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ADEVELOPMENT WITHOUT GROWTH: CIRCULAR ECONOMY, DOUGHNUT ECONOMICS, AND RELATED MODELS

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Abstract:

For decades, Gross Domestic Product (GDP) has been used to signal progress and development; however, it does not incorporate social well-being or environmental sustainability. New paradigms—circular economy, doughnut economics, green economy, de-growth, and happiness-based economies have emerged as alternative approaches to development without growth. This paper analyzes five cases: Amsterdam's circular economy transition, Costa Rica's renewable energy, Barcelona's de-growth policies, the EU's adoption of doughnut economics, Bhutan's Gross National Happiness to compare how each nation adapts these frameworks to their unique local conditions. Although dependence on growth still prevails, these examples demonstrate how equity, sustainability and ecological balance can enable progress without prioritizing GDP. This study aims to clarify how alternative economic models contribute to the concept of development without growth. Finally, it identifies gaps in measurement policy integration and scaling, and recommends further research to develop comparative frameworks for assessing the effectiveness of post growth strategies across different contexts.

Keywords:

circular economy (CE), doughnut economics, degrowth, happiness economy, human development.

1. INTRODUCTION

Historically, Gross Domestic Product (GDP) has measured national growth. Researchers, however, argue that GDP captures neither social well-being nor ecological integrity (Stiglitz *et al.*, 2009). Although originally designed to measure economic dynamics rather than equity or renewable systems, GDP's focus on market transactions obscures inequalities, exhausts natural capital, and incentivizes overconsumption and resource depletion. In the face of mounting crises—climate change, biodiversity loss, social exclusion—the limitations of growth-centered development have become increasingly apparent (Hickel, 2020). This recognition has fueled scholarly research into new paradigms that seek to redefine prosperity and development "beyond growth."

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Circular Economy (CE) and Doughnut Economics (DE) are among the most influential of these paradigms. The idea behind CE is to emulate nature by recycling, reusing, and reducing waste (Geissdoerfer *et al.*, 2017). Doughnut Economics, introduced by Raworth (2017), proposes a complementary perspective: societies must be a "safe and just space for humanity" where everyone's basic needs are met while staying within the ecological limits of the Earth. Several alternative economic models have emerged: the green economy focuses on low-carbon development and ecosystem services (D'Amato *et al.*, 2021); degrowth calls for reducing material throughput and questions consumption-driven prosperity; happiness-based 'economies', such as Bhutan's Gross National Happiness (GNH), replace GDP with multidimensional well-being indicators that integrate cultural, ecological, and spiritual values (Ura *et al.*, 2012). These approaches, grounded in distinct theoretical foundations, and adapted to specific contexts, offer viable alternatives to GDP-centered progress.

These frameworks may offer different approaches to substituting GDP; however, they critique the same foundational issue: growth, as traditionally measured (through GDP) does not necessarily reflect true human development. They emphasize the importance of context—policy frameworks, cultural values, institutional capacities—when applying alternative models in the real world. Nevertheless, it remains unclear how these alternative economies can be scaled and integrated into national policies (Nikolaou *et al.*, 2021). Scholars point to measurement gaps, misalignment with governance, and difficulties in assessing long-term impact. These challenges continue to hinder the transition from small-scale initiatives to systemic change (Urrea Vivas *et al.*, 2025).

Building on previous work, this article sets to analyze these debates through five cases: Amsterdam's circular economy (CE) transition, Costa Rica's renewable energy and ecosystem service model, Barcelona's degrowth (policies), the European Union's application of doughnut economics in the Green Deal, and Bhutan's GNH framework. It aims to generate insights from these cases, their strengths, applicability and the points for improvement, all of which can inform future policymaking. The ultimate argument is based on the premise that while GDP and GNI are still used to measure national development, the examples mentioned here present thought-provoking concepts that may serve as pathways to more holistic approach to human development, one that includes not only financial prosperity but also equity and environmental health providing a more balanced framework. Ultimately, the authors propose a new pyramid model building on the one previously introduced by Minić and Filipović (2023) and call for further research to focus on systemic indicators that link policies and practices beyond GDP.

2. LITERATURE REVIEW

For most of the 20th century, GDP and growth measured using GDP metrics were equated with progress and development, (Stiglitz *et al.*, 2009). However, persistent inequalities, ecological crises, and climate change revealed that GDP was not an adequate measure of well-being. (Costanza *et al.*, 2014). Researchers criticize these 'growth-centric models' for encouraging overconsumption which in turn depletes resources, and contradicts sustainability goals (Hickel, 2020). Consequently, alternative frameworks—often referred to as 'post-growth'—have emerged, including circular economy (CE), doughnut economics (DE), the green economy, degrowth, and happiness-based models such as Gross National Happiness (GNH). The goal of each of these paradigms is to seek to redefine prosperity and human development but they differ in foundational principles, scope and application (Urrea Vivas *et al.*, 2025).

2.1. CIRCULAR ECONOMY

In their paper on sustainability paradigms, Minić and Filipović (2023) discuss CE definitions, focusing on the one by Kirchherr *et al.* (2017), who view CE as a concept aimed at minimizing waste through the principles of reduce, reuse, recycle, and recover applied across consumption, distribution, and production mechanisms—ultimately aiming to achieve sustainable development. They also reference Figge *et al.* (2023), who criticize this definition as simultaneously too narrow and too broad. Their own definition presents CE as a multi-level mechanism that continues to use resources until all loops are closed. Other researchers (Ekins *et al.*, 2020) note that circularity began to be recognized as necessary as early as the 1970s. Recently, Dame Ellen MacArthur, through her brainchild, the Ellen McArthur Foundation, has been working to promote and formalize the Circular Economy (CE) as a business model, inspiring entrepreneurs to reconsider the traditional bottom-line approach. Another widely cited definition comes from Geissdoerfer *et al.* (2017), who describe CE as a systemic shift from the linear 'take-make-dispose' economic model toward one based on reusing, remanufacturing, repairing, and recycling goods. Furthermore, the European Union has established the Circular Economy Action Plan (European Commission, 2020), thereby institutionalizing CE.

This paper examines Amsterdam as a case study in urban circular economy, focusing on plastic, food waste, and the construction sector as key priority (Amenta & van Timmeren, 2018). The municipality has pledged to become a fully circular city by 2050, with an interim goal of reducing the use of primary raw materials by 50% by 2030 (City of Amsterdam, 2020). The city's circular economy strategies are structured around three dimensions/sectors: organic food and waste, construction, and consumer goods. Among these, construction was identified as the highest-impact area due to its significant contribution to carbon emission. Several pilot projects were launched, including the creation of digital material passports to track resources, the use of circular building materials, and the promotion of reusing existing buildings (Amenta & van Timmeren, 2018).

Although studies show that CE can effectively reduce environmental damage and create green jobs, implementation remains challenging. Key obstacles include insufficient behavioral change (Nikolaou *et al.*, 2021), technological inertia, and fragmented governance. Critics also argue that CE remains primarily focused on material efficiency, often neglecting the social dimension of sustainability (Korhonen *et al.*, 2018).

2.2. DOUGHNUT ECONOMICS (DE)

Introduced by Raworth (2017), Doughnut Economics (DE) proposes a framework in which a safe and just space for humanity is represented in the form of a doughnut where the inner ring signifies the social layer/social foundation, while the outer ring marks the ecological ceiling. Contrary to CE, which deals with resource management and production, DE explicitly integrates both social justice and environmental sustainability.

Amsterdam was the first city to formally adopt this model as part of its municipal planning policy. The European Union's Green Deal also incorporates DE principles into its climate and social policies frameworks (van Norren, 2022).

Empirical studies suggest that DE helps policymakers better understand the trade-offs look between planetary boundaries and social deficits (Shao *et al.*, 2025). Nevertheless, a persistent challenge remains: bridging the gap between the conceptual framework of doughnut economics and the development of actionable indicators and government structures (Häyhä *et al.*, 2016).

2.3. DEGROWTH

Degrowth is considered the most radical framework in alternative economies. Conceptually, it proposes planned downscaling of production and consumption to achieve social justice and ecological sustainability (Kallis, 2018). Contrary to frameworks that attempt to decouple economic growth from resource utilization, degrowth challenges the very notion of growth, questioning whether any type of growth is compatible with planetary boundaries.

The city that offers a good example of this concept is Barcelona. Through its governance, the city has established sufficiency-based policies promoting reduced energy consumption, community-based initiatives, and shorter working hours (Savini, 2024). Researchers highlight Barcelona's potential to implement degrowth strategies that reduce psychological pressure and inequality; however, there is a natural resistance, both in political circles and broader society, to the concept that 'having less is better' (Demaria *et al.*, 2013). In conclusion, degrowth currently represents more a critique of growth than a systematized and institutionalized alternative to growth (GDP).

2.4. GREEN ECONOMY

The Green Economy concept emerged during Rio+20 Summit (UNEP, 2011). Its main premise is to decouple economic growth from environment degradation by using low-carbon innovation solutions, renewable energy, and regulated ecosystem services. A case study of Costa Rica proves that this approach is feasible, as the country has achieved nearly 100% energy transition to renewables and has preserved its forests by introducing payments for ecosystem services (Pagiola, 2008). Although the Green Economy paradigm aligns with the Sustainable Development Goals, experts argue that it may reinforce dependence on growth by emphasizing green growth instead of challenging the growth paradigm itself (D'Amato *et al.*, 2021). Therefore, the Green Economy, although effective in certain contexts, represents a modest improvement and is not considered a truly transformative approach to development without growth.

2.5. HAPPINESS-BASED MODELS

One of the most obvious rejections of GDP as a measure of prosperity is Gross National Happiness (GNH), founded in the small Asian country of Bhutan. Developed in 1970s, it is implemented through the GNH index, which includes 9 dimensions—such as ecological resilience, cultural diversity, psychological well-being (Ura *et al*., 2012). GNH represents a strong example of a framework centered on well-being, restructuring governance, education, and policies. Nevertheless, there is a question of how transferable this framework is to other contexts, especially in European or Western systems with different cultural traditions and political agendas (Verma, 2019).

The above paradigms have one thing in common - challenging GDP. However, they are still not successfully implemented. Circular economy and green economy models are often criticized for being compatible with traditional growth frameworks. Doughnut economics, with its anti-growth stance, requires a much deeper systemic shift (D'Amato *et al*., 2021), while happiness-based models are not easy to transfer to diverse socio-cultural and political contexts.

The literature identifies several challenges grouped as: measurement gaps (there are no standard indicators that allow for cross-country comparisons); challenges in policy integration (it is difficult to incorporate these frameworks into growth-oriented policies and entrenched government structures); scaling and transferability (there is insufficient evidence in the literature showing that the projects have been successfully upscaled from city to national or regional levels, or that a single framework has been successfully transferred and applied across different countries. Significant Scopus journal articles critique the above case studies. Regarding Amsterdam, recent research questions whether the circular agenda can scale beyond pilot projects, even in frontrunner Dutch cities (Thompson, 2024; Campbell-Johnston *et al.*, 2019). In the EU context, researchers highlight tensions between the Green Deal's growth assumptions and justice beyond EU borders, alongside political issues that complicate implementation (da Silva Hyldmo *et al*., 2024; Bocquillon, 2024). In Barcelona, studies underline governance constraints and feasibility limitations in translating post-growth visions into long-term policy (Satorras *et al*., 2020; Khmara & Kronenberg, 2023). Costa Rica's green pathway has supported environmental outcomes, but the PES program has been criticized for exacerbating social inequality (Arriagada *et al*., 2015; Daniels *et al*., 2010). Finally, reviews of Bhutan's GNH model point to individual bias and vulnerability to external influence, despite its strong moral appeal (Sithey *et al*., 2015; Ugyel, 2024). All in all, these studies reinforce this paper's balanced conclusion: "development without growth" models demonstrate context-specific successes, but face structural constraints that affect their transferability and long-term effectiveness.

3. METHODOLOGY

3.1. RESEARCH DESIGN

This paper uses a comparative case study to analyze how alternative economic models—particularly degrowth frameworks—are applied in practice and how they may contribute to the broader agenda of development beyond growth. A qualitative multi-case approach was considered appropriate, as the study aims to explore context-specific processes rather than to test hypothesis (Yin, 2018). By comparing cases across different political, cultural, and environmental contexts, this study examines how different economies are understood, measured, and possibly institutionalized.

3.2. CASE SELECTION

The cases analyzed in this study were purposefully sampled, based on two main criteria: (1) theoretical relevance—both nationally and/or internationally—for initiating original post-growth approaches, and (2) practical diversity, encompassing different regions, geographical areas, and governance levels.

The selected cases are:

1. Amsterdam, Netherlands: A pioneer in adopting circular economy strategies at the municipal level, and the first city to adopt doughnut economics in its policy.
2. European Union (EU): A supranational body that has integrated circular economy and doughnut principles within its European Green Deal.
3. Barcelona, Spain: A strong proponent of degrowth, applying it particularly in policies related to mobility, energy, and community resilience.
4. Costa Rica: A good example of green economy implementation through renewable energy initiatives and payment for ecosystem services(PES).

5. Bhutan: A unique case with a national framework guided by Gross National Happiness (GNH), where well-being and ecological preservation replace GDP as measures of progress.

3.3. ANALYTICAL FRAMEWORK AND DATA SOURCES

This study is based on the triple bottom line (TBL/PPP) framework (Elkington, 2013a), which incorporates three dimensions: Economic (Profit/GDP), Environmental (Planet), and Social (People). Using PPP as the foundation, the paper proposes an enhanced pyramid model (adapted from Minić & Filipović, 2023), where policies represent the foundation enabling systemic integration of people, planet, and profit toward the main goal—moving beyond GDP—the conceptual perspective used for the case study analysis. Secondary data sources include peer-reviewed literature in Scopus and Web of Science; policy documents, reports, and strategies; and international indicators from the World Bank, UNDP, UNEP, the World Happiness Report, and Bhutan's Center for GNH Studies. This methodology facilitates the comparison of theoretical frameworks and empirical outcomes. Additionally, the study uses standardized indicators aligned with the TBL and the pyramid model: emission reduction targets (commitment to climate mitigation), percentage of renewable energy as a proxy for ecological transition, forest cover (a proxy for ecosystem health), and well-being metrics.

3.4. FRAMEWORK FOR CROSS-CASE ANALYSIS

This study used a structured framework for the five chosen cases—Amsterdam, the European Union, Barcelona, Costa Rica, and Bhutan—to clarify the basis for comparison methodologically. There were five perspectives found in common: the vision that guided development beyond growth; measurable policy objectives; governance mechanisms used to apply policies; the observed indicators (outcomes); and the implementation challenges/limitation of each framework.

The paper uses a group of questions to ensure uniformity: What is the meaning of "development without growth"? Which topics/ sectors are given priority when it comes to policies? What measurable objectives are used? What real-world barriers/restrictions appeared during observation? With this method, the authors move beyond description, identify patterns across different contexts, and focus on various models and how they balance innovation, feasibility, and equity (Goodrick, 2014; Krehl, 2020).

Table 1. Comparative Analysis of Five "Development without Growth" Models

Case study	Vision	Policy Goals	Implementation System / Governance	Outcomes/ Indicators	Challenges/ Limitations
Amsterdam	To be a circular city by 2050; Doughnut Economy integration	50% cut in virgin raw materials by 2030	Municipal pilots (construction, food, waste); regulations	Over 200 projects initiated; CE ntegrated into planning (Thompson, 2024)	Scaling city-wide; equity of benefits
European Union (Green Deal / CE)	To be climate neutral by 2050; CE related to growth strategy	55% GHG reduction by 2030	Green Deal directives; Horizon Europe; CE Action Plan	Climate targets; mainstreamed CE (Nikolaou & Tsagarakis, 2025)	Political challenges; reliance on growth
Barcelona (Degrowth)	Post-growth sufficiency model	45% GHG reduction by 2030	Climate Plan; participatory assemblies; urban commons	Active involvement of community; public shift towards sustainable living (Satorras *et al.*, 2022)	Difficult to expand; trade-off between quality and affordability
Costa Rica (Green Economy)	Ecological modernization using payment for ecosystem services (PES), eco-tourism, and renewables	99% renewable electricity; forest recovery	PES program; legal protection; tourism strategy	Deforestation reversed; renewable energy leader (Johns, 2012)	Tourism dependence; persistent inequality
Bhutan (Gross National Happiness)	Well-being, not GDP as constitutional priority	GNH Index (9 dimensions, 33 indicators); forest cover mandate	GNH Commission screening; constitutional protections	Sustained well-being; carbon-negative (Sithey *et al.*, 2015)	Vulnerability to shocks; narrow economic base

Source: The Authors

3.5. SCOPE AND LIMITATIONS

This study has several limitations—relying on secondary data, which are not always consistent across all cases or geographical areas; capturing cultural nuances was challenging, specifically in the case of Bhutan's GNH, which cannot be equated to European policy instruments; and finally, the scope of the five cases is insufficient to provide global representation. These challenges notwithstanding, the methodology offers valuable insights into how different, alternative economies go beyond GDP and proposes areas where these frameworks can be beneficial for further research.

4. RESULTS AND DISCUSSION

4.1. COMPARATIVE CASE ANALYSIS

The five analyzed cases represent different ways of rethinking development beyond GDP. Amsterdam plans to be circular by 2050, reducing raw materials by half by 2030, and initiating construction, food, and consumer goods projects using the doughnut economics framework in their strategy, although equity and scaling remain challenging (City of Amsterdam, 2020; Amenta & van Timmeren, 2018; Williams, 2019; Savini, 2024; D'Amato *et al.*, 2021). The EU, through the Green Deal, plans to be climate neutral* by 2050 and to reduce emissions by 55% by 2030 (European Commission, 2020; D'Amato *et al.*, 2021). Barcelona, inspired by the growth ideas, aims to reduce greenhouse gas emissions by 45% by 2030, but faces political resistance (Satorras *et al.*, 2020). Costa Rica promotes a green economy by generating more than 98% renewable electricity and expanding forests from ~ 26% in the 1980s to ~ 54% currently, thanks to the parliament for ecosystem services initiative, improving its Happy Planet Index ranking ((NEF, 2016, Pagiola, 2008; UNEP, 2011). Bhutan substitutes GDP with GNH, covering nine well-being dimensions, mandating ≥60% forest cover through the constitution, but the actual cover is ≥70%, and remaining carbon negative, although its model is difficult to replicate and scale (Ura *et al.*, 2012; Verma, 2019; Brooks, 2013). Together, Bhutan and Costa Rica are environmental leaders; Barcelona leads in social sufficiency, while Amsterdam and the UE attempt to systematize Circular and Doughnut Economics. Consequently, these cases prove that GDP growth does not necessarily mean development.

**Carbon neutral* means balancing CO_2 emissions with equivalent removals, which results in net-zero carbon output. *Climate neutral* includes balancing all greenhouse gases and their warming effects. *Carbon negative* means removing more carbon dioxide from the atmosphere than is emitted, thus reducing of atmospheric CO_2 levels.

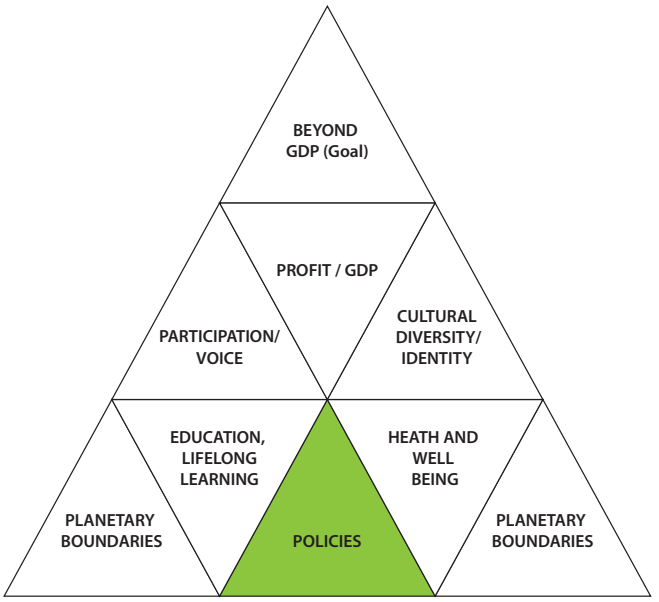
4.2. THE NEW PYRAMID MODEL

The insights above inform a new pyramid framework (Figure 1 below), building on the model proposed by Minić and Filipović (2023). The base of the pyramid consists of policies that enable systemic change. The middle layers represent a balance between People (education, health, voice, and cultural identity), Planet (renewable energy), forest protection, and respect for ecological limits), and Profit (GDP). At the top, the goal is to achieve growth beyond GDP—one that integrates equity, well-being, and ecological balance. This pyramid framework combines lessons from the case studies, measurable indicators, and systemic policy foundations.

4.3. IMPLICATIONS

The results show that although each model demonstrates progress, there are persistent gaps to be bridged in scaling, integration, and measurement. The pyramid framework proposed by the authors (below) responds to these challenges by embedding policy at the core, balancing People, Planet, and Profit, and orienting development toward a "Beyond GDP" goal. Ultimately, the article proposes a new pyramid model and calls for future research to develop comparative indicators capable of evaluating how alternative pathways can advance sustainable development across different geographical and political systems by structuring sustainability-related policies and implementing them through sustainable governance.

Figure 1. Beyond GDP Pyramid Framework



Source: The Authors

The pyramid represents a structured model linking governance, policy instruments, data capacities, and social–ecological outcomes—derived from the analysis of the five cases—illustrating that transformation can be operationalized and institutionalized, rather than merely idealized. Its foundation highlights the role of policies, informed by Costa Rica's incentive schemes and Amsterdam's regulatory pilots, which demonstrate how fiscal, legal, and educational levers can activate sustainability goals. The second layer integrates enabling domains: education and lifelong learning, health and well-being, and planetary boundaries. These elements reflect lessons from the EU's monitoring systems, Amsterdam's urban hubs, and Costa Rica's environmental data platforms, all of which address persistent measurement and capacity gaps. The third layer emphasizes participation and cultural diversity/identity, drawing on Barcelona's participatory assemblies and Bhutan's strong cultural integration within its GNH model, highlighting inclusion and legitimacy in governance. The fourth layer, the profit/GDP dimension acknowledges conventional growth indicators but situates them within a broader framework of well-being and ecological sustainability. Finally, at the apex, the model presents Beyond GDP—a shared post-growth vision rooted in sufficiency, equity, and ecological balance, most strongly inspired by Bhutan's GNH and Barcelona's sufficiency-based approach.

Thus, the Pyramid in Figure 1 illustrates feedback loops connecting the layers: metrics refine policy, governance secures scaling, and capacities help close measurement gaps. Translated into the practical realm, practical realm, the pyramid can guide implementation through five iterative steps:

1. Diagnose existing gaps across governance, policy, and data.
2. Co-design shared priorities and a core set of indicators.
3. Align instruments—link one fiscal, one regulatory, and one educational lever per goal.
4. Pilot and institutionalize—convert successful experiments into standards.
5. Review and learn—use annual metric audits to adapt and sustain progress.

In this way, the authors propose the pyramid framework as a practical architecture for implementing "beyond GDP" thinking into measurable, policy-aligned transformation.

5. CONCLUSION

Based on the above analysis of circular economy, doughnut economics, green economy, the growth and gross national happiness frameworks, it can be concluded that although each of these alternative models offers valuable insights, the similarities, differences, and specific limitations are not always clearly defined. Reporting on progress is often unreliable as it is frequently overly optimistic, fragmented, and lacking systemic policy integration. Through the analysis of five case studies, this article aimed to clarify some of these ambiguities and provide insights useful for industry, academia, and government (policy makers). To address persistent gaps, a new pyramid model is proposed, based on a previously published framework. This model uses policies as the systemic foundation for balancing People, Planet, and Profit, under the overarching goal of moving beyond the GDP. This approach is grounded in the assumption that economic growth is not an end in itself but must serve human well-being and ecological sustainability.

Whilst the cases above show promising alternatives to conventional economy (growth-based development), they also highlight certain tensions and challenges. Amsterdam, for example, has to deal with scaling limitations, unequal participation across sectors, and difficulties in measurement—all of which hinder the transition of circular principles into broader practices (Thompson, 2024). Secondly, while integrating Doughnut Economics into governance is inspirational, it has been criticized for conceptual ambiguity and limited operationalization. Barcelona's degrowth experiments show public engagement, yet face political fragility and economic pressures, raising questions about long-term feasibility (Satorras *et al*., 2022). Costa Rica's green growth pathway depends heavily on tourism and external funding, making its sustainability vulnerable to economic shocks (Johns, 2012). Even Bhutan's Gross National Happiness model, though symbolically powerful, struggles with subjectivity in measurement, limited economic diversification, and challenges related to transferability (Sithey *et al.*, 2015). Therefore, it is worth noting that "development without growth" paradigms are conceptually inspiring, but their real-world application must be seen as complex, contested, and deeply context-dependent.

Although this study represents a step forward, future research is recommended to develop comparative indicators capable of measuring social, economic, and environmental outcomes more consistently. Identifying policy gaps and refining these measures could ideally strengthen sustainable practices, incentivize innovative post-growth initiatives, and provide clearer direction for societies seeking prosperity beyond GDP. Prioritizing the balance between equity, ecological health, and economic resilience represents a holistic approach that can lead to more sustainable, ethical, and ultimately successful pathways for the future.

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