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Journal of Development Economics and Management Research Studies (JDMS)
A Peer Reviewed Open Access International Journal
ISSN: 2582 5119 (Online)



Crossref Prefix No: 10.53422
11 (20), 28-40, April-June, 2024
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Global Sustainability Challenges: Local to Global

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Abstract

This paper, "Global Sustainability Challenges: Local to Global," investigates the complex relationship between local and global sustainability challenges. The author explores the various factors that contribute to these challenges, including environmental degradation, social inequality, and economic disparity. The paper emphasises the crucial role played by both local and global actors in addressing these concerns and proposes potential solutions to promote sustainable development.

Environmental degradation is one of the key global sustainability challenges. The depletion of natural resources, pollution, and climate change are significant threats to the planet's well-being. These issues are often driven by local activities such as deforestation, industrial waste disposal, and unsustainable agricultural practices. The paper highlights the need for local communities to take proactive measures to mitigate these impacts through sustainable resource management and conservation initiatives.

Social inequality is another critical aspect of sustainability challenges, encompassing issues related to poverty, education, healthcare, and access to basic amenities. The paper acknowledges that these disparities exist at both local and global levels, with disadvantaged communities particularly vulnerable to the adverse effects of environmental degradation and climate change. It underlines the importance of addressing social inequality as an integral part of achieving sustainable development, urging policymakers to prioritize equity and inclusivity in their decision-making processes.

Economic disparity is also a significant obstacle to global sustainability. The paper discusses how economic systems driven by profit maximisation often disregard environmental and

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social costs, leading to unsustainable production and consumption patterns. It advocates for a shift towards a more sustainable and inclusive economic model that considers long-term social and environmental impacts. It further suggests that local communities have the power to influence such changes through various means, including supporting local businesses, promoting circular economies, and advocating for responsible corporate practices.

The paper concludes by emphasising the interconnectedness of local and global sustainability challenges and the need for collaborative efforts to address them effectively. It calls for stronger partnerships between local communities, governments, non-governmental organisations, and international institutions to foster sustainable development practices at all levels. The proposed solutions include greater public awareness, education, and policy reforms that integrate environmental, social, and economic considerations.

In summary, this paper sheds light on the multi-faceted nature of global sustainability challenges and highlights the role of local and global actors in addressing them. It underscores the significance of environmental stewardship, social equity, and economic transformation in achieving sustainable development. Ultimately, it calls for a fair and collaborative approach involving all stakeholders to build a more sustainable and resilient future for our planet.

Key Words. *Global sustainability, sustainable development, environmental degradation, social inequality, economic disparity, social, economic, and environmental sustainability.*

Introduction

Global sustainability is a pressing concern, with the Global South, including Tamil Nadu, and India, playing a crucial role. In these regions, sustainable development encompasses environmental conservation, social equity, and economic stability (Kumaran, 2022). Initiatives such as renewable energy projects, afforestation, and community-driven programs exemplify the commitment to a balanced and resilient future (Krishna, 2024: 2). Tamil Nadu, with its focus on renewable energy, affirms the local-global interplay in achieving sustainability goals (The Hindu Bureau, 2024: 7).

This paper has its purpose the understanding of the challenges to global sustainability, with Global South and Tamil Nadu, India as the focus of discussion. It introduces the model of sustainable development, briefly, and then the concerns of social, economic, political, and environmental sustainability emerging from the philosophy of sustainable development, at the global to the local level in addressing ecological restoration and sustainable livelihoods (Kumaran, Hyma, and Wood, 2004; Kumaran, 2005; Sportel, 2002; Tummon, 2001). A key feature of global sustainability is international cooperation and the sustainable development model emphasizes collaboration between countries. It calls for the development of partnerships, sharing of knowledge and resources, and collective action to address global challenges, effectively.

This discussion is followed by a discussion on global sustainability and the challenges to it, identifying them in the context of global and local perspectives and sustainable development goals. Finally, global-to-local and local-to-global, sustainability is discussed with some illustrations from the Global South and Tamil Nadu, India.

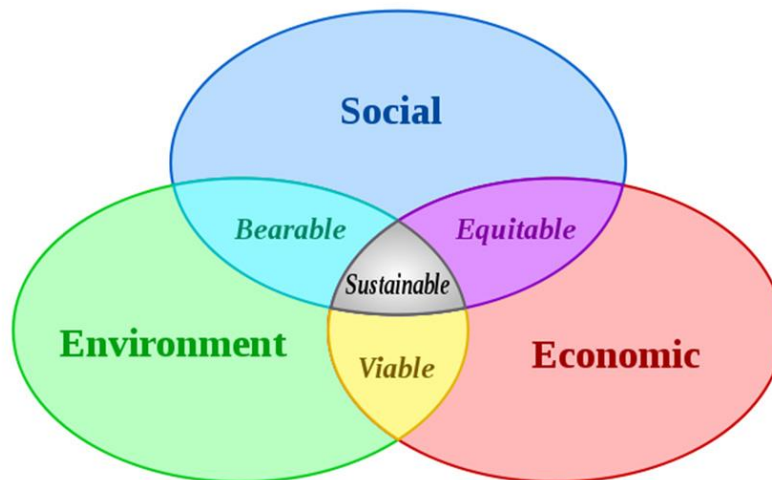
The Sustainable Development Model

The Sustainable Development Model (FIGURE 1) represents a comprehensive approach to addressing the complex challenges of our time by integrating economic, social, and environmental considerations. Developed as a response to the pressing need for a more holistic and responsible approach to development, this model aims to ensure that progress is not achieved at the expense of future generations. Let us try briefly to understand the key components of this model to understand its principles and implications better.

At its core, the Sustainable Development Model emphasizes the interconnectedness of economic, social, and environmental dimensions. It recognizes that these aspects are interdependent and must be managed collectively to achieve lasting positive outcomes. One of the primary goals is to create a balance where economic growth is not only sustainable but also contributes to social equity and environmental preservation.

In the economic realm, the model promotes inclusive and responsible economic growth. This involves fostering innovation, supporting entrepreneurship, and ensuring fair distribution of wealth. It encourages businesses to adopt sustainable practices, such as reducing their carbon footprint and embracing ethical supply chain management. By prioritizing long-term economic stability over short-term gains, the model seeks to create a resilient and equitable economic foundation.

FIGURE 1



The Sustainable Development Model

Social sustainability is another critical pillar of the model. It underscores the importance of addressing social inequalities, promoting social cohesion, and ensuring access to basic human rights such as education, healthcare, and housing. The model advocates for inclusive policies that empower marginalized communities and foster diversity. By prioritizing social well-being, the

Sustainable Development Model aims to build societies that are not only economically prosperous but also socially just and inclusive.

Environmental sustainability is perhaps the most visible aspect of the model, given the growing concerns about climate change and environmental degradation (Bohle, Downing and Watts, 1994). The model promotes conservation, responsible resource management, and the adoption of green technologies. It encourages the transition to renewable energy sources, reduction of carbon emissions, and protection of biodiversity. By integrating environmental considerations into decision-making processes, the model seeks to ensure that development does not come at the expense of the planet's health.

A key feature of the Sustainable Development Model is its commitment to *international cooperation*. Recognizing that many challenges, such as climate change and global poverty, are transnational, the model emphasizes the importance of collaboration between nations. It calls for the development of partnerships, sharing of knowledge and resources, and collective action to address global challenges effectively. This collaborative approach recognizes that sustainable development requires a coordinated effort on a global scale.

Implementation of the Sustainable Development Model requires the active involvement of governments, businesses, communities, and individuals. Policymakers play a crucial role in creating an enabling environment through the formulation of regulations and incentives that align with sustainable development goals. Businesses are encouraged to adopt ethical practices, invest in sustainable technologies, and consider the social and environmental impact of their operations.

Communities are vital stakeholders in the model, as their active participation is necessary for the success of sustainable development initiatives. Education and awareness campaigns are crucial tools to engage and empower individuals to make sustainable choices in their daily lives. By fostering a sense of responsibility and shared values, the model seeks to create a groundswell of support for sustainable practices at the grassroots level.

Sustainable Development Goals

The **Sustainable Development Goals (SDGs)** are a set of 17 global goals adopted by all United Nations Member States in 2015. They address various social, economic, and environmental challenges, aiming to achieve a better and more sustainable future by 2030 (FIGURE 2). The goals cover areas such as poverty, hunger, health, education, gender equality, clean water, climate action, and more. Each goal has specific targets and indicators to measure progress, promoting a comprehensive and integrated approach to development worldwide.

Global Sustainability

Global sustainability is the pursuit of economic, social, and environmental practices that *meet the needs of the present without compromising the ability of future generations to meet their own needs*. It involves fostering a balance between *economic development, social equity, and environmental conservation*. Key elements include *reducing carbon emissions, promoting renewable energy sources, and implementing responsible resource management*.

Collaborative international efforts are essential for addressing issues like climate change, deforestation, and loss of biodiversity (Vogel, and O'Brien 2004; Kumaran, Murali, and Senthamarai, 2017). The United Nations' Sustainable Development Goals (SDGs) serve as a comprehensive framework for global sustainability, encompassing diverse aspects such as poverty alleviation, clean energy, and gender equality.



FIGURE 2

Businesses play a crucial role by adopting sustainable practices, embracing circular economies, and considering the triple bottom line—profit, people, and the planet. Consumers also contribute through conscious choices, favouring eco-friendly products and supporting companies with robust sustainability initiatives.

Education and awareness are pivotal in driving change and inspiring individuals and communities to make environmentally conscious decisions. Governments worldwide must enact and enforce policies that incentivize sustainable practices and discourage harmful ones. Global sustainability is a shared responsibility, demanding a collective commitment to secure a resilient and harmonious future for our planet. FIGURE 3 shows the routes to global sustainability.

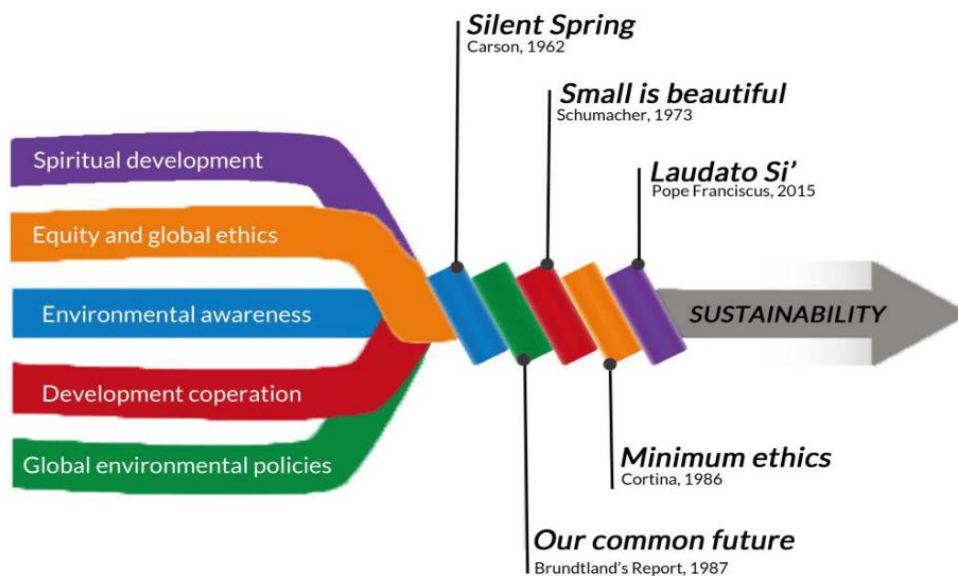


FIGURE 3. The Routes to Sustainability

Challenges to Global Sustainability, An Overview

Global sustainability faces multifaceted challenges that demand urgent attention and concerted efforts on a global scale. These challenges span environmental, social, economic, and political dimensions, posing complex obstacles to the long-term well-being of our planet and its inhabitants. FIGURE 4 is self-explanatory as to what constitutes challenges to global sustainability.

At the core of environmental challenges is **climate change**, driven predominantly by human activities such as burning fossil fuels and deforestation (Revi, 2008). Rising global temperatures lead to extreme weather events, sea-level rise, and disruptions to ecosystems. The consequences are far-reaching, affecting agriculture, water resources, and biodiversity, exacerbating existing vulnerabilities in various regions.

Depleting natural resources further strains the planet's capacity to support growing populations. Overexploitation of fisheries, deforestation, and unsustainable agriculture practices contribute to the loss of biodiversity and disrupt delicate ecological balances. Additionally, pollution from industrial activities and waste mismanagement further degrades air, water, and soil quality, posing threats to both human health and ecosystem integrity.

Social challenges to global sustainability are intricately linked to economic disparities and inequality. Access to basic resources like clean water, adequate healthcare, and education remains unequal, perpetuating cycles of poverty in many parts of the world. Rapid urbanization often leads to unsustainable consumption patterns and strains on infrastructure, exacerbating social and environmental challenges (Mulligan, James, Scanlon, and Ziguras, 2004; Revi, 2008; Watts, and Bohle, 1993).

Economic factors also play a pivotal role in sustainability challenges. The pursuit of relentless economic growth often comes at the expense of environmental degradation. Short-term

profit motives may lead to the exploitation of natural resources without adequate consideration for long-term consequences. Shifting towards a **sustainable and circular economy** is essential to balance economic growth with environmental stewardship.

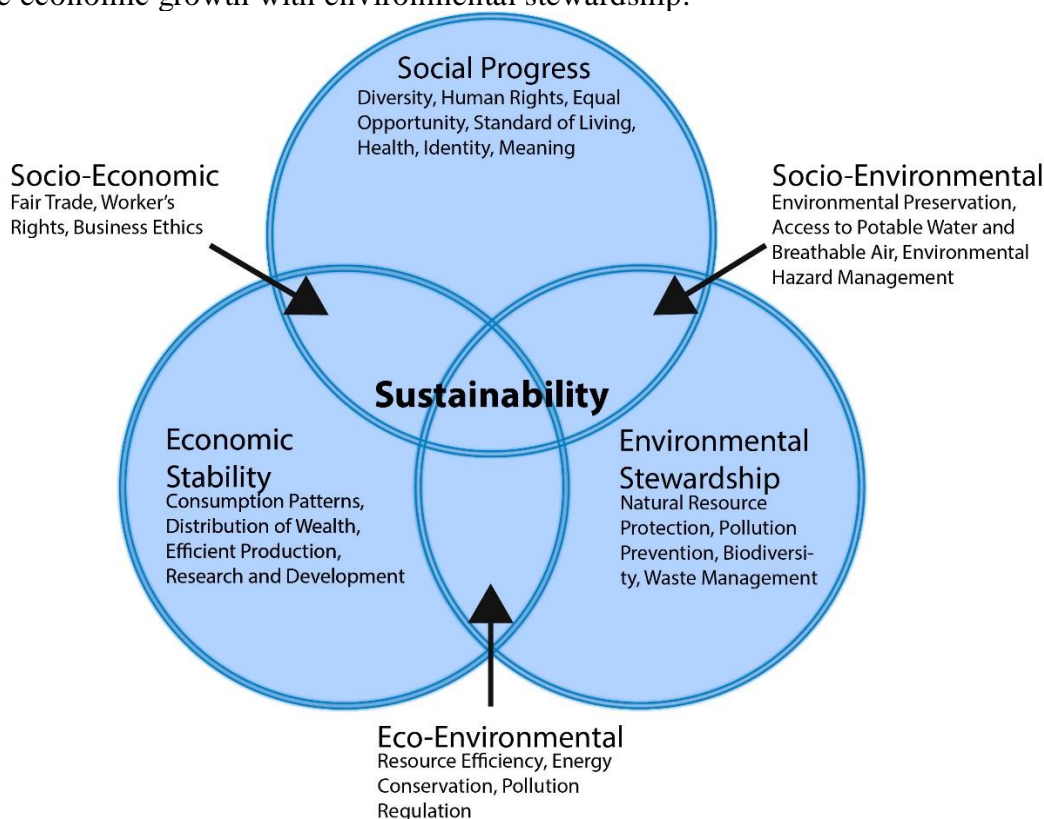


FIGURE 4. Global Sustainability Challenges

Political obstacles further complicate the path to global sustainability. Disparities in political will and international cooperation hinder the implementation of effective global policies. Conflicting interests among nations, especially regarding **resource use and emissions reduction**, contribute to slow progress in addressing shared challenges. Bridging these political gaps is crucial for the development and implementation of comprehensive and equitable solutions.

Technological advancements, while holding potential for positive change, also present challenges. The rapid pace of innovation can outstrip ethical considerations and regulatory frameworks, leading to unintended consequences. Striking a balance between technological progress and sustainable development requires thoughtful governance and responsible use of emerging technologies.

Education and awareness are vital components of addressing sustainability challenges. Promoting a global understanding of the interconnectedness of environmental, social, and economic systems can inspire collective action. Empowering individuals and communities to adopt sustainable practices and make informed choices is key to building a resilient and sustainable future.

‘Think Globally, Act Locally’ emphasizes the importance of considering global issues while acting at the local level. In global sustainability, this approach encourages individuals and

communities to address environmental challenges by making eco-friendly choices in their daily lives, contributing to the overall well-being of the planet.

Sustainability Initiatives in Global South and Tamil Nadu

Sustainability initiatives in the Global South, including Tamil Nadu, showcase a *dynamic shift from global to local perspectives*. These efforts encompass a wide range of environmental, social, and economic strategies aimed at *fostering resilience* and addressing pressing issues (Mulligan, James, Scanlon, and Ziguras 2004). In this discourse, we will delve into the distinctive features of sustainability initiatives in both the Global South and Tamil Nadu, exploring how they navigate the intricate balance between *global aspirations and local needs*.

Global South's Sustainability Landscape

The Global South, comprising regions in Africa, Latin America, Asia, and Oceania, faces unique challenges arising from *historical inequalities, resource exploitation, and climate change*. Initiatives in these areas often align with global frameworks like the Sustainable Development Goals (SDGs), emphasizing the *interconnectedness of environmental and social well-being*. Efforts such as *afforestation* projects, *renewable energy adoption*, and *community-based conservation programs* reflect a commitment to global sustainability agendas (Emanuel, 2005).

However, the Global South's journey towards sustainability is not without complexities. Balancing economic growth with ecological preservation remains a delicate task, as many nations strive to uplift their populations while minimizing environmental impact. The integration of indigenous knowledge and practices into sustainability initiatives illustrates a shift towards recognizing local wisdom in global conversations (Kumaran, Dissanayake, and Norbert, 2007; Muthunagai, 2003; Kumaran, 1998).

Tamil Nadu's Localized Approach

Tamil Nadu exemplifies the intricate dance between global aspirations and local needs. The state has embraced sustainability through policies addressing *water scarcity, renewable energy, and waste management*. Tamil Nadu's wind energy initiatives, for instance, have gained international recognition, showcasing a commitment to global renewable energy targets.

Yet, the true strength of Tamil Nadu's sustainability lies in its *grassroots-level endeavours*. Community-led projects for *water conservation, organic farming, and women's empowerment* form the bedrock of localized sustainability (Kumaran, Hyma, and Wood, 2004; Kumaran, 2005). These initiatives acknowledge the nuanced challenges faced by local communities and seek solutions deeply rooted in the cultural fabric of the region (De Vries, Revi, Bhat, Hilderink, and Lucas, 2007).

Bridging Global and Local

The challenge lies in seamlessly integrating global and local perspectives, ensuring that sustainability initiatives address both overarching issues and community-specific concerns. In the Global South, countries often find themselves negotiating *external expectations with internal priorities*. Collaborations with international organizations and the exchange of best practices play a crucial role in this process, facilitating a two-way dialogue that enriches global sustainability efforts.

In Tamil Nadu, the state's engagement with global frameworks is evident in its commitment to *carbon reduction* and *environmental conservation*. Simultaneously, the emphasis on traditional practices and community involvement ensures that sustainability is not a *one-size-fits-all* concept. Tailoring global strategies to fit local contexts, Tamil Nadu illustrates the *importance of adaptive, culturally sensitive approaches in achieving sustainable development*.

Challenges and Future Trajectory

Despite progress, challenges persist on both fronts. In the Global South, economic disparities, political instability, and external pressures pose obstacles to comprehensive sustainability. Tamil Nadu, while making strides, grapples with issues of urbanization, pollution, and the need for inclusive development.

Looking ahead, the path to sustainability must involve continued collaboration, innovation, and a commitment to equity (see Daly, Cobb Jr., and John, 1989). The Global South can contribute valuable insights to global discussions, challenging existing paradigms and advocating for a more inclusive approach to sustainability (Haussermann, 2003; Muthunagai, 2003; Tummon, 2001; Sportel, 2002). Tamil Nadu, with its localized successes, can serve as a model for striking a balance between global goals and community needs.

Conclusion:

The Sustainable Development Model represents a paradigm shift in how we approach progress and growth. By embracing a holistic view that considers economic, social, and environmental factors, the model aims to create a world where *development is sustainable, inclusive, and equitable*. Its success hinges on the commitment of individuals, businesses, and governments to work together towards a future that balances prosperity with responsibility.

The challenges to global sustainability are multifaceted, requiring a comprehensive and integrated approach. Tackling environmental, social, economic, and political issues simultaneously is essential for achieving meaningful progress. Global cooperation, innovative solutions, and a shift in mindset towards sustainability are imperative to secure a harmonious and resilient future for our planet (Mulligan, James, Scanlon, and Ziguras 2004).

Sustainability initiatives in the Global South, epitomized by the experiences of Tamil Nadu, exemplify the intricate interplay between global and local dynamics. As these regions navigate the complexities of *environmental stewardship* and societal well-being, the journey

towards sustainability becomes a shared endeavour, transcending borders, and cultural nuances. The evolving narrative underscores the need for a holistic, inclusive approach that recognizes the diverse challenges and aspirations inherent in the global pursuit of a sustainable future.

Recommendations:

Need a Nuanced Approach to Resolve Challenges of Global Sustainability

Meeting the challenges of global sustainability requires a **nuanced approach** that integrates **both local and global perspectives**. This symbiotic relationship can be harnessed to create a **holistic strategy** that addresses environmental, economic, and social dimensions.

At the local level, **community engagement** is paramount. Empowering communities to take ownership of their sustainable practices fosters a sense of responsibility and encourages grassroots initiatives (Kumaran, and Rajkumar, 2008). This might include local recycling programs, community gardens, or renewable energy projects tailored to the specific needs and resources of each community. By incorporating traditional knowledge and respecting cultural values, these initiatives gain traction and contribute to the overall global sustainability agenda (Kumaran, Rajeswari, Annammadevi, Nandini, Bunch, Marley, and Franklin, 2012; Nadarajah, 2004).

Simultaneously, **incorporating global perspectives into local sustainability efforts** is crucial. This involves aligning local practices with international standards, leveraging technological advancements, and promoting knowledge exchange (Kumaran, 2005). For instance, adopting *global best practices in waste management* or *utilizing sustainable technologies* can enhance local sustainability efforts. Moreover, participating in international networks allows communities to tap into a wealth of knowledge and resources, fostering collaboration and mutual learning.

Education plays a pivotal role in both local and global sustainability. Locally, communities benefit from *awareness campaigns* that highlight the environmental impact of their actions and educate on sustainable alternatives. This can be coupled with *skill development programs* that empower individuals to actively contribute to sustainable practices. On a global scale, fostering a shared understanding of the interconnectedness of environmental issues promotes collective responsibility and encourages nations to collaborate on sustainable solutions.

Governments play a crucial role in **bridging local and global sustainability perspectives**. At the local level, they can implement policies that incentivize sustainable practices, such as tax breaks for eco-friendly businesses or regulations promoting green infrastructure. Simultaneously, governments should actively participate in international agreements and initiatives to address global challenges, such as climate change. This involves adopting and enforcing policies that align with global sustainability goals and contributing to collective efforts (Emanuel, 2005).

Technology is a key driver in addressing both local and global sustainability challenges. Locally, the adoption of sustainable technologies can significantly reduce the environmental footprint of communities. This includes investing in clean energy sources, promoting energy-efficient practices, and utilizing smart solutions for resource management.

On a global scale, **technological innovation** can lead to breakthroughs in addressing overarching challenges like climate change, resource depletion, and pollution. Collaborative research and development efforts can yield solutions that benefit both local communities and the global environment.

Economic considerations cannot be overlooked in the pursuit of sustainability. At the local level, fostering sustainable economic practices, such as supporting local businesses and promoting fair trade, contributes to the well-being of communities. Simultaneously, integrating global perspectives involves aligning economic policies with sustainability goals on an international scale. This might include incentivizing global corporations to adopt environmentally friendly practices or promoting international trade agreements that prioritize sustainability.

Building resilience is essential for addressing the uncertainties associated with global sustainability challenges. Locally, communities can focus on developing adaptive strategies that account for climate change impacts, such as implementing flood-resistant infrastructure or diversifying agricultural practices. On a global scale, cooperation and information sharing are crucial for addressing shared vulnerabilities and building a collective response to unforeseen challenges.

In conclusion, meeting the challenges of global sustainability necessitates **a harmonious integration of local and global perspectives**. Empowering local communities, leveraging global knowledge and resources, fostering education, implementing effective policies, embracing sustainable technologies, considering economic implications, and building resilience collectively form a comprehensive strategy. By recognizing the interconnectedness of local and global sustainability, we can work towards a more sustainable and equitable future for all.

References:

1. Bohle, H.-G., T. E. Downing and M. Watts (1994): Climate change and social vulnerability: Toward a sociology and geography of food insecurity. *Global Environmental Change* 4(1), pp 37-49.
2. Bunch, M.J., Joseph, R., and Kumaran, T.V. (2012): [Using Geographic Information Systems \(GIS\) For Spatial Planning and Environmental Management in India: Critical Considerations.](#) *International Journal of Applied Science and Technology*, 2(2), pp 40-54.
3. Daly, H.E., and Cobb Jr. J.B. (1989): *For the Common Good: Redirecting the Economy toward Community, the Environment, and a sustainable future*. Boston: Beacon Press.

4. De Vries, H. J. M., A. Revi, G. K. Bhat, H. Hilderink and P. Lucas (2007): India 2050: Scenarios for an uncertain future. Netherlands Environment Assessment Agency (MNP). Bilthoven.
5. Emanuel, K. (2005): Increasing destructiveness of tropical cyclones over the past 30 years. *Nature* 436(7051), pp 686-688.
6. Hausermann, B. (2003): Stakeholder Analysis, Policy, and Program Assessment. Faculty of Environmental Studies. University of Waterloo. Canada.
7. Krishna, A.R. (2024): Raising High Stink: Tamil Nadu's bulk waste disposal issues. Tamil Nadu Section. *The Hindu*. (Sunday, February 04, 2024: 2.
8. Kumaran, T.V. (1998): Indigenous knowledge systems: Concepts, Cases, and Assessment. A Workshop. Department of Geography, University of Madras and Centre for Alternative Energy and Rural Technology, Chengalpattu.
9. Kumaran, T.V. (2005): Researching Local Community Sustainability in India. *Local-Global Studies in Community Sustainability*. Hamilton Papers: Community Life in the Regions, The Globalism Institute, RMIT University, Australia, 1: pp 51-62.
10. Kumaran, T.V. (2022): Back to Sustainable Community: Local to Local and Global. Henson Editorial Services and North Staffordshire Press. Keel Smart Innovation Hub. Keele University. New Castle ST5 5NT (ISBN978-17391014-1-1).
11. Kumaran, T.V., Hyma, B. and Wood, D.M. (2004): *Community Action Planning: Addressing Ecological Restoration*, Chennai: T.R. Publications.
12. Kumaran, T.V., Dissanayake, L. and Norbert, S.A. (2007): *Indigenous Knowledge Systems and Sustainability*. Colombo: Kumaran Book House.
13. Kumaran, T. V. and Rajkumar, R. (2008): *Community Sustainable Development*, Chennai: Eswar Press.
14. Kumaran, T.V., Murali, O.M., and Senthamarai, S.R. (2017): Chennai floods 2005, 2015: Vulnerability, risk, and climate change. IGU International Conference, Osmania University, Hyderabad, March 17-19, 2017 (Friday-Sunday).
15. Kumaran, T.V., Rajeswari, S.D., Annammadevi, N., Nandini, J., Bunch, M.J., Marley, D. and Franklin, B. (2012): Community Engagement in Chennai Slums A Reflection from the Field. *Internationales Asien Forum*. *International Quarterly for Asian Studies*; May 43, 1/2; ProQuest pp 99-113.
16. Mulligan, M., P. James, C. Scanlon, and C. Ziguras (2004): *Creating Resilient Communities: A Comparative Study of 'Sense of Place' and Community Well-being in Daylesford and Broadmeadows*, VicHealth, Melbourne.

17. Muthunagai, S. (2003): Assessing Traditional Ecological Knowledge for Environmental Restoration and Sustainable Livelihoods in five desertified villages in Theni district, Tamil Nadu, South India. PhD Thesis (unpublished). University of Madras, Chennai.
18. Nadarajah, Yaso (2004): The scholarship of Community Engagement and Culture – Learning from the Margins, A Concept Paper, Globalism Institute, RMIT University, Melbourne, Australia.
19. Revi, A. (2008): Climate change risk: An adaptation and mitigation agenda for Indian cities. *Environment and Urbanization*. 20(1), pp 207-229.
20. Sportel, T.S. (2002): Influence of Socio-Cultural Norms and Community Perceptions on the Sustainability of Water Supply and Sanitation, A Case Study in Tamil Nadu, India. Faculty of Graduate Studies of the University of Guelph, Canada.
21. The Hindu Bureau, Udthagamandalam. (2024): Nilgiris Economic Dialogue: Businesses explore ways to improve sustainable practices. *The Hindu*. Tamil Nadu Section. (Sunday, February 04, 2024: 7).
22. Tummon, M.N. (2001): Gender and Participation in Rural Community Development in the Thevaram Basin, Tamil Nadu State, India. University of Guelph, Canada.
23. Vogel, C., and K. O'Brien (2004): Vulnerability and global environmental change: Rhetoric and reality. *AVISO* (13).
24. Watts, M. J. and H.-G. Bohle (1993): The space of vulnerability: The causal structure of hunger and famine. *Progress in Human Geography* 17(1): pp 43-67.
