

Are you sure you would get all the material you will need to build your dream house a few years hence?



■ **Bappaditya Chatterjee**

For a few days some time ago, l'affaire Durga Shakti Nagpal, an IAS officer posted in Nagpur, and her running duel with the state government hogged the headlines of national media. Here was one senior bureaucrat who dared to crack the whip against illegal sand mining. The episode in fact dugged up a much larger issue – do we have any kind of policy on the use of recycled, reusable and substitute building materials? And this is a country where we have no clear idea of alternative building materials that would need to be tapped for constructing about 70% of the buildings that will be there by 2030.

The Union Minister of Housing and Urban Poverty Alleviation told the Rajya Sabha in 2012 that acute shortage of naturally sourced building materials would cause delay in civic projects and aggravate the housing crisis. The Ministry also suggested other strategies must be in place to reduce the demand for naturally sourced materials including sand and whether the use of these materials had to be restricted and regulated on environment grounds.

Hong Kong, Singapore, South Korea, European Union, the UK and the US are going in a big way to maximize reuse of construction and demolition (C&D) waste. But India has made hardly any move in using recycled building materials. There have been one or two instances. A school building in Rajkot, designed by Ahmedabad based architect Surya Kakani, was made of debris of Bhuj earthquake. The Institute of Rural Research and Development (IRRAD) building in Gurgaon has used recycled materials made from its own construction waste. But C&D waste accounts nearly half of the solid waste that degrades the land and environment.

Waste and environment

Where does the debris go after the renovation of one's house?

At the sideline of a programme organized jointly by the Centre for Science and Environment (CSE) and Environment Pollution Control Authority (EPCA) Bhure Lal, Chairman, EPCA told BE, “*Malba* (debris) either remains at one's adjacent plot or dumped at the road sides and also on the water bodies. Huge amount of debris is being dumped on the Yamuna floodplains choking the river. But if planners think differently, malba can be used for building roads, buildings, pavements and flooring tiles.” C&D waste management in India is in disarray.

In turn, the country is still relying on the costly naturally sourced materials. “Random sand mining causes scar to the rivers and make many areas vulnerable to floods. The crucial recharge zones that carry water and seep it out into the surroundings are destroyed,” Naba Datta, Convenor of Sabuj Manch told BE. In 2012, the Supreme Court ordered the state governments to amend the rules to regulate mining of minor minerals for better environmental management. On August 5, 2013 the National Green Tribunal (NGT) stated that sand mining without environmental clearance was illegal. “But nobody cares,” Datta added. Naturally sourced resources are limited and CSE's Director General Sunita Narain mentioned that there is a massive amount of waste from natural disasters like Uttarakhand floods and Bhuj earthquake remains unused. She said at the programme-Waste to Resource organized by CSE, “Why there are no provisions explicitly dealing with C&D waste management in the draft Municipal Solid Waste Management Rules 2013? Even when 2010 Working Committee Report on Municipal Solid Waste Management recommended addressing the C&D waste for its collection, utilization and safe disposal in MSWM Rules, 2000 amendments.” Moreover, the country does not have any reliable data on C&D waste generation.

Road blocks

The Union Ministry of Urban Development in 2000 estimated that India generated about 10-12 million tonnes of C&D waste annually. According to CSE estimates, since 2005 India has newly constructed 5.75 billion square metres (sqm) of additional floor space, with almost 1 billion sqm in 2013 itself. CSE estimated that India must have generated 50 million tonnes of C&D waste in 2013 alone and about 287 million tonnes over the last 8 years. If C&D waste generation is underestimated, weak laws limit its scope. CSE found C&D waste finds a brief mention in the Schedule III of the rule for separate collection in the Municipal Solid Waste (Management and Handling) (MSWM) Rules, 2000. This is extremely inadequate and needs immediate amendment, CSE stated.

Dr. N. B. Mazumdar, Senior Technical Adviser to IL&FS Environmental Infrastructure and Services told BE, “Recycled building materials are cost effective like flyash bricks. But reuse

of C&D waste lacks a proper legal framework to scale it up.” Developers alleged, “Indian standard specification in relation to aggregates for concrete allows naturally sources materials. Thus only virgin materials mined directly from nature can be used. Use of recycled or reused components or any use of recycled aggregate becomes ‘illegal’.” However, Sunil Soni, Director General of Bureau of Indian Standard told BE, “BIS is not banning or obstructing the recycling of C&D waste, rather look it at an opportunity. BIS’ mandate is to ensure quality product for the reuse in construction.”

But Building Materials and Technology Promotion Council (BMTPC), an apex body of promoting development and use of innovative building materials and technologies, has a scheme - “Performance Appraisal Certification Scheme” (PACS). Under PACS, new products, system or technique that are not yet covered by BIS Codes, may be certified after detailed evaluation. The body has used its power to certify new construction material based on scientific studies, as in the case of products made out of bamboo.

Siver lining

In Delhi, the corporation, along with a private company, has taken up a pilot project at Burari to demonstrate the potential of recycling C and D waste. It is collecting 500 tonnes every day from three locations, including Karol Bagh and Sadar Paharganj, and recycling it into pavement blocks, kerb stones and concrete bricks. Experts advocated the government should notify standards

What others are doing

Hong Kong: Imposes construction waste charge on developers. The system has lowered the quantity of C&D waste needing disposal at landfill by 60%.

Singapore: Recycles 98% of its C&D waste.

South Korea: Architectural Institute of Korea Standard Building Construction Specifications recommends increased use of recycled C&D material. Effective recycling rate is 36% with a target of increasing this to 45% by 2016.

European Union: Some member countries have reported that over 20% of their national consumption is from recycled material.

United Kingdom: Almost 280 million tonnes of aggregates are used every year, which is 28% of the C&D waste.

USA: New York City has stringent measures for C&D waste as it is landlocked and has limited space for waste disposal.

Scotland: About 63% of building in Scotland was recycled in 2000.

Denmark: It has an aggressive strategy to reuse C&D waste.

Netherlands: Netherlands has found that 80% of its C&D waste is bricks and concrete that can be recycled to minimise pressure on land.

Japan: Japan, way back in 2000, about 95% of waste concrete was crushed and reused as roadbed and backfilling material, 98% of asphalt and concrete and 35% of sludge was recycled.

Courtesy: CSE

for C and D waste immediately, implement onsite waste segregation, impose waste tax or charge for minimizing waste generation, and make provisions in MSW rules 2013 for reuse and management of C and D waste.



A world-class Integrated Green Township spread over 90 acres with Residentials, Shopping Mall with Multiplex, Lifestyle Club in the midst of lush green nature. Offering all the lifestyle and business facilities for world-class living in a clean, green environment with full service support.



Townhouses | Bungalows | Apartments | Shopping Mall
Multiplex | Offices | Club | Central Parks

Book your home today, **Call: 99038 33888**

Shristinagar
The New Asansol

The first integrated green township