
PRIMARY DRIVERS OF SUSTAINABLE DEVELOPMENT IN RURAL AREAS

Muhammad Faisal PAZHOTTIL HUSSAN, Vytautas Magnus University, Agriculture Academy, Faculty of Bioeconomy Development, Muhammad.faisal.pazhottil.hussan@vdu.lt

Muhammad ASLAM, Vytautas Magnus University, Agriculture Academy, Faculty of Bioeconomy Development, muhammad.aslam@vdu.lt

Summary

Sustainable development in rural areas is a significant interest of all nations. So, it is important to identify the factors that enhance sustainable development in rural areas. This article examines the key factors that result in developing rural areas with sustainable improvement. Besides, the article explained that proper identification of challenges and possible solutions will multiply the benefits of the implementation of sustainable development in rural areas. The article identified challenges in achieving sustainable development in rural areas, such as limited access to essential services and infrastructure, financial resources, and skilled labour. This can be overcome by following the apt factors for the sustainable development of rural areas. The challenges can be overcome by giving more concern to agricultural productivity and diversification, access to markets, environmental sustainability, access to education and healthcare, local governance and community participation, and financial inclusion and access to credit. Even though the governments and other bodies are aware of these facts, they didn't implement them properly. Hence, it will discuss the various factors that will lead rural areas to sustainable development.

Keywords: sustainability, sustainable development, rural area, challenges, solutions

Introduction

Sustainable development constitutes a crucial framework that aims to reconcile economic, social, and environmental dimensions of development. Its application is crucial across all geographical areas, especially in rural settings, where constrained resources and infrastructure can pose obstacles to development efforts. Given that rural areas host around half of the world's population, they encounter distinct challenges in attaining sustainable development objectives, primarily as a result of limited access to essential services and resources. Therefore, it is paramount to prioritize sustainable development strategies to foster long-term growth and well-being of local communities in rural regions while protecting natural ecosystems.

The question of sustainable development in rural areas has emerged as a critical concern for policymakers and stakeholders around the world, given its profound impact on rural communities, the environment, and the economy (Alcamo et al., 2020). Sustainable development entails the simultaneous pursuit of economic progress, social development, and environmental preservation while ensuring the conservation of natural resources for future generations. Rural regions, in particular, are often characterized by limited resources and infrastructure, posing significant challenges to the achievement of sustainable development. Consequently, it is imperative to identify the key determinants that drive sustainable development in rural areas to develop effective policies and strategies that foster growth and well-being while preserving the environment and the community.

Research aim: to find out the key factors of sustainable development in rural areas while investigating the challenges and solutions of sustainable development.

The following **objectives** have been set to achieve the aim:

1. To summarise the theoretical aspects of sustainable development in rural areas.
2. To investigate the challenges of implementing sustainable development in rural areas.
3. To find out possible solutions for the effective application of sustainable development in rural areas.
4. To explain the key factor of sustainable development in rural areas.

Research object and methods

The object of the research: sustainable development in rural areas

This study examines the crucial elements of sustainable development in rural regions through an extensive analysis of pertinent scholarly literature and global studies. The data collection process involved accessing studies and articles on ResearchGate and Google Scholar. The methodology employed in this investigation entails collecting qualitative data by scrutinizing existing documents and theoretically framing the research object. Accordingly, literature analysis and synthesis techniques were utilized.

Research results and discussion

The researchers have been analysing sustainable development in rural areas and rural development is a significant one in the overall growth of a nation. The identification of key factors associated with sustainable development in rural areas is of great significance for the effective planning and implementation of policies and programs that seek to improve the well-being of rural communities, while simultaneously preserving the environment. An essential component of this identification process is the comprehension of the intricate interplay between economic, social, and environmental factors that exert a significant influence on sustainable development in rural areas (Harputlugil and de Wilde, 2021). Through this understanding, it becomes possible to mitigate negative impacts resulting from development activities such as deforestation, land degradation, and biodiversity loss. Furthermore, the identification of key sustainable development factors can enable policymakers and stakeholders to prioritize interventions, allocate resources efficiently, and design targeted programs that cater to the specific needs of rural communities. Ultimately, the enhancement of sustainable development in rural areas can lead to poverty reduction, improved quality of life, and environmental protection, culminating in the achievement of the Sustainable Development Goals (SDGs) (Mpofu, 2022).

In addition to the significance of identifying the key factors of sustainable development in rural areas, it is vital to acknowledge the distinctive obstacles encountered by rural communities in accomplishing sustainable development. Rural areas, when compared to urban areas, are typically characterized by lower levels of economic development, restricted access to fundamental services and infrastructure, and a higher susceptibility to environmental threats such as natural disasters, climate change, and depletion of resources (Gheuens et al., 2019). Consequently, a comprehensive comprehension of the social, economic, and environmental factors that impact sustainable development in rural areas is indispensable in creating and executing effective policies and programs that are responsive to the particular requirements and limitations of rural communities.

Challenges of implementing sustainable development in rural areas

Sustainable development is an extensively recognized paradigm that endeavours to harmonize economic expansion, societal well-being, and ecological preservation. Nevertheless, actualizing sustainable development in rural settings is associated with exceptional challenges that thwart its accomplishment. Foremost among these challenges is the restricted accessibility of essential services and infrastructure. Rural regions often suffer from inadequate transportation, communication, and energy infrastructure, which curtails their capacity to partake in economic ventures and acquire crucial amenities, including healthcare and education (Sewell et al., 2019). The paucity of infrastructure also hampers the introduction and operation of sustainable practices, given that it necessitates considerable investment in infrastructure to promote the utilization of sustainable energy sources, such as solar and wind power.

An additional major impediment to the implementation of sustainable development in rural settings is the constrained availability of financial resources. Rural areas are frequently constrained by limited financial resources and rely on external funding to execute development initiatives. The restricted availability of financial resources is particularly problematic for sustainable development undertakings, which typically necessitate significant upfront investment in infrastructure, research, and development (Wieliczko, 2019). Consequently, rural communities may encounter challenges in implementing sustainable development practices due to their financial resource constraints.

Moreover, realizing sustainable development in rural regions necessitates a comprehensive comprehension of the distinctive social, economic, and environmental circumstances characterizing rural communities. Rural areas frequently exhibit unique cultural and social norms, economic activities, and environmental predicaments relative to urban areas. Consequently, sustainable development initiatives must be customized to the specific requirements and obstacles of rural communities (Rashid, 2019). This requires substantial investment in research, development, and capacity building, which can pose difficulties in rural areas with insufficient resources and expertise. A further impediment to the implementation of sustainable development in rural settings is the restricted availability of skilled labour. Rural areas are frequently beset by a dearth of qualified personnel, particularly in agriculture, forestry, and natural resource management, which are pivotal elements of sustainable development. The scarcity of skilled labour poses difficulties in executing sustainable practices and can lead to suboptimal utilization of natural resources and environmental degradation.

Solutions to apply the sustainable development in rural areas

The implementation of sustainable development in rural areas is a challenging task due to a myriad of factors, encompassing insufficient access to basic services and infrastructure, financial restrictions, distinctive social, economic, and environmental circumstances, and a deficiency of skilled labour (Bhuvaneshwari et al., 2019). Despite the seeming formidability of these challenges, several plausible solutions may surmount these obstacles and foster sustainable development in rural areas.

One potential solution to overcome the limited access to basic services and infrastructure is to invest in rural infrastructure development. Governments and development agencies may extend financial assistance and technical support to facilitate the establishment and maintenance of transportation, communication, energy, and water infrastructure in rural communities (Holmberg and Sandbrook, 2019). This strategy would upgrade the quality of life for rural inhabitants and establish the requisite foundation for adopting sustainable development practices.

An additional feasible solution to confront the financial limitations of implementing sustainable development in rural regions is to leverage innovative financing mechanisms, such as microfinance, crowdfunding, and public-private partnerships (Esposito and Dicorato, 2020). These financing mechanisms can facilitate the mobilization of additional financial resources from the private sector and local communities to support sustainable development projects in rural areas.

To confront the distinctive social, economic, and environmental conditions of rural communities, policymakers and development agencies must engage with local stakeholders and communities to comprehend their requirements and priorities. This entails adopting a bottom-up approach to sustainable development, wherein local communities participate in the planning and execution of development initiatives. Community involvement can also establish trust and ownership, which can bolster the long-term success of sustainable development endeavours. An additional plausible solution to contend with the deficiency of skilled labour in rural areas is to invest in capacity building and education. Governments and development agencies may offer training and educational programs to cultivate the skills and knowledge to implement sustainable development practices. Such programs may encompass natural resource management, renewable energy, sustainable agriculture, and other relevant areas.

The key factors of sustainable development in rural areas

Agricultural productivity and diversification: Agricultural productivity and diversification are essential components for bolstering the economic development of rural areas, given that agriculture serves as a critical source of income and employment (Nguyen et al., 2019). Heightening agricultural productivity and diversification can effectively boost crop yields, diminish post-harvest losses, and enhance smallholder farmers' access to markets. Such measures can thus ensure food security and generate additional income opportunities for rural communities. **Access to markets:** Facilitating access to markets is of paramount importance for rural communities to vend their products and procure necessary goods and services. Enhancing transportation infrastructure and the accessibility of information and communication technologies (ICTs) can aid in connecting rural communities to more expansive markets, both nationally and internationally (Satpati and Sharma, 2022). This, in turn, can enable smallholder farmers to access remunerative pricing structures and lessen their reliance on local markets.

Environmental sustainability: Given that rural communities rely heavily on natural resources for their sustenance, environmental sustainability assumes paramount importance. The implementation of sustainable land management practices, such as conservation agriculture and agroforestry, can effectively augment soil health, bolster crop yields, and preserve water resources (Taiwo et al., 2023). Additionally, the conservation and sustainable management of forests can foster opportunities for sustainable livelihoods and income generation, while mitigating greenhouse gas emissions and safeguarding biodiversity. **Access to education and healthcare:** In rural regions, access to basic education and healthcare services is often constrained. Delivering quality education can ameliorate literacy and numeracy competencies, augment human capital, and buttress economic advancement (Zhang et al., 2019). Likewise, healthcare services, encompassing access to fundamental medical care, can effectively curb mortality rates and enhance the health and well-being of rural communities.

Local governance and community participation: The assurance of development initiatives being attuned to local needs and priorities necessitates the presence of effective local governance and community involvement. These measures can foster trust between local communities and government agencies, and facilitate the utilization and management of resources in manners that accrue benefits for local communities (Singgalen et al., 2019). Additionally, community participation can bolster social capital, instigate social development, and diminish poverty. **Financial inclusion and access to credit:** Formal financial services, such as savings accounts, insurance, and credit, are frequently not readily accessible to rural communities, thereby impeding economic growth and development in rural areas (Song et al., 2020). Heightening financial inclusion and augmenting access to credit can effectively fuel entrepreneurship, buttress small businesses, and encourage economic advancement in rural areas. Additionally, these measures can aid in mitigating poverty and enhancing the livelihoods of rural communities.

Conclusions

1. This article aims to identify the critical factors for attaining sustainable development in rural areas while analyzing the challenges associated with its implementation. The primary hurdles in achieving sustainable development in rural areas pertain to limited access to essential services and infrastructure, financial resources, and skilled labour.

2. In order to achieve the research aim, the article undertakes a comprehensive review of scientific literature and scholarly articles. The identified key factors for sustainable development in rural areas include i) agricultural productivity and diversification, ii) access to markets, iii) environmental sustainability, iv) access to education and healthcare, v) local governance and community participation, and vi) financial inclusion and access to credit. The article concludes that these factors are highly relevant in the current literature on the subject of sustainable development in rural areas.

References

1. Alcamo, J., Thompson, J., Alexander, A., Antoniadis, A., Delabre, I., Dolley, J., Marshall, F., Menton, M., Middleton, J., Scharlemann, J. P. W. 2020. Analysing interactions among the sustainable development goals: findings and emerging issues from local and global studies. *Sustainability Science*, Vol. 15, iss. 16, p. 1561–1572. <https://doi.org/10.1007/s11625-020-00875-x>
2. Bhuvaneshwari, S., Hettiarachchi, H., Meegoda, J. N. 2019. Crop residue burning in India: policy challenges and potential solutions. *International journal of environmental research and public health*, Vol. 16, iss. 5, p. 832.
3. Esposito, P., Dicorato, S. L. 2020. Sustainable development, governance and performance measurement in public private partnerships (PPPs): A methodological proposal. *Sustainability*, Vol. 12, iss. 14, P. 5696.
4. Gheuens, J., Nagabhatla, N., Perera, E. D. P. 2019. Disaster-risk, water security challenges and strategies in Small Island Developing States (SIDS). *Water*, Vol. 11(4), ID 637. <https://doi.org/10.3390/w11040637>

5. Harputlugil, T., de Wilde, P. 2021. The interaction between humans and buildings for energy efficiency: A critical review. *Energy Research & Social Science*, Vol. 71, 101828. <https://doi.org/10.1016/j.erss.2020.101828>
6. Holmberg, J., Sandbrook, R. 2019. Sustainable development: what is to be done? In *Policies for a small planet*. p. 19-38. Routledge.
7. Mpofu, F. Y. 2022. Green Taxes in Africa: Opportunities and Challenges for Environmental Protection, Sustainability, and the Attainment of Sustainable Development Goals. *Sustainability*, Vol. 14, iss. 6, 10239. <https://doi.org/10.3390/su141610239>
8. Nguyen, D. L., Grote, U., Nguyen, T. T. 2019. Migration, crop production and non-farm labor diversification in rural Vietnam. *Economic Analysis and Policy*, Vol. 63, p. 175-187.
9. Rashid L. 2019. Entrepreneurship education and sustainable development goals: A literature review and a closer look at fragile states and technology-enabled approaches. *Sustainability*, Vol. 11, iss. 19. <https://doi.org/10.3390/su11195343>
10. Satpati, S., Sharma, K. K. 2022. Assessing the impact of education, health and road network infrastructure on information and communication technology penetration in rural West Bengal. *Indian Journal of Public Administration*, Vol. 68, iss. 4, p. 640-656.
11. Sewell, S. J., Desai, S. A., Mutsaa, E., Lottering, R. T. 2019. A comparative study of community perceptions regarding the role of roads as a poverty alleviation strategy in rural areas. *Journal of Rural Studies*, Vol. 71, p. 73-84. <https://doi.org/10.1016/j.jrurstud.2019.09.001>
12. Singgalen, Y. A., Sasongko, G., Wiloso, P. G. 2019. Community participation in regional tourism development: a case study in North Halmahera Regency-Indonesia. *Insights into Regional Development*, Vol. 1, iss. 4, p. 318-333. <https://hal.science/hal-02342716/>
13. Song, Q., Li, J., Wu, Y., Yin, Z. 2020. Accessibility of financial services and household consumption in China: evidence from micro data. *The North American Journal of Economics and Finance*, Vol. 53, 101213. <https://doi.org/10.1016/j.najef.2020.101213>
14. Taiwo, B. E., Kafy, A. A., Samuel, A. A., Rahaman, Z. A., Ayowole, O. E., Shahrier, M., Duti B.M., Rahman M.T., Peter O.T., Abosede, O. O. 2023. Monitoring and predicting the influences of land use/land cover change on cropland characteristics and drought severity using remote sensing techniques. *Environmental and Sustainability Indicators*, Vol. 18, 100248.
15. Wieliczko B. 2019. Financial instruments—a way to support sustainable development of the EU rural areas? Case of Poland. *Studia Ekonomiczne*, Vol. 382. <https://cejsh.icm.edu.pl/cejsh/element/bwmeta1.element.cejsh-b048402f-6604-4cdc-aab0-b91fb7b0becc>
16. Zhang, T., Shi, X., Zhang, D., Xiao, J. 2019. Socio-economic development and electricity access in developing economies: A long-run model averaging approach. *Energy Policy*, Vol. 132, p. 223-231.