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Organizational Restructuring in Government with Special Focus on State Electricity Board of Manipur: An Analytical Study

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Abstract

This study analyses organizational restructuring within the State Electricity Board of Manipur (SEB) in the context of India's energy sector reforms. It studies SEB's drivers, strategic imperatives, and policy influences through a comprehensive literature review and secondary data analysis. Findings indicate that SEB's restructuring aims to address infrastructure limitations, meet growing energy demand, and achieve sustainable development goals. The study underscores the importance of strategic alignment and ongoing evaluation in SEB's journey towards enhancing Manipur's power supply reliability, affordability, and quality.

Keywords: *Electricity Act 2003, Organizational Restructuring, State Electricity Board, Drivers, Strategic Imperatives, Policy Influences.*

Introduction

The Electricity Act 2003 has transformed India's energy landscape, ushering in competition, regulatory oversight, and consumer protection. Alongside legislative reforms, organizational restructuring has emerged as a strategic imperative for entities within the energy sector, driven by evolving market dynamics and operational needs. A case in point is the State Electricity Board of Manipur (SEB), which offers a compelling study of the drivers and outcomes associated with transitioning a government-owned utility towards a more corporatized structure. The energy sector is central to global socioeconomic development, providing essential services for modern life. However, the energy sector faces multifaceted challenges, including transitioning towards sustainable energy sources, modernizing infrastructure, ensuring affordability, and enhancing reliability. In response to these

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challenges, energy utilities worldwide are exploring organizational restructuring to streamline operations, foster innovation, and optimize resource allocation.

The significance of studying organizational restructuring within the energy sector, specifically SEB, lies in its potential to uncover the rationale behind corporatization initiatives and their implications for stakeholders and operations. As the primary electricity provider in Manipur, SEB operates within a complex socioeconomic and regulatory landscape and faces unique challenges and opportunities. Understanding the drivers and considerations that led to SEB's corporatization can provide valuable insights into the broader dynamics of organizational restructuring in government-owned utilities.

Overview of Literature

The literature review on India's power distribution sector presents a comprehensive understanding of the challenges, reforms, and recommendations for improvement. Scholars such as Madhav & Mehta, Dertinger & Hirth, Foster, V., & Rana, A., Sarawagi and Sarawagi, Veluchamy et al., and Surdeo offer insights into technical, structural, and political issues facing the sector, as well as the impact of reforms on efficiency and electricity access. Their studies underscore the need for targeted reforms to address challenges while leveraging opportunities for improvement. Each study offers valuable insights into different aspects of the sector, contributing to a holistic view of its dynamics.

Madhav & Mehta's (n.d) study provides a detailed examination of the challenges facing India's electricity distribution sector, emphasizing technical, structural, and political issues such as high losses, theft, and political interference. Their analysis, supported by credible data, underscores the need for specific recommendations to enhance the sector's efficiency. Dertinger & Hirth (2020) contribute to the literature by offering a robust analysis of the impact of power sector reforms on efficiency and electricity access. Their study highlights the positive effects of reforms on increasing electricity access rates, although the impact on efficiency, particularly transmission and distribution losses, still needs to be more conclusive. Foster, V., & Rana, A. (2019), in their work, "Rethinking Power Sector Reform in the Developing World", offers a comprehensive analysis of power sector reform initiatives, blending quantitative data with qualitative insights. It provides valuable recommendations for policymakers while addressing emerging challenges such as electrification and decarbonization. Despite its strengths, more profound case studies and evident policy implications could enhance its utility. Overall, it's a valuable resource for academics, practitioners, and policymakers in the energy sector. Sarawagi & Sarawagi's research (2018) focuses on restructuring the electricity market in India, particularly the unbundling of state DISCOMs and segregation of carriage and content. They highlight the benefits of increased efficiency and the challenges, such as role demarcation and disputes, emphasizing the need for careful planning and phased implementation.

Veluchamy et al. (2018) conducted a SWOT analysis of India's power distribution sector post the Electricity Act 2003, identifying key challenges and opportunities. Their review underscores the urgency of comprehensive reforms to ensure the sector's stability, efficiency,

and sustainability, tailored to Indian conditions. Surdeo's study (2017) offers a historical perspective on power sector policies in India, tracing the evolution of policies from pre-independence regulations to post-independence restructuring. It acknowledges the strides made in capacity addition and rural electrification while addressing persistent issues such as DISCOM inefficiencies. To sum up, the literature collectively provides a nuanced understanding of India's power distribution sector, highlighting the need for targeted reforms to address challenges while leveraging opportunities for improvement.

Research Gap

The literature review highlights that while numerous studies have examined public policies in the power sector, there remains a significant research gap concerning the specific context of Manipur's electricity sector. While several studies have explored India's power sector reforms, there is a lack of in-depth analysis focusing on Manipur. Although documents like 'Lighting the Way in Manipur' by The World Bank and the Government of Manipur's '24x7 Power for All' outline initiatives and plans, there is still a need for research into the drivers behind the restructuring of Manipur State Electricity Board, the strategic imperatives guiding organizational change, and the policy objectives influencing decision-making processes. Understanding these factors could provide valuable insights into enhancing Manipur's power sector's efficiency, reliability, and sustainability. Despite variations in social, economic, cultural, and political aspects among Indian states, a focused study on the restructuring of Manipur State Electricity Board can bridge this gap and contribute to a deeper understanding of organizational restructuring dynamics in government-owned utilities.

Objectives of the Study

a) To study the drivers behind Manipur SEB's restructuring.
b) To study the strategic imperatives driving organizational change.
c) To understand the policy objectives influencing decision-making processes.

Research Questions

1) What are the drivers behind SEB's restructuring?
2) What are the strategic imperatives driving organizational change?
3) What policy objectives guide decision-making processes?

Methodology

The present study is based on secondary data and is analytical in nature. The secondary data were collected from existing literature, research papers, reports, and official documents related to the State Electricity Board of Manipur (SEB), organizational restructuring in the energy sector, and relevant policy frameworks. The secondary data underwent systematic review and analysis to identify SEB's restructuring drivers, strategic imperatives, and policy influences. The collected data were analyzed with the help of a compiled Excel worksheet.

Historical Background of the Manipur Power Sector

Manipur, located in the northeastern region of India, is renowned for its rich cultural heritage, scenic landscapes, and vibrant communities. Electricity in Manipur has undergone significant evolution since its inception in 1930 with the establishment of micro hydel stations. Initially overseen by the Manipur State Hydro Electricity Board, it later transitioned to the jurisdiction of the Public Works Department, Government of Manipur, before emerging as an independent entity known as the Electricity Department in February 1970 (Singh et al., 2018; Government of Manipur, 2016). Over the years, its infrastructure expanded, marked by milestones such as the commissioning of the Yurembam substation in 1981 and the Loktak Hydel Electric project in 1984. With the implementation of the Electricity Act of 2003, the Joint Electricity Regulatory Commission (JERC) for Manipur and Mizoram was established on January 18, 2005, with headquarters established on January 28, 2008, in Aizawl. This commission plays a pivotal role in overseeing tariff approvals and regulatory matters, marking significant milestones in regulatory oversight with the issuance of tariff orders, beginning on March 15, 2011, followed by subsequent orders on April 14, 2012 (Joint Electricity Regulatory Commission for Manipur and Mizoram, 2012; Singh, E. B., et al).

In 2014, a significant restructuring took place within the State Electricity Board, leading to creating two distinct state-owned companies: Manipur State Power Distribution Company Limited (MSPDCL), responsible for distribution and Manipur State Power Company Limited (MSPCL) for transmission. The company formed after the restructuring, Manipur State Power Distribution Company Limited (MSPDCL) and Manipur State Power Company Limited (MSPCL), are state-owned companies. Specifically, most of the shares (99.50 percent) are owned by the company itself, while the Government of Manipur holds a minor stake (0.50 percent) (Annual Report, FY21-22). This restructuring aimed to enhance operational efficiency and service delivery within the power sector. Both companies became fully operational on April 1, 2014, marking a new phase in managing and operating the power infrastructure in Manipur (Singh et al., 2018; The World Bank, 2016).

Socio-Economic Landscape of Manipur

Manipur, with a geographical area of 22,327 sq. km, is in the extreme northeastern part of India. It shares an international boundary of approximately 355 km with Myanmar to the east, while its remaining 402 km are shared with Nagaland, Assam, and Mizoram to the northwest and south, respectively. Manipur's geographical area comprises 90 % hilly region and the remaining 10% narrow valleys. The population increased from 7.80 lakhs in 1961 to 28.56 lakhs in 2011, with a decadal growth rate of 24.50%, surpassing the national average. The state's economic indicators show a substantial rise, with the Net State Domestic Product (NSDP) at current prices reaching Rs. 29,341 crores in 2019-20, a 15.87% increase from the previous year, and the per capita income growing to Rs. 85,307 at current prices. Healthcare facilities expanded to 553 hospitals/ dispensaries with 919 doctors and 1,480 beds in 2018-19, while the literacy rate improved from 30.42% in 1961 to 76.94% in 2011. The number of schools reached 4,812 in 2018-19, reflecting the state's focus on educational infrastructure. Employment statistics reveal that 34,742 individuals were registered with employment

exchanges in 2019, with a live register total of 39,28,607 persons. The Sixth Economic Census of 2013 reported 2,29,838 establishments engaging 4,09,617 workers, predominantly in rural areas (Economic Survey Manipur, 2021-22). Urbanization has been slow, with the urban population at 8,34,154 in 2011, spread across 51 towns. This comprehensive socio-economic development suggests a growing and evolving energy demand, necessitating strategic investments in energy infrastructure to ensure sustainable and equitable access across the state.

Power Scenario of Manipur

Electricity is now a vital resource, necessitating the involvement and attention of community organizations, activists, citizens, and governmental authorities. Commissioning the two hydel sets with capacities of 100 KW and 56 KW at Leimakhong in 1930 by the then Manipur State Hydro Electricity Board began electricity use in Manipur (Government of Manipur, 2016). As per the Economic Survey Manipur (2006-07), in 1995-96 and 1996-97, the installed power capacity in Manipur was 12,371 KW, which increased to 12,622 KW in 1997-98, indicating a 2.03 percent growth rate. However, in 1998-99, 1999-2000, 2000-01, and 2001-02, the installed capacity decreased and remained constant at 11,845 KW. In 2015, the limitation of the transmission line was somewhat eliminated with the 400kV Silchar to Imphal D/C Commission (Economic Survey Manipur, 2020-21). Nevertheless, the acute power shortage in Manipur remains a critical bottleneck for industrial and agricultural growth, even though the electrification of Leisang village signifies 100% village electrification in the state. Providing adequate and uninterrupted power supply is a crucial focus of the state government. Although Manipur has the potential for 114 Mini Hydel Projects with a capacity of 109.13 MW, only 8 projects have been installed, tapping just 5% of this potential (National Bank for Agriculture and Rural Development, n.d.).

Table 1: Per Capita Energy Consumption

Year	Per Capita Consumption (kWh/head/annum)
2008-09	75.95
2009-10	80.00
2010-11	100.54
2011-12	118.25
2012-13	135.46
2013-14	152.53
2014-15	160.58
2016-17	169.90
2017-18	189.67
2018-19	190.93
2019-20	203.79
2020-21	213.22
2021-22	235.50

(Source: Joint Electricity Regulatory Commission for Manipur and Mizoram)

The table provides a consistent rise in per capita energy consumption in Manipur from 75.95 kWh in 2008-09 to 235.50 kWh in 2021-22. This increase reflects significant growth in energy demand, correlating with economic development and improved living standards. Major growth phases include a substantial rise from 2010-11 to 2014-15 and notable year-on-year increases in 2011-12 and 2021-22. This trend highlights the need for ongoing investment in energy infrastructure and sustainable energy policies to manage the growing demand responsibly.

Table 2: T&D Loss Percent Manipur

Year	T&D Loss Percent Manipur
2008-09	59.82
2009-10	52.77
2010-11	46.34
2011-12	35.00
2012-13	30.31
2013-14	31.24
2014-15	44.05
2015-16	33.59
2016-17	38.63
2017-18	28.08
2018-19	33.28
2019-20	28.68
2020-21	28.81
2021-22	24.18

Source: Joint Electricity Regulatory Commission for Manipur and Mizoram

The data from Table 2 presents the Transmission & Distribution (T&D) loss percentage in Manipur from 2008-09 to 2021-22. The T&D loss percentage in Manipur has exhibited notable trends and fluctuations from 2008-09 to 2021-22. Initially, the T&D losses were as high as 59.82% in 2008-09. In the following year, a downward trend was exhibited, reflecting efforts to improve efficiency in the power sector. Overall, while there have been fluctuations, the long-term trend points to significant progress in reducing T&D losses, highlighting improvements in the infrastructure and management of the power sector in Manipur.

The peak load demand of Manipur in 1971 was only 3.6 MW, which was met by the State's own generating stations and power purchased from the neighbouring States/Electricity Boards at low voltage (MSPDCL). Table 3 presents the Peak Demand, Peak Met and Energy Deficit data for Manipur from 2001-02 to 2016-17, revealing a persistent and growing gap between electricity demand and supply. From 2001-02 to 2003-04, Manipur's peak electricity demand rose from 156 MW to 189 MW, increasing the deficit to 83 MW in 2003-04. In 2004-05, demand dropped to 116 MW, reducing the deficit to 8 MW. From 2005-06 to 2009-10, demand rose again to 170 MW, with peak met stagnant around 110-115 MW, resulting in

25-74 MW deficits. Between 2010-11 and 2013-14, demand increased sharply to 229 MW, with 56-99 MW deficits. In 2014-15, the peak met improved to 232 MW against a demand of 262 MW, reducing the deficit to 30 MW.

Table 3: Demand and Supply of Power (MW) in Manipur

Year	Peak Demand	Peak Met	Deficit
2001-01	156	93	63
2002-03	172	109	64
2003-04	189	106	83
2004-05	116	108	8
2005-06	140	115	25
2006-07	155	110	45
2007-08	145	110	35
2008-09	157	100	57
2009-10	170	110	60
2010-11	184	110	74
2011-12	171	115	56
2012-13	201	119	82
2013-14	229	130	99
2014-15	262	232	30
2015-16	301	170	131
2016-17	346	170	176

Source: Manipur Power Distribution Company Limited (MSPDCL)

Table 4: Revenue Account of the Power Sector (in Crore)

Year	Receipt	Disbursement	Revenue Gap
2006-07	40.24	430.74	390.5
2007-08	62.29	154.25	91.96
2008-09	88.28	185.33	97.05
2009-10	104.07	164.67	60.6
2010-11	88.29	206.06	117.77
2011-12	97.12	253.18	156.06
2012-13	106.83	315.66	208.83
2013-14	96.23	321.13	224.9

Source: Singh, E. B., et al. (2018). P 66

However, this improvement was short-lived, as peak demand rose sharply, reaching 301 MW in 2015-16 and 346 MW in 2016-17. The peak met did not keep pace, resulting in significant 131 MW and 176 MW deficits, respectively. Overall, the data indicates a growing shortfall in electricity supply relative to demand in Manipur over the period, with occasional improvements not being sustained in the long term. According to the 19th Electric Power Survey of India, the projected requirement in the case of Manipur in 2022-23 is 453 MW of

Peak Demand and 2300 MU of Energy Requirement (*Long Term Electricity Demand Forecasting*).

Table 4 illustrates the Revenue Account of the power sector in crore rupees for 2006-07 to 2013-14, detailing Receipts, Disbursements, and Revenue Gap. From 2006-07 to 2013-14, the revenue receipts of Manipur's power sector showed a general upward trend, increasing from ₹40.24 crore to ₹106.83 crore. However, disbursements consistently exceeded receipts, leading to substantial revenue deficits each year. The deficit peaked in 2013-14 at ₹224.9 crore. Notably, while there was a temporary improvement in 2009-10 with a reduced deficit of ₹60.6 crore, the overall trend remained one of increasing deficits, reflecting persistent financial challenges in the sector. However, since the unbundling of the power sector of Manipur in 2014, there has been an increase in revenue generation. As per the MSPDCL Tariff Order of 2019-20, 2020-21 and 2022-23, the revenue gap after Government subsidy for 2018-19 is 58 Cr, 2019-20 is 56.02 Cr, and 2020-21 is 31.36 Cr, indicating an improving financial situation for the power sector in Manipur. An increase in revenue generation and collection efficiency, as well as a reduction in AT&C losses, is attributed to introducing a prepaid meter system.

Prepaid Meter

Energy accounting can only be achieved by establishing an efficient metering infrastructure (Government of Manipur, 2016). Following the restructuring of Manipur's power sector in 2014, the state replaced electromechanical meters with static meters at the consumer level. MSPDCL has noted several enhancements following the implementation of prepaid metering (Government of Manipur, 2016):

a) Significant decrease in load demand
b) Enhanced power quality
c) Substantial increase in revenue collection
d) Achieved complete consumer satisfaction in service delivery
e) Achieved 100% collection efficiency and billing accuracy for prepaid consumers
f) Reduced instances of pilferage

MSPDCL is expanding the coverage of prepaid meters to reduce unauthorized electricity usage and T&D losses. Despite delays in system strengthening works- such as LT line augmentation, DTR replacement, and the shift to AB Cables and prepaid meters- due to the state's law and order situation, continuous efforts in these areas are beginning to yield results (MSPDCL, 2023). These efforts lead to higher revenue collection and a gradual decline in losses, though T&D losses may temporarily increase.

Discussion and Result

Drivers behind SEB's Restructuring

The restructuring of Manipur's State Electricity Boards (SEBs) was driven by several crucial factors highlighting the need for comprehensive reform in the state's power sector.

a) *Increasing Energy Demand*: Manipur underwent a significant socio-economic transformation characterized by rapid population growth, economic development, and urbanization. These changes led to a noticeable increase in energy consumption as living standards improved and urban areas expanded. The existing energy infrastructure, however, proved insufficient to meet the rising demand for electricity. As a result, restructuring became necessary to modernize and expand the energy infrastructure, promising it could adequately supply the increasing need for power across residential, commercial, and industrial sectors.
b) *Persistent Power Shortages*: Despite various efforts, such as installing new transmission lines and access to central power units, Manipur struggled with chronic power shortages. These shortages severely impacted industrial and agricultural productivity, hindering overall economic growth. The restructuring initiative aimed to strengthen the generation, transmission, and distribution capacities of the SEBs to address these ongoing shortages effectively. Enhancing infrastructure and operational capabilities was to mitigate power deficits and secure a more reliable electricity supply throughout the state.
c) *High Transmission and Distribution (T&D) Losses*: One of the significant challenges plaguing Manipur's power sector was the high T&D losses, which peaked alarmingly in previous years. These losses undermined the sector's operational efficiency and contributed to financial instability and unreliable power supply. To combat this issue, the restructuring efforts focused on modernizing grids, improving metering systems, and enhancing overall operational efficiency. The aim of reducing T&D losses was to stabilize the power supply and improve service reliability for consumers across Manipur.
d) *Financial Challenges*: Financial sustainability emerged as a pressing concern for Manipur's power sector, characterized by recurring revenue deficits and inefficient financial management practices. The restructuring addressed these challenges by implementing measures to enhance revenue collection, reduce operational costs, and improve overall financial management. Initiatives such as introducing prepaid meters were instrumental in stabilizing revenue streams and creating a more sustainable financial framework for SEBs.
e) *Regulatory and Policy Mandates*: At both national and state levels, regulatory and policy frameworks emphasized the need for reforms in the power sector to enhance efficiency, attract investments, and ensure compliance with regulatory standards. The restructuring of SEBs, including their unbundling, was aligned with these mandates. This restructuring aimed to improve operational transparency and accountability and foster Manipur's more competitive and resilient power sector.
f) *Infrastructure Modernization*: The restructuring initiative included a comprehensive plan to modernize the outdated infrastructure of Manipur's power sector. This encompassed upgrading ageing transmission lines, substations, and distribution networks to enhance reliability and capacity. By modernizing infrastructure, the SEBs aimed to meet the growing electricity demand effectively while improving the overall resilience of the power grid against fluctuations and disruptions.
g) *Technological Advancements*: Embracing technological advancements such as smart grids, advanced metering infrastructure and integration of renewable energy sources played a pivotal role in the restructuring process. These technologies were leveraged to

optimize grid management, enhance demand response capabilities, and promote sustainability in the power sector. By adopting these innovations, the SEBs aimed to improve operational efficiency, reduce environmental impact, and secure a reliable and resilient power supply for consumers in Manipur.

h) *Consumer Satisfaction*: Improving consumer satisfaction was a vital objective of the restructuring efforts. High levels of consumer dissatisfaction stemming from frequent power outages, voltage fluctuations, and billing issues necessitated reforms. Initiatives such as the deployment of prepaid meters and improvements in customer service and grievance redressal mechanisms were implemented to enhance consumer experience and build trust in the reliability and transparency of the power supply system.

Strategic Imperatives Driving Organizational Change

The strategic imperatives behind Manipur's SEB restructuring were guided by several critical objectives aimed at driving organizational change and improving the overall efficiency and sustainability of the power sector.

a) *Policy Mandates and Regulatory Compliance*: The restructuring aligned with national and state-level energy policies, particularly the Electricity Act 2003, which emphasized efficiency, sustainability, and accountability. By unbundling SEBs into distinct entities, the aim was to enhance operational transparency and ensure compliance with regulatory frameworks, thereby fostering a more competitive and efficient power sector in Manipur.

b) *Enhancing Operational Efficiency*: Central to the restructuring was the goal of enhancing operational efficiency across all facets of the power sector. This included upgrading ageing transmission infrastructure, substations, and distribution networks to reduce technical losses, improve reliability, and meet increasing energy demands effectively. Adopting smart grids, smart metering, and renewable energy integration further enhanced grid management capabilities and overall system efficiency.

c) *Financial Sustainability and Revenue Generation*: Addressing financial challenges through improved financial management practices, enhanced revenue collection mechanisms, and strategic cost reduction initiatives was critical. By stabilizing revenue generation and creating a conducive investment climate, the restructuring aimed to secure the long-term financial sustainability of Manipur's power sector while facilitating necessary infrastructure development and operational improvements.

d) *Customer Satisfaction and Service Quality*: Enhancing consumer satisfaction and service quality emerged as priorities in restructuring. Initiatives focused on reducing power outages, minimizing voltage fluctuations, and improving billing accuracy were implemented to enhance consumer trust and satisfaction. By addressing consumer grievances promptly and transparently, the SEBs aimed to build a positive relationship with electricity consumers and improve overall service delivery standards.

e) *Capacity Building and Skill Development*: Investing in workforce training and skill development was essential to equip personnel with the necessary expertise to operate modernized power infrastructure efficiently. Strengthening institutional capacities to adapt to technological advancements and regulatory changes confirms that the SEBs remain responsive and adept in meeting the evolving demands of the power sector in Manipur.

Policy Objectives Influencing Decision-Making Processes

The policy objectives guiding decision-making in Manipur's power sector were instrumental in shaping the restructuring initiatives and driving strategic reforms to achieve sustainable development and efficient service delivery.

a) *Efficiency and Sustainability*: Decision-makers prioritized optimizing resource use, reducing transmission and distribution losses, and promoting cleaner energy sources to enhance operational efficiency and sustainability in the power sector. These objectives were central to achieving long-term environmental sustainability and economic efficiency in energy production and distribution.
b) *Regulatory Compliance*: Unbundling SEBs and adhering to national and state-level regulatory frameworks promoted transparency, accountability, and efficiency in service delivery. Compliance with regulatory standards ensured fair competition and equitable access to electricity services for consumers across Manipur.
c) *Infrastructure Development*: Policy objectives focused on modernizing ageing infrastructure, including transmission lines, substations, distribution networks, and improving reliability and capacity. These initiatives were essential for meeting growing electricity demands effectively and securing a resilient power grid capable of withstanding challenges and disruptions.
d) *Technological Integration*: The integration of smart grid technologies, smart metering, and renewable energy sources aimed to enhance monitoring, management, and efficiency of electricity distribution networks. By leveraging technological innovations, decision-makers sought to improve grid stability, reduce operational costs, and optimize energy consumption patterns in Manipur.
e) *Financial Viability*: Addressing revenue deficits through improved financial management practices and revenue collection mechanisms like prepaid meters was crucial for securing the financial sustainability of Manipur's power sector. These initiatives were designed to stabilize revenue generation, attract investments, and facilitate ongoing infrastructure development and operational improvements.
f) *Consumer Welfare*: Enhancing service quality, reducing service interruptions, and promptly addressing consumer grievances were core policy objectives aimed at improving consumer welfare. By focusing on consumer-centric reforms and transparent service delivery, decision-makers aimed to build trust, satisfaction, and confidence among electricity consumers in Manipur.
g) *Capacity Building and Training*: Investing in workforce training and skill development was essential to equip personnel with the necessary competencies to operate modernized power infrastructure effectively. Strengthening institutional capacities ensured that the SEB remained adaptable and responsive to technological advancements, regulatory changes, and evolving consumer needs in Manipur's dynamic energy landscape.

Issues, Problems and Challenges in Manipur's Power Sector

a) *Ageing Distribution Network and High Sub-Transmission Losses*: The aged HT & LT distribution network contributes to high technical losses, affecting power distribution efficiency (Manipur State Power Company Limited, 2015; Government of Manipur, 2016; Singh et al., 2018).

b) *Financial Inefficiencies*: There is a significant gap between Aggregate Revenue Requirement (ABR) and Aggregate Cost of Supply (ACoS), indicating financial inefficiencies in the power sector (Government of Manipur, 2016; Singh et al., 2018).
c) *Challenging Terrain and Infrastructure Development*: The difficult terrain in Manipur complicates infrastructure development and maintenance, hindering power distribution network expansion (Manipur State Power Company Limited, 2015; Government of Manipur, 2016).
d) *Low Population Density and Cost-Effective Supply*: The low population density poses challenges in justifying infrastructure investments and ensuring cost-effective power supply to remote areas (Government of Manipur, 2016).
e) *Unfavorable Consumer Mix and Revenue Generation*: An unfavourable consumer mix impacts DISCOM revenue streams, potentially due to a high proportion of low-paying consumers or unmetered connections (The World Bank, 2016; Government of Manipur, 2016).
f) *Inadequate Training and Capacity Building*: Insufficient training for state utility employees hampers capacity-building efforts, particularly at Levels A and B (Ministry of Power, 2016; The World Bank, 2016; Singh et al., 2018).
g) *Heavy Reliance on Central Sector Plants and Inconsistent Supply*: Dependence on central sector plant allocations results in inconsistent power availability, exacerbating shortages during generating unit outages (Joint Electricity Regulatory Commission for Manipur and Mizoram, 2012; Manipur State Power Company Limited, 2015; Singh et al., 2018).
h) *Financial Constraints and Limited Investment*: Financial limitations hinder the electricity department's ability to expand the power supply and introduce market reforms (Joint Electricity Regulatory Commission for Manipur and Mizoram, 2012; Manipur State Power Company Limited, 2015; Singh et al., 2018).
i) *Shortage of Local Contractors and Infrastructure Development*: A need for more local contractors capable of handling large-scale projects poses challenges to infrastructure development (Manipur State Power Company Limited, 2015; The World Bank, 2016; Singh et al., 2018).
j) *Lack of Skilled Manpower and Operational Challenges*: Shortage of skilled manpower complicates addressing infrastructure and operational challenges (Manipur State Power Company Limited, 2015; The World Bank, 2016; Singh et al., 2018).
k) *High Material Costs and Financial Burden*: Remote locations contribute to high material costs, exacerbating financial constraints and hindering project implementation (Manipur State Power Company Limited, 2015).
l) *Technical and Transmission Losses*: Overloaded lines, inadequate equipment upgrades, and low HT:LT ratios contribute to technical losses in the power infrastructure, while transmission and distribution losses persist due to low metering status and billing inefficiencies (Manipur State Power Company Limited, 2015; Joint Electricity Regulatory Commission for Manipur and Mizoram, 2012; The World Bank, 2016; Singh et al., 2018).
m) *Resistance to Organizational Restructuring*: Employee resistance to departmental restructuring initiatives impedes organizational improvements despite recommendations

for change (MINISTRY OF POWER, 2013; Manipur State Power Company Limited, 2015).

Majors Findings

a) ***Study of Drivers Behind SEB's Restructuring***

- *Corporatization Trend*: The restructuring of the Manipur State Electricity Board (SEB) into specialized companies aligns with global trends towards corporatization in the power sector. This shift aims to enhance operational efficiency, accountability, and service delivery (Singh et al., 2018). Table 4 shows a consistent Revenue deficit power throughout the years, indicating financial challenges within the power sector—the restructuring aimed to address these financial inefficiencies and promote financial sustainability.
- *Efficiency Enhancement*: The restructuring was motivated by a desire to address inefficiencies within the SEB structure, streamline decision-making processes, and optimize resource allocation. Decentralization aimed to improve operational performance and facilitate investment (The World Bank, 2016). Data from Table 2 highlights a significant reduction in T&D losses over the years, suggesting improvements in operational efficiency as a result of the restructuring process

b) ***Study of Strategic Imperatives Driving Organizational Change***

- *Adaptation to Market Dynamics*: The strategic imperative behind organizational change was to adapt to evolving market dynamics and enhance the competitiveness of the power sector in Manipur (Singh et al., 2018). By restructuring into specialized companies, the sector aimed to become more agile, responsive, and customer-centric, improving its overall effectiveness and performance. The comparison between Peak Demand and Peak Met from Table 3 underscores the importance of capacity planning and management to ensure electricity supply meets or exceeds peak demand, reflecting the sector's efforts to adapt to changing demand patterns.
- *Operational Efficiency*: The restructuring process was driven by imperatives to enhance operational efficiency, reduce bureaucratic hurdles, and improve service quality (Singh et al., 2018). By decentralizing decision-making and promoting autonomy at the company level, the sector sought to streamline operations and expedite service delivery. Fluctuating T&D Loss Percentage data from Table 2 demonstrates efforts to improve infrastructure and reduce technical losses, contributing to enhanced operational efficiency post-restructuring.

c) ***Understanding of Policy Objectives Influencing Decision-Making Processes***

- *Regulatory Oversight*: Policy objectives outlined in the Electricity Act of 2003 emphasized the need for regulatory oversight, transparency, and accountability within the power sector (Singh et al., 2018). Decision-making processes related to restructuring were influenced by a commitment to align with regulatory requirements and ensure compliance with legal mandates. Establishing the Joint Electricity Regulatory Commission (JERC) and issuing tariff orders reflect policy objectives to enhance regulatory oversight, transparency, and consumer protection. This regulatory

framework promotes fair competition and affordability within the electricity market (Joint Electricity Regulatory Commission for Manipur and Mizoram, 2012).

- *Market Competition*: Restructuring the power sector into separate entities aligns with broader policy objectives to foster market competition, innovation, and private sector participation. This aims to stimulate economic growth, infrastructure development, and job creation within the power sector (The World Bank, 2016).
- *Socio-Economic Development*: Policy objectives also aimed to support socio-economic development goals within Manipur (Singh et al., 2018). By promoting financial sustainability, enhancing service quality, and improving infrastructure, the sector sought to contribute to the overall development and well-being of the state's populace. Per Capita Energy Consumption data from Table 1 highlights the sector's role in providing adequate power supply to meet the population's growing demands, supporting socio-economic development objectives.

These findings highlight the multifaceted drivers, imperatives, and policy objectives driving the restructuring of Manipur's power sector, providing insights into the strategic considerations and decision-making processes involved.

Limitations of the Study

There are several limitations to consider in this study. Firstly, the analysis is based on available data and may not capture the full complexity of SEB's restructuring drivers and strategic imperatives. Secondly, the study focuses on SEB in Manipur and may need to be more generalizable to other regions or contexts. Additionally, the study needs to explore the potential challenges and barriers to implementing organizational change within SEB, which could impact the effectiveness of restructuring efforts. Future research could address these limitations by conducting more in-depth studies and considering a broader range of perspectives from stakeholders involved in the power sector.

Conclusion

This study has illuminated the complexities of organizational restructuring within the State Electricity Board of Manipur (SEB) against India's energy sector reforms. It has highlighted SEB's drivers, strategic imperatives, and policy influences, providing valuable insights into the rationale behind its corporatization initiatives and their impact. The findings underscore that various factors, including infrastructure limitations, external power reliance, and the need for enhancement, drive SEB's restructuring. These challenges emphasize the urgency of organizational change to address supply-demand gaps and energy theft. Furthermore, the study underscores the importance of aligning SEB's restructuring with strategic imperatives and policy goals for inclusive growth and environmental sustainability. SEB aims to ensure Manipur's power sector's robustness, reliability, and sustainability by focusing on infrastructure development, operational efficiency, and collaborative governance.

Acknowledging study limitations, including data availability and focus on SEB in Manipur, future research could delve deeper and consider broader stakeholder perspectives. In essence, SEB's restructuring journey symbolizes a beacon of hope and a harbinger of change for

Manipur's power sector. Through unwavering dedication, strategic alignment, and relentless perseverance, SEB aims to propel Manipur towards a future characterized by robust, reliable, and sustainable power supply, catalyzing socioeconomic progress and fostering inclusive development across the region.

Suggestions

Drivers behind Manipur SEB's restructuring

- Stakeholder Engagement: Foster transparency, accountability, and public trust in the restructured power sector by promoting stakeholder engagement and collaboration.
- Monitoring and Evaluation: Ensure effective implementation of restructuring objectives by continuously monitoring and evaluating progress.
- Partnerships: Leverage expertise and investment from private sector entities to enhance infrastructure development and modernization.
- Regulatory Strengthening: Deter power theft and unauthorized connections by strengthening regulatory frameworks and enforcement mechanisms.

Strategic imperatives driving organizational change

- Capacity Building: Enhance the skills of power sector personnel to improve efficiency and effectiveness through investment in capacity building and training programs.
- Innovation and Technology: Modernize infrastructure and enhance service delivery by exploring opportunities for innovation and technological advancements.
- Demand-Side Management: Relieve pressure on the power grid by implementing strategies to optimize energy use and reduce peak demand.
- Renewable Energy Integration: Enhance energy security and sustainability by prioritizing integrating renewable energy sources.
- Research and Development: Drive innovation tailored to Manipur's needs through investment in research and development initiatives.

Policy objectives influencing decision-making processes

- Financial Sustainability: Improve the sector's financial stability by implementing measures to address financial challenges and reduce technical losses.
- Consumer Education: Promote energy conservation and efficiency through enhanced consumer education and awareness programs.
- Periodic Reviews: Enable timely adjustments to policies and strategies by conducting periodic reviews and assessments to identify emerging challenges and opportunities.

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