Report On

The impact of sustainable procurement impact in supply performance and environmental outcomes

By

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An internship report submitted to the BRAC Institute of Governance and Development (BIGD), BRAC University in partial fulfillment of the requirements for the degree of Masters in Procurement and Supply Management (MPSM)

BRAC Institute of Governance and Development (BIGD)
Brac University
Aug-2023

Declaration

'I hereby declare that this submission is my own work towards the "Master of Science in Logistics and Supply Chain Management" Degree and that, to the best of my knowledge and belief, it contains no material previously published by another person nor material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text'.

Student's Full Name & Signature:

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Supervisor's Full Name & Signature:

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Letter of Transmittal

Rajmoni Singha

Academic Coordinator, BIGD

BRAC University

66 Mohakhali, Dhaka-1212

Subject: Submission of PSM 665: Supply Chain Management in Practice- Report/Practicum

Dear Sir,

With due respect and humble submission, I would like to submit my internship report entitled “The impact of sustainable procurement impact in supply performance and environmental outcomes “ as partial requirement to fulfillment to Masters of Procurement and Supply Management(MPSM) at BIGD, BRAC University.

I have attempted my best to finish the report with the essential data and recommended proposition in a significant compact and comprehensive manner as possible. I sincerely hope that this report meets the standards that is expected from your end.

Sincerely yours,

_____

Md Musfiqur Rahaman

21382009

BIGD

BRAC University

12th Aug, Sunday 2023

Non-Disclosure Agreement

This agreement has made and entered into by and between Marico as the First Party and the undersigned student at BRAC Institute of Governance and Development, BRAC University as the Second Party. The First Party has allowed the Second Party to prepare a report on "The impact of sustainable procurement impact in supply performance and environmental outcomes'' in partial fulfillment of the requirements for the degree of Masters of Procurement and Supply Management. The Second Party will have the opportunity to work closely with the officials of the organization and have access to official data and information. Based on work experience, data, and information collected the Second Party will prepare a report. The Second Party will use all sorts of data and information for academic purposes and will not disclose to any party against the interests of the First Party.

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Acknowledgement

My foremost sincere gratitude is to God for His grace and favor throughout the period of my academic work. Special thanks also go to my able supervisor, Mr. Rajmoni Singha (PhD), Academic Coordinator and Training, BIGD, BRAC University for his excellent supervision, guidance and motivations which helped me to successfully complete this report. I would also like to thank my workplace supervisor A K M Hassan Pappu, AGM Outbound Logistics and Customer Service for his great assistance and suggestions which helped me to complete the report. None of this wouldn't have been possible without the support of my family and my sincere gratitude to them. Special thanks to my fellow batchmates of MPSM for their encouragement and support.

Abstract

Procurement is concerned with the identification and acquisition of materials, goods and services needed by an organization to support its operational activities towards the achievement of its corporate objectives. Procurement affects a firm's financial performance to some extent since a greater portion of firms budget is spent on procurement of goods and service. Sustainable procurement is one of the key indicators for measuring organization's economic, social, and environmental performance. Sustainable procurement is concerned with procurement of goods and services that are environmentally friendly. Sustainable procurement and green supply chain learning has impacts on supply chain performance in diverse ways. However, there was no literature on the effect of sustainable procurement on supply chain surplus or profitability on Marico. This study seeks to evaluate sustainable procurement on supply chain surplus and mediated by green supply chain learning. The findings revealed that both sustainable procurement and green supply chain learning have a positive and significant effect on supply chain surplus. Also, green supply chain learning was found to play a positive and significant mediating role between sustainable procurement and supply chain surplus. Managers should understand that the pursuit of sustainable procurement is potentially beneficial to the organization. Thus, incorporating sustainability strategies into the procurement system should not be seen as a burden, but rather an opportunity that has potential benefits for the organization and the entire supply chain. The model is proposed and tested only on FMCG industry.

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List of Acronyms

CSR : Corporate Social Responsibility

CPS : Coconut Producer's Society

Ha : Hectare

Chapter 1

INTRODUCTION

1.1: Background of the Study

The background of the study for the report on the sustainable procurement impact in the supply chain and environmental outcomes of focused coconut cultivation would encompass the broader context and motivations for conducting this research. It would provide a comprehensive understanding of the key issues, concerns, and trends that necessitate an in-depth analysis of these interrelated subjects. Coconut cultivation holds significant economic, cultural, and ecological importance in tropical and subtropical regions globally. With the growing emphasis on sustainable practices and environmental preservation, understanding the impact of sustainable procurement practices in the coconut supply chain is becoming imperative. This is especially relevant due to the intricate relationship between agricultural practices, supply chain dynamics, and environmental outcomes in the context of coconut cultivation.

1.2: Company Introduction

Marico, a well-known consumer goods company, has embraced sustainability as a core value, focusing on integrating environmentally responsible practices into its business operations. Their commitment to sustainability extends across various aspects of their operations, including supply chain management, product innovation, and community engagement.

One of Marico's key sustainability initiatives revolves around responsible sourcing and procurement. The company strives to ensure that the raw materials used in their products are obtained in a manner that minimizes negative environmental and social impacts. This includes efforts to promote sustainable agriculture, support local farmers, and reduce the environmental footprint of their supply chain.

Marico's sustainability journey underscores their recognition of the interconnectedness between business success, environmental stewardship, and social responsibility. By incorporating sustainability principles into their core business strategies, Marico demonstrates a commitment to building a more resilient and responsible future for both their company and the communities they serve.

Chapter 2:

SUSTAINABLE PROCUREMENT

Sustainable procurement:

Sustainable procurement involves incorporating the principles of Corporate Social Responsibility CSR) into a company's procurement processes and decisions, while ensuring they align with stakeholder requirements. This approach integrates environmentally and socially compatible specifications, requirements, and criteria. It goes beyond addressing issues like child labor or harmful chemical use that can impact people and the environment.

Embracing sustainable procurement demonstrates a company's commitment to its core sustainability values throughout the entire life cycle of its products and services. A recommended approach is to establish sustainable policies that enhance the long-term viability of procurement and investments.

Strategies for sustainable procurement are founded on the need to prepare for challenges such as supply scarcity, adapting to emerging market demands, managing costs, and reducing energy consumption and waste. By adopting sustainable procurement practices, companies can safeguard their brand reputation by effectively managing risks. This proactive approach helps identify problematic suppliers and address vulnerabilities within the supply chain, minimizing the potential for scandals and negative publicity. Additionally, sustainable procurement offers opportunities for brand differentiation by encouraging the development of innovative and environmentally friendly products.

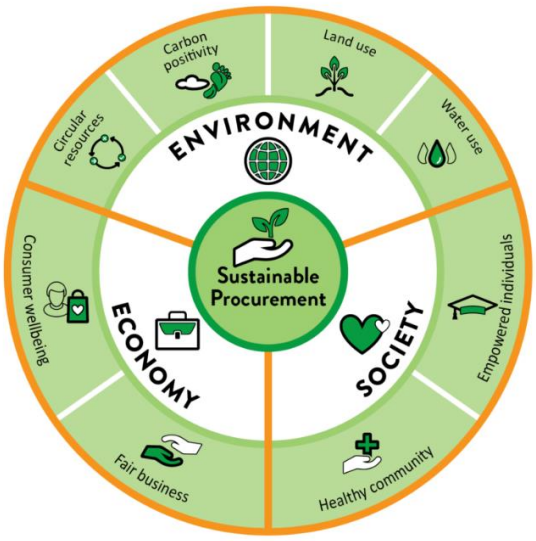

Fig: 2.1 Sustainable Procurement Fundamental

Chapter 3:

SUSTAINABLE PROCUREMENT IMPACT IN SOCIETY

Coconut cultivation:

Coconut cultivation spans across more than 93 countries globally, with Indonesia, the Philippines, and India serving as the major producers. In India alone, coconut is cultivated across approximately 18.95 lakh hectares, yielding an estimated 16943 million nuts during the 2010-11 period, with an average productivity of 8937 nuts per hectare. Traditional coconut-growing regions in India include Kerala, Tamil Nadu, Karnataka, Andhra Pradesh, Orissa, Goa, West Bengal, Pondicherry, Maharashtra, and the Lakshadweep and Andaman and Nicobar Islands. In recent times, states such as Assam, Gujarat, Madhya Pradesh, Bihar, Tripura, Manipur, Nagaland, and Arunachal Pradesh have also emerged as non-traditional coconut cultivation areas.

Marico has assembled a committed team to understand the best methods for growing coconuts in terms of agricultural practices. This entails conducting field experiments and participating in cooperative educational initiatives with universities. A detailed guidebook known as a "Package of Practice" is created from the insights obtained and distributed to farmers. To provide farmers with the necessary information, specialized training sessions are created. Notably, 3,000 farmers from a total of 6,000 acres have gotten training. Additionally, Marico gave away 2,200 free hybrid coconut saplings to coconut growers in Kerala, Tamil Nadu, Karnataka, and Andhra Pradesh. This program attempts to give farmers access to the higher productivity provided by hybrid varieties.

Farmer camps, Kerala

Fig: 3.1 Farming program by Marico

a. Cluster-Based Farming Program:

The farming program's objective is to create cohesive clusters of coconut farms within specific regions, ensuring equitable inclusion of all farmers in the designated area. Farmers collaborate in groups, guided by technical experts, to collectively determine optimal agricultural practices. These practices encompass land preparation, fertilization, pest control, and intercropping strategies. Agribusiness inputs are purchased with the help of regional cooperative societies and then given to farmers. The Coconut Development Board and Marico's Copra Collection centers in the Malappuram district work together to design and carry out this initiative. They do this by using their reach to bring together farmers and give them access to incentives provided by the Government of India.

The cluster approach has rejuvenated coconut farming in the region. Collaborative adoption of scientific farming techniques by farmers has yielded significant improvements in coconut crop outcomes. Additionally, strategic intercropping based on soil conditions has generated supplementary income from the same farmlands. Collective efforts in acquiring labor and technical expertise for tasks such as pesticide application have revitalized the local farming culture.

b. Government Partnerships and Collaboration with Coconut Board:

Marico's engagement with the Government of Kerala under the Keragramam Project, specifically in Kavannur Panchayath, Malappuram, exemplifies effective collaboration. Through collaboration with state agricultural agencies, Marico has facilitated the creation of 12 Model Farms throughout Kerala. These Model Farms serve as educational showcases to highlight the benefits of applying effective pest management strategies and scientific farming methods.

c. Collaboration with Coconut board of India:

The Coconut Development Board and Marico's Copra Collection Center in Malappuram are actively working together to implement the Coconut Producer's Society (CPS) program. The collection center uses its network to group farmers into clusters, making it easier for them to get government incentives. Through this program, coconut farmers' lives have undergone profound change, leading to the construction of 121 CPS formations from FY15 to FY16 and 110 clusters from FY08 to FY14. Together, these initiatives have improved the lives of almost 7,700 farmers on more than 6,700 acres.

Chapter 4:

SUSTAINABLE PROCUREMENT IMPACT IN FINANCE

Assumption of coconut cultivation project:

Cost of coconut plating material: Rs 80

Cost of labor per man-day: Rs 300

No of seedlings per acre: 80 (depends on the spacing system)

Table 4.1:

Material and labor	Investment in Rs (year 1)	Investment in Rs (year 5)
Planting material	6,400	0
1 load sand	2,000	0
Fertilizers	6,000	12,000
Plant protection chemicals	2,000	2,000
Irrigations	5,000	5,000
Intercropping materials and labor	8,000	0
Labor for land preparation	2,400	0
Labor for digging filling and planting	8,000	0
Labor for fertilizer application	3,600	3,600
Labor charges for pesticides application	2,000	1,800
Harvesting	0	2,000
Total investment	45,400	26,400

The sale price of coconut: Rs 25 per piece (may vary for different regions)

The yield of coconut from one tree: 25 nut after 5 years of planting (minimum average yield)

Total yield: 25 X 80= 2,000 nuts per acre.

The income from the farm: (Total yield X sale price of each nut) =2,000 X 25 = Rs 50,000

Profit from the farm: Total income – Total investment in 6^{th} year = Rs 50,000 – Rs 26,400 = Rs 23,600

Key point: Every subsequent year will have maintenance charges approx. Rs 15,000 to 20,000, as the bearing period starts, the maintenance charges gradually increase. Intercropping can also produce some extra income from the farm and yield nuts increases every subsequent year.

Marico financial impact:

Through the cluster program, Marico has coordinated for productivity improvement initiatives in 61 coconut clusters involving 7982 farmers covering 1737 Ha. of coconut gardens. The 2 years intensive productivity improvement program by scientific fertilization, inter-cropping and pest control has given a yield improvement close to 20% in coconut gardens covering over 3 Lakh coconut palms. The program has benefitted-

- Farmers by increasing their income by 20% and
- Marico by improving its productivity by 20%.

Chapter 5:

SUSTAINABLE PROCUREMENT IMPACT IN ENVIORNMENT

This chapter delves into the environmental impact of Marico's sustainable coconut cultivation initiatives. The focus is on assessing the positive environmental outcomes resulting from the adoption of responsible practices within the supply chain. By examining various aspects of coconut cultivation and its associated environmental implications, this section aims to highlight the transformative role played by Marico in promoting sustainability and minimizing the ecological footprint.

Coconut Cultivation and Environmental Concerns:

Coconut cultivation has long been associated with environmental concerns, particularly deforestation and monoculture practices. This chapter evaluates how Marico's approach to sustainable procurement addresses and mitigates these issues, shedding light on the ways in which environmentally friendly farming practices contribute to a healthier ecosystem.

Reduced Deforestation Impact:

Coconut farming, unlike other practices such as palm oil production, exhibits a significantly lower impact on deforestation. The cultivation of coconut trees has historically not been as detrimental to native ecosystems. Marico's sustainable coconut cultivation initiatives have played a role in minimizing deforestation by promoting practices that encourage intercropping and integrating coconut trees more harmoniously with the surrounding environment. The result is a more balanced land use that reduces the pressure on existing forests, preserving biodiversity.

Natural Integration and Biodiversity:

One of the noteworthy outcomes of Marico's sustainable coconut farming initiatives is the cultivation's compatibility with companion crops such as banana, coffee, and cacao. Unlike palm oil trees that struggle to coexist with other plants, coconut trees integrate seamlessly with diverse agricultural ecosystems. This integration enhances the overall biodiversity of the region, fostering a healthier balance between flora and fauna. As a result, Marico's practices contribute to maintaining a sustainable and dynamic environment.

Responsible Extraction Methods:

Marico's focus on responsible extraction methods aligns with its commitment to minimizing the environmental impact. The utilization of cold extraction techniques, which avoid the use of chemical solvents, leads to more environmentally friendly outcomes. By sidestepping energy-intensive processes and eliminating the need for solvents, Marico's approach reduces its carbon footprint and enhances the overall sustainability of coconut oil production.

Addressing Biodiversity Concerns:

While recent studies have raised concerns about coconut production's potential threat to biodiversity, it's crucial to interpret these findings in context. The 2020 paper indicating coconut's higher biodiversity

impact compared to other oils is subject to different interpretations. By considering the broader perspective and incorporating factors such as annual oil production, coconut oil's impact on biodiversity can be better understood. Marico's emphasis on sustainable practices, coupled with its commitment to maintaining a balanced ecosystem, contributes positively to local biodiversity preservation.

In conclusion, Marico's sustainable coconut cultivation initiatives present a compelling case for the positive environmental outcomes resulting from conscientious supply chain practices. By minimizing deforestation impact, promoting natural integration with companion crops, adopting responsible extraction methods, and addressing biodiversity concerns, Marico's efforts exemplify a holistic approach to sustainable procurement. These outcomes underscore the tangible benefits of environmentally conscious farming practices, showcasing the potential for a more harmonious coexistence between agriculture and the environment.
Through its initiatives, Marico demonstrates that sustainable procurement can not only enhance financial viability but also contribute to a healthier and more resilient ecosystem. The adoption of such practices sets a valuable precedent for businesses seeking to align their operations with the imperative of environmental stewardship.

Chapter 6

CHALLENGES, RECOMMENDATIONS AND CONCLUSION

6.1 Challenges:

Deforestation and Habitat Loss: The expansion of coconut plantations often leads to deforestation, causing habitat loss for various species and disrupting ecosystems.

Chemical Usage: The excessive use of pesticides and fertilizers in conventional coconut farming practices can have adverse effects on soil and water quality, as well as human health.

Water Management: Coconut cultivation requires substantial amounts of water, and inefficient irrigation practices can lead to water scarcity issues in certain regions.

Labor Practices: Some coconut-producing regions face challenges related to labor rights, including poor working conditions and inadequate wages for farm laborers.

Carbon Footprint: Long transportation distances between coconut-producing regions and consumer markets contribute to the carbon footprint of coconut products.

6.2 Recommendation:

Agroforestry Systems: Promote agroforestry models that integrate coconut trees with other crops, helping to restore biodiversity and reduce environmental impact.

Integrated Pest Management: Encourage the adoption of integrated pest management techniques to minimize chemical usage and maintain a healthier ecosystem.

Water-Efficient Techniques: Promote water-efficient irrigation systems, rainwater harvesting, and drought-resistant coconut varieties to address water scarcity concerns.

Fair Labor Practices: Implement fair labor standards to ensure the well-being of farm laborers, including fair wages and safe working conditions.

Local Processing: Support the establishment of local processing facilities to reduce the carbon footprint associated with long-distance transportation.

6.3 Conclusions:

Sustainable procurement impact within the coconut supply chain and its environmental outcomes requires a holistic approach that considers ecological, social, and economic factors. By addressing challenges through the adoption of recommended practices, the coconut industry can significantly reduce its negative impact on ecosystems, conserve resources, and ensure the well-being of those involved in the cultivation process. Collaborative efforts among stakeholders, including farmers, producers, consumers, and policymakers, are essential to achieve a more sustainable future for coconut cultivation.

In conclusion, the challenges posed by coconut cultivation can be effectively mitigated by implementing the recommended strategies, leading to a more environmentally responsible and socially equitable coconut supply chain. This endeavor requires collective commitment to fostering sustainable practices and making conscious choices that promote the well-being of both people and the planet.

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