Board and some of them faced serious police actions including arrest and imprisonment. In 1975, Devaswom Staff Union was formed which became the sole association of all employees of the Board except temple employees.

Prof. Ramachandran Nair in his “The History of Trade Union Movement in Kerala” analyzes temple employees’ struggle as an unforgettable saga and the various such struggles were responsible for raising their socio-economic status among other segments of the working class as well as among the general public in the state (2006: 438). K. C. Vamadevan, K. V. Sreedharan, K.Narayanan Potti were the top-ranking leaders who organized the temple employees in the state.

In 1980, Travancore Devaswom Employees’ Union staged a demonstration in front of the Devaswom Board Office demanding better pay scale for the staff and legislation to ensure better governmental control over the Board (The Hindu, 1980). RSP leader, V. P. Ramakrishna Pillai raised the issue as a submission in the Kerala Legislative Assembly and urged the government to introduce a Bill to control the TDB as in the case of Guruvayur Devaswom (Proceedings of KLA, 1987: 76-77).

Temple Employees and Labour Laws

Temple employees are not coming under the purview of labour laws in the state. Kuttikrishna Menon Commission, appointed by the Government of Kerala in 1964 to study a uniform law for temples in the

state, pointed out certain peculiarities regarding the service of the employees of temples that differentiate them from other sectors. There is no capitalist or employer-employee relationship in Devaswom affairs and so labour laws are not applicable to them. Working hours, rules regarding holidays, overtime work etc. cannot be applied to them. References relating to questions about temple services have to be made only to *Tantric* authorities and such questions relating to remuneration for such work cannot be taken before a labour tribunal under the legislation. Observance of *pollution* by temple functionaries is outside the scope of labour laws (GoK, 1964: 134). After discussing the pros and cons of trade unionism in temples, K.Kuttikrishna Menon Commission stated that trade unionism is against the spiritual atmosphere of the temple and should be prohibited (1964: 134). A ruling in 2010 by the Gujarat High Court stating that the temples cannot be considered as industry and the employment disputes relating to temples cannot be resolved as per industrial laws is relevant in this context. The administration of Devaswom Boards in Kerala today has been deteriorated to the level of a business establishment due to the presence of strong and highly politicized trade unions (Jayaprasad, 1991:238).

K.P. Sankaran Nair Commission (1984) in its report suggested providing a systematic facility for redressing the grievances of temple employees. Their service associations should not to have political affiliations or not to indulge in any activities that affect the spiritual atmosphere of the temples (GoK, 1984:176). Again, in 1993, the KHC appointed S. Krishnan Unni, a District Judge as enquiry commission on the allegations of corruption rampant in the Guruvayur Devaswom. The Commission in its Report stressed the need for a check into the trade union activities of Devaswom employees and even went to the extreme of recommending the ban of

union activities in Devaswoms that may affect the discipline of the Devaswom servants. Politicization may badly affect temple administration and so the Commission recommended a single union for the entire Devaswom employees.

Restrictions on Trade Unions in TGBs in Kerala

It is supposed to have an atmosphere of calmness, serenity and discipline, ordained by religious faith in temples that is suited for the proper administration of temples and that plurality of associations or organizations will only hamper and lead to more confusions and not in the larger interest of the devotees. The High Court of Kerala observed that the administration of a temple cannot be characterized as that carrying on in an industry. No question of trade union activity or political interference directly or indirectly should be allowed to creep in temple affairs. Direct action methods associated with normal trade union activities like strike, demonstrations, etc., cannot be allowed either in the temples or in temple governance. The existence of category-wise trade unions in Devaswoms creates mutual hatred, disunity and conflict among its employees and becomes a severe setback for the betterment of employee-employer as well as employee-employee relations (Menon, 1956: 6).

A Division Bench of the Kerala High Court(KHC) in 1992 observed that the right to form association and ventilate grievances should be afforded; but it should be in conformity with the spirituality of the Hindu shrines without any disturbance either directly or even remotely. Consistent with the high standards required in temple atmosphere, it is only proper to keep off political or other influences. It will be ideal to have one Service Association in each TGBs (Jayaram, 1999). The union activities are not conducive in temples because trade union activities such as calling for strikes, dharnas, satyagraha etc. are illegal and unjustifiable and totally

against the serene atmosphere of temples.

The court also directed the Travancore Devaswom Board (TDB) to take necessary action for banning trade unions and political interference in the Board based on the High-Power Committee Report. A petition filed by P. Jayaram a native of Vaikom in Kottayam District and a member of the Temple protection committee urged to free the temple from trade unionism and politicization. The petitioner alleged that politicization and trade union activities adversely affect the day-to-day functioning of the Board (Jayaram Vs TDB, 1999).

The High Court of Kerala directed the Devaswom Boards to derecognize the trade unions as per the recommendations of the High Power Commission Report. The Court insisted to recognize a single union for the Board employees and derecognize all other unions and to vacate the places occupied by derecognized trade unions (Kerala Kaumudi, 1999). Consequently, the TDB imposed certain restrictions on trade union rights of Devaswom employees including temple employees. This move of the Board was questioned by the left trade unions on the ground that it will affect the bargaining power of Devaswom employees in Kerala (Kerala Kaumudi, 1990).

Based on the Court direction, the TDB issued a notification taking steps to derecognize all category wise unions and unions with outside politicians as office bearers. The notification stipulated that the associations should have a bye-law that ensures calmness, serenity and discipline ordained by Hindu religious faith and without resorting to direct action and strike (TDB, 1999). Accordingly, the Board has to conduct a referendum and that the association which secures the maximum percentage of votes would be granted recognition. The referendum is valid for five years.

The direction of the Court was a major setback to more than eleven

unions in the Devaswom Board. The Sub Group Officers Association filed an appeal before the Supreme Court against the verdict of the High Court that curtailed the rights of employees. But the Supreme Court upheld the verdict of the High Court that banned trade union activities (Mathrubhumi, 1999). Devaswom Board Employees Confederation, a joint platform of various associations of employees, urged the government to take necessary steps to protect the trade union rights of 6000 Devaswom employees (Kerala Kaumudi, 1999, November, 12).

As mentioned earlier, the High Court of Kerala ordered to disband trade unions with leaders from politicians outside as per the High-Power Commission recommendations. Against this, Devaswom Subgroup Officers Association approached the Supreme Court, but the Supreme Court rejected their appeal. Thus the fate of more than eleven trade unions under TDB became in crisis (Mathrubhumi, 1999). Then the TDB issued guidelines for recognizing a single union for Devaswom employees by conducting a referendum. Accordingly, a referendum was held in 2005 and CITU affiliated Travancore Devaswom Employees Confederation got recognition. After this, two referendums were held and the Travancore Devaswom Employees Front of the Congress Party got recognition twice.

Table: Service organizations of temple employees in Travancore and Cochin Devaswom Board

Sl. No	Name of Union	Board	Affiliated Political Party/trade union
1	Cochin Devaswom Employees Congress	Cochin Devaswom Board	Indian National Congress/INTUC
	Travancore Devaswom Employees Front	Travancore Devaswom Board	

2	Cochin Devaswom Employees Organization	Cochin Devaswom Board	CPI(M)/CITU
	Travancore Devaswom Employees Confederation	Travancore Devaswom Board	
3	Cochin Devaswom Employees Sangh	Cochin Devaswom Board	RSS/BJP
	Travancore Devaswom Employees Sangh	Travancore Devaswom Board	
4	Cochin Devaswom Employees Federation	Cochin Devaswom Board	CPI/AITUC
	Travancore Devaswom Board Staff Organisation	Travancore Devaswom Board	
5	Travancore Devaswom Employees union	Travancore Devaswom Board	RSP/UTUC

Source: Data compiled from various sources

Concerning the grievances of employees, the Board has to discuss only with the recognized union. The TDB issued directions to the unions reminding them that they should not indulge in extremely risky exercises with the help of outsiders and spoil the serene atmosphere of the temples. Accordingly, the Board framed rules for the effective functioning of one service association for all categories of employees and published Devaswom Servants Rule in the Gazette.

In 1996, the *Sree Padmanabha Bhaktajana Seva Samithi* filed a grievance in the KHC about the sad state of affairs existing in the Sree Padmanabha Swamy temple due to the proliferation of trade unions which were impeding the serene and holy atmosphere and also the functioning of the temple. The Court ruled that the existence of multiple trade unions is not salutary in any establishment especially in temples and it will be enough if there is only one trade union, representing all members for the purpose of

discussions with the management. The Court directed to conduct a referendum with regard to the recognition for the union.

The Hindu Daily, in 1991, published a news captioned "A raw deal for temple staff?" referring to the plight of temples in the Malabar region and the Devaswom employees there. A Division Bench of the KHC took it as a Public Interest Litigation (PIL) and issued notice to the State Government and Hindu Religious Endowment Department. The Court pointed out the pitiable and pathetic state of affairs existing in the temples of erstwhile Malabar area and the dismal conditions of the employees (Re: Temples, 1994). The need for a Devaswom Board for Malabar temples was gravely felt and the Court issued directions accordingly and also better packages for the employees. The Malabar Devaswom Board was constituted only in 2008 after fourteen years of the court verdict. Even though trade union activities are strong among the Devaswom employees of Malabar region, their living conditions remains the same, especially in the low income temples.

Employees under the MDB have politically affiliated trade unions. INTUC-led Malabar Devaswom Board Staff Union and Malabar Temple Employees Association and CITU led Malabar Devaswom Employees Union are prominent employees unions. Guruvayur Devaswom employees also have trade unions like Guruvayur Devaswom Employees Congress, Guruvayur Devaswom Employees' Association, Guruvayur Devaswom Employees Organisation etc. Political leaders often try to politicize employee's problems for their own petty political interests. Thus, it is a fact that temple trade unionism creates more problems that will affect the peaceful atmosphere in temples. For ensuring better management of employee's relations, the unions should have to be represented by employees within the department itself and meaningful

discussions have to be held with those who know better the problems of the employees.

Findings of the study

Temples are holy places and not industrial establishments; so extreme direct action methods usually resorted by the trade unions are not suitable in the calm, serene atmosphere ordained by religion. The trade unions in the Devaswoms often adopt methods like strikes and agitations in the pretext of safeguarding employees' rights. Worship in temples give mental solace to a devotee and activities disrupting the calmness and tranquility of temple premises are unfortunate and such situations should be definitely avoided. Many a times, the judiciary acted as saviour to the interests of the devotees. As per the directions of the court, the TGBs imposed certain restrictions on trade union rights of Devaswom employees; these were challenged, but the court stick on to the decision to ban trade union activities. Plurality of trade unions in Devaswoms is another important issue. As a defense, the court suggested selection of a recognized trade union through referendum for ventilating the grievances of employees. Still, politically affiliated trade unions are there, but unions with outside politicians and category wise unions are prohibited on the basis of High Power Commission Report. It is a matter of relief for the devotees that the processes of referendum for a recognized union in various TGBs are going on as per the directives of the court. Such measures become part of democratization process and could establish a balance between the interests of temple employees and rights of devotees

Conclusion

A secular state's intervention in the affairs of religious institutions of particular communities is illogical, as other religious institutions are left

free for managing their own affairs and free from politically affiliated trade unionism. It is rightly observed by K. P. Sankaran Nair Commission that with the interference of the state in temple administration, the golden era of temples has been ended and their income declined considerably (GoK, 1984:74). Moreover, the governmental interference became instrumental in the politicization of temple administration that resulted in excessive trade unionism among the Devaswom employees and consequent alienation of devotees from temple governance. All political parties have their affiliated trade unions for temple employees; even for the priestly classes and their radicalism have often disrupted the holy atmosphere in temples. Commissions appointed from time to time for Devaswom reforms; K. Kuttikrishna Menon (1964), K.P. Sankaran Nair (1984), High-Power Commission (1990), S. Krishnan Unni (1993) and Justice Paripoornan (2007) in their Reports unanimously stressed the need for regulating trade unionism among temple employees.

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188 Politics of Trade Unionism among Employees... Dr. RAJAGOPAL. P. K

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PUBLIC HEALTHCARE INFRASTRUCTURE IN SCHEDULED AREAS OF HIMACHAL PRADESH

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Abstract

The present study aims at examining the availability of healthcare infrastructure in Scheduled Areas of Himachal Pradesh during 1991-2011. The study is entirely based on the secondary data collected from district census handbooks and department of health and family welfare, Shimla. In order to find out the status of healthcare infrastructure, absolute data relating to particular indicator have been used. The study shows significant improvement in the availability of healthcare facilities like dispensaries, primary health centres, community health centres and hospitals. The study found the pathetic condition of human resources working in the healthcare institutions. Overall, the Lahaul and Spiti blocks have relatively higher number of healthcare infrastructures while Pangl and Nichar blocks have least healthcare facilities. The study investigates that there are the primary health centres and community health centres and hospitals in which only two or three doctors and para medical personnel are delivering their services.

Keywords: Healthcare, Infrastructure, Scheduled Areas, Paramedical Staff.

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Introduction

Health is an essential input for the development of human resources. It mends the quality of life as well as socio-economic status of the nation. “The importance of health care in modern day society can be gauged from the fact that good health is recognized as one of the fundamental rights of an individual” (UNO, 2006). Healthy life, which acts as a key for any kind of development process, is a matter of prime concern to all. The health condition of the people directly or indirectly reflects the levels of development of a country. Mishra (2007) quoted “The status of health in a region is largely governed by the physical health infrastructure and the services provided to the people. Human health is an essential and integral part of a nation’s strength and prosperity”. The health infrastructure acts as the underlying base or footing for health system, administering basic facilities and services needed for the better operation of the society.

According to World Development Report 1993 “improved health contributes to economic growth in four ways. It reduces production losses caused by worker illness, it permits the use of natural resources that had been totally or nearly inaccessible because of diseases, it increases the enrolment of children in schools and makes them better able to learn and it frees alternative uses resources that would otherwise have to be spent on treating illness” (World Bank, 1993). Meade and Earickson in 2006 observed that “the health infrastructure acts as the underlying base or foundation for health system to protect health in public, providing basic facilities and services needed for the better functioning of the society”. Health care infrastructure means an optimum mix of physical structure (building etc.) and human resources as both are required to deliver the desired health services (Vij, 2019).

The World Health Organization (WHO) has defined “health as a state of complete physical mental and social well-being and not merely the absence of disease or infirmity”. Health infrastructure is an important indicator to understand the health care delivery provisions and mechanisms in a region. It signifies the investments and priority accorded for creating the infrastructure in public and private sectors. (Lakshmi and Sahoo, 2013). Major health outcomes like life expectancy at birth and infant mortality rate depend on the available health facilities like

hospitals, beds and health trained personnel (Ghosh and Dinda, 2017). According to Banerjee, Duflo and Deaton (2004) “better provision of health care is the key to improve health condition and also economic growth and development in poor countries like India”. Health infrastructure is a vital determinant for understanding the health care policy and welfare mechanism in a country (Kumar and Gupta, 2012).

Health infrastructure in the most of the developing economies is poor and so society need for the betterment of health service (Ghosh and Dinda, 2017). The total population of the Scheduled tribes in the country stands at 1045.55 lakh. They constituted about 8.6 per cent of the total population (Census of India, 2011). Maximum numbers of tribal people have been found in the rural areas with low levels of healthcare infrastructural facilities. In the urban areas due to the wide spread of education people awareness level regarding the health care is more as compared to the rural people where spread of knowledge is limited due to which in frequent period of time world has witnessed continues loss of life (Sandhya et al., 2007).

The healthcare system in rural India has been defined by the following population norms: in plain areas, every sub-centre covers a population of 5000 and in hilly or tribal areas it covers only a population of 3000. A primary health center covers 30,000 populations in plain areas against the 20,000 of the population in hilly or tribal areas. In plain areas, a CHC covers populations of 1, 20,000 while in hilly areas this ratio of the population is limited to 80,000 (Government of India, 2011).

Many scholars conducted researches on healthcare infrastructure in different parts of the society. Various researchers like Nair (1974), Baru (1993), Blerman (1998), Mavalankar (2008), Shinde (2010), Laxmi and Sahoo (2013), Garud and Suryawanshi (2017) and Negi and Singh (2018) have investigated healthcare infrastructure, rural healthcare facilities, relationship between health infrastructure and health indicators, spatial distribution of health facilities in different regions and states of India. Although these studies address a plethora of issues relating to health care infrastructure, yet many issues of healthcare facilities among tribal regions and districts remain unattainable. This entails to undertake a study on

availability of healthcare infrastructure in tribal block of Himachal Pradesh. The study also raises curiosity among academicians regarding the healthcare infrastructure in the isolated and mountainous regions of the world.

Objectives of the Study

The Major Objectives of the study are:

- To investigate the physical healthcare infrastructure in the Scheduled Areas and
- To find out the availability of human resources in the healthcare institutions.

Study Area

District of Kinnaur, Lahaul-Spiti, the two Sub-Division of District Chamba viz. Pangi and Bharmour have been declared as Scheduled Areas because majority population comprise of communities declared as Scheduled Tribe under the Fifth Schedule of the Constitution. About 23655 sq. kms. area of Himachal Pradesh falls in Scheduled Area which constitutes 42.49% of the total area. The official list of scheduled tribes in Himachal Pradesh include: Gaddis, Gujjars, Kinnauras, Lahaulas and Pangwalas. Apart from these, there are some other smaller tribes like Bhot/Bodh, Beda, Jad/Lamba/ Khampa and Swangla. The Scheduled tribe population is quite dominant in Lahaul-Spiti and Kinnaur, two rural districts of the state, where they contribute to 81 per cent and 58 per cent of the total population of the districts respectively. The longitudinal extent of the study area ranges between 76°13'52" and 78°53'13" E and latitudinally it is located 31°07'35" - 33°0'21" N (Fig. 1). Poor road connectivity in predominantly tribal areas, primarily owing to difficult and challenging topography creates geographical isolation, restricts access to basic public goods and services, markets and creates high dependence on natural resources for livelihoods.

The Lahaul-Spiti district in the state of Himachal Pradesh consists of the two blocks i.e. Lahaul and Spiti. The district was formed in 1960, and is the fourth least populous district in India. The present administrative centre of the district is Keylong (Govt. of Himachal Pradesh, 2022). *Kunzum la* or

the Kunzum Pass is the entrance pass to the Spiti Valley from Lahaul (Balokhra, 2019). **Kinnaur** is one of twelve administrative districts found in Himachal Pradesh. The district is divided into three administrative areas a) Pooh b) Kalpa c) Nichar and 6 tehsils. Reckong Peo is the administrative headquarters of Kinnaur district. This district has made of high mountains ranges like Zaskar that enclose valleys of Sutlej, Spiti, Baspa and their tributaries. **Pangi**, a block in Chamba district is a remote, rugged and poorly developed tribal area. It is one of the most remote areas in Himachal Pradesh. Pangi valley is divided into the Saichu, Hudan Bhatori and Sural Bhatori valleys. These are inhabited at elevations of 2,100 m to 3,400 m AMSL (Balokhra, 2019). **Bharmour block** is also a Scheduled Areas inhabited by the Gaddi community and about 83% of the total population belongs to this community as per 2011 census. Bharmour block is a hilly, isolated and rural area of the Chamba district of Himachal Pradesh. The maximum height of the Bharmour block is 5678 meters and the minimum height is 1260 meters from the mean sea level. The main streams of the Bharmour block are Ravi River, Budhil Nala, Tundah Nala and Chhobia Nala (Kumar et al., 2022).

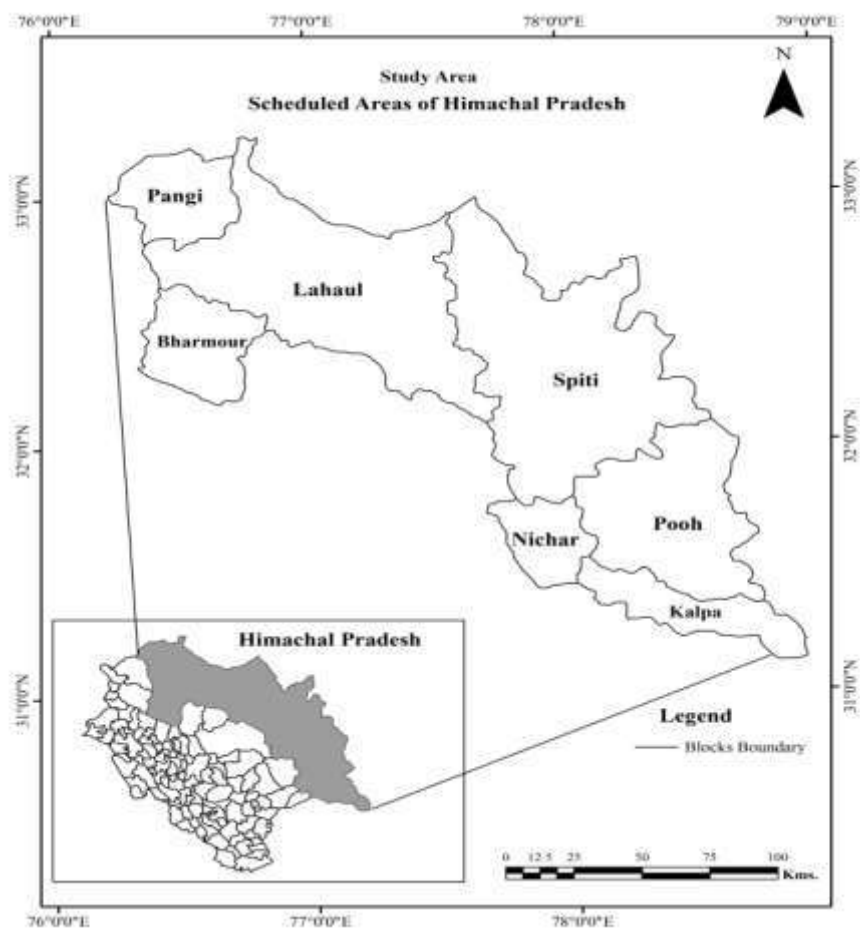


Fig.1: Source: *Administrative Atlas Census of India, 2011. P. 148.*

Tribes of the Study Area

There are mainly four tribes i.e. Gaddis, Kinnauras, Lahaulas, and Pangwals which reside in the study area **Gaddi** tribe is one of the oldest, most dominant and worldwide popular tribes of Himachal Pradesh. “The Gaddi nomenclature originates from the word “Gaderan”, the native word for the hilly tracts of Bharmour in Chamba district” (Saini, 2020). **Kinnaura** tribe lives in Kinnaur district. Traditional occupation of Kinnauras has been agriculture, trade, and sheep rearing. Upper Castes largely are land owners and Chamangs were mainly engaged in weaving, disposal and skinning of dead animals and making shoes (Negi, 2012). **Lahaula** tribe inhabits Lahaul-Spiti district of Himachal Pradesh having a

unique identity. **Pangwal** tribal inhabitants live in the snowbound areas of the Chamba district of Himachal Pradesh. Their main sources of economy are crop farming, animal husbandry and pastoral crafts.

Material and Methods

The study is purely based on the secondary sources of data collected from District Census Handbooks, Directorate of Census Operations, Shimla. Apart from this, Health and Family Welfare reports and annual reports on health published by government of India have been consulted. The study has been conducted with reference to 2 census years of 1991 taken as base year and 2011 as the latest year. The present study is based on the Scheduled Areas or seven tribal blocks i.e. Lahaul, Spiti, Pooh, Kalpa, Nichar, Pangi and Bharmour of Himachal Pradesh.

In order to examine the availability of healthcare infrastructure (both physical and human) in tribal blocks, the following eight indicators of healthcare infrastructure have been analyzed. These include number of dispensaries, sub-centres, primary health centres, community health centres, maternal and child welfare centres, number of doctors in position and para medical staff in position. Absolute data relating to these determinants have been used in the study. The spatio-temporal variations in the availability of healthcare infrastructure have been discussed with the help of figures and tables.

Results and Discussion

Healthcare Infrastructure in Lahaul and Spiti Scheduled Areas (1991-2011)

Table 1 shows that total 56 infrastructural facilities i.e. dispensaries, sub-centres, PHC, CHCs, MCWCs and hospitals were available in the Lahaul and Spiti blocks in 1991. The numbers of these facilities increased to 105 in 2011. Thus, the healthcare infrastructure experienced significant improvement during the study period. Table 2 reveals that Lahaul block has experienced more growth than Spiti block in overall health infrastructure during the study period. Maternity and child welfare centres were absent in both the blocks in 1991 while the number of MCWs

reached to 14 in 2011 (Table 1 and 2). The number of PHCs also increased from 4 to 16 during 1991-2011. Opening of such centres will surely improve the health status of tribal population in the study area. Tables 1 and 2 reveal that dispensaries, general hospitals, CHCs, PHCs and sub centres all have shown the positive and rapid growth in the study area. Fig. 2 and 3 show the status of health care facilities in Lahaul and Spiti developmental blocks during 1991-2011.

Fig. 2: Healthcare Infrastructure in Lahaul block (1991-2011)

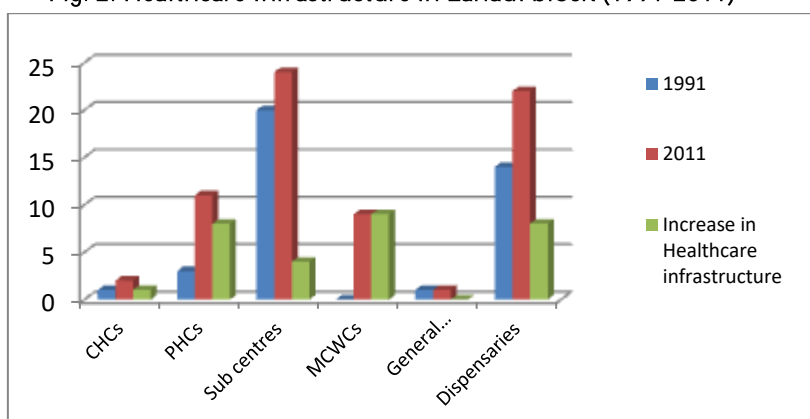


Table 1

Healthcare Infrastructure in Lahaul and Spiti Blocks - 1991

Name of Blocks	Total Population	Dispensaries	SCs	PH Cs	CHCs	MC WC	Hospitals	Total
Lahaul	21703	14	20	3	1	0	1	39
Spiti	9591	6	9	1	1	0	0	17
Total	31294	20	29	4	2	0	1	56

Source: Compiled by the Authors from District Census Handbooks, Shimla

Table 3 shows the availability of doctors, paramedical staff and sanitation facility in different health care institutions in Lahaul block of Himachal Pradesh in 2011. The availability of doctors in hospital has been found low in the Lahaul block. There are 15 sanctioned posts of doctors in the hospital but only 5 doctors are in position. The study analyzed that the overall infrastructural facilities have been found good in Lahaul block in 2011.

Fig. 3: Healthcare infrastructure in Spiti Block (1991 – 2011)

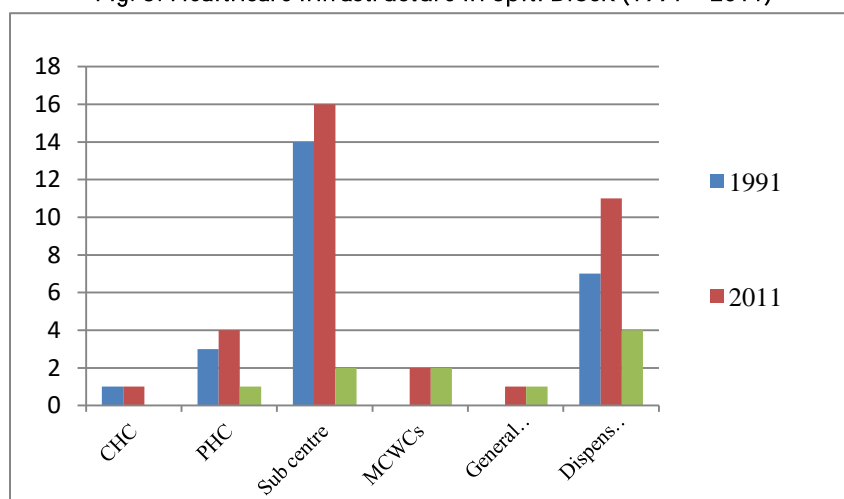


Table 2

Healthcare Infrastructure in Lahaul and Spiti Blocks - 2011

Name of Blocks	Total Population	Dispensaries	SCs	PHCs	CHCs	MCWCs	Hospitals	Total
Lahaul	19107	22	24	11	2	9	1	69
Spiti	12457	13	12	5	1	5	2	38

Total	31564	35	36	16	3	14	1	105
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Source: Compiled by the Authors from District Census Handbooks, Shimla

Table 3

Lahaul Block: Health Institutions, Doctors and Para medical staff strength

Health care centre	Doctors		Para Medical Staff	
	Total Strength	In Position	Total Strength	In Position
Dispensary	22	18	31	29
Sub-centre	5	2	6	2
PHC	20	15	31	22
CHC	12	12	10	4
MCWC	9	9	11	11
Hospital	15	5	25	22

Source: Department of Health and Family Welfare, 2011

It is evident from the Table 4 that 2 hospitals, 5 primary health centres and 13 dispensaries in the Spiti block in 2011. The number of available doctors in the hospital (4 out of 9) is low and it is less than 50 per cent. The number of available doctors in the dispensaries and primary health centres is also found low. Therefore, there is dire need to improve the available number of doctors in various health institutions in the study area. The case is similar in the availability of para-medical staff in the Spiti block. It is observed in the study that the total strength of para medical staff in the hospitals of Spiti block is 19 during 2011. But, the in position number of paramedical staff is only 8. Thus, it is a matter of serious concern to fulfill these vacant posts as soon as possible.

Table 4

Spiti Block: Health Institutions, Doctors and Para medical staff strength

Health care centre	Doctors		Para Medical Staff	
	Total Strength	In Position	Total Strength	In Position
Dispensary	13	8	13	13
Sub-centre	3	2	3	2
PHC	12	8	18	10
CHC	5	5	4	4
MCWC	5	5	5	5
Hospital	9	4	19	8

Source: Department of Health and Family Welfare, 2011

Healthcare Infrastructure in Kinnaur Scheduled Area (1991-2011)

As explained earlier that Pooh, Kalpa and Nichar blocks constitute the Kinnaur Scheduled Area in Himachal Pradesh. Tables 5 and 6 show the availability of healthcare infrastructure facilities in Pooh, Kalpa and Nichar developmental blocks during 1991-2011. The study observed that the total numbers of healthcare infrastructural facilities were 85 in 1991. The number of these facilities increased to 137 in 2011. Pooh block has experienced the higher number of healthcare infrastructure facilities i.e. 36 in comparison to Kalpa (24) and Nichar (25) blocks of in 1991 (Table 5). There number increased to 57 in Pooh block, 40 in Kalpa block and 33 in Nichar block respectively in 2011.

The study examined that there are 3 hospitals working in Pooh, Kalpa and Nichar blocks in 2011. The number of sub-centres increased from 35 to 41 during 1991-2011 (Table 5 and 6). Similarly, the number of CHCs also increased from 3 to 6 during 1991-2011 in these developmental blocks. The study analyzed that there were only 6 PHCs these blocks area during 1991. The number of such PHCs increased to 25 in 2011 (Table 5 and 6). Maternity and child welfare centres were unavailable in the entire blocks during 1991 while in 2011 the number of MCWCs suddenly increased to 5 MCWCs. The numbers of dispensaries in the developmental blocks were

very less i.e. 39 in 1991. Their numbers increased slowly to about 58 in 2011 (Table 5 and 6).

Table 5

Healthcare Infrastructure in Pooh, Kalpa and Nichar blocks -1991

Name of Block	Total Population	Dispensaries	SCs	PHCs	CHCs	MCWCs	Hospitals	Total
Pooh	23206	16	14	4	1	0	1	36
Kalpa	33232	14	9	0	1	0	1	25
Nichar	27683	9	12	2	1	0	0	24
Total	84121	39	35	6	3	0	2	85

Source: Compiled by the Authors from District Census Handbooks, Shimla

Table 6

Healthcare infrastructure in Pooh, Kalpa and Nichar blocks - 2011

Name of Blocks	Total Population	Dispensaries	SCs	PHCs	CHCs	MCWCs	Hospitals	Total
Pooh	23206	24	15	13	2	2	1	57
Kalpa	33232	16	10	7	3	3	2	41
Nichar	27683	17	16	5	1	0	0	39
Total	84121	57	41	25	6	5	3	137

Source: Compiled by the Authors from District Census Handbooks, Shimla

The study shows that the maternity and child welfare centres and general hospitals was not available in Nichar developmental block during the study period i.e. 1991 and 2011. The Nichar block is spread over an area of 1186 sq. kms and serves a population of about 27683 persons in 2011. Therefore it is matter of serious concern to establish even a single hospital in this developmental block. Because if there is not even a single hospital over 27687 persons, then this development block will definitely be lacking in developmental processes over the time and space.

Table 7

Pooh Block: Health Institutions, Doctors and Para medical staff strength

Health care centre	Doctors		Para Medical Staff	
	Total Strength	In Position	Total Strength	In Position
Dispensary	21	16	19	15
Sub-centre	1	1	2	2
PHC	19	17	33	25
CHC	10	6	23	14
MCWC	2	2	3	3
Hospital	1	1	2	2

Source: Department of Health and Family Welfare, 2011

Table 8

Kalpa Block: Health Institutions, Doctors and Para medical staff strength

Health care centre	Doctors		Para Medical Staff	
	Total Strength	In Position	Total Strength	In Position
Dispensary	11	9	8	6
Sub-centre	4	0	4	0

PHC	9	6	10	5
CHC	11	10	12	12
MCWC	3	3	3	3
Hospital	2	2	2	2

Source: Department of Health and Family Welfare, 2011

Table 7 brings out the doctors and para medical staff strength in the Pooh block of Kinnaur district in 2011. The study shows that there is one hospital, 13 PHCs and 24 dispensaries presently working in this block in 2011. But it is found to be very strange that there is only one doctor giving services in the hospital and similar is the situation with para medical staff. The study also observed that there are only 16 doctors working in 24 dispensaries of the Pooh block during 2011 (Table 7).

Table 9

Nichar Block: Health Institutions, Doctors and Para medical staff strength

Health care centre	Numbers	Doctors		Para Medical Staff	
		Total Strength	In Position	Total Strength	In Position
Dispensary	17	17	14	18	11
Sub-centre	1	1	1	1	1
PHC	5	7	5	7	5
CHC	1	5	5	7	7
MCWC	0	0	0	0	0
Hospital	2	2	2	2	2

Source: Department of Health and Family Welfare, 2011

Table 8 represents that 2 hospital, 3 CHCs and 16 dispensaries are working in the Kalpa block in 2011. The study found that there are 9 doctors in position in the 16 dispensaries of Kalpa block. The study reveals that the local political leaders of this block need to give more attention regarding recruitment of doctors and para medical staff. Table 9 reveals that the

situation of in position doctors in various health centres is pathetic in Nichar block of Kinnaur district in 2011.

Healthcare Infrastructure in Pangri and Bharmour Scheduled Areas (1991-2011)

Table 10 suggests that there were more healthcare facilities (36 in numbers) available in the Bharmour block in comparison to the Pangri developmental block (25 in numbers) in 1991. Another important observation is that there was not even single hospital available in Pangri and Bharmour blocks during 1991. The study shows that Bharmour block has the higher number of dispensaries (14), sub-centres (19) than the Pangri developmental block (7 dispensaries and 14 sub-centres) (Table 4.5). The study reveals that there were more PHCs in Pangri block (3) than Bharmour block (2) in 1991. There were only 2 community health centres in Pangri and Bharmour blocks which is not a good sign of health improvements of the people living in these areas.

Table 10

Healthcare Infrastructure in Pangri and Bharmour blocks - 1991

Name of Block	Total Population	Dispensaries	SCs	PHCs	CHCs	MCW Cs	Hospitals	Total
Pangri	14960	7	14	3	1	0	0	25
Bharmour	33909	14	19	2	1	0	0	36
Total	48869	21	33	5	2	0	0	61

Source: Compiled by the Authors from District Census Handbooks, Shimla

It can be interpreted from the Table 11 that the number of healthcare infrastructural facilities increased to 100 in both the blocks during 2011. The study found that the Bharmour block is still ahead of Pangli block providing more healthcare facilities to the rural population. The numbers of CHCs increased to 3 in Pangli and Bharmour blocks (Table 11). Out of three CHCs, 2 have been opened in Bharmour block and 1 in the Pangli block. The study shows that the number of MCWCs also increased to 7 in 2011. It shows that the developmental pace of health care facilities in Bharmour block is faster than the Pangli block. The number of PHCs and Sub-centres also increased in the study area during 2011. Fig. 4 and 5 show the status of health care facilities in the Pangli and Bharmour developmental blocks during 1991-2011.

Fig. 4: Healthcare Infrastructure in Pangli block (1991 – 2011)

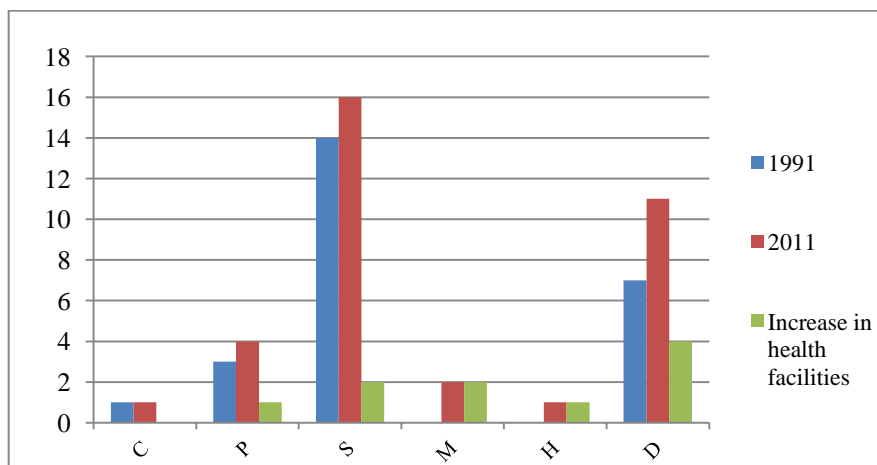


Table 11

Healthcare Infrastructure in Pangli and Bharmour blocks - 2011

Name of Block	Total Population	Dispensaries	SCs	PH Cs	CH Cs	MCW Cs	Hospitals	Total
Pangli	18868	11	16	4	1	2	1	35

Bharmour	39108	30	20	7	2	5	1	65
Total	48869	41	36	11	3	7	2	100

Source: Compiled by the Authors from District Census Handbooks, Shimla

Availability of road infrastructure, bus services, increasing literacy rate among adults and growing awareness are some of the factors which are responsible for this fast growth of the healthcare infrastructural facilities in the study area. Table 12 shows that the number of doctors and para medical staff is least in Pangti block among all the tribal blocks of the Himachal Pradesh in 2011. The study reveals that there is not even a single doctor in hospital while only 4 doctors are giving their services in the 5 primary health centres in Pangti block. The situation is worst in case of paramedical staff as none of the paramedical staff is working in dispensaries, MCWCs and sub-centres (Table 12). There is only one paramedical staff working in 5 PHCs in the Pangti block in 2011. These results reveal that there is an urgent need of recruitment of doctors as well as paramedical staff in the Pangti block.

Fig. 5: Healthcare Infrastructure In Bharmour block (1991 – 2011)

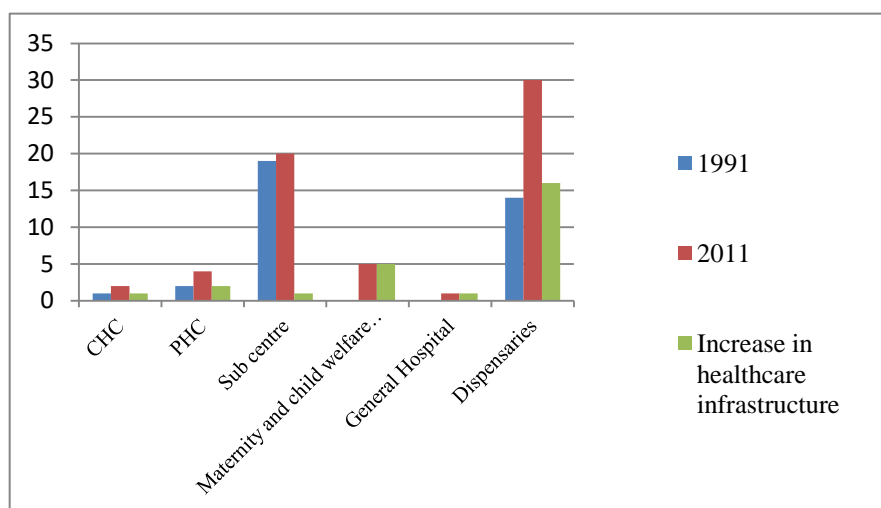


Table 12**Pangi Block: Health Institutions, Doctors and Para medical staff strength**

Health care centre	Doctors		Para Medical Staff	
	Total Strength	In Position	Total Strength	In Position
Dispensary	10	8	0	0
Sub-centre	0	0	0	0
PHC	7	4	5	1
CHC	2	2	2	2
MCWC	2	0	0	0
Hospital	1	0	1	1

Source: Department of Health and Family Welfare, 2011

Table 13**Bharmour Block: Health Institutions, Doctors and Para medical staff strength**

Health care centre	Doctors		Para Medical Staff	
	Total Strength	In Position	Total Strength	In Position
Dispensary	29	23	20	18
Sub-centre	8	4	9	4
PHC	9	4	11	8
CHC	6	6	4	4
MCWC	4	4	4	4
Hospital	1	0	1	0

Source: Department of Health and Family Welfare, 2011

Table 13 reveals that there is not even a single doctor and para medical staff working in the govt. civil hospital Bharmour in 2011. There are 7 PHCs in this block but only 4 doctors and 8 para medical staff are available for their services. There are 2 CHCs but only with 6 doctors and 4

paramedical staff are working in Bharmour block (Table 13). Therefore, it is the duty of Government of Himachal Pradesh and the local political leader of the Bharmour block to take into this matter. Otherwise the people of this Block are going to suffer in the near future.

Conclusions

The overall study indicates that the healthcare facilities in tribal blocks of Himachal Pradesh have shown some positive growth in dispensaries, PHCs, CHCs and hospitals from 1991 to 2011. However, there are still considerable gaps at block levels which need to be addressed. The study finds out that the blocks namely Lahaul, Bharmour, Pooh and Kalpa have good healthcare infrastructure whereas the blocks like Spiti, Pangi and Nichar have poor healthcare facilities during both censuses years. The study shows that total 56 healthcare facilities were available in Lahaul and Spiti blocks in 1991. Their number increased to 105 in 2011. Similarly, the number of in position doctors and paramedical staff have reflected increasing trends during the study period.

The study also observed an increase in healthcare infrastructure in Pooh, Kalpa and Nichar blocks as there were 85 healthcare institutions in 1991. However this number increased to 130 institutions in 2011. Pooh block has witnessed higher number (57 institutions) of health care institutions in Kinnaur district while Kalpa and Nichar blocks registered 41 and 39 healthcare institutions during 2011. Bharmour block has also witnessed positive growth of healthcare institutions during the study period. The number of healthcare institutions increased from just 35 to 65 during 1991-2011. But the growth of healthcare facilities in Pangi block is found very low. The study examined that there were 25 healthcare institutions in Pangi block in 1991 which increased to 35 institutions in 2011. It may be suggested that the existing environment regarding healthcare in these tribal blocks needs to be improved and strengthened.

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AN OVERVIEW OF THE RADIATION PROTECTION KNOWLEDGE AND WORK CONDITIONS AMONG RADIOGRAPHERS IN HIMACHAL PRADESH (A STATE IN INDIA)

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Abstract

Objective: This paper addresses the awareness of radiographers in radiation protection and other issues related to working culture and practice.

Methodology: This study is conducted online by generating a questionnaire using google forms and taking direct interviews. The questions were related to demographic characteristics, academic qualification, radiation protection awareness, work during COVID-19, workflow, stress, and suggestions to improve the quality of work. The questionnaire was sent to radiographers working in government and private setups in the state of Himachal Pradesh.

Conclusion: Most radiographers are stress-free and satisfied with work conditions, and positive feedback during COVID-19. But are careless about radiation protection and lack proper infrastructure and devices at the centers. Work division according to their qualification is missing, diploma holders, graduates, and postgraduates all are operating similar modalities.

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Surveys on the health of radiographers should be conducted. A strong association is needed that can address the issues of radiographers.

Keywords: Radiographer, Radiation awareness, Diagnostic imaging, Ionizing radiation

Introduction

Radiographers are healthcare professionals who operate different diagnostic modalities to produce images for medical and legal purposes. Radiographers operate x-ray machines, CT-Scan, MRI, fluoroscopy, mammography, radiotherapy, PET Scanners, and many more in radiology, cardiology, trauma centers, operation theatres, intensive care units, and patient rooms (Reeves & Decker, 2012). The use of radiation for producing images is a routine procedure. Radiographers must work in this environment. Radiation which is used for diagnostic purposes has a hazardous effect on the biological system. Though medical intervention has potential benefits over risk. But its risk must not be overlooked as cancer risk rises with radiation is known. The use of radiation in diagnosis is also increased due to poor or inadequate knowledge among medical professionals (Brown & Jones, 2013; Yurt, Çavuşoğlu, & Günay, 2014). So, occupational protection is necessary whenever radiation is used. The recent development in technology in the health sector leads to an increase in diagnosing diseases using diagnostic modalities resulting in an increase in the number of examinations using CT scans as 50% of the total radiation burden for diagnostic purposes (Miglioretti et al., 2013). To provide safety among patients, and staff from this ionizing radiation a radiographer must be aware of safety precautions and should follow the rules (Shaw, Croüail, Paynter, & Coeck, 2015). Radiation protection is the art and science of protecting people and our surroundings from radiation's ill effects (Dauer et al., 2010).

ICRP (International Commission on Radiological Protection), WHO (World Health Organization), and IAEA (International Atomic Energy Agency) are the international bodies that published the importance of training and education in radiation (Botha & Pienaar, 2006). In India, it is governed by the AERB (Atomic energy regulatory board) whose main aim is to ensure the use of ionizing radiation and nuclear energy for benefit of people and check any risk associated with it. The Atomic Energy

(Radiation Protection) Rules, 2004 [AE(RP)R-2004], propagated under the Atomic Energy Act, 1962, provides the legal framework for the safe handling of radiation-generating equipment. As per Rule 3 of AE(RP)R-2004 it is mandatory for all the manufacturers/Suppliers/Users of x-ray equipment, to obtain the requisite 'Licence' from AERB for carrying out any of the activities (BOARD, 2020). AERB has launched e-LORA (Licensing of Radiation Applications) which is an e-governance application to obtain consent from AERB. According to AERB all institutions using radiation are required to display copies of the AERB license and the public is requested to visit only those places which are licensed by AERB for their safety. Further AERB has formed the DRS (Directorate of Radiation Safety) under the HFW (Health and Family Welfare) department of every state to carry out regulatory inspections. In 1999 first DRS was established in Kerala. RRC (Regional Regulatory Centres) were also established in Chennai, Kolkata, and Delhi by AERB (BOARD, 2020). ISSRT (International Society of Radiographers and Radiological Technologists) is a non-profit organization representing all disciplines of medical radiation technologists internationally (Shah, Jay and Harford, Joshua S and DuCharme, Patricia A and Pierce, Bartram and Alberico, Thomas and Steelman, 2018). The primary objectives of this association are to improve radiographic practice globally similarly associations like ISRT (Indian Society of Radiographers & Technologists) and SIR (SOCIETY OF INDIAN RADIOGRAPHERS) work for Indian technologists to enhance the knowledge among them and to develop worldwide recognition. It has been seen that radiographers and other health professionals often do not have sufficient knowledge about the risk associated with radiation exposure. As radiation is not visible to the naked eye the radiation dose from radiological procedures is not easy to understand. Therefore, the radiation workers are asked to follow a basic rule named ALARA (As Low as Reasonably Achievable), time, distance, and shielding (Schiska, 2021). The field of diagnostic radiology growing day by day in the health care industry so the workload hence effective measures to be taken for the safety and smooth workflow of the centers.

It is important to study the work pattern, stress at the workplace, and other factors associated with radiographers because in the last few years Himachal Pradesh has attained a marked improvement in the healthcare

sectors. Earlier there were only two government medical colleges and now in 2022 there are six government medical colleges and the number of private medical colleges also increased. The number of hospitals and diagnostic centers has also increased very well but now the healthcare workers face lots of problems such as long working hours, poor salaries, working mothers, fear of infectious diseases, lack of protective measures, etc. the radiographers are not exempted from this issue. During COVID-19 the stress level and dealing with patients were changed. These factors add stress and health issues to them. Preventive measures should be taken to avoid these problems. In Himachal Pradesh radiographers work in two types of centers one is a Diagnostic center and the other is a therapeutic center (K. Ganapathy & Reddy, 2021). In this article, we generally collected the results of radiographers who are working in diagnostic centers because the number of radiographers in therapeutic centers is less and their nature of the job, timing, and work pressure are different from those working in diagnostic centers. The routine work of diagnostic radiographer is described in Figure 1. In this article, we are going to discuss the problems which radiographers are facing and try to give solutions to overcome them, the suggestions which radiographers are demanding will also be deliberate. This is the first kind of study associated with radiographers of Himachal Pradesh.

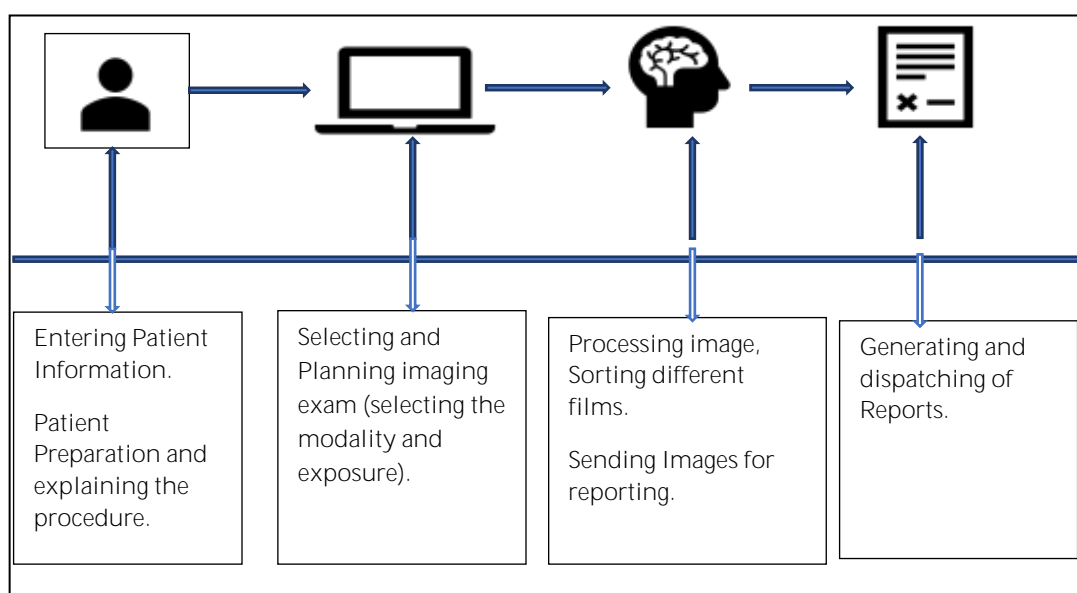


Figure 1: Radiographer's routine in a diagnostic center.

Problem statement of the study

Radiographers in the healthcare sector deal with the public daily and the public with which they deal are mostly patients who are suffering from disease, disorder, or accident. The work environment around radiographers is mostly stressful with a hectic schedule, long working hours, shift work, lack of staff at night, dealing with restless patients, radiation exposure, maintaining records of patients dealing with medicolegal cases, and many more. A stressed radiographer may commit mistakes regarding patient positioning, self, and patient protection, and delivering the reports which may lead to an incomplete diagnosis, and quality of result and can affect to patient. With the increase in the number of hospitals in the state, the state is still lacking adequate staff in the hospitals and the number of post of radiographers is not increasing with the increase in hospitals due to which patients are going to private diagnostic centers where the qualification and authenticity of radiographers are questionable because standards of radiation protection and quality of modalities are not good. Hence the present study has been undertaken to analyze and evaluate the radiographer's knowledge of radiation safety and the facilities they are having around their workplace. There is a requirement of development of radiography skills and checking their competency as it is not necessary that during graduation time all the skills needed for their job is learnt and taught (Ellaway, Albright, Smothers, Cameron, & Willett, 2014).

Scope of study

There is several studies in the past related to different occupations about work culture, norms, ethics, and occupational stress but there are very limited studies on radiographers' condition. As far as in India very limited studies were conducted on paramedical staff. There has been no study conducted on the radiographers of Himachal Pradesh. This is the very first attempt to study the work conditions of radiographers at HP. The main reasons for conducting this kind of study are described in figure 2.

Need of Study

- To understand the workload pressure on the radiographer's.
- To study the awareness and availability of radiation safety devices in the hospitals and diagnostic centres.
- To study the effect of radiation and measures to control radiation hazards.
- To study the work stress and other societal pressure.
- To know the type of modality which radiographers want to operate.
- To study demands and need of radiographers.

Figure 2: The reasons behind the need for the study.

Material and Methodology

The present study is based on a survey method done in the month of March and April 2022 in the HP(Himachal Pradesh) which is a state in India with a population of 6,864,602 (according to the Census of India 2011). The primary data was collected directly by taking interviews and questionnaire which was made with the help of Google Forms. The questionnaire consists of questions related to demographic characteristics, academic qualification, radiation protection awareness, AI (artificial intelligence) in radiology, work during COVID-19, workflow, stress, and suggestions to improve the quality of work. The questionnaire was consisting of MCQs, Check Box, and Short-answer text, and direct interviews of radiographers were taken. The secondary data had been collected from the internet, books, and journals.

Results

The mode of collection of results was online form and interviews, a questionnaire was made using Google Forms. Forty radiographers participated in the survey and the data was included in the final analysis. The online questionnaire was divided into two sections- the first section was to know the demographic details second was to know the radiation protection awareness. The third section consists of both a questionnaire and a direct interview to know the stress and work practices of the radiographers. The interview section was to know the views of

radiographers during COVID-19, the health of radiographers, and knowledge of AI.

Most of the participants were in the age group of fewer than 35 years. The number of male and female in the survey were equal. Twenty-six participants were degree holders whereas ten radiographers were post-graduate, and none of the participants had a doctorate (table 1). Questionnaire to know the knowledge of radiation protection among radiographers is displayed in Table 2. Except question related to calculation of CT dose is answered correctly by 5% of the radiographer, most of other questions are correctly answered by the radiographers.

All the participants were aware of radiation hazards. Seventeen radiographers confirm that they are more comfortable taking radiographs. Whereas thirteen radiographers were interested in doing MRI. Seven participants choose CT-Scan but none of the participants has chosen an interventional radiological procedure. Twenty-five radiographers agree their center has provided them with personnel radiation monitoring devices whereas fifteen radiographers were performing their daily routine work without any such device. All the participants were aware of radiation hazards (100%). The type of safety precautions installed at hospitals and diagnostic centers can be understood from the Figure 3. Lead-lined doors(37.5%)and dosimeters (5%) were the lowest in availability in the departments and health centers. 62.5% of radiographers were using Personnel monitoring devices. 87.5% were working in the government sector. 67.5% voted government medical colleges as a better place to work (Figure 4). 82.5% of the radiographers (33) were using digital x-ray machines and 17.5% of the radiographers were using the old method of taking radiographs and then developing it in a dark room. In an answer to a question “Any encounter with radiation sickness?” 50% of the radiographer replied- “Not Known”, one (2.5%) radiographer replied, “Yes” whereas nineteen (47.5%) radiographers replied “No”. 75% of radiographers observed their hair loss is more as compared to other health professionals 20% of radiographers are not sure of it. Ten radiographers (31.3%) told their blood haemoglobin level was in the range of 9-11 gm/dl. Whereas eight radiographers (25%) choose the option (12-14gm/dl) and one had less than 8gm/dl.

On replying to questions related to “machine learning” and “artificial intelligence” only thirty-eight radiographers (63.5%) replied “Yes”, 26.3% said “No” and 13.2% replied, “Not sure”. Similarly in the question “Whether they are satisfied with upcoming ML/AI technologies in radiology?” the result was 57.5% said “yes.” All the participants (100%) agreed that the new X-ray machines with (CR Computerised Radiography) and DR (Digital Radiography) have improved the efficiency and results.

The next section’s questions were formulated to know the stress and work practices of the radiographers. 56.4% (22) of radiographers replied: “Yes” to the question “Are you satisfied with the work culture and setup?” (Table 3). Most of the radiographers said they were stress-free despite of heavy rush in the Government medical colleges whereas radiographers working in PHC/CH told that on Monday and Tuesday they have a high workload whereas the rest of the week total number of patients is less and easily manageable. Radiographers working in the private sector said that they generally have an equal number of patients each day but during the night it varies. Radiographers working in Government Medical Colleges and RH (regional hospital) doing duties in three shifts. During daytime number of x-ray examinations are more as compared to night, but CT-SCANS request is equal during the whole day. The facility of MRI is mostly restricted to higher institutions so the number of radiographers operating it is less and thus their experience varies. On asking about working experiences during COVID- 19. All the radiographers described that during the first wave, they were confused, scared, and anxious. Many participants described that they were worried for their families as they might transfer or carry the virus to their homes. One of the participants described it as

“Very dubious situation for me it is the time to do something for the state and it was our responsibility, but I was a mother of a one-year-old child. How will I adjust to it? How could I protect myself? What would happen if I carried the virus to my child?”

Another participant who was working in a hospital located in a remote area said that the number of patients was reduced to null there, only emergencies were coming to the hospitals. But all the radiographers described that the feeling of responsibility and helping the public was their motto. They wear PPE kits, double masks, and double gloves and

scrub themselves properly during the work. During the second and third waves, they become more aware, and fearless and were also vaccinated. But most of the radiographers felt ignored “we were not equally acknowledged and were not treated as frontline workers”.

Table 1: Details about the participants		
Variables	Number	Percentage
Age		
Less than 25	01	2.5%
Less than 35	28	70%
Less than 45	8	20%
More than 45	3	7.5%
Experience		
Less than 5 years	05	12.5%
Less than 10 years	15	37.5%
Less than 15 years	11	27.5%
Less than 20 years	04	10%
More than 20 years	05	12.5%
Sex		
Male	20	50%
Female	20	50%
Working in which sector		
Government	35	87.5%
Private	05	12.5%
Qualification		
Diploma	04	10%
Graduation	26	65%
Post-Graduation	10	25%
Ph.D. Degree	00	0%

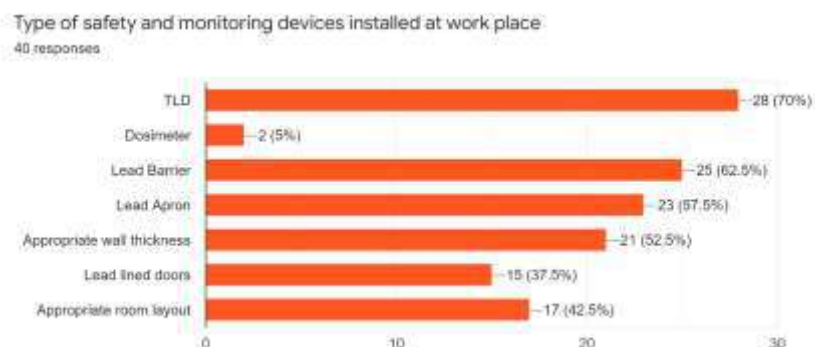


Figure 3: Safety and monitoring devices installed at workplace of the participants.

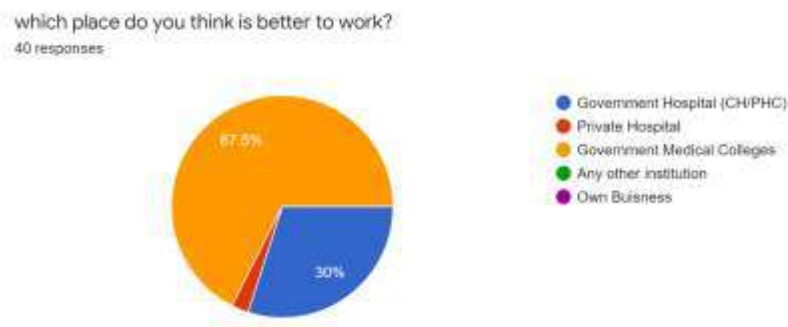


Figure 4: Choice of workplace

Questions	Number of Correct Responses	Percent age
The standard minimum distance between the x-ray machine table and the console	37	92.5%
Standard room size for installation of x-ray machine, CT machine, MRI machine	28	70%
What is the Whole-body dose limit for occupational workers prescribed by AERB	35	87.5%

What is the Basic rule of radiation protection	30	75%
What is the commonly used shielding material used in the radiology department?	40	100%
Which modality uses ionizing radiation in a diagnostic radiology department	40	100%
In MRI what kind of waves are used?	40	100%
TLD batch is wear over the apron or inside the apron?	28	70%
If x-ray machines and CT scanners are in off mode do they emit radiation?	37	92.5%
Who cannot get MRI?	33	82.5%
How to calculate the workload for radiography and CT?	2	5%
In the mammography unit which kind of radiation is need to be shielded?	12	30%

Table 3: Questionnaire to know issues which radiographers are facing while working.

Questions	Response		
Are you satisfied with the work culture and setup at the centers?	Yes (56.4%)	No(43.6%)	Not sure(0%)
Do you feel people are unaware of radiation hazards?	Yes (85%)	No (10%)	Not sure (5%)
Do you feel the public request you to take radiographs/scans without Doctor's prescription?	Yes (67.5%)	No (32.5%)	Not sure (0%)
Do you feel radiographers are migrating to other countries and states for better salaries?	Yes (88%)	No (5%)	Not sure (7%)
Do radiographers working in PHC/CH/Private centers equally updated as those working in Medical Colleges?	Yes (0%)	No(98.5%)	Not sure (1.5%)

Do Radiographers work at private diagnostic centers poorly paid in the state?	Yes (95%)	No (0%)	Not sure (5%)
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Discussion

In the state, the job profile of a radiographer whose education qualification is a Diploma in radiography / Graduation / Post graduation all are the same. Division of work according to their qualification is missing. The promotion channel is lacking. The outcoming students of B.Sc. Radiology is migrating to big cities for better salary options and further carrier development. The state is only offering graduation degrees for further higher studies students have to go to other private universities in India. The ratio of radiographers to patients is imbalanced resulting in work pressure at the government hospitals in the state. Though all the radiographers are aware of radiation sickness still they are not using personnel radiation monitoring devices. Basic and regular updates are lacking in most radiographers as programs and seminars at regular intervals are missing. A better association should be there which can monitor radiographers' needs and take their demands to higher authorities. The ratio of patients to radiographers is imbalanced it can be improved by increasing the number of posts radiographers. Although most of the radiographers felt they have stress free environment, routine check-ups should be there (Botha & Pienaar, 2006).

Radiographers working in HP are willing to persuade higher degree but due to lack of government policies in higher studies, high fees structure of private colleges and seeing no benefits after doing higher study in their job profile they are in dilemma. In private setups radiographers could not afford full time leave for higher studies as it gives a negative effect on family responsibilities (Du Plessis, Friedrich-Nel, & Van Tonder, 2012). A study reported 36% radiographers of middle east obtained higher degrees in 2020 (Elshami, McConnell, Abuzaid, & Noorajan, 2021). About introduction of AI in radiology the radiographers gave positive feedback but are also disquiet in case of some radiographers. Another study which was published in 2021 on radiographers revealed that they have difficulty in acquiring AI related training due to lack of education courses there

(Abuzaid, Elshami, McConnell, & Tekin, 2021). All the radiographers are aware of protection devices in our study but 70% of them use TLD and 57.5% wore lead apron during the procedure which reveal that few radiographers are not applying knowledge of their study in practical scenario. Whereas a study conducted in Uganda reported poor knowledge of radiation protection among radiographers there (Mutuyabule, TK and Whaites, 2002). A study conducted in state of Uttar Pradesh in India also reported 100% awareness of radiation protection but application of these devices in this study revealed that protective devices like lead gloves and eye glasses were never used by more than 70% of the radiographers (Sharma, Singh, Goel, & Satani, 2016). To analyze the competency of radiographers a survey was conducted in south Indian state, 35 radiographers participated in the survey the study concluded that competency can be improved by training and education (Princy & Rajeswari, 2018). A study published online in 2021 highlighted the lack of understanding of role of radiographers during the period of COVID-19 by the other health professionals (Naylor, Booth, Harvey-Lloyd, & Strudwick, 2022) and in our study also same result was experienced by the Indian radiographers, the adaptability of radiographers during this pandemic is recorded all over the world. A article published in 2021 addressed the issues related to gap between theory and practical in radiography profession and it was based on undergraduate students who are enrolled in radiography, the conclusion of the study revealed the gap between opportunity for practicing and learning, the study focused on the issue of lack of different modalities in the centres because of which there is lack in development of skills (Sundaramoorthy & Adkoli, 2021). Similarly in our study the radiographers working in medical colleges get the opportunity to work on different modalities whereas in private hospitals and health centres located in periphery in the state the radiographers working lack the opportunity and to overcome this the government can change policy related to promotion channels in government sector. A study conducted on the knowledge of radiation awareness and protection on medical students, radiography students and residents in Italy was conducted and results were 94.4%, 35.7% and 55% respectively (Faggioni, Paolicchi, Bastiani, Guido, & Caramella, 2017) showing need of awareness of radiation protection. These studies are suggesting that awareness and implication of radiation protection is needed across the globe.

Suggestions

- Protective devices for radiation protection should be provided by each center to the radiographers and the use of these devices to be mandatory while working. Workshops and seminars are to be conducted to spread awareness among healthcare providers.
- Quality check programs to be done once a year to check the efficiency of modalities.
- Radiation Safety Officer (RSO) to be appointed at each medical college and in each district so that proper checks at ground level can be done.
- A detailed medical examination to be conducted by radiographers to check any kind of radiation-induced sickness.
- With each year technologies are changing very rapidly after the application of artificial technologies in the healthcare sector. The new advanced modalities are to be installed in hospitals and health centers to reduce the radiation effect and obtain better results which can automatically save the time and energy of health caregivers and improve their efficiency.
- The work profile of radiographers should be according to their qualifications.
- Radiation allowance should be provided to the radiographers once a year to motivate them. The government of Himachal Pradesh is already giving 13-month salaries to staff nurses. In the same way, it should also be given to other healthcare providers.
- Refreshment courses like advanced technology for short periods to be provided to the radiographers.
- Workload in radiology departments can be reduced by increasing staff and providing similar facilities at lower health centers.
- Quality education to be given to the radiographers who are under training period. Recruitment of well-qualified radiographers is to be done at diagnostic and health centers.
- A step-by-step promotion channel is lacking in the state it should be followed as it is in prestigious institutions like PGI Chandigarh and AIIMS.

- General public awareness programs regarding radiation hazards are to be done so that the public knows the merits and demerits of a radiation procedure.
- Hospital management should pay attention to providing recommended room layout as described by AERB to be constructed with adequate air condition facilities.
- A study on the health and issues of pregnant female radiographers should be conducted.

Limitation and Strength of the study

The limitation of this study is the small sample size and most of the radiographers are working in government sector, so highlighting problems and issues related to government sector. But it is a very first study on the radiographers of the state. The strength of the paper is the raise of issues related to radiographers and quality check on radiation awareness.

Conclusion

The global practice in radiography is changing. The role of radiographer is not limited to process of imaging only. This study will provide an opportunity for radiographers to evaluate and update their knowledge of radiation protection and awareness to install radiation protection devices at the centers and to use personnel monitoring devices like TLD badges. To improve government norms regarding salary, further higher studies, and better welfare facilities. To be aware of radiation-related health issues. The findings of the study will provide a base for further studies in the field of radiographers. It will help in making and improving radiographers' policies concerning their training, increasing the number of posts in the state, recruiting radiation safety officers, and yearly quality control tests. Opening desired promotion channels, dividing work according to their qualification. The findings will help hospitals and diagnostic centers to improve life and work at their organization to enhance employees' social bonding within and with various other departments.

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THE GROWTH EFFECT OF GOVERNMENT EXPENDITURE IN JAMMU & KASHMIR

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Abstract

J&K has been considered as one of the least developed, slow growing and resource deficit states (now UT) in India. Over the last four decades, J&K has witnessed a significant increase in the government expenditure both in absolute amount and as a percentage of state domestic product. The question is does an increase in government expenditure has any impact on J&K's economic growth. This study empirically investigates the growth effect of aggregate government expenditure and its various components in the context of Jammu & Kashmir's economy, using annual data for the period 1981 to 2021. At the disintegrated level, the study estimates the growth impact of government expenditure on economic, social and general services. The autoregressive distributed lag (ARDL) or bounds test cointegration technique is used to investigate the long-run relationship between aggregate government expenditure and economic growth and to empirically estimate the short-run and long-run growth effect of total government expenditure. The time series regression model is employed to estimate the growth impact of public expenditure on economic, social and general services. The following are the main findings of the study: (i) the study finds a long-run equilibrium relationship (cointegration) between aggregate government expenditure and economic growth in the erstwhile state of Jammu & Kashmir over the period 1981 to 2021. (ii) The study finds that total public spending exerted a positive and significant impact on the growth rate of output in the erstwhile state of Jammu & Kashmir both in the short and long run. (iii) At the disintegrated level, the study finds that increased government expenditure on social services has a positive and significant impact on economic growth. (iv) The study finds no statistically significant effects of government expenditure on economic and general services on economic growth in Jammu and Kashmir. The study's findings may assist the policymakers in prioritising J&K's limited

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to the development of those sectors having the potential to raise economic growth. In light of the findings, the study recommends that government expenditure on social service may be increased to enhance growth in the erstwhile state of Jammu & Kashmir. A reallocation of government expenditure in favour of social services may help the government to stimulate economic growth in the erstwhile state of Jammu & Kashmir. There is also an urgent need to improve the efficiency of public spending on economic and general services to make them productive and growth-enhancing.

Key Words: Jammu & Kashmir, Government expenditure, Composition, Impact.

Introduction

Public expenditure as an instrument of fiscal policy is widely used to enhance the growth rate of output both in developed and developing countries. Among various determinants of growth, public spending is an important one. Public expenditure has multiple macroeconomic effects on the economy--it influences growth, reduces poverty and inequality, improves the quality of life, etc. The contribution of government expenditure in promoting economic growth is well recognised in literature both theoretically and empirically. The theoretical literature suggest that there is disagreement among the economists on government expenditure-growth nexus. Keynes (1936) highlighted the potential importance of government expenditure in promoting economic growth. Keynes supported government spending-led growth hypothesis and argued that increased government expenditure promotes economic growth in the short run by stimulating aggregate demand. The endogenous growth model propounded by Barro, 1990; King and Rebelo 1990; Lucas, 1988, 1990; and Barro and Sala-i-Martin, 1992) argued that fiscal policy could affect both the level of output and its growth rate positively. In contrast, Wagner (1890) supported the growth-led government spending hypothesis. Wagner was of the opinion that economic growth is a fundamental determinant of increased government expenditure. He claimed that causality operates from economic growth to the expansion of government expenditure. The Neo-classical school also

not supported the government spending led growth hypothesis. The empirical studies investigated the government expenditure-growth nexus are also reported diverse and conflicting findings. The empirical studies conducted by Ram 1986; Hansson and Henrekson, 1994; Devarajan et al. 1996, Ghosh and Gregoriou, 2008; Zamanian et al., 2012; Bataineh, 2012; Gisore et al. 2014, Agostino et al. 2016; Sedrakyan and Candamio, 2019; Arestis et al. 2021; Arvin et al. 2021 found that aggregate public spending has contributed positively and significantly to the growth rate of per capita GDP. In contrast, the study conducted by Landau, 1983; Barro, 1990; Henrekson and Fölster, 2001; Chandra, 2004; Butkiewicz and Yanikkaya, 2011; Hamza, 2011; Ndjokou, 2013; Boldeanu and Tache, 2015; and Olusegun et al. 2019 found that government expenditure has negative impact on growth rate of per capita income. The study conducted by Kormendi and Meguire, 1985; Landau 1986; Sheehey, 1993; Hansol 2015 concluded that government expenditure has no significant influence on growth rate of output. A number of authors found no causality between public expenditure and economic growth (Ahmad and Loganathan, 2015; Odhiambo, 2015; Udoka and Anyingang, 2015; De Vita et al., 2018; Olaoye and Afolabi, 2021; Onuoha and Okoye, 2021. Empirical evidence further suggest that different types of government expenditure have a different impacts on the growth rate of output. The main conclusion reached from the brief review of theoretical and empirical literature is that there is no consensus among the economists and researchers on government spending-growth nexus. Government expenditure may have a positive, negative or no impact on the growth rate of output. Because of the diversity of the result, there is a need to assess the growth impact of government expenditure in Jammu and Kashmir. Further, to the best of author knowledge no researcher have ever estimated the growth impact of government expenditure in the context of Jammu and Kashmir.

Now a fundamental question is how total government expenditure and its various components affects Jammu and Kashmir's economic growth. Which components of government expenditure is productive and should be prioritized to achieve higher growth. Which components of government is unproductive and should be curtailed to improve J&K's

financial position. To find answer to these questions, the present study assesses the growth impact of total government expenditure and its various components in the context of Jammu & Kashmir economy using annual data for the period of 1981 to 2021. First, the paper estimate the growth effect of total government expenditure. Second, the paper empirically estimate the growth effects of different components of government expenditure. At the disintegrated level, the study estimate the growth effects of government expenditure on economic, social and general services. Government expenditure on social services generally includes expenditure on education, art, sports and culture, medical education and public health, housing and urban development, etc. The government expenditure on economic services covers expenditure on agriculture and allied activities, rural development, energy, irrigation and flood control, transport and communication, etc. Government expenditure on general services mainly includes public spending on secretariat economic services, tourism, civil services, etc. Different types of government expenditure may have different impact on the economy. More specifically, in this study an attempt is made to identify the types of government expenditure which is productive and should be prioritized to enhance economic growth in the erstwhile state of J&K. Identification of productive and unproductive government expenditure is very important for the erstwhile state of Jammu & Kashmir which is identified as one of India's least developed, slow-growing and resource-constrained states (now Union Territory). High and unproductive nature of government expenditure is adversely impacting both economic growth and J&K's financial position. Government may promote higher growth in J&K by changing the composition of its expenditure. Further, controlling the unproductive nature of government expenditure will J&K to improve its financial position. There is an urgent need to divert the J&K's limited resources from unproductive to productive use to make J&K as one of the fastest growing economy in the world. Government in Jammu and Kashmir can also improve its financial position by curtailing the unproductive nature of government expenditure. Thus, government in Jammu and Kashmir can achieve higher growth by changing the composition of its expenditure.

Assessing empirically the growth effect of total government expenditure and its various components is necessary for the erstwhile state of Jammu & Kashmir because of the following reasons. Firstly, Jammu & Kashmir has limited financial resources and is heavily dependent on the federal government to meet its expenditure. Jammu & Kashmir's capacity to raise revenue from its own resources (tax and non-tax) is also very low. Better use of available resources is urgently required to stabilize J&K's financial position. The government should ensure that the limited resources of the state should be properly utilised. A change in the composition of government may have positive impact on economic growth. Secondly, among Indian states, Jammu & Kashmir has relatively very high fiscal deficit, revenue deficit and public debt-to-state domestic product (SDP) ratio. The current fiscal deficit in the erstwhile state of Jammu & Kashmir (5.3 of the state domestic product) is the highest among the Indian states. A very high fiscal deficit is a big challenge for the government. There is an urgent need for controlling the unproductive nature of government expenditure which is putting adverse pressure on the J&K's financial position. A very high fiscal and revenue deficit has highlighted the need to estimate the growth effect of government expenditure. To improve J&K's financial position and achieve fiscal sustainability there is urgent need to control the non-growth-enhancing government expenditures. The unproductive nature of government expenditure places more strain on the state's fiscal deficit. Thirdly, Jammu and Kashmir has been identified as one of the least-growing states in the country. J&K can achieve higher economic growth by changing the composition of government. A reallocation of unproductive nature of government expenditure to productive expenditure would accelerate economic growth in Jammu & Kashmir. Compositional changes may exert a positive impact on economic growth in the erstwhile state of Jammu and Kashmir. The study will help policymakers to prioritise the Jammu & Kashmir's limited resources to expand those services that contribute positively and significantly to Jammu & Kashmir's economic growth. The findings of the study may assist the policymakers to utilise the state's limited resources more efficiently and effectively. Thus, investigating the government expenditure-economic growth relationship has important policy implications for the erstwhile state of Jammu and Kashmir. Further, in the

context of Jammu & Kashmir no study has been conducted to assess the growth impact of government expenditure.

Following the introduction in Section I, the rest of the paper is organised as follows. A brief review of existing studies investigated the growth effect of total government expenditure and its various components are presented in Section II. Data sources and methodology used in the study is described in Section III. An overview of economic profile of the erstwhile state of Jammu and Kashmir, trend, pattern and growth of aggregate government and its various components during the period of 1981 to 2021 is given in Section IV. The empirical findings of the study are reported in Section V. Finally, a brief summary of the findings and some policy suggestions are given in Section VI.

Literature Review

Empirically the growth effects of total government expenditure and its various components have been studied widely by researchers using different data sets and econometric techniques. However, the findings are conflicting. Landau (1983) found that the share of government consumption in GDP has a negative impact on the growth rate of real GDP per capita in the sample of 104 countries. Ram (1986) found that public spending exerted a positive impact on economic growth rate of output in India over the period of 1960-80. Using the sample of 48 developed and developing countries, Grossman (1990) found both positive and negative impacts of government on the growth rate of output. Hemming (1991) found that public spending on socio-economic infrastructure have a positive impact on growth. Barro (1991) found a negative association between government consumption expenditure and economic growth and a positive but insignificant impact of public investment on economic growth in the sample of 98 developing countries over the period of 1960-1985. Levine and Renelt (1992) found a positive relationship between public investment and economic growth in the sample of 119 developed and developing countries during the period 1974 to 1989. Barro 1991, found that the share of government consumption expenditure has a negative impact on economic growth, and the share of public investment has a positive impact on output growth. Rebelo (1991) argued that fiscal policy was an important determinant of observed growth rate differences across

countries. The study conducted by Baum and Lin (1993) concluded that public spending on defence and education exerted a positive impact on economic growth both in developing and developed countries over the period of 1975-85. Cullison (1993) study showed that public spending has a positive impact on private gross domestic product. Devarajan et al. (1993) concluded that public spending on health care, transportation and communication has a positive impact on economic growth in a sample of 14 OECD countries. The study conducted by Love (1994) claimed that governmental expenditure is detrimental to economic growth in Sierra Leone. The study conducted by Devarajan et al. (1996) studied the growth effect of different components of government expenditure and found that the share of public expenditure on the current account has a positive and significant impact on economic growth, whereas the share of government expenditure on the capital account has a negative impact on per-capita growth in the group of 43 developing countries over the period 1970-1990. For developed countries, the study found that the share of capital expenditure in GDP has a positive and the share of current expenditure has a negative and significant impact on the growth rate of per capita income. Ansari et al. (1997) found that public expenditure has no impact on the GDP growth of African countries. Kireyev (1998) in his study noted that a positive and significant relationship exists between government expenditure and non-oil GDP in Saudi Arabia over the period of 1969-97. Kneller et al. (1999) argued that productive government expenditure enhance economic growth and non-productive expenditure does not. The study conducted by Josaphat and Oliver (2000) showed that an increase in productive government expenditure (physical investment) has a negative effect on growth, while increased consumption expenditure has a positive impact on economic growth in Tanzania over the period of 1965-96. Henrekson and Fölster (2001) reported that government size has a negative impact on economic growth in rich countries. Nan (2022) reported that if public expenditure is used effectively, it can boost economic growth, otherwise, it can lower growth. The study conducted by Niloy et al. (2003) revealed that government capital expenditure has a significantly positive and current government expenditure has a significantly negative impact on the economic growth of thirty developing countries over the period 1970-80. Government expenditure can affect

economic growth both through demand and supply side effects (Hemming et al. 2002). Chandra (2004) found no evidence of causality in either direction between government consumption and growth rate of real GDP in India for the period 1950-1996. Further, the study found that government investment has negative and significant impact on growth rate of real GDP. Gupta et al. (2005) found that government spending on capital components has a positive impact on growth for low-income countries. Using the sample of developing countries. The study of Lin (2006) showed that government size has positive impact on economic growth in the short run but not in the intermediate run. Bose et al. (2007) found that the share of capital expenditure in GDP has a significantly positively and share of current expenditure in GDP has an insignificant impact on economic growth in 30 developing countries during the period 1970-1990. The study conducted by Avila and Strauch (2008) reported a negative impact of public spending on economic growth in a set of 15 European countries. Amponsah (2009) observed a significantly negative relationship between aggregate government expenditures and economic growth in Ghana for the period of 1970-2004. Further, the study finds a bi-directional causality between per capita government spending and per capita income growth. Colombier (2009) found a negative relationship between government size and economic growth in most OECD countries for the period 1970 to 2001. Hakro (2009) found that public spending on physical capital has a strong positive impact on the growth rate of per capita income in 21 Asian Countries. Some studies found that public spending has a positive and significant impact on economic growth. Tang 2009 found bidirectional causality of government expenditure on health and economic growth for Malaysia for the period of 1960-2007. Bayraktar and Dodson (2010) found that countries using public spending for productive purposes experienced high and sustained economic growth. The results of the study conducted by Butkiewicz and Yanikkaya, (2011) showed that government spending has a negative impact on economic growth in countries having an inefficient governments. Hamzah (2011) found a negative and significant relationship between aggregate public spending and economic growth in Malaysia over the period of 1970-2007. The study of Lamartina and Zaghini (2011) provides evidence of a positive association between government spending and economic growth in 23 OECD countries. The study conducted by Loto (2011) showed that public

spending on national security, health, transportation and communication impacted economic growth positively, and public spending on irrigation and education had a negative impact on economic growth in Nigeria over the period 1980-2008. Ormaechea and Morozumi (2013) estimate the growth effects of different components of public expenditure and found that public spending on education has a positive impact on economic growth. The study of Alshahrani and Alsadiq (2014) showed that aggregate public expenditures have a positive and statistically significant effect on the growth rate of GDP in Saudi Arabia in the long run and a statistically insignificant impact in the short run. The study conducted by Gemmell et al. (2014) showed that government expenditure on infrastructure development had contributed positively to economic growth for a number of OECD countries. Dodson and Bayraktar (2015) found that capital account components of government expenditure has a positive and current component of government expenditure has a negative but insignificant impact on the economic growth of West Africa Economic and Monetary Union (WAEMU) countries over the period of 2000-2013. Lahirushan and Gunasekara (2015) concluded that government expenditure had a positive impact on growth in Asian countries during the period between 1970 and 2013. Ajayi and Aluko (2016) found no relationship between government spending and economic growth in Nigeria. Kimaro et al. (2017) showed that increased government expenditure accelerated economic growth in 25 low-income countries in Sub-Saharan Africa during the period 2002 and 2015. Lupu and Asandului (2017) found a long-run association between government expenditures and economic growth for eight Eastern European countries between 1995 and 2014. Amusa and Oyinlola (2018) study showed that aggregate public spending has a negative impact in the short run and a positive impact in the long run on Botswana's economic growth during the period 1985-2016. Zulfiqar, (2018) pointed out that size, composition and efficiency of government expenditure is an important factor in stimulating economic growth. At the disintegrated level, the study found that recurrent expenditure has contributed positively to economic growth both in the long run and short run. Awuh (2018) found that capital expenditure as a ratio to total expenditure has a positive impact on economic growth, and current expenditure as a ratio to total expenditure has a significantly

negative impact on economic growth in advanced countries for the period of 1995-2015. The study conducted by Dudzeviciute et al. (2018) showed that there is a positive relationship between government expenditure and economic growth in France, Belgium, and Portugal and reduced economic growth in Sweden, Germany, Poland, and Slovakia over the period of 1995-2005. Olusegun et al. (2019) reported a negative relationship between government expenditure and economic growth. Chu et al (2020) noted that total government expenditure as a ratio of GDP has a negative and significant impact on growth both high and low to middle income countries over the period 1993 to 2012. Olaoye et al. (2020) concluded that government expenditure has a negative impact on economic growth in the 15 countries of the Economic Community of West Africa.

In the Indian context, only a few studies have estimated the growth impact of government expenditure using national-level data (Singh and Sahni, 1984, Chandra, 2004). However, the growth effect of total government expenditure and its components is rarely investigated at the sub-national (state) level using time series data. To the best of the author's knowledge, no study has estimated empirically the growth effect of aggregate government expenditure and its various components in the context of Jammu and Kashmir using time series data. This is the first empirical study which estimates the growth effects of aggregate public expenditure and its various components in the context of one of the least developed, resource-deficient and slow-growing Jammu and Kashmir's economy. This work is an addition to the existing literature on the government expenditure-growth relationship at the sub-national (state) level. From the above analysis, it is obvious that there is disagreement among economists and researchers on the growth impact of public spending. Increased public expenditure may have positive, negative and no impact on economic growth. Further, not many studies estimate the growth effect of government expenditure in the context of J&K economy. Present study is attempted to fill this research gap.

Data Sources and Research Methodology

The growth impact of government expenditure in the context of Jammu & Kashmir economy has been investigated using annual data for the period 1981-2021. The real per capita net state domestic product (base 2011-12) is

chosen as the indicator to measure economic growth. The Economic & Political Weekly Research Foundation (EPWRF) is the principal source of annual data on aggregate government expenditure and its various components and real per capita net state domestic product (base 2011-12). The following procedure has been followed to estimate the growth effect of aggregate government expenditure. First, the selected variables are converted into logarithm form. Second, the Augmented Dickey-Fuller (ADF) test is used to ascertain the stationarity and non-stationarity properties of the selected variables and to determine the order of integration of the selected variables. Third, the autoregressive distributed lag (ARDL) model, as proposed by Parasaran and Shin (2001), is used to explore the long-run association (cointegration) between aggregate government expenditure and economic growth and to estimate the short-run and long-run growth effect of aggregate government expenditure. The number of lags are selected automatically using AIC criteria. The autoregressive distributed lag (ARDL) model has been extensively employed by researchers for investigating the long-run equilibrium relationship between selected variables due to its following advantages over the standard cointegration and causality techniques. (a) The ARDL model can be used in a small sample size consisting of 30 to 80 (Mah, 2000) (b). The model can be applied irrespective of whether regressors are of I(0) or I(1) or a mixture of I(0) or I(1). (c) Another important advantage of the ARDL model is that we can estimate the short-run and long-run relationship simultaneously. The relevant ARDL procedure can be written as follows:

$$\Delta \text{LnPcNSDP}_t = \beta_0 + \sum_{i=1}^n \beta_1 \Delta \text{LnPcNSDP}_{t-i} + \sum_{i=0}^q \beta_2 \Delta \text{LnPE}_{t-i} + \delta_1 \text{LnPcNSDP}_{t-1} + \delta_2 \text{LnPE}_{t-1} + \varepsilon_T$$

Where, real per capita net state domestic product (PcNSDP_t) is the dependent variable, Δ is the first difference operator. β_1 and β_2 are short-run coefficients and δ_1 and δ_2 are the long-run coefficients. We have formulated the following hypothesis for short run and long run relationship between the variables. For short run relationship the $H_0: \beta_1 = \beta_2 = 0$, $H_a: \beta_1 \neq \beta_2 \neq 0$. For long run relationship $H_0 = 0$, $H_a: \delta_1 \neq$

$\delta_2 \neq 0$. The F-test statistics is used to know the existence of long run relationship between the selected variables. Since different types of public spending may have different impact of economic growth. To estimate the growth effect of different components of government expenditure, time series regression model has been used I estimated the following regression equation to estimate the relationship between growth rate in government expenditure on economic, social and general services and growth rate in income.

$$\Delta \ln PcNSDP_t = \beta_0 + \beta_1 \Delta \ln PESS_t + \beta_2 \Delta \ln PEES_t + \beta_3 \Delta \ln PEES_t + \varepsilon_t$$

Where, Δ is the first difference operator, the growth rate of real per capita net state domestic product ($\Delta \ln PcNSDP_t$) is dependent variables, and the growth rate of public spending on social services ($\Delta \ln PESS_t$), growth rate of public spending on economic services ($\Delta \ln PEES$) and growth rate of public expenditure on economic service ($\Delta \ln PEES$) are used as explanatory variables. β_1 , β_2 and β_3 are coefficients, and ε_t is the error terms of the model. We expect that the estimated value of the coefficients (β_1 , β_2 and β_3) are positive and statistically significant. Non-stationary variables are transformed into stationary ones before using the regression model. We run the regression model at the first difference of the variables. Finally, we have conducted the following diagnostic tests to check the strength of the estimated results. The Jarque-Bera test is used to check the normality of the data. The Breusch-Godfrey Serial Correlation or LM test is used to identify the serial correlation. The ARCH test is used for heteroskedasticity and CUSUM test is used to know the stability of the estimated coefficients.

An Overview of Jammu & Kashmir Economy, Trend and Patterns of Public Expenditure

Political instability (militancy, strike, and lockdown), limited resources base, relatively high population growth, inadequate and poor quality infrastructure, nonviable nature of the state's finance, high and growing unemployment and corruption are some key challenges the Jammu & Kashmir economy has been facing. In terms of economic development, Jammu & Kashmir is far behind as compared to other states of the Indian Union. The level of per capita income and its growth rate both are relatively low in Jammu & Kashmir as compared to other northern states

and the national economy as a whole. In 2021, Jammu & Kashmir with real per capita income of Rs. 104889 stand at 22nd position among 29 states of the Indian union. In 2021 Jammu & Kashmir's real per capita income was around twenty per cent lower than the national level per capita income and almost 50 per cent lower than that of Himachal Pradesh, which has the same resource base and typography. During the last three decades, Jammu & Kashmir shows dismal growth performance. Jammu & Kashmir has registered very modest growth in the post-reform period. Between 1993-94 to 1998-99, J&K's real per capita net state domestic product (base 1993-94) grew at an average annual growth rate of 2.21% compared to Himachal Pradesh (5.19%), Punjab (2.45%), Haryana (2.88%) and Rajasthan (7.33%) and national level (4.52 %). This was also the period when political instability was at the peak level causing a deterioration in the economic situation. Between 2011 and 2020, the average growth rate of real per capita net state domestic product in the erstwhile state of Jammu & Kashmir was 3.73 per cent compared to 6.22 per cent in Himachal Pradesh, 4.22 per cent in Punjab, 6.56 per cent in Haryana, 4.03 per cent in Rajasthan. This growth rate was far below the national growth rate of 5.12 per cent. During the whole period of the study (1981- 2020), Jammu & Kashmir's real per capita net state domestic product at a constant price (Base, 2011-12) has grown at an average annual growth rate of 2.09 per cent. A part from internal conflict, poor business climate, inadequate resources, poor infrastructure and high corruption are some of the important factors contributing to Jammu & Kashmir's relatively poor performance.

Jammu & Kashmir is financially poor and relies heavily on the federal government to meet its expenditure. Total transfers from the central government (including grants in aid and share in taxes) accounted for 73.91% of the total revenue receipts (Budget, 2021). Large fiscal deficit, primary deficits, and high debt to state domestic product ratio are serious macroeconomic problems the Jammu & Kashmir economy has been facing. Between 1991 to 2020 the gross fiscal deficit increased from Rs. 6.6 billion to Rs 72 billion. During 2020-21, Jammu & Kashmir (5.3%) has the highest gross fiscal deficit as percent of GSDP. Among eleven special category states, Jammu & Kashmir had the highest fiscal deficit, primary deficit and debt-to-state domestic product ratio. Between 1991-2022 the

total outstanding debt liability has increased from 33.58 billion to 1149.96 billion.

Total public expenditure in Jammu & Kashmir has increased from Rs. 428 crores in 1981 to Rs. 64977 crores in 2019, registering an average annual growth rate of 15 per cent. The government in Jammu & Kashmir spend more as compared to other special category states. The total government expenditure as a percentage of gross state domestic product increased from 28.22% in 1993-94 to 38.24% in 2019-20. Jammu & Kashmir has limited financial resources. Jammu & Kashmir's tax revenue (direct and indirect) accounted for only 26.08 % of total revenue receipts (Budget, 2021). Expenditure interest payment (11%) subsidies, () salaries () accounted for a very high proportion of total expenditure (Budget, 2021). An investigation of components of government spending shows that total government expenditure on social services has increased from Rs 112.67 in 1981 to Rs 19910 crores in 2019, registering an average annual growth rate of 14.56 per cent. Between 1981 and 2019, total government expenditure on economic services increased from Rs 204.84 crore to Rs 18358 crore, recording an average annual growth rate of 13.41 per cent. The total expenditure on general services increased from Rs 12.84 crore in 1981 to Rs 1425 crore in 2019, recording an annual growth rate of 26.72 per cent

Empirically Findings

1. Test of Unit Root

ARDL model requires that none of the selected variables has an order of integration higher than one. Thus, before applying the ARDL model, it is important to know the stationarity property and order of integration of the selected variables. To determine the order of integration of the selected variables, the Augmented Dickey-Fuller (ADF) test is used. The lags length for Augmented Dickey-Fuller (ADF) test is determined using AIC. The outcome of the Dickey-Fuller (ADF) test are presented in table-1.

Table: 1 Results of the Augmented Dickey Fuller Test

Variables	At level	At first Difference	Order of Integration
Log real per capita net state domestic product (Base 2011-12)	-1.41 (0.84)	-9.85 (0.000)	I(1)

Log aggregate government spending	-0.25 (0.92)	- 8.39(0.000)	I(1)
Log government expenditure on economic services	0.274 (0.97)	-5.696 (0.000)	I(1)
Ln government expenditure on social services	-2.25(0.34)	7.43(0.000)	I(1)
Ln government expenditure on general services	- .23(0.9257)	-8.819 (0.000)	I(1)

Sources: Author' own estimation

Augmented Dickey-Fuller (ADF) test results indicate that all the variables are non-stationary at level. Thus the null hypothesis of a unit root cannot be rejected at five percent level of significance for all the variables. On the other hand, the null hypothesis of unit root is rejected at even one percent significance levels at the first difference of the selected variables. Thus all the variables are stationary at their first difference and thus integrated of order one, I(1).

2. Results of the Autoregressive Distributed Lag (ARDL) - Bounds Test

Having found that aggregate government expenditure and economic growth are integrated of the same order I(0). The next step is to estimate the cointegration between aggregate government expenditure and economic growth. The ARDL bounds testing method proposed by Pesaran et al. (2001) has been used for investigating the long-run association between government expenditure and economic growth. We have framed the following hypothesis: H_0 : There is no cointegration relationship between aggregate government expenditure and economic growth in the erstwhile state of Jammu & Kashmir. H_a : There is a cointegration relationship between government expenditure and economic growth in the erstwhile state of Jammu and Kashmir. The optimum lag length is selected automatically using Akaike Information Criteria (AIC). The results of the ARDL bounds test are reported in table 2.

Table 2: Results of the ARDL Bounds Test

Dependent variables	F-Statistics	Upper bounds value	Lower bounds value
$\Delta \ln PcNSDP$	4.20	4.16(5%)	3.62(5%)
$\ln PE$	7.13	4.16 (5%)	3.62(5%)

Sources: Author's own estimation

The decision of the existence of long-run association among the selected variables depends on the estimated F-statistics. If the computed F-statistics is higher than the upper critical bounds value, then the null hypothesis of no cointegration is rejected. On the other hand, if the estimated value of the F-statistic is less than the lower critical bound value, the null hypothesis of no cointegration cannot be rejected. If the estimated value of the F-statistics lies in between upper and lower critical bound values, no appropriate conclusion can be drawn. As shown in table 2, the estimated value of F-statistics (4.20) is higher than the upper-bound critical value (4.16) at a five percent significance level when economic growth is taken as a dependent variable and public expenditure as an explanatory variable. When we take government expenditure as dependent variable still the study find long run association between variables because the estimated F-statistics (7.13) is greater than the upper bounds critical value (4.16). In both the cases the study finds a long-run association between aggregate public expenditure and economic growth in the erstwhile state of Jammu & Kashmir. This leads us to the rejection of the null hypothesis that there is no cointegration between variables against its alternative hypothesis that there is cointegration between the selected variables.

Having established that there is a cointegration between government expenditure and economic growth. Next, we estimated the short-run and long-run coefficients of aggregate public expenditure using autoregressive distributed lag (ARDL) model. The estimated short-run and long-run coefficients of the ARDL model with lags (1, 0) are reported in Table 3.

Table 3: Estimated Short-run and Long-run coefficients using ARDL Approach

Short-run Coefficients				
Variables	Coefficient	Sd.Error	t-statistics	Probability
C	1.203551	0.715918	1.681129	0.1012

$\Delta \ln \text{PcNSDP}(-1)$	-0.134340	0.076721	-1.751028	0.0882
$\Delta \ln \text{PE}$	0.027574	0.012378	2.227639	0.0321
ECT-1	-0.134340	0.036855	-3.645156	0.0008
Long Run Coefficients				
LnPE	0.205253	0.047018	4.365376	0.0001
C	8.958965	0.371921	24.08833	0.0000

Sources: Author's own calculation

The estimated short-run (0.027) and long-run (0.205) coefficients are show that aggregate public spending has a positive and significant impact on economic growth in the erstwhile state of Jammu & Kashmir. The estimated coefficients indicate that keeping other factors constant, a 1 percent increase in aggregate government expenditure leads to a 0.027 percent increase in real per capita net state domestic product in the short run and 0.205 percent increase in real per capita net state domestic product in the long run. The result is in line with the study conducted by Davarajan et al. (1996). The study also estimate the ARDL error correction model to know the short-run dynamics between government expenditure and economic growth. The estimated coefficient of the one-year lag value of the Error Correction Term (ETCt-1) is negative (-0.1343) and statistically significant. This implies that 13.43 percent of the disequilibria of the previous period's shock adjust back to the long-run equilibrium in the current year.

Table: 4 Breusch-Godfrey Serial Correlation LM Test:

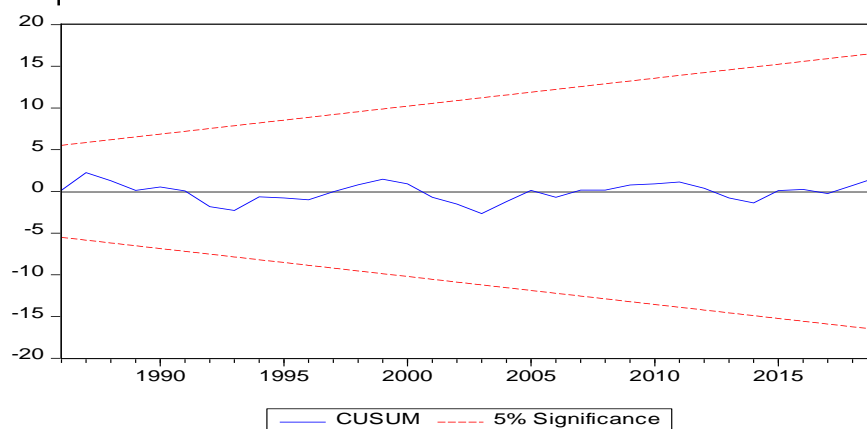
F-statistic	0.498349	Prob. F(1,33)	0.4852
Obs*R-squared	0.565319	Prob. Chi-Square(1)	0.4521
Heteroskedasticity Test: ARCH Test			
F-statistic	2.393071	Prob. F(1,35)	0.1309
Obs*R-squared	2.367915	Prob. Chi-Square(1)	0.1239

Sources: Author's estimation

The outcome of the Breusch-Godfrey, serial correlation LM test is presented in table 4. The results show that the probability Chi-square value of the observed R-squared is 0.4521 % which is more than a 5%

significance level. The null hypothesis of serial correlation is rejected, and the model has no serial correlation. We conducted an ARCH test on the problem of heteroskedasticity, and the results are given in the table-4. The value of the observed R square is more than 5% significance level (0.1239), implying that the null hypothesis cannot be rejected. Thus our model is free from heteroscedasticity. The outcome of the Jarque-Bera probability value is more than a 5% significance level (0.394). This point implies that the null hypothesis cannot be rejected, meaning the distribution is normal. Finally, we conducted a CUSUM test to ascertain the stability of the parameters. The results can be explained through the following graphs. The null hypothesis of instability is rejected if the plots of the CUSUM test stay within the critical bounds at a 5% significance level. The CUSUM test indicates that the plot is with a 5% level of significance. Thus the estimated model is stable

Graphs of the CUSUM Test



Next we estimate the growth effects of three different types of government expenditure using the time series regression model. The regression was run using growth rate of real per capita net state domestic product as a dependent variable and growth rate in public expenditure on economic, social and general services as explanatory variables. The estimated coefficients of the regression model are presented in table 5. The regression coefficient indicates that growth rate in government expenditure on social services has contributed positively and significantly to growth rate of output in the erstwhile state of Jammu and Kashmir.

Table 5: Results of the Regression Model, Dependent Variable $\Delta\ln\text{PcNSDP}$ (Base, 2011-12)

Variable	Coefficient	Std. Error	t-Statistic	Probability
$\Delta\ln\text{PEGS}$	-0.057671	0.046903	-1.229573	0.2266
$\Delta\ln\text{PEES}$	-0.007810	0.014531	-0.537466	0.5942
$\Delta\ln\text{PESS}$	0.170163	0.066171	2.571586	0.0143

PEGS= Public expenditure of General Service, PEES= Public expenditure of Economic Service, PESS= Public expenditure of Social Services.

The estimated coefficient indicates that a 1 percent increase in the growth rate in public spending on social services leads to a 0.17 percentage increase in the growth rate of real per capita net state domestic product. The social services which mainly includes health and education have the potential to generate higher economic growth. As shown in table 4 the estimated coefficients of both public expenditure on economic and general services are negative but statistical insignificant. Thus, the study find a negative but statistically insignificant relationship between public expenditure on economic and general services and economic growth. We have also conducted the diagnostic tests. The Jarque Bara test indicate that the data is normally distributed. The probability of the test is (0.467). Breusch-Godfrey, serial correlation LM test indicates that the model is free from serial correlation. The ARCH test (0.40) shows that no problem of heteroskedisty.

Conclusion and Policy Suggestions

Using annual data for the period 1981 to 2021, the study empirically estimate the growth impact of total public spending and its various components in the context of Jammu & Kashmir economy. At the disintegrated level, the study estimate the growth effect of public spending on economic, social and general services. The study find a long-run association (cointegration) between aggregate government expenditure and economic growth in the erstwhile state of Jammu & Kashmir for the period 1981-2021. The study finds that aggregate government expenditure contributed positively and significantly to Jammu & Kashmir's economic growth both in the short and long run. The study finds that through government expenditure in relatively higher in J&K but it has not reached

its optimal or critical level. An increase in government expenditure would accelerate economic growth. The regression results indicate that only the growth rate of government expenditure on social services has contributed positively and significantly to Jammu and Kashmir's economic growth. Finally, the study finds that government expenditure on economic and general services have negative but statistically insignificant impact on economic growth in the erstwhile state of Jammu & Kashmir during the period 1981-2021. A cut in public spending on general and economic service will improve the J&K financial position. The findings of the study justified the decision taken by the government to discontinue the 149 years practice of Darbar move from Srinagar to Jammu and vice-versa. The government saved around Rs.400 crore annually. The study find that Jammu & Kashmir is the least growing state in the country. The government can higher promotes economic growth by reallocating public spending in favour of social services from economic and social services. The results stress the importance of increasing the government expenditure on social services such as education and health to foster economic growth in the erstwhile state of Jammu & Kashmir. But, due to Jammu & Kashmir poor financial position, government may find it difficult to increase its spending on social services. Increased public spending on social services may worsen Jammu & Kashmir's financial position. However, the government may still attempt to foster economic growth by compositional changes in public expenditure which involves an increase in public spending in favour of social services from general and economic services. Jammu & Kashmir can accelerate economic growth by reallocating public in favour of social services from economic and social services. Shirking public spending on economic and general services may also help the government to reduce its fiscal deficit to a certain extent. There is also an urgent need to increase the efficiency of public spending on economic and social services to make it more productive. The study conclude that only public spending on social services is growth enhancing in the erstwhile state of Jammu and Kashmir. The main limitation of the study is that it does not take into account the control variables due to the non-availability of time series data. The growth rate not only depends on government expenditure but also on a number of other factors. The study failed to consider other

factors that lead to economic growth. A study should be conducted by taking into account other determinants of growth as control variables.

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INTERNATIONAL AID EFFECT ON AFGHANISTAN IMPROVEMENT: A STUDY OF ITS AFGHANISTAN FISCAL POLICY

Tawfiqullah Muradi¹ & Dr. Vikram Sandhu²

Abstract

GAAT, WTO, and others are targeted to provide aid and trade to LDCs for public consumption, and indirect and political economy generated from policies (Suwa E. and Verdier T.), Foreign aid has marginal effects on domestic saving and GDP growth; donors' aid may be considered fungible between investment and public assumption when considering the result of foreign aid on GDP growth (Rahim M). The gap between domestic revenues and operating budget is also critical to long-term fiscal sustainability. Implementation policies in the long term and trade-offs in short-term priorities provide international aid. Mining activities and tax revenues have a potential impact on economic growth. In current scenarios, government expenditures cannot be limited. In future scenarios (long-term), donors' assistance will meet the budgetary system and transform the donor-financed budget into generated revenues. Similarly, this topic focuses on how Afghanistan uses international aid to make its fiscal policies more sustainable. However, government spending on policies that influence macroeconomic conditions through fiscal policy, regulators improve unemployment rates, control inflation, stabilize business cycles, influence interest rates, and control economy. In order to achieve the goals, it requires a comprehensive approach to channeling

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international financial aid to vulnerable infrastructure in the economic sector, maintaining fiscal policy, and increasing GDP.

Keyword: *International aid, fiscal Policy, Trade-off, Economic, Budget, Gross Domestic Product.*

Introduction

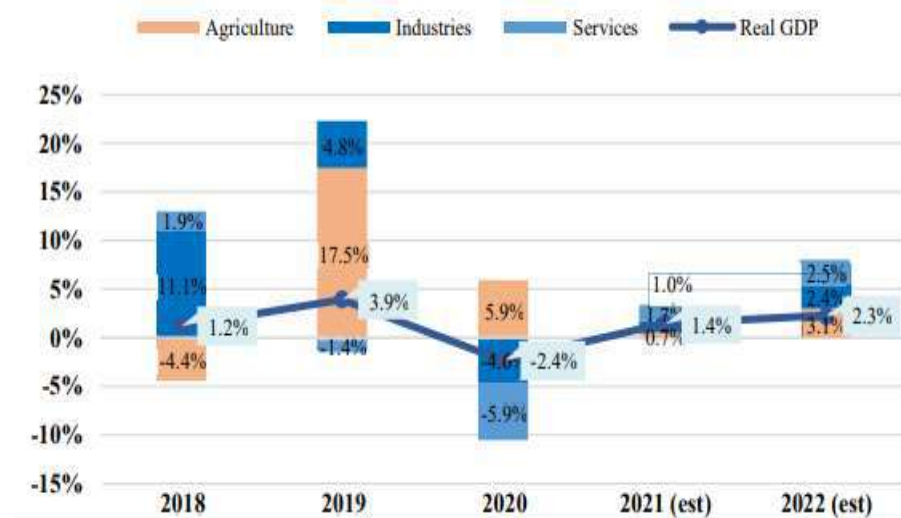
Economically, Afghanistan is a very poor country in western Asia and a member of the Organization of the Islamic Conference (OIC), South Asian Association for Regional Cooperation (SAARC), and Economic Cooperation Organization (ECO). Two-thirds of its population survives on less than \$2 a day. The growing opium trade and poppy cultivation are major challenges for economies. Besides job creation, budget sustainability, government capacity, rebuilding the war-torn infrastructure, and fighting corruption, these are the long-term challenges. It connects East, West, and Middle East Asia, with an area of approximately 647,500 km², a population of 39,833,428 estimated in 2021, the Afghani (AFN) currency make a strategic point in central asia, the fiscal year March. Besides, in next parts of this paper illustrate about Afghanistans internal economy and external sector condition, fiscal Literature Reviews, Research Design, objectives of the paper, Afghanistan's Fiscal Condition and economic prospects are dependent on political stability as we as Analysis and discussed of the paper.

I. I. Afghanistan's internal economy

Contributions to GDP growth are mining: gold, copper, silver, and zinc, precious and semi-precious stones; petroleum; agriculture, trade, and international aid. Major threats to the economy are weak governance, criminality, and insecurity. According to the IMF, Afghanistan's GDP increased by 14% as a result of increased cultivation of poppy, opium,

morphine, heroin, and other illicit drugs, which account for roughly one-third of Afghanistan's GDP. The question is: which sectors have a greater effect on fiscal sustainability? Sector contributions begin with agriculture and are projected at 5.9% in 2020, due to drought and conflict. Industry and services sectors remain weak, as projected at 1.4% in 2021. However, in a scenario with rising insecurity, worse weather conditions, and political instability, economic growth may be projected at 0.8% due to COVID-19 cases. Based on these uncertainties, the economy will grow (1.4–2.3%) from 2021 to 2022, with sectors contributing 5.9% in 2020. Similarly, the industry sector has a low but projected positive growth rate of 1%. Services and industry sectors were hit due to border closures and lockdowns during the pandemic in 2020.

Figure 1. Real GDP trends and forecasts.



Source: MoF and NSIA estimates

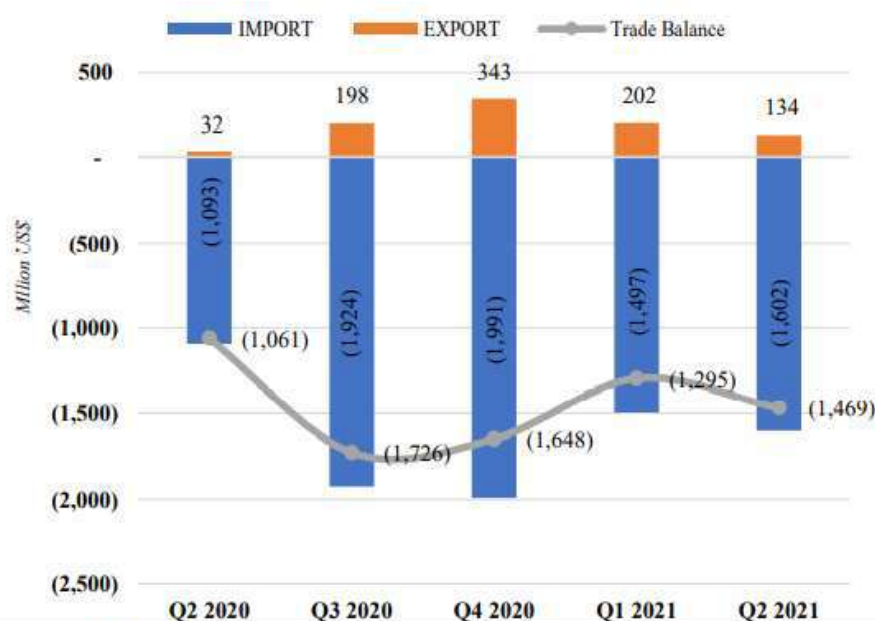
Firstly, gold reserves remained unchanged. According to World Bank, GDP growth rate fell 69.5% in 2014, while exports fell 5% and imports increased 5%, totaling USD 11.2B, resulting in higher nominal trade deficit. Secondly, overall inflation index increased by 0.9 % in 2021. Besides,

several other macro-economic factors have a significant effect on inflation, like employment, national debt management, and increase in public expenditure, weak monetary policy, and expansion of the money supply.

I. II. Afghanistan's external sector condition

GDP was offset by large foreign aid inflows in the current account, and FDI declined from 2.0% to 1.9%. The microfinance sector will also be active in 2022, with fewer borrowers and lower outstanding loans. The exchange rate was stable at 76.5 to 77 per USD in 2020 and depreciated in 2021 (78.8 per USD). The increasing political uncertainties and insecurity caused the trade deficit gap to widen by 13.4%, and the deficit increased from USD 1,295 million to USD 1,469 million. Agricultural products comprise two-thirds of the country's exports. The exports of goods declined by \$68 million. India, Pakistan, and China are the top three major trading partners. However, imports increased by 47% in 2021 compared to 2020.

Figure 2. Afghanistan Trade Balance from 2020-2021.



Source: ASYCUDA data, MoF

II Literature Reviews

According to Heller, and Peter, international aid presents Afghanistan with well-known chances to improve its capability and resilience in terms of short, medium, and long-terms fiscal policy sustainability as well as governance related to budget execution and revenue collection.

As DAB render, Fiscal policy and monetary policy are two major drivers of nation's economic display

Via monetary policy by central bank, and Regulators boost and maintain a strong economy.

Mourmouras A. and Peter R. turn on. Unconditional budget has impacts on growth. Budget help to given without conditions, has no long-term advantages. Economy is open to foreign investment reaps two benefits: it directly increases resource transfer and influences fiscal policy to be more pro-growth. Traditional fiscal policy adjustments also have very high maintenance costs and rather small growth gains.

As Quibria, M. G. depict that. Foreign aid can help to improve governance by increasing civil servant and decreasing corruption in implementation institutional reform. International development community has taken a firm stance against corruption. WB considers controlling corruption and identifies as a major challenge to eradicating extreme poverty by 2030. Similarly, IMF and ADB, corruption is as part of their mandate to achieve macroeconomic stability, effective fiscal, monetary policy. Also, anti-corruption policy support competitive markets and effective public administration.

As estimation of Janjua, P. Z, Malik M, and M. Usman. Project aid has a positive impact and program aid, and on economic growth as well, economic policies enhance the effectiveness of aid at the aggregate level. Also, the capacity of aid-recipient countries can be effectively used for

economic development. In addition, it contribute in different systems but has negative impact on investment and significantly positive impact on human capital. Economic policies, play an important role in improving effectiveness of foreign and domestic policies, as well as international aid instruments.

International Crisis Group discovers that,Afghanistan has many problems, like a politically bankrupt central government. Aid is effective stabilization tool to forcing donors to prioritize their objectives, on unsustainable administrative structures and civil service, international community can provide technical assistance and training to enhance its capacity to collect taxes, manage border and customs affairs, Investing in the agriculture and energy sectors boost the economy's to reducing its need for foreign aid.

As Cordesman, Anthony H., and Grace H express.Afghanistan remains landlocked and depends on international aid. Economy is slowed due to withdrawal 100,000 foreign troops, which was influence on country economic growth. WB, Afghanistan yet faces economic problems, and success of peace effort is dependent on extremely high levels of external aid. Also, poverty levels in Afghanistan have been rising since 2008. It is also one of the lowest gross national incomes, per capita in the world and dropped from \$630 in 2014 to \$600 in 2015, to \$570 in 2016, to \$560 in 2017, to \$550 in 2018, and to \$540 in 2019.

Illustrated by, US Institute of Peace.Afghanistan is extraordinarily dependent on aid, total exceeds \$8b

A year, equivalent over 40 percent of GDP. Assistance provided through different channels. Total public expenditure roughly divided in total spending through Afghanistan government budget, and off-budget

spending funded by donor aid that is separately reported but does not appear in the national budget.

Based on Cordesman, Anthony H. WB Estimate Post-Collapse Economic Crisis in Afghanistan. Political crisis has resulted in abrupt cessation of most international aid and all international security assistance. And lost access to offshore central bank assets worth around US\$9 billion (45% of GDP). However, financial sector losses by shortage of foreign and domestic currency. UN notes, "as a result of conflict estimated 3.5 million people displaced, need to humanitarian assistance. recent conditions that make international donors' aid uncertain due to the fact that the Taliban had no stable base of governance and development to build upon," it experienced its third COVID-19 wave in 2021.

III Research Design

This research focuses on Afghanistan's fragile economic situation and international aid for the reform of Sustainable fiscal policy. However, this paper used secondary data via quantitative approaches, used from books, journals, government publications, reports, and different websites. Which is data and information gathering, collection, and analysis are explanatory, theoretical, chart-based, and graphical. Also, for the purpose of removing gaps and challenges, as well as developing and strengthening sectors that have direct and indirect positive effects on the country's fiscal policy and economy,

IV Objective

- To analyze, leading sectors that contributes to GDP of Afghanistan
- To study the Afghanistan's economic linked to political stability
- To analyze why Afghanistan's external condition remains weak

- To study the Afghanistan's natural resources effect on Fiscal sustainability

V. Interpretation

V. I. Fiscal Condition: In August 2021 political crisis caused economic contraction in Afghanistan, increasing food insecurity, shrinking household incomes, and reduced consumption and financial sector remains in crisis. Central bank lost its stability to manage payment systems due to freeze of offshore assets and print new currency notes. While inflation remains high, and re-adjusting from international aid for sustainable recovery are:

☒ Domestic Revenue revised Afs 177.7 billion after estimating COVID-19 impact. Budgeted revenue was Afs 216.5 billion 2021, due to uncontrolled border in Kunduz, resulting lower revenue collection.

☒ Tax revenues collection without custom duties reached Afs 39.3 billion in 2021, making 50% of the total domestic revenues. Non-tax revenue increased to Afs 7.3 billion in 2021, showing 40% in total.

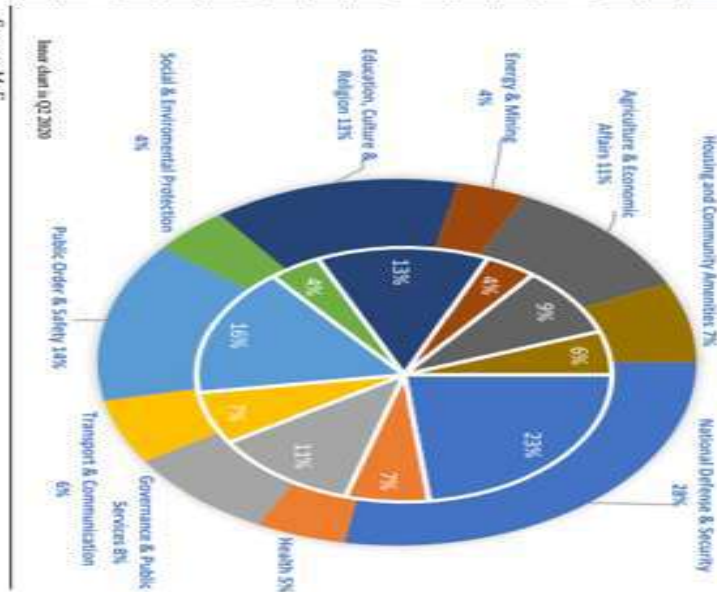
☒ Grant, International donors provide support to national budget. Total budget Expenditure as operating budget and development budget, covers Afs 484.5 billion for fiscal year 2021.

Table 1. Afghanistan Expenditure Summary

Expenditures (Afs Millions)	2020 YTD Q2	2021 Budget	2021 YTD Q2
Total Gross Expenditures	161,723	484,564	150,282
Operating Budget	118,181	312,140	112,564
Development Budget	43,541	172,424	37,717
Discretionary Budget	24,738	-	20,335
Non-Discretionary Budget	18,804	-	17,382
Total Net Expenditures	161,630	-	150,246
Recurrent Expenditures	131,638	-	126,474
Compensation Of Employees	86,653	202,002	85,295
Use Of Goods and Services	30,377	122,353	28,892
Interest	835	1,357	878
Social Transfers	13,774	22,198	11,410
Gross Acquisition of NFA	30,085	122,465	23,808
Net Acquisition of NFA 2	161,723	14,189	-
Contingency Fund	-	484,564	-

Source: AFMIS

Figure 3. Afghanistan Expenditure by economic classification



Source: MoF

Overall expenditure from 2020–2021, Afs 150 billion, shows a 7% decrease from 2020. Figure 4 presents share budget expenditures by sector; it has the highest share budget, which increased by 28% in 2021, while it was

only 23% in 2020. Debt-funding agreements with international organizations like the IMF, WB, ISDB, and ADB The external cumulative debt stock increased to Afs 189.3 million in 2021 as a result of borrowing highly concessional loans. Fiscal sustainability Natural resources offer good opportunities for growth, and with high investment in the mining sector, it could increase to 6.9% until 2025. Other financial achievements include:

- ☒ Horticulture and livestock production development remain weak
- ☒ Government's fiscal policy objective is multilateral grant with the international community.
- ☒ Short and medium-term policies are fiscally unsustainable without on-budget donor grants

At the end of fiscal 2021, the total budget deficit with donor grants of Afs 22 billion will cover 5% of the national budget. Government financing consists of domestic grants, domestic revenue, borrowing, and the sale of assets.

Table 2. Afghanistan fiscal Balance from 2020-2021.

Fiscal Accounts (Afs Million)	2020 YTD Q2	2021 YTD Q2	% Change
Transactions Affecting Net Worth			
Revenues Including Grants	139,296	129,323	-7%
Expenditures (Recurrent)	131,638	126,474	-4%
Interest	835	878	5%
Net Operating Balance	7,659	2,849	-63%
Primary Operating Balance	8,494	3,726	-56%
Transactions In Non-financial Assets			
Net Acquisition of Non-financial Assets	29,992	23,772	-21%
Net Lending-Borrowing	-22,334	-20,923	-6%
Financing	27,606	15,708	-43%
Transaction in Financial Assets/Liabilities			
Net Acquisition of Financial Assets	11,063	849	-92%
Net Acquisition of Financial Liabilities	16,544	14,858	-10%
Retained Earnings			
Discrepancies	5,273	-5,216	-199%

Source: MoF

Although spending and interest payments increased by 4% and 5%, respectively, international grants decreased. Government-run deficits of

68% in operating balance and the gap between lending and borrowing decreased by 9% in 2021, reflecting political insecurity. Nonfinancial assets decreased by 9%, and the net acquisition of financial liabilities decreased by 9%.

V. II Afghanistan's economic prospects are dependent on political stability

Economic growth depends on political stability, security stability, private sector growth, effective resource management, and peacekeeping operations. Security stabilization could have a significant impact on economic activity. Security, services, and industry sectors all improve in this scenario. Since 2001, the economy has grown rapidly, roads have been constructed, 7.8 million children attend school, including 38% girls, and 85% of Afghans use cell phones regularly. And was ranked the No. 1 country in the world for progress on the United Nations Human Development Index, but due to corruption and irresponsibility of authority, economic growth is likely to slow, but it is not doomed to collapse.

VI Analysis and discussed

Afghanistan Fiscal policy remains unchanged in response to the impact of COVID-19 on macroeconomic instability; growth was slow and revenue loss resulted in deficits. Also, budgets are important for implementing activities in the public sector. Fiscal policy, effective budget planning, and execution will support sustained, robust economic growth. The government continues to increase revenues by improving administration, enforcing laws, and expanding the tax base. It is essential for achieving fiscal sustainability, delivering priority development expenditures, and reducing dependency. Afghanistan will remain mostly dependent on outside aid in the long run without indigenous income mobilization.

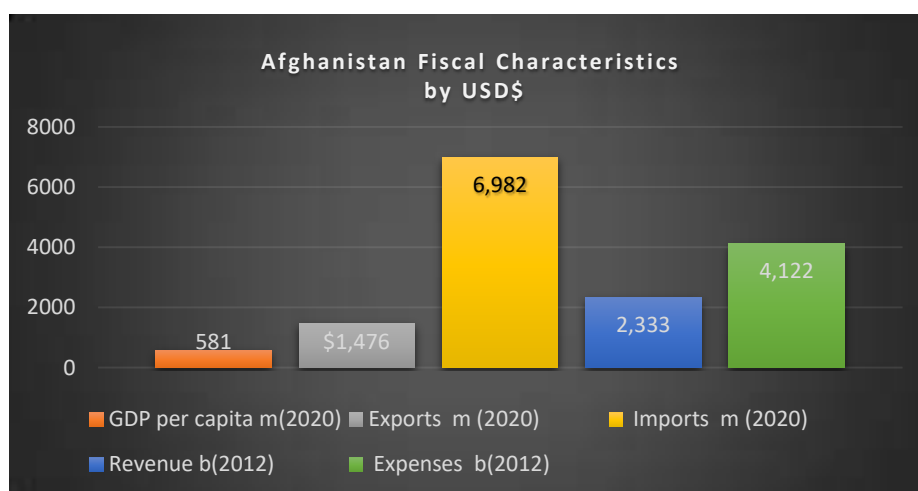
Afghanistan will remain mostly dependent on outside aid in the long run without indigenous income mobilization. Afghanistan must prioritize agriculture, rural development, and infrastructure (see below table).

Fiscal growth infrastructure improvement in Afghanistan				
Tax laws to the people of the country	Corporate income tax is a flat tax of 20 percent in net taxable income.	Wage withholding tax on employers and employee	Withholding tax on rental services is pre-payment of landlord's income tax	Business receipts tax (BRT), 2% percent in business

As well as, Fixed taxes, in some cases is a prepayment of income tax as following:

- ☒ Fixed tax on exhibitions and Fixed tax on small businesses, Electronic funds transfer
- ☒ Fixed tax on imports, transport of goods or passenger for business purpose, contractors.

Figure 4. Afghanistan Fiscal characteristics by USD \$.



Besides, 87% of total resources are donor-provided in a situation where fiscal sustainability requires major changes and a potential source of revenue comes from large-scale mining, the success of the mining sector depends on high-quality public expenditure management. And Afghanistan's gaps are:

- ☒ Strong environmental strategy implementation for mining activities, and prioritization
- ☒ Plan should consider all appropriated funds, especially those funds used for top concern
- ☒ targeting the capacity-building and training activities in context of the current government strategy
- ☒ Comprehensive strategy for strengthening the private sector to promote investments in local industries

Finally, the real GDP is expected to contract by 30-35 percent from 2021 to 2022, and the current fiscal environment is characterized by a plethora of donors, budgets, and funding sources.

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BUILDING CLIMATE RESILIENT ‘AGRO-COMMUNITIES CONVERGENCE BASED’ THROUGH MULTI-CROPPING: A CASE STUDY FROM BODOLAND TERRITORIAL REGION (BTR), ASSAM

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Abstract

The present study attempts to assess the outcomes of a multi-layered convergence-based model and initiative for multi-cropping in three villages of the Sixth Schedule BTR of Assam. Typically, agriculturists of these regions follow a uni-crop model which limits their income potential and enhances disaster vulnerability beyond threshold limits. The findings indicate that convergences effected amongst the myriad stakeholders - farmer communities, concerned Depts. – Agriculture, Krishi Vigyan Kendra, Agriculture Engineering and Irrigation, district administration helped achieve better resource utilization and could translate into tangibles. The findings reveal that during the intervention period, there has been a nearly 90% rise in farmers doing multi-cropping and increase in farmers’ incomes. Inference that can be drawn is that intra-departmental partnerships with micro level community engagement can help increase the success rate of targeted interventions especially for community oriented developmental measures as this BTR example clearly shows.

Keywords: Multi-Cropping, Convergence, Climate Resilience, Community Development, sustainable-Agriculture, Irrigation

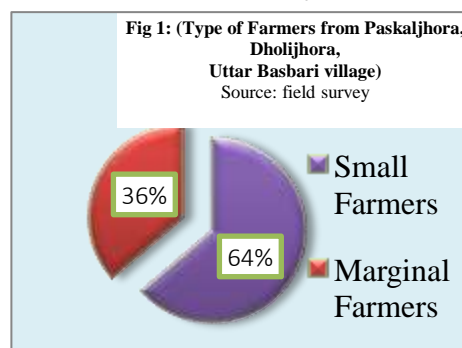
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1. Introduction

Kokrajhar district, on the foothills of Bhutan, is home to several natural water bodies and is endowed with rich soil and fertility. Yet, the land with blessing is dependent on food outside of the district on a daily basis. Apart from the fact that the district is not food self-sufficient due to several socio-economic factors, the existing production regime is further challenged owing to the adverse effects of climate change which the farmers have already started to feel. As the farmers of the district are mostly marginal and small farmers, these low-income producers and consumers are likely to be most affected because of a lack of resources to invest in adaptation and diversification measures (Mbow, et al., 2019). Honorable Minister for Science, Technology and Climate Change Minister, Govt. of Assam, Shri Keshab Mahanta had briefed the 126-member Assam State Assembly on 16th Sept, 2022 (Karmakar, 2022) that 15 out of 25 most climate vulnerable districts of Indian sub-continent falls in Assam and Kokrajhar district is one among them. Again, Assam scores highest in the whole country in the Climate Vulnerability Index as per the report published by the Council on Energy, Environment and Water as on 26th October, 2021 (Wadhawan, 2021).



Based on Kokrajhar District Irrigation Plan (2016-21) (NABCONS, 2016), it is found that large chunk of the farmers is yet to be covered under irrigation and without which their climate vulnerability increase. Considering the adverse effects of climate change on the lives of marginal and small farmers, need for scaling up sustainable and improved agricultural practices and building adaptive capacities of the community, the District Administration Kokrajhar had launched a pilot intervention by synergizing efforts of the agriculture and

irrigation department in its three villages of the district with highly agriculture dependent communities (primarily the Bodos, Adivasis and Koch Rajbongshis). Aligning with Hon'ble Prime Minister Shri Narendra Modi's vision on doubling farmers' income (Barua, Kumar, Satyapriya, &

Singh, 2019), the objective of the district administration was to saturate Multiple-cropping i.e. double or triple cropping as per suitability of soil condition and demonstrate the schemes available for agricultural practices and irrigation. The targeted interventions were directly connected with the SDG1-No Poverty and SDG2-Zero Hunger (United Nations), thereby contributing the country's quest for achieving the Sustainable Development Goals by 2030. The present study attempts to explore the changes in the income of the farmers who had received benefits from that intervention. An attempt was also made to understand the multifarious and multi departmental efforts by the district administration towards increase in multi-cropping in the study area and how such efforts can help in building climate resilient 'Agro-Communities Convergence Based' through multi-cropping.

1.1 Research Question:

- What are the initiatives taken by the district administration with regard to convergence based multi-cropping?
- What is the change in income in the three villages post convergence based multi-cropping intervention?

1.2 Research Objective:

- To investigate the type of interventions of the district administration with regard to convergence based multi-cropping.
- To investigate the change in income post convergence based multi-cropping intervention.

2.0 Research Methodology:

2.1. Nature of research: exploratory research: an inductive Case Study Method had been applied.

2.2. Method of Data Collection:

Pre and post intervention quantitative data on farmers' numbers, area under cultivation, under single and multi-cropping were collected from the concerned field level officer of the agriculture department. The data was also collected through group discussions and semi-structured interviews from farmers of three villages of Kokrajhar district of Bodoland

Territorial Area, Assam who had started multi-cropping. Qualitative data were collected from the respondents and purposive sampling method was applied in the present study.

3. Findings:

The findings are as follows.

➤ 3.1 Environment creation and awareness generation:

The District Administration had conducted series of meetings to create a robust connection among the communities, govt. officials and field functionaries from Irrigation and agriculture department. Contact numbers of officials from Office of the Deputy Commissioner was given to the community members for queries, grievance redressal. The villagers responded that senior officials including the deputy commissioner herself had taken time to visit the farmlands now and then that gave them a sense of confidence to better access services from the officials and departments.

“There was a problem in irrigation channel due to which we were not able to access water in our fields. I had sent a WhatsApp message to District Administration, Kokrajhar about the issue. The next day, issue was resolved. I had received the numbers of senior officials of the administration in the meeting that was held in our village by the DC Office Kokrajhar”, said Brindaban Mushahary (M, 29 years) from Uttar Basbari (Dwmguri) village).

➤ 3.2 Selection of Intervention Area:

Selection of the villages was based on felt need and vulnerability of the community as well as presence of some progressive farmers that could act as community leaders to spearhead the initiative. The communities living in the three villages are highly agriculture and livestock farming dependent, without having other livelihood options left that make them susceptible to climate risks. There was a high need for building their adaptive and resilience capacity by tapping the traditional knowledge of farming, reviving the *dongs* (traditional way of irrigation to the fields) and blending scientific aspects and technical know-how along with their existing methods of farming.

➤ **3.3 Support from Agriculture and Irrigation Department:**

The irrigation department had conducted a feasibility analysis in the area post which the upstream farmlands were covered through the Sampabati Irrigation Project. The agriculture department was tagged to provide training support on Package of Practices (PoPs), leveraging the knowledge of the soil health cards of the farmers, support for farm machinery and seeds and other hand holding supports. Physical farmInputs provided by Agriculture Department in the three villages were: Sali Paddy Seed-5 qtl, 2) Potato seeds-10 qtl., 3) Mustard seeds-2 qtl., 4) Vermicompost-20 qtl 5) Battery Operated Sprayer-10 nos., 6) Hybrid Maize seeds-2 qtl. 7) Lentil (Masur) seeds- 2 qtl.) In order to ensure the forward linkage, the agriculture department had come up with the understanding that the local market itself had tremendous demand for rice, vegetables and mustard seeds which can be covered by the local farmers itself.

➤ **3.4 Motivating youth groups interested in farming:**

Unemployed youths (mostly in their late twenties) interested in farming were motivated to undergo multi-cropping practices. They were made part of the meetings and the training Programs. The photo on the right is of Bipul Basumatary and his group members who have recently started to cultivate summer paddy for the very first time near their dong (traditional irrigation practice).

Showing to the fields filled with lentil (masur) cultivation where flowers have started coming up, Mr. DharjyaBasumatary, DharjyaBasumatary, Agriculture Extension Officer from the Agriculture Department, Kokrajhar said that it has given him a sense of happiness and satisfaction when people started adopting the practices followed by improvements in their lives. (*"I am going to target some more poor farmers and youth groups this year."* he added.)

➤ **3.5 Reviving traditional knowledge/practices:**

The communities dependent on agriculture in this locality have been following the method of inter cropping that is growing three to four types of crops and vegetables in the same field based on variability of their growth and maturity rate. For instance, they have practiced sowing potato, pumpkin and maize in the same area and potato is harvested first followed by pumpkin and maize. Another combination of inter-cropping that is being practiced is lentil, maize and green peas. It was emphasized

mindfully throughout the intervention period that such traditional practices are preserved and promoted.

➤ **3.6 Taking the learning from Aspirational District Programme:**

The district administration had emphasized upon improvement of the some of the Key Performance Indicators (KPI) from the Aspirational District Programme (Niti Aayog, 2018) that are A) Percentage of net sown area under micro-irrigation B) Crop Insurance- Percentage of net sown area under Pradhan Mantri Fasal Bima Yojana C) Certified quality seed distribution D) Number of Soil Health Cards distributed.

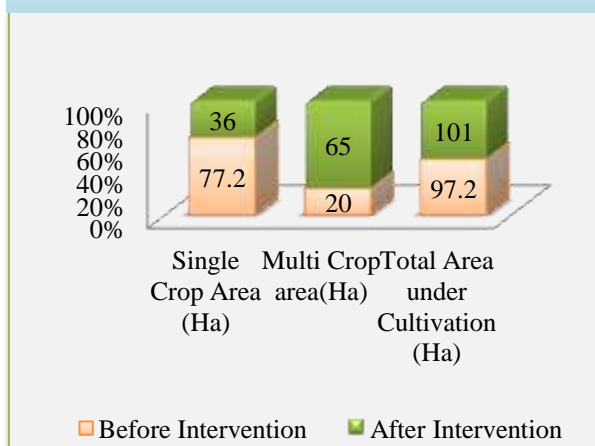
The whole initiative was born out of the data reporting system in the Champions of Change Portal. The initiative also studied the efforts taken up in this regard in various Aspirational Districts of the North-East, India.

4. Analysis on the output of the interventions:

It can be seen that the atmosphere of these villages is revolutionized to adopt farming as a viable source of income. The youths have started approaching the agriculture and

irrigation department to convert other areas of their village into multi-cropping areas. In the three villages, the findings reveal that *the number of multi-cropping areas has gone up from 20 hectares to 65 hectares i.e. 225% rise in multi-cropping*. It is positive sign that the area of single crop area has decreased throughout the intervention period as the single crop areas have been converted into multiple cropping. On the other hand, *the number of multi-cropping farmers have increased from 50 to 129 i.e. there is an increase of 158%*. There is 3.9% percent increase in total area under cultivation after the interventions have been started off.

Fig 2: Change in multi cropping pre and post intervention (source: field survey)



Till the time of data collection, i.e.as on 10thMarch, 2023, potato and mustard were harvested. Maize and lentil had remained as the standing crop. The types of crop cultivated, multi cropping area, total yield in the sample villages, total revenue, expenditure and profit are shown in table 1. It was collected from the local farmers as respondents and table is prepared based on the average production rate, selling price in the local huts and expenditure incurred throughout production process as informed by the respondents. The table 1 has been prepared to understand the cost, revenue and profit aspects.

Table 1: Approximate Revenue and profit generated through single and multi-cropping.

Crops under cultivation in sample villages	Multi-cropping area (in hectare)	Total Yield (Quintal)	Total Revenue (Rs.)	Approx. Total Cost (Rs.)	Profit (Rs.)
Lentil	33	519.75	₹ 46,77,750.00	₹ 1,15,500.00	₹ 45,62,250.00
Potato	7	1531.25	₹ 38,28,125.00	₹ 13,47,500.00	₹ 24,80,625.00
Mustard	10	70	₹ 2,97,500.00	₹ 35,000.00	₹ 2,62,500.00
Maize	15	599.8125	₹ 23,39,925.00	₹ 8,54,962.50	₹ 14,84,962.50
Total	65		₹ 1,11,43,300.00	₹ 23,52,962.50	₹ 87,90,337.50
Avg. Revenue & profit per ha (multi-cropping)	-	-	₹ 1,71,435.38	-	₹ 1,35,235.96

Revenue and profit in single crop (paddy cultivation) per ha	-	-	₹ 48,125.00	-	₹ 27,562.50
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(Source: field survey)

From table 1, it is derived that while revenue and profit of multi-cropping (per ha) are found to be ₹ 1,71,435.38 and ₹ 1,35,235.96, revenue and profit in single cropping (paddy cultivation, per ha) is found to be ₹ 48,125.00 and ₹ 27,562.50 respectively. Table 2 indicates that while before Intervention the total income of the farmers of the villages was ₹ 71,43,957.60, after intervention the income is found to be ₹ 1,28,75,799.70 It clearly indicates that multi-cropping can generate more revenue as well as profit than the single cropping. Hence, it can be derived from the findings that the interventions of the district administration with regard to convergence based multi-cropping has brought positive change in terms of revenue, profit and income of farmers of the three villages which were considered for the study. It can be inferred from the study that if there is intervention from the administration and multi-cropping is adopted the farmers would get more benefit than ever, hence, their condition can be improved to large extent.

Table 2: Change in farmers' agricultural income after the intervention:

	Single Crop Area (Ha)	Income single cropping @48,125/- per hectare	Multi Crop area (Ha)	Income from multi cropping @17,1435.38 per hectare	Total Income
Before Intervention	77.2	₹ 37,15,250.00	20	₹ 34,28,707.60	₹ 71,43,957.60
After Intervention	36	₹ 17,32,500.00	65	₹ 1,11,43,299.70	₹ 1,28,75,799.70

(Source: field survey)

4. Challenges which had been overcome through multi-pronged approach

Challenges that farmers were facing while they were following single cropping	Interventions that helped mitigate the challenges
<p>Lack of perennial water availability for critical irrigation was a major issue that had demotivated the farmers to cultivate for twice or thrice in their farm fields.</p>	<p>These regions do not have perennial water sources which is the major definitive factor that had mandated a single-cropping regime which had got entwined into the traditional farming ethos over decades. Where there was availability of water sources, channelizing the water to the fields proved a major challenge. District administration conceived of reviving old and traditional water structures (<i>dongs</i>). The Irrigation Department actively worked out ground level plans to overcome this challenge and ensure water reach to the villages.</p>
<p>Open grazing after the paddy season (June to December) did not allow farmers to go for double or triple cropping. The Challenge was due to not having a sound grazing regime and higher cost of fencing.</p>	<p>Lack of a good regime on grazing was felt to be a major challenge. This major issue was addressed when most of the farmers in the village was opting for cropping for the second or third time. The local level council further stepped in formulating rules to regulate grazing areas and helped tackle the menace.</p>
<p>Foregoing older traditional knowledges like inter-cropping.</p>	<p>The Agriculture Department reintroduced the concept of inter-cropping to the farmers by capitalizing on their existing knowledge and ancient tribal</p>

	<p>practices.</p> <p>The elders and community leaders were duly placed in the meetings so that they themselves could own the process.</p>
<p>Subsistence level farming – Due to constraints including the above Agriculture in the region was done more as a source of basic sustenance rather than a means of income or a serious occupation.</p>	<p>Agriculture department along with the Krishi Vigyan Kendra (KVK) did extensive capacity building especially for the upcoming generations. Through the convergence of efforts of multiple agencies – village council, district administration, KVK, Agriculture Department steps were taken to form a comprehensive system of traditional agriculture know-how with the latest modern agriculture practices.</p>
<p>Lack of availability of labor force owing to migration.</p>	<p>Due to efforts of the administration, local youth got involved in the processes. Thus, in this limited intervention a break could be reached in the vicious cycle of Outbound migration due to inadequate work opportunities and not having a stable workforce for agriculture.</p>
<p>Lack of penetration of and knowledge on support and schemes by government departments such as P & RD, Agriculture, Animal Husbandry Department, Irrigation department and State Rural Livelihood Mission etc. Lack of knowledge on schemes of income support prevented</p>	<p>Administration bridged the gap between the citizens and administration through field visits and awareness meetings with local farmers. They also had circulated the contact numbers of the concerned govt. officials.</p>

farmers from availing the necessary support that might help them undergo multi-cropping and augment production.	
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5. Climate Resilient ‘Agro-Communities’ and Multi-Cropping:

5.1 Managing water availability: Several studies have been made regarding changes in rainfall pattern induced by climate change effects including our Himalayan Region.(Veronika, V., Kolesnik. (2023). The regions fall in the Himalayan Bhabar region which see extremely uneven distribution of rainfall with the bulk in the monsoon months of April to November and minimal rainfall in the winters. With rocky topsoil and a soft substrata, surface water often percolates the top layers and becomes unavailable as surface run. Again, being located in the foothills, the area faced extreme disaster risk to flash floods. Thus, the are ranks extremely high in climate vulnerability. Communities were required to be made more aware and capable of water management to handle conditions of excess of rain and scarcity of rainfall. Administration, irrigation department and agriculture department ensured revival of the centuries old “dongas”, a local traditional water management system. At the same time, study of rainfall data helped plan sowing and harvesting to minimize disaster risk.

5.2 Diversifying the produce—Reduction of risk: Throughout the intervention, the communities have been encouraged to diversify cropping patterns through intercropping reducing leading to more robust risk aversion. Earlier the area had seen only paddy production which was highly market led in terms of pricing.

5.3 Robust community institution: Local Institutions play a key role in combating climate change adverse effects [A., K., Enamul, Haque., Pranab, Mukhopadhyay., Mani, Nepal., Rumi, Shammin. (2022)]. Therefore, investing in strengthening the local institutions is working towards building climate resilient communities that can brace itself from the adverse effects of climate change. Covid-19 was such a learning to all of us that taught us the importance of strong village institutions. Throughout the processes of engagement, the community cohesiveness and

relationship between the government functionaries and the communities were strengthened leading to better information based planning and execution.

6. Conclusion & way forward:

The report suggest that such convergence model that cater to the felt needs of the community and that taps the existing knowledge system prevalent in the community, can be scaled up for wider outreach. Community participation in planning and implementation is crucial that determines sustainability of the model and ensure shared responsibility and ownership.

Learning from a case throughout the intervention was that water through the irrigation canal was released after getting a request from the upstream villages after which the farmers doing lentil in the downstream areas suffered damage in their fields. Later, when the villagers at the downstream had complained, then suitable measures were taken by the irrigation department. This case reemphasizes the need for ensuring stakeholder consultation and informed decision making at each step of intervention.

The agriculture department of the district has further planned to develop 1000 bighas encompassing 1000 farmers as an organic horticulture cluster that include farmers from these three villages too. The department is putting its best effort to create master trainers in improved agricultural practices from the locality who would act as the catalysts to drive such initiatives remain as a community governed effort without much need for government's monitoring.

The study suggests that the area of linking the farm produce with urban markets, FPCs to help increase the revenue generation of the farmers can

Image 1: Mr. Basumatary, the Agriculture Extension officer said that the flowering of the lentil field was satisfactory. He has advised the farmer Mahendra Ahikari, village Dholijhora to preserve seeds for next year.



be explored. Drawing inference from this paper, further studies can be made to explore the possibility to replicate such model in the region.

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CONTENTS

Evaluation of Start-up Village Intrepreneurship Program (SVEP) in Samnapur Block of Madhya Pradesh

-Abhishek Pandey

General Elections and Women's Representation in the North-Eastern States of Meghalaya, Nagaland, Tripura

-Amar Kumar

Surrogacy : Human Rights Implications

-Anjna Kumari, & Prof. Dr. Kuldeep Chand

Uttarakhand Right to Service Act 2011: A Step toward Citizen Centric Governance

-Chandan Singh & Dr. Pradeep Kumar Singh

The Regret Paradox

-Hridayansh Khera

Refining Financial Inclusion in Era of VUCA World

- Jitender Kumar Goyal, & .Prof. (Dr.) Yamini Agarwal

Mahila Mandals of Manali: An Assessment of their Role In Covid-19 Lockdown

-Manvi Sharma & Bhawna Gupta

Different Occupational Mortality Risks of Assam Government Employees after Retirement

-Parag Saharia & Sangeeta Kalita

Politics of Trade Unionism among Employees of Hindu Religious Institutions in Kerala

-Dr. Rajagopal. P. K

Public Healthcare Infrastructure in Scheduled Areas of Himachal Pradesh

-Sanjeev Kumar, Lalit Kumar & Diksha Kumari

An Overview of the Radiation Protection Knowledge and Work Conditions among Radiographers in Himachal Pradesh (A State in India)

-Shama Patyal, Dr. Neha Patyal & Tejasvi Pandey

The Growth Effect of Government Expenditure in Jammu & Kashmir

-Dr. Tasleem Araf Cash

International Aid Effect on Afghanistan Improvement: A Study of Its Afghanistan Fiscal Policy

-Tawfiqullah Muradi & Dr. Vikram Sandhu

Building Climate Resilient 'Agro-Communities Convergence Based' Through Multi-Cropping: A Case Study from Bodoland Territorial Region (BTR), Assam

-Varnali Deka, (IAS), Simanta Mazumdar & Dr. Ayekpam Ibemcha Chanu

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