



Danish Rashid – ACC Ltd India

January 2014

Green Building Centres in India

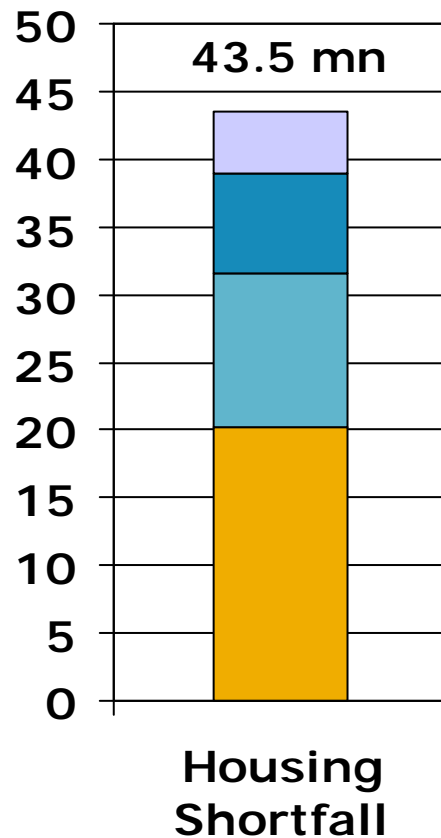
An opportunity to realize the dreams of millions

- Background
- Business Concept
- Concrete Product Centers
- Future Plans - Roadmap
- Conclusions

Rural Housing Shortage in India

Everyone has the right to housing, adequate for the health and well-being of himself and of his family

Article 25 of the United Nation's Universal Declaration of Human Rights



- Shortfall
- Obsolescence
- Congestion
- Temporary houses

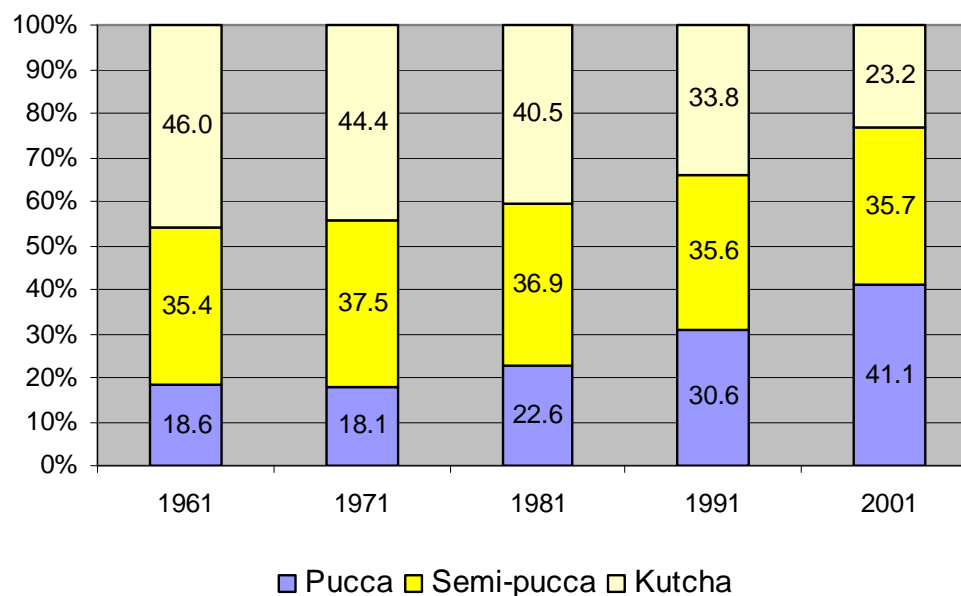
- Supply of building materials by rural producers is inadequate
- 55% of the total houses constructed need major alterations and repair

Source: (12th Fiver year plan – Rural Housing)

Housing Shortage : An opportunity

*Habitat for Humanity International:
Poverty Housing in the Asia Pacific
Report*

“As governments move from providing housing directly to the poor toward enacting enabling policies, opportunities are opening that favor private sector and community involvement, non-governmental organizations (NGOs) and community-based organizations (CBOs).”



New houses built per year (million)

Area	1971-81	1981-91	1991-01
Rural	1.7	2.8	3.4
Urban	1.1	1.6	2.0
Total	2.8	4.4	5.4

Where are we today?

- Rural construction takes place on a completely random basis
- No architecture, quality standards, common construction practice in place
- slum construction & desolate building substance
- no lucrative market for professional construction product suppliers

= > Urgent need & opportunity to develop robust market

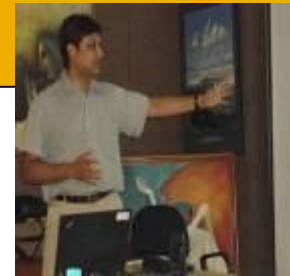
= > where distinct customer needs meet construction quality



Engagement of Stakeholders

femS³

Sustainable
Social
Solutions



Development
Alternatives



SITUATION**OPPORTUNITIES**

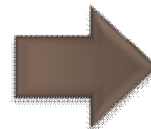
Acute shortage of building materials in rural areas



Local production of quality green building materials

Driving Acceptance of products

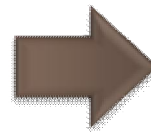
Growing market, yet unfulfilled demand



Enhance access to affordable and aspirational housing

Emergence of Clusters

Absence of credible business solutions for MSMEs



Driving profitable enterprises, jobs and investment

Micro, Small, Medium Enterprises

Development of value chain

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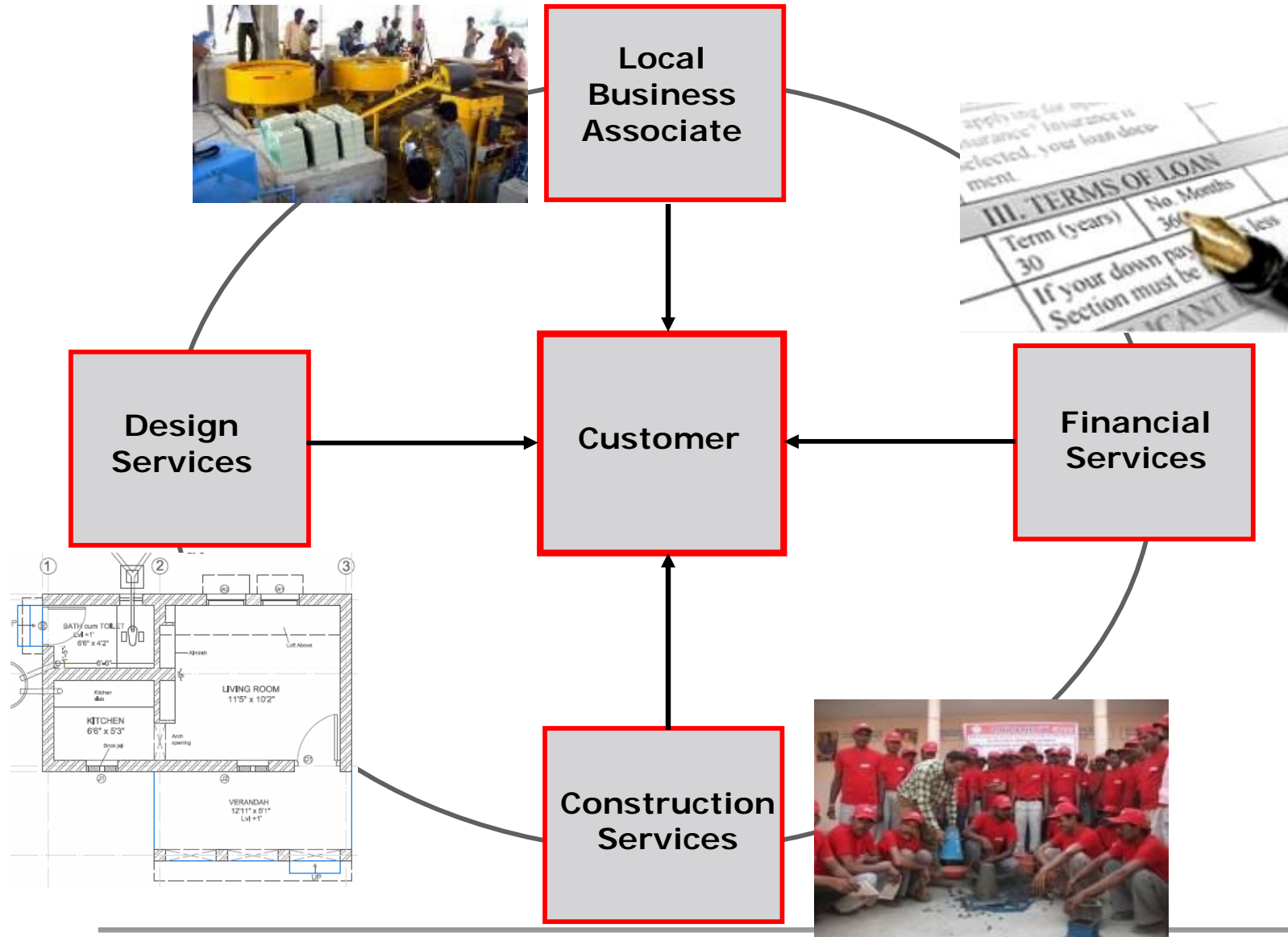
Objective

To develop a sustainable business model for rural and semi-urban India with a clear mandate of providing value-for-money housing solutions to customers through concrete product 'Centers of Excellence'

Building Sustainable Enterprises

...creating new markets

Developing the Ecosystem



ACC

Quality assurance

Establishment and scaling of centers

Skill Development

Branding

**DA /
TARA
Machines**

Material Testing

**Equipment Supply /
Commissioning**

Training

After-sales Services

Business Partner

Product Manufacture

Design Services

Installation Services

Access to Finance

Customer

Home owners

Commercial use

Public buildings

Infrastructure

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3 pillars of 'Centers of Excellence'

HIGH VISIBILITY

Aesthetically designed

Branded products

ASPIRATIONAL

Locally accessible

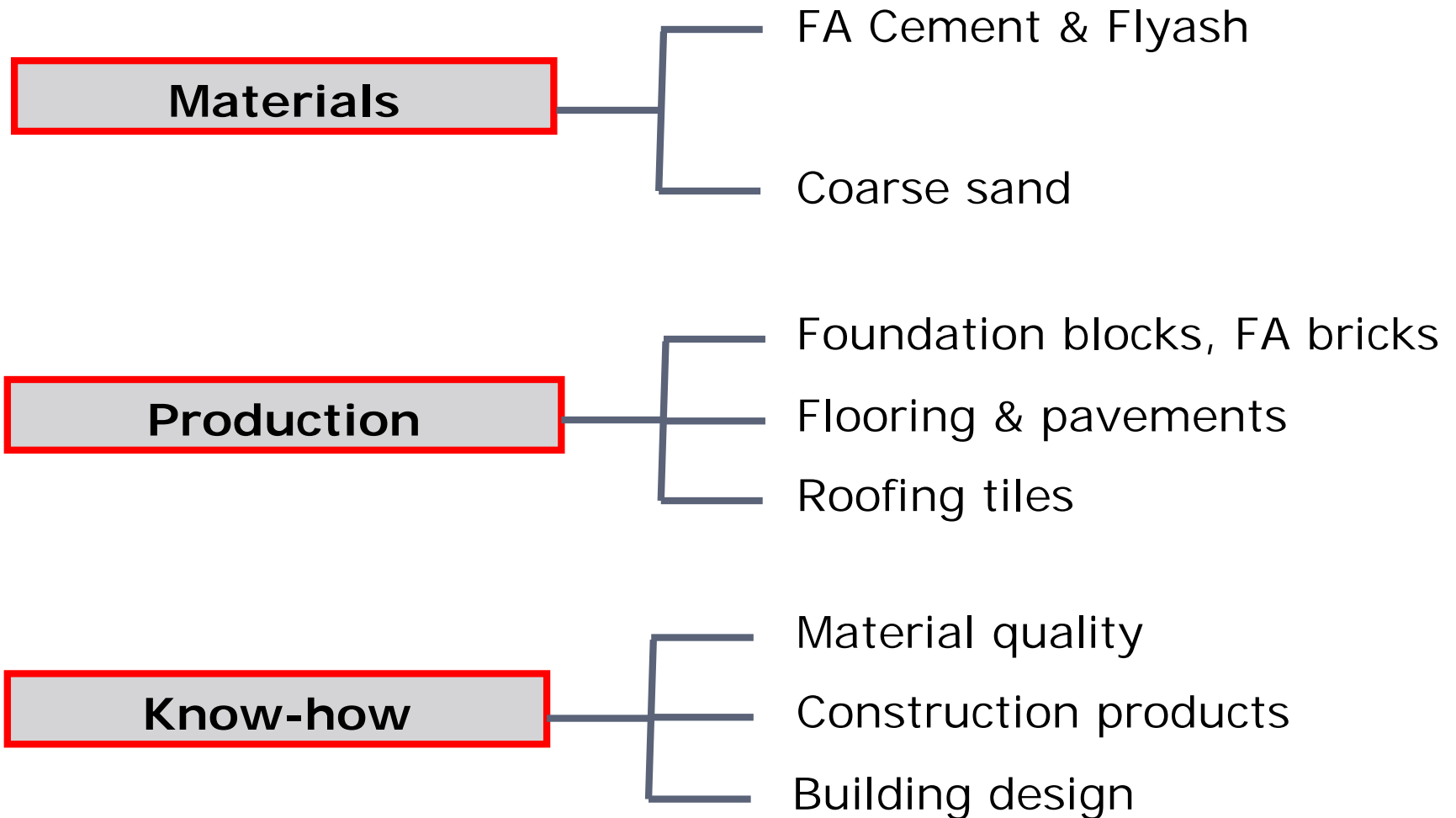
Affordable Products

HIGH QUALITY

Validated Technology

Certified Products

Implementation 'Centers of Excellence'





Products used for construction

Roofing solution



Frame solution






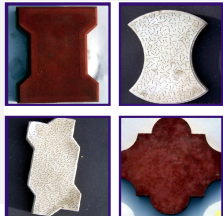


Walling / Foundation solution



Flooring solution



TYPES OF MACHINE	PRODUCT	ADDITIONAL
TARA MechRam MX 	Fly ash Bricks 	Capacity : 8000 bricks/ day FTE : 8 persons
TARAcrete Micron 	Tiles 	Capacity: 300 tiles/ day FTE : 3 persons
TARAcrete Greencast 	Pavers, Floor tiles 	Capacity: 1000 pavers/ day FTE : 6 persons

TYPES OF MACHINE

PRODUCT

ADDITIONAL

TARA MechRam



TARAcrete Micro



TARAcrete Green



Safety & Health Policy

“Our commitment on Safety is the elimination of all injuries, occupational illness and preventable vehicular incidents. Apart from this, we will provide everyone in the premises, including visitors, a safe and healthy work environment.”

Kushinagar Concrete Pro

Environment Policy

“We believe that protecting the environment is integral to sustainable development. We will operate as an environmentally and socially responsible business. We will ensure optimum use of resources including energy and water.”

Kushinagar Concrete Products

Quality Policy

“We strive to create the best value for our customers by delivering the most reliable and effective products in the marketplace. Our commitments are to:

- *Continually monitor the quality of our products,*
- *Ensure strict compliance to standards and product specifications,*
- *Regularly benchmark our product quality with customer requirements and others in the marketplace,*
- *Ensure that all involved in production are adequately trained in the performance of their tasks.”*

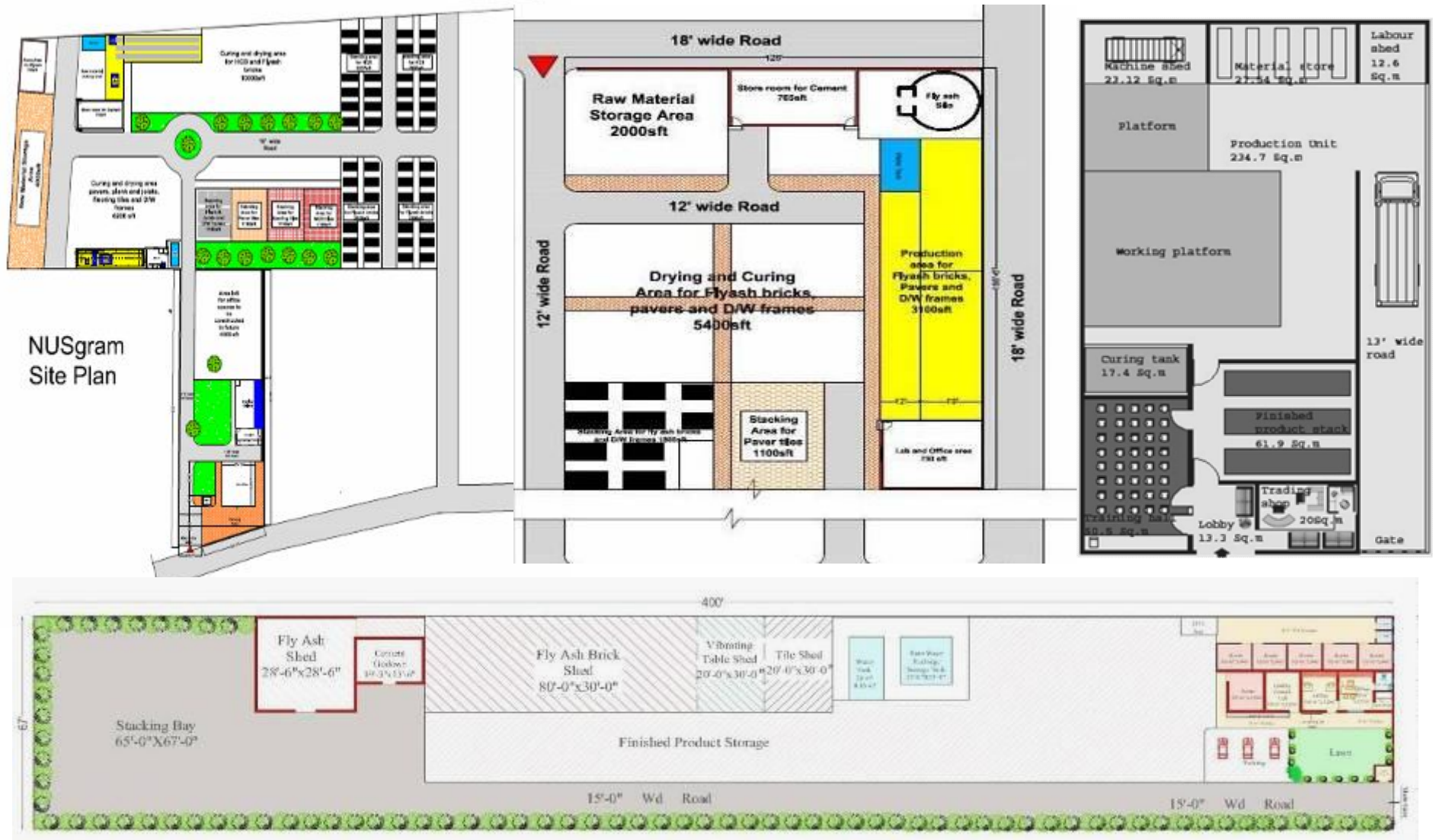
Kushinagar Concrete Products

SAFTY STARTS FROM ME (FIVE CARDINAL RULES)

- **Do not override or interfere with any safety provision nor allow anyone else to override or interfere with them.**
- **Personal Protection Equipment (PPE) rules, applicable to given task, must be adhered to at all time.**
- **Isolation and Lock out procedures must always be followed.**
- **No person may work if under the influence of alcohol and drugs.**
- **All injuries and incidents must be reported.**

...promoting sustainability in construction

Design of Centers



ग्रीन कंक्रीट टाइल से बने कुछ खूबसूरत और मज़बूत
चकड़ाप, गोदाम और व्यवसायिक भवनों की छतें



चकड़ाप



कुंदर



टिकाऊ

ग्रीन ब्रिक्स, ग्रीन कंक्रीट ब्लॉक और पेवर से बने
सुन्दर, टिकाऊ और मज़बूत घर



चकड़ाप



कुंदर



टिकाऊ

ग्रीन कंक्रीट टाइल से बने कुछ खूबसूरत और मज़बूत
चकड़ाप, गोदाम और व्यवसायिक भवनों की छतें



चकड़ाप



कुंदर



टिकाऊ

Kushinagar Concrete Products

Green Building Centre

Supported by



...promoting Sustainability in construction

Kushinagar Concrete Products

Green Paver Blocks – For Roads and Petrol Pumps
Concrete Paver Blocks can be used in roads, driveways, parking areas, fuel stations which require landscaping.

Benefits are :

- Superior to concreting as easy to install and maintain.
- Available in several designs and colors.

Green Checkered Tile– For use outside a home

It is an easy way to make a floor outside a home. It is suitable both for rural and urban applications.

Benefits are :

- Superior to concreting.
- Easy to produce and install over a large area.
- Attractive Colors. Ideal for use outside a home.

Green Decorative Marble Block

- Excellent for constructing an attractive boundary.
- Gives plaster.
- Is strong and boundary
- Looks good.

Staircase

Made of Pre-cast concrete. Cost-effective in comparison with RCC. Saves cost of shuttering and can be speedily installed.

Concrete Cover Block

Help in maintaining distance between iron bars and the roof being cast, so that concrete spreads evenly on the entire surface. Gives greater strength of the roof, due to uniform casting and saves steel from rusting.

Safety First

Respect to public interest by ACC:
Following precaution must be taken at the construction site:

1. Children must be kept away.
2. Naked electricity wires are prohibited.
3. Sharp Objects on the floor are prohibited.
4. Helmets and Hand Gloves should be used.
5. While using fire materials, nose and mouth should be covered with clean muslin cloth.
6. Tools and equipment must be cleaned at the end of every shift.
7. Loose garments should not be worn near machinery.
8. First Aid Box should always be available.
9. Safety Belt is a must while working at a height.
10. Site must always be kept free of hazardous materials.

Head Office:
Chhatra Traders, Chhatra, Patana, Kushinagar,
Uttar Pradesh-274 304, Mobile: 9161155765, 9838123595
Factory:
Chhatra Eligah Road, Patana, Kushinagar, Uttar Pradesh
Mobile: 9161155765, 9838123595



GREEN BUILDING CENTER

Supported by



Green Concrete Block

For boundary walls and foundations. These have excellent strength and finish.

Benefits are:

- Speed of Construction.
- Saving of Mortar and Plaster.
- Are available in different sizes: 12" x 8" x 6" and 12" x 6" x 6"

Green Bricks

These bricks have superior finish and strength. They are produced using an automatic machine.

Benefits are :

- Uniform Size & Shape requiring less mortar and plaster.
- Need lesser number of Green bricks in comparison with Red bricks for every cubic meter.
- Approved for use in various Govt. Deptts. (CPWD, PWD, MES) and produced as per BIS (Bureau of Indian Standards) Code (IS 12854 : 2002).

Green Roofing Tile

Superior to Asbestos, GI Sheets, Clay Tiles. Can be used in a large variety of sloping roofs of large spans.

Benefits are :

- Durable and Strong.

• Comfortable both in summer and winters.
• Roof is Easy to maintain, as only a single tile needs replacement on breakage



Green Door & Window Frames
High Quality and Long Lasting Door & Window Frames using reinforced cement concrete.

Benefits are :

- Excellent Surface Finish.
- Does not rust.
- No threat from pests.
- Handles and Bolt are easy to fit.
- Are produced as per BIS Code 6523:1983.

Plain Floor Tiles
Are used for flooring inside the house.

Benefits are :

- Cost-effective in comparison with plain cement flooring.
- Easy to install and save time.
- Easy to maintain.



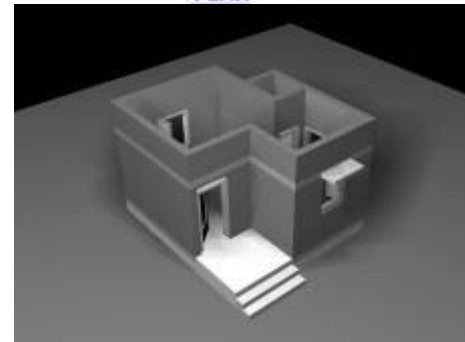
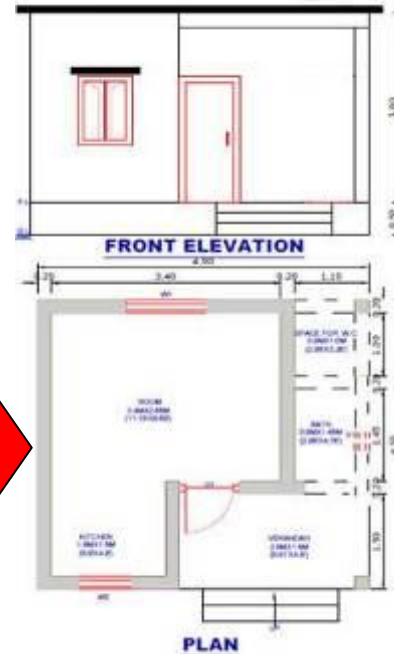
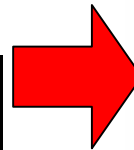
Improved construction services



Empowering masons through training

Redefining affordable housing

Old Houses



New Houses



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Potential for Future growth

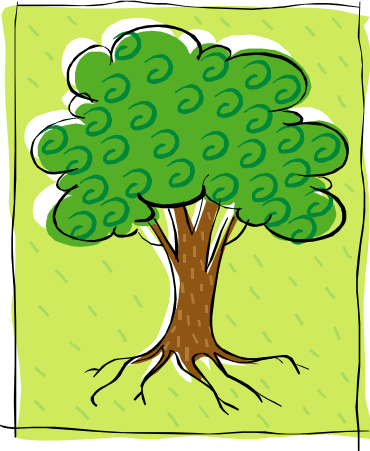
	2013	2014	2015	2016	2017
HUBS					
No of centers	6	20	35	55	80
SPOKES					
No of retail outlets	10	100	300	500	800
Additional Cement utilization (MT)	NA	52000	136000	180000	272000

No. of districts in India	: 640
Avg. no. of centers per district	: 2
Potential for no. of centres	: 1280

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Impact created by each center of excellence



- 770 MT of CO₂ emission saved per year
- 6480 MT soil saved per year
- 4200 MT of waste utilized per year



- Building material worth INR 15 million (USD 250 k) created per year
- 20 livelihoods created directly and 60 livelihoods created indirectly
- High quality building material for up to 200 houses in one year

Economic Returns



- Increase in cement consumption by 0.64 million MT in 5 years (trade sales)
- Increase in revenue from INR 4.16 billion (USD 0.69 billion) in 5 years
- Increase in EBITDA from INR 576 million (USD 9.6 million) in 5 years
- Royalty of INR 60 million in 5 years (at 2% of production cost)

Environmental Returns



- 120,000 MT of CO₂ emission saving over next 5 years
- 1.1 million MT of virgin natural resources saved over next 5 years
- 0.6 million MT of waste utilized over next 5 years

Social Returns



- Building material worth INR 2.4 billion (USD 40 million) created over next 5 years
- 12,800 livelihoods created both directly and indirectly over next 5 years
- High quality building material for up to 23000 houses made available

Vidisha Green Building Centre



Kushi Nagar Green Building Centre



Alwar Green Building Centre





Lucknow Green Building Centre



Thanks