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**MUNICIPAL SOLID WASTE MANAGEMENT
STRATEGIES:**

**IMPACT OF WASTE GENERATION BEHAVIOURS IN
RURAL AND URBAN COMMUNITIES.**

by

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To my husband Jens.

A patient and supportive partner.

ABSTRACT

The waste generation characteristics of households was investigated in relation to waste management principles and philosophies in urban and rural New Zealand, to evaluate current practices regarding municipal solid waste at the national, district- and city council level.

Two selected councils, one rural and one urban, were studied in detail. A household sample from each council was surveyed to establish the trends in household waste generation. The results from these surveys were compared using statistical analyses. The initial results suggested that rural and urban households show significant differences. Further analysis, involving a detailed case study of a rural settlement, suggests that these differences arise from the economic signals received from the council and not from population structure and culture, although some subgroups in the population appear to ignore these signals.

A householders' survey analysis of waste designated for recycling proved to be unreliable and difficult to interpret. This was caused by the public's general inability to interpret plastic recycling numbers for correct sorting, and to measure volume and weight correctly. Conclusions were reached with regard to paper

and household organic waste. While there appears to be little difference in the amounts produced per person in either the wards or between the councils, a proportional analysis suggests that middle income households compost and recycle more than low income households. This has been interpreted as a possible effect of multi-family dwellings and the type of education material used to deliver the recycling messages.

An analysis of household waste delivered to the landfills by the collection system in the two selected councils shows that the rural household waste has a higher proportion of organics and a lower proportion of paper waste than do the urban households. The rural households also compost less and visit the landfill more. This supports the conclusion that economic signals dictate the waste generation behaviours of households.

The effectiveness, in light of sustainability and economics, of the systems in place in New Zealand were studied and compared with international trends in waste management systems. Economic signals appear to be a strong motivator for individual waste generation behaviours.

Composting as a potential waste minimisation system for New Zealand was also investigated. Green waste composting appears to be an economically viable method of waste minimisation for urban and some rural councils. The data

collected in the surveys suggest that home composting of household organics can offer a solution to reduce waste from the household source. The methods and effects of implementing this as a strategy require more study.

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ABBREVIATIONS

ARA	Auckland Regional Authority
ARC	Auckland Regional Council
ARWB	Auckland Regional Water Board
CAT	Centre for Advanced Technology
CBEC	Community Business and Environment Centre
DBC	Devonport Borough Council
DCC	Dunedin City Council
DTI	Department of Trade and Industry
EC	European Community
EPA	Environmental Protection Agency
HBUC	Hawkes Bay United Council
HCC	Hamilton City Council
HDC	Horowhenua District Council
IHC	Intellectually Handicapped Society
ISLR	Institute for Self Reliance
MCC	Manukau City Council
MDC	Masterton District Council
MfE	Ministry for the Environment
M-WRC	Manawatu-Wanganui Regional Council
NapierCC	Napier City Council
NelsonCC	Nelson City Council
NSC	North Shore City
NZISS	New Zealand Income Support Service

NZWSDA	New Zealand Water Supply and Disposal Association
PCE	Parliamentary Commissioner for the Environment
PNCC	Palmerston North City Council
RMA	Resource Management Act
TRC	Taranaki Regional Council
WSDA	Water and Disposal Association
WMI	Waste Management Institute
WDC	Wanganui District Council
WCC	Waitakere City Council
WCC	Wellington City Council
WSCC	West Sussex County Council

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