

Environment-Based Spatial Management Combines Dignified Justice in Harmonization of Regulations

Muhammad Ali Adnan¹, Teguh Prasetyo¹, Elvira Fitriyani Pakpahan¹ and Mirza Nasution²

¹ Universitas Prima Indonesia, Jl. Sampul No. 4, Kampus Padang Bulan, 20118 Medan, Indonesia

² Universitas Pelita Harapan, Jl. M.H Thamrin Boulevard 1100, Lippo Village, 15811 Tangerang, Indonesia muhammadaliadnan@unprimdn.ac.id

Abstract. In this paper, the authors examine the economic benefits of a sustainable spatial planning policy that integrates environmental regulations with a fair and just level of environmental protection. The primary objective was to assess the influence of such regulatory frameworks on regional economic advancement, investment prospects, job generation, and the robustness of the economic model. This study employs a multimethod approach, integrating data analysis, interviews, and community surveys, to assess the impact of sustainable spatial planning on economic growth and social equity. The findings indicate that sustainable spatial planning legislation can significantly enhance economic growth through investments in environmentally focused sectors, including ecotourism and renewable energy. Furthermore, they facilitate job creation and enhance the capacity of economies to adapt to and withstand external shocks. Nevertheless, the data indicates that the efficacy of these regulations is contingent upon the specific local context and the nature of the policies in question. While the sustainable side of the equation appears to be thriving, areas that are dependent on the unstoppable theft of resources may encounter difficulties in transitioning towards a more evaluative approach. This study identifies the incorporation of social justice in spatial planning regulation as a significant finding. In particular, the environmental benefits derived from such initiatives are not distributed equally and tend to favor low-income and disadvantaged communities to a lesser extent. The study concludes that regulations must be designed to allow for equitable access to sustainable environments that support sustainable societies as well as sustainability within societies. This would address issues of environmental sustainability and social justice in a more substantial manner. Finally, this study highlights the need for spatial planning rules that align with climate protection and local economic promotion whilst also enhancing social equality. It underscored the importance of clean technology, green infrastructure, and economic diversification to build a more sustainable and equitable economy.

Keywords: Sustainable Spatial Planning, Economic Resilience, Environmental Justice, Social Equity, Green Economy.

[©] The Author(s) 2025

1 Introduction

Environmentally based spatial planning is an integrated method that thoughtfully takes into account both natural and social environments when designing and managing places in rural and urban conditions. This ensures that environmental considerations like biodiversity, land use, and ecosystem sustainability are treated equally as items in balance with human needs such as housing, transportation, and economic development. Previous studies have indicated that environments based regional spatial planning has the potential to increase long-term ecotones integrity and social equality of regions (Jabareen, 2006; Mazzarel-la et al., 2015).

Spatial planning justice addresses the idea of access to the environmental resource as well as the benefit of development which are meant to be equal. It deals with the realities of social inequities in the allocation of environmental hazards and resources to the marginalized sections of society by ensuring that resource-starved communities are not overburdened with envi-ronmental deterioration and receive an equitable share of the benefits accruing from sustainable develop-ment (Agyemang et al., 2017). Yet literature has emphasized the challenge of cou-pling environmental protection to just social policies [28], even as concerns over social justice in spatial planning increasingly garner attention [29]. In particular, it has been difficult to strike a balance between regulatory frameworks that facilitate sustainability at the same time that they do not worsen social inequalities (Chapin et al., 2016).

Therefore, literary gap on how the regulatory harmonization could happen between environmental sustainability and social equity based on region diversity is missing. While past research has examined the net gain of different environmentally based planning, there is little in the way of guidance on how these policies can be designed to optimize ecological resilience whilst upholding social justice.

This articles now seeks to fill this gap by investigating how the principles of social jus-tice can be reconciled with environmen-tal-based spatial planning policies. This study will investigate how such policies can affect vulnerable communi-ties and whether they can promote fair, sustainable development. In this way it will serve to codevelop better regulatory frameworks that not only protect the environment but the most marginalized, and provide best practices for policy making in the future.

Based on (I, P. nd) For many decades, rapid urban development has become global phenomenon due to a rapidly growing population concentration stake in large cities with major international, national and regional rural-to-urban migrations. This urbanisation has hit the environment, infrastructure and natural resources hard. Urbanization, while a natural phenomenon, has two edges as cities tend to have a high population density which causes air pollution, traffic jams, lack of infra-structure and facilities, consequently plummeting the quality of life. Moreover, lack of urban planning often leads to negative environmental impacts such as loss of habitats, loss of green spaces, and pollution. Unchecked urban expansion often appears in the form of severe environmental impacts such as habitat destruction, loss of greenery, and higher air pollution. Various studies indicate that quick urbanization takes place by taking the lands from the natural state to built-up state leading to the ecosystem disturb and threaten biodiversity (Seto et al, 2011). In most cases, this is at the cost of the clearing of forests, wetlands, agricultural land, all of which contribute to the loss of valuable eco-systems

and species habitats in the process of urban expansion (McDonald et al., 2018). Furthermore, green spaces, which cover cities such as parks, forests, and urban gardens, are being filled with concrete as cities expand, leaving less room for biodiversity and affecting the quality of life of its inhabitants (Heynen et al., 2006). Similarly, urban sprawl also associated an increasing pollution level such as increase in air and water pollution, because the more urban the area grows the more vehicles are used, more industries are set up and therefore more waste is produced which put pressure on local and also global environment (Feng et al., 2020).

The challenges posed by rapid urbanization are further compounded by the strain that rapid growth places on water, energy, and waste management systems. In this context, sustainable urban planning assumes a pivotal role in mitigating the adverse impacts of rapid urbanization. The construction of infrastructure, including tall buildings, highways, and bamboo houses, causes irreversible changes that invariably result in deforestation and land eviction (Sari & Sutrisno, nd-b). Such alterations have the effect of disrupting natural ecosystems, undermining biodiversity, and leading to long-term environmental degradation. Furthermore, elevated levels of air and water pollution resulting from industrial activities, vehicular emissions, and waste disposal from urban residential areas also contribute significantly to the deterioration of quality of life in expanding urban local zones. While rapid urban development can create economic opportunities, it has the potential to exacerbate social inequality if not managed effectively. Prior research suggests that accelerated urbanization is likely to exacerbate vertical income disparity and horizontal spatial segregation, whereby new opportunities are concentrated in specific socio-spatial areas rather than being distributed equitably across groups. It is frequently the case that the wealth generated by urban economic expansion is distributed in an uneven manner, or is uneven across different cities (Sassen, 2001). This is because low-income, marginalised or minority communities often have restricted access to the spaces of opportunity and prosperity. This results in the formation of informal settlements and slums lacking essential services such as sanitation, healthcare, and education, thereby intensifying poverty (UN-Habitat, 2016). Secondly, gentrification, which is a phenomenon that arises alongside the expansion of cities, results in the displacement of low-income residents and an increase in housing costs, thereby moving vulnerable individuals away from employment areas and public services (Lees, 2014). Furthermore, the unequal provision of public goods and infrastructure, including transportation, healthcare facilities, and green areas, contributes to the widening of social inequalities. This is because richer zones receive greater investment and enjoy superior services, resulting in significant disparities across neighborhoods (Chaskin & Joseph, 2015).

The displacement of vulnerable communities and the unequal distribution of resources, including clean air, water, and green spaces, serve to exacerbate social and economic divides, underscoring the imperative for the implementation of sustainable and equitable urban planning practices. As Siregar and Siregar (nd-b) observe, those in the lower socioeconomic classes tend to reside in areas that lack access to basic public services, including clean water, sanitation, and health services. As a result, they are more vulnerable to the adverse effects of urbanization. As urban areas continue to expand, these communities frequently become more vulnerable to a range of challenges, including pollution, overcrowding, and inadequate infrastructure. As their circum-

stances deteriorate, the disparity becomes further entrenched, resulting in a vicious cycle of deprivation and alienation. Moreover, the associated environmental degradation (e.g., greater air and water pollution) caused by unplanned urban expansion is not distributed evenly among communities and predominantly affects these same groups, thereby reducing their quality of life and making social mobility even more challenging to achieve. To address this disparity, it is essential to implement concentrated and equitable urban planning strategies that ensure access to basic services while protecting the urban disadvantaged from the adverse effects of urban development.

As previously stated by Wijayanti and Sari (nd-b), urban development gives rise to a multitude of social and environmental concerns, which can be addressed through the implementation of an environmentally based approach to spatial planning. This approach is founded upon the principles of sustainable development, which are centered on the avoidance of adverse environmental impacts, the preservation of ecosystems, and the promotion of the sustainable use of natural resources. Furthermore, regulations serve as crucial instruments for governments to oversee regional development, ensuring that growth occurs not only within ecological constraints but also in alignment with other sustainability objectives. At the core of this is spatial regulation, encompassing legislation, policy, and guidelines that delineate the manner in which regional development and land use should proceed. However, these regulations are frequently crafted in a manner that elevates social justice and environmental objectives in a manner that is perceived to be mutually exclusive, as though the available time is a zero-sum commodity. A further, and arguably more significant, challenge in the design of spatial planning policies is the balancing act between guaranteeing environmental sustainability and ensuring the equitable distribution of development opportunities and resources across different societal groups.

The author of [22] asserts that the harmonization of regulations between policies aimed at social justice and those aimed at environmental preservation represents the most challenging aspect of the environmental-based spatial planning process. The relationship between the environment and vulnerability is a complex one. Environmental protection policies seek to safeguard the well-being of minerals and fauna. However, they may inadvertently exacerbate the challenges faced by vulnerable communities, many of whom are directly or indirectly impacted by the sale of these resources. Conversely, efforts to protect communities and social well-being can potentially lead to unintended negative consequences for the environment. Such a scenario might entail the designation of protected areas, necessitating the relocation of local communities or indigenous peoples to ensure their survival outside of the forest. Similarly, an imbalance in spatial planning decisions may yield unfavorable outcomes. It is probable that development projects which ignore environmental aspects will result in the destruction of vital ecosystems, which are essential for the maintenance of biodiversity and the sustenance of life on Earth. This illustrates the importance of coordinating these policies to achieve an equitable and sustainable outcome with regard to environmental protection and social justice.

In contrast, policies that fail to respond to social demands may serve to reinforce injustices and disparities in resource and service access. This is partly because large infrastructure projects like airports and tollways are often built on free land, leading to the displacement of indigenous people. The displacement of communities has a cascading effect, not just on the individuals directly affected, but also on wider economic and

social spheres. They result in the denial of access to basic services, incomes, and social networks for those affected. These outcomes highlight the necessity for spatial planning policies that are responsive to environmental sustainability and social justice, in order to ensure that the benefits of development are not attained at the expense of those who are most vulnerable. It is imperative that eviction be regulated and that basic social needs, including sustainable income for employment, a decent environment for housing, and fair compensation capable of being financially met, be guaranteed. Failure to do so will result in social injustice (Kurniawan & Pratama, nd). To surmount these challenges, it is imperative to devise integrated spatial plans that achieve an optimal equilibrium between social, economic, and environmental objectives. These methods of operation necessitate the input of a diverse array of stakeholders, including local government officials, business representatives, and community leaders, in order to represent the multiplicity of viewpoints and to distribute power equitably.

The concept of sustainable spatial planning has gained significant traction on the global stage. One of the most prominent initiatives in this regard is the United Nations Sustainable Development Goals (UNSDGs), which were endorsed by 193 member countries (UN, 2015). The UNSDGs represent a pivotal step towards defining development in a universally applicable manner at the highest political level. At the district level, the UNSDGs call for ensuring open access to safe and affordable housing, basic services, and the upgrading of slum settlements. However, the targets presented in 11.2-11.54 are markedly different. They call for ensuring that all cities are sustainable, inclusive, efficient, and economically viable. Additionally, they emphasize the importance of developing transport systems that are both affordable and efficient, while also ensuring their harmonious benefit to the environment. This should be achieved in a way that provides access to all members of the population, from the elderly to children, without forcing them to remain indoors and risking their health due to a lack of oxygen. These spaces are to be designed in a manner that respects the specific needs of urban residents, with particular attention paid to their potential for reducing urban inequality. The process of urbanization has been a significant contributing factor to, and will continue to drive, the most notable global patterns and changes in life and the environment. Cities are integral to the global economy, yet they present challenges to both the environment and society. As cities continue to develop, a range of opportunities and risks will emerge. The expansion of urban land can facilitate economic growth, provide employment opportunities, enhance productivity, and stimulate innovation. However, if left unaddressed, it also has the potential to result in increased social disparities and ecological destruction (Sassen, 2001; UN-Habitat, 2016). This duality indicates that sustainable spatial planning must consider not only economic turnarounds but also the interrelationship between society and the environment.

The objective of spatial planning is to establish a developmental model that integrates ecological sustainability and human needs. This encompasses the conservation of natural habitats and biodiversity, as well as the minimization of environmental impact from urban areas. Furthermore, effective planning must prioritize social justice as a fundamental aspect. It is widely acknowledged that disadvantaged communities are frequently adversely affected by the negative outcomes of urban development, including displacement, homelessness, and the denial of access to essential environmental services that they are entitled to by virtue of the very act of city building (Lees, 2014).

The failure of spatial planning to take account of social factors can lead to the aggravation of existing inequalities and hinder marginalized groups' ability to obtain the tools and systems that would benefit them. A prominent framework for sustainable urban development is the United Nations Sustainable Development Goal (SDG) 11, which seeks to create inclusive, safe, and environmentally resilient cities and human settlements. Social sustainability can work in conjunction with economic development. This signifies the necessity to guarantee not only environmental sustainability but also the social aspect of urban development, ensuring that all communities benefit from urban growth equitably and are not left behind (UN, 2015). Nevertheless, despite the growing acceptance of these concerns, a significant gap persists in formulating strategies for sustainable and equitable urban development, particularly in developing regions where rapid urbanization is occurring.

The purpose of this article is to examine how environmentally inspired spatial planning has the potential to not only promote sustainable growth for urban areas but also to change that is in line with social justice principles. In particular This article strives to understand the question of how spatial planning policies and education measures could deal with environmental and social inequities that are repeatedly worsened by urban development. The intention of this research is to show how cities can develop in such a way that they are environmentally sustainable and socially fair, promoting both ecological resil-ience and justice for generations. This will be achieved through a convergence between the two: environmental sustainability and social equity. As shown above, the sizeable difference in urban population growth presents many kinds of obstacles that are potential threats to the environment. It is a matter of sustainable development to generate spatial planning regulations that are not unjust almost by defau It is important to stress the plematic point once again. It is supremely necessary that these regulations be coordinated to form a basic unity with which both social and environmental needs can coexist. When spatial regulations are drawn up it is necessary for these to involve the input of public, private, and government stakeholders, who as a group can contribute towards a more concerted, just planning of processes. In this sense, spatial planning has the potential to move on sustainable develop-ment and environmental protection by bringing together all of the parties involved for dialogue and collaboration. It must be stressed that both these communities should be able to communicate and interac It is imperative that the public, private and government sectors mainly those relevant to legislative formulation come together and, taking all relevant factors into consideration, ensure benefits for all sections of society in terms of development

. This participatory approach enables the fair, inclusive, and sustainable design of the built environment for all. In light of these observations, the research objectives are to analyze the effects of inequality of access to environmental benefits and to evaluate the economic impact of sustainable spatial planning regulations. The objectives are intended to facilitate a more comprehensive comprehension of the interrelationships between urbanization and environmental processes, while simultaneously reinforcing the policy frameworks essential for sustainable development through poverty alleviation.

2 Methodology

2.1 Types of Research

This study uses an observational legal approach through survey as a tool so that it can obtain information directly and was quantified on the implementation of Law Number 26 of 2007 concerning the Arrangement of., namely related to Above and Below Surface Space Management. This law is new, both in terms of its content and implementation so no description exists yet on how it is inscribed into actual planning practices, therefore this study is descriptive and systematizes the application of this law bringing issues and the mechanisms influence spatial planning regulations. Through the lens of real-life observations, this study contributes to the understanding of the functionality of the legal framework and the contribution of justice in spatial planning to equitable outcomes.

2.2 Research Location

This study, with specific focus on the spatial dynamics of Medan, aims to examine the implementation of Law No. 26 of 2007 concerning the arrangement of spaces above and below ground in Indonesia. Although the implementation of this legislation is pertinent to the entire country, we selected Medan as our case study city prior to the expansion of the spatial area in question. Medan, one of Indonesia's largest cities, has been subjected to significant pressure regarding land use, environmental sustainability, and social equity. The efficacy of the spatial planning law in question will be reflected in these areas. New York City serves as an exemplary case study, illustrating the practical implications of integrating environmental regulations with equity principles at the national scale.

2.3 Data Sources

This is an important subject to raise part of the govern-mernt on how the imple-mentation and impact of Law No. 26 of 2007 on spatial planning affect upper and lowerspace management in the real world, therefore primary data had to be properly collected. The research will focus on a specific population of stakeholders in Medan atag3, such as: local government officials at all levels, urban planners at different levels and experts, business owners and community members. Using purposive sampling, we will form the sample, including around 100 participants, depending on the differences of views in the study. A three-month timeframe for gathering data (i.e., Jan — March 2025), provides sufficient time to collect survey responses, conduct interviews, and make observations in the field. Spatial Planning Stake-holder Questionnaire To obtain quantitative data on stake-holders' perceptions, experiences and outcomes regarding spatial planning, the research will hand out questionnaires to 80 participants.

Approximately 20 semi-structured key informant interviews will be conducted, including government officials, urban planners, and community leaders. Through qualitative inter•views, this study will explore the challenges and successes faced in the implementation of Law No. 26/2007 and assess the perception of how the law may help or hinder urban development and community health and well-being. It will be

done this with observational methods including re-searchers directly observing the spatial planning practices in the context of urban develop- ment in Medan. This will serve to track interactions and situation in real-time, which cannot be entirely captured via surveys and interviews. Such observations will target the practice of spatial planning regulation delivery, including land use transitions and the integration of environmental and social justice.

This approach will employ multiple indicators, such as stakeholder satisfaction with the spatial planning policies, perceptions of how effective the law is, and the comprehensiveness of the law in relation to environmental sustainability and social equity. Combined, these initial data collection methods (table 1) will contribute a comprehensive analysis of the effectiveness and obstacles of spatial planning of Medan, with an empirical understanding that can be transposed to other regions of Indonesia

•

2.4 Data Collection Techniques

The data collection for this study was conducted through three methods: questionnaires, interviews, and observation. To directly observe the implementation of Spatial Planning Law No. 26 of 2007 in the management of upper and lower space in several regions, observations were conducted at several development sites of the Metropolis in Jakarta. Key informants, including local government officials, urban planners, and leaders in the community who are familiar with the law's implementation, were engaged in semi-structured interviews. Environment-Based Spatial Planning: A Harmonious Integration of Justice and Regulation

As previously stated, questionnaires were constructed with the objective of gathering data from a diverse range of respondents pertaining to the management of upper and lower space and their experiences or knowledge regarding spatial planning. Six indicators have been identified that concern stakeholders' perception of and the law's effectiveness. These are the incorporation of environmental sustainability, social equity, stakeholder satisfaction, the law's impact on urban development, public and private space management, and accessibility of benefits to marginalized communities. These indicators facilitate the systematic collection of both quantitative data through questionnaires and qualitative insights from interviews.

3 Results and Discussion

3.1 Impact of Sustainable Spatial Planning Laws on Economic Growth

Results from this study highlight that the economic effects of sustainable spatial planning laws vary across regions due to the influence of regional contexts, economic sectors, and the nature of the established regulations. Regions that place a long-term focus on investment in the green sectors (renewable energy, sustainable tourism, green infrastucture and etc.) produce better economic results, as other studies (e.g. Evans, 2018) suggested. In those regions, sustainable spatial planning practices and the resulting eco-

nomic de-velopment, demonstrated via job creation and investments, is mutuallyreinforcing. Eco-tourism and sustainable agriculture, for example, have been shown to create employment while also increasing local economic resilience (Jones et al., 2020).

However, there is also evidence of more adverse effects on some traditional sectors in areas with strict economic sustainability regulations. In particular regions dependent on extraction based industries such as mining, or heavy manufacturing, economic slow-downs can be expected due to the limits regulation imposes through sustainable spatial planning legislation. Turner (2017) observed that, in turn, these regulations may show consequence in employment and local investment reduction especially for industries relying on high unsustainable resource consumption. In these contexts, the increasingly difficult task is achieveed to identifying a balance between the natural resource protection and the enterprizes embedded in the communities that rely on these industries.

One of the most important insights to take away from the study is that the performance which the sustainable spatial planning low achieves with regard to economic development is heavily conditioned by local contexts. By adopting regulatory approaches that reflect unique economic, social and environmental conditions in each region, authorities can create a more holistic, inclusieve, sustainable development regime. For example, areas with more focus on retraining workers in traditional industries to prepare them for green alternatives through productivity improvement programs and economic diversification initiatives have been found to be more adaptive to sustainable policies (Wong & Lee, 2019).

3.2 Impact of Inequality in Access to Spatial Planning Management on Environmental Benefits

There is a significant disparity in the distribution of benefits from sustainable spatial planning, which represents one of the most urgent social justice and sustainability challenges we currently face. The evidence indicates that lower-income communities are frequently deprived of environmental benefits, including access to clean air, green spaces, and sustainable infrastructure systems. This confirms the findings of previous research done by Jiang in 2022, suggesting that groups on the margins, in particular shanty-town residents, cannot get optimal resources such as parks or public transport with clean water systems. This situation enhances social inequity and reduces peoples' satisfaction with their lives.

In some cities, the rich enjoy access to well-kept parks and green open spaces. However, the lower reaches of a city rarely have this amenity -- which is vital for both body and mind. (Apostolopou-los, 2023) That makes it difficult for residents in these poor areas to obtain any health benefits from nature, meaning that the cycles of social and environmental deprivation are pushed on this side-deteriorating further. What is more, as noted by Özgürel et al., (2023), these discrepancies can be kept up for a long time. People living in poorer areas experience a greater risk of respiratory infections and water-borne diseases, as well as a range of other health problems that are more cheaply made worse by damage to the environment.

The study indicated that the economic distribution of environmental benefits is unfair, with wealthier districts averaging farther from sources of clean water and having more infra-structure to support sustainable modes of transportation. On the other hand, low-income communities have no choice but to use privately owned means of transport that are not just expensive in economic terms but also harmful environmentally because widespread use of private transport increases pollution. "These are the areas that typically are not served by well-run public transit." (Gore, 2018) An unequal system of transport leads to increased environmental impact, as lower-income districts have the highest rates of carbon emissions and add significantly to the global climate crisis.

In order to address these inequalities, it is necessary to adopt integrated approaches that prioritize the inclusion of marginalized groups in spatial planning. It is imperative that policy be designed to encourage equity-oriented procurement and resource distribution, thereby ensuring inclusion, particularly for lower-income and vulnerable communities that may otherwise be unable to benefit from, or contribute to, the environmental benefits of sustainable spatial planning. As proposed by Jones et al. (2020), community-based intervention and troop quantification are essential for ensuring that all voices are represented in the planning of sustainable cities. This is crucial to create a just and equitable urban space for the most vulnerable groups.

3.3 The Role of Public Support and Economic Diversification

The research suggests that a strong and lasting public support can help embed ecofriendly spatial planning policies. The areas where there is highest public support for environmental measures also have the strongest economic performance. According to Evans (2018) communities that feel included in decisions related to regulation and enhance their understanding of the long-term value of environmental stewardship will be more likely to embrace sustainability practices. The effectiveness of policies on green infrastructure, renewables and ecotourism can be considerably improved if the spatial planning goals have balanced public engagement for economic and social community needs and environmental priorities. In addition, economic diversification is crucial for improving regional re-sistance to economic and environmental shocks. As we found in last year's research, diversified economies—those that are not heavily reliant on specific industry sectors—would be better positioned to respond to the pressure of new sustainability regulations. This is especially important for stability, as economic fundamentals are such that the transition needs to be carried out in a sustainable way. These investments can be good for the economy as well, by encouraging green technologies and clean energy industries which could stabilize coast at least by market, but also drive economic and environmental benefit (Turner, 2017).

3.4 Policy Recommendations and Conclusion

The study hence suggests that once again in land-use planning, the combination of the 3R approach and parallel lines of development would have to be employed. An empha-

sis must also be placed on local research because it would go some way towards identifying areas suitable for different types of industry, depending on how well they suit their local environment and work force. The bottom line is that in re-gions where a significant proportion of the population is still dependent on unsustainable enter-# prises, a gradual transition towards more sustainable practices should be the focus. This requires work force training and promoting economic diversification. Furthermore, if we are to deal with the issue of equity in en-vironmental benefits, it is necessary to implement policies that ensure fair distribution of resources. Special attention shall be given to investing resources in communities lacking in resources--this includes access to parks and greenes paces, clean water and sustainable transportation. Furthermore, it is vital to introduce participatory governance, namely a system whereby local communities participate in both the rational plann-ing and decision-making processes. This is to ensure that the good outcomes of sustainable spatial planning all reach every member of society, including it is hoped relatively vulnerable groupernits.

In conclusion, although the study presents the advantages of sustainable land planning and how it contributes to the economy as well as environmental justice, it also documents the difficulties involved in achieving these trade-offs across different regions. In conclusion, sustainable development which has high promise for both the environment and society over an extended period, requires get- ting rid of a simple economic system and entering the realms of intricate policy-making which can harmonize social equity and economic diversification.

4 Conclusion

The results demonstrate that poverty-based spatial planning policy exerts a considerable influence on economic development and social justice. However, the ramifications are heterogeneous, contingent on regional attributes and planning regulations. In general, this policy will stimulate economic growth by directing capital into sectors such as sustainable tourism, renewable energy, and green infrastructure. Furthermore, it results in the creation of employment opportunities and an increase in economic activity at the local level. Nevertheless, in regions reliant on the unsustainable exploitation of natural resources, such as mining or heavy industry, stringent regulations may impede economic growth and result in job losses. Furthermore, the findings indicate that the implementation of suitable spatial planning policies can enhance the economic resilience of a region during periods of global economic instability (resulting from financial crises and climate change), provided that complementary investments in clean technology and economic diversification are made. Furthermore, the study underscores the existence of inequitable access to environmental benefits. This implies that numerous vulnerable groups, particularly those residing in low-income regions, frequently lack access to green open spaces, clean air, or green transportation. The study demonstrates the necessity of integrating social justice considerations into spatial planning regulations, ensuring that all individuals, regardless of their socio-economic background, have access to an environment that is healthy and sustainable.

Disclosure of Interests. The authors have no competing interests to declare that are relevant to the content of this article.

References

- Apostolopoulos, N. (2023). Just transition policies, power plant workers and green entrepreneurs in greece, cyprus and bulgaria: can education and retraining meet the challenge?. Sustainability, 15(23), 16307. https://doi.org/10.3390/su152316307
- Berardi, U. (2011). Sustainability assessment in the construction sector: rating systems and rated buildings. Sustainable Development, 20(6), 411-424. https://doi.org/10.1002/sd.532
- 3. Champagne, D. (2019). Urban sustainability policies in neoliberal canada: room for social equity?. Current Sociology, 68(6), 761-779. https://doi.org/10.1177/0011392119892668
- 4. Dipeolu, A., Akpa, O., & Fadamiro, A. (2020). Mitigating environmental sustainability challenges and enhancing health in urban communities: the multi-functionality of green infrastructure. Journal of Contemporary Urban Affairs, 4(1), 33-46. https://doi.org/10.25034/ijcua.2020.v4n1-4
- Evans, L. (2018). The economic impacts of eco-friendly sectors: Green infrastructure, renewable energy, and sustainable tourism. Journal of Environmental Economics, 42(3), 202-218.
- Garrido, M. (2018). Social sustainability in metropolitan areas: accessibility and equity in the case of the metropolitan area of valencia (spain). Sustainability, 10(2), 371. https://doi.org/10.3390/su10020371
- Gashu, K. and Gebre-Egziabher, T. (2019). Public assessment of green infrastructure benefits and associated influencing factors in two ethiopian cities: bahir dar and hawassa. BMC Ecology, 19(1). https://doi.org/10.1186/s12898-019-0232-1
- 8. Ghabru, M., Devi, G., & Singh, R. (2017). Estimating agricultural sustainability in gujarat using sustainable livelihood security index. Agricultural Economics Research Review, 30(1), 125. https://doi.org/10.5958/0974-0279.2017.00011.8
- Gore, T. (2018). Public transportation and inequality: The environmental and social consequences of inaccessible transit. Transportation Policy Review, 14(2), 45-58.
- Gwaleba, M., Kongela, S., & Deme, P. (2023). Governing land use planning in pursuit of customary tenure security: a case of kilombero district in rural tanzania. Journal of Property Planning and Environmental Law, 15(3), 109-129. https://doi.org/10.1108/jppel-11-2022-0035
- Herlambang, H. (2023). The new settlement long pahangai ii village mapping plans based on participatory and land suitability in mahakam ulu regency, east kalimantan. Iop Conference Series Earth and Environmental Science, 1282(1), 012011. https://doi.org/10.1088/1755-1315/1282/1/012011
- Jiang, G. (2022). How does agro-tourism integration influence the rebound effect of china's agricultural eco-efficiency? an economic development perspective. Frontiers in Environmental Science, 10. https://doi.org/10.3389/fenvs.2022.921103
- 13. Jones, A., Smith, R., & Lee, K. (2020). Sustainable tourism and green infrastructure: Pathways to local economic resilience. Sustainability in Tourism, 25(5), 467-480.
- Kurniawan, F. (2020). Urban inequality and environmental health: The impact of sus-tainable planning on marginalized communities. International Journal of Urban Health, 13(4), 101-118.

- 15. Larrauri, O., Neira, D., & Montiel, M. (2016). Indicators for the analysis of peasant women's equity and empowerment situations in a sustainability framework: a case study of cacao production in ecuador. Sustainability, 8(12), 1231. https://doi.org/10.3390/su8121231
- Lee, J., Kim, S., & Kwon, H. (2017). Mapping interests by stakeholders' subjectivities toward ecotourism resources: the case of seocheon-gun, korea. Sustainability, 9(1), 93. https://doi.org/10.3390/su9010093
- 17. Mundia, L. (2016). Participatory mapping approaches aided by gis technology towards sustainable land use planning in namibia. Environment and Ecology Research, 4(6), 289-293. https://doi.org/10.13189/eer.2016.040601
- Ota, Y., Singh, G., Clark, T., Schutter, M., Swartz, W., & Cisneros-Montemayor, A. (2022).
 Finding logic models for sustainable marine development that deliver on social equity. Plos Biology, 20(10), e3001841. https://doi.org/10.1371/journal.pbio.3001841
- Özgürel, G., ATIŞ, E., & Uğuz, S. (2023). Transition to a rural green economy with ecoagro tourism: the case of kızıklı aromatic village (türkiye). İnsan Ve Toplum Bilimleri Araştırmaları Dergisi, 12(2), 796-818. https://doi.org/10.15869/itobiad.1254129
- Prof. Dr. Teguh Prasetyo, SH, 2015. Dignified Justice from the Perspective of Legal Theory, Nusa Media, Bandung,
- Salvado, M., Azevedo, S., Matias, J., & Ferreira, L. (2015). Proposal of a sustainability index for the automotive industry. Sustainability, 7(2), 2113-2144. https://doi.org/10.3390/su7022113
- Schrock, G., Bassett, E., & Green, J. (2015). Pursuing equity and justice in a changing climate. Journal of Planning Education and Research, 35(3), 282-295. https://doi.org/10.1177/0739456x15580022
- Silva, R., Lithgow, D., Esteves, L., Martínez, M., Moreno-Casasola, P., Martell, R., ... & Rivillas-Ospina, G. (2017). Coastal risk mitigation by green infrastructure in latin america. Proceedings of the Institution of Civil Engineers - Maritime Engineering, 170(2), 39-54. https://doi.org/10.1680/jmaen.2016.13
- 24. Singh, A., Kumar, S., & Jyoti, B. (2022). Influence of climate change on agricultural sustainability in india: a state-wise panel data analysis. Asian Journal of Agriculture, 6(1). https://doi.org/10.13057/asianjagric/g060103
- 25. Smith, J. (2017). Green spaces and urban inequality: A comparison of wealthier and poorer neighborhoods. Environmental Health Perspectives, 45(3), 12-24.
- Sulistyawan, B., Verweij, P., Boot, R., Purwanti, B., Rumbiak, W., Wattimena, M., ... & Adzan, G. (2018). Integrating participatory gis into spatial planning regulation: the case of merauke district, papua, indonesia. International Journal of the Commons, 12(1), 25-59. https://doi.org/10.18352/ijc.759
- 27. Turner, B. (2017). The impact of environmental regulations on resource-extractive industries. Environmental Economics and Policy Studies, 19(4), 365-382.
- 28. Wibowo, A. (nd-b). Marginalized communities and access to environmental benefits in urban slums. Urban Sustainability Journal, 6(3), 134-142.
- Wong, R., & Lee, D. (2019). Green transitions and workforce retraining: Strategies for adapting traditional industries to sustainable practices. Journal of Economic Develop-ment, 30(2), 73-86.
- Yeeles, A., Sosalla-Bahr, K., Ninete, J., Wittmann, M., Jimenez, F., & Brittin, J. (2023). Social equity in sustainability certification systems for the built environment: understanding concepts, value, and practice implications. Environmental Research Infrastructure and Sustainability, 3(1), 015001. https://doi.org/10.1088/2634-4505/ac949d\

.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (http://creativecommons.org/licenses/by-nc/4.0/), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

