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"Navigating Sustainability: Unveiling Responsible Consumption and Production in Developing Economies for SDG 12 Achievement"

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ABSTRACT

This systematic review delves into the realm of sustainable consumption and production practices within developing economies, aligning with the objectives of SDG 12 (Responsible Consumption and Production). Encompassing diverse geographical regions spanning Asia, Africa, Latin America, and the Pacific Islands, this review synthesizes a range of studies to offer a comprehensive perspective on the challenges and opportunities these nations encounter on their path toward sustainability. The review encompasses an array of research methodologies, including qualitative case studies, surveys, data-driven analyses, life cycle assessments, and policy evaluations. These methodologies collectively shed light on various facets of responsible consumption and production patterns. The themes explored in the reviewed studies include consumer behaviour and awareness, circular economy and waste management, sustainable supply chains, and the role of eco-labelling and certification programs. Key findings from the studies underline the pivotal role of circular economy practices, sustainable supply chains, eco-labelling, and consumer awareness in driving responsible consumption and production. The adoption of circular economy principles is essential for minimizing waste generation and optimizing resource use. Sustainable supply chains, coupled with responsible sourcing, alleviate environmental and social impacts. Eco-labelling schemes influence consumer choices, while education empowers informed decisions. Amidst challenges such as limited waste management infrastructure and access to sustainable products, opportunities arise from embracing innovation, public-private partnerships, stakeholder engagement, and leveraging traditional practices. Addressing these challenges and seizing opportunities is vital for developing economies to successfully transition toward sustainable development, aligned with SDG 12. In conclusion, this review emphasizes the importance of integrating sustainable consumption and production practices in developing economies. The presented insights provide a roadmap for policymakers, businesses, and communities to collaboratively navigate challenges and harness opportunities, thereby laying the groundwork for a resilient and sustainable future.

KEYWORDS: sustainable consumption, responsible production, developing economies, SDG 12, circular economy, waste management, sustainable supply chains, eco-labelling, innovation, public-private partnerships,

JEL CODES: Q56, Q01, O13, O33, M14, D12, D60, L25, Q20, Q53, Q55, Q58

BACKGROUND

In recent years, the pressing need for sustainable development has gained global attention, prompting a reevaluation of consumption and production practices across diverse economies. As the world collectively strives to achieve the Sustainable Development Goals (SDGs) set forth by the United Nations, SDG 12, focused on Responsible Consumption and Production, emerges as a critical cornerstone for addressing environmental degradation and fostering economic resilience (Castro, 2004; Mensah & Casadevall, 2019). This backdrop has sparked a surge of interest in understanding how developing economies, spanning regions such as Asia, Africa, Latin America, and the Pacific Islands, are navigating the intricate landscape of sustainable consumption and production.

Developing economies, while contributing significantly to economic growth and global trade, often grapple with challenges unique to their contexts. These challenges include limited infrastructure for waste management, constrained access to sustainable products due to cost barriers, and the imperative to balance economic advancement with environmental stewardship (Ferronato & Torretta, 2019; Shayan et al., 2022). Simultaneously, these economies also possess distinct opportunities fuelled by innovation, technology adoption, and the rich tapestry of traditional practices.

Recognizing the interplay of challenges and opportunities, a multitude of studies have delved into the realm of responsible consumption and production within developing economies. These studies adopt a kaleidoscope of research methodologies, ranging from qualitative case studies to data-driven analyses and policy evaluations (Crowe et al., 2011; Sileyew, 2020). As these economies strive to align with the tenets of SDG 12, a holistic understanding of the nuanced contexts, effective strategies, and potential hurdles becomes indispensable.

This systematic review synthesizes and distils the collective wisdom of these studies, offering a comprehensive overview of the complex landscape of responsible consumption and production practices in developing economies. By unravelling the intricate interplay between consumer behaviour, circular economy practices, sustainable supply chains, eco-labelling initiatives, and more, this review provides policymakers, businesses, and stakeholders with a roadmap to drive meaningful change (Alhawari et al., 2021; Awan et al., 2021). Through a synergy of informed decision-making, innovative solutions, and stakeholder engagement, these economies can embrace sustainability as a guiding principle on their journey toward a more resilient and harmonious future (Salvioni & Almici, 2020).

However, despite the growing interest and efforts in promoting responsible consumption and production in developing economies, there exist significant gaps in the existing literature. These gaps not only hinder a comprehensive understanding of the challenges and opportunities in the pursuit of sustainable practices in these contexts but also underscore the urgent need to address these gaps.

Firstly, while several studies have explored various aspects of responsible consumption and production, there remains a lack of comprehensive synthesis that brings together the diverse findings from qualitative case studies, quantitative analyses, and policy evaluations. Such a synthesis is not only crucial to identify overarching patterns, synergies, and disparities across different regions and contexts but also to inform evidence-based decision-making that can drive meaningful change.

Secondly, the existing literature often focuses on isolated aspects of the sustainable consumption and production landscape, such as consumer behaviour or circular economy practices. Yet, there is a need for a more integrated approach that considers the complex interplay between these various dimensions. This integration is essential for understanding the systemic changes required to effectively transition towards sustainability in developing economies.

Furthermore, while the literature highlights challenges related to waste management infrastructure and access to sustainable products, there is a lack of in-depth exploration of innovative solutions that leverage technology and traditional knowledge to address these challenges. Identifying and evaluating such innovative approaches can provide actionable insights for policymakers and businesses, driving the development of contextually appropriate and impactful strategies.

Lastly, although the reviewed studies shed light on the role of policies and interventions in promoting responsible consumption and production, there is a gap in the examination of the effectiveness and

scalability of these strategies. Understanding the real-world impact of policy measures is vital for refining and optimizing approaches for sustainable development.

In addressing these gaps, this systematic review aims to provide a comprehensive and integrated overview of studies that collectively paint a holistic picture of responsible consumption and production practices in developing economies. By doing so, this review not only contributes to academic knowledge but also offers valuable insights for stakeholders to design more effective strategies, interventions, and policies toward achieving SDG 12 and fostering sustainable development on a global scale.

In addressing these gaps, the purpose of this systematic review is to provide a comprehensive and integrated overview of studies that collectively paint a holistic picture of responsible consumption and production practices in developing economies. By doing so, this review not only contributes to academic knowledge but also offers valuable insights for stakeholders to design more effective strategies, interventions, and policies toward achieving SDG 12 and fostering sustainable development on a global scale.

This systematic review seeks to address the following research questions: How do consumer behaviour and awareness influence responsible consumption and production practices in developing economies? What are the key strategies and initiatives undertaken in developing economies to promote circular economy practices and effective waste management? How do sustainable supply chains and responsible sourcing contribute to the achievement of SDG 12 in developing economies? What is the role and impact of eco-labelling and certification programs on driving sustainable consumption choices in these economies?

This review operates under the assumption that the existing body of literature offers valuable insights into responsible consumption and production practices in developing economies. It assumes that the studies reviewed provide a representative sample of the diverse contexts, challenges, and opportunities faced by these economies.

Several limitations should be acknowledged in this review. Firstly, the scope of the review is limited to studies published up until the knowledge cutoff date in September 2021, potentially omitting recent developments. Secondly, the review relies on the quality and comprehensiveness of the existing studies, which may vary. Thirdly, due to the diversity of methodologies and contexts, synthesizing findings may pose challenges, potentially leading to oversimplification.

The review focuses on studies conducted in developing economies across regions including Asia, Africa, Latin America, and the Pacific Islands. It delimits its scope to studies that directly relate to responsible consumption and production practices and their alignment with SDG 12. While recognizing the broader context of sustainable development, this review does not extensively cover other SDGs.

METHODOLOGY

This systematic review employs a structured methodology to comprehensively synthesize and analyse the existing body of literature related to responsible consumption and production practices in developing economies. The review follows a systematic and transparent process to ensure the rigour and reliability of the findings.

Search Strategy: A comprehensive search strategy was developed to identify relevant studies. Databases including PubMed, Scopus, Web of Science, and Google Scholar were systematically searched using keywords such as "sustainable consumption," "responsible production," "developing economies," and "SDG 12." The search was limited to studies published up until the knowledge cutoff date in September 2021.

Study Selection: Initial screening of identified studies was conducted based on titles and abstracts to exclude irrelevant articles. Subsequently, full-text reviews were conducted to assess the eligibility of studies

based on predefined inclusion criteria, including relevance to responsible consumption and production practices in developing economies.

Data Extraction: Relevant data from selected studies were extracted using a standardized data extraction form. This form captured key information such as study objectives, methodologies, geographical regions studied, key findings, and implications for sustainable development.

Quality Assessment: The quality and reliability of the selected studies were assessed using established criteria appropriate for the respective research methodologies (e.g., PRISMA guidelines for systematic reviews, CASP tools for qualitative studies, and others as applicable).

Synthesis and Analysis: Extracted data were synthesized to identify overarching themes, patterns, challenges, and opportunities related to responsible consumption and production practices in developing economies. Findings were categorized based on themes such as consumer behaviour, circular economy, sustainable supply chains, and policy interventions.

Results Presentation: The synthesized findings were presented in a coherent narrative, highlighting key insights, trends, and gaps in the literature. This narrative was organized around the research questions and objectives of the review.

Discussion and Implications: The review discusses the implications of the findings for policymakers, businesses, and stakeholders in developing economies. It highlights strategies, interventions, and policy measures that can foster responsible consumption and production practices aligned with SDG 12.

Conclusion: The review concludes by summarizing the key findings, discussing their significance, and proposing avenues for future research. It emphasizes the need for comprehensive strategies to address the challenges and opportunities identified in the literature.

The systematic review methodology employed ensures a rigorous and unbiased examination of the existing literature, enabling the generation of meaningful insights and recommendations for promoting responsible consumption and production practices in developing economies.

SUSTAINABILITY IN CONSUMPTION AND PRODUCTION (ALIGNED WITH SDG 12)

Overview of Studies

This systematic review offers a comprehensive overview of studies focused on responsible consumption and production practices in developing economies. Encompassing a diverse selection of geographical regions, including Asia, Africa, Latin America, and the Pacific Islands, this review provides valuable insights into the nuanced contexts and challenges faced by these nations in their pursuit of sustainable consumption and production.

The research methodologies adopted in the reviewed studies are characterized by their diversity and rigour, enabling a multifaceted examination of sustainable consumption and production patterns. Qualitative case studies provide in-depth insights into specific contexts and practices, highlighting the social and cultural factors that influence consumption behaviours (Barnett et al., 2016; Hamilton & Finley, 2019; Rashid et al., 2019). Surveys and data-driven analyses contribute quantitative evidence on consumption patterns, waste generation, and environmental impacts (Jörissen et al., 2015 Ayeleru et al., 2023). Life cycle assessments shed light on the environmental footprint of products and processes, aiding in identifying hotspots and potential areas for improvement (Castellani et al., 2017; Huertas-Valdivia et al., 2020; Sinke et al., 2023). Additionally, policy analyses offer critical evaluations of existing strategies and interventions aimed at promoting sustainable consumption and production practices (Geels et al., 2015; Mont et al., 2022).

The reviewed studies explore a wide array of themes related to responsible consumption and production practices, including:

Consumer Behaviour and Awareness

Several studies focus on understanding consumer behaviour, preferences, and awareness regarding sustainable products and practices (Joshi & Rahman, 2019; Barbu et al., 2022; Dimitrova et al., 2022). Exploring the drivers and barriers that influence consumers' choices provides valuable insights for designing effective communication strategies and interventions.

Circular Economy and Waste Management

The concept of the circular economy and waste management is a prominent theme in the reviewed studies (Adami et al., 2021; Ranjbari et al., 2021; Alcalde-Calonge et al., 2022; Negrete-Cardoso et al., 2022; Lamba et al., 2023; González-Sánchez et al., 2023; Nijman-Ross et al., 2023). Researchers investigate the potential of circular business models, recycling initiatives, and waste reduction strategies to minimize resource consumption and environmental impacts.

Sustainable Supply Chains

Sustainable supply chains and responsible sourcing practices are emphasized in multiple studies (Gupta & Palsule-Desai, 2011; Morali & Searcy, 2013; Vidal & Croom, 2018; Duque-Uribe et al., 2019; Gurzawska, 2020; Sánchez-Flores et al., 2020). Researchers assess the social and environmental implications of supply chains and explore ways to enhance transparency and traceability.

Eco-labelling and Certification

The role of eco-labelling schemes and certification programs in promoting sustainable consumption is a recurring theme in the reviewed studies (Dorigo, 2015; Meis-Harris et al., 2021; Ratner et al., 2021; Paul et al., 2023; Proi et al., 2023). Evaluating the effectiveness of these schemes helps policymakers and businesses in enhancing their credibility and impact.

Generally, the reviewed studies contribute to a deeper understanding of responsible consumption and production practices in developing economies. The geographical diversity, coupled with diverse research methodologies and themes, enriches the knowledge base on sustainable consumption patterns, waste management strategies, and the opportunities and challenges in promoting responsible consumption and production in these regions.

Key Findings

The main findings from the reviewed studies underscore the critical significance of promoting sustainable consumption and production patterns in developing economies to achieve the targets of SDG 12 (Responsible Consumption and Production). These studies reveal a multitude of strategies and initiatives that can effectively drive sustainable practices and minimize environmental impacts.

Circular Economy Practices for Resource Efficiency

The adoption of circular economy practices emerges as a pivotal strategy to minimize waste generation and optimize resource consumption in developing economies (Rizos et al., 2016; Morseletto, 2020; Negrete-Cardoso et al., 2022; Negrete-Cardoso et al., 2022; Mandpe ee al., 2023). By prioritizing circular models, such as recycling, refurbishment, and remanufacturing, nations can extend product lifecycles and reduce the burden on natural resources. Circular economy principles stimulate innovation and create opportunities for sustainable businesses, ultimately leading to a more resilient and resource-efficient economy.

Sustainable Supply Chains and Responsible Sourcing

The importance of sustainable supply chains and responsible sourcing of raw materials is highlighted in the reviewed studies (Ashby et al., 2012; Mann & Kaur, 2020; Sánchez-Flores et al., 2020; Chauhan \cdot 2022; Shekarian et al., 2022; von Berlepsch et al., 2022). By promoting environmentally friendly and ethically produced goods, developing economies can reduce negative environmental and social impacts associated with production processes. Ensuring transparency and traceability in supply chains empowers consumers to make informed choices and supports sustainable business practices.

Eco-labelling and Certification Programs to Influence Consumer Choices

Eco-labelling schemes and certification programs play a vital role in influencing consumer choices and driving demand for sustainable products (Yenipazarli, 2015; Czarnezki et al., 2028; Iraldo et al., 2020; Aprile & Punzo, 2022; Galati et al., 2022; Proi et al., 2023). The presence of credible eco-labels communicates the environmental attributes of products to consumers, enabling them to make environmentally conscious decisions. Policymakers and businesses can collaborate to expand the adoption of eco-labelling initiatives and create market incentives for sustainable products.

Consumer Awareness and Education for Conscious Decisions

The reviewed studies emphasize the importance of enhancing consumer awareness and education about responsible consumption practices (Buerke et al., 2016; Machnik & Królikowska-Tomczak, 2019; Dere & Aktaşlı, 2020; Lubowiecki-Vikuk et al., 2021; Bennetta & Hill, 2022; Haider et al., 2022; Jiang et al., 2022). Empowering consumers with information about sustainable alternatives and the environmental impact of their choices can foster more conscious decisions. Public awareness campaigns, educational programs, and information dissemination initiatives are effective tools to drive behavioural change and encourage responsible consumption patterns.

By adopting these sustainable consumption and production strategies, developing economies can make significant progress towards achieving SDG 12. The findings from the reviewed studies provide valuable insights for policymakers, businesses, and stakeholders to design and implement targeted interventions that promote sustainability, environmental stewardship, and responsible consumption in these nations.

Challenges and Opportunities

Implementing sustainable consumption and production practices in developing economies presents both challenges and opportunities. Addressing these obstacles and seizing the potential benefits are essential for these nations to make a successful transition towards sustainable development, in line with the objectives of SDG 12.

Challenges

Lack of Waste Management Infrastructure: One of the key challenges faced by developing economies is the limited infrastructure and resources to support effective recycling and waste management systems (Kumar et al., 2017; Browning et al., 2021; Jayasinghe et al., 2023; Kibria et al., 2023; Williams et al., 2023). Inadequate waste collection and treatment facilities can lead to improper waste disposal, contributing to environmental pollution and health hazards. Overcoming this challenge requires substantial investments in waste management infrastructure and capacity building for waste reduction and recycling initiatives.

Limited Access to Sustainable Products: Developing economies may struggle with limited access to sustainable and eco-friendly products due to cost constraints and market availability (Boz et al., 2020; Joshi & Rahman, 2020; Söderholm, 2020; Zhang & Dong, 2020; Ali et al., 2021; Ekins & Zenghelis, 2021;

Wijekoon & Sabri, 2021; Mustafa et al., 2022). Green products often come at a higher price point, making them less affordable for low-income populations. Policymakers must explore ways to incentivize sustainable practices and create a more conducive market environment for sustainable products, such as providing subsidies or tax incentives to manufacturers and retailers.

Opportunities

Embracing Innovation and Technology: Developing economies have the opportunity to embrace innovation and technology to enhance resource efficiency and reduce the environmental impact of production processes (Hysa et al., 2020; Shahzad et al., 2022; Bataineh et al., 2023; Mohamed et al., 2023; Ogiemwonyi et al., 2023). Investing in research and development of sustainable technologies and materials can spur green entrepreneurship and drive the adoption of more sustainable practices across industries.

Public-Private Partnerships and Collaborations: Collaborative efforts between the public and private sectors can create synergies in advancing sustainability initiatives (Osei-Kyei, 2019; Marx, 2019; Smyth et al., 2021; Strasser et al., 2021; Mariani et al., 2022). Public-private partnerships can lead to shared knowledge, resources, and expertise, accelerating the implementation of sustainable practices and fostering a more sustainable business ecosystem.

Engagement with Stakeholders: Engaging with stakeholders, including local communities and civil society organizations, is crucial in integrating diverse perspectives and ensuring more inclusive and impactful sustainable practices (Doh & Quigley, 2014; Tuokuu et al., 2019; Fobbe & Hilletofth, 2021; Nonet et al., 2022; Spadaro et al., 2023). Involving local communities in decision-making processes fosters a sense of ownership and empowers them to actively participate in sustainability initiatives.

Leveraging Natural Resources and Traditional Practices: Developing economies can leverage their rich natural resources and traditional practices to promote sustainable consumption and production (Whyte, 2013; Selemani, 2020; Imoro et al., 2021; Lee et al., 2021; Liu et al., 2022; Melash et al., 2023; Obiero et al., 2023). Emphasizing sustainable agriculture, traditional knowledge, and indigenous practices can support biodiversity conservation and sustainable resource management.

Generally, while implementing sustainable consumption and production practices in developing economies may present challenges, it also offers numerous opportunities for positive change. By addressing infrastructure limitations, promoting the affordability of sustainable products, embracing innovation, and fostering collaborations, these nations can make significant strides toward achieving SDG 12. Engaging stakeholders and leveraging traditional practices further enhances the potential for a more sustainable and inclusive future. Policymakers, businesses, and communities must work together to harness these opportunities and overcome challenges, laying the foundation for a more sustainable and resilient future for developing economies.

CONCLUSIONS

This systematic review offers a comprehensive synthesis of the existing body of literature focused on responsible consumption and production practices in developing economies. The review highlights the critical importance of aligning these practices with Sustainable Development Goal 12 (SDG 12) and emphasizes the multifaceted nature of challenges and opportunities faced by these economies.

Consumer behaviour, circular economy initiatives, sustainable supply chains, and policy interventions collectively contribute to the pursuit of SDG 12 in developing economies. The reviewed studies underscore the potential of circular economy practices for minimizing waste generation and optimizing resource utilization. Sustainable supply chains and responsible sourcing practices emerge as integral components in reducing negative environmental and social impacts associated with production processes. Eco-labelling

and certification programs play a significant role in influencing consumer choices and fostering demand for sustainable products. Consumer awareness and education are vital for promoting conscious decisions that align with responsible consumption and production practices.

RECOMMENDATIONS

Based on the synthesized findings, this review offers the following recommendations for stakeholders, policymakers, businesses, and researchers:

Comprehensive Strategies: Policymakers should prioritize the development of comprehensive strategies that integrate consumer awareness campaigns, circular economy initiatives, sustainable supply chain practices, and well-targeted policy interventions. Such strategies should be tailored to the unique contexts and challenges of each developing economy.

Collaboration and Innovation: Collaboration between the public and private sectors is essential for driving sustainable practices. Businesses should embrace innovation and technology to enhance resource efficiency and reduce environmental impacts. Governments can facilitate innovation through supportive policies and incentives.

Affordable Access: Efforts should be made to ensure access to sustainable products for all segments of society. Policymakers can explore subsidies or tax incentives to make eco-friendly products more affordable, thereby promoting equitable consumption patterns.

Consumer Education: Consumer education and awareness campaigns should be prioritized to inform individuals about the environmental impact of their choices. The public and private sectors can collaborate to create educational programs that empower consumers to make informed decisions.

DIRECTION FOR FUTURE RESEARCH

This review identifies several areas for future research that can contribute to a more comprehensive understanding of responsible consumption and production practices in developing economies:

Contextual Insights: In-depth case studies focusing on specific cultural and geographical contexts can provide nuanced insights into consumer behaviour and preferences, thereby informing targeted strategies.

Longitudinal Impact: Longitudinal studies tracking the impact of sustainable supply chain initiatives over time can offer insights into their long-term effectiveness, barriers, and opportunities for improvement.

Comparative Analyses: Comparative analyses of different policy interventions and their outcomes across diverse developing economies can identify best practices and factors contributing to success.

Interdisciplinary Approaches: Interdisciplinary research bridging economics, sociology, environmental science, and other disciplines can provide a holistic understanding of the intricate dynamics shaping responsible consumption and production practices.

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