

Chapter 81

Lean Logistics of the Transportation of Fresh Fruit Bunches (FFB) in the Palm Oil Industry

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ABSTRACT

The purpose of this chapter is to assess the efficiency, effectiveness, and performance of logistics in transportation of fresh fruit bunches (FFB) in Malaysian estates, which are the growing logistics hubs in plantation management. It also identifies various factors that significantly affect the efficiency, effectiveness, and performance of the Malaysian estate logistics and proposes ways to improve their competitiveness. This study shall empirically explore the causal relationships between lean logistics and triple bottom line on sustainable logistics performance in transportation of FFB in the palm oil industry. The objective is to examine the current state of sustainability efforts within the field of value chain, more specifically logistics performance, and to identify opportunities and provide recommendations for the palm oil industry to follow sustainable performance. This study also aims to stimulate further research within the area of sustainable logistics performance.

INTRODUCTION

Variation in the production process is the cause of quality problems, (Zylstra, 2012). This is the manner of transportation of Fresh Fruit Bunches (FFB) in the palm oil industry. It can be an awesome responsibility that only gets more difficult and complicated as the estate gets larger with more hectare and the distance from mill gets farther. Despite the long distances, time zones and other hurdles involved, it is necessary for estates to reduce cost and inventory. The FFB and loose fruits must be delivered to the mill same

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day it is harvested and collected. Zero inventory would definitely reduce cost and increase productivity but how to go about it is an industrial problem in this important industry. The problem all the way is not just forecast accuracy but all variability, (Zylstra, 2012). Applying lean approach to distribution would compartmentalize and reduce variability such that replenishment become much easier and planning can be more effective. The ideal model is to reduce contact (damage to FFB), reduce time to consumer (deliver FFB to mill on the day of harvest) and completely eliminate as much cost as possible (efficient and effective transport of FFB).

BACKGROUND

The second top producer of palm oil after Indonesia is Malaysia. In 2014, the planted area is 5.39 million hectares. It has increased 3.1% against 5.23 million hectares compared to year 2013. Sabah is the largest oil palm planted state with 1.51 million hectare or 28% of total oil palm planted area. In the palm oil industry, Malaysia is successful in terms of producing and marketing the palm oil, palm kernel oil and their derivative products. There are also huge amounts of palm oil wastes generated by the industry. This included oil palm shells, mesocarp fibre and empty fruit bunches from the mills, also oil palm fronds and oil palm trunks from the field during replanting.

The oil palm is five to ten times more productive in terms of oil yield than all other oil-bearing crops. It is in the best position to meet the growing global demand for oil. It is versatile and there are demands for palm oil in the non-food sector. Oil palm also contributed in the energy sector. Its biomass and biogas can be used as fuel for boilers. Palm oil is used as feedstock to produce biodiesel by blending palm diesel with petroleum diesel. This lowers the burning of fossil fuel in the world. Statistics Malaysia Palm Oil Board (MPOB).

Misguided anti-palm oil campaigns have been a talk of the town and the burning issues in business. This has been a constant challenge for the palm oil industry. During the 1980's the campaign were on health issues and Malaysia gather international independent experts to defend it.

Today the lobbyist turned their attacks to environmental and sustainability issues and MPOB, Ministry of Plantation Industries and Commodities (MPIC) had continued to address them. Since oil palm is grown in one of the most ecologically sensitive areas of the world, it is imperative to grow it in a sustainable manner so that people, planet and profit are all part of the equation.

Bad things can happen to good companies that fail to take a broad view of accountability, (Savitz, 2012). Certifying Malaysia Sustainable Palm Oil (MSPO) and producing Sustainable Palm Oil is important for the country's business to promote export and sales to compete in the world market.

Even a well run company with good intentions and with a proud history of business and philanthropic achievement can stumble and fall when the principles of sustainability is ignored, (Savitz, 2012). The four areas in commitment to sustainability are land use, water, climate change and farmer livelihoods. As land is finite and human population is growing rapidly, it is important to ensure that the use of land is sustainable.

For market development, MPOB provides oil palm industry players with relevant economics and statistics. The important markets for our Malaysian palm oil are China, European Union, India, Pakistan, USA and West Asian countries. Currently, 1.29 million hectares of palm plantations in Malaysia are Round Table Sustainable Palm Oil (RSPO) certified and these contribute to 4.8 million tonnes of certi-

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