Fostering Adoption of Building Products made from Construction and Demolition (C&D) Waste in India

Dr. Abhijit Banerjee
GIZ-India

8th GRIHA Summit 2017
New Delhi

Indo-German “Resource Efficiency” project

- Indo-German Bilateral Cooperation between German BMUB and Indian MoEFCC
- Implemented by GIZ-India
- Partnership Landscape

<table>
<thead>
<tr>
<th>German knowledge partners</th>
<th>Indian knowledge partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>VDI</td>
<td>ifeu</td>
</tr>
</tbody>
</table>

- Selected Sectors

<table>
<thead>
<tr>
<th>Mobility</th>
<th>Construction</th>
</tr>
</thead>
</table>

- Indian Resource Panel
Construction industry situation in India

- Highest material consuming sector
  - sand, soil, stones, cement

- Booming demand leading to extraction pressures

- Current sand demand ~ 1,000 MT/y; aggregate demand ~ 1,300 MT/y

- Already facing resource constraints, price shocks, environmental bans


C&D waste situation in India

- Widespread illegal dumping
  - environmental problems
  - waste of resources

- C&D waste generation in Delhi:
  - 4,000-5,000 TPD (1.5-2 MT/year)

- M-sand (from granite) is already a competitive industry

Best Practice: Germany

- ~ 90% of CDW reused
- Landscaping, earth works, civil eng., structural

Source: TIFAC, 2001
C&D waste utilization in India

2000 + 500 TPD Delhi plants (since 2009/2015)
300 TPD Ahmedabad plant (since 2014)

Construction and Demolition Waste Rules 2016 MoEFCC

C&D waste based products
Challenges for C&D waste based products

- Business case
- Market uptake
- Product quality concerns

<table>
<thead>
<tr>
<th>Government interventions</th>
<th>Market strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land and set up incentives (PPP)</td>
<td>Eco-labeling and certification</td>
</tr>
<tr>
<td>BIS standards (IS 383)</td>
<td>Industry awareness</td>
</tr>
<tr>
<td>CPWD guidelines</td>
<td></td>
</tr>
<tr>
<td>Public procurement</td>
<td></td>
</tr>
<tr>
<td>Sales tax rebate</td>
<td></td>
</tr>
</tbody>
</table>

Certification of C&D waste based products

- Accredited in EU for third-party certification of a wide range of green products, buildings, management systems
- Certification as per ISO protocol
- Environmental Product Declaration (EPD) claims validation
  - e.g. recycled content
- MoU with GRIHA Council

www.icmq.in
Role of GRIHA Product Catalogue

- High visibility/publicity
- High credibility
- Government recognition
- Advantage in adopting listed products

Way forward

- Certification of broader range of product attributes
- Awareness and capacity development of private sector
- Capacity development for municipal officials (GIZ Training Manual)
Acknowledgements

Contact:
Abhijit Banerjee (abhijit.banerjee@giz.de)