

From Comparative Advantage to Regional Competitiveness: A Spatial Integration Framework for Qaryat Al-Ulya

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ABSTRACT

This study examines how peripheral agricultural territories can transition from reliance on comparative advantage toward integrated regional competitiveness through spatial and institutional coordination. Using Qaryat Al-Ulya Governorate as a case study, the paper develops a framework that links agricultural production, poultry and livestock activities, agro-industrial processing, logistics, and complementary rural functions within a coherent territorial system. Rather than treating these sectors as isolated activities, the analysis conceptualizes competitiveness as a cumulative outcome of value-chain upgrading, spatial clustering, and network embedding.

The findings highlight that agricultural specialization can serve as a platform for industrial deepening rather than a barrier to modernization. While grounded in the specific context of Qaryat Al-Ulya, the framework offers transferable insights for semi-arid regions seeking to reposition themselves within regional production networks. Ultimately, the study emphasizes that regional competitiveness emerges through the redesign of relationships among sectors, spaces, and institutions, rather than through expansion of output alone. By addressing a documented scarcity of planning-oriented research on Qaryat Al-Ulya, the study provides a foundational framework for future empirical work and policy design.

Keywords: Spatial development, competitiveness, agro-industry, logistics, regional transformation.

Introduction

Peripheral territories across arid and semi-arid environments frequently present a persistent paradox. They may possess extensive land resources, established agricultural practices, and advantageous positions within national circulation systems, yet remain limited in income retention, industrial depth, and innovation capacity. Production occurs, but value migrates, with higher-order functions concentrating elsewhere. This imbalance has stimulated sustained debate in economic geography and regional planning concerning how such territories might reposition themselves within broader spatial hierarchies (Rodríguez-Pose, 2013).

Earlier development paradigms often equated progress with quantitative expansion—more cultivated land, larger herds, higher volumes. Contemporary scholarship, however, emphasizes that these metrics alone cannot secure structural transformation. What ultimately matters is the organization of relationships among production, processing, logistics, and institutions (Scott & Storper, 2003). Development, from this perspective, is a question of systemic integration rather than isolated growth.

The shift from comparative advantage toward competitiveness therefore represents a conceptual and strategic reorientation. Comparative advantage describes what a territory possesses; competitiveness reflects what it is able to achieve through coordination of those assets. Bridging this divide requires infrastructural readiness, governance alignment, and spatial design capable of enabling cumulative value creation (Porter, 1998).

Qaryat Al-Ulya provides an illuminating terrain for examining this transition. The governorate hosts an active agricultural base and has experienced notable growth in poultry production. Its position along corridors linking internal markets with northern routes suggests logistical potential extending beyond local demand. Yet many downstream activities—processing, packaging, branding, and distribution—remain externalized, constraining economic leverage.

This divergence between potential and realized performance raises a central question: **how can a resource-oriented territory reorganize its spatial and economic structure to become an integrated node within regional production networks?** Addressing this challenge requires moving beyond sectoral perspectives toward an approach that captures interdependence, circulation, and territorial structuring (Coe et al., 2008).

The present study advances such a framework. It proposes that competitiveness can emerge through a staged process in which resources are mobilized, activities are spatially coordinated, industrial capacities are developed, and external linkages are strengthened. Each dimension reinforces the others, producing cumulative momentum.

The contribution of the paper is twofold. Conceptually, it bridges value-chain reasoning, agglomeration dynamics, and evolutionary understandings of regional change. Operationally, it translates these ideas into concrete spatial arrangements, flow models, measurable indicators, and governance priorities. In doing so, the study responds to calls for approaches that connect theory with actionable strategy (Rodríguez-Pose, 2013).

Research Foundations

This section outlines the analytical premises concerning how territories evolve, and how spatial organization shapes economic outcomes. These premises move beyond linear interpretations of growth and instead emphasize relational, institutional, and cumulative dynamics.

First, the analysis assumes that development is fundamentally a problem of **coordination**. Resources do not automatically translate into prosperity; they require alignment among actors, infrastructures, regulations, and markets. Where such alignment is absent, productive capacity may exist without generating transformative impact. Fragmentation, in this sense, becomes the principal obstacle to advancement.

Second, the study adopts a **systemic ontology** of the regional economy. Agriculture, poultry production, industry, logistics, and services are not treated as discrete sectors but as interacting components within a wider configuration. Changes in one domain reverberate across others. Expansion of livestock activity, for instance, reshapes demand for feed, veterinary services, transport, and waste management. Understanding development therefore demands attention to networks rather than isolated units.

A third premise highlights the **spatial embeddedness of economic processes**. Distances, proximities, and territorial arrangements influence cost structures, information exchange, environmental performance, and investor perception. Competitiveness is thus inseparable from geography. It is produced through deliberate organization of land uses, corridors, and nodes that facilitate circulation while minimizing conflict.

Fourth, the framework conceives diversification not as dispersion but as **functional complementarity**. The objective is not to multiply unrelated activities but to encourage those capable of reinforcing existing strengths. By deepening interconnections, the territory builds resilience against volatility while maintaining coherence.

Fifth, institutional capacity is recognized as a decisive mediator. Markets alone rarely produce optimal coordination in peripheral settings. Public intervention—through planning guidance, regulatory clarity, and infrastructure provision—creates the conditions under which private initiative can flourish. Governance, therefore, is not external to competitiveness; it is constitutive of it.

Finally, the study operates on the assumption that transformation is **path dependent yet open-ended**. Historical trajectories shape opportunities, but they do not rigidly determine futures. By recombining inherited assets with new organizational forms, regions can redirect development toward higher-value equilibria.

Together, these foundations structure the analytical movement of the paper: from identifying existing potentials, to designing relational configurations, to evaluating outcomes through measurable progress. They provide the intellectual architecture upon which the subsequent empirical and spatial arguments are constructed.

Theoretical Background

Existing publications that mention Qaryat Al-Ulya primarily address historical or descriptive themes, with limited engagement in spatial development or competitiveness analysis.

Debates surrounding regional transformation have generated a rich body of scholarship seeking to explain why some territories manage to upgrade their economic positions while others remain locked in low-value activities. Three intellectual traditions are particularly influential in framing these discussions: value-chain theory, agglomeration and cluster perspectives, and evolutionary approaches to regional development.

Value-chain research emphasizes the importance of moving beyond raw production toward stages involving processing, coordination, branding, and distribution (Gereffi et al., 2005). The central argument is that value is not inherent in commodities but generated through successive layers of activity. Regions capable of capturing additional nodes within these chains tend to secure higher income retention and more diversified employment. However, participation alone does not guarantee upgrading; without institutional capacity and infrastructural readiness, territories may remain confined to subordinate roles (Coe et al., 2008).

Cluster theory introduces a complementary lens by underscoring the productivity advantages associated with spatial proximity (Porter, 1998). Concentration of interrelated firms can stimulate innovation, reduce transaction costs, and encourage specialization. Yet, much of this literature has focused on already industrialized environments, leaving open the question of how predominantly agricultural regions might initiate similar dynamics from less developed starting points (Martin & Sunley, 2003).

Evolutionary perspectives stress that regional change unfolds through path-dependent processes (Martin & Sunley, 2006). Existing competencies and networks shape future opportunities, and successful transformation typically involves recombination rather than rupture.

More recent contributions examine how peripheral territories reposition themselves within multi-scalar production systems. Integration into wider networks may enhance visibility, but it can also deepen dependency unless accompanied by local capacity building (Rodríguez-Pose, 2013).

The framework advanced in this study engages with these traditions while addressing The framework is also motivated by the limited availability of spatial-development studies focused on Qaryat Al-Ulya, which makes structured conceptual models particularly valuable as baseline references for subsequent empirical testing several of their limitations.

First, it treats agricultural specialization not as a barrier to modernization but as a platform for upgrading. Rather than advocating unrelated diversification, the model prioritizes deepening within existing strengths.

Second, while cluster theory highlights proximity, the present approach specifies how spatial planning instruments can actively produce such proximity where it does not emerge spontaneously (Healey, 2007). Planned concentration becomes a development strategy.

Third, the study reframes path dependence as a resource. Historical agricultural experience and land availability are interpreted as enabling conditions for industrial linkage, not constraints.

Finally, governance is integrated directly into the mechanics of competitiveness. Institutional alignment becomes an operational driver rather than contextual background (OECD, 2012).

Through these reinterpretations, the paper contributes a synthetic perspective that bridges abstract theory with territorially grounded strategy. It demonstrates how peripheral regions like Qaryat Al-Ulya can translate established insights into actionable pathways suited to their realities.

Comparative Advantages of the Study Area

Official national documentation confirms the agricultural profile and administrative standing of Qaryat Al-Ulya, highlighting its long-standing role within the northern part of the Eastern Province (Saudipedia, n.d.). The developmental prospects of peripheral territories are rarely determined by the mere presence of resources. Instead, they depend on how effectively those resources can be organized, mobilized, and connected to broader economic systems (Rodríguez-Pose, 2013). In this regard, Qaryat Al-Ulya presents a particularly instructive case, as it combines substantial environmental capacity with strategic accessibility while still exhibiting limited value retention.

Agricultural statistics reported at the national level indicate the presence of extensive farming activity within the governorate, reinforcing its suitability for agro-industrial linkage development (General Authority for Statistics, latest edition). One of the most prominent assets of the governorate is the availability of extensive agricultural land. Compared with metropolitan regions where urban expansion competes with farming, the relative abundance of space provides flexibility for both cultivation and future industrial allocation. Such conditions are widely recognized in regional development theory as favorable for structured clustering and infrastructural expansion (Porter, 1998).

Groundwater resources have historically sustained large numbers of farms, enabling the establishment of stable production routines. National documentation indicates that thousands of agricultural holdings operate within the governorate, forming a dense productive landscape (Saudipedia, n.d.). This density is significant: it ensures reliable input volumes and reduces uncertainty for potential downstream investors.

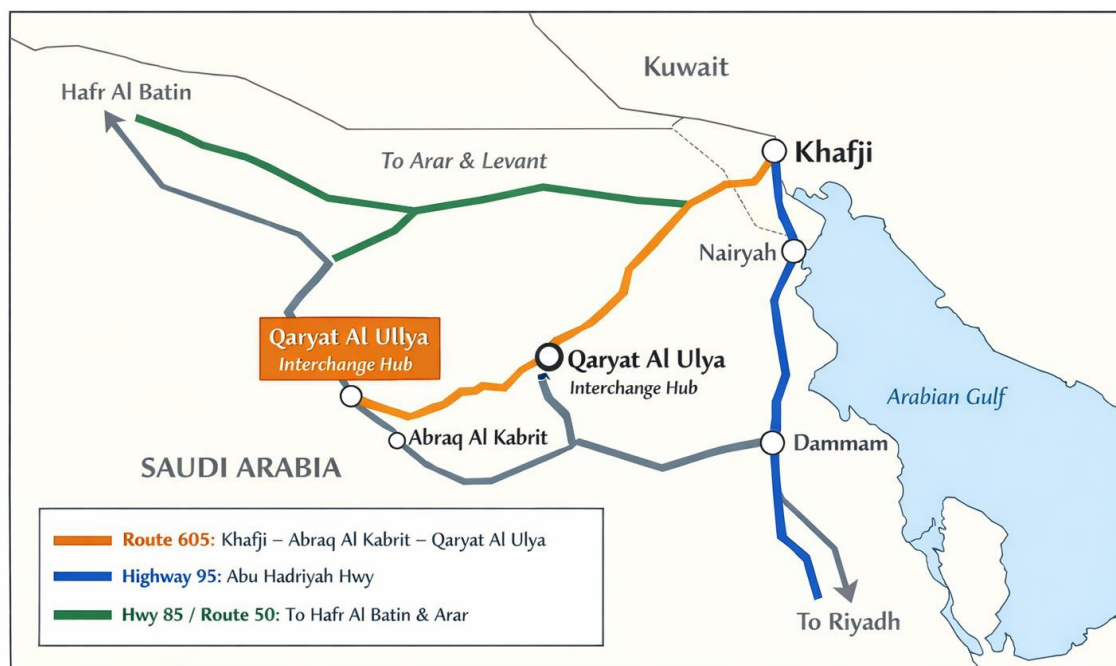
In recent years, the expansion of poultry activities has introduced more intensive forms of agribusiness. Livestock systems of this nature often function as catalysts for value-chain deepening because they generate demand for feed industries, veterinary services, cold storage, and transport coordination (Gereffi et al., 2005). The presence of such dynamics suggests that early stages of upgrading are already underway, even if not yet consolidated.

Location further enhances the comparative profile. Situated along corridors linking internal Saudi markets with northern routes, the governorate possesses logistical relevance that exceeds its demographic scale. Economic geography has consistently within the northeastern part of Saudi Arabia, functioning as a non-duplicated but intensively used inland connector between the Gulf coastal zone and the central

interior. Despite its modest geometric characteristics, this corridor plays a strategic role by intersecting with the Dammam–Nariyah–Hafr Al Batin–Arar axis, which constitutes one of the Kingdom’s principal north–south and trans-regional movement systems extending toward the Levant. The intersection at Qaryat Al Ulya forms a functional node where coastal, industrial, and inland logistics flows converge, enhancing the governorate’s role as an intermediate spatial hub. From a regional planning perspective, this configuration illustrates how secondary roads, when positioned within structurally coherent networks, can acquire significance comparable to major highways by facilitating cross-regional connectivity, supporting resource-based activities, and reinforcing spatial integration between the Eastern Province and the Saudi hinterland.

Demographic characteristics may also constitute an enabling factor. Moderate population density can facilitate land reorganization and reduce conflicts associated with industrial siting. In planning practice, such conditions often accelerate implementation of new frameworks (Healey, 2007).

Figure 1: Regional Road Network and Functional Corridor Intersection in Northeastern Saudi Arabia



At the same time, the surrounding desert environment and agricultural heritage open possibilities for complementary rural activities, including tourism and renewable energy initiatives. Diversification along these lines enhances resilience and broadens income bases (OECD, 2012).

Taken together, these attributes reveal a territory rich in potential yet under-integrated in practice. The gap between capability and coordination becomes the central analytical focus. Qaryat Al-Ulya thus offers an opportunity to observe how comparative advantages might be systematically converted into competitive outcomes. National agricultural strategies emphasize value-chain localization and processing expansion, aligning closely with the integration logic proposed in this study (Ministry of Environment, Water and Agriculture, latest strategy).

Methodology

This study adopts a **conceptual–analytical methodology** grounded in spatial analysis and integrative framework building. Rather than pursuing a statistical or econometric evaluation, the research aims to develop a structured explanatory model capable of illuminating how peripheral agricultural territories can transition from comparative advantage toward regional competitiveness through spatial coordination and institutional alignment.

The methodological approach combines three interrelated components. First, a **theoretical synthesis** is conducted by critically engaging with key strands of literature in regional development, global value-chain analysis, agglomeration theory, and evolutionary economic geography. This synthesis is not treated as a descriptive review but as an analytical process through which complementary concepts are recombined into a coherent interpretive structure.

Second, the study employs **case-based spatial reasoning**, using Qaryat Al-Ulya Governorate as an illustrative analytical terrain. The case is not selected for statistical generalization, but for its capacity to reveal underlying mechanisms of territorial transformation common to semi-arid and peripheral regions. Empirical characteristics of the governorate—such as agricultural capacity, emerging poultry activities, logistical positioning, and land availability—are interpreted qualitatively to demonstrate how theoretical propositions manifest within a concrete spatial context.

Third, the research advances a **framework-building exercise** that translates abstract theoretical insights into operational components. This includes the construction of spatial structural models, inter-sectoral flow diagrams, staged transformation mechanisms, and measurable competitiveness indicators. These elements are designed to clarify relationships among production, processing, logistics, governance, and external market integration, thereby linking conceptual reasoning with practical planning relevance.

The methodology is explicitly iterative and relational. Analytical insights derived from theory inform the interpretation of spatial and functional configurations, while observations from the case study feed back into the refinement of the proposed framework. Through this approach, the study prioritizes explanatory depth, structural coherence, and policy applicability over numerical estimation, offering a transferable model for understanding and guiding regional competitiveness in resource-oriented peripheral territories.

Mechanism of Transformation

Regional competitiveness rarely materializes through abrupt change. Instead, it emerges through cumulative processes in which territories reorganize existing assets into progressively more complex configurations (Martin & Sunley, 2006). The challenge is therefore not replacement, but recombination. In Qaryat Al-Ulya, agriculture and poultry production do not represent outdated activities to be superseded; they are the foundations upon which upgrading can be constructed.

The mechanism proposed in this study unfolds across interlinked stages, each of which prepares the conditions for the next. The sequence is neither rigid nor purely chronological; overlaps and feedback loops are expected. Nevertheless, analytical differentiation clarifies responsibilities and priorities.

The first stage involves **resource recognition and mobilization**. Mapping productive capacity, infrastructure availability, and land reserves allows stakeholders to identify the scale of opportunity. Economic development research emphasizes that visibility of assets is a prerequisite for investment coordination (Scott & Storper, 2003). Where information remains fragmented, integration falters.

The second stage concerns **organizational consolidation**. Through zoning, regulatory alignment, and service provision, dispersed activities are gradually drawn into structured proximity. Agglomeration literature consistently demonstrates that concentration enhances productivity by reducing transaction costs and facilitating cooperation (Porter, 1998). In peripheral settings, such proximity often requires deliberate planning rather than spontaneous market evolution.

A third stage introduces **value augmentation**. Here the territory expands into processing, packaging, and cold-chain functions, thereby increasing local capture of income. According to value-chain analysis, these moments of functional upgrading are decisive because they transform regions from suppliers into coordinators (Gereffi et al., 2005).

Fourth, the system advances toward **network embedding**. Stable flows toward metropolitan markets generate reputation and reliability, encouraging inward streams of capital and expertise. Integration into broader production networks enhances both scale and bargaining position (Coe et al., 2008).

Finally, sustained interaction fosters **specialization and identity formation**. Over time, external actors begin to recognize the territory as a hub for particular commodities or services. Evolutionary approaches interpret this phase as consolidation of a new development path built upon accumulated capabilities (Martin & Sunley, 2006).

Crucially, the mechanism is recursive. Success in later stages reinforces earlier ones by stimulating demand for agricultural inputs, encouraging technological adoption, and attracting skilled labor. Competitiveness thus becomes self-reinforcing rather than externally imposed.

To clarify how agricultural resources are reorganized into an integrated competitiveness system, Figure 2 presents a schematic representation of the proposed agro-industrial value circulation framework for Qaryat Al-Ulya.

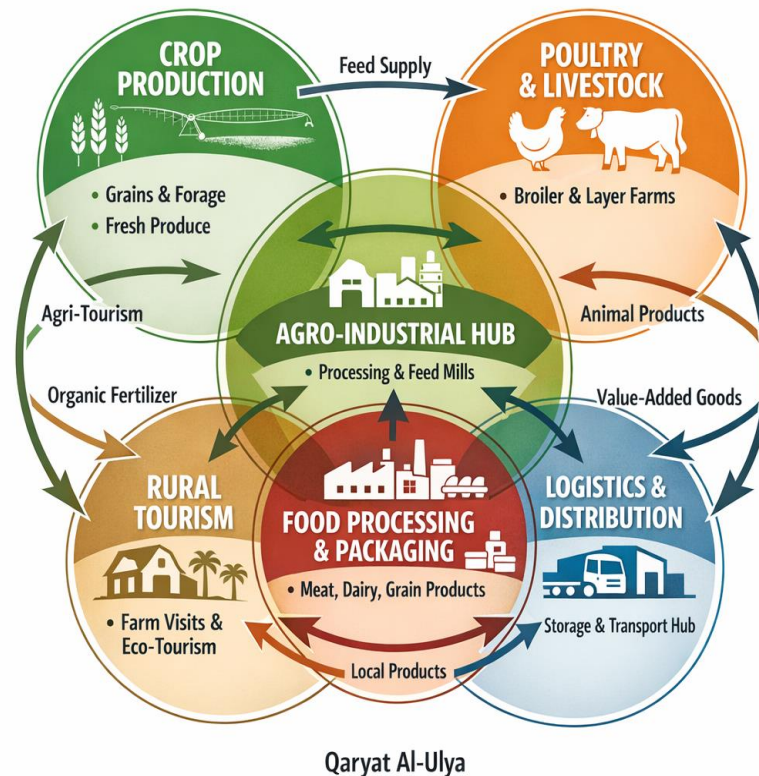


Figure 2 presents a schematic representation of the proposed agro-industrial value circulation framework for Qaryat Al-Ulya

Rather than depicting isolated sectors, the framework emphasizes functional interdependence and circularity, where production, processing, logistics, and complementary activities mutually reinforce each other. This configuration enables local value retention and supports the gradual transition from resource provision to regional coordination.

This staged interpretation highlights that transformation is manageable. Instead of requiring dramatic reinvention, it depends on sequencing improvements and maintaining institutional continuity. For Qaryat Al-Ulya, the presence of an active farming base and emerging livestock dynamics provides immediate entry points into the process.

Spatial Structural Framework

If competitiveness is relational, then space becomes its medium. The way activities are distributed across territory influences transport efficiency, environmental performance, labor stability, and ultimately investor confidence. Spatial planning therefore operates not merely as a regulatory instrument but as a productive force shaping economic outcomes (Healey, 2007).

The framework proposed for Qaryat Al-Ulya translates the transformation mechanism into a structured territorial arrangement. Rather than allowing uses to evolve randomly, it defines complementary zones designed to intensify interaction while minimizing conflict.

At the core lies the **urban and administrative nucleus**, hosting residential neighborhoods, governance institutions, education, healthcare, and commercial services. Maintaining the vitality of this center is crucial, as social infrastructure underpins labor retention and long-term stability. Development agencies consistently identify quality of life as a determinant of regional competitiveness (OECD, 2012).

Surrounding this nucleus, extensive **agricultural fields** preserve the productive foundation of the system. Their continuity ensures predictable supply for downstream activities and protects the territorial identity rooted in farming traditions.

Designated areas for **poultry and livestock operations** are positioned at calculated distances from dense settlements while remaining proximate to feed sources and transport links. Clustering such activities facilitates biosecurity management, shared utilities, and coordinated services—advantages widely documented in agglomeration research (Porter, 1998).

Between production zones and external corridors, **agro-industrial platforms** accommodate slaughtering, processing, packaging, and refrigeration. Their intermediate location is strategic: it shortens internal routes while enabling rapid dispatch toward markets. By concentrating transformation functions, the territory increases value retention.

At major access points, **logistics hubs** convert geographic position into economic leverage. Storage, coordination, and distribution services anchor the governorate within wider circulation networks, strengthening its negotiating capacity (Coe et al., 2008).

Complementary spaces may support renewable energy generation, waste recycling, or rural tourism initiatives. Such additions broaden economic bases without diluting the dominant productive logic.

The effectiveness of this spatial structure derives from the density of relationships it fosters. Reduced distances accelerate exchange, shared infrastructure lowers costs, and functional clarity enhances predictability. In combination, these factors create cumulative efficiency capable of repositioning Qaryat Al-Ulya within regional hierarchies.

Importantly, the framework remains adaptable. Phased implementation allows gradual consolidation while preserving flexibility for future adjustments. Planning thus becomes an evolving process aligned with the dynamics of transformation.

Inter-Sectoral Flow Model

While spatial organization establishes the architecture of the regional system, competitiveness ultimately depends on the intensity and reliability of exchanges circulating within it. Economic geographers frequently describe development as a relational phenomenon produced through repeated interactions among firms,

institutions, and infrastructures (Bathelt et al., 2004). Flows, rather than isolated outputs, become the carriers of value.

Within Qaryat Al-Ulya, agricultural production forms the initial impulse of circulation. Grains and fodder move toward poultry and livestock operations, generating backward linkages that anchor demand internally. Instead of exiting the territory in raw form, inputs are redirected toward activities capable of multiplying their economic significance. Such internalization is a central principle of value-chain upgrading (Gereffi et al., 2005).

Livestock facilities subsequently transmit outputs toward agro-industrial units. At this juncture, qualitative transformation occurs: slaughtering, grading, packaging, and refrigeration increase durability, marketability, and price potential. Employment diversifies as technical, managerial, and logistical skills gain prominence. The territory begins to shift from extraction toward coordination.

From industry, commodities enter outward distribution channels. Reliable delivery to metropolitan markets reinforces reputation, encourages contractual stability, and attracts complementary investment. Global production network analysis highlights how such connections can enhance regional leverage when supported by local capability (Coe et al., 2008).

Crucially, outward flows stimulate inward movements. Capital, technology, expertise, and services return to the governorate, thickening the economic environment. Over time, circulation becomes self-reinforcing: greater reliability produces greater demand, which in turn justifies further infrastructural improvement.

Additional loops may develop among farms, tourism initiatives, retail activities, and recycling operations, illustrating how circularity contributes to sustainability. Diversified yet interconnected pathways enhance resilience while preserving systemic coherence.

The density of these flows transforms geography into advantage. Reduced transport times, frequent interaction, and shared standards foster trust among actors. Cluster scholarship associates such relational proximity with innovation and productivity growth (Porter, 1998).

By conceptualizing competitiveness as circulation, the model shifts attention from individual achievements to collective performance. The question is no longer how much each sector produces, but how effectively they exchange.

Measuring Competitiveness

For regional strategies to move beyond aspiration, they must be translated into observable signals. Measurement provides continuity between planning intention and developmental outcome. Without such instruments, competitiveness risks becoming rhetorical rather than operational (Martin & Sunley, 2003).

The approach adopted in this study links indicators directly to the stages of transformation previously outlined. In doing so, it ensures analytical coherence between diagnosis, intervention, and evaluation.

The first layer of assessment concerns **resource activation**. Variables such as cultivated area, livestock capacity, and production volumes establish whether the material base of the system is expanding or contracting. While not sufficient in themselves, these metrics reveal the stability of inputs upon which further upgrading depends.

The second layer addresses **organizational integration**. Here, attention turns to the proportion of activities located within planned zones, access to shared utilities, regulatory compliance, and availability of technical services. Governance research emphasizes that predictability and coordination significantly enhance investment attractiveness (OECD, 2012).

A third dimension evaluates **industrial deepening**. Processing capacity, cold storage volumes, diversification of products, and employment in manufacturing indicate whether value is increasingly retained locally. Such measures correspond to functional upgrading stages highlighted in value-chain analysis (Gereffi et al., 2005).

The fourth layer examines **network embedding**. Delivery times, transport frequency, trade intensity, and durability of contracts reveal the degree to which the territory has become integrated into external circuits. Stronger connections tend to reinforce visibility and bargaining power (Coe et al., 2008).

Finally, competitiveness manifests through **outcome performance**. Growth in business formation, attraction of investment, income retention, and occupational diversity reflects systemic change extending beyond sectoral expansion.

Table 1
Competitiveness Dimensions, Indicators, and Measurement Logic

Dimension	Indicator	Unit	What Improvement Suggests
Resource Base	Cultivated land	hectares	stronger production capacity
Agriculture	Grain/fodder output	tons/year	stable input supply
Poultry	Production volume	tons/year	protein specialization
Industry	Processing capacity	tons/day	value retention
Logistics	Cold storage volume	m ³	market readiness
Connectivity	Delivery time to markets	hours	integration efficiency
Employment	Share in industry/logistics	%	diversification
Investment	New business licenses	number/year	attractiveness
Governance	Firms in planned zones	%	coordination success
Resilience	Sectoral diversity	index	reduced vulnerability

Table 1 translates the transformation pathway into measurable benchmarks. Importantly, the framework accommodates varying data environments. Where quantitative information is incomplete, structured qualitative evaluation can complement measurement, provided consistency is maintained across time.

By organizing indicators hierarchically, the study enables policymakers to identify bottlenecks, prioritize intervention, and monitor cumulative progress. Competitiveness thus becomes traceable rather than abstract.

Baseline vs. Future Scenario

Strategic planning gains meaning only when anchored in a clear understanding of departure conditions. Without a baseline, progress cannot be evaluated; without a defined destination, policy lacks direction (OECD, 2012). This section contrasts the present configuration of Qaryat Al-Ulya with the structural profile implied by the competitiveness framework.

At present, the governorate remains predominantly oriented toward **primary production**. Agriculture and poultry generate tangible output, yet a substantial portion of downstream activity—processing, branding, and distribution—occurs beyond local boundaries. Such early leakage of value is characteristic of peripheral territories that have not yet consolidated internal linkages (Rodríguez-Pose, 2013). Spatial arrangements reflect this condition. Farms, service facilities, and transport operations are distributed across the landscape but seldom integrated into coordinated platforms. While this configuration enables continuity of production, it limits the emergence of cumulative efficiencies typically associated with clustering (Porter, 1998).

Institutionally, many enterprises operate independently, without mechanisms for shared investment or collective strategy. The absence of structured cooperation constrains innovation and reduces bargaining power within external markets.

The future scenario envisioned by this study introduces a progressive rebalancing. Primary production remains essential, yet it becomes embedded within local industrial ecosystems. Processing capacities expand, logistics nodes mature, and contractual relationships with metropolitan consumers deepen. The territory gradually shifts from exporting raw outputs toward exporting value-added goods.

Employment patterns are expected to diversify accordingly. Technical and managerial occupations grow alongside agricultural roles, reinforcing income stability and skill formation. Investor confidence improves as infrastructural readiness and governance reliability increase.

From a spatial perspective, distances between complementary functions shorten, circulation accelerates, and land allocation gains clarity. Over time, Qaryat Al-Ulya may achieve recognition as a specialized hub, reflecting processes of regional repositioning described in network scholarship (Coe et al., 2008).

The transformation can thus be summarized as movement from **resource provision** toward **value coordination**. Importantly, this trajectory is not automatic. It requires sustained intervention, institutional continuity, and adaptive learning.

By articulating both starting point and aspiration, the framework provides a navigational reference capable of guiding incremental progress while maintaining strategic vision.

Implementation Drivers

Conceptual clarity does not automatically translate into transformation. Regional upgrading depends on the presence of mechanisms capable of converting strategic intent into coordinated action. Research in territorial development repeatedly shows that competitiveness improves when governance structures, investment behavior, and infrastructure provision operate in alignment (Rodríguez-Pose, 2013).

A primary driver is **institutional coordination**. Agricultural authorities, municipal planners, environmental regulators, and industrial agencies must function within shared objectives. Fragmented decision-making often reproduces dispersion and discourages private initiative. Planning theory highlights that stable regulatory environments enhance credibility and reduce uncertainty (Healey, 2007).

The mobilization of **private investment** constitutes a second pillar. Processing facilities, logistics services, and technological upgrades typically expand through entrepreneurial commitment. However, investors require signals of continuity: serviced land, transparent procedures, and predictable infrastructure. Cluster research indicates that firms are more likely to commit when complementary actors are visible (Porter, 1998).

Infrastructure readiness further shapes developmental trajectories. Reliable energy supply, transport efficiency, water management, and digital connectivity lower operational costs and facilitate integration. Importantly, anticipatory provision can stimulate growth before bottlenecks appear, reinforcing expectations of future opportunity (OECD, 2012).

Human capital formation represents another decisive factor. Veterinary expertise, industrial skills, logistics management, and quality assurance capabilities enable modernization to persist beyond initial investment waves. Without a qualified workforce, material improvements cannot generate durable competitiveness.

In addition, **external partnerships** stabilize demand. Long-term procurement arrangements with metropolitan markets, collaboration with neighboring territories, and alignment with national food strategies embed the governorate within larger systems of circulation (Coe et al., 2008).

These drivers are mutually reinforcing. Effective governance attracts investors; investment justifies infrastructure; infrastructure requires skilled labor; and all benefit from reliable markets. Together they create a virtuous cycle capable of transforming potential into sustained performance.

Importantly, implementation should be understood as phased. Short-term actions may prioritize regulatory clarity and zoning, medium-term efforts focus on industrial consolidation, and long-term ambitions relate to specialization and innovation. Sequencing prevents overload and supports continuity.

Risks and Constraints

Ambitious transformation strategies inevitably encounter structural limits. Recognizing these constraints is not a sign of pessimism but of analytical maturity.

Regional development literature repeatedly warns that neglecting vulnerability can undermine otherwise promising initiatives (Martin & Sunley, 2006).

In arid environments, **resource sustainability** stands at the forefront of concern. Groundwater extraction, if not accompanied by efficiency measures and monitoring, may erode the ecological foundations upon which agricultural competitiveness depends. Long-term viability therefore requires balancing expansion with conservation (OECD, 2012).

Biosecurity exposure presents another significant challenge. Concentration of poultry and livestock facilities improves service efficiency but increases sensitivity to disease outbreaks. Effective surveillance systems, veterinary capacity, and rapid response mechanisms become indispensable.

Market volatility further complicates planning. Fluctuations in feed prices, transport costs, or consumer demand can alter profitability calculations. Peripheral territories may be particularly vulnerable unless diversification and contractual stability are cultivated (Rodríguez-Pose, 2013).

Infrastructure lag constitutes an additional risk. If utilities and transport networks fail to keep pace with industrial growth, congestion and inefficiency may deter investors. Coordinated sequencing is therefore essential.

Human capital limitations also require attention. Specialized skills in processing technologies, cold-chain management, and quality certification do not materialize automatically. Without sustained training programs, integration may remain partial.

Finally, the possibility of **over-specialization** must be considered. While focusing on poultry or grain production can generate rapid gains, excessive dependence on a narrow set of activities reduces resilience. Balanced diversification within related sectors helps mitigate vulnerability.

Incorporating these risks into planning processes encourages preventive strategies. Competitiveness thus becomes intertwined with management of uncertainty rather than simple expansion.

Policy Implications

The analysis undertaken in this study suggests that enhancing competitiveness in Qaryat Al-Ulya requires a decisive shift in policy orientation. Traditional approaches centered on output expansion must give way to strategies that cultivate relationships among sectors, infrastructures, and institutions. Development becomes systemic rather than additive.

A first priority concerns **spatial governance**. Clear land designation for agriculture, livestock concentration, agro-industry, and logistics reduces uncertainty and encourages complementary investment. Planning scholarship emphasizes that predictability in territorial regulation is among the most powerful signals authorities can provide to markets (Healey, 2007).

Second, policymakers should actively promote **functional upgrading**. Incentives for processing facilities, packaging operations, and refrigeration infrastructure enable the territory to retain greater shares of value. Global value-chain research demonstrates

that capturing downstream activities significantly enhances regional income and employment multipliers (Gereffi et al., 2005).

Infrastructure investment must adopt a forward-looking stance. Rather than responding to shortages after they appear, anticipatory provision of energy, water, and transport networks can shape investor expectations and accelerate commitment (OECD, 2012). Infrastructure, in this sense, becomes a tool of signaling as much as service delivery.

Human capital strategies form another cornerstone. Vocational programs, technical certifications, and partnerships with educational institutions ensure that modernization translates into local participation. Skill development reinforces both productivity and social stability.

Moreover, the governorate should cultivate **external integration** through durable procurement arrangements and logistical coordination with major consumption centers. Strong outward linkages enhance reliability while attracting inward flows of expertise and finance (Coe et al., 2008).

Importantly, policies must be sequenced. Immediate gains may arise from regulatory clarity and land servicing, medium-term progress from industrial consolidation, and long-term success from specialization and innovation. Recognizing these phases prevents unrealistic expectations.

Ultimately, the most significant implication is that authorities should transition from managing individual sectors toward orchestrating **interdependencies**. Competitiveness flourishes when relationships become systematic, transparent, and mutually reinforcing.

Conclusions

This study began with a paradox common to many peripheral regions: the coexistence of substantial resource endowment with limited economic leverage. Through the case of Qaryat Al-Ulya, the analysis demonstrated that the principal constraint is not scarcity but fragmentation. Assets exist, yet they are insufficiently coordinated to produce cumulative advantage.

By articulating a staged pathway that links resource mobilization, spatial organization, industrial upgrading, and network integration, the paper has shown how competitiveness can emerge as a constructed outcome rather than an inherited condition. This interpretation resonates with evolutionary arguments emphasizing recombination and gradual consolidation (Martin & Sunley, 2006), while also incorporating insights from value-chain and network perspectives regarding the importance of downstream capture and relational embedding (Gereffi et al., 2005; Coe et al., 2008).

The contribution of the research is both conceptual and operational. Conceptually, it advances a synthetic understanding that treats agricultural specialization as a platform for modernization rather than an impediment. Operationally, it translates theoretical propositions into spatial configurations, flow structures, governance priorities, and

measurable indicators. In doing so, the study responds to persistent calls for bridging the divide between academic reasoning and policy practice (Rodríguez-Pose, 2013). The findings highlight that transformation depends on sustained alignment among institutions, infrastructures, and market actors. Where such synchronization is achieved, territories may shift from supplying raw outputs toward coordinating value creation. Peripheral status, therefore, is not destiny but a condition open to renegotiation.

Although tailored to the environmental and economic context of Qaryat Al-Ulya, the framework offers transferable lessons for other semi-arid regions confronting similar challenges. Future research might deepen empirical testing, refine indicator systems, and explore alternative governance pathways capable of accelerating integration.

Ultimately, competitiveness emerges from the redesign of relationships—between sectors, between spaces, and between actors. Through deliberate coordination, territories can reposition themselves within regional hierarchies and secure more durable forms of prosperity.

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