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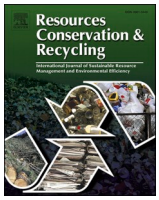

Perspective

The puzzle of the informal economy and the circular economy

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ABSTRACT

Proponents present the circular economy as an alternative to traditional, linear systems that use natural resources indiscriminately. The puzzle guiding this perspective piece is that the circular economy model needs further investigation in more diverse, unstructured contexts. With economic growth at the top of the agenda for Global South countries, testing the relevance of the circular economy in these contexts is important. There remain questions about whether the adoption and upscaling of circular principles and practices can contribute to economic development in contexts where social factors, such as high inequality, collide with environmental factors, such as high natural biodiversity. Another blind spot concerns how the structural conditions in Global South countries, such as vast informal economies, hinder this transition, and what new forms of organisation can facilitate the implementation of innovative circular practices. This perspective calls for greater attention from the academic community to help fill in some of the missing pieces in the puzzle of the informal economy and the circular economy.

The International Labour Organization (ILO) estimates that globally more than 60% of workers and 80% enterprises operate in the informal economy. The informal economy includes all economic activities, excluding illicit activities, by workers and organizations that are not covered, or insufficiently covered, by formal arrangements. Informal workers do not follow government regulations, lack property rights, and have limited access to new technologies, infrastructure, and financial assets. Despite initiatives to support processes for formalization, rates of informality remain stubbornly high across sectors and countries, especially in the Global South. Formalization can help promote decent work, tackle vulnerabilities, reduce poverty, and increase equality.

The circular economy (CE) is a non-traditional development pathway being applied in a wide range of economic sectors and social contexts. There is no doubting the momentum behind CE. The concept has been promoted by policy makers who view the CE as central to 'building back better' and meeting UN Sustainable Development Goals. Industry is pursuing circular opportunities as financiers direct capital toward companies with circular business models. Academics have embraced CE with the number of publications rising exponentially in recent years, many in this journal – *Resources, Conservation and Recycling*. Research has been dominated by circular modes of production, exploring manufacturing and design procedures that contribute to more sustainable production and distribution of goods and services; the development of more sustainable business models, supply chains and value chains to support circular practices; and overcoming obstacles to CE adoption and diffusion.

Much of what we know about CE comes from Global North economies with advanced industrial development and with technologically sophisticated industrial ecosystems and global value chains. Putting to one side China — an early adopter of CE policies and practices and with substantive academic investigation — we know much less about how Global South countries are progressing with CE adoption and diffusion. Global South countries are in the greatest need of innovations for economic growth that reduce environmental burdens and improve social outcomes (Schroeder et al., 2020). There is a research gap on how Global South countries could move away from resource-intensive, precarious, informal economic contexts to build circular modes of production and supply chains that can compete in global markets.

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There are other unknowns. By definition, CE should reduce environmental burdens by following strategies of narrowing, slowing, and closing material and energy loops, while regenerating natural capital. However, tensions and trade-offs abound; the relationship between CE practices and broader environmental goals remains unclear. As an example, take the inherent conflicts between biodiversity protection and CE practices such as biomimicry, eco-system service valuation, bioeconomy and renewable energy where the "*anthropocentric nature of the discourse is on biodiversity as an asset, without acknowledging it as something that should be protected for its own sake*" (Buchmann-Duck and Beazley, 2020, p3). Global South countries seeking to promote processes of formalisation face the dilemma that scaling up production, albeit under circular principles, may require more intensive natural resources use, placing burdens on highly valuable–both from an extrinsic and intrinsic perspective–biodiverse environments. In short, it remains an open question as to whether formalisation processes involving circular practices help or hurt biodiversity and other environmental goals.

While critical discussions about the societal dimension of the CE are emerging, the discourse remains nascent and scattered across actors (e.g. workers, customers, consumers) and social aspects (e.g. employment, education, health and safety) (Mies and Gold, 2021). It is recognised that collaborations bringing together actors and social aspects are essential to support circular initiatives. To this end, the term 'circular society' (Jaeger-Erben et al., 2021) has entered the lexicon to mean a profound social-ecological transformation whereby circular initiatives pay close attention to social justice and inclusiveness. CE related activities can provide a means of sustenance for those on the margins of society. With the compound effect of climate change and COVID-19 restricting employment opportunities, the role of CE initiatives in safeguarding the livelihoods of marginalised communities and integrating them into the formal economy cannot be ignored and is worthy of further exploration.

Important pieces of the puzzle by which this transformational process can happen are currently missing. Questions remain about whether the adoption and upscaling of circular principles and practices contribute to sustainable and fair economic development in contexts where high inequality collides with environmental factors such as high natural biodiversity. How do the structural conditions in Global South countries, such as vast informal economies, hinder this transition? What new forms of collaboration can facilitate the implementation of innovative circular approaches? How can informal communities be supported as they experience short term income losses when moving away from traditional activities?

Established literature where formalization and circular practices intersect does exist and can serve as a foundation on which to build. Research on waste management in Global South countries represents an example where recent studies have considered cases of informal waste pickers through a lens of both poverty alleviation and CE (e.g. Morais et al., 2022). Another example relates to circular waste management practices to strengthen biodiversity and benefit indigenous communities in the Amazon (e.g. Paes et al., 2021). We call for further and more diverse study of formalisation processes in Global South countries that involve the adoption and scaling up of CE practices.

Pressing questions that would benefit from the attention of the research community include:

- How to combine environmental sustainability with economic growth and social justice in regions where poverty, informality, and addressing illegal activities are major governmental concerns?
- What is the role of indigenous knowledge systems in adaptive CE strategies of grassroots communities, and how might these strategies be replicated elsewhere?
- How to encourage ethical consumption and production that supports vulnerable livelihoods while also protecting biodiversity and other ecological sensitivities?
- What role do major multinational corporations, global supply chains, civil society, and governmental agencies play, and how can they interact with informal actors to develop CE ecosystems?
- Do formalization processes that embrace circular principles lead to more resilient societies?

Answering these questions in diverse informal contexts will allow us to consider how CE principles are validated, contradicted, or expanded and whether we need to reconsider how CE is conceptualized. Could an emancipatory–well outside the traditional theory–CE theory support the building back agenda for recovery, renewal, resilience, inclusiveness, equality and sustainability in a post-pandemic world?

Analysis of diverse informal contexts can provide insights into necessary CE practice conditions to regenerate and progress biodiversity and support livelihoods; to open up markets to currently excluded vulnerable communities. Case studies focusing on how industrial and societal stakeholders adopt and practice CE principles can be used also as a springboard to co-create research and innovation projects to understand CE practices in informal contexts. With a dual knowledge and action led approach, the academic community can help fill in some of the missing pieces in the puzzle of the informal economy and the circular economy.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

Buchmann-Duck, J., Beazley, K.F., 2020. An urgent call for circular economy advocates to acknowledge its limitations in conserving biodiversity. Sci. Total Environ. 727 https://doi.org/10.1016/j.scitotenv.2020.138602.

Jaeger-Erben, M., Jensen, C., Hofmann, F., Zwiers, J., 2021. There is no sustainable circular economy without a circular society. Resour., Conserv. Recycl. 168 https://doi.org/10.1016/j.resconrec.2021.105476 [105476].

Mies, A., Gold, S., 2021. Mapping the social dimension of the circular economy. J. Clean. Prod. 321 https://doi.org/10.1016/j.jclepro.2021.128960.

Morais, J., Corder, G., Golev, A., Lawson, L., Ali, S., 2022. Global review of human waste-picking and its contribution to poverty alleviation and a circular economy. Environ. Res. Lett. 17 https://doi.org/10.1088/1748-9326/ac6b49.

Paes, M.X., Campos-Silva, J.V., de Oliverira, J.A.P., 2021. Integrating circular economy in urban Amazon. Urban Sustain. 1, 29. https://doi.org/10.1038/s42949-021-00031-z.

Schröder, P., Lemille, A., Desmond, P., 2020. Making the circular economy work for human development. *Resour., Conserv. Recycl.* 156 https://doi.org/10.1016/j.resconrec.2020.104686.