

# The Brick Initiative

## A snapshot



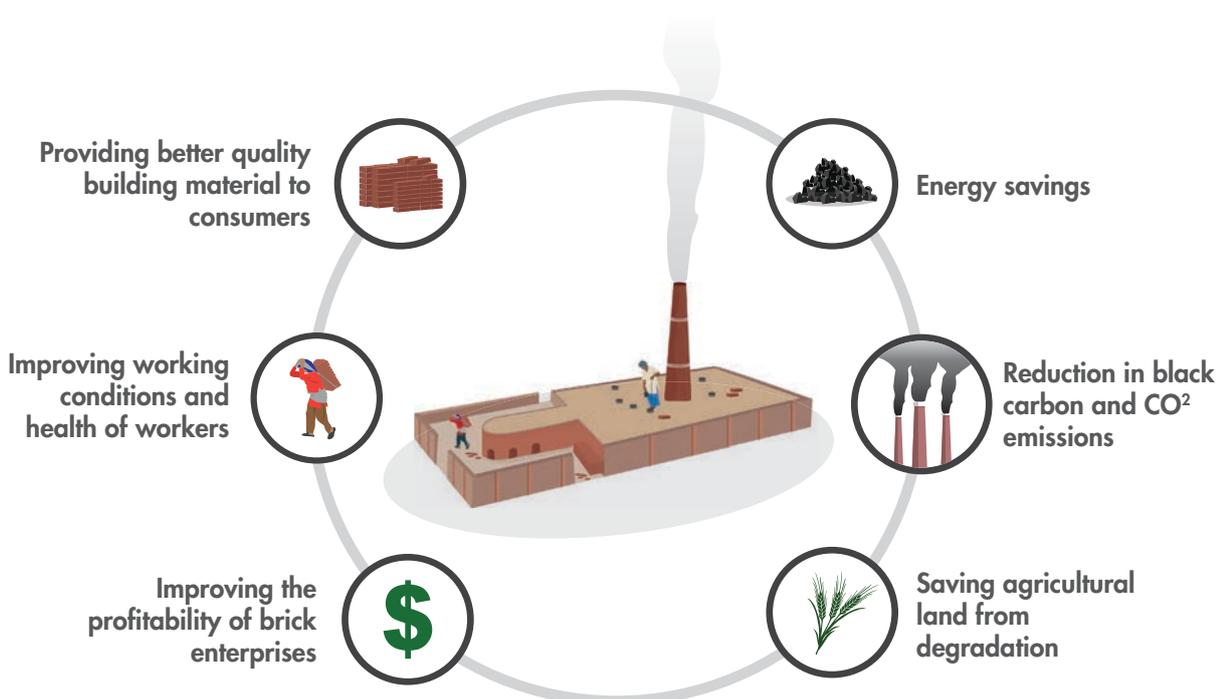
The Brick Initiative under the International Centre for Integrated Mountain Development's (ICIMOD) Regional Programme on Atmosphere aims to transform South Asia's brick sector into a cleaner and healthier industry by improving air quality through reduced emissions from brick production, increasing social and economic benefits for businesses and communities, and reducing adverse impacts on health. The Initiative also works to integrate socioeconomic, gender, and equity perspectives into cleaner brick production through pilot efforts in Nepal.

The Brick Initiative began in 2013 with seed funding from the Climate and Clean Air Coalition (CCAC); ICIMOD is currently the lead partner of the CCAC's Brick Production Initiative for South Asia. ICIMOD is also the lead implementer for the Department for International Development's (DFID) brick project in Nepal.

The Initiative spearheaded the rebuilding of earthquake-damaged kilns in Nepal – transitioning to the cleaner and safer zig-zag technology in 2015 – and developed a design manual for seismically resistant, energy-efficient, and environment-friendly kilns. The technology has gained popularity among brick kiln owners in other South Asian countries like Bangladesh, India, and Pakistan, as it improves the quality of bricks while considerably reducing coal consumption and smoke. From the perspective of social impact, ICIMOD achieved a vital breakthrough in Nepal when it successfully intervened to bring awareness among brick entrepreneurs that improvements in social and gender aspects are as equally important as the adoption of efficient technologies. This has helped enabled collaborative gender and social action research interventions in factories.



**By lowering emissions of black carbon and integrating socio-economic aspects of production, ICIMOD seeks to transform the brick sector into a healthier, socially responsible, more profitable industry.**



## ICIMOD seeks to transform the brick sector in Bangladesh, India, Nepal, and Pakistan into a cleaner and healthier industry and to reduce negative environmental impacts through the following activities:

- Collaboration with entrepreneurs and policymakers to accelerate adoption of cleaner brick-making technologies.
- Close cooperation with policymakers to develop a regulatory framework acceptable to both producers and consumers.
- Close collaboration with related private-sector stakeholders to improve local technical capacity in the design, manufacture, mechanization, efficient operation, and maintenance of energy-efficient brick kilns and to limit the direct exposure of workers by improving their working conditions.

## Interventions

### Capacity building

- Conversion from fixed-chimney bull's trench kilns to zig-zag kilns.
- Development of instruments for emissions measurement in brick kilns in South Asia.
- Training provided for brick entrepreneurs and workers in Bangladesh, India, Nepal, and Pakistan.
- Training for engineers on the construction of zig-zag kilns.
- Establishment of an incubation centre hosted by the Federation of Nepal Brick Industries (FNBI).

### Catalyzing policies

- Revision of brick emission standards in Nepal
- Punjab Government directive in 2018 banned operation of traditional kilns in Pakistan during winter, when thick smog envelops its cities.
- Discussion planned between the Central Pollution Control Board of India and ICIMOD on the modernization of the brick sector in India with immediate focus on the National Capital Region (NCR).

### Building scientific knowledge

- Energy and emissions related data generation in South Asia.
- Responding to data gaps in social aspects of brick production.

### Scaling up and regional platforms

ICIMOD facilitated the formation of the Federation of South Asian Brick Kiln Associations (FABKA) as a collective platform for brick makers in South Asia to share and exchange knowledge, technologies, good practices, and problems related to the brick industry.

### Introducing Innovations

- Technical skills transfer to better construct and operate zig-zag brick production units.
- Exposure visits to China and India for brick entrepreneurs from Bangladesh, China, Nepal, and India to learn about various mechanization options and cleaner production technologies such as the tunnel kiln technology.
- Shift to LPG-enabled initial brick firing in Nepal from fuelwood firing, thereby reducing the cost of fuelwood, easing operation, and helping attain the coal ignition temperature faster.

### Socially responsible brick production

- Action research showing how improved working conditions for workers can lead to enhanced productivity and enable mutual benefits for all.
- Focus on health; safety in workplace; education for worker's children.

### Helping male and female brick workers in Nepal overcome social vulnerabilities

- Establishment of a social cell within the FNBI to integrate socially responsible brick production practices nationwide.
- Development of a brick sector code of conduct and standard operating procedures for the FNBI.
- Productivity gains survey of 80 kilns across Nepal to assess comparative patterns between better working conditions and enhanced productivity.
- Financial literacy and occupational health and safety (OHS) trainings for 140 workers and their spouses to help manage limited financial resources and adapt to uncertainty.
- ICT-enabled teaching at a government school to help the children of brick workers broaden their horizons.

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ICIMOD gratefully acknowledges the support of its core donors: the Governments of Afghanistan, Australia, Austria, Bangladesh, Bhutan, China, India, Myanmar, Nepal, Norway, Pakistan, Sweden and Switzerland.

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Prepared by ICIMOD Publications Unit, June 2019

