Management of Construction Waste in India:  
A Case of Green Technology

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Abstract

**Purpose** – Indian economy is growing on a fast pace and as a consequence there is considerable rise in construction activities. These increased construction deeds further causes the trouble of waste generation on construction sites. The purpose of this paper is bringing to light major issues related to the execution of effective waste management practices on construction sites in India.

**Design/methodology/approach** – This paper uses secondary data based upon results from semi-structured interviews which throw light on some of the major issues, challenges and drivers associated with the implementation of waste management practices in construction sector in India.

**Findings** – The key findings was that client inclination and imposition of subsisting laws could actually make possible the carrying out of waste minimisation effective and lack of wakefulness and education between the construction workforces were regarded as major challenges connected with the implementation of waste minimisation practices in India.

**Research limitations/implications** – These secondary data might not be spokesperson of the whole country. However, the data do provide important insights and highlight some issues related to the implementation of effective waste management practices on construction sites in India. The individuals interviewed had been alarmed with the green building association in India for a significant period of time. The tenure of their know-how gave them the aptitude to remark on state of the construction sector and its green as well as non-green practices connected with waste management.
**Originality/value** – This paper depicts an investigative study which assesses the execution of waste management ideology and practices in the Indian construction sector.

**Paper Type** – Observatory study.

**Keywords**: India, Construction sector, Waste generation, Waste minimisation.

1. **Introduction**

   Wastes are materials which are discarded after use at the end of their intended life-span where residuals recycled or reused are excluded from it (Letcher and Vallero, 2011). Construction and demolition waste is as waste which gets life from construction, restoration and demolition deeds (Shen et al., 2004). India is one of the fastest growing economies of the world and this growth has resulted in a significant advance in construction deeds. Its construction sector is one of the biggest in terms of economic spending. The recent twelve-monthly venture in construction sector is more or less $70 billion, with an identified call for for a supplementary $50 billion and an anticipated yearly growth tempo of 15 percent (Arif et al., 2009b). It is estimated that following infrastructure will also require an outlay of around $163 billion over the subsequent ten years (Syal et al., 2006). There are two main objectives of this study. First one is the identification of significant source of construction waste. Second is extraction of major barriers in effective implementation of construction waste management practices. Over viewing the magnitude of construction activities captivating place in India, the need of the hour is to assess the amount of construction waste being developed and analysis of the practices indispensable for proper handling of waste to put forward a greener construction ideology (Arif et al., 2009a).

1.1 **Classification of Construction and Demolition Waste**

   Construction and Demolition waste is being divided into three categories such as material, labour and machinery of which material have been classified as most critical of the construction and demolition waste as most of it comes from non-renewable sources (Ekanayake & Ofori, 2000).

1.2 **Construction and Demolition Waste Minimisation Strategies**

   Many researchers have highlighted various strategies for Construction and Demolition waste reduction. These strategies includes 3Rs i.e reduce, reuse and recycle (Shekdar, 2008; Wang et al., 2008; Kibert & Languell, 2000; Teo & Loosemore, 2001); standardization of design, stock control for minimisation of over ordering, environmental education to workforce etc.
1.3 Brief description of policy frame work of Municipal Solid Waste Management Rules (2000).
The rules relating to the Municipal solid waste (Management & Handling) Rules 2000 came into force from 25.9.2000. It is mandatory on the part of all the municipal authorities to organize and plan for collection, segregation, transportation and suitable disposal of municipal wastes of the municipal towns/cities. If we analyse the situation there are very little efforts taken for effective management and utilization of construction and demolition waste.

1.4 Objectives of the Study
• To identify the significant source of construction waste in Indian construction industry.
• To extract the major barriers to improve the performance of construction waste management in Indian construction sector.

1.5 Analysis of secondary data based upon interviews and interpretation of results
All the interviewees expressed that the awareness for waste management has increased on significant note in India in the past few years. Effective implementation of legal provisions in context with construction waste management is low. The waste management practices have not kept pace with the growing construction sector. The complex nature of construction projects and issues such as multiple contractors working on the site at the same time also results in confusion about the ownership of waste minimisation, waste management recycling and reuse practices.

2. Discussion
The data on semi-structured interviews conducted on professionals related to construction industry provided supplementary insight into waste minimisation practices and the drivers and challenges allied with them. The responses of the interviewees tinted that the wakefulness of waste minimisation is mounting, practices such as on-site compactors, on-site waste segregation and auditing, the 3R practices are becoming well-liked but they have a elongated way to go. Practices to be promoted at dissimilar stages of a assignment to advance waste minimisation were also decorated through these interviews. However, some drivers that could facilitate the carrying out of waste minimisation on construction site are appropriate training or site staff, push from the client, and the enforcement of a variety of laws by the government and regulatory bodies. Development of construction waste handling laws without an effective apparatus of execution makes the ideology of construction waste management a handicap in India.
3. Conclusion

The general approach for this paper is observatory in nature. The paper depicts the present state of generation of construction waste in India and major hindrances in effective execution of waste management practices in Indian construction Industry.

References

