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Environmental GOVERNING FACTORS FOR SUSTAINABLE INDUSTRIAL NEIGHBOURHOODS

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B.Sc. of Mechanical Power Engineering, Faculty of Engineering,
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Diploma in Faculty of Graduate Studies and Environmental Research,
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A Thesis Submitted in Partial Fulfillment
Of
The Requirement for the Master Degree
In
Environmental Sciences

Department of Environmental Engineering Sciences
faculty of Graduate Studies and Environmental Research
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2022

APPROVAL SHEET

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ABSTRACT

The industry is one of the most important pillars of sustainable development, which includes economic, social and environmental development.

Although industrial cities play a prominent role in achieving sustainable industrial development, an imbalance between the various pillars of sustainable development. In particular, imbalance within the environmental factor remains the main problem, because it is dependent on preserving the environment by rationalizing the use of natural resources – water, energy and raw materials – which play an important role in achieving competitiveness of industrial products. Competitiveness is reflected in green growth, helping entrepreneurs find environmentally friendly jobs, the circular economy and achieving cleaner production opportunities, thus reducing global warming and being environmentally friendly.

The objective of this study is to identify environmental factors governing sustainable industrial neighborhoods with a focus on food industries. The study begins with an overview of food industries in Egypt, followed by a review of the fruit agroindustry in the world and Egypt's global ranking in this industry, with emphasis on the orange industry.

The study continues with an elaborate presentation on orange concentrate industry, with detailed data on raw material (oranges) consumption, the amount produced per ton of orange, the energy consumption of the production process and the use of industrial by-products in other industries: food, pharmaceutical and aromatic industries. A final chapter is dedicated to waste management of the

orange concentrate industry and its importance as raw material for other industries.

The study concludes with a comprehensive presentation on industrial sustainable development and waste reuse and recycling, with the aim of achieving an entirely green industry and a circle economy.

Keywords: sustainable development, quality of life, resource management, sustainable industrial area, cleaner production , orange industry

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