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Manufacturing Village Development for Structural Transformation: A Policy Design Study for Indonesia

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Abtract−National development constitutes a constitutional mandate to achieve social welfare, as affirmed in the Preamble of the 1945 Constitution of the Republic of Indonesia. Nevertheless, Indonesia's development trajectory has remained predominantly growth-oriented, resulting in persistent structural disparities between urban and rural areas. Although policy initiatives such as the Asta Cita framework and village fund allocation have been implemented, the economic contribution of rural areas to national Gross Domestic Product (GDP) remains limited. At the same time, the declining share of manufacturing at the national level signals emerging deindustrialization. This condition highlights the absence of an integrated rural-based industrialization model capable of driving structural transformation. This study adopts a policy design approach based on normative policy analysis and comparative institutional review. The analytical procedure involves synthesizing structural transformation theory, examining Indonesia's regulatory framework on rural and industrial development, and reviewing selected international experiences to construct a contextually relevant policy design. The study does not employ primary or econometric data, but develops a structured policy design derived from theoretical and institutional analysis. The paper proposes the policy of a Manufacturing Village as a region-based development paradigm aimed at strengthening manufacturing activities in rural areas through the integration of bottom-up participation and top-down coordination. Contribution of this research lies in extending structural transformation discourse toward a village-level governance framework and providing an operational institutional architecture that connects national industrial policy with rural administrative systems. The proposed framework is expected to enhance rural value-added production, expand non-agricultural employment, reduce regional disparities, and support inclusive and sustainable structural transformation in Indonesia.

Keywords: Manufacturing Village; Rural Development; Deindustrialization; Structural Transformation; Economic Development

1. INTRODUCTION

In supporting the various dimensions of societal well-being, the government has vigorously promoted national development through collective initiatives and innovative policy ideas aimed at benefiting all elements of society. According to development theory, a sustainable growth paradigm must be accompanied by strong and equitable development. This means growth should not merely produce economic output but also ensure prosperity for all individuals. Similar to other developing countries, Indonesia places development at the core of its national agenda to achieve equitable welfare across regions. As stated in the Preamble of the 1945 Constitution of the Republic of Indonesia, the nation is committed to "*advancing public welfare, educating the life of the nation, and participating in the establishment of the world order based on freedom, lasting peace, and social justice*." Although the term "*development*" is not explicitly mentioned, the fulfillment of these constitutional ideals inherently requires a large-scale, comprehensive development process affects all regions. In line with this principle, President Prabowo's Asta Cita vision emphasizes the sixth pillar developing from villages and the grassroots level, as a foundation for equitable economic growth and poverty alleviation.

The government's initiative to promote development from the periphery represents an appropriate decision to reduce the long-standing Java-centric orientation of Indonesia's economic development. Efforts such as expanding infrastructure, developing industrial zones, promoting tourism regions, and establishing new economic areas reflect this commitment. These initiatives are encapsulated within the Asta Cita framework, which aims to redefine Indonesia's development ideology. As discussed in Readings in Political Economy, Basu (2003) argues that such frameworks align with a paradigm of human centered, transformative, and revolutionary development. However, the narratives and substance of the Asta Cita remain challenging to realize, as Indonesia's development model continues to be dominated by a growth-oriented paradigm. This persistent orientation has become a structural weakness, contributing to inequality across various socio-economic sectors.

Kuncoro (2003) explains that Indonesia's development orientation from the New Order era to the early Reform period has been yet to fully embrace a people-centered approach or the principle of putting people first. The dimension of Indonesia's development has remained relatively narrow, with a strong emphasis on GDP growth as the primary indicator of progress. Similarly, Hamid (2020) argues that economic growth continues to dominate as the central goal of Indonesia's development priorities from the New Order to the present day. However, the trickle-down effect inherent in this growth-oriented paradigm has failed to distribute the economic benefits equitably across Indonesian society. Fadillah (2021); Hamid and Fadillah (2022) illustrates that increases in economic growth resulting from physical and non-physical development have only been effective in reducing poverty rates in the long term. In the short term, a large portion of the population remains in the "near-poor" or vulnerable poverty category, which implies that human development has not

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been fully realized. Since the vulnerable population is highly sensitive to internal and external economic shocks, even minor disruptions can lead to a resurgence in poverty rates. Correspondingly, Arsyad (2022) redefines economic development as a multidimensional process that extends beyond the mere pursuit of Gross National Product (GNP) growth. Instead, it encompasses various social, institutional, and structural aspects of societal progress, emphasizing that true development must integrate both economic and human dimensions.

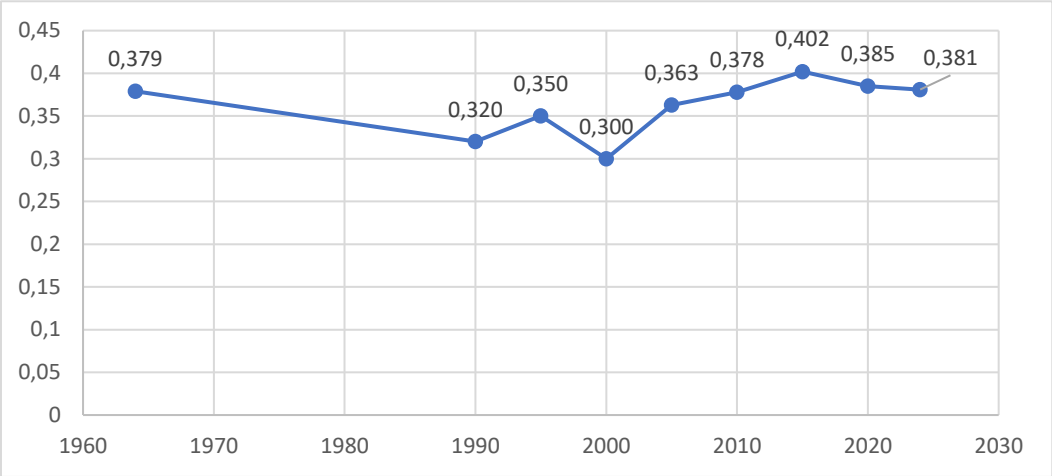

Figure 1. Indonesia Gini Ratio
Source: Central Bureau of Statistic (2025)

The findings discussed above illustrate that national development must account for all structural components of society. Uneven development particularly in Indonesia's peripheral regions requires critical reassessment to ensure that the benefits of growth and public investment, both physical and non-physical, are more evenly distributed. Figure 1 shows that data from Central Bureau of Statistic (2025) the Gini ratio measures economic inequality, increased slightly from 0.379 in 1964 to 0.381 in 2024. Although the rise of 0.002 basis points may seem marginal, it reflects a widening economic gap between the rich and the poor, suggesting that income concentration among the wealthy has grown more rapidly in the current era compared to the Old Order period.

The persistence of rural development challenges remains a critical issue, both in terms of urgency and political importance, generating ongoing debates even eight decades after Indonesia's independence. Another key aspect that demands attention is the governance structure of villages. Before the constitutional amendments, the legal framework governing village administration included Law Number 1/1945, Law Number 22/1948, Law Number 1/1957, Law Number 18/1965, Law Number 19/1965, Law Number 5/1979, and Law Number 22/1999. After the amendments, the primary regulations became Law Number 32/2004 on Regional Government and Law Number 6/2014 on Villages. Since the enactment of Law Number 6/2014, the institutional structure of villages has evolved into a hybrid form, combining characteristics of a *self-governing community* and a *self-local government*. This legal framework underscores really need a new paradigm of rural development in Indonesia. Wasistiono (2023) emphasizes the necessity of a *bottom-up* approach *from the village to the center* and realize the concept of *Desa Membangun*. Empowering village governments with greater authority over their territories is expected to strengthen rural bureaucracy, reduce dependence on central government intervention, and enable more effective management of local revenue sources.

A *top-down* approach is required to strengthen rural development and realize autonomous and self-sufficient villages. Given that many village civil servants still face limitations in adopting innovation and have relatively low levels of technological literacy, the government has collectively sought to maximize policy instruments and programs aimed at achieving equitable development across all regional levels in Indonesia. One of the most prominent initiatives is the *Dana Desa* (Village Fund), whose allocation reached IDR 609.85 trillion for 75,265 villages between 2015 and 2024. Throughout this period, an average of IDR 60.98 trillion per year was utilized for physical infrastructure development, village administration, educational and health empowerment, and the support of *Badan Usaha Milik Desa* (Village-Owned Enterprises). However, despite this fiscal support, the overall rural economy has not demonstrated significant progress. The contribution of the rural gross domestic product (GDP) to the national GDP remained at only around 14 percent in 2020. Likewise, the agricultural sector traditionally the backbone of rural areas contributed merely 12 to 13 percent annually, with an average growth rate of below five percent (Central Bureau of Statistic, 2025). This trend indicates that the agricultural sector has been slowing down, as many rural areas in Indonesia have shifted toward both capital-intensive and labor-intensive industries.

These cases demonstrate that rural regions have yet to achieve their potential output. Hamid and Fadillah (2023) describe the general distinction between *potential output* and *actual output* within national or regional economies. Villages, typically possess abundant land resources, should theoretically be able to strengthen their agricultural base and generate higher local revenues, enabling rural GDP to approach its potential level. Although there is limited research, specifically addressing rural output measurement, the macroeconomic framework explain the underlying structural

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phenomena. The difficulty in reaching rural potential output is largely attributed to sociocultural shifts in Indonesia, where the population increasingly embraces modernization. This transformation has led to a declining interest among the productive age population in agricultural work. Another contributing factor is the rising rate of rural-to-urban migration, which has steadily increased over the years. Recent data show that Indonesia's urbanization rate reached 53.3 percent in 2020 (Indrawardani and Bandiyono, 2010; SMERU, 2022). The high level of investment and industrial concentration in urban areas has created wider employment opportunities, prompting rural residents to migrate to urban in pursuit of better livelihoods and long-term economic prospects.Within the framework of rural structural transformation, the shift from an agricultural base toward manufacturing or non-agricultural activities constitutes a fundamental pillar for regional economic recovery and development beyond urban centers. Studies from industrial rural regions in Moravia, Czech Republic, demonstrate that manufacturing sectors substantially contribute to local economic growth through the integration of production chains and the strengthening of both backward and forward linkages between industries and rural activities (Ženka et al., 2021).

In the South Asian context, empirical analysis of rural India's structural change suggests that while sectoral transformation correlates positively with growth, its impact on income distribution and equity requires careful attention, given the risks of marginalizing vulnerable groups (Elbers and Lanjouw, 2023). Similarly, research on Indonesian small and medium-sized manufacturing clusters in rural areas highlights that successful transformation does not rely solely on direct government intervention but rather on the strength of inter-firm relationships within clusters and external linkages with larger industrial and urban trade networks (Tambunan, 2008). Further evidence from China illustrates how agrarian villages can evolve into manufacturing-based settlements through significant land-use changes, reflecting a micro-level "village-to-factory" process that underpins broader structural transformation dynamics (Yin et al., 2020). Complementarily, the Organisation for Economic Co-operation and Development (OECD, 2023) emphasizes that the future of rural manufacturing faces emerging challenges such as digitalization, demographic shifts, and global value chain realignments while simultaneously offering substantial opportunities for inclusive regional growth.

Dabla-Norris et al. (2016) highlight that structural reforms particularly those improving business environments, labor flexibility, and institutional quality are essential for sustaining productivity growth in emerging and developing economies. They argue that without continuous structural adjustment, economies risk stagnation as productivity gains from traditional sectors diminish. This concern is echoed in recent evidence on *premature deindustrialization*, which shows that many developing countries experience a decline in manufacturing shares before reaching high-income status, thereby constraining long-term growth potential (Özçelik and Özmen, 2023). Such structural weaknesses not only hinder industrial upgrading but also exacerbate inequality between regions and sectors. Complementing this macro-level perspective, Mukti et al. (2022) emphasize that enhancing "rural smartness" through digital infrastructure, institutional capacity, and local innovation can improve rural economic welfare and mitigate the adverse impacts of deindustrialization by fostering inclusive productivity growth. Together, these studies underscore the importance of adaptive reforms and innovation-driven policies in maintaining structural transformation momentum and preventing developmental countries stagnation.

Anderson and Ponnusamy (2019) assert that economic growth inevitably involves a structural shift from agriculture to manufacturing and services, noting that protectionist policies aimed at preserving traditional sectors often fail to yield sustainable outcomes. Likewise, Arslan et al. (2022) argue that rural transformation requires not only sectoral shifts but also productivity enhancement, institutional reform, and supportive infrastructure development. In the Asian region, Awaliyyah et al. (2020) provide evidence that labor migration from agriculture to non-agricultural sectors significantly improves labor productivity and accelerates economic restructuring. Thus, for Indonesia which promotes a village-centered development agenda and seeks to reduce interregional disparities, the relevance of transitioning from agrarian to manufacturing-based villages is highly strategic. This transformation entails not only sectoral reconfiguration but also institutional readiness, production network integration, infrastructure improvement, human capital enhancement, and wider market connectivity.

Although the government has implemented various industrialization projects, such as Special Economic Zones (SEZs), Bonded Zones, and numerous National Strategic Projects, Indonesia's industrial development approach remains largely concentrated in urban areas or large-scale industrial estates (Abduh, 2025; Setianingsih and Khoirunurrofik, 2025). These industrialization models are generally enclave-based and investment-driven, they have not been fully integrated into village governance structures as the frontline unit of national development. As a result, despite the continuous expansion of national industrial policies, villages continue to function primarily as suppliers of labor and raw materials rather than as centers of manufacturing activities that generate direct value added. Existing studies predominantly analyze industrialization from a macroeconomic or sectoral policy perspective, while institutional design for village-based manufacturing as a structural transformation strategy remains relatively underexplored. Therefore, a conceptual and policy gap exists between national industrialization programs and the implementation of structural transformation at the village level. This study seeks to address that gap by developing a policy design framework for Manufacturing Village development as a governance-based industrialization model that integrates bottom-up participation with top-down coordination. This study aims to develop a policy design, conceptual, and institutional framework for manufacturing as a strategy for rural structural transformation in Indonesia. Theoretically contributes to the structural transformation literature by extending the discussion from macro-level industrialization strategies toward subnational, village-based manufacturing governance. It bridges the discourse on deindustrialization with rural development studies by proposing an institutional design that integrates bottom-up participation and top-down coordination.

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2. RESEARCH METHODS

This study employs a policy design grounded in normative policy analysis and comparative institutional review. Rather than testing statistical hypotheses, the study aims to construct an institutional framework for Manufacturing Village development through systematic theoretical synthesis and regulatory examination. The unit of analysis is institutional design and policy architecture related to rural industrialization in Indonesia. The study does not involve respondents or field surveys, as it focuses on policy design construction derived from secondary sources. The conceptual and normative approach is appropriate because the objective is framework formulation rather than empirical testing. Conceptual research is widely used in institutional and development studies to generate theoretical models prior to quantitative validation.

The stages of proposal submission, zoning regulation, eligibility requirements, designation, and construction–operation–management–supervision represent the applied architecture derived from the normative policy criteria and regulatory mapping conducted in this study. The proposal submission mechanism reflects the governance coherence principle, ensuring multi-level approval and inter-ministerial coordination before official designation. The zoning regulation component translates the structural transformation perspective into spatial planning instruments, aligning manufacturing activities with ecological balance and village land-use structures. Eligibility requirements embody the feasibility dimension of the analysis, particularly in relation to infrastructure readiness, demographic capacity, and administrative compliance. The designation stage institutionalizes the evaluative criteria into formal recognition procedures, while the construction, operation, management, and supervision phase represents the adaptive governance model emphasized in the comparative institutional review. These stages collectively demonstrate how the conceptual model is transformed into a structured institutional policy framework. Thus, Section 4 should be understood not as a descriptive program manual, but as the operational representation of the conceptual institutional design developed through normative and comparative analysis. To sustain and expand the potential output of rural areas, the process of structural transformation becomes a key mechanism to address the existing developmental challenges. This transformation refers to a large-scale and systematic shift toward strengthening the manufacturing industry within Indonesia's rural regions. Considering that the manufacturing sector plays a vital role in driving the global economy, extending industrial development to rural areas represents a crucial opportunity that should not be overlooked by both developed and developing countries, including Indonesia.

Indonesia's manufacturing value added (MVA) was recorded at USD 265.07 billion in 2024, ranking the country 10th globally (World Bank Group, 2025). The sector contributed 19 percent to the national GDP, exceeding the global average of 15 percent. By designating rural areas as priority for manufacturing-based development, Indonesia could significantly enhance national economic performance through the foundation of local economies. Moreover, this initiative would generate a strong multiplier effect across multiple sectors that support rural livelihoods. The effects include reductions in unemployment, poverty alleviation, decreased income inequality, and overall improvements in household income and community welfare across Indonesia's rural regions. Successive governments including the current administration under President Prabowo have made concerted efforts to accelerate investment in the manufacturing sector. These initiatives include the establishment of Special Economic Zones (SEZs), Bonded Zones, Industrial Estates, and the promotion of industrial down-streaming programs. However, Indonesia has experienced signs of deindustrialization over the past 15 years, a phenomenon that cannot be ignored. The country's manufacturing value added fell to 18 percent of GDP in 2022, below the 20 percent threshold typically observed in industrialized economies. This decline has also affected export performance: the share of manufactured goods in total exports reached only 45 percent in 2023, significantly lower than other developed and emerging countries.

This model of structural transformation has also been successfully implemented in China, which focused on transforming agricultural villages into manufacturing-based communities as the primary source of local income. Table 1 illustrates several key changes occurred in China, particularly in the growth of per capita income within former rural areas have since evolved into industrialized towns, such as Huaxi, Shenzhen, and Shibadong (Chen, 2021; China Foreign Affairs Ministry, 2022). Table 1 demonstrates that the transformation of rural areas into manufacturing-based settlements in China was accompanied by significant increases in per capita income over time. The cases of Huaxi, Shenzhen, and Shibadong illustrate how village-level industrialization, when supported by institutional coordination and long-term policy commitment, can generate substantial local economic upgrading. This comparative evidence reinforces the relevance of adapting a similar governance-based industrial approach within the Indonesian rural context. Given that Indonesia currently has 75,265 villages, the country possesses substantial potential to undertake a similar economic structural transformation, following the trajectory of these three Chinese examples toward the establishment of manufacturing-oriented rural economies.

Table 1. China Structural Transformation

Villages	Location	Industry	Transformation Period	Average of Per Capita
Huaxi	Jiangsu	Textiles, Metals, Steel	1960s	US$ 18,618 in the last 15 years
Shenzhen	Guangdong	Electronics	1970s	US$ 25,751 per year 2022
Shibadong	Hunan	Textiles	2000s	US$ 2.845 per year 2020

Sources: China Foreign Affairs Ministry (2022)

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Adapting the Chinese model of rural industrialization to the Indonesian context requires a comprehensive understanding of the country's demographic, geographic, and economic characteristics. Indonesia's vast rural population, constituting more than 40 percent of the national workforce offers a significant labor base for manufacturing activities are labor-intensive in nature. Furthermore, many villages are located near abundant natural and agricultural resources, which can serve as essential raw materials for agro-based and light manufacturing industries. When integrated into local production systems, these resources have the potential to reduce logistics costs, increase local value-added,and create sustainable employment. Hence, establishing manufacturing clusters in rural areas is not merely a development option but a strategic necessity to accelerate inclusive growth and reduce regional inequality.

Based on these considerations, the Manufacturing Village Program emerges as a strategic solution can be integrated into Indonesia's national development agenda, particularly in advancing rural areas through cross-sectoral coordination among relevant ministries and institutions. Since the manufacturing sector constitutes a core pillar in achieving Indonesia's Vision 2045, this program positions rural areas as new sources of economic growth while addressing prevailing social challenges. The program signifies a new phase in Indonesia's economic trajectory, that is bottom-up in nature, grounded in advanced, autonomous, and modern villages as the foundation of the national economy. As presented in Table 2, the Manufacturing Village Program requires multi-level governance coordination involving central, regional, village governments, and business entities. This stakeholder configuration reflects the integration of top-down regulatory authority with bottom-up administrative implementation. The institutional division of roles is essential to ensure accountability, fiscal sustainability, and operational efficiency within the proposed policy framework.

Table 2. Stakeholders and Role

Number	Stakeholders	Stakeholders Role
1	Central Government	Establishing village criteria and qualifications Coordinating village infrastructure Monitoring and evaluating implementation from an administrative, financial, and bureaucratic perspective.
2	Regional Government	Acting as an extension of the central government. Coordinating village infrastructure.
3	Rural Government	Involved as Head of the Manufacturing Village Program Monitoring the development and progress of the Manufacturing Village Program in rural areas Managing funds from Foreign Loans to ensure the sustainability of the Manufacturing Village Program
4	Business Entity	Involved in developing areas with Manufacturing Village Program status. Involved in developing areas with Manufacturing Village Program status.

This program represents a contemporary and comprehensive rural development initiative. The Manufacturing Village Program (Program Desa Manufaktur) designates specific villages as industrial zones with comparative advantages in manufacturing value-added activities. Such development is expected to generate significant structural shifts from agriculture-based economies toward manufacturing-led growth. Moreover, the program anticipates labor migration to rural manufacturing centers, aligning with the spatial redistribution of industry. The initiative aims to contribute optimally to national development goals by creating employment opportunities, attracting investment, improving human capital and productivity, and strengthening the competitiveness of rural human resources.

Implementation of the Manufacturing Village Program involves the preparation of designated areas with economic value-added potential to enhance industrial and manufacturing activities in Indonesia. Its legal foundation is grounded in Article 33(4) of the 1945 Constitution, emphasizing the principles of economic democracy, equity, sustainability, environmental awareness, self-reliance, and national economic unity. The ultimate outcome of this program is to establish officially designated Manufacturing Villages across selected rural regions. Furthermore, the program aligns with Indonesia's National Development Plan and the third pillar of President Prabowo's Asta Cita agenda: "*Building Indonesia from the periphery*". By involving village heads as key stakeholders, this program not only enhances village-generated income but also yields broader socio-economic benefits, such as stimulating new economic growth, accelerating rural development, creating jobs, opening new investment channels, increasing manufacturing value-added, and optimizing the national manufacturing ecosystem. Targeted industries include basic and chemical industries, metal industries, automotive industries, textile and apparel industries, electronics, and consumer goods manufacturing.

3. RESULT AND DISCUSSION

Unlike previous studies that primarily examine rural development through agricultural modernization or macro-industrial policy perspectives, the Manufacturing Village framework repositions manufacturing as a village-level institutional strategy. While structural transformation literature emphasizes sectoral shifts at the national scale, this study introduces a subnational governance-based industrialization model embedded within rural administrative structures.

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The Manufacturing Village Program must be established upon a clear regulatory and legal foundation to ensure the enforceability of its implementation mechanisms, particularly those involving inter-ministerial coordination. The successful administration of the program requires adaptive governance that responds to dynamic rural developments and evolving local needs (Wijoyo et al., 2018; Raja et al., 2022). The results of this study are presented in the form of a conceptual policy framework, outlining institutional design, governance mechanisms, and implementation stages of the Manufacturing Village Program. Karanggatak village is presented as an illustrative case to demonstrate the practical applicability of the proposed conceptual framework. The program's stages include proposal submission, zoning regulation, eligibility requirements, designation, construction and operation, management, and supervision. Each stage entails specific institutional responsibilities and legal procedures as described below.

3.1 Proposal Submission Process

The submission process for establishing a Manufacturing Village can be initiated by multiple stakeholders, including business entities (such as consortia, corporations, or private enterprises), village governments, local governments, the central government, ministries or agencies, as well as non-ministerial public bodies. For proposals submitted by the central or local governments, the process must first obtain approval from the governor of the respective province, who holds the authority to review and evaluate whether the proposed village meets the eligibility criteria to become a Manufacturing Village.

Following this stage, the proposal documents are reviewed by the Manufacturing Village Program Committee, which assesses the technical, economic, and social feasibility of the submission. The committee may either approve the proposal, request revisions, or return it to the applicant for further improvement. The final step involves a program board meeting, comprising representatives from various ministries and agencies, to deliberate and reach a collective decision whether the proposed village qualifies for official designation as a Manufacturing Village.

3.2 Zoning Regulation

The Manufacturing Village Program encompasses several industrial zoning categories, including basic and chemical industries, metal industries, automotive industries, textile and apparel industries, electronics industries, and food and beverage consumer goods industries. However, proponents must ensure that the proposed zones are aligned with the local characteristics and needs of the rural area. Several spatial considerations must be taken into account, such as the compatibility of manufacturing zones, agricultural zones, residential zones, and protected forest zones, to ensure ecological balance and spatial harmony within the village territory. Rural structural transformation requires diversification beyond agriculture, where non-farm activities and rural industrial development play a crucial role in income growth and poverty reduction (McMillan et al., 2014). Rodrik (2016) argues that many developing countries experience premature deindustrialization, characterized by a declining manufacturing share at much lower income levels than historically observed in advanced economies, thereby constraining traditional industrialization pathways. Table 3 illustrated the cases of zoning regulation can be observed in Karanggatak Village, located in Klego Subdistrict, Boyolali Regency, Central Java Province. Karanggatak Village covers a total area of 225.12 hectares, bordered by Kauman Village (north), Bade Village (south), Kendel Village (east), and Gondanglegi Village (west). The village's hydrological condition is classified as water-deficient, with red gravelly soil as its dominant land type. The land-use composition in Karanggatak Village includes various categories as outlined below:

Table 3. Land Use of Karanggatak Village

Land Use	Hectar Area
Farming Fields	58 Hectar
Dry Land in the Yard	123,5775 Hectar
Dry Land Tegal/Garden	42 Hectar
Land for Public Facilities	0,25 Hectar
Burial Ground	2,5 Hectar
Land for Social Facilities	15.000 m2
Land for Educational Facilities	5000 m2
Health Facilities Land	50 m2
Village Treasury Land	1.3655 Hectar

Source: Pemerintah Desa Karanggatak (2018)

Over the past five years, Karanggatak Village has directed its spatial allocation toward several key development zones. These include the Residential Area, the Economic Corridor Area, and the Riverbank Protected Zone. The village demonstrates significant potential for expansion into food and beverage manufacturing industries due to several strategic factor. First, market demand for high-quality and value-added local commodities remains relatively high and stable. Second, there is strong government policy support that encourages food production and agro-industrial development. Third, the climatic conditions, topography, and soil characteristics in Karanggatak are well-suited for establishing light industrial zones and small-to-medium-scale manufacturing facilities (Pemerintah Desa Karanggatak, 2018).

Figure 2 presents the geographical position and territorial boundaries of Karanggatak Village, illustrating its spatial proximity to surrounding villages and its potential integration into a broader Manufacturing Village cluster. The spatial

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layout shown in Figure 2 supports the feasibility of zoning regulation and inter-village industrial connectivity within the proposed framework. It is also possible that Gadean Village and Penggung Village may be integrated into the Manufacturing Village Program zone, provided that such inclusion is supported by a comprehensive feasibility study and mutual agreement among stakeholders. Every parcel of land designated for the Manufacturing Village Program must be grounded in a legal framework established through Government Regulations. The designated area includes, among others, the initial village land area, the land already managed owned by enterprises or management bodies, and the land currently being utilized. Each of these land categories must have a clearly defined proportional distribution. These measurements constitute a primary consideration in determining eligibility and spatial allocation within the Manufacturing Village Program.

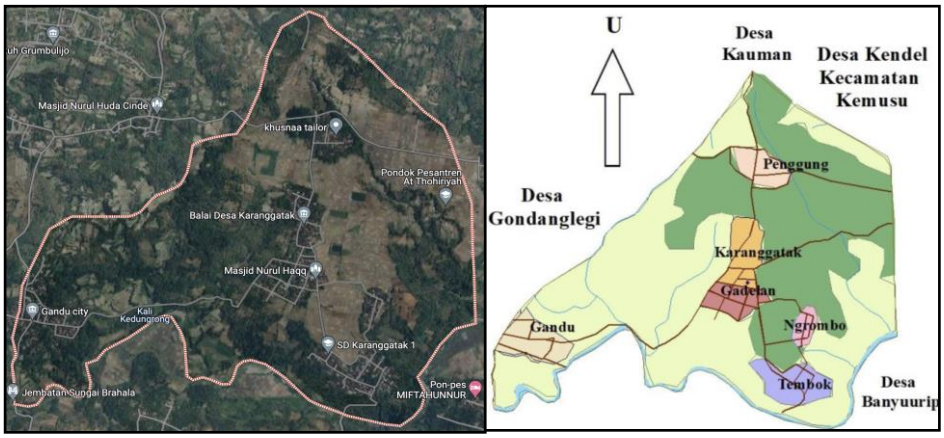

Figure 2. Karanggatak Village Area

3.3 Eligibility Reuquirements

The proposal for inclusion in the Manufacturing Village Program must meet key eligibility components Physical Infrastructure Requirements. This component refers to the essential supporting facilities that must be available within the proposed area. Table 4 show that all include adequate transportation access, electricity networks, clean water systems, telecommunication infrastructure, and industrial utilities such as waste management and energy supply. The presence of these infrastructures ensures that the designated village has the basic capacity to support manufacturing activities, logistical operations, and community-based industrial productivity.

Table 4. Physical Infrastructure Requirements (Example of Karanggatak Village)

Infrastructure	Information
Clean Water Facilities	Dug Wells and Borehole Wells
Lighting Facilities	PLN electricity
Main Roads	8 km (90% good concrete cast)
Environmental Roads	10 km (60% good concrete cast)
Agricultural Roads	2 km
Telecommunications	Average signal strength 63%
Integrated Health Posts	6 Integrated Health Posts (Posyandu)
Village Polindes	1 Village Polindes
Education	3 Kindergartens and 3 Elementary Schools

Source: Pemerintah Desa Karanggatak (2018)

Physical infrastructure serves as a fundamental prerequisite to facilitate the implementation of the Manufacturing Village Program by ensuring accessibility and operational readiness for all stakeholders involved. The availability of such infrastructure is also a key determinant in attracting both domestic and foreign investment, enabling capital inflows into rural areas designated for manufacturing development. For villages that currently lack adequate physical infrastructure, the proposing entity or business body bears the obligation to undertake necessary construction and development works. In cases where the proposer is a government institution, the funding sources may be derived from the State Budget (APBN), Regional Budget (APBD), Village Budget (APBDes), or Foreign Grant and Loan Programs (PHLN). Thus, the submission requirements constitute a crucial element for determining whether a village is ready both in terms of physical and non-physical support to be designated as a manufacturing village.

3.4 Designation

The Manufacturing Village Program (MVP) is established through a joint agreement among ministries and government agencies, serving as the principal authority responsible for determining which villages are granted manufacturing village status. At this stage, the internal Manufacture Village team conducts a comprehensive review to assess whether the

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proposed villages meet the established eligibility criteria for inclusion in the program. The classification and criteria include the following:

a. The village possesses barren or less fertile land, although villages with fertile land may also qualify under certain conditions.
b. The proposal must be aligned with the village's spatial and land-use planning
c. The location must not interfere with protected or conservation areas.
d. The village should be strategically located within or near the National Economic Development Priority Corridor.
e. The village boundaries must be clearly defined and legally recognized.
f. The rural area must demonstrate support and commitment from local stakeholders, including the Village Head, Village Civil Apparatus, and community members, particularly in the development of a rural industrial district.
g. The village should have a moderate to high population density, ensuring sufficient labor availability.
h. The village must possess or have access to adequate facilities and infrastructure to support industrial activities.

3.5 Construction, Operation, Management, and Supervision

At this stage, the implementation phase primarily involves the land acquisition and utilization process for areas proposed under the Manufacturing Village Program (MVP). This phase also encompasses the development of infrastructure, the evaluation of construction activities, and the execution of business licensing procedures within the designated program zones. Internal monitoring and control mechanisms are also established to ensure that program objectives are effectively achieved. Adaptive governance emphasizes multi-level coordination and institutional flexibility in responding to dynamic socio-economic conditions (Álvarez et al., 2018). The main components of this phase are as follows:

a. Development and Construction: The establishment of facilities and infrastructure under the Manufacturing Village Program may be undertaken by state-owned enterprises (SOEs), private consortia, central or local governments, ministries, and non-ministerial agencies.
b. Land Acquisition and Ownership: Land acquisition and ownership rights may be held by enterprises or other proposing entities that have obtained authorization through agreements with government institutions or other relevant authorities. Such ownership and acquisition must be legally verified through land title certificates and official cooperation agreements with landowners. Land acquisition can be conducted simultaneously or in stages, depending on the proposed area and the development plan of the Manufacturing Village Program.
c. Infrastructure Development: The proposing entity is responsible for the construction of physical infrastructure and facilities in accordance with existing laws and regulatory frameworks.
d. Human Resource Collaboration: The central government, local governments, and village administrations are expected to collaborate in preparing human resources to support the operation and sustainability of the program.
e. Accessibility and Connectivity: The central and local governments are obligated to ensure continuous accessibility by constructing and maintaining transport and communication infrastructure that connects the program area with other economic zones and urban centers.
f. Financing: The financing sources for the Manufacturing Village Program include the State Budget (APBN), Regional Budgets (APBD), Village Budgets (APBDes), private investment, and Foreign Grant Programs (PHLN).
g. Program Management Structure: The program is managed by a Head of the Manufacturing Village Program, jointly appointed by the central, regional, and village governments. The responsibilities of the head of program include:
    1. Issuing business permits and operational licenses for enterprises within the program area.
    2. Supervising and monitoring program implementation and resolving potential disputes.
    3. Submitting periodic operational reports to both regional and central governments.
h. Monitoring and Evaluation: The Manufacturing Village Program Team is tasked with monitoring, evaluating, and controlling operational performance within each participating village. The team must provide regular reports to the program leadership to ensure transparency, accountability, and adaptive policy improvement.

4. CONCLUSION

This study develops a policy design, conceptual, and institutional framework for Manufacturing Village Development as a strategy to promote rural structural transformation in Indonesia. The analysis highlights that persistent rural–urban disparities and emerging deindustrialization reflect the absence of a region-based industrialization model embedded within village governance structures. By integrating bottom-up participation with top-down coordination, the proposed framework positions manufacturing not merely as an economic sector but as a localized institutional strategy for enhancing rural value-added production, employment absorption, and spatial economic balance. From a practical perspective, the Manufacturing Village framework provides a policy-oriented design that may guide national and subnational governments in optimizing village funds, strengthening inter-ministerial coordination, and aligning rural spatial planning with industrial development strategies. The staged implementation model covering proposal submission, zoning regulation, eligibility criteria, designation, construction, management, and supervision offers an operational reference for structured program execution. However, this study is limited by its conceptual nature and reliance on secondary sources without empirical validation. The framework has not yet been tested through quantitative modeling, pilot implementation, or impact evaluation. Future research should examine the feasibility of the model through case-

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based empirical studies, cost–benefit analysis, and econometric assessment of rural industrial productivity and employment effects. Further comparative studies across different rural contexts in Indonesia would also strengthen the robustness and scalability of the proposed framework. The contribution of this study lies in reconceptualizing manufacturing not merely as a sectoral economic activity, but as a governance-based institutional instrument at the village level. By integrating bottom-up participation with top-down coordination, the proposed framework extends structural transformation discourse beyond macroeconomic policy debates and situates it within rural administrative structures. From a practical perspective, the Manufacturing Village framework provides a structured institutional architecture that may guide national and subnational governments in optimizing village funds, strengthening inter-ministerial coordination, and aligning rural spatial planning with industrial development strategies. Therefore, the implementation of the Manufacturing Village Program (Program Desa Manufaktur) should be prioritized in Indonesia's medium and long term national development planning. Cross-sectoral collaboration among central and local governments, financial institutions, and the private sector is essential to ensure sustainable rural industrialization. Ultimately, the success of this initiative will lay the foundation for a just and inclusive national reindustrialization, enhance economic competitiveness, and realize the constitutional mandate stated in the Preamble of the 1945 Constitution of the Republic of Indonesia to promote public welfare and achieve social justice for all Indonesians.

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