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Resourceful Handling of Plastic Waste of Water and Drink Business Enterprises in Nigeria

Joshua F. Obisanya* & Folashade O. Akinyemi
Institute for Entrepreneurship and Development Studies, Obafemi Awolowo University, Ile-Ife, Nigeria
*Corresponding Author: jobisanya@oauife.edu.ng

Abstract

Interactions of business activities with the environment are on the increase around the globe nowadays. This phenomenon is known to have led to a series of environmental challenges such as pollution, climate change, erosion and depletion of natural resources. Those aforementioned issues could impair societal well-being in turn. However, global environmental stakeholders, in recent times, birthed and created awareness of the greening concept, a resourceful means to promote a healthy economy, society and environment, in business endeavours. That is. an effort to make all sorts of business enterprises, particularly manufacturing and production businesses, environmentally friendly (harm-free) via a model of production and consumption (circular economy), which involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials or products cum wastes. Despite the awareness of greening of business in Nigeria, the extant literature revealed that its adoption is extremely low in the country. Also, there is little or no information in the literature on greening of businesses involving water and drink production in Nigeria, in the context of resourceful plastic waste management in the business sector, which this study is set to provide. A systematic review of the literature was employed for the study to: provide an overview of plastic wastes in water and drinks businesses, identify economic/value-addition benefits of greening strategy to the business sector, pinpoint factors that are responsible for low adoption of greening strategies in the business sector of the country, and propose a framework to promote greening of the business' plastic wastes. These findings have implications for the key stakeholders on greening of business in Nigeria – government at all levels; water and drink business owners; as well as traders and consumers of the products, to improve on promoting resourceful plastic waste management. The study will serve as a baseline information for future empirical investigation on the subject matter.

Keywords: Greening, Environmental Sustainability, Water and Drinks Business, Plastic Waste, Circular Economy, Business Enterprise

Introduction

All kinds of business enterprises are well known to exist and operate in an environment and not in a vacuum (Hans, 2018). Thereby, continuous interactions between daily business activities and an environment are inevitable. Interactions in this context refer to various changes/reactions (biological, chemical or physical reactions) that a business's raw materials/material resources, products, by-products or wastes undergo when in contact with/processed in an environment (earth' surface, water body or air). This scenario, in many instances, has led to and still causing diverse environmental issues, which include but are not limited to environmental pollution, desertification, degradation and climate change, in our society (Kutz, 2018; Fayiga et al., 2018; Ghosh, 2018; Glantz, 2019). Those issues in turn could negatively impact human cum aquatic wellbeing, socio-economic growth and

environmental sustainability across the globe (Solaja & Adetola, 2020; Otali & Oladokun, 2018). Moreover, every type and form of business, being micro, small, medium or large, has its peculiar environmental issues at varying degrees, both in developing and developed world. In light of this, water and beverage businesses that use plastic packaging materials, stand out as a typical and persistent source of non-biodegradable solid wastes in the world's environment today (Rahman & Bhoi, 2021). Modernisation, the quest for healthy, portable and drinkable water, and an increase in demand for handy drinks in our society, among other reasons, contribute greatly to the proliferation of the industry daily, particularly in developing countries like Nigeria (Micah & Janet, 2017). In the country, there is no Local Government Area without a water business enterprise and usage of plastic bottles in production (Omole *et al.,* 2015). This makes plastic pollution ubiquitous and of critical issue in the country's environment, as most of the used plastics after production or consumption of their contents or both cases, get into any available space on the earth without safe disposal and treatment. Several efforts have been made in recent years by all the concerned stakeholders in the sphere of sustainable environment, to ensure that business activities and operations are environmentally resourceful with little or no environmental hitches. These are combined actions of stakeholders such as academics, industrialists, business financiers, research grant donors, law and policymakers Their concerted efforts have yielded a series of concepts and constructs like, circular economy (Corvellec et al., 2022), green business Rakhimova, (2022), green economy (Merino-Saum et al., 2020), green growth (Fernandes et al., 2021), green marketing (Mukonza et al., 2021), green company (Pimonenko et al., 2020), ecopreneurship (Gunawan et al., 2021), green entrepreneurship (Tien et al., 2020), green innovation (Takalo & Tooranloo, 2021) and environmental entrepreneurship (Vedula et al., 2022), in the business and research world nowadays. Although the aforementioned terminologies have interrelated meanings that are differently defined in the literature, their common focus is on strategies that would improve as well as promote simultaneously sustainable health qualities and economic values of the environment in business, for societal development and growth. The strategies in those domains include: proactive approaches to minimize waste through reuse, repair and recycling means, carbon footprint reduction, avoidance of any harmful business practices, adoption of efficient technologies, resource and energy efficiency (Mahyari et al., 2022; Koul et al., 2022; Zhang et al., 2021; Zorpas, 2020). Nigeria as a major part of global advocates for the adoption of green strategies in all business endeavours, especially the industrial sector – those involving production and manufacturing, is constantly creating awareness and campaigns via different fora like conferences, seminars, workshops, colloquiums, symposiums and media on the issue (Komolafe & Oyewole, 2018; Ogiemwonyi, 2022). However, several studies conducted in different industrial areas such as construction, building, transportation, and digital industries, in the country revealed that the level of adoption of the greening of businesses is still at the infant stage in the country, despite the different awareness strategies on the ground (Akhator et al*.,* 2016; Onuoha et al*.,* 2017; Saka et al*.,* 2020; Nasidi, 2022). In addition, there is a paucity of information in the extant literature about the green handling of plastic wastes in the water and drinks industrial sector of Nigeria, which this study sets to provide. Given this, the study intends to provide answers to the following research questions: what is plastic waste in water and drinks businesses? What are the economic/value-addition benefits to the businesses? What factors are responsible for the low adoption of greening strategies in the industrial sector? What framework could assist all the stakeholders in Nigeria as a whole to achieve greening of plastic waste in water and drink businesses?

Theoretical Background on Greening of Business Enterprise

It is a known fact that all business enterprises, of different forms, sizes and types, are engines of socioeconomic development and growth of nations globally. Also, as the rate of development increases so do ecological disasters. In the same vein, the benefits of development without environmental concern are seldom sustained.

Therefore, Brown (1972) pointed out that in 1950, when the Gross World Product was over a trillion dollars, ecological catastrophes were few. In 1970, when the Gross World Product nearly tripled, rapid eutrophication of lakes, oil spills, fish kills, devastating floods arising from waste pollution, deforestation, and so forth became more frequent. The increasing social inequity and serious ecological constraints associated with the conventional development mechanism call for an alternative business model that ensures sustainability simultaneously with socio-economic development (Geissdoerfer et al*.,* 2017). Furthermore, according to the Global Footprint Network (Jóhannesson et al*.,* 2020), an international think tank that provides ecological footprint accounting tools, we currently consume more resources per year than our planet can produce in the same timeframe. Their calculations indicate that it takes the planet 18 months to regenerate everything we use in 12 months. Their reports show that Earth Overshoot Day has moved up from early October 2000 to August 13 2015. Given the alarming nature of ecological overshoot, it is very crucial to promote an alternative model of growth keeping maintenance of ecological balance as one of its most important priorities. To this end, a significant transition from "business as usual" (Oliveira et al*.,* 2021) to a "sustainable society" (Sethi, 2022) has to be made by human society. Individuals and organisations, all over the world, must realize the ecological limits and start living within the replenishing capacity of our planet. It is in this context that the idea of greening business or green business is of immense relevance (Viswanathan & Varghese, (2018).

The business model that is holistically and simultaneously passionate about achieving the trios' ingredients (profit, people and planet) of sustainability demand of present business realities is referred to as green business. The greening of business enterprises entails the greening of outputs and/or the greening of processes, according to ITC-ILO (2016) and OECD (2018), with the general goal of securing a healthy natural environment. While green outputs are outputs produced by the enterprise that directly contribute to reducing carbon emissions, such as biodegradable and renewable products, greening processes include the greening of methods, procedures and practices such as green waste management strategies (Saget et al*.,* 2022). This means entrepreneurs can enter into the "green" business sector by either providing environmentally friendly products or services through an environmentally friendly process or with the help of clean technologies which reduce any negative effects of the business (Majurin, 2017).

Methods

Research methodology based on a systematic review of extant literature (secondary data) adopted from Mensah (2019) was used for this study. The secondary data employed in this study emanated from published academic materials, which include referred journal articles, theses, conference presentations and other relevant academic documents. The data were sourced from different online databases, encompassing Scopus, Google Scholar, Web of Science, JSTOR and ScienceDirect. The documents were identified through a combination of searches, using keywords and constructs that are closely associated with sustainable development. These include environmental sustainability, green business, circular economy, plastic pollution, eco-friendly waste management strategies, sustainable business, resource efficiency, ecopreneurship, water and drink businesses. No date restriction was imposed on the search, as priority was solely given to the relevance of the materials, in terms of their substantial contributions to this study. However, concerted efforts were made to capture as much recent literature as possible, to reflect the timeliness, relevance and imperativeness of the study.

Furthermore, literature that was not related to sustainable development in the context of greening of business was excluded. However, to avert the risk of missing potentially relevant literature, reference lists of selected articles were properly scanned for related materials to the topic under study. Thereafter, information, including title and abstract, was reviewed for articles and other publications identified in the search. Selected materials meeting pre-defined inclusion and exclusion criteria and were coherent with the topic of interest were included in the review. The general inclusion criteria employed were: relevance, authority and currency, according to

Browning and Rigolon (2019) and Wolf et al. (2014). The authors described relevance as how the material had contributed to the greening discourse, while authority was used to refer to whether it had been published by a reputable source or the material had been peer-reviewed or professionally edited. Currency, on the other hand, was defined in terms of whether the material was still influential regarding the debate on the greening of businesses, as evidenced, for example, by citations. The initial search criteria identified a total of 1479 materials. However, applying the screening and eligibility processes stated above, 171 articles were identified for full-text retrieval, out of which 92 were identified as meeting the final inclusion criteria as shown in Figure 1.

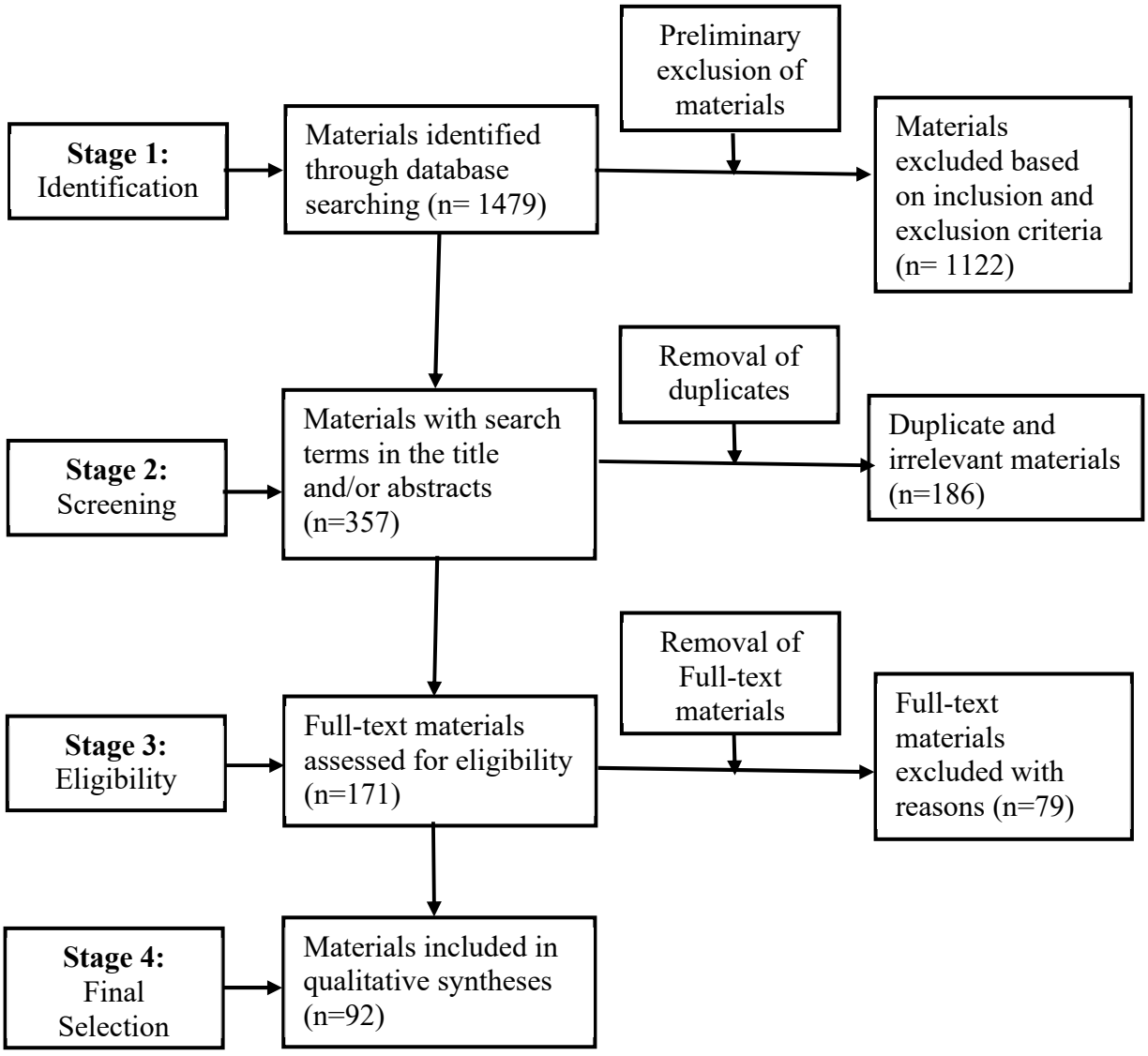

Figure 1: Stages of the systematic review of literature
Source: Adapted from Mensah (2019)

The full texts were read thoroughly to extract the relevant information. Pieces of information gathered were analysed by combining techniques of the qualitative content analysis of Elo &

Kyngäs (2008); Hsieh & Shannon (2005); Mayring (2019) and recursive abstraction of Polkinghorne & Arnold, (2014). That is, the contents were summarised under themes without coding but with notes. This was guided by the keywords and constructs already mentioned. The series of summarizing, which were done, were aimed at bringing out the basic results with regard to the viewpoints of each input data and to remove discrepancies and irrelevant data. The reasons for discarding particular aspects of each summary result were noted. while each summary was being prepared in order not to forget the reasons for their exclusion. Pieces of information gathered through the summaries were synthesised, interlinked and paraphrased to make them more condensed, concise, coherent and manageable. The result was a more concise and refined summary of the relevant literature as answers to the research questions as presented below.

Findings and Discussion

An Overview of Plastic Wastes in Water and Drinks Businesses

Plastics are essentially made up of synthetic organic polymers. in other words, plastics are fundamentally products or materials made from polymers extracted from naturally occurring hydrocarbons such as crude oil or natural gas (Agberemi, 2020). While sachet plastic is made up of polyethene and belongs to the single-use plastic category (Di Paolo *et al.,* 2022), the plastic bottle is polyester, that is, poly(ethylene terephthalate) (PET E), which could be reused in addition to its primary purpose (Nisticò, 2020). In Nigeria, the widespread usage of plastic materials dates back to the second half of the 20th Century, when the use of plastics for packaging was introduced (Agberemi, 2020). For example, in packaging water, sachet water, popularly called pure water in Nigeria, has a long history, as it is believed to have been invented in 1990 by Mrs. Victoria Bolanle Oginni (Dumbili & Henderson, 2020). Presently, the business also uses plastic bottles as a packaging material. The exceptional properties of plastic, which include its durability, low cost, lightweight and ease of production among others, make it find applications nowadays especially in beverages and drinking water businesses (Van Oosten, 2022). However, plastics were once considered harmless and inert until disposed plastics over a couple of years began to reveal their negative consequences in the ecosystem (Worm et al*.,* 2017). This implies that at the plastics' end of life, they become non-biodegradable wastes, which could pose huge threats to environmental security when poorly managed. In this regard, African countries ranked high in terms of their inability to recycle solid wastes resourcefully, despite their high waste generation occasioned by high population densities across choked cities. Therefore, with an average useful lifecycle of three years, the most conservative estimates suggest that over 30,000 tonnes of plastic waste are generated annually across Nigeria (Agberemi, 2020). Furthermore, plastic wastes have been known to cause several environmental pollutions with a wide range of undesirable consequences. For instance, the presence of plastic waste in the marine environment is associated with the suffocation and entanglement of marine animals. According to Xanthos & Walker (2017), marine pollution of plastic wastes is implicated in the death of over 1.1 million seabirds and animals annually across the globe. Also, the African Development Bank noted that every year, an estimated 100,000 marine species such as seabirds, turtles, fishes, mussels, crustaceans, and marine mammals are killed in Africa, as a result of plastic pollution of the marine environment (Stock et al*.,* 2020). In Nigeria, plastic wastes contribute significantly to the menace of flooding, which is a significant challenge facing the country. This scenario occurs when the plastic wastes cause blockage of drainages and natural water channels, thereby leading to overflow of water to submerge dry and arable land. In the case of soil/land pollution effects of the plastic wastes, especially when they are disposed of via landfilling, alter the quality and structure of the soil. Consequently, it inhibits agricultural practices, threatens global food security (Zhang et al*.,* 2020), contaminates groundwater, and makes its way into the human food chain. Recent studies by (Barboza et al*.,* 2020; Zhu et al*.,* 2020) found the presence of microplastics in the human diet. The ingestion or inhalation of microplastics could lead to inflammation and immune system response (Hwang et al*.,* 2019), reproductive health challenges (Rist et al*.,* 2018) as well as cancer

(Prata et al*.,* 2020). In addition, the burning of plastic waste causes air pollution, which is associated with poor air quality. Also, soot and solid residue ash that result from the burning activities might lead to greenhouse effects and deplete the ozone layer. Besides, the burning of plastic wastes is associated with the release of hazardous pollutants such as polychlorinated biphenyls which could endanger humans and wildlife (Agberemi, 2020).

Economic/Value-Addition Benefits of Greening Strategy to the Business Sector

1. Production of biofuel: Plastic waste is a viable source of plastic oil otherwise known as biofuel. The fuel is obtained from the waste via a production process called pyrolysis, which is an ecological and economical method of converting plastic waste into a resourceful product (Bosnjakovic et al*.,* 2022; Khan et al*.,* 2022). This implies that the end product of plastic pyrolysis is the pyrolysis oil or biofuel which is noted to be useful in the generation of industrial-scale heat and power, and for use as automotive fuel, and bio-refineries. Several studies have highlighted the usefulness of biofuel for industrial and domestic purposes (Balasubramanian & Steward, 2019; Philippidis et al*.,* 2019; Perea-Moreno *et al.,* 2020). There are essentially two types of plastic pyrolysis, and these include thermal and catalytic pyrolysis (Al-Salem *et al.,* 2017). Thermal pyrolysis requires high temperatures, and this is primarily a result of the low thermal conductivity of polymers. On the other hand, catalytic pyrolysis involves the use of catalysts to aid decomposition reactions in lower temperatures. In most cases, and particularly in Nigeria where power availability is epileptic, catalytic pyrolysis is preferred since it requires lower energy consumption. It is imperative to note that as much as 900^{o}C could be required for decomposition reactions using thermal pyrolysis, while catalytic pyrolysis requires less than 300^{o}C to achieve decomposition reaction (Agberemi, 2020). A study conducted by Machirai *et al.* (2018) showed that pyrolysis with a catalyst can produce a fuel with similar properties to conventional fuels. According to the authors, one kilogram of plastic waste is converted into 0.75 kg of usable liquid hydrocarbon fuel without releasing any pollutants, which is, environmentally friendly. The resulting fuel is most similar to diesel and can be used to start diesel engines. Patil *et al.* (2017) in their study, affirmed that one kilogram of plastic waste can be used to produce 0.8 litres of biofuel. The diesel obtained from plastic waste has better properties than crude-oil-based diesel (non-renewable), but with almost the same properties as conventional diesel (Bosnjakovic et al*.,* 2022). Multiple studies have ascertained the usefulness of plastic pyrolysis for generating alternative sources of fuel. As such, pyrolysis plants have been set up across different countries to serve as a tool for achieving economic and environmental objectives. For instance, in the United States, it was estimated that the rapid deployment of plastic pyrolysis in 2014 had the capacity to contribute as much as $9 billion to the country's economy, with the potential of reducing the nation's unemployment rates with over 40,000 jobs (Agberemi, 2020). Therefore, considering the huge amount of plastic waste generated annually in Nigeria, plastic pyrolysis offers a useful and innovative strategy for turning plastic pollution, and all attendant threats that come with it, into a source of economic growth and development. The adoption of plastic pyrolysis in the country will help to reduce the problem of illicit disposal of plastic waste, as these wastes would rather be used as feedstock in the pyrolysis plants (Charles *et al.,* 2018). Therefore, considering Nigeria's energy shortage (Dioha & Kumar, 2020), waste plastic pyrolysis would contribute significantly to improving the country's energy current situation.

2. Production of floor tiles: According to Puttaraj et al. (2020), Waste plastic packaging materials are extremely useful in the production of floor tiles. The authors were able to produce floor tiles from a mixture of plastic waste with fly ash, and solid waste from thermal power plants, without using cement, through a process that involved moulding and demoulding. The resulting tiles of the plastic waste yielded better properties when compared with the normal cement tiles. The authors concluded that plastic waste served as a better binding material instead of cement, in the production of the floor tiles.

3. Production of plastic sand bricks: Waste plastic packaging materials are effectively brick-making raw materials. That is, it represents more

scientific and innovative technologies to effectively recycle these materials than conventional strategies. Plastic sand bricks reduce the usage of clay or sand in the making of bricks with outstanding properties and benefits. These include zero water absorption properties and alternative options of bricks to the customers at affordable rates. Plastic sand bricks are useful for the construction industry (Kognole et al*.,* 2019). In the same vein, UNIDO (2021) reported that waste pure water sachets could be processed into interlocking bricks with better properties than conventional counterparts.

*4. Production of plastic coal tar***:** Plastic wastes have been discovered to be useful in producing coal tar (Fraga et al*.,* 2020; Zhong *et al.,* 2017; Kuznetsov et al*.,* 2015). In steelmaking industries, the use of plastic waste as a substitute for coal can be deemed as a bold step and an eco-efficient alternative for solving the problem of unwholesome waste disposal of plastics and also a means of recycling plastic wastes, which cannot be easily recycled via mechanical methods (Lei et al*.,* 2020).

5. For arts and crafts, beautification: In trying to combat the menace of plastic waste pollution as an environmental challenge, various scholars and relevant stakeholders are advocating for an urgent need to recycle plastic waste. Kehinde et al. (2020) examined four categories of plastics and identified them as instruments for income generation and wealth creation in Nigeria. Jalaluddin (2017) examined the uses and benefits of plastic waste in civil constructions and as eco-friendly innovative decorative materials. The research outputs and products from these studies suggest that plastic waste does have more benefits and should be further explored. In addition to the economic benefits of waste packaging plastics of water and drink businesses as listed above, other eco-friendly products that could be processed from the waste include clothes, bags and shoes, which might be another greening means of revenue generation for the business sector.

Reasons for Low Adoption of Greening in Plastic Packaging Waste Management in Nigeria

1. Environmental education, training and awareness: Quality education and training on environmental matters play an indispensable role in enhancing environmental awareness, and sustainable practices of greening of wastes. According to Efobi et al. (2019), training appears to be an important contribution that could improve the adoption of environmental protection policies by enterprises in Ghana and Nigeria. Staff training programmes are imperative to be more than just a means of disseminating information about the waste management plans, they might also have the broader objectives of fostering the development of a strong critical conscience among employees with respect to waste and encouraging them to monitor and provide feedback on how waste is being managed in the workplace. Saget et al. (2022) and UNESCO (2021) noted that substantial work has been done by governments around the globe to strengthen the education, training and awareness of the general public on environmental protection and damage. However, the impact of this effort is less felt in developing countries like Nigeria, as most of the stakeholders in the business sector have little or no formal and informal educational training, focussing largely on green management of industrial wastes (Babalola & Olawuyi, 2021; Aasa & Jesuleye, 2020).

*2. Deficiency of Green finance***:** Green finance is also referred to as environmental, social and governance (ESG) investing, which encompasses all financial instruments developed to promote the transition towards low-carbon, sustainable and inclusive development (Saget et al., 2022). Many such financial instruments have been proposed over the years, globally but not actualised in the country (Toyin & Onanuga, 2019). Also, the lack in Nigeria to promote resourceful handling of plastic waste in the sector is greening financial incentives such as tax exemptions, grants and subsidized interest rates to owners and organisations involved in water and drinks business enterprises (Rotimi, 2021; Mpofu, 2022).

3. Green innovative and technical skills: Most of the business operators and key staff of the sector in the country are devoid of green innovative and technical skills, which incapacitate them to go green in transforming their wastes resourcefully. ILO (2017) emphasised that innovation, via means of process, product, marketing or

organizational change, is an important driver of enterprise transformation that could lead to higher competitiveness, more profitability, better outcomes, creation of more jobs, more employment for skilled workers, hiring of more female workers and also increase labour productivity. In the same vein, EEA (2020) deduced that environmental innovation is expected to greatly increase the scope for resource efficiency and reduction of carbon emissions, especially if innovation comes with organizational change.

4. Need for a sustainable business model: The urgency of efforts needed in Nigeria, to meet the commitments of the Paris Agreement, might prompt the business sector to revisit the existing ways of doing business and subsequently rethink on viability of greening business activities. In contrast to the business-as-usual paradigm that is based on a purely economic view of enterprises: inputs, outputs and processes (Dyllick et al., 2017), a sustainable business model allows an enterprise not only to take into consideration social and environmental interests, but also to integrate these concerns into their organizational processes, and to be evident in the final output of their activities (Saget et al., 2022)

5. Endemic corruption: In the waste management sector, corruption is evident in delays to the evacuation of household and industrial wastes, bribery among waste management operators, as well as the inability of designated government agencies to prosecute defaulting individuals, and organizations (Dawodu et al., 2022). Recently, Nigeria was ranked high in the global corruption perception index, as it is rated as the fourth most corrupt country in West Africa (Olofu, et al*.,* 2021).

6. Ineffective government policies and regulatory system: The absence of robust governmental policies and regulatory instruments to guide waste disposal (Ike *et al.,* 2018) may pose a challenge to the effective implementation of plastic waste to wealth innovative projects (Agberemi, 2020). Therefore, there will be a need for concerted efforts of the Nigerian government at various levels to introduce and strictly enforce policies and regulations on effective and resourceful management of plastic packaging wastes of water and drinks businesses in the country. The governments should also stipulate measures to punish defaulters.

A Framework to Promote Green Management of Wastes of Plastic Packaging Materials of Water and Drinks Businesses in Nigeria

Proposed solutions to the identified factors on low adoption of greening processes in handling resourcefully the wastes of the business sector are presented in a form of framework, in this study. The framework (figure 2) identifies and classifies into three, the key actors that are expected to vehemently drive green management of wastes of the plastic packaging materials of water and drinks businesses in Nigeria. The three main actors are:

Actor 1: Nigerian Governments (Federal, State and Local levels)

Actor 2: Producers cum Manufacturers of Water and Drinks (Domestic and Foreign)

Actor 3: Other members of the public in the supply chain of water and drinks business (Traders and Consumers at household, workplace and in transit levels)

The expected actions of each category of the actors are highlighted in Figure 2. It should be noted here that well-planned actions and their efficient implementations by Actor 1, especially at the Federal level, are critical to the success of green management of waste in the country. In other words, the effective actions of Actor 1 would determine simultaneously the type and potency of responsive actions by other actors (actor 2 and Actor 3) in the business sector. This in turn would affect interactions and practices of green waste management between Actor 2 and Actor 3. In the same vein, the actions of Actor 3 would be responses from both Actor 1 and Actor 2. This is an all-inclusive framework towards the promotion of environmental sustainability in the context of green management of plastic wastes of water and drink business in Nigeria, as it involves concerted actions of everyone in the country. The framework, if carefully adopted, would yield a lot of mutual benefits to all actors. The benefits include but are not limited to job creation (green entrepreneurs and ecopreneurs), revenue generation (sales and taxes) and a healthy environment.

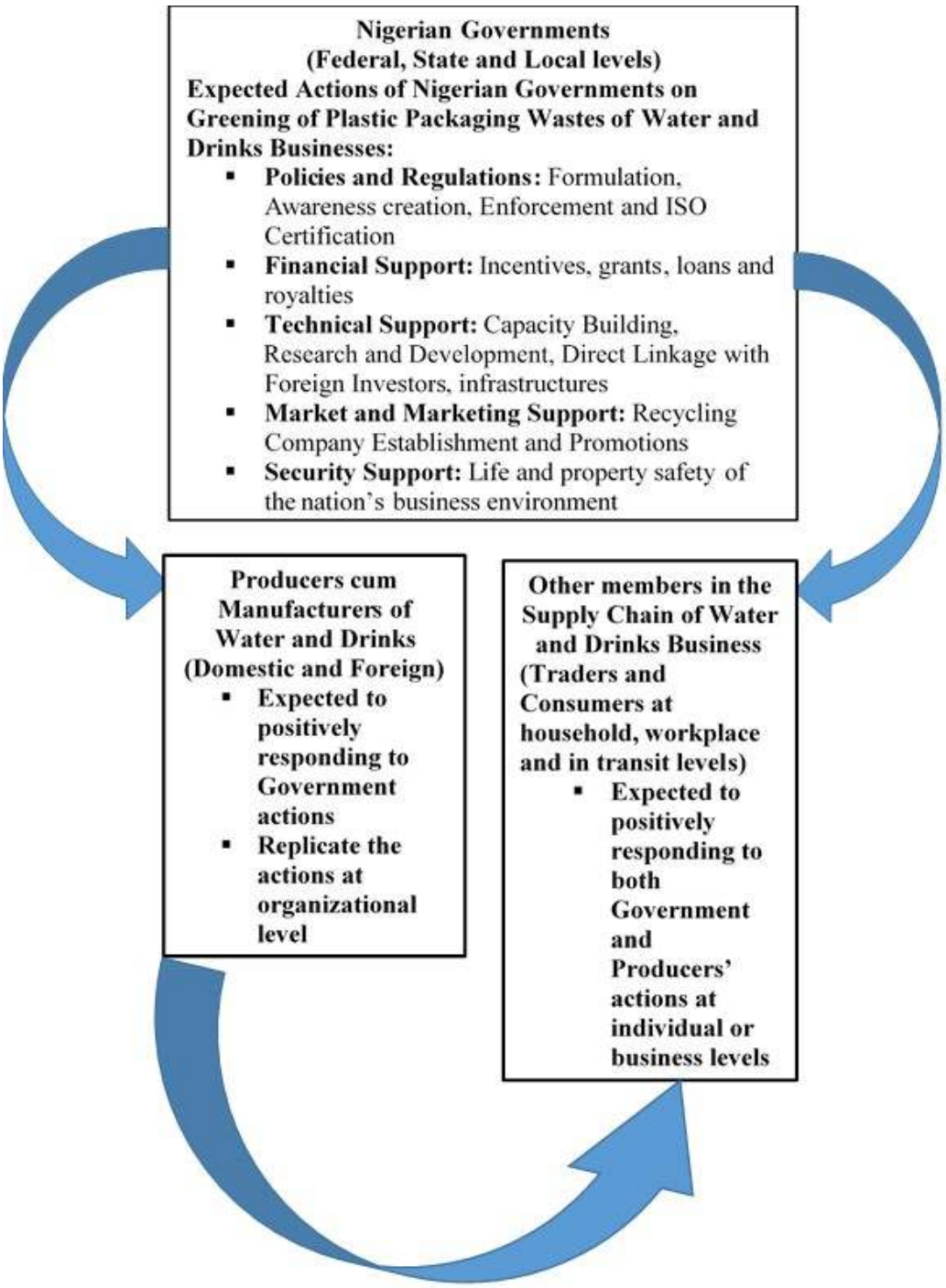

Figure 2: A framework to promote green management of plastic packaging wastes of water and drinks businesses in Nigeria
Source: Authors' Elaboration

Conclusion

This study advances knowledge on greening management of plastic packaging wastes of water and drinks business enterprises in Nigeria. It provides in-depth information on the nature, behaviour and environmental implications of the wastes in the ecosystem. It also delved into economic/value addition prospects of the wastes, identification of factors that could be responsible for the low adoption of greening in managing the wastes of the business sector in Nigeria and later proposed solutions in the form of a framework. Greening of the businesses in the context of healthy and resourceful handling of the wastes of the business sector was emphasised to be key and inevitable, in order to achieve environmental sustainability in the business domains of the country. The implication of this study is that greening management of plastic packaging wastes of water and drinks businesses in Nigeria is feasible and requires joint efforts of the key stakeholders in the business sector. Also, capacity building of the business owners and others in Nigeria, on greening of business, is paramount to the success of sustainable development in the country. Lastly, the study will serve as a basis for future empirical investigations on the subject matter.

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