

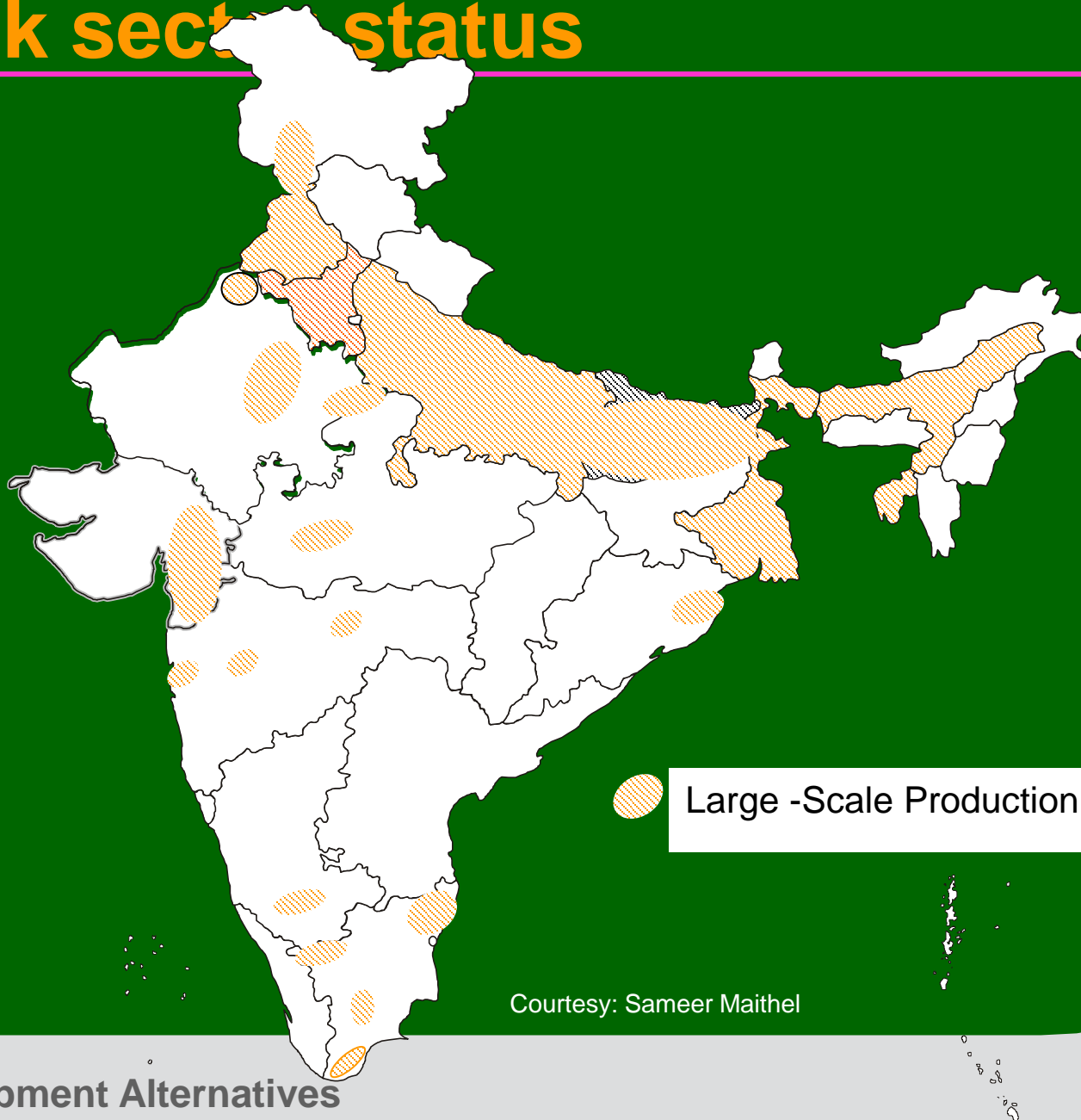
Alternate Building Materials - Fly ash bricks

Anil Agarwal Dialogue 2015
12 March 2015

Brick sector status

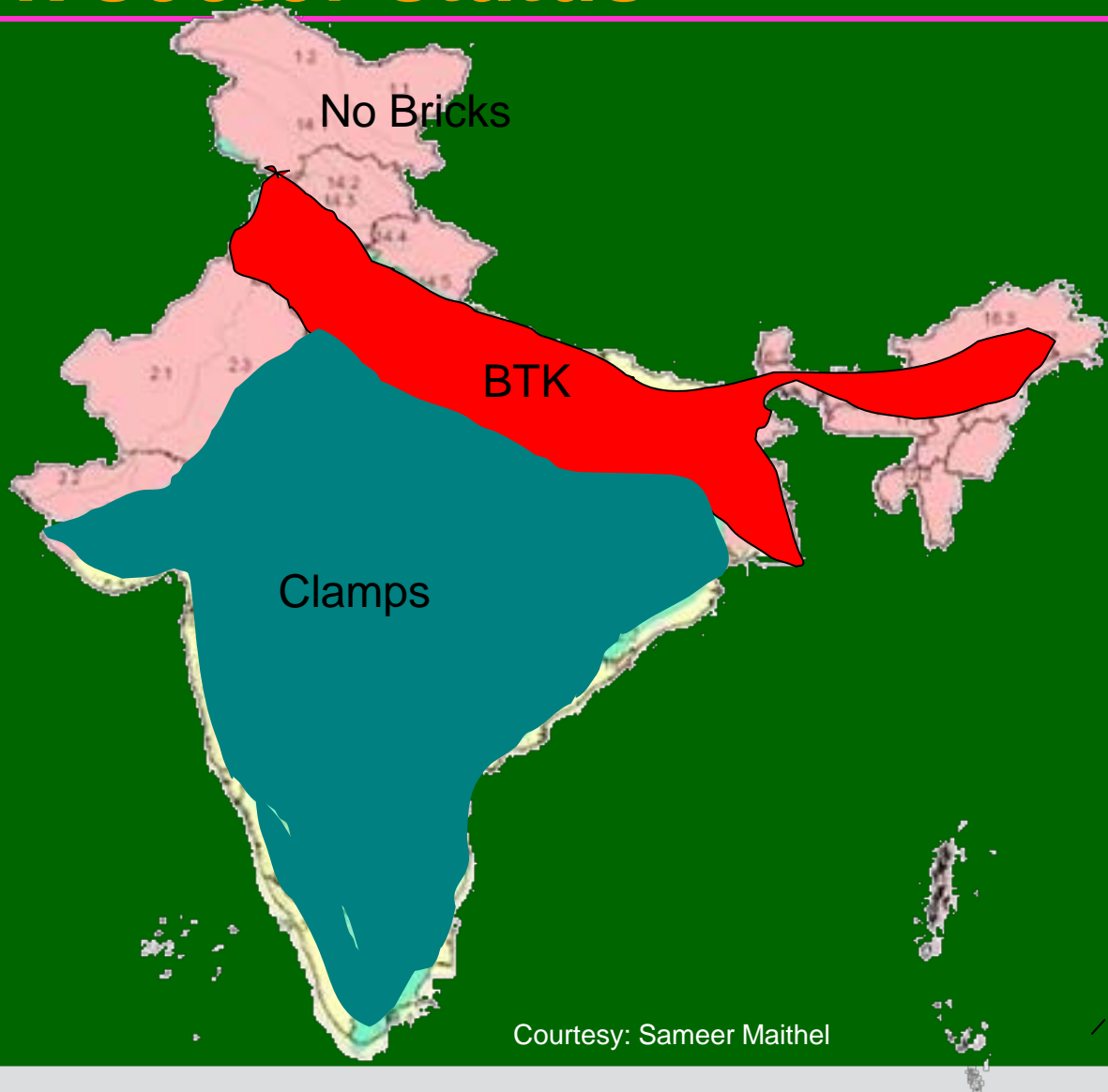
- Annual Production ~ 200 billion bricks
- No. of units (estimated) ~ 1,20,000
- Coal consumption ~ 44 million tonnes
- Soil usage ~ 600 million tonnes
- Turnover ~ Rs. 1000 billion
- Employment ~ 12 million

Brick sector status



Courtesy: Sameer Maithel

Brick sector status

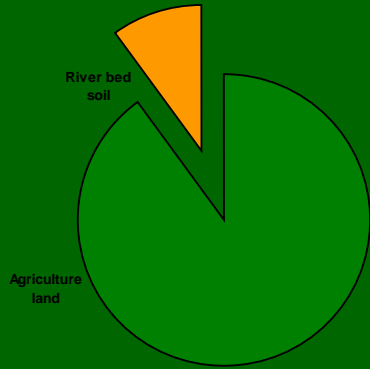


Courtesy: Sameer Maithel

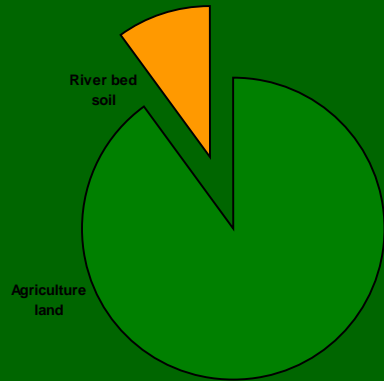
Brick sector status

- CO₂ emissions ~ 140 million tonnes
- Black carbon ~ ----
- Land usage ~ 550 sq. km
- Food grain production ~ 1,75,000 tonnes
- Income to Govt. ~ Not determined
- Employment ~ Seasonal

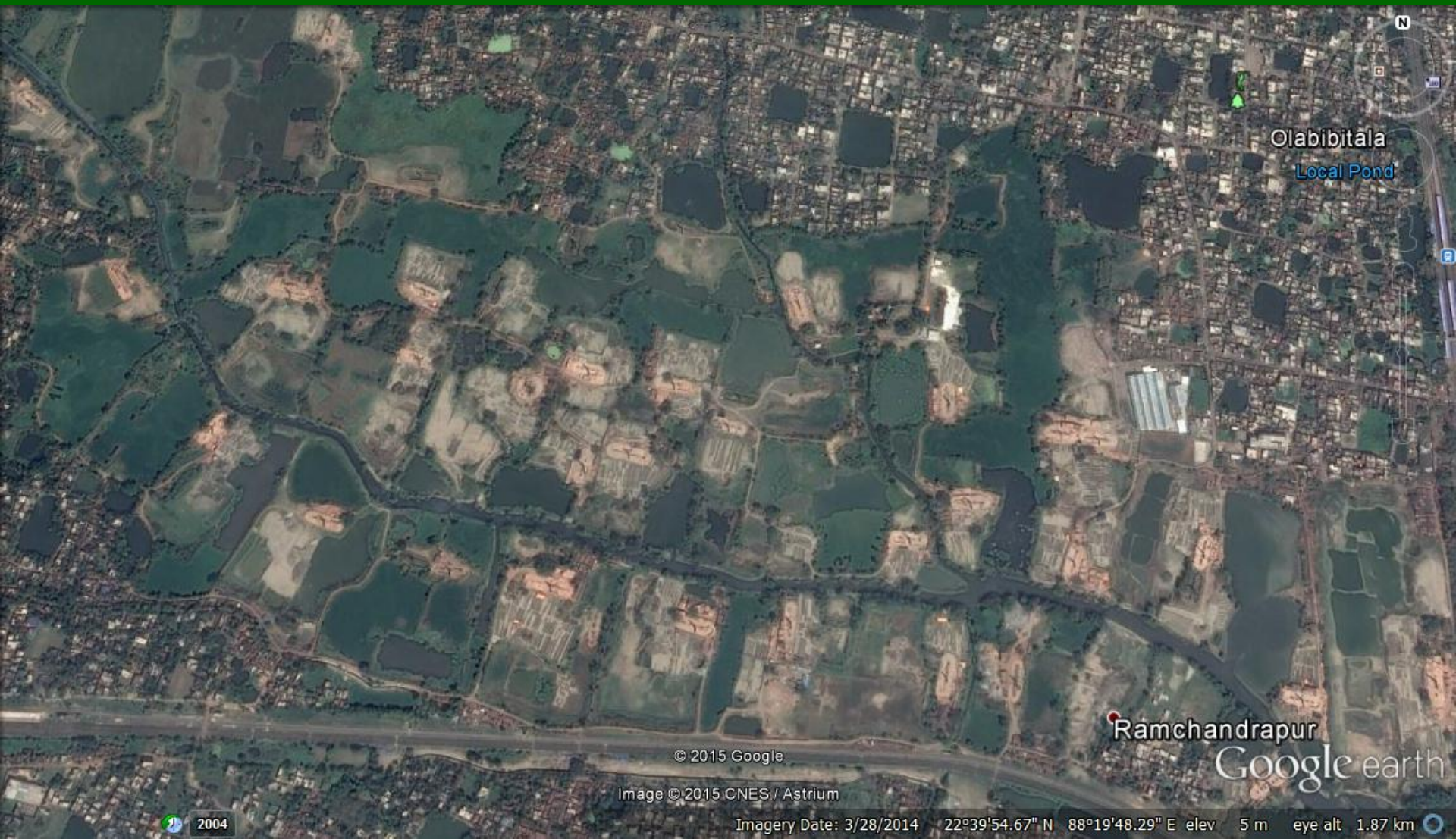
Brick sector status-Resource Use



Brick sector status-Resource Use



Brick sector status-Resource Use



Brick sector status-Resource Use



Brick sector status-Resource Use



2002

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Imagery Date: 3/20/2014 25°39'37.03" N 84°57'47.81" E elev 54 m eye alt 1.18 km

Brick sector scenario



Alternatives

Brick size and shape

- Use of standard brick size
 - 25% savings in soil
- Use of hollow bricks
 - 25-40% savings in soil
- Use of industrial wastes
 - 5-10% savings in soil



Alternatives

Use of industrial wastes



Alternatives

Use of alternate technologies



FLY ASH

Alternatives

Use of alternate technologies



Fly ash status

- Fly ash generation (FY 2013) ~ 163 million tonnes
- Total utilization ~ 61%
- Utilization in bricks
 - ~ 4.60 million T (2011)
 - ~ 5.83 million T (2012)
 - ~ 9.98 million T (2013)
- Bricks produced
 - ~ 3 billion (2011)
 - ~ 4 billion (2012)
 - ~ 6.5 billion (2013)
- Market share ~ 3.25% (at present)

The Economic Times, 8 March 2014

Fly ash brick potentials

- Fly ash generation ~ 163 million tonnes
- Brick production ~ 110 billion
~ 55% of total production
- Soil saved ~ 300 million tonnes
- Coal saved ~ 22 million tonnes
- CO₂ saved ~ 70 million tonnes
- Enterprises ~ 55,000 (2 million bricks/year)
- Jobs created ~ 5,50,000 (atleast 300 days)

Fly ash brick equipments

More than 50 equipment manufacturers

- Across India, Coimbatore, Ahmedabad, New Delhi
- Imported units of very high capacity
- Various capacities

- 10 lakhs* ~ Rs. 10 lakhs**
- 20 lakhs ~ Rs. 15 lakhs
- 35 lakhs ~ Rs. 25 lakhs

* Production capacity considering 300 days of production

** Total investment excluding land

Fly ash brick equipments



Fly ash brick equipments



Fly ash brick equipments



Fly ash brick equipments



Alternatives



Thanks