

**AUTHORS:**

Lizette Grobler<sup>1</sup>   
 Catherina Schenck<sup>1</sup>   
 Derick Blaauw<sup>2</sup> 

**AFFILIATIONS:**

<sup>1</sup>DSI/NRF/CSIR Chair in Waste and Society, University of the Western Cape, Cape Town, South Africa  
<sup>2</sup>School of Economic Sciences, North-West University, Potchefstroom, South Africa

**CORRESPONDENCE TO:**

Lizette Grobler

**EMAIL:**

lizziegrob@gmail.com

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# Definitions matter: Including the socio-economic dimension as a critical component of SADC circular economy definitions

Globally, scholars agree that there is a lack of clarity on the notion of the circular economy (CE) and a lack of consensus on a foundational definition of the term. Some definitions place greater emphasis on the socio-economic dimension of the CE than others. In Africa, notions of the CE are still evolving. This paper highlights the salient aspects of texts defining or informing the CE in the Southern African Development Community (SADC). In Africa, the transition to circularity is motivated by the need to stimulate job creation and income generation. At the same time, concern over mounting environmental impacts is increasing. Economic and population growth on the continent, continued urbanisation, and the resulting proliferation of municipal waste contribute to these economic, social and environmental challenges. African governments, business communities, civil society and academia need to collaborate on initiatives that build on circularity principles to advance sustainable development in pursuit of equitable and just societies. This exploratory semi-systematic literature review contributes not only to developing notions of the CE in Africa, but also to the dialogue on circularity in the Global South. In particular, it investigates the extent to which the socio-economic dimension is incorporated in notions of the CE. Moreover, it argues that a strong emphasis on this dimension is imperative in the conceptual development of circularity on the African continent. We argue for the future foregrounding of definitions of the CE that are consistent with social transformation as an aspiration in regional legislative and regulatory frameworks.

**Significance:**

- Contributes to conceptualisation of the CE in the Global South.
- Indicates how SADC policy dictates the importance of the socio-economic dimension as a regional priority, and therefore signals the primacy of this aspect in the development of a contextual notion of CE.
- Includes a review of grey literature related to the SADC region in the analysis of the notion of the CE.

**Introduction**

Researchers have acknowledged that there is a lack of a universally accepted definition of the circular economy (CE).<sup>1-3</sup> Furthermore, conceptual analysis reveals a plethora of definitions<sup>4,5</sup>, and definitions emerge from multiple epistemological fields<sup>3</sup>. Several scholars have described the concept of the CE as an ‘empty signifier’.<sup>6,7</sup> The notion of the CE accommodates various interpretations and approaches (D’Amato<sup>4</sup> refers to ‘conceptual plasticity’) and underlines the conceptual difficulties presented by the diversity of perspectives (see Kirchherr et al.<sup>5</sup>) and the risk of collapse or deadlock stemming from ‘permanent conceptual contention’<sup>5</sup>. This is not the case only in the Global North (GN), but also in the Global South (GS), where it is even more pronounced.

The definitional challenges are compounded by the broad diversity of critical sub-themes of the CE, the differential rates at which the CE has gained traction globally, and a research focus that is highly biased towards the GN. Developing countries in general<sup>8</sup>, and the GS in particular, have also been underrepresented in conceptual analyses of the CE<sup>2,9,10</sup> (see, for example, Kirchherr et al.<sup>5</sup>; Winans et al.<sup>11</sup>; Ghisellini et al.<sup>12</sup>). In a recent bibliometric analysis of articles on the CE published between 2004 and 2020, available from the Scopus database, Muchangos<sup>13</sup> found that the majority (over 80%) of articles pertained to the GN and China, and that the growth in CE articles related to the GS has become noticeable only since 2016. Moreover, research indicates that the meanings and motivations connected to the CE diverge in the GN and GS.<sup>13</sup> In the GS, as Kirsch<sup>14</sup> states with reference to Schröder et al.<sup>15</sup>, the focus is on the reduction and eradication of poverty, and the enhancement of wellbeing, while minimising harm to others and the environment. In the GN, the emphasis is on the reduction of carbon emissions and waste. This thematic divide is confirmed by Muchangos<sup>13</sup>, who concludes that research related to the GS emphasised waste as a resource and collaboration in the creation of joint value, while future-oriented design received the least attention.<sup>13</sup> Where similar themes were explored in both the GS and GN, for example waste as a resource, the common denominator was research attention to e-waste.<sup>13</sup> However, studies on GS locations also focused on other aspects of the theme of waste as a resource, such as municipal solid waste management and socio-economic aspects related to waste reclaimers, while GN studies gave equal attention to bio-waste treatment and e-waste.<sup>13</sup> Similarly, Gutberlet et al.<sup>16</sup> highlight social inclusivity (in particular of waste reclaimers) and participation in public policy formulation, implementation and evaluation as important CE themes in the GS, while acknowledging that the GN pays attention to the challenges of improving engineering and governance related to resource loops. These differences are related to the dynamics and relational politics involving governments, business and residents in the two geographical regions.<sup>14</sup> Kirchherr and Van Santen<sup>8</sup> also point out that differences of approach to the CE may be due to ‘different policy environments, availability and access to funding, levels of educational and professional development, as well as available infrastructure’,<sup>8</sup> while Winans et al.<sup>11</sup> ascribe the dissimilar evolution of the concept to different cultural and socio-political systems. Hofstetter et al.<sup>9</sup> and Turing<sup>17</sup> argue that the inclusion of the experience of the GS may highlight the importance of doing more with fewer resources and practising frugality.

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Comparatively, the social dimension of the CE appears to play a more predominant role in the motivation for the development of the CE in the GS. Recent literature from the GN on the conceptualisation of the CE confirms that this dimension is generally not well integrated<sup>18-20</sup>, and advocates more attention to social aspects<sup>21-23</sup>. Mies and Gold<sup>19</sup> mention four reasons for inadequate attention being paid to the social dimension of the CE, namely an absence of conceptual clarity regarding the social dimension; blurred boundaries of the social, environmental and economic aspects of the CE; problematic operationalisation of indicators for the social dimension; and a predominantly instrumental approach to the CE. The question is whether this inadequate consideration of the social dimension in the conceptualisation of the CE is also true for the GS, Africa and southern Africa. This study aims to investigate this question by first determining the significant characteristics of CE definitions in the Southern African Development Community (SADC) region, and then relating these to the social dimension of the CE.

This exploratory semi-systematic review investigates the salient characteristics of CE definitions in the GS, with an emphasis on socio-economic components. The focus is on the SADC region, which comprises Angola, Botswana, Comoros, Democratic Republic of the Congo, Eswatini, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Tanzania, Zambia and Zimbabwe.<sup>24</sup> It is 30 years since the adoption of the SADC Treaty in 1992. The preamble to the treaty states the resolve of SADC countries to alleviate and ultimately eradicate poverty by means of integration and sustainable economic growth and development.<sup>25</sup> According to Article 12(2)(a)(i), (iii) and (iv) of the SADC Treaty<sup>25</sup>, three of the core areas of integration are trade, industry, finance and investment; food, agriculture, natural resources and environment; and social and human development. Article 21 further lists areas of cooperation necessary for integration, including food security, land and agriculture; trade, industry, finance, investment and mining; social and human development and special programmes; science and technology; natural resources and environment; and social welfare. The Regional Strategic Indicative Development Plan (RISDP) 2020–2030 highlights six strategic priority areas for SADC, which include industrial development and market integration, social and human capital

development, and several cross-cutting issues such as environment and climate change.<sup>26</sup> Although the development of a regional CE strategy is listed as an outcome of the RISDP 2020–2030, it is still in its initial stages. This document does not define or foresee operationalisation of the term apart from distinguishing it from the SADC Green Growth Strategy and Action Plan and the SADC Blue Economy Strategy.<sup>27</sup>

It is therefore clear that integration and sustainable development are key to the aims of SADC, and that the promotion of green growth and of the blue and circular economies forms part of its strategic priorities. Because the CE is instrumental to the achievement of sustainable development, investigating salient characteristics of the notion in this region is necessary in order to evaluate the compatibility of interpretations of the concept, and ultimately to advance integration of the member states of SADC as an international organisation. Further research in this regard is necessary to critically assess the viability of translating the CE into practice in the GS. In this regard, Kirchherr and Van Santen<sup>8</sup> have already observed that businesses ‘are beginning to lose interest in CE again – it’s just too difficult to implement’. Unless the concerns of SADC practitioners receive consideration, the realisation of the strategic priorities of SADC for the next decade are also under threat, and the integration of member states remains problematic. This article is an exploration of the salient characteristics of the CE definitions in an attempt to contribute to conversations about compatible understandings of the notion, and ultimately to stimulate strategic approaches to conceptual engagement in the interests of regional integration.

## Methodology

The research methodology used for this study can be categorised as an explorative semi-systematic literature review. Frederiksen et al.<sup>28</sup> describe an exploratory review as a review intended to provide a broad approach to the research topic, and they add that the emphasis is on breadth rather than depth of topic coverage in order to achieve a general orientation towards the topic area. In Snyder’s<sup>29</sup> typology of approaches to literature reviews, the semi-systematic review similarly provides an overview and tracks the development of a research topic in terms of, for example, themes, state of knowledge, history or

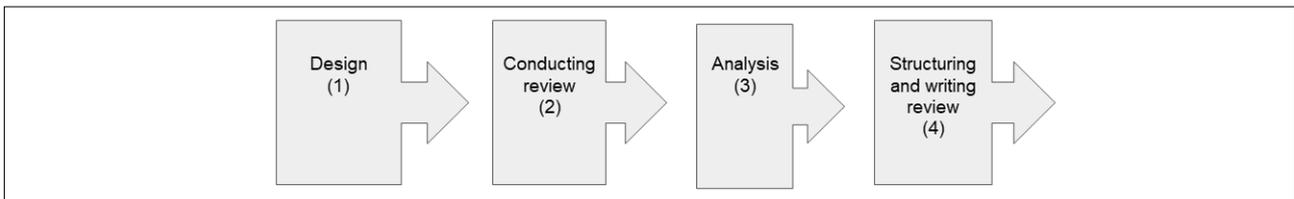


Figure 1: Literature review process based on Snyder<sup>29</sup>.

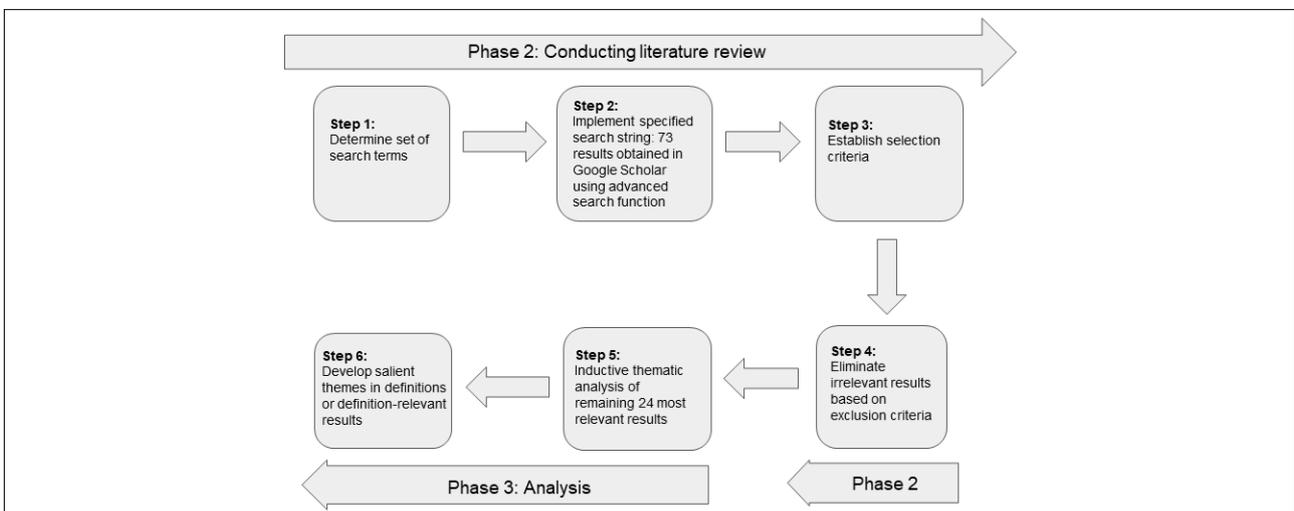


Figure 2: Detail of Phases 2 and 3: Process and figure partly modelled on Snyder<sup>29</sup>, Lutz et al.<sup>30</sup> and Brown et al.<sup>31</sup>

research agendas over time. The qualification that this type of review must track development over time might be interpreted as disqualifying research themes that are currently developing and trending, are fairly recent or demonstrate uneven conceptual development across various geographical regions. Therefore, we have opted for hybrid terminology based on Frederiksen et al.<sup>28</sup> and Snyder<sup>29</sup>. In this study, the phases of this review are modelled on a synthesis of the description of the research process by Snyder<sup>29</sup>, Lutz et al.<sup>30</sup> and Brown et al.<sup>31</sup>

Snyder<sup>29</sup> distinguishes four phases of the review process, namely design, conducting the review, analysis, and structuring and writing the review. The schematic presentation of the exploratory literature review by Lutz et al.<sup>30</sup>, and their approach to data abstraction, informed the succession of procedures included in Phase 2 (conducting the review) and Phase 3 (analysis), as identified by Snyder<sup>29</sup>. We also drew on the discussion of inclusion and exclusion criteria by Brown et al.<sup>31</sup>

During Phase 1 (design), we decided on the exploratory literature review as our research methodology. The decision was made to use Google Scholar as the relevant database for this review in order to include grey literature and to counter the limited results returned when searches are restricted to academic sources. A search on Google Scholar provides the added benefit of returning more recent research results in terms of grey literature sources that are not subject to the time lag experienced in the publication of traditional academic articles and books. Grey literature is defined as:

*manifold document types produced on all levels of government, academics, business and industry in print and electronic formats that are protected by intellectual property rights, of sufficient quality to be collected and preserved by libraries and institutional repositories, but not controlled by commercial publishers, i.e., where publishing is not the primary activity of the producing body (12th International Conference on Grey Literature, 2010, cited in Bonato<sup>32</sup>).*

Grey literature was included because academic articles on the definition of the CE in Africa are scarce, and a 'coherent body of high-quality, relevant, peer-reviewed articles'<sup>33</sup> is not yet available. Other benefits of not limiting the search to white literature include the richness of source material, the availability of data that cannot be located in commercially published literature, the reduction of publication bias and the improved currency of information on trending topics that would not have been subject to lag time due to long publication processes.<sup>34</sup>

Phase 2 (conducting the review) consisted of four steps. In Step 1, we determined a set of search terms to be employed in the literature search. The following search terms were used in a string search on Google Scholar during September–October 2021: 'definition', 'circular economy', 'SADC' and 'socio-economic'. We used this specified search string to identify academic articles, e-books and grey literature. The results were limited to publications from the last five years.

Initially, in Step 2 of Phase 2 of our review, 76 results were obtained based on the search using the specified search string. The grey literature consisted of situation analysis papers, dissertations and theses, technical reports, white papers, background reports, draft white papers, policy reports, inception reports, team reports, conference abstracts and proceedings.

During Step 3 of Phase 2, selection criteria were established. These criteria were then applied to narrow down the results in Step 4 of Phase 2 of the review. Sources were excluded based on accessibility constraints, citations of a source without linking to the source, duplication of sources, or citations to literature without links to the sources. Other sources that were excluded had a global scope and did not specifically refer to Africa in relation to a CE definition. Lastly, sources were only selected if they provided a definition of CE, or if seminal aspects of the definition of CE could be derived from the source. Eventually, 52 sources were excluded (one of which was a duplicate result). Table 1 lists the remaining 24 results.

**Table 1:** Results remaining after the application of exclusion criteria

Source	Literature type
Cloete and South African Institute of International Affairs (SAIIA) <sup>41</sup>	Situation analysis paper (between a policy briefing and an occasional paper)
Turing <sup>17</sup>	PhD (International Development)
Grant <sup>49</sup>	Academic article
Ramsarup and Ward <sup>37</sup>	Source book to support skills planning for the green economy by skills planning entities
Kadhila <sup>38</sup>	MPhil (Environmental Management)
Ozor and Nyambane <sup>39</sup>	Technical report
DST <sup>43</sup>	White paper
Colombo et al. <sup>62</sup>	Background document for 13th Annual Meeting of the Infrastructure Consortium for Africa
Martins <sup>44</sup>	Academic article
Frost <sup>36</sup>	LLM
Haimbala <sup>55</sup>	MSc
DST <sup>50</sup>	White paper (earlier version of DST, 2019 <sup>49</sup> )
Ndlovu <sup>45</sup>	MPhil dissertation
Manjengwa <sup>57</sup>	Master of Engineering (Metallurgical Engineering)
Hlophe-Ginindza et al. <sup>70</sup>	E-book
Kühlmann and Agutu <sup>42</sup>	Academic article
Lydall et al. <sup>58</sup>	Technical report
Van der Westhuizen <sup>48</sup>	MBA research project
Zulu <sup>71</sup>	Master in Public Administration dissertation
South African Technology Network and National Scientists and Organisations <sup>47</sup>	Position paper
Trimble et al. <sup>40,66</sup>	Conference proceedings
Van Niekerk et al. <sup>72</sup>	Technical report
Izaaks <sup>73</sup>	Master in Engineering Management minor dissertation
Sutcliffe and Bannister <sup>66</sup>	Report

Phase 3 of the review involved analysis. In Step 5, we used inductive thematic analysis (see Vaismoradi et al.<sup>35</sup>) of the remaining 24 most relevant results, while we developed the salient themes of the definitions or definition-relevant results in Step 6. Thematic analysis was chosen due to the lack of previous studies covering this theme in the SADC region as a whole, and categories were deduced from the data in the selected sources (Vaismoradi et al.<sup>35</sup>). In addition, thematic analysis enabled consideration of both latent content (developing themes) and manifest content (developing categories). As Vaismoradi et al.<sup>35</sup> state, thematic analysis does not depend on quantifiable measures, but instead pays attention to salient aspects linked to the research question. Finally, after concluding our analysis, we structured and wrote the review in Phase 4.

## Results and discussion: Trends in definitional approaches

The following salient aspects or trends in definitional approaches emerged from the inductive thematic analysis.

### 1. Adherence to canonical definitions

In terms of reliance on established definitions of the CE, some sources referred particularly to what may be termed 'canonical definitions' in the sense that they are generally recognised as the most important and

influential. These include the definition proposed by the Ellen MacArthur Foundation (EMF) as well as the definition developed by Kirchherr et al.<sup>5</sup> on the basis of the analysis of 114 definitions of the CE. It appears that the EMF definition is quite prominent. Investigation showed that definitions cited from other sources often originated from the EMF definition, for example, the World Economic Forum's definition of CE referred to by Frost.<sup>36</sup> Although the EMF definition seems to be a common point of departure, there is evidence that it is not accepted entirely without criticism, as illustrated by Ramsarup and Ward<sup>37</sup> and other authors, for example Kadhila<sup>38</sup>, who rely on the more comprehensive definition by Kirchherr et al.<sup>5</sup> Comprehensive definitions that do not neglect the social dimension of the CE are more strategically aligned with the objectives and priorities of SADC, as noted in the introduction.

## 2. Linking the CE to larger discourses on the green economy, sustainability and eco-innovation

A salient theme in the selected sources is the association with more familiar, and sometimes older but also broader, concepts such as sustainability,<sup>17,39-45</sup> the green economy<sup>39,43,46-49</sup> and eco-innovation.<sup>39,50</sup> Andriamahefazafy and Failler<sup>10</sup> note that the CE has been implemented under the umbrella of concepts such as the green and blue economies. This has been pointed out by scholars (D'Amato & Korhonen<sup>51</sup>; Andriamahefazafy & Failler<sup>10</sup>; Turing<sup>17</sup>; Johansson & Henriksson<sup>52</sup>; Geissdoerfer et al.<sup>18</sup>) with reference to the concept of sustainability. The CE serves as one of the ancillary narratives, and not as a substitute for sustainable development.<sup>10</sup> A problem with the narratives of the circular, green and bio economies is that they 'have been developed and largely used in a siloed manner and often disjointed from the overarching framework of strong sustainability or global net sustainability'.<sup>51</sup>

The conceptual complexities of sustainability and the CE, as well as the relationship between them, have received much attention in the academic literature.<sup>46</sup> Moreover, pinpointing the relationship between these two concepts has become a dominant theme in the discourse.<sup>53</sup> Relationships vary from conditional (where the CE is seen as a condition for sustainable development), to beneficial (where sustainable development benefits from the CE) or to a trade-off (where CE has both positive and negative effects on sustainability).<sup>18</sup>

The green economy (GE) supports the leveraging of ecological processes to benefit humans without endangering ecosystem sustainability.<sup>51</sup> The concept is not new and has been acknowledged in the scientific literature, although there seems to be renewed interest spurred by various organisations, such as the United Nations, the Organisation for Economic Co-operation and Development, the International Monetary Fund, the World Bank, the World Trade Organisation and the World Business Council for Sustainable Development.<sup>51</sup> The definition of the GE by the United Nations Environment Programme (UNEP) underscores the importance of human wellbeing, poverty reduction, social equity and inclusivity.<sup>51</sup> Ramsarup and Ward<sup>37</sup> also emphasise that the GE amounts to more than an economic growth agenda in that it advances sustainability and provides a pathway to attain the goals of the 2030 Agenda for Sustainable Development. These objectives also play an important role in SADC objectives and strategic priorities for the next few decades. It is therefore understandable that this concept has traction in the selected literature. In fact, in terms of sustainability, D'Amato and Korhonen<sup>51</sup> note that from a comparative perspective, the GE recognises the inevitable dependence of society and the economy on the global biosphere, while the CE recognises this only to a degree.

Ozor and Nyambane<sup>39</sup> define eco-innovation (EI) as:

*the creation of novel and competitively priced goods, processes, systems, services, and procedures designed to satisfy human needs and provide a better quality of life for everyone with a whole-lifecycle minimal use of natural resources (materials including energy and surface area) per unit output, and a minimal release of toxic substances.*

The authors concede that this concept seems to be novel, and that the narratives of sustainable development and the green economy have been accepted and integrated to varying degrees. Similarly, De Jesus et al.<sup>54</sup> identify a lack of analysis of the nexus of CE and EI. Some points of departure in clarifying this intersection include viewing EI as an essential driver of change towards sustainability, and singling it out as a pivotal aspect in developing competitive technologies as well as institutional forms.<sup>54</sup> These generate environmental benefits such as efficient consumption and resource use, labelling it as a catalyst of the CE and key to the transition from a linear economy to a CE.<sup>54</sup> De Jesus et al.<sup>54</sup> conclude that EI presents a pathway to a process premised on 'cooperation and multi-actor "systemic" integration'. The CE, they propose, is contingent on this process.<sup>54</sup> Again, the social dimension, also evident in the selected literature<sup>39</sup>, is significant and complements the agenda of SADC.

It should be noted that another concept that would fall under this heading, namely the blue economy, was mentioned as ancillary to the CE, and not necessarily the other way around (see Haimbala<sup>55</sup>, and compare with Andriamahefazafy and Failler<sup>10</sup>). This hierarchical divergence can contribute to confusion.

## 3. Contrasting the CE with the linear economy

The CE is also defined in juxtaposition to the linear economy (LE). Some authors take a more neutral point of departure in explaining the contrast between the LE and the CE. Sutcliffe et al.<sup>56</sup>, for example, still describe the CE as an alternative to the LE. Other authors portray the CE as a concept associated with a transition to a different system (DST<sup>50</sup>; D'Amato & Korhonen<sup>51</sup>; Frost<sup>36</sup>; Manjengwa<sup>57</sup>; Lydall et al.<sup>58</sup>) or as a replacement for the LE, as illustrated in the work of Frost<sup>36</sup>, and Ramsarup and Ward<sup>37</sup>. Some sources express a strong resolve to move away from the LE (Ramsarup and Ward<sup>37</sup> phrase it as a commitment) and point to the damage caused by the LE<sup>40</sup>.

## 4. Foregrounding the life cycle approach

Consideration of a life cycle approach, also described as life cycle thinking (LCT), that takes into account the entire physical life cycle of products, starting with production from raw materials right up until the end of life (Heiskanen<sup>59</sup>), and includes consideration of their environmental, social and economic impacts (Petit-Boix et al.<sup>60</sup>, drawing on the Life Cycle Initiative of UNEP and the Society of Environmental Toxicology and Chemistry [UNEP-SETAC]<sup>61</sup>), has been part and parcel of the consideration of environmental burdens for decades. Some of the sources in the selected literature incorporate LCT into their definitions.<sup>62</sup> An example that demonstrates this approach is the conference paper by Trimble and Phuluwa<sup>40</sup>:

*CE calls on a new view of design and deployment of technology, which promotes a continuous life cycle that avoids waste and system degradation and optimises utilisation of energy and other resources.*

Another source links the CE and the life cycle approach, with the former being instrumental in the realisation of the latter (see, for example, the position paper by the South African Technology Network & National Scientists and Organisations<sup>47</sup>).

## 5. Adapted definitions to incorporate socio-economic aspects such as growth and the drive for social equity and justice

One of the most important aspects of CE definitions in the selected literature is the adoption of definitions that incorporate socio-economic aspects. Globally, scholarly literature covering the last five years, which was excluded because these sources fall outside the parameters of this study, confirm that consideration of the social dimension of the CE is often lacking.<sup>3,4,52,53,63</sup> Neglected aspects of the social dimension that require attention include governance, justice and cultural change.<sup>2</sup> Moreover, within the existing research that does cover the social dimension of the CE, certain geographic regions are underrepresented. A 2020 global systematic literature review examining research on the

social dimension of the CE from 2009 to March 2019 found that 70% of the relevant studies included were conducted in Europe, 23% in Asia and a mere 7% were geographically linked to Africa, North America and Latin America combined.<sup>64</sup> However, there is evidence that some canonical definitions include this aspect (see, for example, Kirchherr et al.<sup>5</sup>). A further challenge is the classification of social issues. Padilla-Rivera et al.<sup>64</sup> point out that there is no consensus in this regard and refer to social thematic areas proposed by the EMF<sup>65</sup>, including labour practices, decent work, human rights, society and product responsibility. Each of these thematic areas includes detailed social aspects based on the Social Life Cycle Assessment methodology. We propose that this classification system is a useful point of departure, although as a caveat we would add that the classification of specific social aspects and the division of broader thematic areas might need to be adjusted to align with the legislative frameworks of specific regions and countries. Certain social aspects, for example, well-being, diversity and equal opportunity, are also explicitly aligned with constitutional human rights in certain SADC countries and do not relate only to the theme of labour practices and decent work. Some authors of the literature selected for our study acknowledge that a social dimension seems to be lacking in the framework and principles of the CE, or opt for definitions specifically crafted to incorporate social aspects. Although evidence of the choice for this definitional alliance is emerging in the CE literature concerning the SADC region, it appears to be in its infancy. However, in some of our selected sources, the CE is positioned as instrumental in achieving social objectives (see Kadhala<sup>38</sup>; Madyira et al.<sup>66</sup>). Madyira et al.<sup>66</sup>, for example, view the CE as a measure to achieve the realisation of human rights. In particular, the authors highlight access to clean energy and clean water, poverty alleviation through job creation, and entrepreneurial opportunities as promoters of social equity.<sup>66</sup>

Economic growth is another socio-economic dimension that is integrated in the interpretation of the CE. The CE is posited by some authors as a source of growth, providing economic opportunities associated with new services and business models (see, for example, DST<sup>50</sup>). However, growth should be decoupled from the use of limited resources.<sup>46</sup>

## Conclusion

This article presents the results of an exploratory semi-systematic literature review based on a search conducted with a specified search string of terms in order to return results that could be fully included within the limitations of the current publication. This study does not claim to be comprehensive, but serves to stimulate discussion about the conceptualisation of the CE and its alignment with the objectives of regional policy frameworks, as well as the inclusion of the social dimension in CE definitions applied in and related to SADC member states. It also emphasises the need for critical evaluation of the compatibility of various interpretations of the CE with SADC objectives. This is necessary to guide meaningful implementation, recognising that, in the SADC region, the CE ought to transcend a narrow focus on the environment and account for its impact on society.

In this regard, we highlight five aspects emerging from the selected literature, and they are not mutually exclusive. The first is an adherence to canonical definitions, including both traditional and more conservative definitions, as well as more recent and comprehensive definitions that include the socio-economic dimensions. Secondly, the literature links the CE concept to established narratives, such as the overarching sustainability narrative and the green economy, although the CE is also tied to more novel notions such as eco-innovation. Thirdly, the CE is also defined by contrasting it with the LE. Although some sources approach this comparison in a neutral way and present the CE as an alternative to the LE, a more decisive commitment towards a transition is also evident. Fourthly, the life cycle approach is also foregrounded in definitions or linked to the CE by means of association. Finally, some authors demonstrate awareness of the lack of a social dimension in the interpretations of the CE, and accordingly respond by depicting the CE as a measure to attain socio-economic objectives such as social equity through the promotion of human rights and economic growth. These socio-economic objectives are commensurate with the objectives and strategic priorities of SADC mentioned in the introduction. Based on these

five trends, we conclude that although there is an emerging awareness of the importance of the social dimension of the CE, and some authors deliberately opt for a canonical definition that includes social aspects, this is not yet the norm, as is evident from the dominance of the EMF definition of the CE in the selected literature. However, even if the social dimension is not explicitly acknowledged in definitions, it is supported by the network of other broader, sometimes older, but more familiar concepts such as sustainability, the green economy and eco-innovation. These concepts acknowledge social benefit, social needs, and, in the case of sustainability, even contain a social component or pillar. By recognising that these concepts all contribute to the CE discourse and conceptualisation, and by drawing attention to their common social concern, the social dimension of the CE in the SADC region can be amplified. Highlighting social impacts within life cycle thinking could have a similar effect. Finally, deliberate, vocal and critical positioning in relation to the LE also has the potential to contribute to the promotion of the social dimension of the CE. The trends that emerge in the selected literature can therefore be interpreted as open to the cultivation of a pro socio-economic stance in SADC. Given the socio-economic objectives of SADC as a region, we would recommend the amplification and promotion of socio-economic dimensions in conceptualising the CE. Critical reflection on the inclusion of the social dimension in the choice of definitions, consideration of the origin of CE definitions, and the conceptualisation of the CE in the SADC region could serve as a starting point for such a realignment. However, this project should not be undertaken by academics alone. There are broader African CE networks consisting of a wide range of stakeholders, including specialists and coalitions led by governments, whose objectives align with those of SADC but are not explicitly linked in the literature. Their input could play a valuable role in this regard. These networks include, for example, the African Circular Economy Network (with wide membership categories and CE experts), which envisions:

*a restorative African economy that generates well-being and prosperity inclusive of all its people through new forms of economic production and consumption which maintain and regenerate its environmental resources.<sup>67</sup>*

Another example is the African Circular Economy Alliance (ACEA), a coalition of African nations led by governments, promoting the transformation to a circular economy in order to deliver 'economic growth, jobs, and positive environmental outcomes'<sup>68</sup> to address the challenges of 'poverty, poor infrastructure, and unemployment'<sup>68</sup>. The ACEA also states that its support for the CE could consist of policy development<sup>68</sup>, and that it could thus potentially be involved in highlighting the social dimension of the CE.

This study is subject to certain limitations, including the length restriction of the publication, as well as the limitation on references that inevitably rules out the application of search strings that would return a large corpus of results. Further research could therefore incorporate results from less constrained search strings and include search strings from several databases, such as the Web of Science, although some studies indicate that most of the literature in the Web of Science can also be found using Google Scholar.<sup>68</sup> Moreover, although Google Scholar is frequently used as a web-based search engine, in particular where researchers also need to rely on grey literature, and generates a substantial quantity of results, the incorporation of other resources could be beneficial as the application of similar search strings does not overlap considerably.<sup>69</sup>

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## Competing interests

We have no competing interests to declare.



## Authors' contributions

L.G.: Conceptualisation; methodology; data collection; writing – initial draft. C.S.: Writing – revisions; methodology; student supervision; funding acquisition. D.B.: Writing – revisions; methodology; referencing.

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