Proposal of indicators to evaluate the social performance of waste management systems in developing countries: case study

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Waste management covers a vast field of human activities that in developing countries have some similarities regarding their social aspects, such as the limited participation in selective collection programs or the low socioeconomic and labour conditions of both formal and informal workers (Aparcana et al., 2013).

To analyse and improve waste management systems in developing countries, it is need to be able to evaluate them from a life cycle perspective and from a social perspective, in addition to the traditional economic and environmental perspective. To this end, it is necessary to define a set of indicators able to measure and quantify the social performance of a waste management system. The available methodologies for social assessment are less developed than those for environmental or economic ones (Life Cycle Assessment or Life Cycle Costing, respectively), being the lack of standardised social indicators and methods to calculate them the main barriers for this purpose.

The aim of this research is to propose a set of social indicators able to evaluate the socioeconomic and labour conditions of the stakeholders involved in the life cycle of a waste management. To support this, the methodology described in Figure 1 has been applied. Taking into account the literature review of social impacts due to waste management activities worldwide and the recommendations proposed by the "Guidelines for Social Life Cycle Assessment" of the United Nations Environment Programme (UNEP/SETAC, 2009), a set of social indicators was proposed taking into account the needs and characteristics of developing countries.

These proposed social indicators were applied to a case study in the Brazilian city of João Pessoa. For measuring/quantifying them, information was obtained from surveys specifically designed for population and formal/informal workers, legislation, national reports, etc.

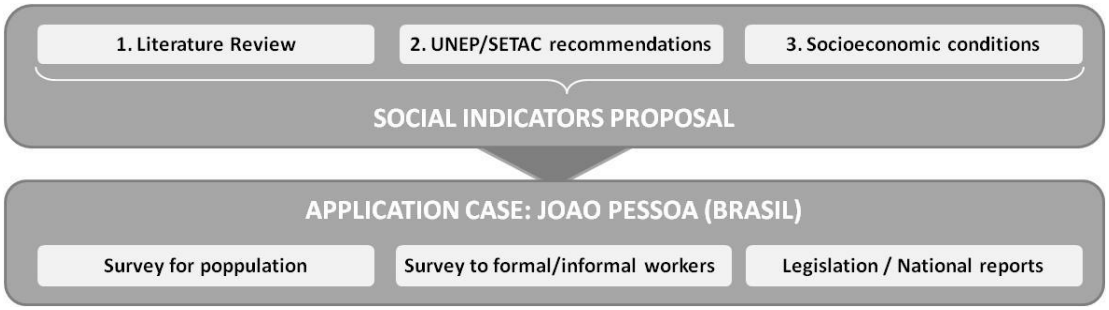

Figure 1. Methodology followed in this study.

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