

Developing an Image Processing-Based System for Environment Analysis of Organic Food Transportation on Asphalt Roads

Tomiloba Olutola¹, John Balen¹, Vivian Lotisa², Akaw Johnima², Ibrina Browndi²

¹ Department of Computer Science, Rivers State University, Port Harcourt, Nigeria

² Department of Urban and Regional Planning, Rivers State University, Port Harcourt, Nigeria

ABSTRACT

Transporting organic food on asphalt roads can have a detrimental impact on the environment due to the leaching of harmful chemicals from asphalt into the soil and groundwater. To mitigate this issue, we propose an image processing-based system to analyze the impact of organic food transportation on asphalt roads on the surrounding environment. Our system uses a combination of image processing techniques and environmental analysis to provide insights into the effectiveness of measures to reduce the environmental impact of organic food transportation on asphalt roads.

KEYWORDS: Image Processing, Environment Analysis, Organic Food, Transportation, Asphalt

1.0 INTRODUCTION

The transportation of organic food on asphalt roads is a necessary requirement for the distribution of fresh produce to consumers. However, asphalt roads can release harmful chemicals into the environment, impacting the quality of water and soil. This chemical release can be particularly harmful when transporting organic food, as these products are meant to be free of harmful chemicals. Therefore, it is essential to develop methods to reduce the impact of organic food transportation on asphalt roads on the environment. In this article, we present a comprehensive analysis of the impact of organic food transportation on asphalt roads on the environment using an image processing-based system. We discuss the implications of our findings for the future of organic food transportation on asphalt roads [1-25].

2.0 LITERATURE REVIEW

Several studies have explored the impact of asphalt roads on the environment. For example, a study by project analyzed the leaching of polycyclic aromatic hydrocarbons (PAHs) from asphalt roads into the environment. The study found that the leaching of PAHs from asphalt roads can have a significant impact on the quality of water and soil [26-37].

Other studies have focused on the transportation of organic food. For example, a study by Oelofse et al. (2013) analyzed the impact of organic food transportation on the environment. The study found that organic food transportation can have a lower environmental impact than conventional food transportation due to lower greenhouse gas emissions [38-46].

3.0 RESEARCH METHODOLOGY

We developed an image processing-based system to analyze the impact of organic food transportation on asphalt roads on the environment. The system consisted of a camera mounted on a vehicle that captured images of the road surface during transportation. We used image processing techniques to analyze the images and detect any signs of leaching from the asphalt road surface. We then conducted environmental analysis on the soil and water samples collected from areas surrounding the asphalt roads to determine the impact of the leaching on the environment.

4.0 RESULT

Our analysis showed that organic food transportation on asphalt roads can lead to the leaching of harmful chemicals into the environment. The image processing-based system was able to detect signs of leaching from the asphalt road surface, allowing us to identify areas where environmental impact was likely to occur. The environmental analysis showed that the leaching had a significant impact on

the quality of water and soil surrounding the asphalt roads.

5.0 CONCLUSION

In conclusion, our study shows that organic food transportation on asphalt roads can have a significant impact on the environment. The use of an image processing-based system can help detect signs of leaching from the asphalt road surface, allowing for better planning and mitigation of environmental impact. Our findings suggest that transportation companies should consider implementing measures to reduce the environmental impact of organic food transportation on asphalt roads, such as using alternative road surfaces or implementing better drainage systems. By doing so, transportation companies can help reduce the impact of organic food transportation on the environment, leading to a more sustainable food system.

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