

SOLID WASTE PREVENTION IN NORTH SHORE CITY HOUSEHOLDS

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Introduction

It has long been recognised that generation of household solid waste is directly related to increased environmental degradation and resource depletion. However, attempts to address the problem have largely relied on reactive measures that focus on fixing the problem once created rather than avoiding it altogether. In New Zealand, a shift towards a more preventive approach – at least from the policy perspective – has been emerging for the past decade or so. It is now recognised that in order to address the problem of solid waste – including household solid waste – alternatives need to be drawn upon the principles of prevention and avoidance, which imply that the waste should not be created in the first place (OECD, 2000). This paper summarises research into ‘household solid waste prevention’ (HSWP) conducted in 2004 in North Shore City. With no known comprehensive definition of the term and a lack of scientific data on what household solid waste prevention practices are and how they are developed, a need for further research was identified. The study investigated the meaning of HSWP prevention for North Shore residents and the factors that play a part in fostering waste preventive behaviours.

Waste Prevention and Waste Minimisation

Waste prevention and waste minimisation although frequently used interchangeably, have distinctive meanings. The former is a broad term used to refer to any activity which involves reducing the overall amount of solid waste that is disposed of and includes activities such as recycling and composting, which are reactive by definition, as they happen after something is discarded. The latter refers only to those actions taken before something is considered waste. This distinction is seldom taken into account and, coupled with the lack of a comprehensive definition of HSWP which identifies specific HSWP actions, results in persistent public confusion. This in turn may jeopardise the chances of successfully applying HSWP programmes and policies. Figure 1 illustrates how waste minimisation is a broader term than waste prevention. Some examples of HSWP actions include: reusing existing products, purchasing unpackaged products and avoiding purchasing goods that will not be used or consumed. Because there is no known comprehensive list of HSWP actions, these are merely some common-sense examples.

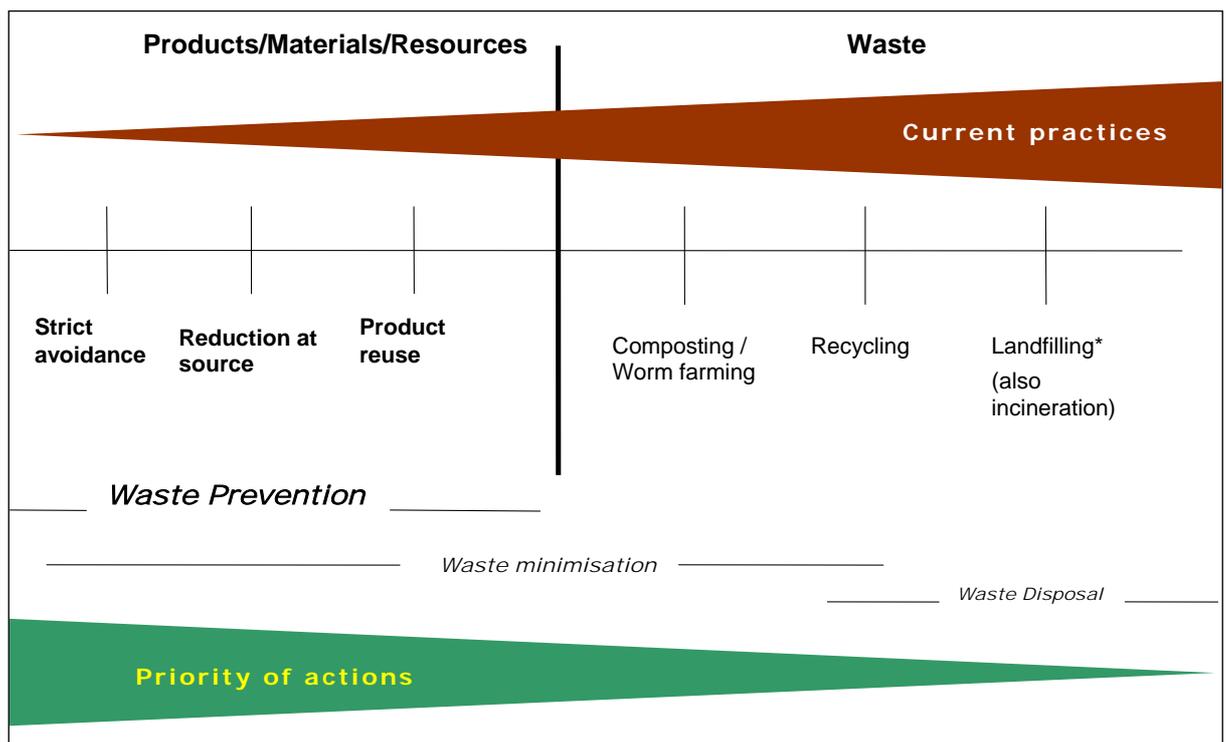


Figure 1. Waste prevention in context. Adapted from Stutz 1999 in OECD, 2000, p. 38.

Theoretical framework for studying HSWP

Current scientific theories in the field of 'environmental behaviour' (EB) have their roots in traditional psychological and sociological theories. The theories most relevant to EB have mainly evolved from cognitive theories (see: Bandura, 2002) which view the relationship between humans and the biophysical environment as reciprocal. In addition, cognitivists propose that humans are capable of thinking about their actions and foreseeing and evaluating possible consequences. Although the importance given varies according to the perspectives taken by each scientist, values, attitudes and beliefs, norms and worldviews all play an important part in shaping EB.

Among contemporary theories, Stern's Value-Belief-Norm (VBN) theory (Stern, 2000) is deemed most appropriate to interpret environmental behaviour, because it recognises that causal factors vary according to the behaviour. In other words, each specific behaviour has its own set of causal variables. In addition, VBN emphasises the role habits play as drivers of EB. In this sense, the theory differentiates itself from other contemporary theories (see De Young, 2000) which are focused on the deliberate aspects of environmental behaviour. For this reason, VBN is deemed particularly useful for interpreting issues of household solid waste as many household activities that result in the generation, handling and disposal of solid waste are strongly habitual (e.g. shopping, cooking, cleaning, etc.). As with other environmental problems, increasing levels of household solid waste are related to population growth and (over)consumption. There is a demonstrated need to address this problem by implementing preventive measures as opposed to reactive measures that attempt to deal with the waste once it has already been created. HSWP implies a change of behaviour, from waste generation to waste prevention.

The causal factors most relevant to understanding HSWP have been identified as:

- Contextual factors: Demographics, knowledge and economic incentives and disincentives (although the latter appear to influence behaviour only in the short term).
- Social factors: These include social influences and expectations – social norms, worldviews and societal values.
- Psychological factors: Attitudes, personal norms, values, intrinsic satisfaction, altruism, perceived environmental threat and perception of logistical factors such as time and space.
- Habits: These are central to understanding HSWP and are closely related to all other types of factors. Habits can be socially learned, they are automatic and their functionality is dictated by the context. Habits appear to be a strong predictor of solid waste practices in North Shore City households (Gravitas, 2004).

Overall, EBs, including HSWP practices, are determined by multiple factors in constant interaction. Therefore, each specific HSWP action needs to be identified first, in order to then investigate their influencing factors. To date, HSWP practices are still poorly understood.

Methodology

The study was designed to further investigate HSWP practices taking an inductive approach with the objective of expanding knowledge rather than testing specific hypotheses. The research was exploratory and involved the use of triangulation method, which included conducting semi-structured interviews and written questionnaires with a total of 44 North Shore residents split into a Target Group (TG) and a Control Group (CG). Householders in the Target Group were selected using

purposive, non-probabilistic sampling, a sampling method by which North Shore City residents who had previously stated that they were taking HSWP actions were identified. Participants in the Control Group, on the other hand, had not previously reported to be taking HSWP actions.

The methodology was developed based on the theoretical assumptions that HSWP is comprised of several actions; that HSWP is feasible; and, that habit is the strongest predictor of HSWP. The instruments were designed to obtain specific data on the meaning and application of HSWP for North Shore residents. The data collection period ran between 05 July and 31 August 2004, and posterior processing and analysis were conducted using specialised software (SPSS and Nvivo) packages for both quantitative and qualitative datasets. Qualitative data were analysed following the principles of grounded theory and content analysis, where data are coded into different themes and concepts in order to extract meaning and identify relevant patterns. Quantitative data were explored and analysed using standard, computer-assisted, statistical procedures.

Results – HSWP in the North Shore, meaning and practice

Participants understand HSWP as ‘preventing solid waste from going to landfill’. As a result, any action, whether preventive or reactive, that has the ultimate goal of avoiding household solid waste from being disposed of in a landfill is considered a preventive action (i.e. HSWP). Waste minimisation initiatives and waste prevention are seen, from the householders’ perspective, as being at the same level of importance. This highlights two specific discrepancies between the ways the general public perceives issues of HSW and the way policy makers and environmental practitioners do. First, HSWP in a strict sense involves actions (or inactions) taken to avoid creating waste in the first place, regardless of whether there are suitable and

innovative ways of dealing with it later on, such as access to recycling schemes. Examples of HSWP actions include avoiding certain products, reusing materials, decreasing overall consumption levels – something which can be argued is against the principles of desirable economic development – and choosing durable products over disposables. Secondly, the point at which something becomes considered waste also differs. That is, it appears that in the views of some participants, materials and resources are wasted only if they are sent to landfill. In a strict sense, however, solid waste is created when something is not wanted or needed any more and discarded.

Naturally, the overall results of this study are strongly influenced by the meaning assigned by participants to the concept of HSWP. Therefore, conclusions have been drawn taking into account that when participants referred to HSWP, their accounts included reactive measures such as recycling. This is reflected in the overall findings about factors that influence household solid waste practices summarised below. Unless otherwise specified, no significant differences were observed between TG and CG.

- Attitudes: CG participants appear to have higher levels of ‘tolerance’ for total quantities of kerbside rubbish produced than do participants in the TG. In addition, ‘competence’ is a relevant aspect of HSW practices. Those participants who perceive certain tasks as difficult are less likely to engage in the behaviour.
- Participants see rubbish as an inevitable consequence of life.
- Participants feel that they are doing as much as they can to prevent and minimise HSW.
- Household dynamics: Systems and practices relative to handling and disposal of HSW are mostly in the charge of one person within the household and the

level of support he or she receives from other members of the household varies.

- Worldviews and values: Evidence suggests that issues related to the generation and disposal of HSW are intrinsically related to prevailing anthropocentric and utilitarian worldviews (see: Dunlap, 2002) and deeply entrenched values of humans' superiority over the biophysical environment.
- Habits: Habits are reliable predictors of waste minimisation behaviours. Both intention and the opportunity to repeat the behaviour are necessary aspects of acquiring new waste minimisation habits. There is strong agreement amongst participants that the best way to 'prevent/minimise' rubbish is by changing habits. This suggests that targeting specific habits may have positive outcomes when it comes to HSWP initiatives.
- Future changes: A propensity to maintain the status quo with regards to HSW practices was observed in terms of participants' actions within their households. Desired changes refer mostly to expanding and intensifying current practices such as recycling and composting and there is a tendency to expect external agencies to implement those changes. Finally, results also indicate a perceived lack of power to influence changes amongst participants.

Conclusions

The most important conclusion to be drawn from this scientific study is that there are misconceptions amongst participants with regard to the meaning, connotation and application of Household Solid Waste Prevention. Participants understand HSWP and waste minimisation to be at an equal level and the specific actions they most readily visualise when referring to HSWP are that of recycling and composting. In addition, the meaning assigned by participants to HSWP is that of 'preventing rubbish from

going to landfill' which radically differs from the strict meaning of HSWP which implies avoidance and preventing HSW from occurring. In their view, something becomes waste not within their own households, but at the treatment or disposal point. Unless these misconceptions are addressed, increased levels of HSWP – with the overall objective of addressing the environmental problem of mounting solid waste and resource depletion – are unlikely to happen. In order to address this, the concept of HSWP needs to be singled out within the framework of wider waste minimisation practices, which include reactive measures; and the differences between them need to be clearly expressed.

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