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Master's thesis

**Achieving a sustainable solid waste management
in Spain: The case of Morella town**

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Abstract

Having a good natural environment is indispensable for a good health and quality of life, and municipal solid waste (MSW) is one important threat to it. In Spain, the amount of MSW has grown continuously, by 40% between 1996 and 2003, in spite of the laws aiming to reduce it. As a result, MSW has become an important environmental issue in Spain and a source of social concern [1].

This thesis aims to evaluate the possibility of achieving a sustainable waste management in the Spanish town of Morella.

First, the MSW situation of Morella is investigated via several interviews and a survey. From the information gathered the author concludes that the main MSW related issues for Morella are the landfill saturation and the elevated cost. Also, the survey suggests a low knowledge and trust on the local MSW situation and management.

Then, the case of Kamikatsu town, in Tokushima prefecture, is examined. This Japanese town has declared that will not landfill or incinerate any waste by 2020, and at present has achieved a recycling rate close to 80% and a composting rate of 99%. Additionally, the approaches of Nagoya city and Kawanabe town, that also faced and successfully overcame waste crises, are analysed.

Based on the experience of Kamikatsu and the other communities, the author concludes that a situation of crisis, strong leadership and obtaining the understanding and collaboration of the citizens seems to be crucial for the success of waste initiatives. Then, we propose several measures suitable to the circumstances of Morella, directed to reduce and reuse waste and to increase recycling rates. The objective is reducing landfilling from the preset 87% to less than 30% within two years. Along with these “hard” measures, a framework to foster the long term sustainability of the MSW management is suggested.

The evaluation of the proposal is observed in the final part of the thesis from social, economic, and political viewpoints. According to the survey results it seems that the citizens of Morella could be receptive to the introduction of a new MSW scheme, and have interest in participating. Economically it also seems viable, given the savings expected from the increased recycling and the reduced landfilling cost. Finally, the local government seems to be interested, especially in the economic and social benefits of the project, although the regional government could show some opposition.

We conclude that achieving a more sustainable MSW management in Morella town seems possible: Morella has economic reasons, a potential crisis and citizen's interest, decisive factors found in the successful cases studied.

Key words Waste, MSW, Spain, sustainability