



Assessment of contributions of informal small businesses to the environmental pollution in the Rand-West City Local Municipality: South Africa

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Abstract

Even though certain significant players in the economy's informal sector operate in an environmentally polluting manner, the informal sector plays a critical role in reducing poverty and creating jobs. Large companies' waste production and its impact on the environment have been the subject of much empirical study from both developed and developing nations. Nonetheless, there is a dearth of empirical data regarding South Africa's informal small businesses' waste output and environmental effects. The main objective of this study was to assess how the informal small enterprises in the Rand-West City Local Municipality of South Africa's contributed to environmental degradation. A qualitative research methodology was applied, in which case semi-structured interviews were conducted with informal business owners while observation schedules were used to record evidence from the physical environment. A purposive sampling strategy was used to select 25 informal business owners whose businesses operated in the Rand-West City Municipality in South Africa. A thematic analysis was used to analyse empirical data collected through interviews and observation schedules. The findings of the study reveal that informal small businesses within the above-mentioned local municipality contributed to environmental contamination through the burning of waste or indirectly through littered plastics and boxes thrown away by customers. Another way through which some informal small businesses contributed to environmental contamination is oil spillages during vehicle service and maintenance in open public spaces. The article concludes that to guarantee that the environmental design is conducive to reducing contamination or pollution, informal small businesses should be given suitable spaces for the purpose of diverse business operations. Apart from the support for the informal businesses, the findings of this study imply that the Rand-West City Local Municipality will need to draft comprehensive policies and by-laws to regulate the activities of informal businesses in an attempt to minimise environmental degradation that may result from waste contamination.

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Keywords

chemical waste; environmental contamination; informal small businesses; oil spillages; vegetable waste.

1. Introduction

The informal sector remains a key contributor to alleviating poverty and creating job opportunities. However, the operations of some important players in the informal sector of the economy are accompanied by environmental pollution (Soharwardi, Firdous & Gill, 2021). The informal sector entails the small and medium enterprises whose operations are outside government regulation or taxation; it operates outside of the formal economy and is driven by small-scale entrepreneurs with written contractual arrangements and blurred lines between labour and capital (Sultana, Rahman & Khanam, 2022). In other words, the informal sector of the economy consists of informal businesses such as spaza shops, hawkers, pavement sellers, street vendors, and any other business that is operated from home or open public space, that is not regulated or taxed by government. Chaudhuri and Calcutta (2006) argue that due to the tax implications, the formal sector is curtailed from exceeding their quota of an acceptable or tolerable level of pollution. Consequently, the informal sector, which is not regulated in terms of pollution tax, has contributed to high levels of tax, especially through subcontracting by the formal businesses. Indirectly, by subcontracting an informal player, the formal businesses evade the tax for exceeding the permissible levels of pollution.

In consonance with the observation above, Sultana et al. (2022) opine that the informal sector is detrimental to sustainable development. The assertion that the informal sector is incongruent with sustainable development must be understood in light of the scourge of poverty and unemployment affecting most of the global south countries, such as South Africa. The different facets of sustainability should be examined to arrive at a generalisation that this sector's contribution to sustainable development is negative, that is, economic efficiency, environmental protection, and social equity. Development becomes meaningful and sustainable when it addresses these three aspects. There are positives that the informal sector is contributing, particularly to providing accessible services and creating employment. Despite the criticism levelled against informal businesses, they remain a very important sector in the economy. In countries such as Pakistan, the informal sector contributes about half of the DGP (Sultana et al., 2022). The sector has emerged as a means for survival for many in the developing and less developed world. The growing unemployment in South Africa makes this sector very important in keeping many households afloat. It is also important to note that due to high levels of inequalities in developing countries such as South Africa, the economic performance of the country may not translate to a better life for all as the wealth is in the hands of a few. The country topped the world inequality measurements for 2022 with a Gini-coefficient of 0.75 (Hasell, Arriaga, Ortiz-Ospina & Roser 2023). The informal economy in South Africa is very important in addressing some of the inequalities, particularly the gender disparities in employment. The 2022 statistics show that women occupy 33% of the total informal employment in non-agricultural workplaces, and according to the International Labour Organisation, the global informal employment rate is at 57.8% (International Labour Organisation, 2024).

Empirical research from various developed and developing countries has revealed significant issues in terms of waste generated by large corporations and their contributions to environmental damage (see, for instance, Gani & Sharma, 2009; Parker, Redmond & Simpson, 2008; Redmond, Wang, Simpson & Parker, 2008; Redmond & Walker, 2009; Ristovska, 2010; Voca, 2014). However, there is paucity of empirical evidence on the trash produced by informal small businesses and their environmental impact in South Africa. The primary purpose of this research is to assess how informal small businesses contribute to environmental pollution in the Rand-West City Local Municipality in South Africa. The issue of environmental pollution arising from various activities of informal small businesses is rife in the Rand-West City Local Municipality while this informal sector of the economy remains largely unregulated in South Africa. The study is important because it is undertaken at the time when informal small businesses are mushrooming in the aforementioned local municipality due to high unemployment rate (32%). Unemployed people resort to operating informal businesses to earn income for survival despite the fact that some of their business operations may contribute directly or indirectly to environmental pollution.

2. Literature review

Inasmuch as informal businesses contribute to environmental pollution, they can also provide solutions to these challenges. The case of Bandung in Indonesia is quite instructive in this regard. The informal businesses became players in the recycling space, utilising the material flow method (Sembiring & Nitivattanani 2009). In terms of solid waste, informal businesses in Indonesia's Bandung recycled 303 metric tonnes of the total 2295 overall garbage

produced in the city each day. Some scholars, such as Sultana, Rahman and Khanam (2022), advocate for formalisation as a way of addressing the pollution emanating from the informal sector. This arises from the need to address the concerns around the compound effect of informal businesses' contribution to pollution. The informal economy has been globally recognised for positively contributing to employment and providing balance between the economy, environment, and equity, and earlier studies such as those done by Ruzek (2015) have viewed the sector as a transformative force with the capability to turn focus from the globalised capital society to an eco-localism with the attendant advantages of ease of adjustment in line with rapid changes (Sultana et al., 2022). A closer look at the South African case of West Rand will assist in drawing out some important lessons.

South Africa's rising population and economy have led to increased waste generation. According to the 2018 State of Waste Report, in 2017, South Africa produced 55 million metric tonnes of general trash, with only 11% diverted from landfills. These tendencies, combined with limited GDP development, are linked to increased trash generation" (National Waste Management Strategy 2020). The significant development pressure was placed on the West Rand District Municipality (WRDM) and its four local municipalities (LMs), Randfontein, Mogale City, Westonaria, and Merafong, about proper solid waste management and minimization. The majority of waste generation areas are residential, which reflects the role of the domestic and industrial sectors as major waste generators. Waste is assumed to make up the majority of disposed waste, with industrial waste and rubble accounting for the remaining waste stream (Ginindza, 2017).

According to Serge-Kubanza and Simatele (2020), South Africa is a significant producer of solid waste, producing millions of metric tonnes annually, making it an upper-middle-income country. 42 million metric tonnes of household solid garbage and 59 million metric tonnes of general waste were produced in the country in 2012, according to estimates (Serge-Kubanza & Simatele, 2020). The Gauteng Province, which has the highest population and is the country's economic centre, contributes the most (42%), according to the 2019 South African Department of Environmental Affairs and Tourism (DEAT), which reports that the country generates over 42 million cubic meters of general waste annually. (Aboginije et al., 2020; Duncan et al., 2012; Nyika & Onyari, 2021; Omotayo et al., 2020).

South Africa's biggest contributors to the solid waste production are mining with 72.3%, pulverised fuel ash of 6.7%, waste from agricultural activities of 6.1%, waste from urban activities of 4.5%, and sewage sludge of 3.6% (Muzenda, 2014; Nkosi et al., 2013), with 90.1% of the country's waste being landfilled, while the waste recycling level has remained at 9.9%, being very low compared to the international standards, with the western nations, such as Germany and Austria, recycling up to 63% of theirs (Premalatha et al., 2014). Furthermore, as the production of solid waste is growing exponentially while the need for basic sanitation services has not, Goal 2 of South Africa's National Waste Management Strategy seeks to guarantee adequate waste service delivery. The Waste Act 59 of 2008 provides information on several waste classifications and instruments (Serge Kubanza & Simatele, 2020). In order to specifically fulfil the goals of the National Environmental Management Waste Act 59 of 2008, the Department of Environmental Affairs in South Africa issued the National Waste Management Strategy in 2020. The National Waste Management Strategy seeks to "create a common platform for action among stakeholders to systematically improve the waste management sector" and is based on South Africa's hierarchical waste management system.

Due to a growing population and increased levels of urbanisation in South Africa, there is a growing need to enhance waste production and management as well as effective disposal of waste (Omotayo et al., 2020; Rodseth et al., 2020). To prevent insect breeding, pollution, and other environmental hazards, a reported solid waste container must be removed within 24 hours and at least once a week, according to the national standards for waste collection in South Africa (Haywood et al., 2021; Oelofse, 2011). It also outlines the various service delivery requirements. Despite this, 66% of the country still receives proper waste collection services from private companies or local authorities. This suggests that there are clear problems with solid waste disposal and that solutions are needed to turn solid waste into a source of income (Samson & Creation, 2004). It's important to consider and prioritise South Africa's recycling sector's potential from an economic standpoint (Godfrey et al., 2013). According to Hlahla et al. (2014), this is a way to encourage the country's sustainable waste management practices. Therefore, improving a household's means of subsistence in South Africa may help the impoverished and marginalised households there by enabling them to pay for other financial commitments as well as solid waste disposal. Likewise, Akintola and Hangulu (2017) stated that

the green economy principles should promote the recognition of non-governmental organisations' (NGOs') solid waste disposal contribution in South Africa as a commonality.

Once a piece of land has been utilised as a landfill, it can no longer be used for residential, commercial, or institutional purposes, which is why it should ideally not be allowed. According to the 2011 national waste baseline survey, tonnes of commercial and industrial waste were produced in South Africa. The remaining percentage was disposed of in landfills, with little over 77% of this volume being recycled (DEA, 2012). This suggests that there was a notable rise in recycling in 2006–2007. Businesses should be totally dedicated to recycling, reducing, reusing, and the responsible disposal of trash in light of the waste regulation that is already in place (Worthington-Smith, 2009). One of waste management's advantages for companies is that it can save operating expenses by treating waste as an intrinsic part of operations and gaining reputation from being perceived as an environmentally responsible business. In 2018, the United Nations Environmental Programme (UNEP) stated that sustainable waste management is one of the policy priorities for Africa, and various continental, regional, and country-specific policy initiatives and strategies are being implemented.

Since waste management is a pressing issue in South Africa at the moment, the legislature has enacted the National Environmental Management Waste Act, a specific piece of legislation purported to address waste management issues exclusively. In 2016, the Department of Environmental Affairs stated that "sound waste management practices contribute to sustainability, making waste management one of the critical elements of sustainable development." The National Waste Management Strategy outlines that the legacy of inadequate waste services, poorly planned and maintained waste management infrastructure, and limited regulation of waste management persistently threaten the health and wellbeing of everyone in the country. Addressing this legacy and its negative environmental and social consequences advances people's constitutional right to a healthy environment (Department of Environmental Affairs, 2012).

All levels of government (local, district, provincial, and national) are legally accountable for waste management and respecting the South African Constitution and the National Environmental Management: Waste Act, 2008 (Act No.59 of 2008) (NEMWA). Environmental policy, particularly waste regulation, is relatively recent in South Africa, with the majority of it passed since 1998 (Oelofse & Strydom, 2010). It has historically been fragmented and continues to be so (DEA, 2011). Nonetheless, South Africa has made progress in meeting waste management criteria, critical difficulties, and obstacles. In South Africa, environmental concerns have been tied to trash management and disposal (economic value) rather than focussing on waste prevention through legislation. As stated above, to preserve and safeguard the environment, it is crucial to follow the waste hierarchy of prevention, reuse, recycling, recovery, and disposal. Nevertheless, the majority of South Africans trash their waste because they do not recycle or repurpose it. The waste management hierarchy (avoid, reuse, reduce, recycle, recover, and dispose of trash) may be implemented with the help of SMMEs (Manavhela, 2017).

3. Materials and Methods

This study assesses how informal small businesses contribute to environmental pollution in the Rand-West City Local Municipality in South Africa, using qualitative research methodology. The target population for this particular study was the owners of informal small businesses located in townships and urban areas within the Rand-West City Local Municipality in the Gauteng Province in South Africa. However, the number of owners of informal small businesses was indeterminate because the municipality does not have complete records of all informal small business owners. There are only a few informal small business owners who had registered with the municipality when they applied for rental stalls to operate their business. Semi-structured interviews were undertaken to collect empirical data from owners of informal small businesses. Using semi-structured interviews was found useful because interview guides were prepared in advance to assist researchers in remaining focused on a particular topic. Ruslin, Mashuri, Alhabsyi and Syam (2022:24) contend that having an interview guide—a sort of unofficial compilation of subjects and enquiries that an interviewer might pose differently to each participant—is usually advantageous for interviewers. The guide frees researchers from format-specific restrictions so they can concentrate on the subjects at hand. Equally important, a purposive sampling technique was applied to select the research participants, in which case a total of 25 owners of informal small businesses were chosen for interviews.

The owners of informal small businesses interviewed in this study were involved in different operations such as hair saloon, take-away food stalls, vegetable stalls, roadside motor mechanics, and spaza shops. Most of the owners were involved in the day-to-day operations of their businesses in the Rand-West City Local Municipality. In other words, the owners of informal small businesses whose business operations were located outside the jurisdiction of the Rand-West City Local Municipality were not interviewed or selected for interviews. Appointments were made with all the research participants, and they were informed about the purpose of the study before their participation in interviews. They were subsequently informed of the right to withdraw from participating at any stage of the interviews whenever they felt uncomfortable to proceed with interviews. All interviews were conducted at the places where the day-to-day business operations took place.

Another qualitative data collection technique that was applied was observation. One of the simplest techniques for gathering data is observation, which is "seeing" things (such as relationships, processes, objects, and events) and officially documenting and evaluating what is observed (Intrac, 2017). Further, observation was used to record the environmental cleanliness in areas where the informal small businesses operated. As a matter of fact, two dimensions were considered in relation to the use of observation. Firstly, the descriptions of what the researchers have observed; secondly, reflections on what was observed. These were achieved by taking accurate notes of what was observed around areas where the informal small businesses operated. Data collected through observations were used to confirm interview findings and to show contradictions.

A strategy used by researchers to methodically organise and analyse complicated data sets is thematic analysis, which is a qualitative research technique (Dawali, 2020:62). Given the complexity of data collected through interviews, thematic analysis was applied to analyse such data. Researchers familiarised themselves with data, generated initial codes, searched for themes, reviewed the themes, named and defined themes, and finally wrote the report on findings. On the other hand, qualitative content analysis was employed to analyse data gathered via observation schedule. To analyse observation data, the content that was to be analysed was succinctly identified and selected, units and categories of analysis were defined, a set of rules for coding was developed, and text was coded in lined preselected rules as recommended by Luo (2023).

Since this study involved human participants, ethics clearance was granted by the College of Economic and Management Sciences at the University of South Africa as per reference number: PAM/2020/009.

4. Results.

The findings of this study are presented herein in accordance with identified themes emanating from empirical data. Therefore, this section presents the type of waste generated by informal small businesses, thereby stating how informal small businesses contribute to environmental degradation in the Rand-West City Local Municipality in South Africa.

4.1 Boxes, plastic bags and foam plates

The findings show that the informal small businesses in the Rand-West City Local Municipality produce waste such as foam plates, plastic bags, and boxes. These types of waste are predominantly produced by informal businesses that sell take-away food parcels. In that regard, foam plates are used to serve food for customers, while plastic bags are used to insert different food parcels for customers. Boxes are used by owners of informal small businesses to carry different food products to and from the market. Unfortunately, some of the boxes, plastic bags, and foam plates are littered indiscriminately after use by customers. This trend was confirmed by observations of the physical environment adjacent to the markets where food stalls were operating. In that sense, it was clear that informal small businesses contributed indirectly to environmental contamination. One of the research participants commented that:

“If you look at the nature of our business, you would have immediately noticed that the type of waste that we produce here includes used plastics, foam plates, as well as boxes. Yeah, we use boxes to carry some of our products, but when they are broken, we must discard them. Sometimes we do not have full control over some of the waste generated

from what we sell because customers may choose to litter containers instead of using refuse plastics that we buy for the purpose of storing waste.” Anonymous food stall owner B.

The way some of the spaza shop owners handled it contributed to environmental pollution because burning non-recyclable waste is not encouraged while recycling is commendable. In that regard, one participant explained how waste was disposed of:

“We burn the plastic waste at one of the dumping sites next to the township. At the same time, we take recyclable waste such as polystyrene bottles and boxes to the nearest recycling stations.” Anonymous spaza shop owner A.

Data collected through observation indicated that spaza shop owners as well as the vegetable stall owners made efforts to keep their working environment clean by sweeping their operating spaces before commencing with business. At the same time, it was observed that despite the absence of wheely refuse bins, some of the informal business owners had refuse bags into which they could put waste generated from their business operations.

4.2 Defective motor vehicle parts.

The findings emanating from interview data indicate that informal small businesses, especially the motor mechanics, produce multiple forms of waste in the form of defective motor vehicle parts. The defective motor vehicle parts include tires and mechanical and non-mechanical components. In most instances, vehicle owners do not collect replaced parts; instead, they choose to leave defective components with motor mechanics. Two participants made the following remarks:

“There is numerous waste that we produce as we repair vehicles. I may not be able to list them all, but I can only highlight a few for now. For example, defective motor vehicle parts (metal and plastic), and punctured motor vehicle tires.” Anonymous motor mechanic G.

“Our customers leave damaged spares with us here. So, we gather all broken and old vehicle spares in one refuse container for disposal.” Anonymous motor mechanic F.

Most of the defective motor vehicle spares are managed by keeping them in one container and dispatching them to recycling sites. Observations indicate that worn-out tires were burnt in the open area adjacent to the place where motor mechanics operated. Some of the defective non-metal spares were discarded in the open area without due regard to environmental cleanliness.

4.3 Used motor vehicle oil.

The findings of this study revealed that the informal small businesses contributed to environmental pollution when draining used oil from motor vehicles. Based on this finding, it is evident that the roadside motor mechanics are the ones that contributed immensely to the environmental pollution during the process of drawing oil from motor vehicles. One participant explained:

“The type of waste we produce during our business operations is used oil from different motor vehicles that we service. This may also include accessory parts.” Anonymous motor mechanic B.

Concerning the disposal of oil from serviced motor vehicles, some participants indicated that they recycle the oil.

“We make sure that the oil coming from serviced motor vehicles is stored in a big drum until it is full. Once it is full, a truck will come to collect it for recycling. Unfortunately, we do not receive enough income from recycling. Since we do not have our own space to keep the oil drums, we have requested to keep our drum nearby.” Anonymous motor mechanic C.

One of the motor mechanics stated that they invented a special approach to handling oil spillages. However, such an approach does not seem to redress environmental pollution. The participant commented that:

“When oil spills onto the ground during the process of draining it from a motor vehicle, we simply use soil to cover pillages.” Anonymous motor mechanic H.

Contrary to the interview findings, observation records indicated that the environment where the roadside motor mechanic operated was heavily stained with grease and oil. It was also evident that the oil spillages could be easily swept to the nearby water drainage systems as well as streams, especially when it rains. Moreover, in terms of waste that is produced, there were multiple boxes stained with oil. It was not clear how these boxes were disposed of after business operations, as the mechanic did not reflect on that subject matter during interviews.

4.4 Vegetable wastes.

The informal small business owners that operated vegetable stalls highlighted that waste produced from their business operations was spoiled vegetables. Since the type of waste produced was non-recyclable biodegradable waste, it was constantly difficult for some of the business operators to manage, especially when the municipality fails to collect waste. The level of difficulty was increased by the lack of refuse bins adjacent to the markets where vegetable stalls operated. Observation data revealed that due to the non-collection of refuse in some of the areas where vegetable stalls operated, vegetable wastes were scattered, contaminating the environment. A participant stated that:

“Well, the type of waste that we produce here, I can say, is mostly vegetable waste, especially when some of those vegetables are wilted and spoiled.” Anonymous vegetable stall owner A.

Regarding the handling of vegetable waste, the vegetable stall owner explained:

“The waste generated here is normally gathered in a black refuse bag for disposal in preparation for collection by the municipality’s waste collection trucks.” Anonymous vegetable stall owner A.

One participant expressed frustrations about the fact that they utilise their own resources to keep their operating environment clean.

“Most of us intend to keep this place clean so that we can operate in a cleaner environment because we sell food to the community. Also, we are using our money to buy refuse bags to put waste generated from our business operations.” Anonymous foodstall owner A.

While this issue of waste collection was handled differently by one participant, the other participant involved in selling vegetables appeared to have an interesting approach to handling vegetable waste, as evidenced by the following remarks:

“We do not produce much waste from vegetables. However, we do offer vegetable waste to one of the community members to feed swine.” Anonymous vegetable stall owner B.

4.5 Chemical waste and hair off-cuts.

Interview findings revealed that informal small businesses such as hair salons produced various types of waste. These included tin foils, aerosol cans, and styling product containers. Hair off-cuts were also part of the waste produced by hair salons. In the same way as vegetable stalls, some of the hair salons experienced intermittent collection of refuse. In instances where there was no refuse removal, the environmental contamination would be resultant. One participant commented that:

“As a hair salon, we produce multiple wastes because we make use of different cleaning products. This explains that you can find some chemical waste. We sometimes produce waste such as aerosol cans, tin foil, styling product containers, and old hair straighteners. One that is obvious is the hair off-cuts because we style people. That is to name a few.” Anonymous hair salon owner A.

The participant went on to highlight how refuse is managed to minimise environmental contamination.

“In terms of managing waste originating from our business operations, we rely heavily on the municipality for refuse removal. The unfortunate part of it is that those services are not provided regularly. As you can see here, we do not have any refuse bins, and no one is supplying us with refuse bags either. So, we are on our own when the municipality does not come to remove waste. When there is no waste removal, refuse bags ultimately break open and one gathers the refuse together again, which means that it will start scattering all over the place. Even worse, there are no toilets

here, and it is difficult to operate in this environment. People urinate in open spaces when they are pressed."
Anonymous hair salon owner A.

It was observed during observations that although the salon owner made efforts to keep the area clean, it remained a challenge to maintain the place as there were oil spillages around the premises. Moreover, there was a stench in the vicinity due to the urination adjacent to the property, ostensibly because of the absence of toilets. This implies that customers who visit the establishment experience hardships when a need arises to use bathrooms to relieve themselves. The only alternative customers and owners have is to walk to the nearest mall.

5. Discussion.

A study conducted by Parker, Redmond and Simpson (2008) found that although SMEs play a significant role in the global economy, they are also believed to be accountable for 70% of all pollution and about 60% of all carbon dioxide emissions from UK businesses. This is an indication that small businesses, whether formal or informal, do play a role in terms of environmental contamination. This current study has found that the informal small businesses in the West-Rand Municipality do contribute to environmental pollution albeit in different ways, for example, littered plastic bags, boxes, and foam plates. In other words, both biodegradable and non-biodegradable waste were produced by informal businesses. Juvan, Grun and Dolnicar (2023) found that businesses in the hospitality sector, such as restaurants and hotels, generated waste such as paper and cardboards or boxes that are used to package supplies for business operations. Unfortunately, in some instances, informal business owners in the Rand-West Local Municipality resorted to burning excess waste (e.g., plastics, papers, cardboard) produced during operations. This study found that most biodegradable waste, such as vegetable waste, was used to feed pigs as a way of preventing environmental contamination. Importantly, this finding is in agreement with Juvan et al.'s (2023) recommendation that food waste should be used to feed animals, albeit under strict hygiene principles to prevent harm to animals.

This study found that some of the informal business owners collected recyclable waste generated by their businesses with the purpose of recycling, especially defective motor vehicle parts and used motor vehicle oil. The importance of waste recycling by informal small businesses was noted by Sembiring and Nitivattananani (2009), stating that in Indonesia's Bandung area, approximately 303 metric tonnes of solid waste (2295) produced were recycled by informal small businesses. In this regard, Sultana et al. (2022) emphasised a need to prevent environmental pollution emanating from the informal sector. While this study found that oil was kept in containers by some informal businesses that repaired and serviced vehicles, it was noted that environmental contamination was observed where oil spillages took place in areas where vehicle repairs were undertaken. This finding is in agreement with Soharwardi et al.'s (2021) statement that the operations of some businesses in the informal sector of the economy are accompanied by environmental pollution. According to Sultana et al. (2022), the informal sector impedes long-term growth. There are benefits to the informal sector, particularly in terms of providing accessible services and establishing job opportunities. The thesis of Sultana et al. (2022) is based on the linkages between the informal sector and concerns of low income, low productivity, unfair labour practices, and environmental damage.

Based on the empirical findings emanating from this study, there was little evidence that informal businesses sought to pursue recycling as a method to prevent environmental degradation. Given the current waste regulations, Worthington-Smith (2009) is of a view that businesses should be fully committed to recycling, reducing, reusing, and disposing of garbage responsibly. One benefit of waste management for businesses is that it can reduce operating costs by treating garbage as an essential component of operations and enhancing a company's brand by being seen as an environmentally conscious enterprise. To assist small businesses in addressing environmental contamination, Redmond and Walker (2009) noted that small business owner-managers regard education as the most effective approach to minimising negative environmental consequences from within the industry, which provides some evidence that this perspective is in line with small business viewpoints. Moreover, various educational approaches have been proposed for delivering environmental education, including evolutionary/cognitive/motivational, mixed method, participative problem solving, positivist, expert-controlled awareness raising, and transdisciplinary.

6. Conclusions.

This study has offered key insights regarding how informal small businesses contribute to environmental pollution in the Rand-West City Local Municipality in South Africa. The study revealed that informal businesses generate multiple types of waste that can have negative impacts on the environment if they are not managed appropriately. Waste generated from different activities of informal business affects the environment differently. For instance, oil spillages and littered vegetable wastes will have varying degrees of impact in terms of pollution. This may necessitate a diverse response to address these types of environmental contamination. In terms of policy implications, it can be argued that homogeneous approaches in waste prevention policies may not be helpful, especially when environmental pollution patterns remain completely heterogeneous. This implies that different policy approaches may need to be developed to curb increased levels of environmental pollution in different informal sectors. Given the intricacies of waste management in the Rand-West City Local Municipality, the government will need to provide dedicated refuse bins that can be utilised by informal business owners during their day-to-day operations. However, this will have to be undertaken in an orderly fashion whereby informal business owners are formally registered with the local municipality office. As part of the full recognition of the informal small businesses, the municipality may need to assist with dedicated areas where some of the informal small businesses, such as food stalls, motor mechanics, and hair salons, can operate with minimal prospects of environmental contamination. In other words, informal small businesses should be provided suitable places for the purpose of various business operations to ensure that the environmental design is conducive to minimising contamination or pollution. A major limitation of this study is that it lacks quantitative data on informal small businesses that operate in various sectors of the economy. Such data could be useful in the disaggregation of environmental impact based on the activities of informal businesses in their various sectors. Therefore, future studies may need to consider this exercise to understand how activities of informal small businesses impact the environment in different sectors of the economy. Despite the limitations highlighted above, this study improves on the previous studies that have considered the topic of environmental contamination thereby highlighting specific ways through which informal businesses contributed to environmental pollution. At the same time the study serves to raise awareness among the informal business owners about the impact of the business activities as they relate to environmental contamination. By so doing, most of the informal business owners can be able to engage in activities that are environmentally friendly and sensitive without compromising the opportunity to earn income.

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Conflict of interest:

The author(s) declare that there is no competing interest.

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