

# Workshop

on

# Greening the Brick Sector in Bihar

29<sup>th</sup> June, 2018

Seminar Hall, Parivesh Bhawan, Patliputra, Patna

Organised by



Supported by



**NSTEDB**  
National Science and Technology  
Entrepreneurship Development Board  
Under the  
Department of Science and Technology

i-GPRENEUR



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**Background Note**

India has experienced a steady growth path in the last few years. The recent government estimates indicate that the real Gross Value Added (GVA) at basic constant (2011-12) prices for the year 2017-18 is growth rate of 6.5 percent over First Revised Estimates of GVA for the year 2016-17. In fact, the real Gross Domestic Product (GDP) at constant (2011-12) prices in Q4 of 2017-18 grew at a rate of 7.7 percent over Q4 estimates of 2016-17. Much of this growth is attributed to the steady progress by the industrial sectors such as manufacturing, construction, transportation, communication, utility services, etc. In 2017-18, construction sector is expected to grow at 8.8% over 2016-17 (MoSPI, 2018). However the environmental impacts of these sectors have been a matter of critical concern in India. An estimate by National Productivity Council suggests that cost of environmental damage by manufacturing sector in India is about \$ 32 billion.

The transition to green and inclusive economies has been long initiated and deliberated both at national and global level; however, the current domestic and international landscape has created an opportune moment to accelerate it. An important stakeholder in the transition to a green and inclusive economy in India is the MSME (Micro, Small, and Medium Enterprises) sector. MSMEs are the backbone of the Indian Economy and contribute immensely to the socio-economic development of the country. The sector contributes about 28% to national GDP and provides jobs to more than 110 million people in the country (Ministry of MSME, 2017). They foster innovation, and provide resilience to global economic shocks. MSMEs are crucial to growth of construction and manufacturing sector as they are an important part of supply chain to large industries. Therefore they can become agents of change in greening manufacturing and construction sector by producing and supplying sustainable materials.

**The Situation in Bihar**

Bihar is one of the fastest growing states in India. During the period 2005-06 to 2014-15, the GSDP of Bihar at constant prices grew annually at 10.5 percent, which is one of the highest among all major Indian states. Bihar is primarily an agrarian state and is one of the largest producers of vegetables and fruits in India, however the state has planned initiatives for the development of other sectors such as agricultural implements and manufacturing, tourism, information technology, renewable energy etc. In fact, MSME sector, which has emerged as a highly vibrant and dynamic sector of the Indian economy has also witnessed growth in last one decade in Bihar. The number of registered MSMEs reached 1.98 lakhs in 2013-14 providing employment to 6.52 lakhs individuals. It is worth mentioning that 99 percent of the total number of units under MSME fall under tiny/micro sector and, despite this, the investment per unit increased from 1.87 lakh in 2007-08 to 10.07 lakh in 2013-14 (MoMSME, 2015-16).

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Amongst many sectors in Bihar, the brick industry currently is based on decentralized production activity using energy intensive, resource depleting and highly polluting technologies and production methods. In order to ensure that state's economic growth is not at the cost of environmental and public health, it is extremely important to take initiatives to promote cleaner brick technologies and waste management. In the given situation, encouraging the production and the usage of fly ash bricks in Bihar is an opportunity for productive utilization of waste while preventing the emission intensity of the unit and providing decent jobs to local community.

Bihar has 4 thermal power plants that produce an estimated 10.6 million tons of fly ash every year and this is expected to increase to 22.57million tonnes by the year 2020. There is enough fly ash available to produce about 7000 million bricks per year. However not all the fly ash goes in brick making, but there are many fly ash brick making units spread across the state.

Development Alternative's (DA) continuous research in the brick sector in Bihar has revealed that even though many fly ash brick making units exist in Bihar, large number of these existing fly ash enterprises are either non-functional or have shut down due to lack of market demand. Fly ash brick makers face several barriers to entry, including lack of market demand, negative mindset regarding fly ash bricks, lack of fiscal incentives, problems with fly ash sourcing and lack of regulation leading to uncertainty and awareness. In the given scenario, a state consultation involving various stakeholders might contribute a step towards overcoming these barriers.

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## About State Workshop

The environmental impacts of the brick sector and the potential to mitigate these impacts through an inclusive economic strategy that supports economic growth needed to fuel development in the state will be deliberated in the workshop. Sector experts, government representatives, entrepreneurs, development practitioners, businesses and community based organizations will be coming together to reflect on the principles and approaches for transitioning the construction sector in Bihar towards a more green and inclusive sector. The workshop will mainly focus on fly ash based MSMEs as bricks are one of the most important input to the construction sector. Fly ash brick technology is an eco-friendly technology. It has following environmental benefits:

- It conserve fertile soil; *30 tons of Soil Saved per 10000 fly ash brick*
- It uses fly ash and other wastes; *15 tons of waste utilized per 10000 fly ash brick*
- It reduces Greenhouse gas generation *6.72 tons of Carbon saved per 10000 fly ash brick*
- It conserve natural resource like coal; *2.1 tons of Coal saved per 10000 fly ash brick*

A further advantage of using fly ash bricks is that it can be produced in a variety of strengths and sizes. This means that apart from their conventional use in building walls etc. fly ash bricks can also be used for the construction of a variety of infrastructure projects such as roads and pavements, dams and bridges. Thus in this scenario, cashing this intensive fly ash by utilizing to its potential will not only bring environmental benefits but will also contribute to social and economic benefits as it can generate employment for a sizable workforce and will also contribute to revenue earnings of the government.

The objectives of this consultation are:

### ***Identify issues faced by fly ash industry in recognizing their full potential in green growth of construction sector in Bihar***

Fly ash brick industry in Bihar has been unable to flourish in spite of 4 thermal power plants supplying fly ash. Identifying issues which are leading to slow growth of this Industry in Bihar.

### ***Business promotion and matchmaking***

A networking platform of MSMEs with green business service providers and learn about products and technologies that can help them implement their measures.

### ***Identify solutions for supporting fly ash brick industry in Bihar***

A solution package with policy and operational support for rapid growth of fly ash brick industry in Bihar will be deliberated.

## Expected outcome of the workshop

The GIS based map indicating the fly ash enterprises in Bihar will be demonstrated in the workshop being organized jointly by Bihar State Pollution Control Board and Development Alternatives. The workshop will bring together policy makers; civil society; industry associations, business and financial institutions; and the media to highlight the importance of greening the brick sector and their associated benefits related to agriculture sector, waste utilization, natural resource saving and climate. It proposes to evolve a framework for the integrated role of policy, business and civil society that can potentially contribute in the development of air pollution mitigation action plan in the brick sector in Bihar.

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**Agenda**

Time	Activity
10:00 – 10:30	<b>Tea and Registration</b>
10:30 – 10:50	<p><b>Opening Remarks</b></p> <p><b>Welcome Address</b> Chairman, Bihar State Pollution Control Board</p> <p><b>Introductory Remarks</b> Vice President, Development Alternatives</p>
10:50 – 11:20	<p><b>Presentation on Green technology in Bihar</b></p> <ul style="list-style-type: none"> <li>• Greentech Pvt. Ltd.- Case of Zigzag technology at Patna</li> <li>• Development Alternatives- Case of Fly Ash Bricks in Bihar</li> </ul>
11:20– 12:30	<p><b>Roundtable Discussion</b> <b>Addressing Gaps in Policy, Practice, and Legislation to accelerate the Transition</b></p> <ul style="list-style-type: none"> <li>• National Thermal Power Corporation</li> <li>• Department of Building Construction</li> <li>• State PSUs</li> <li>• Department of Industry</li> <li>• Department of Urban Development &amp; Housing</li> <li>• Department of Mines</li> <li>• State Banking Committee/ State Bank of India</li> <li>• MSME Development Institute, Patna</li> <li>• Quality Council of India</li> <li>• Bihar State Pollution Control Board- <b>Chair</b></li> </ul>
12:30 – 13:40	<p><b>Roundtable Discussion</b> <b>Levers of Change: Recommendations to take forward the Transition</b></p> <ul style="list-style-type: none"> <li>• Bihar Industry Association</li> <li>• National/ Bihar Fly ash Association</li> <li>• CREDAI Group, Patna</li> <li>• Fly Ash Entrepreneur</li> <li>• Centre for Science &amp; Environment</li> <li>• Asian Development Research Institute</li> <li>• Department of Building Construction</li> <li>• Development Alternatives - <b>Chair</b></li> </ul>
13:40 – 14:00	<p><b>Special Address</b> Member Secretary, Bihar State Pollution Control Board</p> <p><b>Vote of Thanks</b> Development Alternatives</p>

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