

Zigzag kilns hold promise for greening brick sector: Experts

IANS | Patna/Kathmandu February 16, 2018 Last Updated at 19:06 IST

Brick manufacturers from India, Bangladesh, Nepal and Pakistan on Friday agreed to promote environmental-friendly zigzag kilns - a new configuration that produces high-quality bricks at lower cost with fewer harmful emissions - for 'greening' the brick sector in South Asia.

This was decided at a three-day conference in Kathmandu jointly organised by the International Centre for Mountain Development (ICIMOD) and the Federation of Nepal Brick Industries (FNBI), during which ideas and practices about the design and construction of zigzag kilns was discussed.

In order to gain a first-hand experience and testimony from current operators, over 20 participants made field visits to examine zigzag kilns in Bhaktapur, Dhading, and Biratnagar in Nepal.

Kilns rank among the leading sources of pollution in South Asia, emitting thick black smoke filled with carbon monoxide, sulphur dioxide, and particulate matter such as black carbon.

For brick manufacturers, adopting other forms of kiln technology has meant reducing brick quality and overall productivity.

Currently, the Fixed Chimney Bull's Trench Kiln (FCBTK) is the most common design of brick kiln and it contributes significantly to poor air quality that adversely impacts human health and vegetation. During the conference, participants discussed means to convert existing FCBTKs to zigzag kilns, which are also more earthquake resistant.

The conference was organised as part of ICIMOD's Department for International Development (DFID) funded Brick Kiln Initiative to help rebuild Nepal's brick sector after the earthquake in April 2015.

Programme coordinator, Bidya Banmali Pradhan, said the initiative has achieved much success in a short period.

"We are encouraged to learn that progressive brick entrepreneurs in Nepal have converted their FCBTKs to zigzag kilns. As we want to see more and more brick entrepreneurs in South Asia follow suit, we've been working hard to spread the word about improved zigzag kiln designs and facilitating exposure visits for interested brick entrepreneurs from the region and beyond," Pradhan said.

Mahendra Bahadur Chitrakar, the FNBI President, said the brick kiln idea spread from India to Nepal and now Nepal is moving to share this technology with the region.

"We adapted (the zigzag kiln) to our context and further developed it. Air pollution is a complex problem that no single country can solve. There are about 1,38,000 brick kilns in South Asia, and we have decided to form a Federation of Asian Brick Kiln Associations to address multiple challenges, including growing environmental and health concerns through regional cooperation and collaboration. We think this is the way forward that gives us the best shot," Chitrakar said.

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