

**UNIVERSIDAD ESAN**



**Management of Wastes Through Public-Private Partnerships for Composting  
in Developing Economies**

**Thesis presented in partial satisfaction of the requirements to obtain the degree  
of Master in Business Administration by:**

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## **EXECUTIVE SUMMARY:**

The objective of this thesis is to explore how a solid waste management programme for composting and the sale of compost, as distinct from other waste disposal activities, would be enabled by the Public-Private Partnership (PPP) model. More specifically, the goals of this thesis are to identify and analyze the factors that would make a composting PPP effective, based on the international experience; to identify the key actors and incentives that operate for the composting PPP contract; and thirdly, to assess the relevance of the identified factors, actors and incentives as may be applied to a selected developing economy, namely Jamaica. In order to achieve the objectives, the following questions are answered:

- i. Based on the international experience, what are the factors necessary to make a composting PPP effective?
- ii. Which are the key actors and incentives that operate for the composting PPP contract?
- iii. How may the identified factors, actors and incentives be relevant as applied to the case of a developing economy, namely Jamaica?

To fulfil the objectives, this thesis embarks on qualitative research, employing a benchmarking methodology. Two research methods were used: (i) documentary reviews (for secondary data) and (ii) interviews (for primary data). Using a constant comparative approach in order to analyze both sets of data, the transcripts and notes of interviews are collated according to themes and cross checked with the secondary data collected. Each concept from the data is divided, with developing categories being linked to main categories, in order to gauge their importance. The findings revealed that there are eight significant factors, which are then further analyzed in respect of the chosen developing economy.

It is concluded that the factors necessary for a composting PPP based on the findings in the international experience include: (i) PPP policies; (ii) municipal solid waste management (MSWM) legal framework; (iii) the supply of waste; (iv) provision xiii of land; (v) location of land; (vi)labour intensive compost operations; (vii)demand for compost; and (viii)stakeholder management.

The actors that operate for the composting PPP are (i) central government, that sets the national priorities with which the composting PPP would align, and makes policy provision for unsolicited proposals; (ii) the private actor who brings his money-making approach and innovation capabilities; (iii) the MSWM authority as the contracting entity which discloses risk of composting operations, provides waste and land, identifies labour force, educates the public and acts as market maker or direct client for compost; (iv) farmers, as a proven target market for use of compost; (v) the informal waste handlers who are formally employed in the operations to reduce conflict; and (vi) the community who is actively engaged by both private actor and government to accept the composting PPP as a legitimate endeavour.

The incentives that operate for the composting PPP are: (i) the employment of the Design-Build-Finance-Maintain-Operate (DBFMO) or concession model, which gives the private actor a long

term arrangement, within which he may recover his investment; (ii) regulations which set minimum standards for compost quality, and that mandate source separation of organic waste and/or suitable user fees for waste separation; (iii) the right in law of the government to supply the private actor with waste generated by the public; (iv) the free or low cost provision of land by the government; (v) a guaranteed market for compost using the government as market maker or direct client.

In the case of Jamaica, it is found that the following factors, actors and incentives are relevant for consideration of composting PPP:

- i. There are in place considerations at the level of executive government which would enable a composting PPP. A composting PPP would be consistent with the 2030 national development plan for economic growth and environmental management. There is already in place a national policy for PPPs that makes consideration for unsolicited proposals. The policy considers that a PPP should have a xiv project life of at least 10 years, a timeframe attractive for recovery of private investment. This policy however, should be translated into legislation.
- ii. There is an appropriate government actor to participate in a composting PPP contract. The National Solid Waste Management Authority (NSWMA) would be the appropriate contracting entity to provide land and waste for the private actor. The MSWM legal framework does not expressly state that the NSWMA is the owner of waste, although it is implied. The definition in law as to who owns waste should be clarified.
- iii. There is a regulatory framework for MSWM in place, but it is incomplete. There are pending MSWM regulations, but it is not clear whether they would provide for standards for compost quality or for source separation of waste. In the meantime the NSWMA is engaged in a waste separation project, which promotes source separation until the relevant regulations are in place.
- iv. Provision of land is likely to be met under a composting PPP contract. There is evidence that land may be available based on previous endeavours to operate a composting facility and given the importance of land space this would be a strong incentive for the private actor.
- v. There is a need for further market research into farmers as major users for compost. Despite having agriculture as a main industry sector, the benefits of composting may not be well appreciated. There is a need to substantially invest in an assessment of farmers' needs for compost.
- vi. There is scope for the government to act as a market maker for compost. The government is a potential intermediary for onward distribution and sale of compost, having previous experience in compost sales. Further or alternatively, the government is a potential client and end-user in compost, including the NSWMA.
- vii. There is an acknowledgement of the role that informal waste handlers may play under a composting PPP. This is of particular importance, given previous public xv composting experience of their interference. There is an opportunity to orient a composting facility towards a large labour force, which increase employment, reduces capital costs, and satisfies social and political conflicts.