

Study of construction waste and the perception of contractors

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Waste of materials in construction to a certain extent is unavoidable, thus any action taken to prevent the 'unavoidable' portion will create another waste in terms of either money or resources. However, Jayawardane (1992) stated that the wastage of materials in most of the construction sites in Sri Lanka is beyond acceptable limits. The significance of money thrown away as waste is noted by Coomaraswamy (1979). Although, resource optimization is one of the main objectives of any organization, less attention is paid on construction waste. This may be due to the perception that waste "has no value and which the junkman can take away". The negative perceptions are the main barriers for effective waste management. As the construction industry is labour incentive, the attitudes and perceptions of the people cannot be ignored for effective waste management. The research was carried out with the aim of identifying the amount of waste generated in the construction sites of Sri Lanka and to identify the contractor's perception towards waste during the tendering stage and the post-contract stage.

The generation of wastage differs from one material to another depending on their nature, size, hardness, standardization of material etc. The amounts of waste generated in Sri Lankan sites was calculated using material reconciliation technique and given as follows; Sand (25%), lime (21%), brick (17%), cement (17%), formwork (16%), wall tiles (12%), floor tiles (10%), coarse aggregate (9%), tor steel reinforcement (8%), paint (7%), rubble work (6%), mild steel reinforcement (6%), cement blocks (6%), asbestos roofing sheets (3%).

It was observed that the figures obtained from the actual wastage are greater than the waste allowances at the tendering stage. Thus, it can be argued that most of the contractors are unable to recover the loss arising due to material waste. It was also found that the contractors recognize the actual waste is higher than the allowance. But, competition always prevents them from using the actual amounts. Thus, during the tendering stage less attention is paid on the construction waste giving more priorities to other bidding strategies.

However, during the post contract stage contractors have a positive perception towards controlling construction waste as the majority of contractors (88%) have sought to various controlling mechanisms. Even though the perception of the contractors towards controlling waste is positive at the post-contract stage, the conflicting goals of the industry have limited the adoption of some waste control mechanisms. As the contractors are stuck between the speed of construction and the productivity, high priority is given for the time factor paying less attention to the management of waste.

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