

ROLE OF MARKET-BASED INCENTIVES FOR AGRI-FOOD PROCESSING FIRMS TO ADOPT SOLID WASTE MANAGEMENT PRACTICES: AN ANALYSIS BASED ON PANEL DATA

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The specific objectives of this study were to examine, using panel data, the role of individual market-based incentives (MBI) on the level of adoption of solid waste management practices (SWMPs) recommended by the Ministry of Environment of Sri Lanka by agri-food processing firms in Sri Lanka, thereby to explore how those paradigms and perceptions of managers on these MBI changed overtime. Data gathered from a cross section of agri-food processing firms ($n=90$) operate in the Western and North-Western Provinces in Sri Lanka by means of a personal interview with the owner/top executive of firm using a structured questionnaire during March - August 2012 (Stage II) were compared with 2009/2010 (Stage I) data. A number of quantitative techniques were employed to analyze data, *i.e.* Mean Ranks; derivation of an Aggregate Index (MBII), the Kruskal-Wallis and Paired *t* test. The results showed that the level of adoption of SWMPs has improved overtime, *i.e.* (Mean, Standard Deviation) (1.2, 1.60) in Stage I to (1.8, 1.33) in Stage II, suggesting the sector, as a whole, becoming “greener”. The estimates of Mean Ranking highlighted that firms, in general, consider that (Stage I Stage II), Reputation (1.17 1.70) and Internal Efficiency (2.48 3.04) as the 1st and 2nd most important MBIs. However, overtime, Sales & Revenue have emerged as the 3rd most important MBI (4.62 3.26) by pushing Commercial Pressure to the 4th place (3.23 3.77). A significant difference between the strength of each of these incentives on the level of adoption of SWMPs was observed. It was also observed that firms' perception on these incentives, reflected by the value of MBII has significantly improved over time at $p = 0.05$. The results imply that, as the sector becomes greener, firms focus, while maintaining their reputation and efficiency, more on sales and revenue as they now face relatively low pressure from the customers and neighborhood *etc.* towards adopting better greening practices.

Key words: Agri-food processing sector, Economic incentives, Environmental management, Panel data, Solid waste management