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Title of the work: Sustainability of Waste Management in the Metropolitan Region of Santiago de Chile

Overall project: Risk Habitat Megacity

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Urban waste management in developing countries is characterized by poor collection, lack of adequate treatment facilities and lack of policies, hence creating public health risks and impacting negatively the environment on a local and global level.

Within the "Risk Habitat Megacity" project, the case of municipal solid waste management (MSW) in the Metropolitan Region of Santiago de Chile is analyzed. To carry out this analysis, six indicators of sustainability, from a list of more than 100 (Seidl, 2008) have been selected: total amount of waste per capita; waste recovery fraction; amount of pretreated waste sent to landfills; emissions from waste treatment facilities; degree of organization of informal sector and coverage degree of costs for the waste management system. Social, financial, environmental and technical issues are addressed; values of the indicators in Santiago are compared with international trends, allowing defining which aspects of the whole system should be improved.

Waste management in Santiago has focussed on improving collection and final disposal sites, not giving priority to minimization, recovery or reutilization. Specific MSW generation in Santiago has increased over 25% in less than 10 years; almost 50% of the waste consists on a biodegradable organic fraction; 87% of the total waste generated is deposited in landfills (Fig. 1), without further recovery; energy recovery from MSW does not take place in the city; recycling of metal is about 82%; paper and glass about 30%. These recycling rates are achieved mostly thanks to the participation of the informal sector, a group of people who earn their daily income by collecting, on the streets of Santiago, and sorting, usually at their homes, valuable materials out of waste, that will be sold for recycling to production companies.

The waste flow for 2007, presented in Figure 1, will serve as base for the development and analysis of future waste management scenarios, which aim will be to achieve a more sustainable waste management system by improving current deficits. Scenarios will consider the potential use of waste as a valuable resource, as well as the integration of the informal sector into the technical waste management systems and labour markets.

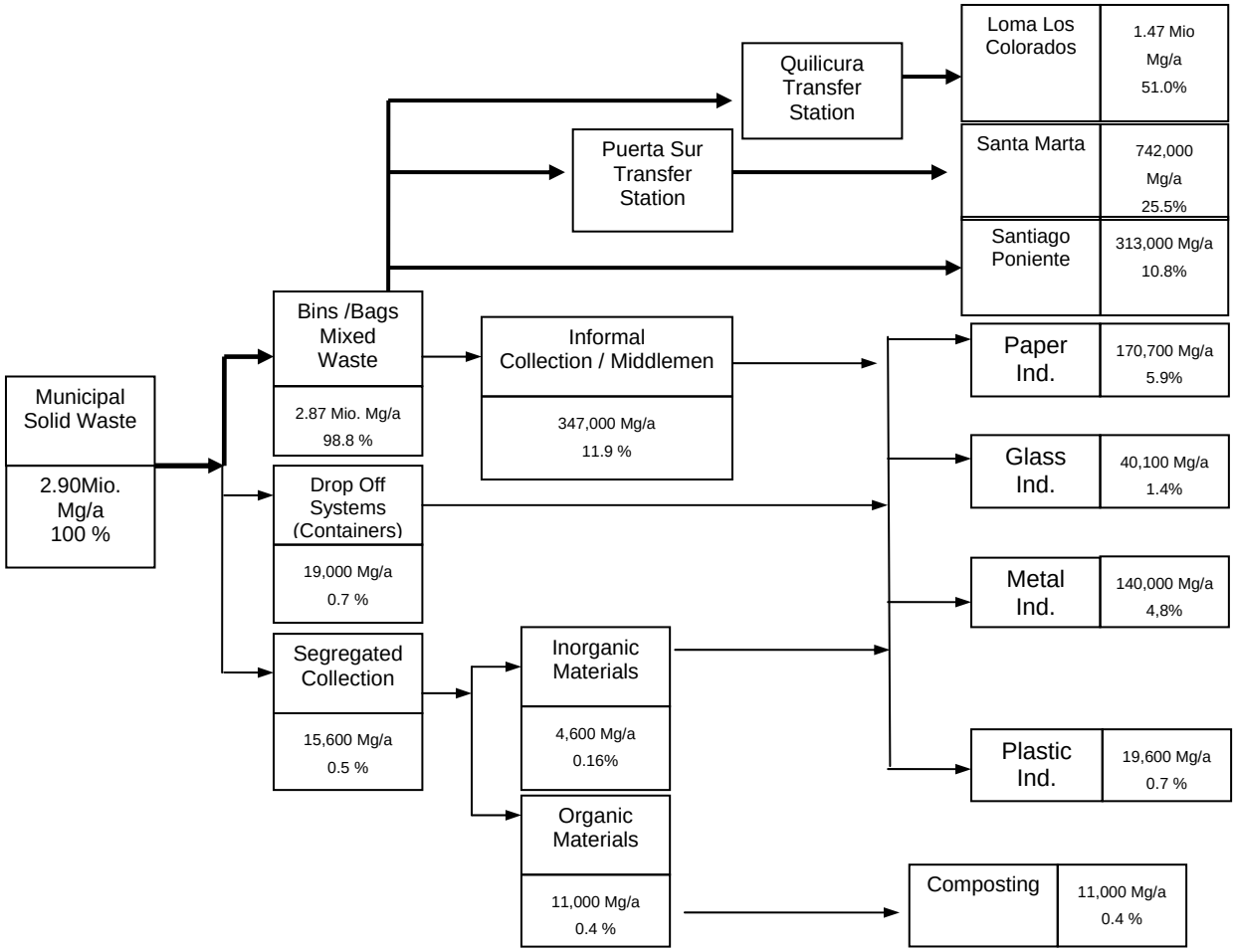

Figure 1. Waste Management Flow Chart for the Metropolitan Area of Santiago de Chile, 2007

Source: González, 2008

References

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