



Smart City and Smart Village Policy Among Countries: The Similarities and Differences

Berlian Berlian¹, Rino Ardhan Nugroho¹^{*}, Rosita Novi Andari³, Septyanto Galan
Prakoso⁴, Muslimin Wallang⁵

^{1,2} Department of Public Administration, Universitas Sebelas Maret Indonesia

³ Badan Riset dan Inovasi Nasional, Indonesia

⁴ Department of International Relation Universitas Sebelas Maret Indonesia

⁴ Doctoral Program National Sun Yat-sen University, Taiwan

⁵ Universiti Utara Malaysia

berlian131@student.uns.ac.id

*rino.nugroho@staff.uns.ac.id

rositanovi@gmail.com

septyantogalan@staff.uns.ac.id

muslimin@uum.edu.my

Abstract. Sustainable development is a crucial criterion for the progress of contemporary society. The Smart Cities and Smart Villages development initiative serves as a tool to measure the effectiveness and impact of sustainable development strategies. The comparison of policies on rural and urban smart concepts is particularly intriguing and warrants further exploration. This research aims to comprehensively overview the rural and urban integration policy through smart concepts. By comparing these policies, we can better understand developing sustainable regions by identifying similarities and differences in best practices. This study was conducted by collecting various sources with a systematic literature review regarding the policy of smart cities and smart villages based on specific criteria, which involves integrating smart city policies with smart village policies according to international and national standards among different countries. The results were then synthesized and analyzed using an AI-based systematic literature review tool, Rayyan AI and Typeset IO because these tools can facilitate the sorting of articles to produce a comparison of Smart City and Smart Village policies in different countries. Commonalities in the analysis of these policies include a focus on the economy, environment, governance, and community engagement, highlighting their importance in achieving sustainable and inclusive development. The findings indicate that countries that integrate smart city and smart village policies are still limited in the literature. This comparative analysis contributes to a deeper understanding of best practices and offers a foundation for developing new measurement concepts that can guide future initiatives in both urban and rural environments, ultimately aiming for a cohesive and inclusive approach to sustainable development.

Keywords: Smart City, Smart Village, Measurement, Concept, Integration.

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1. Introduction

Urban and rural areas may have different meanings across and within countries, yet they share similarities and differences in their development needs [1]. The trend of rapid demographic growth of the world's urban population is behind us. A slowdown is on the horizon across the urban-rural continuum as research suggests that the world's demographic growth has begun to slow and is projected to continue to do so over the coming decades. Whereas in 2020 the urban population doubled from 25 percent in 1950 to about 50 percent, it is projected to increase slowly to 58 percent over the next 50 years. Meanwhile, population size at the urban-rural continuum (small towns semi-dense and rural areas) is expected to decline. Small towns and semi-dense areas are expected to drop from 29 percent in 2020 to 24 percent and rural areas will drop from 22 percent to 18 percent (from 22 percent) [2]. Considering regional differences, a country comprises various cities, districts, and villages, each with unique needs, particularly between urban and rural areas [3]. There is a need for a development approach that can address rapid urbanization and distribute growth more evenly across regions [4].

In the context of rural-urban interactions, a study highlights some findings regarding (1) changes in rural-urban interactions through processes such as deagrarianization, tertiarization of the economy, and improvements in transport and communication infrastructure; (2) the obsolescence of previous typologies and procedures focused on discrimination between rural and urban environments, rather than on interactions between them; (3) the difficulty of establishing valid and widely applicable typologies, given the profound differences in terms of the scale and content of statistics available in each country as well as the territorial background in terms of economic functions and the characteristics, ancient and modern, of human settlements; and (4) the dominance of urban-centered approaches, to the detriment of more traditional rural functions, such as agriculture, whose importance is diluted by its low relative weight in terms of working population and contribution to GDP [5].

To support sustainability, and economic development and improve the quality of life in both urban and rural areas, governments worldwide have introduced smart city and smart village initiatives in various fields. Smart city is a term that has gained popularity in local government but lacks a universal [6]. Smart cities have become important in urban planning and development in various countries around the world [7]. This concept is considered a solution that promotes sustainability, economic development, and well-being [8]. However, despite the popularity of "smart city development" as a term in local government discourse, there is no universal definition. This lack of consensus underscores the need to better understand how smart city and smart village concepts can be effectively implemented to meet sustainable development goals [9].

The concept of smart villages, though gaining attention later than smart cities, holds promise for sustainable development in rural areas [10], people have a lot of hope for sustainable development in rural areas through smart village initiatives and practices so that the gap between urban and rural areas can be resolved. By leveraging ICT to enhance local business opportunities and community welfare, smart villages can help bridge the gap between urban and rural areas [11]. However, in its development, not all dimensions of the smart city concept can be applied in all rural areas [12] considering that the territory of a country does not only consist of urban areas. Thus, the integration

of model measurements between smart cities and smart villages makes it easier to measure cities and villages so that the formation of "smart" areas can be optimally realized and integrated. This highlights the importance of developing specific strategies for integrating smart city and smart village models [13].

Despite numerous studies on smart cities and smart villages, there are still differing viewpoints on the relationship between the two. Based on the literature sources taken, Smart villages can be understood as innovative and resilient communities that use the mobilization of internal resources (local values and community) and the channeling of external resources (through the effective mobilization of a mix of tender resources) for institutional capacity building and service development [14], on the other hand, according to the literature, smart villages have the potential to develop tangible and intangible resources because rural areas have characteristics that cannot be equated with smart cities [15]. In contrast to smart villages, smart city solutions require innovative governance approaches together with the smart use of technology, such as digital twins, by city managers and policymakers to manage the big societal challenges [16]. In the context of research on smart city and smart village policies in Colombia and Mozambique, [17] This article argues that a revised perspective that engages with rural dwellers is required. In this regard, the intervention in the Global South initially revealed that socio-technical processes manifest spatially as the relationships between the material (technology, infrastructure, and natural systems) and human agency (social action, planning, and culture) evolve. This represents an interaction between technological innovation and the construction and appropriation of social innovation processes. Another article provides a solution that policy interactions regarding smart cities and smart villages can be combined with the context of implementing Smart Energy [18] The field for implementation of smart energy to the development of rural areas and directions for establishing new energy transformation policies for the rural areas for the development of the smart rural areas. Another article in the context of the EU, especially Czech [19] provides solutions to the smart economy, because it sees a global financial crisis, in India [20] the interaction of smart city and smart village policies is focused on carbon emissions, and other studies also mention that in smart cities and smart villages must also pay attention to the aging population [21]. Therefore, policy studies are necessary to clarify the scope, nature, and operational and strategic relationships between smart cities and smart villages when implementing smart initiatives [22]. Given the ongoing debates and differing viewpoints on the relationship between smart cities and smart villages, this research aims to clarify the operational and strategic relationships between the two. The findings of this research make academic and practical contributions by outlining the differences and similarities in the concept, scope, nature, and operational and strategic relationships of smart city and smart village policies in different countries. Moreover, the results of this research can serve as the basis for integrating suitable measurements for smart city and smart village models, facilitating the assessment of urban and rural development and the establishment of "smart" areas that can be effectively realized and integrated.

2. Methods

The research was carried out using a systematic literature review method. A systematic literature review is a method that aims to address specific questions by identifying, screening, and selecting literature that supports the research topic. A systematic literature review (SLR) identifies, assigns, and critically appraises research literature to answer a formulated question [23]. During the process, a systematic literature review should adhere to a clear protocol or plan before the review is conducted. This is done using data that has been replicated and reproduced by other researchers. The literature review identifies the type of information searched, critiqued, and reported within a known timeframe. It is important to include search terms, search strategies (including database names, platforms, and search dates), and limitations in the literature review [24].

Data Collection Methods

The data collection process used PRISMA data search, which is based on Scopus. The search utilized the terms “Smart City” AND “Smart Village” AND “Policy” with a focus on abstracts and titles of articles published in English. The selection of the year is not specified and is based on the database displayed by Scopus. A total of 18 articles were exported from the Scopus database. The first step used after exporting 18 articles from Scopus is uploading the article to Rayyan AI. The use of Rayyan AI is intended to see the possibility of duplication of the 18 articles, besides that Rayyan AI has a function as a basic tool for reviewing and screening articles based on article abstracts.

The Rayyan AI review process is based on inclusion criteria which include: a) Articles are selected based on the discussion of articles that have a focus on the application of smart cities and smart villages; b) Articles are selected based on the discussion of articles on smart cities and smart villages that focus on policies; c) Articles are selected based on the discussion of articles on smart city and smart village policies in a particular country, meaning that if there are articles that discuss smart city and smart village policies but in general, the article is not included in the inclusion category.

Table 1. Literature Search Database

Search Strings Keyword	“Smart City” AND “Smart Village” AND “Policy”
Search Fields	Title, Abstract, and Keywords
Data Range	2018 - 2024
Languages	English
Limit	-
Document Type	Article

Search Type	Journal dan Conference Proceeding
Minimum Citations	-
Results	18

Data Analysis

The data analysis process utilizes two AI tools, namely Rayyan AI and Typeset IO. During the first stage using Rayyan AI, it is employed to identify document duplications from the Scopus database. Out of 18 articles analyzed using Rayyan AI, no duplications were found. The subsequent step involves screening the full text of articles. At this point, the author utilizes another AI tool, Typeset IO on Co-Pilot, to identify the content of each article related to the discussion of Smart City and Smart Village policies. The exclusion criteria target articles that do not discuss policies regarding Smart City and Smart Village. The use of Typeset IO in this article analysis is intended to aid in the selection process based on the article's content. While Rayyan AI is used to select articles based on an outline by examining the article abstract, Typeset IO is used to select the entire article content. This allows researchers to determine if the article discusses the application of smart city and smart village policies and helps to identify the concept of smart city and smart village policies in a specific country.

The full-text screening process in Rayyan AI reviewed 18 articles and identified 10 articles that met the inclusion criteria and did not contain any duplication. Among these, 8 articles discussed smart city and smart village policies. After using the content analysis process with the help of Typeset IO, we found that some countries have integrated smart city and smart village policies with various concepts. From the exclusion and inclusion criteria, resulting in 8 relevant articles with the titles, a). Towards a multi-scalar perspective on the prospects of 'the existing smart village' – A view from Hungary [14]; b) Toward Holistic Perceptions of "Smart" Growth in Development Paradigms and Policy Agendas [15]; c) Smart Cities and Digital Twins in Lower Austria [16]; d) Smart Rural Communities: Action Research in Colombia and Mozambique [17]; e) The implementation of smart energy into a transformation of the rural area: The use of public policies for smart villages development [18]; f) Smart city projects in the small-sized municipalities: Contribution of the cohesion policy [19]; g) Co2 emission-the leading environmental threat to India [20]; h) Smart and age-friendly communities in Poland An analysis of institutional and individual conditions for a new concept of smart development of aging communities [21].

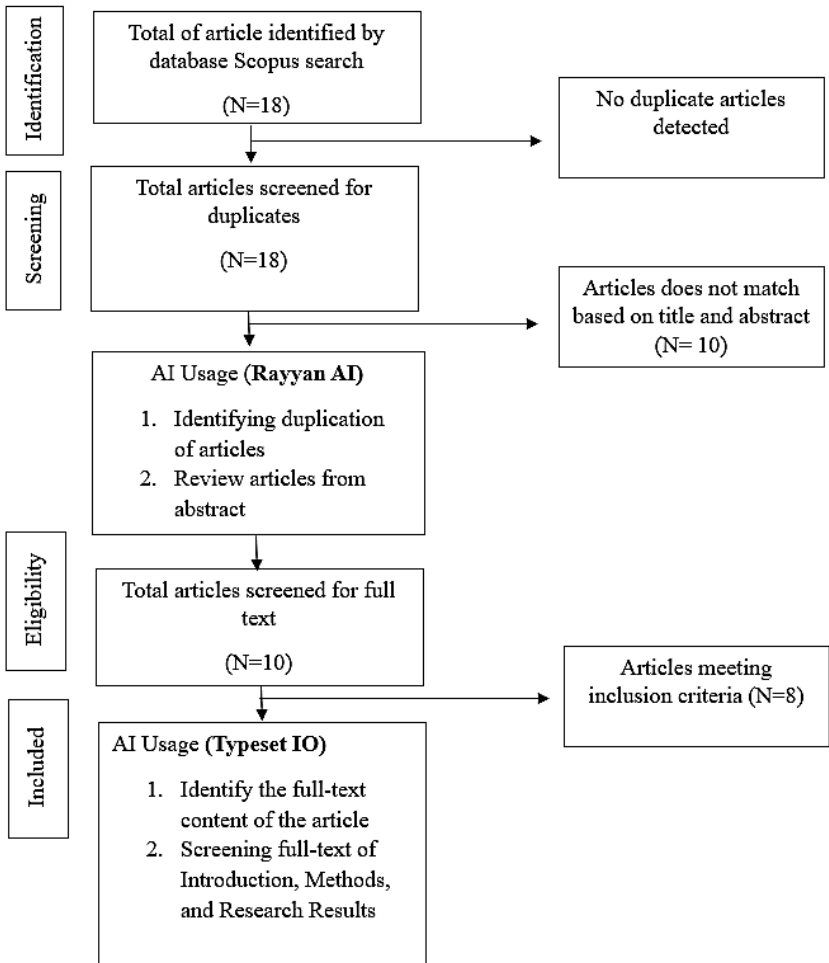


Fig. 1. Flow chart of journal selection.

3. Discussion

A. Results of Literature Content Analysis of Smart City and Smart Village Policies in Various Countries

Based on a review of ten articles that meet the inclusion criteria described in the research methodology section, the eight articles were selected using the content analysis process with the help of Typeset IO. Eight literature articles discuss smart city and smart village policies in various countries namely Lithuania, Austria, Colombia, Mozambique, Czech Republic, Hungary, India, and Poland.

Studies across countries have highlighted different policy approaches tailored to local contexts and development priorities. In the context of Lithuania, the focus is on

holistic urban and rural development strategies that utilize local assets, both tangible and intangible, to foster smart ecosystems. This approach integrates green solutions and emphasizes the role of innovative economic paradigms within the broader framework of sustainable growth. In contrast, Austria's policy framework focuses on digital twin technologies, which aim to create virtual replicas of physical environments to optimize governance and technological innovation in addressing societal challenges. The approach aims to systematically integrate smart city principles into rural environments by ensuring comprehensive development across urban and non-urban landscapes.

In the Colombian and Mozambique country context, policy initiatives focus on empowering rural communities through targeted investments in infrastructure, technology, and education. These efforts aim to stimulate economic opportunities and social development while integrating rural areas into the global development framework. Czech Republic has two different concepts, firstly, smart city policies in the Czech are more focused on economic aspects and infrastructure development with a focus on six dimensions, especially in developing infrastructure aspects, which indicates that large cities tend to focus on the importance of capacity in facilitating the implementation of smart city policies and in another literature, Czech have the policy integration between smart city and smart village with the Smart Energy concept that underlined the Czech Republic defines development goals in the field of energy that also have an impact on rural areas.

Furthermore, the Indian country approach further underscores the transformative role of mobile technology and digital initiatives in improving access to education and creating non-agricultural employment opportunities in rural areas of Punjab and Tamil Nadu. The strategy aims to reduce migration pressure to urban areas by promoting local economic development through ICT-based initiatives. Hungary's policy framework supports a hybrid neo-endogenous development model that integrates local and national efforts to comprehensively address rural development challenges, emphasizing the interaction between technology, policy, and local context in shaping smart village initiatives. Poland's approach emphasizes transparent governance and community engagement through ICT to advance the age-friendly smart society agenda, ensuring inclusive growth and quality public services.

Based on the policy descriptions of the seven countries, it can be seen that four countries have integrated smart city and smart village policies with various concepts, namely Lithuania, Austria, Hungary, and Czech Republic. The four countries are countries in the European continent and are included in the developed country category [2]. Meanwhile, three other countries, Colombia, Mozambique and India, have not integrated smart city and village policies. The three countries include countries in the America, Africa, and Asia regions and are included in the developing country category [2]. Overall, these different policy approaches across countries reflect unique socio-economic contexts and development priorities, emphasizing the need for specific strategies that integrate technological innovation, community engagement, and sustainable development goals to achieve inclusive and resilient urban and rural communities worldwide.

B. Mapping Smart City and Smart Village Policies in Various Countries

In many different countries, the comparison of policies for smart cities and smart villages shows a variety of approaches. For example, in Lithuania, the focus is on Smart Green Growth, which emphasizes using local resources to promote smart ecosystems. This includes prioritizing "smart" regional growth and "green" solutions, particularly in the context of regional and rural development.

The smart city and smart village policy initiative SCINDTILA in Austria aims to implement smart city strategies in rural areas through the development of digital twins. SCINDTILA is a policy concept that focuses on developing replicable processes for sustainable smart cities that can be applied to small-scale urban and non-urban contexts so that non-urban concepts such as villages can become replicas of smart city development in the policy context. By creating a smart city model based on the digital twins of a smart village, the policy concept focuses on addressing the challenges faced by the community through innovative governance approaches and advanced technology. This approach emphasizes the use of digital twins, a virtual replica of a physical entity, to manage social challenges and create a sustainable smart city model that can be extended to the context of smaller urban areas and non-urban environments including rural areas. This policy project uses a transdisciplinary process, integrating complexity theory and computational social science methods to develop a comprehensive framework for realizing smart regions. The final output of the policy is translated into a roadmap that highlights methodologies, guidelines, and policy recommendations to address social challenges in the scope of smart region development. The roadmap serves as a decision-making tool for policymakers, guiding the implementation of the proposed methods and evaluating their effectiveness based on social changes and system conditions perceived by residents and facilitated through community participation.

Colombia and Mozambique use a policy concept that focuses on developing smart villages with the concept of "Smart Rural Communities (SRC)" which aims to empower rural communities by overcoming existing challenges and creating new opportunities, especially involving youth and women through the concept of smart rural communities. This policy initiative focuses on developing rural areas by investing in infrastructure, technology, and education to ensure access to basic services and foster an entrepreneurial ecosystem for economic and social development. The ultimate goal of this policy initiative is to integrate rural environments into the global development process by providing the right technology, infrastructure, and services to reduce gaps and shortages. The research literature findings highlight the importance of digital infrastructure, sustainable agricultural practices, and community-based initiatives in promoting economic opportunities and social cohesion in rural areas.

The Czech Republic's point of view highlights policies that have a significant focus on the development of smart cities and villages with a major emphasis on energy efficiency and the use of renewable energy sources with the policy concept of "Smart Energy". Analysis of the government policy reveals that the Czech Republic defines development goals in the energy sector, which also impacts rural areas. The implementation of smart energy involves measures such as distribution, production, and accumulation of energy based on the principles of smart grids and instrumentation, including support for distributed and centralized energy accumulation systems. The transition to smart energy involves utilizing modern and innovative energy sources,

including secondary sources and waste, to move towards a circular economy. The main focus of smart city and smart village policy development focusing on smart energy is to achieve carbon neutrality by 2050, with priority on the use of renewable energy sources. In addition, in the context of smart city development, the Czech Republic integrates 6 dimensions Smart Economy, Smart People, Smart Living, Smart Mobility, Smart Governance, and Smart Environment, from these six dimensions, the implementation of smart city policies in the Republic has a main focus on the Smart Economy dimension, which highlights the importance of prioritizing economic aspects in the development of Czech Smart City. Meanwhile, cities that are in transition to smart cities tend to invest more per capita in the Smart Living and Smart Mobility dimensions, using a multifaceted approach. On the other hand, large cities where Smart Cities have been well implemented show more investment in all six dimensions, especially in infrastructure development, indicating that large cities that have implemented Smart City prioritize infrastructure capacity to facilitate the implementation of smart city policies. Therefore, it can be said that smart cities in the Czech Republic are more focused on economic development and infrastructure improvement.

Hungary emphasizes the concept of smart city and smart village development on a “hybrid neo-endogenous model” policy that integrates local and national efforts for rural development so that in implementing a “smart” area in the urban sphere, it must also consider “smart” policies that can be applied to the rural sphere. The comprehensive assessment of smart village practices highlights the importance of local-global interactions in rural development, underscoring the need for multi-scalar political processes, not just local initiatives.

From the perspective of Poland, the country's smart city and smart village policies emphasize the importance of integrating inclusive and age-friendly smart initiatives to cater to the needs of the aging population. The results of the literature study indicate the crucial role of local governments in formulating a policy by implementing Information and Communication Technology (ICT) to enhance citizen engagement, improve public services, and ensure transparent governance.

In addition to analysing Smart City and Smart Village policies from various countries, the research findings indicate that there are policy recommendations that can be applied in applying the Smart City and Smart Village concepts, including the “Smart Settlements” policy. “Smart Settlements” is an innovative new framework for rural areas that emphasizes that a rural settlement not only functions as a place to live, but also requires improved social infrastructure, water supply, utilities, job creation, and new business models so that it can be effectively integrated with urban areas. This requires the integration of a set of constructive components between rural and urban areas. These key components include Smart Economy, Smart Society, Smart Mobility, Smart Environment, Smart Governance, and Smart Living. The Smart Settlements concept strengthens the linkages between rural and urban areas as they are considered essential for sustainable development with a key focus on driving the implementation of “smart villages” into local development strategies. This approach underscores the need to improve infrastructure and services in rural settlements to promote economic growth and social well-being, ultimately aiming to create a more cohesive and sustainable relationship between urban and rural environments.

Out of the 10 pieces of literature, only 8 pieces of literature specifically mentioned the existence of Smart City and Smart Village policies in certain countries. Only one article discusses from Smart City policy perspective, 3 articles discuss the Smart Village policy perspective and 5 articles discuss both policy concepts. This result indicates that countries that integrate smart city and smart village policies are still limited in the literature. A complete map of literature that discusses smart village and smart city policy is presented in Table 2 below.

Table 2. Mapping of Smart City and Smart Village Policies in Various Countries

Country Categories	Countries	Smart City		Smart Village	
		Exist	Policy Concept	Exist	Policy Concept
Developed Countries	Lithuania	Yes	<ul style="list-style-type: none"> • “smart” economy • “green” economy 	Yes	Smart Green Growth
	Austria	Yes	(SCiNDTiLA) "Smart Cities and Digital Twins in Lower Austria"	Yes	(SCiNDTiLA) "Smart Cities and Digital Twins in Lower Austria"
	Czech Republic	Yes	Smart Energy	Yes	Smart Energy
	Hungary	Yes	Model Neo Endogen	Yes	Model Neo Endogen
	Poland	Yes	Smart Systems for Aging Population	Yes	Smart Systems for Aging Population
Developing Countries	Colombia	No	-	Yes	Smart Rural Communities
	Mozambique	No	-	Yes	Smart Rural Communities
	India	No	-	Yes	Sustainable Growth

From the table it can be concluded that to map the similarities and differences among the smart city and smart village policies from the countries mentioned, we can categorize them based on their focus areas and strategies.

Table 3. The Similarity and Difference Policy Approach across Countries

Similar Policy Approaches	Difference Policy Approach
<p>Czech Republic and Lithuania Both countries focus on integrating urban and rural development through smart ecosystems. Lithuania emphasizes holistic development strategies, utilizing local assets and green solutions within a sustainable growth framework. The Czech Republic implements the Smart Energy concept, integrating smart city and village policies to address energy development goals that impact rural areas.</p>	<p>Austria vs. Lithuania/Czech Republic Austria focuses on digital twin technologies to create virtual replicas of physical environments. This helps optimize governance and technological innovation across both urban and rural landscapes. On the other hand, Lithuania and the Czech Republic emphasize holistic development and energy goals rather than digital twin technology.</p>
<p>Colombia and Mozambique Both prioritize the empowerment of rural communities by investing in infrastructure, technology, and education to create economic opportunities and integrate rural areas into global development frameworks.</p>	<p>India vs. Austria India focuses on mobile technology and ICT-based initiatives to create employment opportunities and reduce migration pressure. Austria emphasizes digital twins for optimizing governance rather than addressing migration or employment through technology.</p>
<p>India and Hungary Both share a common focus on reducing migration pressures and promoting local economic development through technology. In India, mobile technology and digital initiatives are used to improve access to education and create non-agricultural employment opportunities. Meanwhile, Hungary integrates local and national efforts to address rural development challenges through a hybrid neo-endogenous development model.</p>	<p>Poland vs. Colombia/Mozambique Poland emphasizes transparent governance and community engagement through ICT to advance the age-friendly smart society agenda. Colombia and Mozambique focus on infrastructure and education investments to empower rural communities, with less emphasis on transparent governance.</p>

Based on the information presented in the table, it is evident that developing smart cities and smart villages requires policies that are tailored to the specific conditions of the country and its inhabitants. This is particularly pertinent in the case of countries like Lithuania, the Czech Republic, India, Colombia, and Mozambique, where there is a strong emphasis on community-oriented initiatives in both rural and urban areas. Countries such as India prioritize policy concepts that focus on sustainable and

inclusive urban and rural environmental approaches, while countries like Poland face demographic challenges with a predominantly elderly population. This provides a solid foundation for further research into the concept of smart cities and smart villages, aiming to address both normative and empirical biases that have been subjects of debate among academics and policymakers.

The normative bias in research often leans towards promoting the vision of smart cities with advanced technology, without adequately considering the necessary steps for effective and feasible policy implementation in both urban and rural areas. It is important to note that this study has limitations, as the literature data was sourced from only one outlet, namely Scopus. Therefore, it is recommended to conduct further research, drawing from a wider variety of sources, to provide a more comprehensive analysis of smart city and smart village policies across different countries.

4. Conclusion

The findings from the literature review and content analysis that have met the inclusion requirements regarding smart city and smart village policies from various countries reveal differences and similarities in policy concepts. There are three classifications of similarities from six countries and three categories of differences from eight countries. These similarities and differences reflect the conditions and needs of each country in implementing smart city and smart village policies. In developing countries such as Lithuania, the Czech Republic, Colombia, and Mozambique, the focus is more community-oriented in both rural and urban areas. On the other hand, countries such as India emphasize policy concepts that promote a sustainable and inclusive approach to urban and rural environments, and countries like Poland highlight demographics dominated by the elderly.

Furthermore, the integration between smart city and smart village policies has rapidly developed in countries like Austria, Hungary, Lithuania, China, and the Czech Republic. However, countries such as India, Mozambique, and Colombia are still adjusting their development strategies to implement integrated smart village policies with smart city policies. The results of this study also indicate that research in combining smart city and smart village measurements from various countries is limited due to the use of restricted data sources and classification solely sourced from Scopus. Therefore, future research should consider using other data sources and various research approaches, including qualitative, quantitative, and mixed methods. There is a need for further research regarding the development of suitable measurement models for integrating smart cities and smart villages in global and regional smart city initiatives, particularly in developing countries in Asia.

References

1. UN-Habitat, "URBAN-RURAL LAND LINKAGES: A CONCEPT AND FRAMEWORK FOR ACTION," 2021.
2. UN-Habitat, *World Cities Report 2022: Envisaging the Future of Cities*. 2022
3. M. I. Alhari and A. A. N. Fajrillah, "Enterprise Architecture: A Strategy to Achieve e-Government Dimension of Smart Village Using TOGAF ADM 9.2," *JOIV: International*

- Journal on Informatics ...*, 2022, [Online]. Available: <https://www.joiv.org/index.php/joiv/article/view/1147>
4. E. Kristiningrum and H. Kusumo, "Indicators of Smart City Using SNI ISO 37122:2019," *IOP Conf Ser Mater Sci Eng*, vol. 1096, no. 1, p. 012013, Mar. 2021, doi: 10.1088/1757-899x/1096/1/012013. Author, F.: Contribution title. In: 9th International Proceedings on Proceedings, pp. 1–2. Publisher, Location (2010)
 5. C. Delgado-Viñas and M.-L. Gómez-Moreno, "The Interaction between Urban and Rural Areas: An Updated Paradigmatic, Methodological and Bibliographic Review," *Land*, vol. 11, no. 8, p. 1298, Aug. 2022, doi: <https://doi.org/10.3390/land11081298>.
 6. S. Ebrahiem, A. El-Kholei, and G. Yassein, "Socially sustainable smart cities: mapping the research trends by co-word analysis," *Open House International*, vol. 49, Jun. 2023, doi: 10.1108/OHI-10-2022-0247.
 7. H. Khatibi *et al.*, "The resilient – smart city development: a literature review and novel frameworks exploration," *Built Environment Project and Asset Management*, vol. ahead-of-print, May 2021, doi: 10.1108/BEPAM-03-2020-0049.
 8. I. Bastian, R. Effendi, E. A. Susanto, I. Unggara, and S. Sumiyana, "The government of Indonesia's smart city development: Fiscal capacity, cognitive models in decision making, excessive caution about future accrual of benefits, and null regulatory leadership," *Frontiers in Built Environment*, vol. 8, Nov. 2022, doi: <https://doi.org/10.3389/fbuil.2022.1065652>.
 9. S. Myeong, Y. Kim, and M. J. Ahn, "Smart City Strategies—Technology Push or Culture Pull? A Case Study Exploration of Gimpo and Namyangju, South Korea," *Smart Cities*, vol. 4, no. 1, pp. 41–53, Dec. 2020, doi: 10.3390/smartcities4010003.
 10. M. Adamowicz and M. Zwolinska-Ligaj, "The 'smart village' as away to achieve sustainable development in Rural Areas of Poland," *Sustainability (Switzerland)*, vol. 12, no. 16, Aug. 2020, doi: 10.3390/su12166503.
 11. X. Zhang and Z. Zhang, "How do smart villages become a way to achieve sustainable development in rural areas? Smart village planning and practices in China," *Sustainability (Switzerland)*, vol. 12, no. 24, pp. 1–20, Dec. 2020, doi: 10.3390/su122410510.
 12. R. Rachmawati, "Pengembangan smart village untuk penguatan smart city dan smart regency," *Jurnal Sistem Cerdas*, 2018, [Online]. Available: <https://apic.id/jurnal/index.php/jsc/article/view/9>
 13. Entang Adhy Muhtar, Abdillah Abdillah, I. Widianingsih, and Q. M. Adikancana, "Smart villages, rural development and community vulnerability in Indonesia: A bibliometric analysis," *Cogent Social Science*, vol. 9, no. 1, Jun. 2023, doi: <https://doi.org/10.1080/23311886.2023.2219118>.
 14. Á. Szalai, K. Varró, and S. Fabula, "Towards a multiscalar perspective on the prospects of 'the existing smart village' – a view from Hungary," *Hungarian Geographical Bulletin*, vol. 70, no. 2, pp. 97–112, Jun. 2021, doi: <https://doi.org/10.15201/hungeobull.70.2.1>.
 15. R. Lankauskienė and Ž. Gedminaitė-Raudonė, "Toward Holistic Perceptions of 'Smart' Growth in Development Paradigms and Policy Agendas," *Land*, vol. 12, no. 2, p. 482, Feb. 2023, doi: <https://doi.org/10.3390/land12020482>.
 16. Gabriela Viale Pereira, Lukas Daniel Klausner, L. Temple, T. Delissen, T. Lampoltshammer, and T. Priebe, "Smart Cities and Digital Twins in Lower Austria," arXiv (Cornell University), Jul. 2023, doi: <https://doi.org/10.1145/3598469.3598543>.
 17. I. Calzada, "Smart Rural Communities: Action Research in Colombia and Mozambique," *Sustainability*, vol. 15, no. 12, pp. 9521–9521, Jun. 2023, doi: <https://doi.org/10.3390/su15129521>.
 18. P. Hlavacek and V. Skalník, "THE IMPLEMENTATION OF SMART ENERGY INTO TRANSFORMATION OF THE RURAL AREA: THE USE OF PUBLIC POLICIES FOR SMART VILLAGES DEVELOPMENT," *International Journal of Energy Economics and Policy*, vol. 11, no. 4, pp. 1–6, Jun. 2021, doi: <https://doi.org/10.32479/ijeep.11203>.

19. L. Smékalová and F. Kučera, “Smart City Projects in the Small-Sized Municipalities: Contribution of the Cohesion Policy,” *Scientific Papers of the University of Pardubice, Series D: Faculty of Economics and Administration*, vol. 28, no. 2, Aug. 2020, doi: <https://doi.org/10.46585/sp28021067>.
20. T. Kadalarasane and S. C. U. Tripura, “CO2 Emission - the Leading Environmental Threat to India,” *International Journal of Innovative Technology and Exploring Engineering*, vol. 8, no. 11S, pp. 529–535, Oct. 2019, doi: <https://doi.org/10.35940/ijitee.k1089.09811s19>.
21. A. Podgórnjak-Krzykacz, J. Przywojska, and J. Wiktorowicz, “Smart and Age-Friendly Communities in Poland. An Analysis of Institutional and Individual Conditions for a New Concept of Smart Development of Ageing Communities,” *Energies*, vol. 13, no. 9, p. 2268, May 2020, doi: <https://doi.org/10.3390/en13092268>.
22. P. Gerli, J. Navio Marco, and J. Whalley, “What makes a smart village smart? A review of the literature,” *Transforming Government: People, Process and Policy*, vol. 16, no. 3, Feb. 2022, doi: <https://doi.org/10.1108/tg-07-2021-0126>.
23. A. Dewey and A. Drahota, “Module 1: Introduction to conducting systematic reviews,” *Cochrane.org*, 2016. <https://training.cochrane.org/interactivelearning/module-1-introduction-conducting-systematic-reviews> (accessed Jul. 03, 2024).
24. K. McNally, “Library Resource Guides: Literature Review: Systematic literature review,” *libguides.csu.edu.au*, 2021. <https://libguides.csu.edu.au/review/Systematic> (accessed Jul. 03, 2024).

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