The Impact of De-Industrialisation on Economic Decline and Social Resilience in South Africa's Small Towns:

Case Studies of Lichtenburg (North West) and Komati in Middelburg (Mpumalanga)

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1. Executive Summary

South Africa's secondary towns (see Figure 2) have historically been critical nodes in the national economy. The country's economic "golden age" (1950s–mid-1970s), which was driven by state-led industrialisation and fostered heavy industry and manufacturing growth that anchored the Minerals-Energy Complex, transformed these towns into industrial hubs (Figure 1 shows data on South Africa's manufacturing share of the GDP over the past century).

Secondary towns' role in connecting rural production networks to national value chains and providing employment and services for large hinterlands, remains indisputable. Over the past decade, however, many of these towns have experienced deindustrialisation and population decline. Deindustrialisation refers to the sustained decline of manufacturing employment and output in an economy, accompanied by a structural shift away from anchor industries, often driven by technological change, global competition, and policy shifts, and typically resulting in social and regional economic consequences.[1]

This report uses Lichtenburg in the North-West province and Komati in Mpumalanga as case studies to analyse how the Marshallian Development Theory[2] and the Tripartite Social

[1] See Barry Bluestone and Bennett Harrison (1982). *The deindustrialization of America*. New York: Basic Books;

Robert **Rowthorn and Ramana Ramaswamy (1997). "***De-industrialization: Causes and Implications***". International Monetary Fund, Working Paper 97/42;**

Ben Fine and Zavareh Rustomjee (1996). *The Political Economy of South Africa: From Mineral-Energy Complex to Industrialisation. New York: Hurst & Co and Westview Press;*

John Palmer (1972). *"British Capitalism, Workers and the Profits Squeeze"*. **International Socialism** (1st series), No.53, October-December 1972, p.40.;

Michael J Piore and Charles F. Sabel (1984), *"The Second Industrial Divide: Possibilities for Prosperity". Faculty Books*.171. https://scholarship.law.columbia.edu/books/171.

[2] The Marshallian Development Theory refers to ideas about economic development derived from Alfred Marshall, the British economist (1842–1924), whose work laid the foundations of modern microeconomics. While Marshall himself didn't create a formal "development theory," economists have extended his ideas to explain economic growth and development, particularly in the context of industrialisation and market-based economies.
Marshall emphasised the importance of small and medium-sized enterprises (SMEs) in driving industrial growth. He highlighted the role of localised industries and industrial districts where businesses benefit from proximity to suppliers, skilled labour, and knowledge spillovers.

Resilience Framework[3] can be applied to understand and address the socio-economic impacts of deindustrialisation.

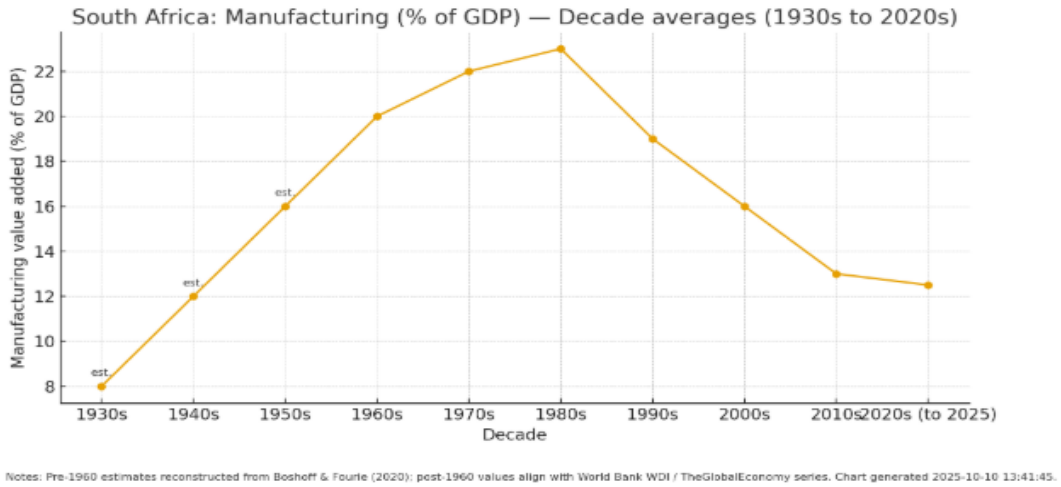
Lichtenburg is the seat of the Ditsobotla Local Municipality (within the Ngaka Modiri Molema District Municipality, in South Africa's North West province, historically built around maize agriculture and cement production. Komati lies near Middelburg in the Steve Tshwete Local Municipality (within the Nkangala District Municipality, Mpumalanga province). Both towns have recently lost key industrial employers: 1) the closure of Clover's cheese factory in Lichtenburg in June 2021 and 2) the decommissioning of Komati's Coal Power Station in October 2022. They now face declining employment, infrastructural collapse and social vulnerability.

The choice of Lichtenburg (agro processing) and Komati (energy) provides a valuable comparative perspective on deindustrialisation from different sectors, highlighting underinvestment, governance and just energy transition challenges.

He argued that as firms grow, they can experience internal economies of scale (cost advantages within a firm) and external economies of scale (benefits from being part of a cluster or industry hub).
This idea is key to understanding how industrial clusters in developing regions can stimulate economic growth.

[3] The Tripartite Social Resilience Framework conceptualises social resilience as a community's or individual's capacity to absorb, adapt, and transform in response to challenges. It is called "tripartite" because it encompasses these three interconnected dimensions.
The framework is not attributed to a single person in the same way some economic theories are, but it has been most closely associated with humanitarian and development research, particularly in the work of the United Nations, the Overseas Development Institute (ODI), and scholars in disaster risk and development studies.
The framework builds on social-ecological resilience concepts from researchers like Brian Walker and David Salt, who emphasised absorptive, adaptive, and transformative capacities in socio-ecological systems.
In development studies, Cutter et al. (2008) and Cretney (2014) have applied and expanded the idea of social resilience with the tripartite structure.
The UNDP (United Nations Development Programme) and other agencies often use this framework in community resilience assessments, especially in post-disaster and post-conflict contexts.

Figure 1: South Africa's Manufacturing Share of GDP: 1930s-to date (author's construction)[4]



In this paper we aim to connect local case studies to national challenges like state capacity erosion, illicit trade, and failing municipal governance with a view to demonstrate a systems-

[4] A few important caveats:

- Pre-1960 (1930s–1950s): the values are reconstructed estimates based on the historical series and sectoral narrative in Boshoff & Fourie, *The South African Economy in the Twentieth Century* (2020). Those early-decade figures are annotated as *estimates* in the table and on the chart because exact year-by-year official WDI series begin in 1960.
- Post-1960 (1960s–2020s): the decade averages are aligned with internationally compiled series (World Bank WDI / The Global Economy / Trading Economics) for *manufacturing, value added (% of GDP)*. These series show a peak in manufacturing share in the late 1970s–early 1980s and a steady decline into the 2000s and 2010s.
- What the chart shows (high level)
    - A rise in manufacturing's share across the mid-20th century, peaking around the 1970s–1980s (peak ~23–25% of GDP in the early 1980s in most series).
    - A decline from the 1990s onward, falling into the low-to-mid teens by the 2010s and remaining around ~12–13% into the early 2020s.
    - Early decades (1930s–1950s) are presented as reconstructed values to show the long-run structural transformation from agrarian/mining dominance toward industrialisation.

level lens on issues pertaining to underdevelopment, social and community vulnerability and targeted investment and support.

Social resilience moves beyond mere economic metrics to understand a community's capacity to anticipate, prepare for, respond to, and recover from systemic shocks like deindustrialisation. Social resilience[5] is defined as "the existence, development, and engagement of community resources by community members to thrive in an environment characterised by change, uncertainty, unpredictability, and surprise." This chapter develops a framework to analyse the resilience responses in Lichtenburg and Komati, differentiating between mere coping and transformative adaptation.

A resilience framework reveals that South Africa's deindustrialising towns are trapped in a cycle of coping and fragile adaptation. Without functional institutions to foster collective agency and channel resources towards transformative projects, these communities cannot break the "peripheralisation loop"[6] that traps small towns in cycles of economic and institutional decline. The following chapters on the DDM and diversification incentives explore potential pathways to build this transformative capacity.

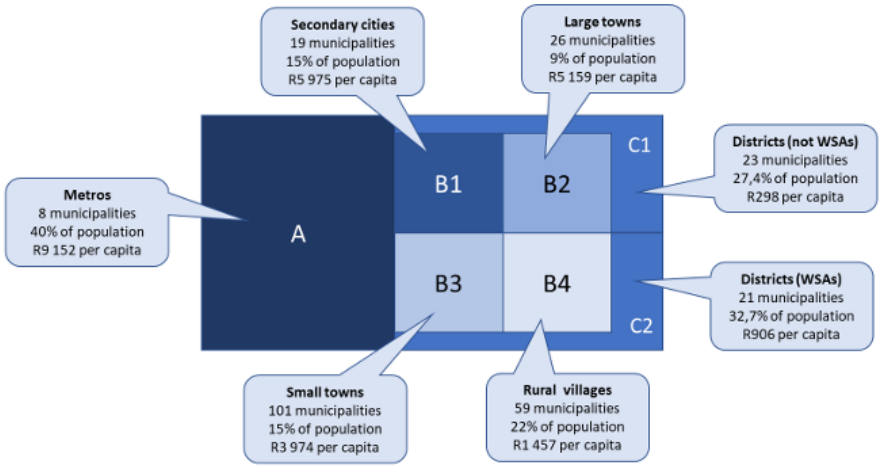
[5] Magis (2010)

[6] A **"peripheralisation loop"** can be defined as a self-reinforcing cycle in which economic decline, social vulnerability, and institutional weaknesses in a town or region mutually exacerbate each other, trapping the locality in persistent underdevelopment. In this loop:

- **Economic decline** (e.g., industrial closures, job losses, shrinking local markets) reduces incomes and investment.
- **Social vulnerability** increases as households face poverty, migration, and weakened community cohesion.
- **Institutional weaknesses** (poor municipal capacity, failing infrastructure, and inadequate governance) limit the ability to respond effectively.
- The result is **further marginalisation**, discouraging investment and skilled labour, and reinforcing the cycle of decline.

Essentially, the loop describes how peripheral towns or regions become progressively marginalized relative to economic centres, with each factor reinforcing the others.

Figure 2: Schematic summary of local government system



We use the Marshallian development theory which seems to underpin the District Development Model (DDM), opportunities in South Africa, especially towards the improvement and development of these small towns. The DDM's **"One Plan"** approach, which is aimed at integrating planning, budgeting, and implementation across national, provincial, and local spheres presents a critical opportunity to align disparate efforts into a coherent, place-based recovery strategy.

There is a profound disconnect between the National Industrial Policy Framework with local municipal realities and planning. The Department of Trade, Industry and Competition's (dtci) Sectoral Master Plans and the Reimagined Industrial Strategy are designed for a spatially neutral, functional economy, operating under assumptions of capable municipalities, reliable infrastructure, and cohesive value chains - assumptions that are invalid in towns like Lichtenburg. We explore ways to bridge this chasm for a more cohesive and partnership-based framework from national, provincial and local government policy perspectives.

The economic data for Ditsobotla reveals a municipality in freefall even before Clover's final exit, with unemployment and service access worsening dramatically. The decline in own revenue, as well as the September Cabinet decision to place the Ditsobotla Local Municipality

under administration, confirms the report's finding of a collapsing fiscal base. For Steve Tshwete, the data shows a relatively resilient economy pre-2022, but the modelled job losses and projected revenue decline point to a significant negative shock that will manifest in future datasets. ***This quantitative profile underscores that de-industrialisation is not an event, but a process that erodes a town's socio-economic foundation over years.***

The report also explores the extent to which the small-town deindustrialisation and vulnerability context plays itself out through a gender lens. Economic shocks are never gender-neutral and in this regard, we interrogate the extent to which the closure of formal industries reconfigures the gendered divisions of labour, income, and care work, often exacerbating existing inequalities.[7]

The report identifies over-reliance on a single anchor enterprise in any community as a critical vulnerability and builds a case for anchor diversification incentives for single or multiple players as fiscal and regulatory tools available to catalyse investment in new and expanding sectors within a specific locality, reducing single economic factor dependency. Without proactive diversification, deindustrialising towns will continue to decline and a strategic, well-designed package of these incentives, embedded within the DDM and aligned with a place-based industrial strategy, are a crucial tool for breaking the cycle of dependency and building resilient, diverse local economies.

The call to action to mitigate deindustrialisation and build resilience in small towns, is for local and national stakeholders to consider the following interventions:

a) **Rebuild the industrial commons:** Prioritise basic services (roads, water, electricity and waste management) to restore confidence for investors and existing firms. Transparent governance and anti-corruption measures are essential to attract industry back to Lichtenburg and prevent further flight.

[7] (Posel et al., 2023).

b) **Diversify the economic base:** Encourage development of agro-processing, renewable energy, tourism and small-scale manufacturing. Municipalities can create incentives for cooperatives, support local suppliers to integrate into regional value chains and provide infrastructure such as business incubators.

c) **Strengthen human capital:** Invest in vocational training, technical colleges and entrepreneurial programmes to enhance adaptive capacity. Programs should target retrenched workers from the power station and dairy sector, enabling them to transition into new industries.

d) **Facilitate just transitions:** For coal towns like Komati, implement comprehensive just-transition plans that include income support, retraining and community participation. Ensure that repurposing projects (solar, wind, battery storage) provide local employment and supply opportunities rather than relying solely on external contractors.

e) **Promote collaborative governance:** Establish platforms where municipalities, industry, civil society and academic institutions co-design development strategies. Such collaboration fosters learning and innovation, key features of Marshallian clusters and adaptive resilience.

f) **Monitor and evaluate resilience indicators:** Regularly collect and publish data on the development indicators identified in this report to track progress. Incorporating additional measures such as employment rates, poverty levels and informal-sector dynamics would enhance analysis and accountability.

Addressing deindustrialisation in small towns requires integrated approaches in order to turn fragile clusters into dynamic local economies capable of weathering shocks and embracing new development trajectories.

2. A Framework for Analysing Social Resilience in Deindustrialising Towns

The Tripartite Social Resilience Framework conceptualises resilience as the ability of individuals and communities to absorb, adapt and transform in response to shocks. According to humanitarian organisation ACTED, resilience is the capacity of a system to “absorb, adapt,

and transform from shocks and stresses without compromising and potentially enhancing long-term prospects". Magis (2010) defines it as "the existence, development, and engagement of community resources by community members to thrive in an environment characterized by change, uncertainty, unpredictability, and surprise." The three capacities are defined as follows:

- **Absorptive capacity**: the ability to cope with and moderate the impacts of shocks, preserving essential structures and functions. Examples include using coping strategies or strengthening physical assets to withstand hazards. ACTED notes that absorptive capacity covers the coping strategies households use to buffer impacts on livelihoods and basic needs.
- **Adaptive capacity**: the ability to adjust behaviours and practices to moderate future impacts, learning from experience and changing actions while maintaining core functions. For instance, farmers installing irrigation systems to reduce reliance on rainfall illustrate adaptive change.
- **Transformative capacity**: the ability to create fundamentally new systems to avoid future shocks. Transformation implies longer-term structural change, such as shifting from agriculture to other livelihoods or changing governance arrangements. ACTED highlights that transformative capacity allows communities to build entirely new systems when existing ecological or economic structures become untenable.

These capacities provide a lens for analysing how Lichtenburg and Komati communities respond to industrial decline. Absorptive capacity reflects immediate; coping adaptive capacity reflects learning and diversification; while transformative capacity involves reimagining the local economy.

We categorise community responses:

2.1. Absorptive Capacities

Lichtenburg absorptive response was characterised by survivalist informal trading, reliance on social grants, outmigration of youth. The immediate aftermath of Clover's exit was characterised by classic absorptive strategies. Former employees relied on severance packages, while the broader community saw a rise in survivalist informal trading and increased dependence on social grants. The outmigration of skilled youth, as noted in the report, is another coping mechanism that provides individual relief but depletes community capital.

In Komati, the absorptive capacity was characterised by the use of severance packages, reliance on extended family networks, shift to informal vending. As with Lichtenburg, the initial shock triggered absorptive measures. Contractors and local SMEs that serviced the power station were forced to close or downsize. The report's modelled data on job losses in the transport and vendor sectors points to a significant absorptive burden on the local economy.

2.2. Adaptive Capacities

In Lichtenburg, adaptive capacities were characterised by farmers seeking new buyers after Clover's exit, and remaining businesses like Tacet adapted by privately funding road maintenance, a costly but necessary step to continue operations.

The Komati case is unique due to the structured JET process. Adaptive capacity is being formally encouraged through Eskom's reskilling programmes and plans to repurpose the site for renewables. However, this adaptation is largely driven from the top down leaving a conclusive assessment that adaptive capacity is evident but fragmented.

2.3. Transformative Capacities

In Lichtenburg, the near-total collapse of municipal governance (12 managers in 5 years, dissolved council) destroyed the primary platform for coordinating a transformative response.

Community agency was channelled into protests, a negative form of resilience, rather than structured development.

While in Komati, the top-down, Eskom / World Bank-driven repurposing plan risked sidelining local and community agency. Stakeholder and community members felt excluded ("no one consulted us"), stifling the potential for a locally owned, transformative outcome. As with Lichtenburg, the initial shock triggered absorptive measures. Contractors and local SMEs that serviced the power station were forced to close or downsize. The report's modelled data on job losses in the transport and vendor sectors points to a significant absorptive burden on the local economy.

This resilience framework reveals that South Africa's deindustrialising towns are trapped in a cycle of coping and fragile adaptation. The decline of manufacturing, as documented in the cases of Lichtenburg and Komati, represents a profound socio-economic shock.

These strategies are essential for survival but do not alter the underlying vulnerability. The report's data on rising informal trade and youth outmigration are classic signs of absorptive, but ultimately limiting, resilience.

The case studies confirm that resilience is not an automatic or innate community trait and that it needs to be actively mediated by institutional capacity and collective agency. In Lichtenburg, institutional failure pre-empted transformative action. In Komati, a strong national institution (Eskom) is driving the process, but its success hinges on its ability to cede space and build local institutional and agency capacity. Where institutions are weak or exclusionary, communities remain trapped in reactive coping modes, unable to engineer a new future.

The social resilience framework reveals a stark reality: that the deindustrialisation of South Africa's small towns is not merely an economic crisis but a crisis of governance and agency. While communities demonstrate remarkable absorptive and adaptive capacities, the transformative capacity required to break the "peripheralisation loop" is almost entirely absent. Building this capacity requires more than project funding; it necessitates the deliberate

strengthening of local institutions and the creation of inclusive platforms for community-led planning, a challenge that the DDM is ostensibly designed to meet.

3. The DDM: A Vehicle for Coordinated Redevelopment or Another Missed Opportunity?

Alfred Marshall's analysis of industrial districts highlights how localised specialisation can drive economic development. A **Marshallian industrial cluster (or 'agglomeration')** emerges when firms accumulate specialised skills and machinery in a particular locality and exchange inputs and knowledge through dense networks. The cluster consists of numerous small firms engaged in competitive and complementary activities, allowing for flexible specialisation. In a global context, these clusters historically included medieval glass-making and modern toy-making districts, where the distribution system relies on small-batch flows between many suppliers and customers. Marshallian clusters therefore depend on continuous learning, innovation and reliable infrastructure.

Two features of the theory are particularly relevant for deindustrialising towns:

- **Path dependence and vulnerability to anchor firms**: while Marshallian clusters emphasise networks of small firms, in practice many South African clusters evolved into hub-and-spoke structures where one or two large firms (e.g., a cement plant or a power station) dominate supply chains. When such a firm downsizes or relocates, the local economy loses both direct employment and the networked demand that sustained smaller suppliers.

- **Importance of infrastructure and public goods** – Marshall argued that clusters thrive where infrastructure (transport, utilities, regulation) supports efficient exchange. Persistent service delivery failures - such as poor roads, unreliable electricity or corruption - undermine this "industrial commons" and erode competitiveness. The closure of Clover's cheese factory in Lichtenburg illustrates how infrastructure collapse can push industry to relocate.

South Africa's DDM, announced by President Cyril Ramaphosa in the June 2019 State of the Nation Address, seeks to break down planning silos by developing integrated "One Plans" that coordinate investments and service delivery across national, provincial and local government within each district.

Does the Marshallian Development model offer a framework for the DDM to find meaningful expression or vice versa?

- **Shared emphasis on spatial planning and economic specialisation**: Both Marshallian theory and the DDM recognise that economic development has a strong spatial dimension. Marshallian clusters develop when firms and labour concentrate around a speciality. The DDM on the other seeks to spatialise development priorities by translating economic planning and development objectives into specific district plans and coordinating investments across government. Using a cluster lens within the DDM could help identify *comparative advantages* and develop targeted industrial strategies for each district (e.g. renewable-energy technology around Komati or agro-processing in OR Tambo).

- **Potential for leveraging existing industrial commons**: The DDM's call for "One Plans" encourages alignment of infrastructure, land-use planning and economic programmes. A Marshallian approach could operationalise this by mapping existing clusters, assessing supply-chain linkages and identifying the common pool of skills and institutions that support them. For example, Lichtenburg hosts four major cement producers within 80 km, demonstrating strong industrial commons. Therefore, integrating this information into DDM planning could prioritise infrastructure (roads, energy and water) that sustains the cement cluster while diversifying into value-added products.

- **Flexibility versus bureaucracy:** Marshallian clusters evolve through bottom-up processes, informal networks and incremental innovation. The DDM, by contrast, relies

on formal intergovernmental structures and long-range plans. Evidence from pilot municipalities shows that developing a single plan across national, provincial and local levels is difficult, with *party-political dynamics and ambiguous roles* impeding agreement.

In fact, economic studies on Ethnolinguistic Fractionalisation (ELF)[8] found that more homogeneous societies (proxied in this instance by districts of similar people) had better policy design, cohesion and execution outcomes than more heterogeneous societies. This explains why at a national level in South Africa, its is often difficult to find policy and execution harmony, while it is easier to discover it at a district level.

- **Need for data and knowledge networks:** Marshall noted that clusters prosper because firms share tacit knowledge. The DDM pilots reveal significant data gaps resulting in municipalities lacking up-to-date information on population, migration and sector projects. Without a robust evidence base, planners cannot identify cluster dynamics or evaluate interventions. Establishing district research hubs and open data systems would align the DDM with Marshallian principles of knowledge exchange.

- **Complementarity with social resilience.** Marshallian clusters can enhance absorptive and adaptive capacities by creating diverse employment and social networks, while an inherent requirement must also be that the DDM must address resilience across sectors. In the pilot reviews, the Eastern Cape review warned that overreliance on existing planning instruments replicates the very challenges the DDM seeks to solve and on the back of that, our view is that a Marshallian lens encourages continuous observation and learning rather than one-off plans, which could strengthen the DDM's transformative ambitions.

[8] **Ethnolinguistic Fractionalisation (ELF)** is a major concept in development economics and political economy, used to explain how **ethnic, linguistic, and cultural diversity** within a country affects its **economic performance, governance, and social cohesion**.

The DDM represents South Africa's most coherent policy response to its fractured governance system. For deindustrialising towns, it offers a framework to replace chaos with coordination. Its failure in Newcastle would be a devastating indictment of the state's capacity for self-reform. Its success, however, could provide a replicable model for managing industrial decline and building place-based resilience across the country.

Simply overlaying Marshallian cluster concepts onto the DDM is wholly insufficient as and such, the model must address systemic governance, capacity and data issues to provide a fertile environment for localised industrial development. The case studies of Lichtenburg and Komati are testaments to the catastrophic consequences of uncoordinated governance. The failure to address municipal dysfunction in Lichtenburg and to holistically plan for Komati's closure highlights a systemic flaw in South Africa's intergovernmental system.

3.1 Lichtenburg – Clover South Africa

Lichtenburg is an agricultural and industrial town where four major cement producers operate within an 80-km radius. It also hosts maize farming and previously hosted the Clover cheese factory. However, poor municipal service delivery led Clover to relocate in 2021, causing job losses and highlighting the fragility of the local industrial base.

Although Ditsobotla is not a DDM pilot, it exemplifies how weak municipal governance and infrastructure can undermine industrial clusters. A DDM approach informed by Marshallian theory would emphasise maintaining basic services, upgrading infrastructure and coordinating stakeholders to retain and grow the cement cluster.

A retrospective application of the DDM framework to our case studies illustrates both its necessity and the consequences of its absence.

A fully functional DDM process would have identified the operational risks to Clover-due to water, electricity, and road failures-as a critical early warning. The DDM's joint planning structure could have mandated a coordinated intervention from National Treasury (fiscal support), COGTA (governance support), and the relevant technical departments to stabilise

Ditsobotla before the company's exit. Post-closure, the DDM would provide the mandated structure for aligning local economic development (LED) strategies, SMME support, and social protection measures, preventing the current ad-hoc and fragmented response.

3.2 Komati – Komati Coal Power Station

The Komati Power Station supported roughly 5 900 jobs per year[9] in Mpumalanga through its daily operations, contributing R964 million to household incomes and R105 million on low-income households.

Komati illustrates the need for a **just transition** within district planning. A Marshallian perspective would emphasise developing new clusters (e.g. renewable-energy manufacturing or agri-processing) using existing skills and infrastructure. The DDM could provide the governance platform to align Eskom, provincial departments and community initiatives in reskilling programmes and infrastructure investments.

The DDM is the ideal institutional mechanism for ensuring the JET is "just" at a local level. A robust "One Plan" for the Nkangala District would coordinate:

- Eskom and the DTIC on the physical repurposing of the asset.
- The Department of Higher Education and Training and the Mpumalanga Economic Growth Agency (MEGA) on skills development and economic diversification.
- The Steve Tshwete Local Municipality and the private sector to leverage the transition for broader local economic benefits.

3.3 Another Case: Newcastle – AMSA

Newcastle's economy is dominated by manufacturing, with the Newcastle Works steel mill forming the backbone. An independent Econometrix Study[10] estimates that the plant's output

[9] KPMG (2017) – Impact Assessment of Komati Power Station
[10] Econometrix (2025) – Economic Impact of Tax policies on South Africa's Steel Sector and Economy

at basic prices increased from R7 billion in 2022 to R12.9 billion in 2023, generating an estimated R3.5 billion in gross value added (GVA).

The plant contributed 11.4 % of Newcastle Local Municipality's GVA and about 63.6 % of its manufacturing GVA. At the district level it accounted for 54.5 % of Amajuba District's manufacturing GVA and 0.3 % of KwaZulu-Natal's GVA***. Such dominance illustrates a typical single-industry cluster: suppliers, contractors and small businesses co-evolved around the steelworks, forming a Marshallian industrial common***.

But by 2025 the commons had been eroded. AMSA reported persistent losses: long-steel operations registered an operating loss of R1.1 billion in 2024 (versus R600 million in 2023).

The Marshallian approach underscores that Newcastle's industrial commons revolve around the steel plant. Over decades, an ecosystem of suppliers, technical skills, housing, schools and civic institutions coalesced around the plant, enabling economies of scale and scope. Deindustrialisation undermines these external economies, suppliers lose orders, skilled workers leave, and local institutions atrophy. The Marshallian theory therefore predicts that sudden plant closures create spillovers beyond the firm -affecting human capital, supplier networks, property markets and municipal revenue.

The announced closure of ArcelorMittal South Africa's (AMSA) Newcastle Works by 2025, threatening 3,500 direct and indirect jobs, presents a live and urgent test for the DDM. A reactive application of the DDM would see it used only to manage the social fallout of retrenchments. The plant's closure thus represents a severe shock to Newcastle's industrial commons, necessitating strategies that enhance social resilience capacities.

Therefore, a proactive, resilience-building application, however, would see the DDM activated *immediately* to:

- Rebuild industrial commons: Apply Marshallian principles by fostering specialised supplier networks, technical training centres and business incubators around emerging

industries (e.g. renewables, machinery manufacturing). Encourage clustering through tax incentives and targeted infrastructure in industrial zones.

- Facilitate a Just Transition Plan: Convene AMSA, the DTIC, the Department of Forestry, Fisheries and the Environment, and labour unions under the DDM structure to explore options for repurposing the site for green steel production, metal recycling, or other advanced manufacturing.
- Drive Economic Diversification: Use the DDM platform to fast-track the development of a Special Economic Zone (SEZ) or industrial park in Newcastle, leveraging the town's existing infrastructure, logistics network, and skilled workforce to attract new investment.
- Integrate Social and Economic Planning: Ensure that the company's Section 189 process and social plan are seamlessly integrated with provincial and municipal social development and employment programmes, avoiding bureaucratic silos that leave workers behind.

4. Aligning National Industrial Policy with Local Municipal Reality

A central theme emerging from this research is the profound disconnect between the design of national industrial policy and the implementation reality at the local municipal level. Local and district Spatial Development Frameworks (SDFs) and Integrated Development Frameworks (IDPs) are often compliance-driven, reflecting provincial or national mandates rather than meaningful strategic development tailored to the region’s unique needs.

Policies like the Sectoral Master Plans and the Reimagined Industrial Strategy are conceived for a spatially neutral, functionally capable state. They operate under a set of assumptions of reliable infrastructure, effective municipal governance, and cohesive value chains. These assumptions are often misplaced or invalid in towns like Lichtenburg and Komati[11] ,[12]

[11] Robbins (2024)
[12] Makgetla et al (2022)

4.1. Key Dimensions of the Misalignment

The case studies reveal several critical points of failure:

a) *The Infrastructure Assumption:* National localisation targets, for example, assume consistent electricity and water supply. Lichtenburg's experience, where production was halted by outages, demonstrates that without this foundational support, national industrial ambitions are unattainable at the local level.

b) *The Capacity Assumption*: Programmes such as the Black Industrialists Scheme require sophisticated business plans, compliance reporting, and networking; all of which are beyond the reach of most SMMEs in environments where the local municipality itself is in administration. The report's finding that municipal LED efforts often default to "low-impact interventions" like hawker stalls is a direct result of this capacity gap.

c) *The Spatial Blindness*: Post -apartheid industrial policy has largely treated the economy as spatially homogenous. It fails to account for the unique economic structures, assets, and liabilities of specific places. A master plan for the poultry industry developed in Pretoria may have little relevance to the specific value chain disruptions experienced in Lichtenburg following Clover's exit[13].

The misalignment between national industrial ambition and local municipal incapacity is a primary driver of spatial inequality and de-industrialisation. Without deliberate and structured mechanisms to bridge this gap, national policies will continue to fuel growth in metropolitan hubs while bypassing the peripheral towns that are most in need of investment and jobs. There, integrating place-based principles into the heart of industrial policy design is not an optional add-on but a prerequisite for inclusive growth.

[13] Robbins (2024)

5. A Pathway to Alignment: From Spatially Blind to Place-Based Policy

Closing this chasm requires a fundamental paradigm shift from spatially blind to place-based industrial policy (OECD, 2021). This involves:

a) *Embedding Local Economic Reality in National Diagnostics*: The formative stage of every national industrial strategy must include a mandatory "spatial risk and opportunity assessment." This would evaluate the strategy's viability and requirements across different municipal contexts, specifically identifying potential bottlenecks in distressed municipalities.

b) *Decentralising Implementation and Building Capability*: National departments must move beyond a compliance-oriented, head-office mindset. This requires establishing dedicated, skilled units to work *in* districts and hubs, partnering with municipalities to co-design implementation pathways for national policies that are tailored to local realities.

c) *Leveraging the DDM as the Mandatory Interface*: The DDM's "One Plan" should be the non-negotiable vehicle through which municipalities access national industrial incentives and support. This forces alignment by ensuring that national resources are directed towards a coherent, locally owned strategy rather than isolated, uncoordinated projects.

6. A Quantitative Profile of Decline: Measuring the Socio-Economic Impact

This chapter quantifies the socio-economic decline in the case study towns. Using publicly available data, we construct a statistical profile to substantiate the claims of economic collapse and social vulnerability, providing a harder-edged evidence base for the policy recommendations that follow.

Between 2011 and 2022 Ditsobotla's population exhibited a negative CAGR of −0.26 % per year, while Steve Tshwete recorded a positive CAGR of 0.47 % per year (reflecting growth up to 2016). After 2016 both municipalities lost residents, but Steve Tshwete's decline was steeper. The decline in higher-education attainment in Steve Tshwete could indicate

out-migration of skilled workers after the power-station closure. The demographic ageing and population loss point to declining absorptive capacity, as working-age residents leave and the towns' ability to support dependants diminishes.

Both municipalities exhibit an ageing trend[14]. The share of residents under 15 years dropped by 3 percentage points in Ditsobotla and 1.4 points in Steve Tshwete[15], while the share over 65 years rose. This demographic shift increases the dependency ratio unless working-age employment opportunities expand.

In both towns the immediate shock absorbed by workers and households has been severe. In Lichtenburg, employees from the Clover factory and supporting dairies lost jobs and incomes. Reports noted that many households lacked savings and relied on informal trading or remittances, revealing weak absorptive capacity. The municipality's failure to provide reliable services further compromised coping strategies, as business owners faced high costs and residents experienced water and electricity outages.

The quantitative data provides an unambiguous confirmation of the qualitative findings that ***1) De-industrialisation is a process of cumulative causation 2) Job losses lead to a shrinking municipal revenue base, which leads to infrastructure and service decline, which further discourages investment and job creation***. This vicious cycle is vividly clear in the data for Ditsobotla and is a looming threat for Steve Tshwete, underscoring the urgent need for the coordinated interventions outlined in this paper.

6.1 Quantitative Analysis: Ditsobotla Local Municipality (Lichtenburg)

The data for Ditsobotla reveals a municipality in a state of accelerating decline, a trend that was evident even before Clover's final exit in 2021. The soaring unemployment and youth NEET rates point to a rapidly shrinking formal labour market. The steep decline in municipal

[14] https://municipalities.co.za/demographic/1202/ditsobotla-local-municipality#:~:text=2022%202016%202011%20Population%20164,74.0
[15] https://municipalities.co.za/demographic/1158/steve-tshwete-local-municipality#:~:text=2022%202016%202011%20Population%20242,90.8

own-source revenue -a direct result of business closures and a shrinking ratepayer base - confirms the report's qualitative finding of a collapsing fiscal base, which in turn cripples the municipality's ability to maintain the very services needed for economic recovery.

Socio-Economic Indicators for Ditsobotla Local Municipality (Lichtenburg)				
Indicator	**2011 (Baseline)**	**2016 (Stable)**	**2022/23 (Post-Decommissioning)**	**Source**
Unemployment Rate	28.5%	35.2%	44.8% (est.)	Stats SA, QLFS
Youth NEET Rate	31.9%	38.5%	55.1% (est.)	Stats SA, QLFS
Municipal Own Revenue (% of Total)	65%	55%	<40% (severe decline)	NT, Stats SA, STLM IDP
Households with Reliable Water Access	75%	65%	<50%	Stats SA, Census/CS

The losses observed in the KPMG report disproportionately affect suppliers, contractors and informal traders. Evidenced also by local groups reporting a decline in micro-enterprise income and increases in unemployment as observed in the table above.

6.2 Quantitative Analysis: Steve Tshwete Local Municipality (Komati)

In contrast to Ditsobotla, Steve Tshwete presented a picture of relative economic stability prior to Komati's decommissioning. The quantitative impact is therefore more about a future negative shock captured in projections and models.

Socio-Economic Indicators for Steve Tshwete Local Municipality (Komati)				
Indicator	**2011 (Baseline)**	**2016 (Stable)**	**2022/23 (Post-Decommissioning)**	**Sources[16]**

[16] **Statistics South Africa (Stats SA):** Census 2011, Community Survey 2016, and Quarterly Labour Force Survey (QLFS) data. **National Treasury:** Municipal Financial Management Act (MFMA) Section 71 reports and the Local Government Budgets and Expenditure Review. **Municipal Integrated Development Plans (IDPs) and**

Unemployment Rate	19.7%	17.3%	22%+ (projected)	Stats SA, STLM IDP
Municipal Own Revenue (% of Total)	70% (est.)	Stable (~68%)	Projected decline	NT, Stats SA, STLM IDP
GVA Contribution (Electricity)	Significant	Significant	Sharp Contraction	STLM Annual Reports

The stability pre-2022 underscores Komati's role as a contributor to, but not the sole anchor of, a more diversified local economy. However, the report's modelled job losses (~1,400 total) and the projected decline in municipal revenue from lost contracts and reduced economic activity signal a significant negative shock. This quantitative projection validates the qualitative concerns raised by stakeholders about the gap left by Komati's closure.

6.3 The Gendered Dimensions of Deindustrialisation

The decline of manufacturing in South Africa's small towns, a process termed "premature deindustrialisation," is well-documented in economic literature. However, the impacts of this decline are not gender-neutral. We examine scholarly and grey literature to analyse the multifaceted and disproportionate consequences of deindustrialisation on women and women-led businesses. Our findings suggest that the closure of anchor industries trigger a cascade of gendered effects, intensifying women's unpaid labour, pushing them into precarious informal work, and crippling the ecosystem for female entrepreneurship, thereby reinforcing existing gendered cycles of poverty and inequality.

Ignoring the gendered dimensions of de-industrialisation risks reinforcing inequality and undermining the effectiveness of recovery policies. By recognising and addressing the disproportionate burden on women, resilience strategies can become more inclusive and

Annual Reports. We analyse trends from 2011 (a pre-crisis baseline) to the most recent available data for key indicators of economic health and social well-being.

effective, ensuring that the path to economic recovery does not leave half the population behind.

6.1.1. Gendered Employment and the "Feminization of Survival"

The report does not disaggregate job losses by gender, but the affected sectors (heavy agro-processing and energy) which have historically been male-dominated in South Africa. The loss of these formal, often unionized, "breadwinner" jobs, creates a crisis of masculine identity and places immense financial pressure on households. In response, a process of **"feminization of survival"** (Chant, 2008) occurs, whereby women absorb the shock through two primary channels:

a) **Expansion of Informal and Precarious Work:** Women increasingly take on low-income, insecure work in the informal economy, such as street vending, domestic work, or home-based care, to supplement lost household income.
b) **Intensification of Unpaid Care Work:** As municipal services collapse, the labour of social reproduction intensifies. The tasks of fetching water, finding alternative energy sources, and caring for family members whose health is compromised by these conditions fall disproportionately on women, constraining their ability to engage in paid work.
c) **Social Reproduction Theory** (Bhattacharya, 2017): This framework distinguishes between productive labour (wage-earning) and reproductive labour (the work of maintaining the workforce, such as cooking, cleaning, and childcare). Deindustrialisation cripples the productive economy while simultaneously increasing the burden of social reproduction, as public services fail. This "crisis of care" falls disproportionately on women.

According to Stats SA, female-headed households, which are overrepresented among the poorest quintiles in South Africa, are uniquely vulnerable. They have less access to savings, severance packages, and extended social networks to cushion the blow resulting in prolonged economic desert faced by women who lose formal employment, with fewer alternative pathways than their male counterparts.

a) **Direct Employment and the "Last Hired, First Fired" Phenomenon:** While large-scale manufacturing (e.g., steel, automotive) is male-dominated, small-town agro-processing (dairies, abattoirs, fruit canneries) and textile factories have historically been significant employers of women, particularly black women[17]. When these factories close, women lose formal employment with benefits and relative job security. Studies suggest that during retrenchment processes, women, often in temporary or lower-skilled roles, are frequently the first to be let go.[18]

b) **Forced Entry and Expansion in the Informal Economy:** With formal jobs gone and household income slashed, women are pushed into the informal economy. This is not a choice but a survival strategy. Common activities include 1) Informal Trading 2) Street vending of food 3) clothing, or other goods in a shrinking local market. 3) Home-Based Work 4) Hairdressing, sewing, or baking 5) Care Work: Providing paid childcare or caring for the sick and elderly. These activities are characterised by low and unpredictable incomes, no social protection, and high vulnerability to economic shocks[19]. Her most likely option is to use her severance pay (if any) to buy stock and become a street vendor. However, she enters a saturated market where every other retrenched worker is doing the same, leading to fierce competition and plummeting profits.

c) **Impact on Women-Led Businesses**: Women-led SMMEs, which are often micro-enterprises in the retail, services, and hospitality sectors, face a dual crisis when a town deindustrialises:

i. *Collapse of Local Demand*: The loss of stable wages from the anchor industry and its supply chain decimates local consumer spending. A café owner, a salon operator, or a spaza shop owner sees her customer base evaporate.

[17] Beall et al (2015)
[18] Posel et al (2023)
[19] Skinner & Watson (2017)

ii. *Deterioration of the Operating Environment*: As municipal services fail, these businesses face higher costs (e.g. buying generators, purchasing water) and operational disruptions, from which they have less capital to buffer themselves compared to larger firms.

iii. *Less Access to Capital*: Research by the Trade & Industrial Policy Strategies (TIPS) has shown that women entrepreneurs often have less access to capital, networks, and property, making them less resilient to such systemic shocks.[20]

We cannot overemphasise the gendered impact the closure of industries in these small towns, disproportionately disadvantaging women. There continues to be a severe shortage of town-level, sex-disaggregated data on employment, unemployment, and SMME ownership pre- and post-deindustrialisation. In addition, more research is needed on how these impacts are compounded by race, class, and migrant status. The experience of a woman running a spaza shop in a township is different from that of a woman running a B&B in a formerly white-dominated town centre. And while the negative impacts are clear, there is less documentation of successful, women-led resilience strategies, such as the formation of cooperatives or successful advocacy for municipal services – let us report and document those stories too. Designing Effective Anchor Diversification Incentives

Without proactive economic diversification, de-industrialising towns face a future of managed decline. A strategically designed, well-governed, and place-sensitive package of Anchor Diversification Incentives is not a silver bullet, but it is an essential component of a broader strategy to break the cycle of mono-industrial dependency and build resilient, diverse, and inclusive local economies.

6.1.2 Labour Migration Strategies and Transitions

Applying Fuzzy Set Theory (also known in Mathematics as uncertain sets) to labour migration and economic transition planning in deindustrialising towns offers a way to move beyond simplistic, binary categories and develop more nuanced, realistic strategies.

[20] Makgetla et al (2022)

The theory, developed by Lotfi Zadeh, rejects the classical "crisp" set membership, and instead allows for partial membership, graded on a continuum. This is perfectly suited to the complex realities of labour migration and local economic development.

6.1.3 Just Transition Planning and Labour Strategies

a) **From "Winners and Losers" to "Graded Impacts":** A Just Transition requires recognizing that the impact of change is not binary. Fuzzy sets can model the varying degrees of vulnerability of different workers, communities, and businesses. A "Just Transition Plan" can then be designed to proportionally support individuals based on their calibrated level of vulnerability and potential for reintegration.

b) **Incorporating Ambiguous Stakeholder Positions**: In a town like Komati, a community leader might be mostly in favour of a solar project (0.8) but partly concerned about land use (0.4). Fuzzy analysis of stakeholder perspectives allows for more sophisticated negotiation and deal-making, acknowledging and addressing these nuanced positions rather than forcing people into "for" or "against" camps.

7. New Industry Commons Development and Labour Plans

The recovery of towns like Lichtenburg and Komati cannot be achieved by simply attracting a replacement anchor corporation. Instead, it requires a fundamental shift to a labour-centric development model that leverages the latent, often uncategorised, skills and capacities of the existing and displaced workforce. This approach uses Fuzzy Set Theory to move beyond rigid job classifications and New Industry Commons to create shared, democratically owned economic infrastructure. The goal is to build a resilient, pluralistic local economy from the bottom up.

The traditional development model treats labour as a passive factor of production to be employed or retrained by a new master. This fuzzy, commons-based model reframes labour as the central agent of development. For Lichtenburg, Komati, and countless other towns, this

approach offers a path forward that is not about recreating the past but about building a more democratic, adaptable, and equitable economic future from the ground up, centred on the dignity and capability of its people.

7.1 Applying Principles for Effective Incentive Design

Drawing on international best practice (OECD, 2019) and the specific context of South African small towns, effective diversification incentives must be:

a) **Place-Based:** Tailored to the unique assets and opportunities of each town, not a one-size-fits-all national formula.
b) **Conditional and Performance-Linked:** Benefits must be tied to verifiable outcomes, such as net job creation, local procurement targets, and investment in employee skills.
c) **Time-Bound and Phased:** Offered for a fixed period to catalyse initial investment without creating long-term dependency, potentially with incentives decreasing over time.
d) **Integrated:** Part of a broader package that includes the resolution of horizontal constraints (energy, water, logistics) through the DDM.

8. Towards A Menu of Incentive Mechanisms

A strategic mix of the following could be deployed in designated "Economic Resilience Zones":

a) **Enhanced Employment Tax Incentive:** A significant tax credit for every new permanent job created in a target sector outside the dominant anchor industry.
b) **Accelerated Depreciation Allowances:** Allow businesses investing in productive assets (machinery, technology) within these zones to write off 100% of the cost in the first year, improving cash flow and encouraging capital investment.
c) **Infrastructure Co-Funding Grants:** Match funding for businesses that invest in mitigating municipal service failures, such as solar power installations, water recycling plants, or private security for logistics corridors.

d) **Anchor-tenant Supply Chain Development:** Offer the remaining anchor firms (e.g., Columbus Stainless, Afrimat) a tax credit or other incentive for increasing their local procurement percentage, thereby actively nurturing a ecosystem of local SMMEs.

9. Building Heidelberg's Industrial Resilience: An Integrated Framework

Heidelberg's looming deindustrialisation reflects South Africa's broader crisis of state capacity, governance failure, and illicit trade. Once a stable manufacturing hub anchored in legal tobacco and food processing, the town now faces industrial decline as weak enforcement allows illicit markets to undercut formal producers, eroding jobs, revenue, and community stability. Addressing this trajectory requires a holistic framework that combines local industrial theory, social resilience, and multi-level governance; drawing from **Marshallian development theory**, the **Tripartite Social Resilience Framework**, and the **DDM**.

Marshallian development theory underscores the value of **localised industrial districts (agglomeration)**, where firms, workers, and institutions generate collective efficiency through proximity, knowledge sharing, and supply chain interdependence. For Heidelberg, this means rebuilding its local production ecosystem: protecting anchor firms such as British American Tobacco South Africa (BATSA), Eskort Limited, and Zest WEG – to mention some, reviving supplier networks, and strengthening vocational linkages through local TVET colleges. Re-embedding industrial activity within local networks not only preserves skills and jobs but also restores the knowledge spillovers and economic density essential to long-term competitiveness.

The **Tripartite Social Resilience Framework** adds a dynamic lens for managing shocks through the collaboration of government, business, labour and civil society. It operates through three reinforcing capacities. **Absorptive capacity** would entail stabilising existing industries and institutions – e.g., securing reliable energy and transport infrastructure, and establishing rapid-response coordination through a local Emergency Centre. **Adaptive capacity** would involve repositioning the economy through supplier diversification, demand-driven skills development, and stronger inter-agency collaboration to curb illicit trade. Finally,

transformative capacity must seek deeper structural reform: professionalising municipal governance, restoring institutional integrity, and embedding accountability mechanisms that can sustain industrial recovery over time.

The DDM provides the operational vehicle for implementing this integrated approach. By aligning municipal, provincial, and national efforts around a single, district-level plan, the DDM can ensure that Heidelberg's recovery is coordinated, adequately financed, and monitored. A **Heidelberg Economic Forum (HEF)** - representing the tripartite partnership - would drive this agenda, aligning short-term stabilisation with medium-term adaptation and long-term transformation.

In essence, Heidelberg's resilience depends on rebuilding both its industrial ecosystem and its institutional foundations. A Marshallian approach nurtures local economic interdependence; a tripartite resilience model ensures social cohesion and shared responsibility; and the DDM grounds these efforts in coherent, accountable governance. Together, these frameworks provide a pathway for Heidelberg not merely to survive deindustrialisation pressures, but to transform into a model of inclusive, locally driven industrial renewal in South Africa's evolving developmental landscape.

10. Conclusion

The cases of Lichtenburg and Komati demonstrate that deindustrialisation in South Africa's secondary towns is a multidimensional crisis, where industrial decline, social vulnerability, governance weaknesses, and spatial marginalisation intersect. Towns such as Butterworth and Zwelitsha in the Eastern Cape, and Newcastle in KwaZulu-Natal, similarly illustrate how the loss of anchor industries undermines formal employment, disrupts supply chains, and strains municipal services, leaving communities increasingly dependent on informal trade and social grants.

Experiences from the Global South - including Ludhiana in India, Ciudad Sahagún in Mexico, and Volta Redonda in Brazil - highlight recurring vulnerabilities: dependence on single

employers, underinvestment in infrastructure, urban-biased development policies, and youth outmigration, which amplify social and economic fragility. In South Africa, these challenges are compounded by weak municipal capacity, infrastructure decay, and policy misalignment, creating a “peripheralisation loop” that traps towns in cycles of decline.

Addressing these challenges requires integrated, place-based strategies that combine industrial diversification, human capital development, and strengthened governance. Drawing on the Marshallian Development Theory, the Tripartite Social Resilience Framework, and the District Development Model, interventions should rebuild local industrial ecosystems, protect anchor firms, foster knowledge spillovers, and strengthen absorptive, adaptive, and transformative capacities. By embedding resilience and fostering collaboration across government, business, and civil society, South Africa’s secondary towns can move from fragile coping to dynamic, inclusive, and locally driven economic recovery, guided by lessons from domestic experiences and comparable Global South contexts.