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Building & Construction Activities
Environmental Concerns and
Community Connect to Bin the Dust

Ministry of Environment, Forest & Climate Change

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Legal framework to address Environmental Concerns of Building / Construction Activities

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EIA Notification, 2006

Building/Construction projects with built up area between 20,000-1,50,000 sqm require prior Environmental Clearance from the concerned regulatory authority [SEIAA/EAC (if under category A)],

Specific and general conditions in the Environmental Clearance mentions about the pollution control and mitigation measures to be ensured during construction and operational phase.

The specific/general conditions include measures to be taken necessarily for air/water/noise pollution control, water conservation etc.

Compliance of EC conditions is a statutory requirement to be monitored through Regional Offices of MoEF&CC, and failure to comply is a cognizable offence under the EP Act, 1986.

EIA Notification, 2006

Amendment vide Notification dated 22nd Dec, 2014

- **All Building and Construction projects with built up area between 20,000-1,50,000 sqm to obtain prior Environmental Clearance from SEIAA only,**

- **Projects/activities related to industrial shed, school, college, hostel for educational institution exempted from the requirement of EC subject to ensuring sustainable environmental management, solid and liquid waste management, rain water harvesting and use of recycled materials such as fly ash bricks.**

Guidelines for Building/Construction Projects

- Vide OM dated 9th June, 2015, a clarification was issued to the extent that the Notification dated 22.12.2014 provides exemption to building of educational institutions including Universities. The medical Universities / Institutes with component of hospitals shall continue to require prior EC,

- Guidelines (issued along with the said OM) stipulate the measures for implementation and monitoring mechanism against identified environmental parameters namely, water conservation, waste water treatment, drainage pattern, ground water, solid waste management, air quality and noise levels, energy conservation, traffic movement, green belt, risk assessment plan, EMP etc.

Other Initiatives

- Environmental Guidelines for buildings by MoEF&CC
- Modern Building Bye-laws, 2015 formulated by MoUD & MoHUPA

Measures for Dust Control

As per the Environmental Guidelines for Buildings

- **Adopting techniques like, air extraction equipment, and covering scaffolding, hosing down road surface and cleaning of vehicles can reduce dust and vapour emissions.**

- **Measures include appropriate containment around bulk storage tanks and materials stores to prevent spillages entering watercourses.**

Measures for Dust Control

The other measures to reduce the air pollution on site are:

- **Sprinkling of water and fine spray from nozzles to suppress the dust,**
- **On-Road-Inspection should be done for black smoke generating machinery,**
- **Promotion of use of cleaner fuel should be done,**
- **All DG sets should comply emission norms notified by MoEF&CC,**

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Measures for Dust Control

- **Vehicles having pollution under control certificate may be allowed to ply,**
- **Use of covering sheets to prevent dust dispersion at buildings and infrastructure sites, which are being constructed,**
- **Use of covering sheets should be done for trucks to prevent dust dispersion from the trucks, implemented by district offices,**
- **Paving is a more permanent solution to dust control, suitable for longer duration projects.**

Community Connect to Bin the Dust

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The Genesis

:: Values ::

Sustainable construction, Responsible living

:: Vision ::

Energy efficient, Water co-efficient, Greens sufficient

:: Mission ::

Reduce, Recover, Recycle, Recharge & Reuse

Being Pro-active to Connect with the Communities

Create synergy with various residents, professionals, & industrial bodies to conduct a structured **communication drive** for **fine-tuning perceptions** regarding adoption of these recommendations and to **sensitise the communities** about its benefits.

These affiliations would also come handy for **crosscutting interventions**, and to **build capacities** of all stakeholders in construction and allied activities from the **concept to ground-zero implementation**.

Awareness Generation Components:

- **Guidelines**
- **Communication Drive** to establish Community Connect including Dedicated Website]
- **Capacity Building** of all stakeholders

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AWARENESS GENERATION

Awareness Generation is to ensure compliance of the following _

Green Certified:

_ Building Materials

- **Energy efficient & Environment friendly,**
- **Healthy, bio-degradable, Safe, & secure**

End-user Friendly:

_ Design

- **Architecture with landscaping elements**
- **Indoors / outdoors scope to grow medicinal, aromatic, remedial herbs, shrubs, flowers, some fruits & vegetables**
- **Provisions for Roof-top Vegetation, Green Wall concepts, and**
- **The 5 Rs of Water Conservation;**

Reduce, Recover, Recycle, Recharge & Re-use

CAPACITY BUILDING

Capacity-building would have the following components _

Awareness generation
about the Guidelines

Orientation of functionaries **/ Sensitisation** of beneficiaries (end-users) about its significance, and

Skill-development
in the domains required to execute the Guidelines, especially how to build green and sustain greens

Website
dedicated to the Guidelines to kick-start the process of its real-time implementation.

DUST – The Cause & Effect of Air Pollution

High levels of dust can be generated by the construction activities, which can cause reductions in air quality, health problems, environmental degradation and loss of amenity for residents and businesses.

Dust Issues: Why is dust a problem?

Airborne dust from construction sites is a problem for a number of reasons. It can:

- **create health problems, particularly for those with respiratory problems**
- **cause environmental degradation, including air and water pollution**
- **create problems with visibility**
- **damage or dirty property and belongings**
- **create unsafe working conditions**
- **increase costs associated with the loss of materials or additional work involved**

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How is it caused?

Dust can become airborne when soil is exposed or left uncovered / has no vegetation coverage. Wind then picks up the exposed soil and carries it off-site.

The most common ways that soil is exposed include:

- Demolition activities
- Site preparation activities
- Construction activities
- Vehicle movement
- Uncovered stockpiles

Community Viewpoint:

How does the community view dust from construction sites?

To gauge the impact of construction dust a Quick-IPC Session conducted in Lucknow construction sites ranged from single dwellings to industrial developments. Overall, the responses indicate that the levels of problems experienced were influenced by:

- Weather
- Size and scale of the development
- Topography and location
- Attitude & actions of site workers
- Socially-responsible Approach of the Construction Companies / Builders

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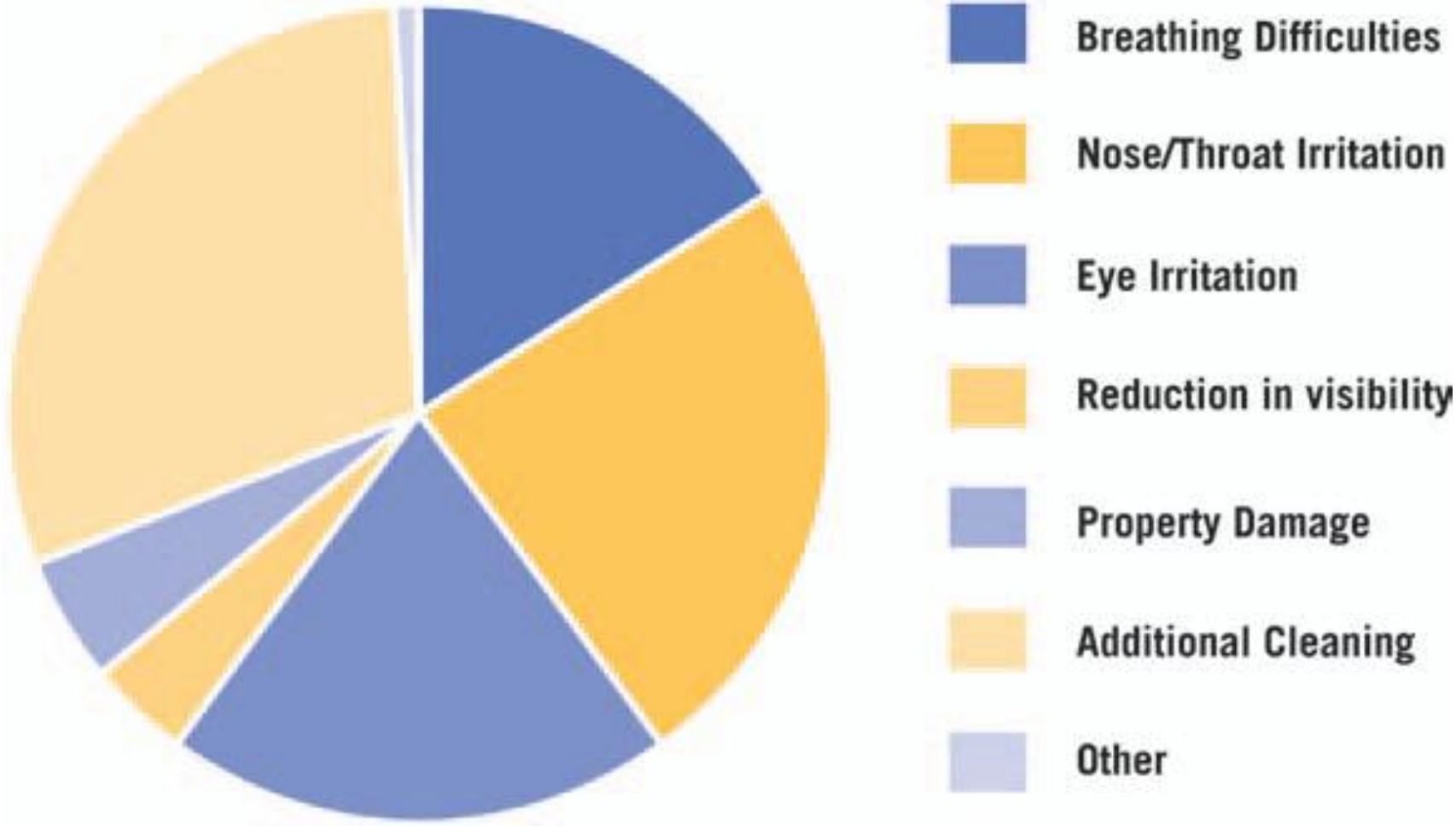
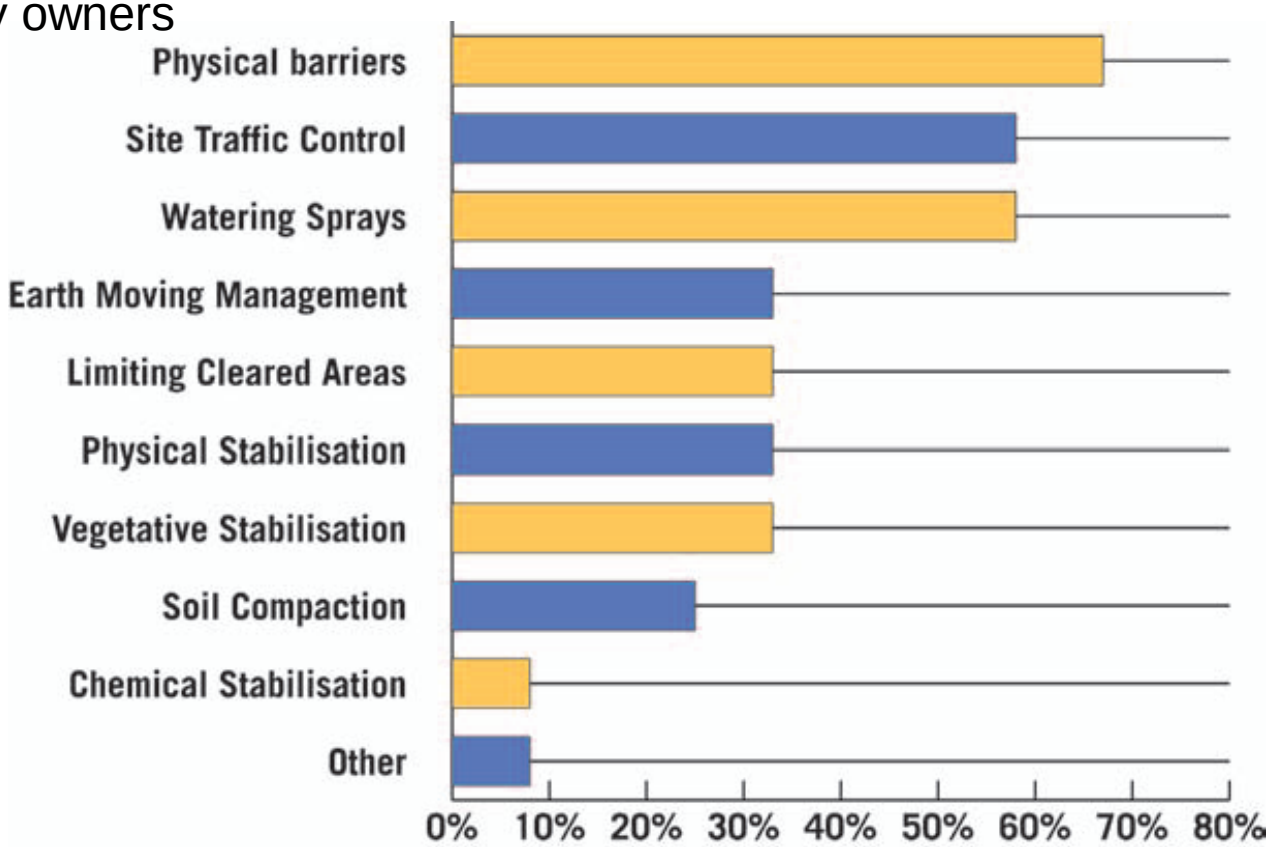
The main problems experienced were:



Industry Viewpoint:

How does the industry view dust from construction sites?

The Quick-IPC Session also focused on the main dust control measures adopted by activity owners (ranging from structured companies to sole: operators), and the constraints involved in implementing various control measures.



Dust control measures used include:

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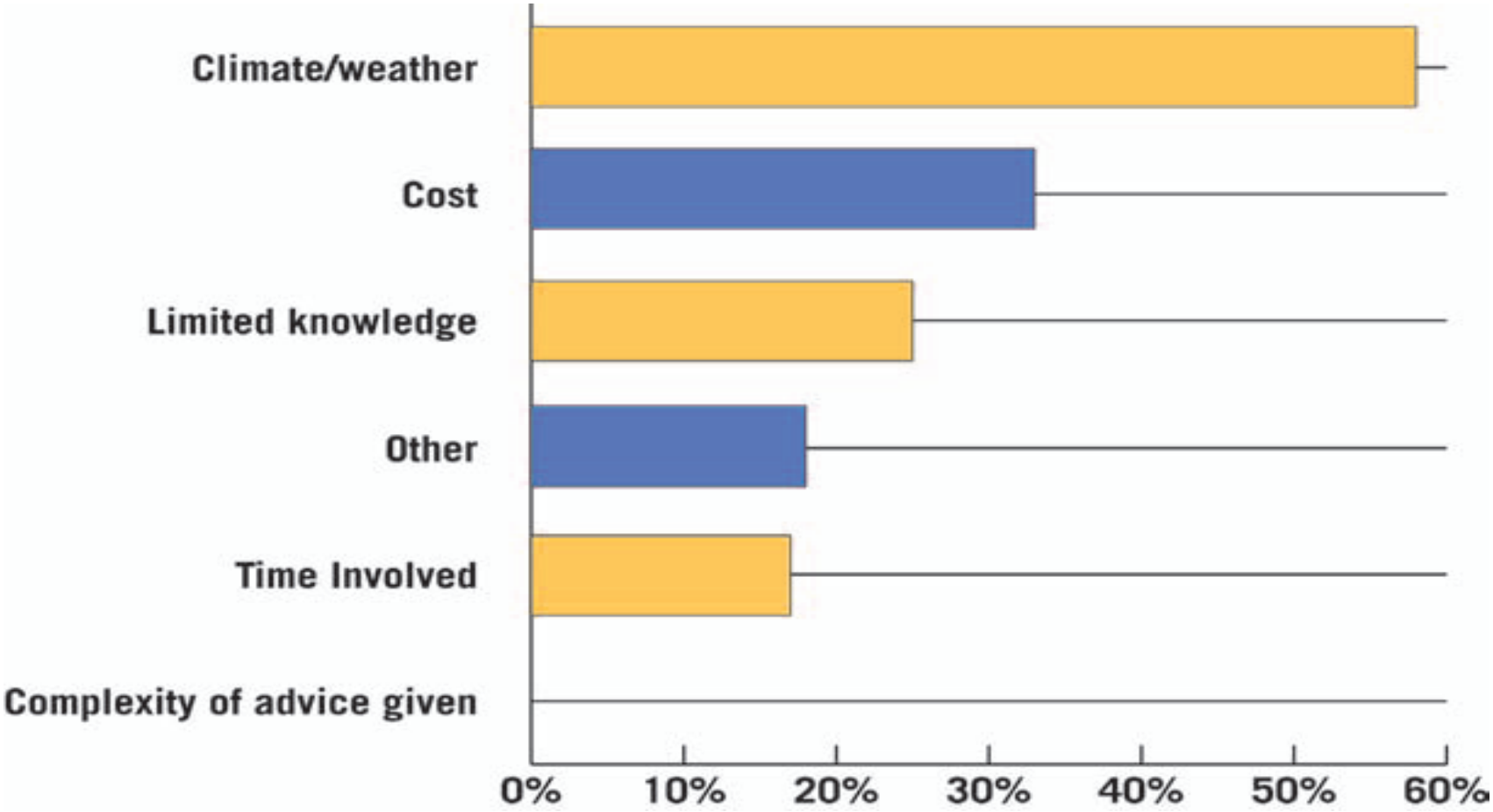
Constraints to effective dust control were seen as:



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Know-how:

Limited knowledge of the measures available is also a major constraint therefore it is all the more important that we adopt “Community Connect” as a tool to address this problem by providing simple, easy to follow information and guidelines.

The Law and You:

Companies and property owners are legally bound to control dust emissions from construction sites.

Any actions undertaken on site must not contribute to environmental degradation and pollution. Air impurity levels must not exceed the standards. Conditions of Approval on Development Applications relating to dust control as set down by the competent authority must also be observed.

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WHAT:

“The AVID Community Connect” aims at formulating outline methods that can be implemented to reduce dust levels on construction sites. It is meant to capacitate all stakeholders of any construction activity including; communities-at-large, practitioners & scholars in various professional domains, construction companies & builders and their work-force, owners, functionaries of competent authorities and anyone involved in the land development or approval & execution processes.

WHY:

Help improve local air quality by reduction of dust emissions from construction sites.

COST:

This tool focuses on inexpensive, cost-effective measures to help reduce the impacts of dust.

Dust Control Measures Index

The following control measures have been placed roughly in order of operation. Some may need to be used throughout the entire project-period and beyond. However, the order of operations should follow this outline as far as possible.

Pre-construction Measures

Dust (Environmental Concerns) Management Plan

STEP – I: Create a Team comprising:

- An Environmentalist (Air [Dust] Pollution Control Measures)
- A Landscape Specialist (Architectural base)
- A Botanist (Community Vegetation – Interior & Exterior)
- A Communication Specialist (Business & Community)

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STEP – II: Focus on Site Measures

- Limit Cleared Areas
- Top-soil Management
- Soil Compaction
- Physical Barriers
- Site Traffic Control
- Earth Moving Management
- Tyres-wash & cleaning
- Watering Sprays
- Vegetative Stabilisation
- Chemical Stabilisation
- Site Completion

.... Other measures (as evolved from site-to-site)

STEP – III: Organise Storage

- Pile Configuration / Temp-Storage Arrangements
- Hauled Material Management
- **Paved Road Trackout:** Site Access / Exit Controls

.... Other requirements (as evolved from site-to-site)

Benefits of effective dust control

What are the benefits of effective dust control?

There are a number of benefits associated with effective dust control on your construction site, including:

To the Builder:

- Enhanced business reputation
- Better working conditions for staff
- Better working relationships with clients and the community
- Improvements in relations with regulatory authorities, e.g. Local Government

To the Owner:

- Reduced risk of damage to property
- Improved relationships with future neighbours
- Knowledge of contribution to environment protection
- More attractive environment

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To the Neighbours and Community:

- Fewer disruptions to everyday living
- Reduction of health risks resulting from air pollution
- Reduced risk of damage to property and belongings
- Less cleaning!

To the Environment:

- Reduction in air pollution
- Reduction in water pollution
- Fewer disturbances to existing flora and fauna habitats

Indicative Messages

Environmental Parameter: AIR QUALITY AND NOISE LEVELS

During Construction Phase:

- Burning of waste to be banned.
- The site must be made a 'No Smoking Zone'. Smokers' corners at appropriate locations, where no inflammable materials are stored shall be provided.

During Construction & Operation:

- **Setting up the barriers:** National Building Code 2005 suggests that design solutions such as barrier blocks should be used to reduce external LA10 noise levels to at least 60-70 dB (A) at any point 1.0 m from any inward looking façade.
- Green belts and landscaping could act as effective means to control noise pollution.

GREEN BELT/ GREEN COVER:
An Enabler to Bin-The-Dust!

- Provide minimum a tree for every 80 sqm. of plot area.
- Wherever trees are cut or transplanted, compensatory plantation in the ratio of 1:3 to be done
- Native species of trees to be planted.
- Vegetation to provide as shading and promote evaporative cooling. It should be planned for maximum benefit.
- The project should have detail proposal for tree plantation, landscaping, creation of water bodies etc.

Conclusion

"Besides settling the dust in huge volumes, thereby saving the lives & surroundings, being sensitive to the Environmental Concerns would save 12000 tons of CO_2 and 45000 kilo liters of water per year for every million square feet of built up area."

The Proposal:

1_ **The State Governments to incorporate the Environmental Safeguards in their Building Bye-laws and back it up with Legal Instrument.**

2_ **Adopt "Community Connect" as an integral component of the process to engage communities!**

3_ **Create The Environment Management Team, and make your activity Socially Responsible**

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THANKS

for your
Time & Concern!