The contribution of the Indo-German bilateral cooperation project on Resource Efficiency to India's fledgling effort in promoting Construction and Demolition Waste recycling

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Introduction and Problem Statement

The booming construction sector in India has put tremendous pressure on natural resources such as sand, soil, stones, etc. Extraction of these resources has created serious environmental impacts in many parts of the country (CSE, 2012), often leading to mining restrictions, and therefore price spikes and supply disruptions. These trends are expected to worsen with increasing demand, absent steps to promote resource efficiency, substitution and recycling. Construction and demolition waste (CDW) offers a partial solution since it can be processed into fine and coarse aggregates suitable for the construction industry. However, at present, management and utilization of C&D waste is extremely poor in most parts of India. While a small fraction of CDW (e.g. metals) is recovered for recycling and some CDW is used for backfilling, the vast majority gets dumped illegally creating myriad problems including blight and nuisance, blocking of drainage channels, destruction of wetlands and water bodies, etc. (GIZ, 2015).

The Ministry of Environment, Forest and Climate Change (MoEFCC), Government of India, has notified new C&D Waste Management Rules in 2016 making it mandatory for all major cities to implement a CDW management plan within a stipulated timeframe (MoEFCC, 2016). Currently, only two cities, Delhi and Ahmedabad, have started CDW management and processing systems on a pilot basis and the need is great for capacity development for replication and upscaling these systems nationwide.

Approach and Methods

The Indo-German bilateral cooperation project on Resource Efficiency (RE project) is being implemented by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH in collaboration with Indian and German partners, with CDW utilization as one of the areas of focus. After conducting a baseline assessment of the CDW management situation in various cities across India, the RE project focused on Ahmedabad for pilot intervention. Amdavad Enviro Projects Pvt. Ltd. (AEP), the company responsible for collection and processing CDW in Ahmedabad in a Public-Private-Partnership with the Ahmedabad Municipal Corporation (AMC), manufactures paving blocks, bricks, and other products from recycled aggregates after processing CDW. However, AEP has been facing challenges in product and process standardization, as well as market uptake of their products. The RE project entered into an agreement with AEP, with support from AMC, to address these challenges.

The RE project has facilitated the internationally recognized "Get it Green" certification of selected AEP products based on "recycled content" according to Product Environmental Protocol based on ISO 14020 standards. The audit and certification was conducted by ICMQ-India (ICMQ, 2017), and involved process, monitoring and recording improvements at the processing facility. The RE project has also developed prototypes of new innovative products for AEP that use fewer amount of materials and result in cost savings, while meeting technical specifications set by the Bureau of Indian Standards (BIS).

Results and Discussion

The certified products of AEP have been listed in the GRIHA (Green Rating and Integrated Habitat Assessment) Product Catalogue – the leading green building certification system in India recognized by the Indian government. Publicity for these certified green building products made from CDW is being pursued through conferences and workshops organized by prominent bodies in India such as GRIHA (GRIHA, 2017) and BMTPC

(Building Materials and Technology Promotion Council). The RE project is also organizing capacity development workshops for the building and construction industry in major cities across India covering all aspects of CDW management including deconstruction, segregation, collection and transport, financing and business models, process, technology and equipment, recycled product range, green certification and market uptake.

Conclusion

The RE project's intervention is likely to play a crucial role in helping to upscale CDW management and recycling in India through capacity development of key stakeholders. In addition to developing a viable management system and business case, strengthening market uptake of such "green" products is critical given the initial hesitation of the industry to accept any new and unproven "recycled" products. The project is also engaging in capacity development for municipal government officials through advisory services in tendering and public procurement of green products. Finally, all the knowledge products (e.g. training manuals) being created are being shared with key partners, especially the MoEFCC, to ensure the widespread continuation of dissemination beyond the life of the project. It is hoped that the RE project's intervention will play a key role in helping Indian cities to meet their stipulated deadlines and targets for developing CDW management and processing systems.

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