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The Issues of Spatial Planning and Village Transformation in Indonesia towards A Modern Village in the Digital Era: Henri Lefebvre's Approach to the Production of Space

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ABSTRACT : *The transformation of rural spaces is essential to address the development gap between urban and rural areas, particularly in terms of access to technology and digital infrastructure. This study analyzes the transformation of rural areas in Indonesia toward modern villages in the digital era using Henri Lefebvre's theory of the production of space, which views space as a social product resulting from the interaction of social practices, spatial representations, and symbolic meanings. A qualitative and phenomenological method was employed to gain an in-depth understanding of the issues.The findings reveal that the primary challenges in rural spatial planning in Indonesia are the lack of digital infrastructure, non-inclusive policies, and development disparities. Limited community participation in spatial planning exacerbates these issues. A spatial justice-based approach and synergy among stakeholders are needed to create inclusive and sustainable rural spatial planning.Lefebvre's theory offers a framework for integrating local cultural identities and equitable resource distribution. The transformation of rural spaces in the digital era has significant social, economic, and cultural impacts. Through a holistic, participatory, and sustainability-oriented approach, risks can be mitigated, leading to fair and modern rural spatial planning.*

KEYWORDS *-Digitalization Era, Henri Lefebvre, Rural Spatial Planning, Space Production, Transformation Towards a Modern Village*

I. INTRODUCTION

In the era of global digitalization, villages in Indonesia face significant challenges in balancing technological modernization with preserving cultural identity. As agrarian-based communities with strong local values, villages now must adapt to the digital era to reduce development disparities with urban areas, particularly in terms of access to technology and digital infrastructure. These limitations hinder the development of villages in the global digital economy(Hidayah *et al.*, 2024).

Law No. 6 of 2014 defines a village as a legal community with specific territorial boundaries that has the authority to manage its governance and the interests of its people based on original rights and local traditions. Despite this authority, villages often lack the technical capacity and resources, causing spatial planning documents to remain formal documents without practical implementation. Villages face difficulties aligning their spatial plans with policies at the district or provincial levels due to differing priorities. Villages tend to focus on local needs, such as preserving agricultural land and basic facilities, whereas regional governments prioritize large-scale development projects, such as industrial zones or strategic infrastructure. This

misalignment hampers the integration of village spatial plans with broader policies, despite being regulated under Law No. 26 of 2007 on Spatial Planning(Kemendes, PDT & Transmigrasi, 2016).

Rural spatial planning is crucial as a strategic solution to address urbanization. With proper planning, villages can evolve into modern and sustainable living spaces that preserve local values, offer a quality of life comparable to urban areas, and attract migrants to return(Alfiansyah, 2024).Urbanization is driven by disparities in infrastructure access, technology, and economic opportunities between rural and urban areas. Villages are often perceived as stagnant and less supportive of modern living(Dewi, 2017). Progressive spatial planning can transform villages into more modern and competitive spaces, inspiring younger generations to contribute to the development of their own communities.The Village Development Index (IDM) reveals that disparities in access to basic infrastructure, such as roads, electricity, clean water, and digital connectivity, remain major obstacles to rural development(Marta & Suryandari, 2024). This indicates that village spatial planning has yet to fully support the development of infrastructure aimed at improving community welfare.

The concept of a modern village aligns with technological advancements, where the internet opens vast opportunities in education, commerce, and community development. Village spatial planning should leverage technology to create smart villages that optimize public services, accelerate communication, and expand access to global markets. Smart villages also enhance governance, promote environmental sustainability, and improve quality of life by providing better access to education, healthcare, and information(Marta & Suryandari, 2024). However, this transformation must remain rooted in local cultural values and address the needs of the community.

The transformation of rural spaces in Indonesia involves physical, social, economic, and cultural changes. Digitalization opens access to global markets and new economic opportunities. However, without proper planning, it risks widening social inequality, eroding local cultures, and creating uneven benefits(Purwanto *et al.*, 2021). A holistic approach is required to support rural transformation in the digital era.From Henri Lefebvre's perspective, space is not merely a physical entity but a social product shaped by interactions among people, values, and social structures. Rural spatial planning must consider Lefebvre's three dimensions of space: spatial practice (the physical and functional use of space), representations of space (the conceptual and designed aspects), and representational space (the lived and experiential space)(Lefebvre, 1991). These dimensions highlight the importance of involving local communities as key actors in development, rather than mere policy recipients. This approach ensures that development aligns with local needs and is rooted in the experiences and aspirations of the community.

Rural spatial planning is also vital for integrating villages into the global economy without losing their local identity. Modern villages should not only adopt advanced technologies but also leverage local potential, such as technology-driven agriculture, agro-tourism, or handcrafted products marketed digitally(Kusuma, Muhtadi, & Agustin, 2022). This can create new jobs and reduce rural communities' dependence on urban areas. Additionally, rural spatial planning aims to achieve spatial justice, a concept from Lefebvre emphasizing equitable access to resources and opportunities. Inclusive spatial planning can ensure that villages provide equitable education, healthcare, and public services comparable to urban areas. This reduces the pressure for rural populations to migrate to cities in search of better living conditions.Modern villages with internet connectivity also enable greater community participation in development. Access to the internet allows rural residents to engage in decision-making through online forums or digital platforms. This participation ensures that development aligns with the needs and aspirations of local communities.

Transforming villages into modern spaces can also address the stigma of rural areas being underdeveloped. Villages designed with modern infrastructure, advanced technology, and quality public services will attract not only local residents but also investors and tourists(Bawono, *et al.*, 2024). This can drive sustainable economic development and improve the living standards of rural communities. Thus, rural spatial planning is not only a solution to urbanization but also a means to create villages as competitive, inclusive, and sustainable spaces. In Lefebvre's view, rural spatial planning represents a transformative step toward building modern villages that preserve local values while achieving a balance between rural and urban areas. This approach enables the creation of livable spaces for all, while also reducing urbanization pressures on cities.

Building on the discussion above, this article aims to explore the challenges of spatial planning and rural transformation in Indonesia toward modern villages in the digital era, through Henri Lefebvre's approach to the production of space.

II. METHODOLOGY

This study employs a qualitative analytical-critical method with a literature review approach to analyze various relevant sources. The method aims to objectively and comprehensively uncover phenomena, particularly related to rural spatial planning as an effort to address urbanization and build modern villages through Henri Lefebvre's perspective on the production of space.Primary data are drawn from Lefebvre's book *The Production of Space*, which provides an analytical framework on the production of social space, as well as policy documents such as Law No. 26 of 2007 on Spatial Planning, Law No. 6 of 2014 on Villages, and the Village Development Index (IDM). Secondary data include empirical studies, previous research, books, scientific articles, dissertations, and other sources relevant to the research theme(Purwanza, 2022).The material object of this research encompasses rural spatial planning policies, the physical space of villages (infrastructure, land use, public facilities such as roads, markets, social activity centers, and access to digital technologies, including internet connectivity), and phenomena related to rural spatial planning, which have so far been limited to technical and administrative aspects. Given that the material object of this study pertains to issues of rural spatial planning, the formal object is Lefebvre's theory of the production of space(Barker & Zubair, 2007). This approach enables a deeper understanding of how rural spaces are designed, experienced, and utilized, as well as how these spaces can be transformed to address the challenges of urbanization and modernization in the digital era.

III. RESULT AND DISCUSSION

The Issue of Rural Spatial Planning in the Transformation Towards Modern Villages in the Digital Era

As previously discussed, Law No. 6 of 2014 defines a village as a legal community unit with the authority to manage governance and local interests based on initiatives, original rights, and traditional rights. Villages are viewed as autonomous entities playing a vital role in economic, social, and cultural development. The Village Development Index (IDM) maps village progress through three dimensions: social resilience, economic resilience, and ecological resilience, categorizing villages into five statuses, ranging from "very underdeveloped" to "independent." This definition underscores the dynamic nature of villages as entities evolving toward independence and sustainability.Law No. 26 of 2007 places villages within the context of spatial planning as parts of regions with specific functions, such as protected areas or cultivation zones, planned to support community life and environmental sustainability. This perspective highlights the importance of spatial planning that takes into account the potential and limitations of villages.

Examining the three definitions, it can be concluded that they complement each other in providing a holistic understanding of villages in this study. The Village Law positions villages as socio-political entities with the right to self-govern, the Village Development Index (IDM) focuses on aspects of development and village independence, while the *Spatial Planning Law* emphasizes the importance of spatial planning to support village sustainability. Together, these approaches underline that villages are not merely residential areas but also centers of social, economic, cultural, and ecological interactions that require cross-sectoral attention to maximize their potential.

Rural spatial planning issues in Indonesia represent a significant barrier to achieving the transformation of modern villages in the digital era. Indonesian villages, which generally possess substantial potential in natural, social, and cultural resources, often face complex spatial planning challenges. The transformation toward modern villages requires a synergy between well-planned spatial management and the utilization of digital technology. However, various obstacles, such as inadequate infrastructure, unequal access, and weak regulations, remain issues that must be addressed.

Disparities in access to physical and digital infrastructure are among the primary challenges in rural areas. Only about 50% of rural areas have stable internet access, hindering the adoption of digital technology as the foundation of modern villages(BPS, 2023). Limited road and transportation infrastructure exacerbates the

isolation of villages, obstructing the distribution of goods, access to economic opportunities, education, and healthcare services. Additionally, many villages lack clear spatial planning, leading to suboptimal land use, land-use conflicts, and environmental degradatio(Rohiani, 2021). Regional disparities, particularly in Eastern Indonesia, further widen the gap with villages in Java in terms of access to infrastructure and technology(Hadaf, 2022). These challenges significantly hinder the transformation of villages toward modernization.

Uncontrolled urbanization also poses a serious threat to rural areas. Villages located near cities often experience pressure from the expanding urban development. Agricultural land and green areas in villages are converted into residential or industrial zones without careful planning. This not only threatens environmental sustainability but also erodes the identity of villages as traditional agrarian regions(Rukmana & Shofwan, 2020).From a regulatory perspective, spatial planning policies are often less responsive to the needs of rural communities. Many policies are top-down and do not involve active participation from the local population. As a result, spatial plans are often irrelevant to local needs or fail to capture specific potentials of villages, such as tourism, organic farming, or local crafts.

The lack of digital literacy among rural populations is also a significant challenge. While digital technology is becoming more accessible, many rural residents have not yet learned how to use it effectively. This makes it difficult for villages to utilize technology to support economic activities, education, or administrative tasks (Latupeirissa *et al.*, 2023).Spatial planning issues also create serious social impacts. Disorganized land management often triggers conflicts among residents, particularly regarding land use. Furthermore, the lack of access to infrastructure and technology hinders rural development, leading communities to become trapped in cycles of poverty.

In the context of modernizing villages, spatial planning also affects the preservation of local culture. When villages are not designed with cultural aspects in mind, spatial transformation often neglects traditional values. This can lead to the erosion of local culture, which is a key asset for modern rural development. The transformation toward modern villages in the digital era also requires synergy among the central government, local governments, and communities. Unfortunately, coordination among these stakeholders is often weak. Many rural development projects are not integrated with digitalization programs, resulting in suboptimal outcomes(Rohiani, 2021).

Digitalizing spatial planning can be a solution to many existing problems. By utilizing technologies such as Geographic Information Systems (GIS), for instance, village governments can map land use more efficiently and identify areas in need of intervention. This can optimize resource use and reduce land-use conflicts. However, digitalization alone is insufficient without regulations and policies to support it. The government needs to develop spatial planning policies that are responsive to the digital era, including regulations that support the development of digital infrastructure and technology literacy training. Additionally, these policies should ensure that the transformation of villages into modern spaces maintains local values and environmental sustainability(Hidayah *et al.*, 2024).From an environmental perspective, poor spatial planning worsens the vulnerability of villages to disasters. Improper land use, such as the conversion of green spaces into settlements or unsustainable farming practices, often increases the risk of floods, landslides, and droughts(Wibowo, 2019). This further hinders the transformation of villages toward modernity. Moreover, villages often lack access to basic infrastructure, such as roads, electricity, and internet networks. The absence of such infrastructure obstructs the connectivity of villages with markets and economic growth centers. Villages also struggle to adapt to modern technology, which is characteristic of developed villages. In this context, the transformation of villages toward modernity is hindered by the limited physical facilities supporting productivity(Junaidi & Malau, 2022).

The village economy sector also faces structural challenges. Despite the abundant natural resources in many villages, their management is often suboptimal. One of the main causes is the weak management and coordination capacity at the village level. For instance, managing joint businesses through Village-Owned Enterprises (BUMDes) is often hindered by sectoral egos between villages, preventing regional collaboration from being maximally utilized(Amalia, 2024).Injustice in access to public spaces also becomes a barrier. In many cases, spaces that should serve as areas for social and cultural interaction are eroded by development

projects focused on economic growth. Traditional markets, village fields, and other gathering spaces are often replaced by commercial buildings that lack similar social functions. This erodes social cohesion and local cultural identity(Zahra & Rudiarto, 2023). The lack of human resource capacity in villages also contributes to these issues. Many village officials lack the knowledge or skills needed to design inclusive and sustainable spatial planning. Additionally, the limited technical support from central or provincial governments leaves villages behind in creating effective spatial planning(Border, 2022).

The challenges of rural spatial planning in the development of modern villages toward a more advanced digital era are complex and require special attention. One of the greatest challenges is the disparity in infrastructure and access to technology that still exists in many villages. While digital technology is rapidly advancing in large cities, many villages are still hindered by limited basic infrastructure, such as uneven internet access. This creates a gap between rural and urban areas, where villages struggle to access economic, educational, and social opportunities driven by digitalization(Zahra & Rudiarto, 2023). In the context of rural spatial planning, this results in an imbalance between the physical development needs and the availability of adequate technology, which slows down the transformation toward modern villages. Additionally, there are challenges in integrating local values and rural wisdom with development that is oriented toward modernization. Modern village development often focuses on improving physical and economic infrastructure, such as roads, buildings, and access to technology, but frequently overlooks the social and cultural aspects that form the foundation of village life. In many cases, the changes that occur tend to erase the local wisdom elements that are an important part of rural identity. The process of village modernization must ensure that spatial changes not only prioritize efficiency and technological progress but also respect and preserve the cultural values and social structures that exist.

The transformation to a modern village in the digital era also faces challenges in terms of inclusive and participatory space management. Often, spatial planning in villages is carried out in a top-down manner, where important decisions are made by external parties or government elites without involving the local community. However, the success of modern village development greatly depends on the active participation of the community in planning and deciding the direction of development. Involvement of the community in space production ensures that village development reflects their needs and desires and supports the creation of more sustainable, just, and functional spaces(Junaidi & Malau, 2022). In the context of digitalization, village planning should also consider how technology can be utilized to strengthen community participation and accelerate the development process without neglecting broader social aspects.

Reflecting on these issues, it can be concluded that the impact of all these problems is the hindrance of the transformation of villages toward modernization in the digital era. Instead of becoming modern villages based on sustainability and technology, many villages in Indonesia remain stagnant or even degraded due to policies that do not prioritize the needs of rural communities. Efforts to modernize and address various issues often focus on physical development without considering other aspects such as social, economic, cultural, and environmental factors.

The Application of Henri Lefebvre's Theory of the Production of Space in the Transformation of Rural Spatial Planning in Indonesia in the Digital Era

In response to the complex and multilayered issues surrounding rural spatial planning in Indonesia, as previously discussed, this research delves deeper into the lens of Henri Lefebvre's thinking, particularly his concept of the production of space. Lefebvre's theory of the production of space highlights three main dimensions of space: spatial practice, representations of space, and representational spaces(Lefebvre, 1991). These three dimensions provide an analytical framework that can be applied to the context of rural spatial transformation in Indonesia, which faces both challenges and opportunities in the era of digitalization.

Rural spatial planning in Indonesia often falls into a top-down approach that is oriented toward urbanization and modernization, creating disparities between the local needs of rural communities and the development vision of the government(Anugrah *et al.*, 2023). In Lefebvre's perspective (1991), rural spaces are often conceived as spaces that are designed without involving the local community as key actors, neglecting

spatial practices and representational spaces that reflect daily practices and local culture. Villages are often positioned as supporters of the city, supplying natural resources and labor, which creates an exploitative relationship and diminishes the autonomy of the village(Sugiyono, 2022). This pattern leads to rural infrastructure development that is not inclusive and fails to address the social and economic needs of the local population.

The first dimension, spatial practice, focuses on the use of space in daily activities such as farming, trade, and education. Digital transformation is changing the way rural communities utilize space, such as through e-commerce, which modernizes the distribution of products (Latupeirissa*et al.*, 2023). Analyzing spatial practice helps planners understand the community's needs regarding both physical and digital spaces. The second dimension, representations of space, refers to the design and conceptual organization of space by the government through policies and regulations. Technologies like GIS can improve the accuracy of spatial planning, but involving local communities remains a challenge(Simamora & Sarjono, 2022).The third dimension, representational spaces, concerns the symbolic meaning of space for the community, such as the village square or ancestral land. Digitalization changes this meaning, for example, the village hall being replaced by WhatsApp groups or online applications(Akbar *et al.*, 2024). Lefebvre (1991)emphasizes the importance of managing digital transformation in a way that remains aligned with local cultural identities.

The application ofLefebvre's theory (1991)in the transformation of rural spatial planning can address the digital infrastructure gap by emphasizing spatial justice, which ensures equitable internet access even in remote areas. This approach also supports the integration of digital technology in rural economic activities, such as marketing local products through digital platforms to boost community income. Additionally, Lefebvre's theory is relevant for designing spaces that preserve local culture amid the risk of cultural homogenization due to digitalization. The transformation of rural space must reflect the community's identity by promoting local culture, such as through digital platforms that document and showcase village traditions(Hendra, 2018).

Digital transformation in rural space opens opportunities for community participation in spatial planning.Lefebvre (1991)stresses the importance of active community involvement in creating spaces, which can be supported by digital technology such as mapping applications or online forums. Rural communities become active agents determining the direction of spatial changes. However, digital transformation also brings risks of social inequality due to uneven access to technology. Lefebvre emphasizes that space should be inclusive and beneficial for all groups, including women, children, and the elderly. From an environmental perspective, digital transformation often changes land use, such as converting agricultural land into digital industrial zones(Babys *et al.*, 2024). Lefebvre reminds us that space has not only economic value but also ecological value. Therefore, rural spatial planning must be designed for sustainability, considering environmental impacts and protecting local ecosystems.

The implementation of Lefebvre'stheory (1991)requires supportive regulations that promote rural spatial transformation. The government should adopt policies such as building technology infrastructure, providing digital literacy training, and offering incentives for technology-based businesses in rural areas. These regulations must take Lefebvre's spatial dimensions into account to manage conflicts that may arise due to mismatches between local community needs and government policies. An inclusive approach that understands the aspirations of the community can minimize conflicts and support a harmonious transformation.

In the long term, the application of Lefebvre's theory (1991)can create villages that are more adaptable to global changes, including digital challenges such as technological development and dynamic market needs(Babys *et al.*, 2024). By understanding the production of space, villages can design flexible spatial plans without losing their local identity.Lefebvre (1991)reminds us that modernity is not just about physical development or technology but also involves active community participation in creating spaces that reflect their needs and aspirations(Amalia, 2024). Thus, the transformation of villages must take into account the spatial practices of the community, including land use patterns, local economies, and daily cultural practices.

The issue of rural spatial planning in Indonesia reflects the relevance of Lefebvre's (1991)ideas in addressing the conflict between modernization and sustainability. Villages need more than just infrastructure; spaces that support social, economic, and cultural life in harmony are equally important. Integrating the

dimensions of perceived, conceived, and lived space in spatial planning can encourage a more equitable and sustainable rural transformation. Lefebvre's theory of the production of space emphasizes that space is not merely physical but also a result of social interactions and power dynamics, which can address inequalities and create social justice. Lefebvre also highlights the diversity of spatial experiences, often overlooked by top-down planning. In the context of rural areas, space must reflect local identities and the social, cultural, and economic meanings attached to it. Lefebvre's approach also considers power dynamics in spatial planning, which frequently neglects the voices of local communities. Digitalization changes the meaning of space, so it is crucial to consider the interaction between physical and digital spaces to preserve the social and cultural essence of rural areas.

The application of Lefebvre's theory (1991)in the digitalization of villages provides insights into how space should reflect the social, economic, and cultural needs of communities. Rural transformation in the digital era must be more than just physical or technological development; space should meet the needs of the community in a fair and inclusive way. Lefebvre, influenced by Marxist thought, viewed space as a social construct influenced by power, ideology, and social relations. He saw space as an arena for social conflict, where different social classes have unequal access and power in shaping space. Lefebvre also argued that changes in spatial structures are closely tied to social and economic changes, where capitalism creates social and economic inequalities, benefiting the powerful while disadvantaging the lower classes, especially in rural areas.

Lefebvre's Marxist philosophy emphasizes the importance of class consciousness and community participation in the production of space to address inequalities caused by the domination of the ruling class(Hendra, 2018). Lefebvre (1991)sees the production of space as a social struggle, where the oppressed fight for access to fair and inclusive space. In the context of rural areas, this means empowering rural communities to participate in spatial planning according to their needs and local values, not just as objects of development. Lefebvre criticized capitalist modernity, which turns space into a commodity for specific interests, and offered a framework for creating fairer and more inclusive spaces as a means of combating social injustice.

In the context of rural spatial transformation in Indonesia in the digital era, the application of Lefebvre's theory can be implemented to accommodate the changing needs of rural communities. The application of Lefebvre's theory (1991) in the transformation of rural spatial planning in Indonesia involves optimizing physical, social, and mental spaces to support digital development. Physical space includes digital infrastructure such as internet networks and service centers, which support a technology-based economy. Social space encourages community participation in spatial planning, while mental space focuses on changing mindsets through digital literacy education. The integration of physical and digital spaces, such as geographic information systems, can enhance resource management. Policies should prevent inequalities in space utilization, with programs that ensure technology access for all segments of society. Improving connectivity between regions and creating inclusive public spaces fosters broader social and economic relations. This strategy helps Indonesian villages address the challenges of the digital era by integrating spaces for social, economic, and cultural interactions.

The Impact of Rural Space Transformation in the Digital Era and the Ability of Lefebvre's Approach to Anticipate It

As a critical thinker regarding space, Henri Lefebvre provides important insights into how rural spatial planning can serve as a solution to reduce urbanization pressures by creating inclusive, competitive, and progressive villages. Lefebvre views space not as a static entity, but as a social product generated through the dynamic relationships between social practices, representations of space, and lived space (Lefebvre, 1991). This perspective is highly relevant for understanding how rural transformation can address these multidimensional impacts.

Social Impact

The transformation of rural spaces in the digital era brings complex social impacts, including changes in communication patterns, social structures, and cultural values. Digitalization facilitates interaction through

technology, but it can also weaken face-to-face relationships and widen the digital gap between generations and social groups. Technology may shift values of communal cooperation to individualism, but it also presents opportunities to strengthen solidarity through collective digital-based activities.Lefebvre (1991) perspective on the production of space helps to understand social dynamics and manage risks, such as inequality in access and shifts in cultural identity, by emphasizing the importance of community participation in spatial planning. Integrating the physical, social, and symbolic dimensions in digital spatial planning can create inclusive, sustainable spaces that respect local values and strengthen village social life(Rahmat *et al.*, 2022).

Economic Impact

The transformation of rural spaces in the digital era significantly impacts the economy, with digital technology opening wider market opportunities and job diversification, such as e-commerce and online work (Pitriani *et al.*, 2023). However, challenges arise, including economic inequality, changes in consumption patterns, and shifts in value chains that may replace the roles of local intermediaries. Henri Lefebvre's approach to the production of space offers an analytical framework that helps understand the interactions of physical, social, and symbolic spaces in rural economic transformation. Lefebvre emphasizes the importance of community participation in designing inclusive and sustainable policies so that the economic benefits of digitalization can be felt equitably, strengthen social structures, and preserve local values (Amri & Wijayanti, 2019).

Cultural Impact

The transformation of rural spaces in the digital era influences Indonesia's local culture by opening opportunities to promote culture globally through digital platforms(Latupeirissa *et al.*, 2023). However, digitalization also threatens the preservation of local traditions due to the massive influence of foreign cultures. Technology allows for the documentation of traditions but can also trigger cultural homogenization, such as the shifting interests of younger generations from traditional arts to popular culture. Digitalization alters the way people perceive cultural space, shifting cultural activity centers from physical to virtual spaces. However, withLefebvre's (1991), approach, these cultural impacts can be analyzed to maintain a balance between modernization and the preservation of local traditions, through community participation and policies that support the digital-based preservation of culture.

Reflection

The transformation of rural spatial planning in the digital era has profound implications for the life of rural communities, encompassing social, cultural, and economic aspects. One of the main challenges is the inadequate rural spatial planning that has not fully supported the process of modernization. This includes the lack of inclusive spatial planning, weak digital infrastructure, and limited community participation in decision-making. If left unaddressed, this situation will not only worsen the disparity between rural and urban areas, but also hinder rural areas from becoming an active part of the global order. Therefore, a strategic reflection is necessary to provide solutions for these issues while also promoting the progress of rural communities.

In the context of rural Indonesia, spatial practice reflects the daily lives of communities that are largely dependent on the agrarian sector. This reflection emphasizes that digitalization can support these practices by providing relevant technological access, such as agritech applications or platforms for marketing agricultural products. However, this transformation will only succeed if the government and other authorities support it through inclusive spatial representation based on local needs. The symbolic meaning of space (representational spaces) also becomes an important aspect that cannot be overlooked. Villages possess strong cultural identities, often reflected in their spatial arrangements. This reflection stresses that modernization should not erase this identity. On the contrary, digital transformation must be directed towards strengthening and preserving local cultural values, such as documenting traditions through technology or digitally promoting the cultural potential of villages.

Healing Rural Spatial Planning Issues

Henri Lefebvre's theory of the production of space offers a strategic perspective on rural spatial planning issues. Lefebvre (1991)views space as the result of the interaction between physical, social, and symbolic dimensions, meaning that spatial transformation should not solely focus on infrastructure but also involve social and cultural meanings. Therefore, it is essential for the government and policymakers to ensure that the digital spatial transformation does not erase the local identity of rural communities. This effort can be achieved through the active involvement of the community in the planning and management of space, ensuring that local aspirations and wisdom are accommodated.

This application must be directed at addressing the digital divide, which remains a fundamental issue. Many rural residents, particularly marginalized groups such as the elderly or low-income families, lack access or the necessary skills to utilize digital technology. The government must expand internet access to remote villages and provide inclusive digital literacy programs. These steps will not only reduce social inequality but also strengthen community cohesion in rural areas.

Progressive Strategies for Revitalizing Rural Digital Space

From a progressive perspective, the transformation of rural spatial planning should aim to push rural areas to become hubs of local innovation that are relevant in the digital age. By utilizingLefebvre's (1991), approach, villages can develop digital spaces that are not only places for interaction but also avenues for economic and cultural empowerment. For instance, digital platforms can be used to market local products globally, connecting rural SMEs with a broader market. This allows rural areas to become active players in the digital economy.Additionally, digital space can be leveraged to strengthen education and training in rural areas. The government and private sectors can collaborate to provide technology-based learning programs that help rural communities improve their skills. With these skills, rural populations will not only become consumers of technology but also creators of innovations that are relevant to both local and global needs.

Lefebvre and the Fundamental Change of Rural Spatial Planning

Lefebvre's concept (1991)also emphasizes the importance of space as a tool for social transformation. In the context of rural areas, this means ensuring that digital space is not only a communication channel but also a means to build community solidarity and strengthen local values. This approach can help villages create meaningful spaces where technology not only changes the way people live but also reinforces their cultural and social identities. Furthermore, this transformation must be aimed at addressing fundamental issues such as urbanization. If rural space is designed according toLefebvre's (1991)approach, villages can become promising places for younger generations to live and thrive. For example, by providing access to education, job opportunities, and digital-based entertainment, villages can offer a quality of life comparable to urban areas. This gradual transformation will change the image of rural areas from traditional spaces to modern, dynamic, and competitive ones.

The Future Village

If all these efforts can be realized, the face of rural areas in Indonesia will change significantly. Villages will no longer be seen as backward areas, but as hubs of life with new opportunities. Villages that were previously abandoned due to lack of prospects will become attractive places for the younger generation. With this transformation, urbanization may decrease, as rural communities will no longer need to migrate to cities in search of a better livelihood.

A modern, technology-integrated village that respects its local identity will become part of the global ecosystem. Rural communities will become active netizens, not only consuming information but also producing ideas and innovations. In Lefebvre's (1991), framework, the future village will be a space co-produced by its community, filled with profound social, cultural, and economic meanings. This transformation will not only

change the physical spatial layout of villages but also create a fundamental shift in how rural communities live their lives.

This perspective offers hope that rural areas can become a solution to broader development challenges, including urbanization and regional disparities. This research shows that the transformation of villages is not just about changing their physical appearance, but also about empowering their communities to create spaces that meet their needs and aspirations. Lefebvre (1991)provides a relevant framework to achieve this goal, positioning rural areas as centers of innovation and sustainability amidst the challenges of globalization.

Critique of Henri Lefebvre's Theory

Henri Lefebvre's theory of the production of space offers a profound conceptual framework for understanding how space is shaped not only by physical needs but also by social, political, and economic relations. This perspective provides valuable insights into how space is produced through interactions among various actors, including the state, society, and capital. However, Lefebvre's theory tends to be abstract, making its application in specific contexts, such as rural spatial planning in the digital era, a challenge. The complexity of the relations described by Lefebvre requires additional interpretation to make it relevant to rural spatial transformation, as the social and cultural dynamics of rural areas differ significantly from the urban context, which was Lefebvre's primary focus.

Additionally, one of the main weaknesses of the theory is its lack of attention to the role of technology and digitalization, which are now key elements in spatial transformation, including in rural areas. Lefebvre developed his theory before the digital era, and thus did not address how technological innovations significantly affect the production of space. In the context of modern rural areas, technology not only alters the physical structure of space but also creates new dimensions of space—digital spaces—that affect patterns of social interaction. Therefore, Lefebvre's theory requires updating or enrichment to encompass the impact of technology on the production of space, particularly in the context of rural development increasingly reliant on digitalization.

Strengths and Weaknesses of Lefebvre's Theory

One of the key strengths of Lefebvre's theory is its ability to highlight the close relationship between power and space and how space is used as a tool to control and reproduce social domination. This perspective is relevant in the context of rural Indonesia, where spatial planning policies often reflect the interests of elite groups, such as capital owners or the central government, rather than the needs of local communities. Lefebvre provides a framework for understanding how space is produced not only through physical activity but also through social constructs that reflect power hierarchies. This allows for a more critical analysis of rural development processes, particularly in identifying who benefits or suffers from certain spatial policies. However, Lefebvre's theory has weaknesses, particularly in its practical application.

The theory does not provide concrete operational guidelines, making it difficult to implement in rural spatial planning and development, which requires clear technical steps. In rural areas, which have unique socio-cultural complexities, the abstraction in Lefebvre's theory requires additional interpretation to be effectively applied. For example, Lefebvre does not give direct guidance on how local communities can be actively involved in the production of space, even though such participation is crucial for creating inclusive and just spatial planning. This weakness suggests that Lefebvre's theory needs to be supplemented with more practical approaches or combined with other theories that are more applicable to address rural development challenges.

Critique of Rural Development and Spatial Planning

Rural spatial transformation in Indonesia toward modern villages in the digital era is often hampered by disparities in access to technology and infrastructure. Development is often oriented toward the capitalization of space, which overlooks local wisdom and the needs of the community. Villages frequently become the object of development without active involvement from local populations, which ultimately harms their social and economic potential.Applying Lefebvre's theory in this context underscores the importance of community

involvement in the production of space. The dominant top-down approach in rural development in Indonesia needs to be criticized because it creates spaces that are less representative of local needs and values. Additionally, planning for modern villages should consider how technology can be used to strengthen social cohesion, rather than solely focusing on efficiency or economic competitiveness.

Researcher's Stance

In this context, the researcher views Henri Lefebvre's theory of the production of space as a highly relevant conceptual tool for understanding the dynamics of rural spatial planning, despite certain limitations. Lefebvre's theory provides deep insights into how space is shaped through social, political, and economic interactions, which is crucial in analyzing the development of rural spatial planning. The researcher acknowledges that this theory is more commonly applied in urban contexts, but believes that the fundamental principles proposed by Lefebvre can still be adapted to rural spaces with some adjustments. These limitations serve as a challenge to delve deeper and enrich the theory, making it more capable of addressing contemporary issues affecting rural areas today, such as digitalization and globalization.

The researcher emphasizes the importance of expanding Lefebvre's theory to include aspects of digitalization and local wisdom, which are highly relevant in current rural spatial planning. In the digital era, rural spaces are not only shaped by physical and social factors, but also by the impact of technology, which increasingly permeates people's lives. In the researcher's view, Lefebvre's theory needs to be adapted to accommodate the role of technology in changing how people interact with their spaces, and to understand how local and traditional values can be integrated with technological advancements. The emphasis on local wisdom is crucial to ensure that rural development does not overlook existing cultural identities but rather incorporates them into a sustainable and inclusive transformation process.

The researcher’s stance on rural spatial planning also reflects the importance of a participatory approach that actively involves local communities in the planning process. The researcher believes that successful development relies not only on decisions made by elites or external parties but also on community involvement in determining the direction of their spatial development. The underlying assumption is that rural communities possess valuable knowledge and insights into space usage, which is often overlooked in top-down planning processes. By combining Lefebvre's theory, which analyzes power relations within space, with the concept of active participation, the researcher proposes that rural development should integrate technology in ways that strengthen local values. This approach is expected to create spaces that are not only functional but also meaningful to the community. Overall, the researcher encourages synergy between Lefebvre’s theory and contextual approaches to address major challenges in rural spatial planning in the digital era, with the assumption that community participation is key to creating spaces that are more equitable and sustainable.

IV. CONCLUSION

Based on the results and discussion above, it can be concluded that the issues of rural spatial planning in Indonesia are primarily caused by limited digital infrastructure, non-inclusive spatial policies, and the development gap between urban and rural areas. The lack of community participation in planning, which tends to be top-down, exacerbates these issues. The transformation towards modern rural areas in the digital era requires an approach based on spatial justice, synergy among various stakeholders, and strengthening rural capacities to cope with digitalization. Henri Lefebvre's theory of the production of space offers an inclusive and sustainable framework by integrating three dimensions of space: spatial practice, representations of space, and representational spaces. Its application in Indonesia emphasizes the importance of local cultural identities, community participation, and fair distribution of resources. Digital transformation brings opportunities in the economy and social connectivity but also poses risks, such as social inequality and threats to local culture. Lefebvre's approach helps create a holistic, participatory, and sustainability-oriented rural spatial planning that ensures an inclusive and balanced transformation. It underscores the need for inclusive development that respects local values while fostering progress in the digital age.

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This research recommends collaboration between the government, academics, and local communities to develop rural spatial policies that are inclusive, based on local needs, and make use of digital data. Community participation in planning, investment in digital infrastructure, and digital skills training are key to successful transformation. The application of Henri Lefebvre's theory of the production of space, which integrates the dimensions of spatial practice, representations of space, and representational spaces, can strengthen policies that focus on the preservation of local culture, social justice, and sustainable development.Further research is needed to explore the application of Lefebvre's theory in digital space planning and strategies to address spatial inequality. This approach aims to create an inclusive and sustainable rural transformation, with the equitable distribution of digital benefits, the preservation of local culture through digitalization, and readiness to face global challenges such as climate change, urbanization, and social inequality. The expectation is that rural areas will not only become competitive spaces but also models of sustainability that inspire other regions.

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