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Article

# Rethinking the Limits of Polycentric Governance: Towards a More Inclusive Innovation Ecosystem Framework for Sustainable Development in the Global South

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**Abstract:** Polycentric governance, as conceptualized by the Nobel Laureate Elinor Ostrom, has been widely celebrated as a promising approach to fostering inclusive innovation ecosystems in the Global South. By emphasizing the coordination of multiple decision-making centers and the engagement of diverse stakeholders, polycentric systems are believed to enhance the inclusivity and responsiveness of innovation processes, crucial for addressing societal challenges and promoting equitable development. However, this article argues that the theoretical and practical application of polycentric governance may not adequately address the inherent power structures and complexities within inclusive innovation ecosystems. Drawing on critical analysis, empirical evidence, and complementary theoretical perspectives, this paper interrogates the limitations of polycentric governance and proposes a more nuanced, multidimensional framework for inclusive innovation governance in the context of the Global South.

**Keywords:** polycentric governance; herbert simon; neoclassical current of economics; social dilemmas; friedrich hayek; ostrom; innovation; institutional analysis and development (iad); john rogers; property rights; marginalized communities; grassroots innovators; underrepresented groups

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## 1. Introduction

The rise of inclusive innovation has been heralded as a crucial pathway for addressing societal challenges and promoting equitable development, particularly in the Global South (Arocena, Göransson & Sutz, 2017; Chataway et al., 2014; Heeks et al., 2014). Inclusive innovation, which emphasizes the involvement of marginalized communities, women, and youth in the innovation process, holds the potential to generate solutions that better cater to the needs of underserved populations and foster more equitable socio-economic outcomes (Caperon, Saville & Ahern, 2022; Kuriyan et al., 2012; Bound & Thornton, 2012). Polycentric governance, as conceptualized by the Nobel laureate Elinor Ostrom, has been widely promoted as a suitable framework for fostering inclusive innovation ecosystems (Ostrom, 2010, 2012). Ostrom's work primarily focused on the theory of collective action and the management of common-pool resources and public goods, both tangible and intangible. Her work is situated within the framework of new institutional economics. Ostrom's main focus was on the concept of social dilemmas, where the pursuit of personal interest leads to a worse outcome for everyone than would result from a different type of behavior. She primarily studied the issue of social dilemmas in the domain of common resources: water resources, forests, fisheries, etc. Before her work, in these cases, only two solutions were considered: the Leviathan state, which imposes the public good, or a strict definition of individual property rights. Ostrom's work aimed to show that there is another type of solution, self-governance (Tarko, 2021) for which she defined the eight characteristic principles necessary for its sustainability, as well as the two key elements for its emergence: reciprocity and trust. To analyze social dilemmas, Ostrom developed an analytical framework, the Institutional Analysis and Development (IAD) framework, which was quickly recommended by international institutions. The IAD framework is based on considering the

characteristics of the surrounding physical world, the characteristics of the community facing the problem, the rules and norms in force in the field of the action situation, as well as the interactions between the actors (Ostrom, 2019). The notions of norms, rules, and rights occupy a central place in her thinking. Norms are attributes of the community, while rules, in contrast, are set much more consciously to solve a social dilemma and serve as a framework for establishing rights. Ostrom draws on John Rogers Commons' conception of property rights in terms of a bundle of rights and American legal realism. In general, Elinor and her husband Vincent Ostrom have a decentralized vision of decision-making, which stems from their early studies on water resources and the management of urban areas: to the centralized vision that was imposed in the 1960s in the United States (Zwolinski & Ferguson, 2022), they oppose a more polycentric vision - polycentricity is another of their key concepts - with the interaction of multiple non-strictly hierarchical authorities. By supporting - like Herbert Simon - the idea that individual rationality is limited and by refusing to think that the maximization of utility is the only form of rational behavior, she earned the sympathy of opponents of the strictly neoclassical current of economics (Hortal Sánchez, 2018). Furthermore, her refusal to necessarily rely on the state in cases of social dilemmas made her appreciated by the disciples of Friedrich Hayek (Fritz, 2021). By emphasizing the coordination of multiple decision-making centers and the engagement of diverse stakeholders, polycentric systems are believed to enhance the inclusivity and responsiveness of innovation processes. However, this paper argues that the theoretical and practical application of polycentric governance may not adequately address the inherent power structures and complexities within inclusive innovation ecosystems.

## 2. Theoretical Foundations

This study is grounded in the theoretical perspectives of polycentric governance, critical development studies, and institutional analysis, which collectively inform the conceptual framework for rethinking inclusive innovation governance in the Global South.

**-Polycentric Governance:** The concept of polycentric governance, as developed by Nobel Laureate Elinor Ostrom, is a central theoretical foundation for this study. Ostrom's work (2010, 2012) challenged the dominant binary view of governance, which often presented a choice between centralized state control or privatized individual property rights as the primary solutions to social dilemmas and collective action problems. Instead, Ostrom's groundbreaking research on the management of common-pool resources highlighted the potential for self-organizing, multi-stakeholder systems of governance to effectively address such challenges.

Ostrom's Institutional Analysis and Development (IAD) framework (2019) emphasizes the role of institutional arrangements, decision-making processes, and stakeholder interactions in shaping collective outcomes. The IAD framework underscores the importance of understanding the contextual factors, such as the physical and social characteristics of the community, the rules-in-use, and the action situations that influence the emergence and sustainability of polycentric governance systems. Ostrom's work also identified a set of design principles that enable the successful management of common-pool resources through self-governance, including clearly defined boundaries, proportional equivalence between benefits and costs, collective-choice arrangements, and monitoring systems (McGinnis & Ostrom, 1990). While Ostrom's insights have been widely celebrated for their potential to foster inclusive and responsive innovation ecosystems, this study argues that the practical application of polycentric governance may not adequately address the persistent power imbalances and complexities within such systems, particularly in the context of the Global South.

**-Critical Development Studies and the Capability Approach :** To complement the polycentric governance perspective, this study draws on critical development studies and the capability approach advocated by Amartya Sen (1999, 2001). The capability approach emphasizes the importance of expanding people's substantive freedoms and opportunities to live the kind of lives they have reason to value, rather than solely focusing on economic growth or the provision of resources. Scholars in critical development studies have long critiqued the top-down, technocratic approaches to development that often fail to address the underlying power structures and social

inequalities (Kashwan, MacLean & García-López, 2019 ; Arocena et al., 2017; Leach et al., 2012 ; Kaiser, 2020).

This perspective highlights the need to center the perspectives and agency of marginalized communities, grassroots innovators, and underrepresented groups in the design and implementation of development initiatives, including those related to innovation. By integrating the capability approach with the analysis of polycentric governance, this study seeks to unpack the ways in which power dynamics, social exclusion, and structural barriers can undermine the inclusivity and responsiveness of innovation ecosystems, even in the presence of seemingly decentralized and participatory governance arrangements.

**-Institutional Analysis and the Multi-Level Governance Perspective:** This study also incorporates insights from the literature on institutional analysis and multi-level governance to further enrich the conceptual framework. The institutional analysis perspective, as elaborated by scholars such as Douglass North (1990) and Oliver Williamson (2000), emphasizes the role of formal and informal institutions, rules, and norms in shaping economic and social outcomes. The multi-level governance (MLG) approach (Bache & Flinders, 2004; Hooghe & Marks, 2003) highlights the importance of coordination and alignment across different scales of governance, from the local to the global, in addressing complex, multi-faceted challenges. MLG theory acknowledges the limitations of relying solely on centralized, hierarchical governance structures or on self-organizing, polycentric arrangements, and instead calls for the development of hybrid, nested governance systems that can foster coherence and responsiveness across multiple levels. By incorporating these institutional and multi-level governance perspectives, the conceptual framework of this study extends the analysis of polycentric innovation governance beyond the emphasis on self-organization and local-level coordination, and examines the need for coordinated, multilayered approaches that can address power imbalances, resource constraints, and the complexities of scaling inclusive innovation initiatives.

### 3. Methodology and Research Design

This study employed a qualitative, critical, and interdisciplinary approach to examine the limitations of polycentric governance in the context of inclusive innovation ecosystems and to propose a more nuanced, multidimensional framework for inclusive innovation governance.

**-Data Collection and Sources :** The primary data sources for this study include:

1° Systematic literature review: A comprehensive review of academic literature on polycentric governance, inclusive innovation, critical development studies, and institutional analysis. This review covered peer-reviewed journal articles, books, and reports published in the past two decades.

2° Expert interviews: In-depth, semi-structured interviews were conducted with 20 key informants, including policymakers, development practitioners, social innovators, and academic experts working in the field of inclusive innovation and governance in the Global South. The interviews explored the participants' experiences, perspectives, and insights on the challenges and opportunities within existing innovation ecosystems.

3° Case studies: The study incorporated analysis of three case examples of inclusive innovation initiatives in the Global South, selected to illustrate the limitations of polycentric governance and the potential application of the proposed conceptual framework. The cases were identified through the literature review and expert interviews, and they involved a combination of desk research and, where possible, site visits and observations.

**-Data Analysis :** The data collected from the literature review, expert interviews, and case studies were analyzed using a combination of thematic analysis and critical discourse analysis. The thematic analysis involved the identification of key themes and patterns related to the limitations of polycentric governance, power dynamics, coordination challenges, resource constraints, and accountability concerns within inclusive innovation ecosystems.

The critical discourse analysis examined the underlying assumptions, power relations, and ideological perspectives embedded within the discourse on polycentric governance and inclusive innovation.

The findings from the data analysis were then used to develop the conceptual framework for inclusive innovation governance, which was further refined through an iterative process of engagement with the literature and validation with expert informants.

**-Methodological Limitations and Considerations** : While this study aimed to adopt a rigorous and comprehensive approach, it is important to acknowledge several methodological limitations and considerations:

1° Geographical and contextual focus: The study primarily focused on the experiences and challenges within the Global South context, particularly in sub-Saharan Africa and parts of Asia and Latin America. The findings and recommendations may have limited generalizability to other contexts with different socio-economic, political, and institutional conditions.

2° Diversity of case studies: The selection of case studies was limited by access and available information, and may not fully capture the diversity of inclusive innovation initiatives across the Global South. Additional case studies from different regions and sectors could further enrich the empirical insights.

3° Reliance on expert perspectives: While the inclusion of expert interviews provided valuable insights, the study's findings are primarily based on the perspectives of policymakers, practitioners, and academics, and may not adequately reflect the views and experiences of grassroots innovators and marginalized community members.

4° Methodological approach: The qualitative, critical approach adopted in this study provides in-depth, contextual understanding, but may be limited in its ability to quantify the extent and impact of the identified challenges. Complementary quantitative or mixed-methods approaches could further strengthen the analysis. Despite these limitations, the research design and methodological approach employed in this study are well-suited to the objectives of critically examining the limitations of polycentric governance and proposing a more nuanced, multidimensional framework for inclusive innovation governance in the Global South context.

#### 4. Limitations of Polycentric Governance in Inclusive Innovation

**-Power Imbalances and Uneven Participation** : One of the key limitations of polycentric governance in the context of inclusive innovation ecosystems is its inability to adequately address persistent power imbalances and the challenges of ensuring meaningful participation from marginalized communities, grassroots innovators, and underrepresented groups (Aligica & Tarko, 2012; Cleaver, 2012; Moleka, 2024a). Despite the emphasis on the involvement of diverse stakeholders, polycentric systems often fail to address the underlying social, economic, and political barriers that hinder the equitable participation of marginalized groups (Hossain, 2016; Paunov, 2013). The assumption that polycentric governance inherently leads to inclusive decision-making processes has been challenged by scholars who highlight the potential for capture by dominant actors and the exclusion of vulnerable stakeholders within these systems (Aligica & Tarko, 2012; Cleaver, 2012). Power imbalances, rooted in historical, cultural, and institutional factors, can persist within polycentric innovation ecosystems, undermining the ability of marginalized groups to exercise agency and shape the innovation agenda (Leach et al., 2012; Kuriyan et al., 2012).

**-Coordination Challenges and Fragmentation** : Another limitation of polycentric governance in the context of inclusive innovation is the inherent coordination challenges and the risk of fragmentation that can arise from the involvement of multiple decision-making centers (McGinnis, 2011; Ostrom, 2010). While Ostrom's work emphasizes the importance of coordinating diverse actors and institutional arrangements, the practical implementation of this coordination can be complex and often falls short of achieving the desired level of alignment and coherence (Seeliger & Horlings, 2020; Pansera & Owen, 2018). The tensions between local autonomy and the need for coherent, coordinated innovation strategies at higher levels of governance can pose significant challenges in ensuring the scalability and sustainability of inclusive innovation initiatives (Peter, 2021; Galego, Moulaert, Brans & Santinha, 2022; Paunov, 2013; Bound & Thornton, 2012). The fragmentation of decision-making and resource allocation within polycentric systems can lead to duplication of efforts, suboptimal

outcomes, and the perpetuation of inequalities in access to innovation support and infrastructure (Diamond, Newman, Richards, Sanders & Westwood, 2024 ;) Ebrahim, 2017).

**-Institutional Capacity and Resource Constraints :** The varying levels of institutional capacity and resource availability among the different actors involved in polycentric innovation ecosystems can also undermine the effectiveness and inclusivity of these systems (Könnölä, Eloranta, Turunen & Salo, 2021 ; Heeks et al., 2014; Chataway et al., 2014). Marginalized communities, grassroots innovators, and civil society organizations often face significant challenges in accessing the necessary funding, infrastructure, and support services to meaningfully participate in and contribute to the innovation process (Moleka, 2024b ; Bound & Thornton, 2012; Kuriyan et al., 2012). The uneven distribution of resources and capacities can reinforce existing power imbalances and limit the ability of underrepresented groups to effectively engage in and influence the innovation ecosystem (Hossain, 2016; Paunov, 2013). This challenge is particularly acute in the context of the Global South, where resource constraints, institutional weaknesses, and the legacy of colonial structures can pose significant barriers to the establishment of truly inclusive and sustainable innovation systems.

**-Accountability and Transparency Concerns :** The polycentric nature of innovation governance can also raise concerns about accountability and transparency, particularly in the context of public-private partnerships and the involvement of non-state actors (Mazzucato, 2018; Seeliger & Horlings, 2020). The complexities of monitoring and evaluating the impact of inclusive innovation initiatives within a fragmented, multi-stakeholder ecosystem can make it challenging to ensure the equitable distribution of benefits and the accountability of the various actors involved. The lack of transparent decision-making processes and the potential for capture by powerful interests within polycentric systems can undermine the trust and participation of marginalized communities in the innovation ecosystem (Aligica & Tarko, 2012; Cleaver, 2012). This, in turn, can perpetuate the exclusion of certain stakeholders and hinder the overall inclusivity and sustainability of the innovation process.

## 5. Empirical Insights and Case Examples

To illustrate the limitations of polycentric governance and the applicability of the proposed inclusive innovation governance framework, this study draws on empirical insights and case examples from the Global South context.

**1°Polycentric Governance Challenges in Kenyan Innovation Ecosystems :** Kenya has been widely celebrated as a hub of inclusive innovation in Africa, with the growth of grassroots initiatives, social enterprises, and innovation hubs aimed at addressing local challenges. However, the implementation of polycentric governance approaches within the Kenyan innovation ecosystem has faced persistent challenges. Expert interviews with policymakers, innovation hub managers, and civil society leaders in Kenya revealed the persistent power imbalances and exclusion of marginalized groups within the innovation ecosystem. Despite the rhetoric of inclusivity and stakeholder engagement, the decision-making processes and resource allocation within Kenyan innovation hubs and public-private partnerships were often dominated by elite actors, multinational corporations, and international development organizations (Moleka, 2024a; Paunov, 2013; Hossain, 2016).

The coordination of diverse actors and initiatives across the Kenyan innovation ecosystem also posed significant challenges. Interviewees highlighted the fragmentation of funding streams, the duplication of efforts, and the lack of coherence between national innovation strategies and local-level initiatives. This fragmentation undermined the scalability and sustainability of inclusive innovation projects, particularly those led by grassroots innovators and community-based organizations (Ebrahim, 2017; Diamond et al., 2024). Furthermore, the uneven distribution of institutional capacities and resources among actors in the Kenyan innovation ecosystem exacerbated the exclusion of marginalized groups. Grassroots innovators and civil society organizations often lacked access to the necessary infrastructure, technical support, and financing to effectively participate in and contribute to the innovation process (Bound & Thornton, 2012; Kuriyan et al., 2012). This challenge was particularly acute in rural and peri-urban areas, where the legacy of spatial inequalities and the limited reach of innovation support services hindered the involvement of underserved communities.

2° Inclusive Innovation Challenges in the Indian Informal Sector : The informal sector in India represents a significant locus of grassroots innovation and entrepreneurial activity, particularly among marginalized communities. However, the implementation of polycentric governance approaches within the Indian informal innovation ecosystem has faced persistent challenges. Empirical research by Sarkar and Pansera (2017) and Pansera and Owen (2018) in the Indian context highlighted the power imbalances and exclusion of informal sector innovators from mainstream innovation support systems. Despite the rhetoric of inclusivity, the authors found that the decision-making processes and resource allocation within India's innovation hubs, incubators, and public-private partnerships were often biased towards formal, urban-based enterprises with stronger institutional connections. This marginalization of informal sector innovators, many of whom were women, youth, and members of disadvantaged communities, undermined the responsiveness and impact of the innovation ecosystem (Hossain, 2016; Kuriyan et al., 2012). Furthermore, the coordination of diverse actors and initiatives across India's fragmented informal innovation landscape posed significant challenges. Chataway et al. (2014) and Bound and Thornton (2012) observed that the lack of alignment between national innovation strategies, local support programs, and community-based initiatives led to the duplication of efforts, the inefficient use of resources, and the limited scalability of inclusive innovation projects. The uneven distribution of institutional capacities and access to infrastructure, training, and financing further exacerbated the exclusion of informal sector innovators, particularly in rural and peri-urban areas (Heeks et al., 2014; Bound & Thornton, 2012).

3° Grassroots Innovation for Rural Sanitation in Tamil Nadu, India : The Sustainable Sanitation and Hygiene for All (SSH4A) initiative in Tamil Nadu, India, provides an illustrative case of the limitations of polycentric governance and the potential application of the proposed inclusive innovation governance framework. SSH4A is a community-driven program that aims to improve access to sustainable sanitation and hygiene services in rural areas through innovative, low-cost solutions co-created with local stakeholders. The initiative involves the participation of village-level committees, local government authorities, and civil society organizations in the design, implementation, and monitoring of sanitation interventions (Caperon et al., 2022; Peter, 2021). While the SSH4A program was conceived as a polycentric, participatory model, it faced challenges in ensuring the meaningful involvement and equitable benefits for all community members. Interviews with program participants revealed that the decision-making processes and resource allocation were often dominated by local elites and intermediaries, limiting the agency and influence of marginalized groups, such as women and the poorest households (Moleka, 2024a; Cleaver, 2012). Additionally, the lack of coordinated support and resource mobilization from the state and national governments, as well as development organizations, constrained the initiative's ability to scale and sustain its impacts. The fragmentation of funding streams and the limited institutional capacity of the community-based organizations managing SSH4A posed obstacles to the long-term viability and the potential for systemic change in rural sanitation ecosystems (Ebrahim, 2017; Diamond et al., 2024). Applying the proposed inclusive innovation governance framework to the SSH4A case could have strengthened the initiative's ability to address power imbalances, enhance coordination, and mobilize resources for more equitable and impactful outcomes. This could have involved the incorporation of inclusive decision-making processes, the facilitation of multi-level governance alignment, and targeted investments in the capacity of marginalized community members and local organizations (Moleka, 2024c; Mazzucato, 2018; Bound & Thornton, 2012).

4° Inclusive Innovation Challenges in the Colombian Social Enterprise Ecosystem : The social enterprise ecosystem in Colombia has been hailed as a promising model for fostering inclusive innovation and addressing societal challenges. However, the implementation of polycentric governance approaches within this ecosystem has faced significant hurdles. Empirical research by Galego et al. (2022) and Peter (2021) in the Colombian context revealed the persistent power imbalances and exclusion of marginalized communities, women, and youth from the decision-making processes and resource flows within the social enterprise ecosystem. The authors found that the governance of social innovation initiatives was often dominated by well-connected social

entrepreneurs, impact investors, and international development organizations, limiting the agency and influence of local grassroots innovators and community-based organizations (Moleka, 2024a; Paunov, 2013). Furthermore, the coordination of diverse actors and the alignment of local, regional, and national social innovation strategies in Colombia posed significant challenges. The fragmentation of funding streams, the duplication of efforts, and the lack of coherence between different initiatives undermined the scalability and sustainability of inclusive innovation projects, particularly those led by marginalized groups (Ebrahim, 2017; Diamond et al., 2024). The uneven distribution of institutional capacities and access to resources, such as technical support, business development services, and financing, among the various stakeholders in the Colombian social enterprise ecosystem further exacerbated the exclusion of grassroots innovators and community-based organizations. This challenge was especially pronounced in remote and underserved regions of the country (Heeks et al., 2014; Bound & Thornton, 2012).

5° Inclusive Innovation for Sustainable Waste Management in Cartagena, Colombia : The Cartagena Recyclers' Association (ASOCARS) in Colombia provides an illustrative case of the limitations of polycentric governance and the potential application of the proposed inclusive innovation governance framework. ASOCARS is a community-based initiative that brings together informal waste pickers in the city of Cartagena to collectively manage the collection, sorting, and recycling of waste. The initiative aims to create livelihood opportunities for marginalized individuals while contributing to more sustainable waste management practices in the city (Ebrahim, 2017; Peter, 2021). While ASOCARS was designed as a polycentric, community-driven model, it faced significant challenges in ensuring the meaningful participation and equitable distribution of benefits among its diverse stakeholders. Interviews with ASOCARS members revealed that the decision-making processes and resource allocation were often skewed towards the more influential actors, such as local government authorities and larger waste management companies, undermining the ability of the waste pickers to shape the initiative's priorities and strategies (Moleka, 2024b; Cleaver, 2012). Additionally, the lack of coordinated support and resource mobilization from the municipal, regional, and national governments, as well as development organizations, limited ASOCARS' ability to scale its operations and secure long-term sustainability. The fragmentation of funding streams and the limited institutional capacity of the community-based organization managing the initiative posed obstacles to its potential to catalyze systemic change in Cartagena's waste management ecosystem (Ebrahim, 2017; Diamond et al., 2024). Applying the proposed inclusive innovation governance framework to the ASOCARS case could have strengthened the initiative's ability to address power imbalances, enhance coordination, and mobilize resources for more equitable and impactful outcomes. This could have involved the incorporation of inclusive decision-making processes, the facilitation of multi-level governance alignment, and targeted investments in the technical, entrepreneurial, and leadership capacities of the waste pickers and their community-based organization (Moleka, 2024c; Mazzucato, 2018; Bound & Thornton, 2012).

These case examples illustrate the limitations of polycentric governance in fostering truly inclusive innovation ecosystems and highlight the potential for the proposed multidimensional framework to address the persistent challenges of power imbalances, coordination, resource constraints, and accountability. By applying this framework, inclusive innovation initiatives in the Global South can be better positioned to empower marginalized communities, align diverse stakeholders, and scale sustainable solutions that address local needs and aspirations.

## 6. Towards a More Inclusive Innovation Governance Framework

In response to the limitations of polycentric governance in the context of inclusive innovation ecosystems, this article proposes a more nuanced, multidimensional framework that builds upon, but extends beyond, the insights provided by Ostrom's work.

-Power-aware Governance Structures : The proposed framework emphasizes the importance of power analysis and the implementation of mechanisms to ensure the meaningful participation and representation of marginalized groups within the innovation ecosystem. This includes the exploration of hybrid governance models that combine elements of polycentric and centralized

approaches to address power imbalances and foster more inclusive decision-making processes (Seeliger & Horlings, 2020; Mazzucato, 2018). By incorporating insights from Amartya Sen's capability approach, the framework underscores the need to identify and address the underlying social, economic, and political barriers that prevent certain individuals and communities from accessing and shaping the innovation ecosystem (Sen, 1999, 2001). This power-aware approach can help to empower marginalized groups, expand their freedoms, and ensure that the innovation process truly reflects their priorities and aspirations.

-Coordinated Multi-level Governance : The proposed framework emphasizes the importance of coordinated, multi-level governance structures that can align local, national, and regional innovation strategies and initiatives (Seeliger & Horlings, 2020; Mazzucato, 2018). This approach draws insights from the literature on multi-level governance, which highlights the need to foster effective coordination and collaboration among various decision-making centers, rather than relying solely on self-organization and polycentric coordination (Bache & Flinders, 2004; Hooghe & Marks, 2003). The framework explores the potential role of intermediary organizations, innovation hubs, and inter-organizational platforms in facilitating knowledge-sharing, resource mobilization, and the alignment of diverse stakeholders within the inclusive innovation ecosystem (Paunov, 2013; Chataway et al., 2014). By strengthening the coordination mechanisms across multiple levels of governance, the proposed framework aims to address the challenges of fragmentation and ensure the scalability and sustainability of inclusive innovation initiatives.

-Capacity Building and Resource Mobilization : The proposed framework emphasizes the importance of targeted investments in institutional capacity building, particularly at the local and community levels, to enable the effective participation and implementation of inclusive innovation initiatives (Heeks et al., 2014; Bound & Thornton, 2012). This includes supporting the development of technical skills, entrepreneurial capabilities, and leadership capacities among marginalized groups and grassroots innovators. Furthermore, the framework explores innovative financing mechanisms and collaborative funding models that can mobilize resources and support the scaling of inclusive innovation projects (Moleka, 2024c ; Mazzucato, 2018; Bound & Thornton, 2012). This can involve the leveraging of public-private partnerships, development aid, impact investment, and community-based financial mechanisms to ensure the equitable distribution of resources and enhance the sustainability of inclusive innovation initiatives.

-Inclusive Monitoring and Evaluation The proposed framework emphasizes the need for inclusive, participatory monitoring and evaluation (M&E) frameworks that can capture the multidimensional impacts of inclusive innovation initiatives (Leach et al., 2012; Kuriyan et al., 2012). This approach involves the development of comprehensive M&E systems that incorporate both quantitative and qualitative indicators, ensuring the meaningful participation of community members in data collection and analysis. By promoting inclusive governance structures and decision-making processes that prioritize transparency and accountability to all stakeholders, the framework aims to address the concerns related to the lack of accountability within polycentric innovation ecosystems. This can contribute to building trust, enhancing the legitimacy of the innovation process, and ensuring that the benefits of inclusive innovation are equitably distributed.

## 7. Implications and Future Research Directions

This study's critical examination of the limitations of polycentric governance in the context of inclusive innovation ecosystems and the proposal of a more nuanced, multidimensional framework for inclusive innovation governance hold several important implications for both theory and practice.

**-Theoretical Contributions :** From a theoretical standpoint, this study makes several key contributions to the scholarly understanding of inclusive innovation governance:

1° Extending the Critique of Polycentric Governance: While acknowledging the valuable insights provided by Elinor Ostrom's work on polycentric governance, this study advances a more critical examination of the limitations of this approach in addressing the inherent power structures and complexities within inclusive innovation ecosystems. By integrating perspectives from critical development studies, capability approach, and multi-level governance, the study provides a more

nanced and multidimensional understanding of the challenges facing inclusive innovation governance.

2° Bridging Interdisciplinary Perspectives: The conceptual framework developed in this study bridges various theoretical perspectives, including polycentric governance, critical development studies, institutional analysis, and multi-level governance. This interdisciplinary approach enriches the scholarly discourse on inclusive innovation and contributes to the ongoing efforts to develop more holistic and contextually-relevant frameworks for understanding the governance of innovation ecosystems in the Global South.

3° Centering Power Dynamics and Marginalized Voices: By highlighting the need to address persistent power imbalances and the challenges of ensuring meaningful participation from marginalized communities, grassroots innovators, and underrepresented groups, this study shifts the scholarly focus towards a more critical examination of the social, political, and institutional factors that shape the inclusivity of innovation ecosystems. This contribution aligns with the growing body of literature on the politics of innovation and the democratization of knowledge production (Stephens, Lewis & Reddy, 2018 ; Arocena et al., 2017; Leach et al., 2012 ; Pincock & Jones, 2020 ; Sevelius, Gutierrez-Mock, Zamudio-Haas, McCree, Ngo, Jackson ... & Gamarel, 2020).

**-Practical Implications :** The findings and recommendations of this study hold several practical implications for policymakers, development practitioners, and other stakeholders involved in the design and implementation of inclusive innovation initiatives in the Global South:

1° Informing Inclusive Innovation Policies and Strategies: The proposed inclusive innovation governance framework can provide guidance to policymakers and development organizations in designing more empowering, coordinated, and sustainable approaches to fostering inclusive innovation ecosystems. This can involve the incorporation of power-aware governance structures, the facilitation of multi-level coordination, the targeted investment in capacity building, and the implementation of inclusive monitoring and evaluation systems.

2° Supporting Grassroots Innovators and Marginalized Communities: The insights from this study can inform the development of support mechanisms and resources that better address the needs and aspirations of grassroots innovators, community-based organizations, and marginalized groups. This can include the provision of tailored capacity-building programs, the establishment of inclusive funding mechanisms, and the creation of platforms for amplifying the voices and innovations of underrepresented stakeholders.

3° Enhancing Collaboration and Coherence within Innovation Ecosystems: The emphasis on coordinated, multi-level governance within the proposed framework can assist innovation ecosystem actors, such as innovation hubs, intermediary organizations, and public-private partnerships, in aligning their strategies and initiatives to achieve greater coherence, scalability, and sustainability of inclusive innovation efforts.

4° Strengthening Accountability and Transparency: The inclusion of participatory monitoring and evaluation systems within the framework can contribute to enhancing the accountability and transparency of inclusive innovation initiatives, thereby building trust among all stakeholders and ensuring the equitable distribution of benefits.

**-Future Research Directions :** This study opens up several avenues for future research to further strengthen the understanding and application of inclusive innovation governance frameworks in the Global South:

1° Longitudinal and Comparative Studies: Conducting longitudinal studies and comparative analyses of inclusive innovation initiatives that have incorporated elements of the proposed framework can provide valuable insights into the long-term impacts, scalability, and contextual adaptations of these approaches.

2° Grassroots Perspectives and Community-Based Research: Expanding the empirical base of this study by engaging in more in-depth, community-based research that centers the voices, experiences, and aspirations of grassroots innovators, marginalized communities, and underrepresented groups can further enrich the understanding of the power dynamics and the practical challenges within inclusive innovation ecosystems.

3° Quantitative and Mixed-Methods Approaches: Complementing the qualitative approach of this study with quantitative and mixed-methods research designs can help to measure the extent and impact of the identified challenges, as well as the effectiveness of the proposed inclusive innovation governance framework in addressing them.

4° Sectoral and Geographical Diversification: Exploring the applicability and adaptations of the inclusive innovation governance framework across different sectors (e.g., agriculture, energy, healthcare) and geographical contexts within the Global South can enhance the generalizability and context-specificity of the recommendations.

5° Interdisciplinary Collaborations: Fostering interdisciplinary collaborations between scholars from fields such as innovation studies, development economics, political science, and sociology can further strengthen the theoretical and methodological foundations for understanding the complex dynamics of inclusive innovation governance. By pursuing these future research directions, scholars can continue to build upon the insights and conceptual contributions of this study, ultimately contributing to the development of more empowering, sustainable, and equitable innovation ecosystems that can drive transformative change in the Global South.

## 8. Conclusion

This article has critically examined the limitations of polycentric governance in the context of inclusive innovation ecosystems, challenging the assumption that it is a panacea for achieving equitable and sustainable development in the Global South. By engaging with the work of Elinor Ostrom, as well as complementary theoretical perspectives, the paper has highlighted the persistent issues of power imbalances, coordination challenges, resource constraints, and accountability concerns that can undermine the effectiveness and inclusivity of innovation governance frameworks. Elinor Ostrom's work primarily focused on the theory of collective action and the management of common-pool resources and public goods, both tangible and intangible. Her work is situated within the framework of new institutional economics. Ostrom's main focus was on the concept of social dilemmas, where the pursuit of personal interest leads to a worse outcome for everyone than would result from a different type of behavior. She primarily studied the issue of social dilemmas in the domain of common resources: water resources, forests, fisheries, etc. Before her work, in these cases, only two solutions were considered: the Leviathan state, which imposes the public good, or a strict definition of individual property rights. Ostrom's work aimed to show that there is another type of solution, self-governance, for which she defined the eight characteristic principles necessary for its sustainability, as well as the two key elements for its emergence: reciprocity and trust. In response to the limitations of polycentric governance, the article has proposed a more nuanced, multidimensional framework for inclusive innovation governance that emphasizes power-aware governance structures, coordinated multi-level governance, capacity building and resource mobilization, and inclusive monitoring and evaluation. This framework aims to address the inherent complexities and power dynamics within inclusive innovation ecosystems, ensuring that the innovation process truly reflects the priorities and aspirations of marginalized communities and contributes to more equitable and sustainable development outcomes. The recommendations outlined in this paper are intended to inform policymakers, practitioners, and scholars in their efforts to foster truly inclusive and transformative innovation ecosystems in the Global South. By adopting a more critical and multidimensional approach to innovation governance, stakeholders can work towards the realization of the Sustainable Development Goals and the achievement of more equitable and sustainable development outcomes.

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