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**Cleaner Production in Nigeria's MSME's using the Central and Eastern Europe Model**

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**ABSTRACT**

Micro, small and medium enterprises (MSMEs) play an influential role in today's environmental challenges and the socio-economic development of Nigeria. Enterprises can be defined based on size, sector, organisation, technology and location. There are different definitions from country to country depending on the overall size and structure of the domestic economy. Nigeria's national policy of enterprise reports that employment, turnover, assets, and paid-up capital are important criteria in defining and classifying MSMEs. For the purpose of a coherent national policy, the National Policy of MSMEs adopts a classification based on dual criteria: employment and assets (excluding land and buildings) although employment number takes priority over assets in the case of higher assets and lower employees. Micro enterprises in Nigeria can be defined as informal businesses with assets and employment less than 5 million and 10 persons respectively. Small scale enterprises are more modern and sophisticated businesses employing greater than 9 persons and less than 50 persons with assets equal or greater than 5 million and less than 10 million. Medium size enterprises are the most formal and employ between 50 to 199 people. They have assets greater than 50 million and less than 500 million [1, 2].

Cleaner production according to Lindhqvist and Rodhe in 1994 is the continuous application of an integrated preventive environmental strategy to processes and products to reduce risks to humans and the environment. For production processes, cleaner production includes conserving raw materials and energy, eliminating toxic raw materials, and reducing the quantity and toxicity of all emissions and wastes before they leave the process. For products, the strategy focuses on relating impacts along the entire life cycle of the product, from raw material extraction to the ultimate disposal of the product. Cleaner production is achieved by applying know-how, by improving technology, and/or by changing attitudes [3].

MSMEs are vital in the attainment of United Nation's Sustainable Development Goals in Nigeria including poverty reduction, zero hunger, employment generation, and economic growth. A national survey in 2013 by the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) in collaboration with the National Bureau of Statistics (NBS) showed that MSMEs are responsible for the employment of 59.741 million Nigerians representing 84.02% of the country's labour force. The total number of MSMEs in the country is 37,067,416 enterprises distributed into the following sectors: manufacturing, wholesale and retail trade; repairs of motor vehicles and motor cycles; accommodation and food service activities; mining and quarrying, construction, water supply; sewerage, waste management and remediation; agriculture, forestry, fishing and hunting; transport and storage; information and communication, administrative and support services activities, education, and art, entertainment and recreation[1,2].

Incorporating cleaner production strategies in enterprises represents a cost-effective approach to raise profit, increase competitive advantage in the international marketplace and

improve their environmental performance across all the sectors [3]. However, a current research shows that over 50% of business owners and managers in MSMEs in Nigeria have not heard about cleaner production. These group of people also identified social awareness as the greatest limitation to the application of cleaner production in their organisations. A select few that mentioned having knowledge of cleaner production strategies work for large companies [4]. The paper reviews the best cleaner production practices that can be adopted in MSMEs in Nigeria. It makes recommendations for policy-makers in Industry and Environment Ministries, senior managers of MSMEs, cleaner production programme trainers, and domestic and foreign sources of assistance. It takes into consideration the best practice guide for cleaner production programmes in Central and Eastern European Countries (CEECs). This guide was developed to enable the CEECs curb the pollution, energy and resource intensities of industries in the region. The use of the guide resulted in a 20 to 40% reduction in waste with little or no investment. From analysing the guide, we propose the best practises that can be applied to Nigeria's MSMEs based on her socio-economic status. These recommendations consider the peculiarity of Nigeria's MSMEs and ensure an easy transition towards sustainable business practices.

## References

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