Article

Fostering Environmental Citizenship to Address Ecological Challenges in South Africa: Lessons from the Circular Economy

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Abstract

The responsibility to protect the environment and promote sustainable development lies with all people. People's attitudes, lifestyles, and daily activities have resulted in negative impacts on the environment and its inhabitants. While South Africa's rich biodiversity can be used to enhance livelihoods, there are unintended consequences to some business initiatives geared towards creating employment opportunities. All sectors in South Africa must embrace environmental citizenship and circular economy principles to mitigate ecological challenges. The involvement of social workers in collaborative efforts that promote sustainable development is limited. Educating communities to engage in environmental citizenship while building circular economy inter-sectoral exchanges and synergies between communities, the government, and private and business sectors may lead to positive social, economic, and environmental outcomes. Environmental citizenship lies in creating environmental consciousness and adopting a culture of sustainability. Towards this end, this integrative review of literature seeks to foster

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environmental citizenship and address ecological challenges in South Africa while drawing lessons from the circular economy. The authors recommend educating social workers, businesses and communities about environmental citizenship to develop and/or enhance their understanding of the value of circular economy as pivotal in addressing the triple challenges of poverty, unemployment, and inequality while promoting economic growth within a social, economic and ecological justice framework.

Keywords: Afrocentrism; environmental citizenship; circular economy; sustainable development; socio-economic and ecological justice

Introduction

South Africa is the third most biologically diverse country in the world, following Indonesia and Brazil (Naiker 2017) and is characterised by diverse cultures, geological wealth, and exceptional biodiversity that provide raw materials to support business enterprises. Moreover, biodiversity is the basis of a vibrant tourism industry and natural spaces for recreational and cultural activities and is fundamental to human well-being and a healthy planet (Pinnock 2022). Concomitantly, unsustainable, linear patterns of consumption and production threaten the well-being of future generations (United Nations International Development Organisation [UNIDO] 2020). Species and ecosystems must, therefore, be protected, conserved, and used sustainably while co-building an eco-social world that leaves no one behind (People's Summit 2022).

In recent times, there have been unprecedented adverse weather patterns triggered by climate change, which are a threat to the country's biodiversity. Pinnock (2022) asserts that South Africa's biodiversity will diminish if resources and energies are not invested in conserving and protecting the environment. Thus, the focus of this article is to put the spotlight on environmental citizenship as a key strategy for mobilising communities to engage in circular economy activities that are crucial for promoting social, economic and ecological justice. Circular economy activities are critical for addressing the triple challenges of inequality, poverty, and unemployment that continue to plague South Africa's most marginalised and vulnerable populations. Social work should play a critical role in creating awareness of the impact of climate change, the value of environmental citizenship and sustainable development. However, social work practitioners need to collaborate across disciplines as climate change is a cross-cutting challenge with multifaceted, devastating impacts.

Environmental citizenship has to do with the active participation of citizens in protecting the environment, for instance, through circular economy activities (Meerah, Halim and Nadeson 2010). The circular economy entails keeping materials and products in circulation for as long as possible through sustainable practices such as the reuse of products, sharing of underused assets, repairing, recycling and remanufacturing (Schröder 2020). There is a need to embrace the circular economy in South Africa owing to its immense benefits, such as the formation of new businesses and the creation of jobs

through reducing waste, resource recovery, repurposing, reuse and recycling activities. If successfully implemented, the circular economy could result in about US$1 trillion of materials cost savings per year being generated globally by 2025 (Ellen MacArthur Foundation as quoted in UNIDO 2020).

The subsequent sections of this integrative literature review are structured as follows. Firstly, the study's theoretical framework, namely the Afrocentric Perspective and the Collective Fingers Theory, is presented, followed by the legislative frameworks that inform the circular economy globally and in South Africa. Thereafter, environmental citizenship and circular economy are described as strategies for addressing biodiversity loss. Additionally, the value of adopting a transdisciplinary approach is highlighted in view of promoting sustainable development. Finally, a conclusion and recommendations for promoting environmental citizenship and circular economy are presented.

Theoretical Framework

In this article, the authors draw from the Afrocentric Perspective and the Collective Fingers Theory (Mbigi 1997) to examine the extent to which the principles aligned with the Ubuntu philosophy can be used in fostering environmental citizenship to promote the circular economy. South Africa is a "Rainbow" nation that is rich with diverse cultural heritage and natural resources (Naiker 2017). Hence, there is a need to revitalise indigenous Afrocentric practices and preserve cultural heritage and the country's natural resources while growing the economy. These ambitious goals can only be achieved if people use a combination of both scientific and indigenous methods to promote sustainable economic development. Thus, the application of the Afrocentric Perspective alongside the Collective Fingers Theory in this study. Engel-DiMauro and Carroll (2014) assert that an African-centred perspective can be particularly effective in facilitating people's reconnection to places and the ecosystems they inhabit in ways that do not reduce them to waste or things to be exploited for profitability and individual gain.

In the same vein, the Collective Fingers Theory draws from the Ubuntu philosophy and is premised on the belief that "a thumb, although it is strong, cannot kill aphids on its own; it would require the collective cooperation of the other fingers" (Mbigi 1997, 33). Hence, the participation of the government, business sector, civil society, and communities in partnership is critical to addressing unemployment, poverty and protecting the environment. There is a concomitant need to educate members of society and the business sector to change behaviours that are counterproductive and detrimental to the environment. Stakeholders working in partnerships, like fingers and a thumb, can collectively bring about economic empowerment and sustainable development as envisioned by the United Nations (2015). Secondly, when internalised and nurtured, the fingers, as depicted in the African proverb drawing from the Ubuntu philosophy, could lead to a collective culture and civic engagement towards finding solutions to ecological

challenges. Thus, Afrocentric practices could enable communities to rely on each other and co-exist despite their differences. In the spirit of Ubuntu, communities would be able to engage in small businesses or co-operatives to gain economic power while saving the planet.

The fingers, as depicted in the Collective Fingers Theory, represent five core principles that are aligned with Afrocentrism. These principles include solidarity, survival, compassion, respect, and dignity. The principle of solidarity, which is a cornerstone of Ubuntu philosophy, emphasises the combined efforts of individuals for the survival of people and the planet. Solidarity furthermore entails people's willingness and commitment to abandon the acts of individuality and 'self' for mutual benefit (Mbigi 1997, 32). In practice, solidarity necessitates acting as an individual but being a part of the collective to promote the well-being of the planet and all members of society. Thus, the existence and survival of indigenous African communities and the planet will be maximised by interdependence and interconnectedness. Hence, Zvomuya (2020) believes that Afrocentric principles can also be applied to realise sustainable development through shared values and vision.

In typical African societies, no human being is an island. Communalism, another perspective of Ubuntu philosophy as embedded in the Collective Fingers Theory, assumes that no human being can live for themselves. A human being is always dependent on others. There should be no room for unhealthy competition when people embrace the Afrocentric values of Ubuntu, communal living, solidarity, caring, sharing, partnership, and compassion. Compassion refers to the ability to understand other people's challenges and is fundamental to the feeling of belonging and interconnectedness (Ngubane and Makua 2021). This is crucial for members of diverse communities to live in peace and harmony with people and the planet (The People's Summit 2022).

Living in a society grounded in these core Afrocentric principles including respect for the environment, is imperative for the implementation of circular economy activities that are geared towards protecting the environment while promoting economic empowerment. The philosophy behind these Afrocentric principles serves as a driving force for sharing ideas, resources, and skills during civic engagement and circular economy activities. Ngubane and Makua (2021) confirm that such an Afrocentric philosophy has the capacity to promote co-existence, social cohesion, and the inclusion of all individuals from diverse backgrounds, experiences and capacities. Similarly, Ngubane and Gumede (2018) assert that within the Collective Fingers Theory perspective, environmental citizenship and circular economy activities to advance empowerment become a collective, supportive social process, as opposed to an individual and competitive experience. Therefore, it is important to promote environmental citizenship and circular economy as key strategies for sustainable development.

Methodology

The authors conducted a conceptual study to identify relevant literature needed to support arguments in examining and articulating the value of environmental citizenship and circular economy as key strategies for mitigating the impact of ecological injustices on economies, people and the planet. We used an integrative review methodology to systematically review and qualitatively synthesise existing literature (Whittemore and Knafl 2005). The integrative review design enabled the authors to consult literature sources on strategies for mitigating climate change-related risks, mobilising environmental citizenship and applying circular economy principles in pursuit of social, economic and ecological justice. This integrative review design enabled the authors to suggest recommendations (Lin et al. 2020) for promoting environmental citizenship and circular economy in South Africa.

Key search words included social, economic, and ecological justice, challenges associated with a lack of waste management policies and systems, impacts of climate change and related disasters, benefits of adopting environmental citizenship and circular economy activities, strategies to promote environmental citizenship and circular economy activities and recommendations for mobilising civic engagement for sustainable development. The authors utilised the Google search engine to access literature, websites of non-profit organisations, the United Nations, the International Institute for Sustainable Development, South African government departments and local research institutes such as the Council for Scientific and Industrial Research. Articles that met the study's inclusion criteria were reviewed, and general information relevant to the study was extracted and utilised to support arguments. Details pertaining to the author(s), year, and name of publication were extracted and included in the reference list. The next discussion focuses on the legislative frameworks that inform the circular economy globally and in South Africa.

Legislative Frameworks

A circular economy aligns with several legislative frameworks at national, regional and global levels. Although many of these frameworks do not directly enunciate the concept of a circular economy, they advance the notion of sustainable development, which justifies the transition to a circular economy. Following the Earth Summit in Rio De Janeiro, Brazil, in 1992, the Millennium Summit in New York in 2000 and the 2002 World Summit on Sustainable Development in Johannesburg, South Africa began mooting the idea of enunciating its own policy position on sustainable development. This process resulted in the adoption of the National Framework for Sustainable Development in 2008, which signalled a new wave of thinking aimed at promoting the effective stewardship of the country's natural, social and economic resources (South Africa 2011a). The adoption of the National Framework for Sustainable Development occurred at a time when only a few industries in South Africa were engaging in the circular economy. This policy document enunciated a national vision for sustainable

development and the strategic interventions needed to re-orientate the country's development path in a more sustainable direction.

Drawing from lessons learnt in other countries such as China, the National Framework for Sustainable Development innovatively envisioned gradually linking South Africa's sectoral policies and strategies with a circular economy (South Africa 2008, 77). Its successor, the National Strategy for Sustainable Development and Action Plan (NSSD 1) (2011–2014), attempted to build on the National Framework for Sustainable Development and several other multisectoral initiatives aimed at strengthening the country's commitment to sustainable development (South Africa 2011b). While this policy proactively envisioned its own sequel in the form of the NSSD 2 (2015–2020), a decision was made to not re-commission the NSSD as the five strategic priorities of the NSSD were eventually embedded in the National Development Plan in 2012 (Datta and Funke 2015, 6).

The National Development Plan is aligned with the country's endeavour to tackle the triple challenges of poverty, unemployment and inequality, as well as fostering environmental sustainability and the transition to a low-carbon economy through its strategic emphasis on skills development, improved technology, institutional capacity building, and the alignment of existing environmental policies (South Africa 2012). Though it aims to harmonise environmental sustainability, economic growth, and social inclusion, the National Development Plan does not mention or give adequate attention to the circular economy. In view of the policy gap on the circular economy in South Africa, the Department of Environment, Forestry and Fisheries recently adopted a circular economy guideline for the waste management sector (South Africa 2020), which aims to assist stakeholders in transitioning from a linear to a circular economy. South Africa is characterised by a linear economy, where the rate of recycling and reuse of materials within the economy is only two percent (Nahman et al. 2021). The guideline additionally provides an entry point for understanding the socio-economic opportunities and environmental benefits associated with the recovery and beneficiation of the significant volumes of biological and recyclable materials that are lost to landfills daily (South Africa 2020).

Evidently, South Africa is faced with the challenges of poverty, unemployment and skewed development patterns (Statistics South Africa 2023), which require innovative solutions that integrate socio-economic development and environmental protection. The socio-economic and environmental benefits which the country could accrue from a circular economy include employment creation, new business development, socio-economic upliftment, a waste-free environment, resource conservation and a reduction in pollution and greenhouse gas emission (South Africa 2020, 4). The National Waste Management Strategy was updated in 2020 to prioritise the circular economy. The strategy is implemented in terms of the National Environmental Management Waste Act of 2008 and is driven by the principles of waste minimisation, waste prevention,

waste reuse, sustainable strategic collaborations, and safeguarding the environment for sustainable economic growth (South Africa 2020).

The African Union's (2015) Agenda 2063: The Africa We Want and the 2030 Agenda for Sustainable Development [2030 Agenda] (UN 2015) articulate a renewed commitment to achieving sustainable development at regional and global levels through inclusive and sustained economic growth, social inclusion, environmental protection, peace and multisectoral partnerships. Although the concept of a circular economy is not explicitly mentioned in the 2030 Agenda, a circular economy serves to advance the sustainable development goals (SDGs), particularly SDG 12, which aims to ensure sustainable consumption and production patterns. Alongside creating an enabling policy and legislative environment for a circular economy, there is an accompanying need for behavioural and lifestyle changes on the part of ordinary citizens and businesses for the sake of humanity, the planet and the economy. Conradie (2003,121) argues that over and above information and education, science and technology or environmental laws, human beings have a moral and ethical responsibility to protect the environment. Moreover, the National Development Plan asserts that behavioural change is a significant factor in facilitating a smooth and effective transition to a green economy (South Africa 2012). Pomponi and Moncaster (2017) caution against "a simplistic approach which does not really address societal and political challenges or the complexity of human nature." Thus, a multipronged approach that involves transdisciplinary partnerships, an enabling policy and legislative framework and civic engagement is needed to mitigate ecological challenges.

Ecological (In)justices, Climate Change and the Impact of Linear Economies

Climate change, overconsumption of resources and waste generation are intertwined with inequality. If countries are to achieve the SDGs, the agency and urgency to attain ecological, economic, and social justice cannot be overemphasised. In this regard, Rafiq, Zhang and Kung (2021) assert that climate change introduces irreversible environmental impacts such as rising sea levels, desertification, diminished land productivity, and extreme weather patterns. Cho (2019) confirms that such extreme weather changes will not only destroy private properties and critical infrastructure but will adversely affect industries such as agriculture, directly impacting economic growth and human health and well-being. The mining, agriculture and manufacturing sectors contribute to the national economy; however, they also leave a toxic legacy of environmental contamination and degradation in some of the poorest and marginalised communities. Without effective interventions, the impact of these industries, coupled with climate change, will affect the poor and most vulnerable (Cho 2019).

Poor and marginalised communities in South Africa are historically housed in townships and informal settlements that are located close to mine dumps (Ndaba 2019), landfills (Njoku, Edokpayi and Odijo 2019), refineries (Scott, Oelofse and Guy 2002) and coal-

fired power stations (Olalde 2017), with little regard to environmental health considerations. Ndaba (2019, 2) argues that even in the post-apartheid era, new housing developments still take place in potentially toxic environments. These vulnerable communities lack adequate housing, improved water supplies, sanitation, waste removal facilities, electricity supply and paved roads, contrary to the World Health Organization's definition of healthy housing (Mathee and Wright 2014). The World Health Organization (2019) defines healthy housing as "improved housing conditions that save lives, reduce disease, increase quality of life, reduce poverty, mitigate climate change and contribute to the achievement of the SDGs for Health (SDG3) and Sustainable Cities (SDG11)". Communities living near mines, factories, landfills, coal power stations and refineries are exposed to toxic fumes, pollution-laden dust, contaminated soils and polluted water, which all have a negative impact on health and the environment. Olajide-Ibiejugba et al. (2021, 8) support the evidence of the many health effects and allergies that are experienced by communities living near gold mine tailings dumps.

In addition, poorly rehabilitated mine dumps, also known as tailings storage facilities (TSF), are a major cause of air pollution due to particulate matter (PM_{10}) dust containing complex mixtures of heavy metals and trace elements that are dangerous to human health (Mpanza, Adam and Moolla 2022, 3). Mineral dust can cause diseases such as cancer and can create respiratory problems, such as silicosis, asbestosis, pneumoconiosis, and asthma, depending on its chemical content (Petavratzi, Kingman and Lowndes 2005, 1187). Moreover, Vrijheid (2000) reveals concerning increases in adverse health effects such as low birth weight, birth defects and certain types of cancers that are reported in communities near landfill sites in Europe and the USA. Notably, local studies have alluded to environmental and health effects emanating from poor waste disposal. Adeniran and Shakantu (2022) report a growing trend in plastic waste that is haphazardly disposed of in South African townships and the negative consequences thereof. They cite a correlation between the increased human population in those areas and the distribution of plastic waste that pollutes the environment. This is evident in the decline of the natural environment, mortality of aquatic organisms and blocked sewerage, resulting in breeding grounds for mosquitoes and other disease-causing vectors, foul odours, reduced aeration and water percolation, causing reduced productivity in agricultural lands (Adeniran and Shakantu 2022).

In Lekwa Local Municipality, in the Mpumalanga province of South Africa, marginalised communities live in shacks and the Reconstruction and Development Programme (RDP) housing that is situated in very close proximity of approximately 11 metres from waste dumps. These waste dumps contain a mixed stream of hazardous and general waste materials, some of which have been classified as extremely hazardous and toxic by the South African Hazardous Substances Act 15 of 1973 (Dladla, Machete and Shale 2021). Exposure to the identified hazards through dermal, oral and skin routes poses a high potential for environmental health risks to local communities. Poor waste management by local municipalities and a lack of implementation of environmental

policies and health education exacerbate the impact of environmental pollution. If behaviour, attitudes and practices do not drastically change by the year 2050, there will be a need for an equivalent of two planets worth of natural resources for the population to survive (Meerah, Halim and Nadeson 2010).

Communities must be empowered with knowledge and skills to become advocates of ecological justice, participate actively in environmental citizenship, and engage in circular economy activities. In support, Olufemi, Mji and Mukhola (2022, 15) recommend the formulation of a policy on environmental health education to ensure that every citizen is educated and aware of environmental pollution and its associated negative impacts. They suggest the need for the inclusion of environmental health education in the school curricula and outside of school through awareness campaigns, seminars and workshops. In addition, media platforms such as television, radio, social media, and newspapers are powerful tools for transmitting information that can be harnessed to mobilise and educate communities about the dangers of overconsumption pollution and can aid in the transition from linear to circular economies.

Environmental Citizenship and the Circular Economy as Strategies for Mitigating Ecological Injustices

Waste remains a major environmental and public health challenge in many developing countries, including South Africa. A transition from a linear to a circular economy can result in opportunities for reducing waste and stimulating product innovation while contributing positively to sustainable development (Schröder 2020). Middle-class citizens in the developing world are already starting to consume more and reuse less, necessitating the inclusion of circular economy activities not only for mitigating against pollution but as an engine for economic growth, job creation and value-addition (Preston, Lehne and Wellesley 2019). Within the circular economy context, the production of materials should be reduced while manufactured products are reused or recycled. Rather than being thrown away, waste from industrial processes can be repurposed. The end goal would be to protect the environment and promote social, economic and ecological justice. Such efforts should be encouraged because they are central to South Africa's economic recovery, growth and sustainable development. A typical example is establishing community-based organisations as social enterprises that embrace environmental citizenship principles to curb illegal dumping and restore dumping sites into productive spaces. Such organisations can be structured in the form of Co-operatives, Non-Profit Companies or Non-Profit Organisations. Innovative and sustainable practices in this regard could include community-based co-operatives that engage in recycling industrial waste materials through collecting, separating and processing recyclables.

The South African Department of Science and Innovation is driving the inclusion of the circular economy as a new strategy for promoting economic growth. However, the Science, Technology and Innovation for a Circular Economy (STICE), a Department of

Science and Innovation-funded initiative, shows that uptake and scaling of circular economy interventions across all sectors of the South African economy is slow due to a lack of demonstrated success and associated uncertainties of circular economy interventions (Department of Environment, Forestry and Fisheries 2020). Therefore, a transition to a circular economy could unlock socio-economic and environmental opportunities, fulfil the country's international climate commitments and make significant progress towards achieving ecological, economic, and social justice. The South African government has been progressive in the mainstreaming of the circular economy agenda to achieve a green economy through sustainable production and consumption. In 2020, the Department of Environment, Forestry and Fisheries published guidelines to impart an understanding of the many opportunities and potential benefits that a circular economy may provide for South Africa (Department of Environment, Forestry and Fisheries, 2020). Similarly, the Ellen MacArthur Foundation (2015) developed a toolkit for policymakers who wish to embark on a circular economy. The actionable toolkit includes The ReSOLVE framework with six action areas (Regenerate, Share, Optimise, Loop, Virtualise, and Exchange) for businesses and countries wanting to move towards the circular economy approach.

It is evident that there are overwhelming benefits to adopting a circular economy approach. Examples include a more innovative, resilient and productive economy that can produce employment opportunities in both the formal and informal sectors. The World Employment and Social Outlook report published by the International Labour Organization (2018) estimates that circular economy can result in a net growth of six million jobs globally by 2030, notably in the waste management and recycling sectors. Locally, the National Waste Management Strategy has been put in place by the Department of Environment, Forestry and Fisheries to mitigate the impact linked with a lack of waste management systems. In their 2019 World Environment Day speech, Barbara Creecy, the then South African Minister of Forestry, Fisheries and the Environment, confirmed that circular economy has the potential to contribute 69 000 jobs in the green economy and support the development of small, micro and medium, enterprises and co-operatives (Department of Environment, Forestry and Fisheries 2020). Furthermore, the government anticipated that the diversion of approximately 20 million tonnes of waste may unlock R11.5 billion per year by 2023 (Department of Environmental Affairs, 2017). These and several other government-led initiatives encourage communities to view waste management as a potential source of income.

Underserved communities in South Africa that are characterised by poor service delivery by local municipalities can derive opportunities from waste management plans while greening their spaces and mitigating the impact of environmental degradation on their health and well-being. Dladla, Machete and Shale (2021) propose valorising waste from the plastic, metals, glass, and biodegradable organic waste that is indiscriminately dumped in Lekwa Local Municipality. They suggest that partnerships between the community and the local municipality could take advantage of the opportunities presented by circular economy to create employment, income and an entrepreneurial

future. Moreover, environmental citizenship implemented by these communities will improve service delivery and public health by sorting and diverting some of the waste from refuse collection services (Dladla et al. 2021). This is an indication that partnerships between the community and local government have the potential to not only manage waste but also reduce, reuse, and recycle waste productively, to the extent of enabling communities to benefit from the return on investment. As such, a transdisciplinary approach to waste management is called for as a key strategy for promoting circular economy and environmental citizenship as critical focus areas for ensuring that social, economic and environmental justice prevails in these marginalised communities.

The Value of Adopting a Transdisciplinary Approach

The planet is an integrated system (Hessels, Jong and Brouwer 2018); therefore, systems thinking is required to integrate diverse expertise, knowledge, and methods that advance sustainable development (Dominelli 2018; Jenkins 2010). This reality challenges social work practitioners to transcend professional silos and to work collaboratively across disciplines and with communities, government, businesses, civil society organisations and non-profit entities. Such a transdisciplinary approach underpins the realisation of the SDGs (UN 2015). Partnerships could stimulate innovative ideas that promote environmental citizenship and lead to a better understanding of the impact of business practices on the environment and its inhabitants. Thus encouraging them to use sustainable methods of production and consumption (Gray, Coates and Hetherington 2013). Towards this end, social workers must develop and sustain transdisciplinary partnerships (International Federation of Social Work 2022) and embrace green social work (Dominelli 2018), which is a transdisciplinary approach to environmental crises. Social workers are called upon to incorporate and embrace eco-social work principles, ecological values and attitudes into their daily practices (Dominelli 2018).

Social work is a value-laden profession that has historically been underpinned by values such as social justice, human rights, Ubuntu, and collective responsibility (International Federation of Social Work 2014). Hence, social workers should recognise the interconnectedness of all life in the Earth's ecosystems and embrace ecological approaches that are guided by the principles of co-building a new eco-social world (International Federation of Social Work 2022).

Trans-disciplinarity is the ability to combine varied resources in ways that can collectively create more impact, greater sustainability, and increased value (Stibbe, Reid and Gilbert 2018). As articulated by the Collective Fingers Theory, no single actor can have all the knowledge, skills and resources to sufficiently promote civic engagement or address multifaceted social, economic and environmental challenges. Thus, applying a transdisciplinary approach to environmental citizenship and circular economy activities can lead to innovative and comprehensive outcomes that are grounded in a wide range of perspectives and broad expertise.

It is for this reason that the social work teaching agenda and competencies required to work across disciplines should embrace partnerships, collaboration, and civic engagement as key drivers of successful joint ventures. Moreover, addressing complex real-world problems such as climate change and related disasters is a dynamic and complicated process in which the solution should be derived from collective wisdom. In relation to fostering environmental citizenship to address ecological injustices, Dominelli (2018) encourages social workers to engage with confidence in environmental activities as these are not completely outside their knowledge base and to reshape their generic skills by emphasising the co-production of knowledge and action in trans-disciplinarity. Thus, social work can ground its traditional knowledge, skills, and roles at the micro, meso and macro levels of intervention within a holistic social, economic, and ecological justice framework. Such an integrated perspective is important, as sustainable development is "not simply a question of better care for the biophysical environment; instead, it also concerns the quality of society in many respects" (Peeters 2011, 6). The envisaged outcome of conserving the environment cannot be realised without the co-production of knowledge designed to promote sustainable development (Yeld 1997).

As attitudinal and behavioural changes are imperative for a successful transition to a circular economy (Parajuly et al. 2020), social workers can educate and encourage service users to embrace relevant ethics for sustainable living. In this regard, they can assume the role of catalysts that assist citizens to re-examine their values and alter those attitudes and behaviours that detract from the goal of sustainable development (International Union for Conservation of Nature, United Nations Environment Programme and World Wide Fund for Nature 2009). Unsustainable behaviours are rooted in a neoliberal economic system that is underpinned by individualism, greed, consumerist lifestyles, an insatiable demand for consumer goods, overconsumption and food wastage at the retail and consumer levels (Conradie 2003; UN 2015). Social workers can find innovative ways of realising social, economic and ecological justice through creating and encouraging the establishment of social enterprises that utilise eco-friendly recycling and waste reduction practices.

Conclusion and Recommendations

This paper has presented evidence of the imperative to foster environmental citizenship to address ecological challenges in South Africa. Human well-being, the environment, and the economy are not spared from the disastrous aftermath of a linear economy. There is an urgent need to find innovative strategies to prevent and/or mitigate the associated risks through the adoption of a circular economy. Moreover, there is a need for people to adapt and change attitudes and behaviours that contribute directly or indirectly to ecological challenges. The road map towards social, ecological, and economic justice points to the need to mobilise all relevant stakeholders who possess contextual and scientific knowledge and expertise. In line with the Collective Fingers

Theory and Ubuntu principles, partnerships could ignite economic growth and promote sustainable development.

One of the strategies to achieve sustainable development is through educating and conscientising communities about the benefits of reducing, reusing, recycling and repurposing waste materials and minimising the unintended consequences of the linear economy, moreover creating awareness about the adverse impacts of climate change. Thus, the authors recommend mobilising citizens to engage in environmental citizenship for sustainable development and to adopt circular economy activities. Social workers have a pivotal role and ethical responsibility to advocate for policies that advance and incentivise circular economy activities. Additionally, the government must enforce laws and regulations for sustainable business practices. Moreover, higher education institutions must incorporate content pertaining to climate change, ecological justice, environmental citizenship, and circular economy principles and strategies into the social work curricula to encourage students and practitioners to apply their knowledge and skills in practice.

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