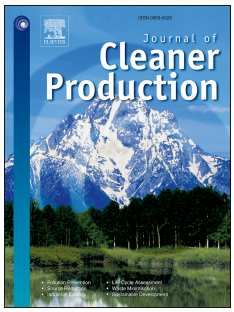
Accepted Manuscript



Recycling the Construction and Demolition Waste in Vietnam: Opportunities and Challenges in Practice

Simon Lockrey, Dr. Hung Nguyen, Dr. Enda Crossin, Associate Professor Karli Verghese

PII: S0959-6526(16)30654-0

DOI: 10.1016/j.jclepro.2016.05.175

Reference: JCLP 7357

To appear in: *Journal of Cleaner Production*

Received Date: 24 December 2015

Revised Date: 27 May 2016

Accepted Date: 29 May 2016

Please cite this article as: Lockrey S, Nguyen H, Crossin E, Verghese K, Recycling the Construction and Demolition Waste in Vietnam: Opportunities and Challenges in Practice, *Journal of Cleaner Production* (2016), doi: 10.1016/j.jclepro.2016.05.175.

Recycling the Construction and Demolition Waste in Vietnam: Opportunities and Challenges in Practice

Authors

Simon Lockrey[a]*, Dr. Hung Nguyen[b], Dr. Enda Crossin[c], Associate Professor Karli Verghese[a]

[a] RMIT University, School of Architecture and Design. Building 100, Victoria St & Swanston Streets Melbourne Victoria 3000, Australia. Email: simon.lockrey@rmit.edu.au (Simon Lockrey).

[b] RMIT University, School of Business, IT and Logistics. Handi Resco Building, 521 Kim Ma, Ba Dinh District, Hanoi, Vietnam. Email: hung.nguyen@rmit.edu (Nguyen Manh Hung).

[c] RMIT University, School of Aerospace, Mechanical and Manufacturing Engineering. PO Box 71, Bundoora Victoria 3083, Australia. Email: enda.crossin@rmit.edu.au (Enda Crossin).

* Corresponding author. RMIT University, School of Architecture and Design. Building 100, Victoria St & Swanston Streets Melbourne Victoria 3000, Australia. Email: simon.lockrey@rmit.edu.au (Simon Lockrey).

Abstract

Construction and demolition waste typically comprises of a range of materials, the most dominant being concrete. Despite rapid growth in construction, the construction and demolition waste practices in Vietnam are not well documented. This paper addresses this gap by mapping and estimating construction and demolition concrete waste in Hanoi, and then more broadly in Vietnam.

A review of the existing body of knowledge and research, stakeholder interviews, and field trips to construction sites were used to help in mapping construction and demolition waste practices. Material flow analysis was employed to assess material flows and recycling rates.

Insights developed primarily demonstrated disposal practices used (e.g. landfill and recycling). Logistics pathways and processing quantities of informal and formal recyclers were also revealed. The findings concluded that current practices lacked; appropriate construction and demolition waste classifications; delegation; and control of waste flows by private companies. The major reasons for these issues were that; little efficiency or cost saving strategies were adopted by both public and private actors; bottlenecks exist in waste transport; little attention is given to value adding to concrete waste recycling; and government legislative and financial support for industry transformation is low.

These insights are linked to areas for further research, where policy and business strategy opportunities in developing the concrete recycling industry across Vietnam could deliver better social, economic and environmental outcomes.