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**INFORMATION BROCHURE**  
**Short Term Course**  
**On**

**Post Mining Mine Site Restoration: Reforestation, CSR and Vetiver System Technology**

(During **November 14-16, 2013** at Department of Mining Engineering, IIT Kharagpur)

Surface mines are the major source of raw material supply for the power plants and metallurgical plants in India. Over the last four decades a large number of spoil dumps are generated in these mines. Number of mines are now at the verge of completing their mining life. The environmental management of these mines has undertaken various steps for reclamation of the mines sites. However, there are still certain problems like stabilization of spoil dumps slope, control of soil erosion and sedimentation loads on the catchment areas of the river system near the mining area. Enhancing the soil quality of the broken areas near mining site is also a problem. Moreover, after the mine closure generation of alternative economic activities in the mining areas and enhancing the environmental condition near the mining site is a challenging problem to be addressed under corporate social responsibility. Vetiver system technology is an approach of application of bio-engineering that believe in restoring a mine site naturally by vegetation growth. Vetiver grass that can grow on the slopes to work as soil anchor with a characteristic roof system can assist the mine management in integrating social responsibility with environmental management. However, such approach needs careful planning and systematic deployment. Figures below show some of the experimental sites of Prof. K. Pathak who has implemented this approach in Indian Iron Ore mines.



The site as was in March 2012



The transformation of the site in September/October 2012

The transformed site is now having higher potential for community usage and future revenue generation.



### Use of restored mine site for useful purposes

This executive development programme is planned to train the environmental engineers, CSR managers and mine managers on implementation of the vetiver system technology so that they can develop programmes to integrate corporate social responsibility and environmental management.

The course coverage will include:

- Post mining mine site restoration
- Corporate social responsibility.
- Vetiver system technology for slope stabilization, vegetation development and catchment area management.
- Integration of CSR & EMP
- Forest development by Miyawaki Method
- Case studies of vetiver system technology from India and abroad

### Course Objective

After going through this course the participants will be able to:

- select the appropriate post-mining mine site restoration alternatives
- explain the vetiver system technology and its benefits
- plan implementation programme for vetiver system technology in a specific mine site
- identify potentials problems of vetiver system technology
- draw a layout and initiate programme for CSR and EMP integration in specific site
- Plan implementation of Miyawaki Method
- discuss alternative post mining revenue generation near mining areas

### Course Content

The course will include the following broad areas:

- Introduction to vetiver system technology
- Summary of results of vetiver research around the world

- Corporate Social Responsibility and means of CSR achievements
- Environmental management and compliance requirements
- Means of CSR and EMP integration: a Nature to Nature approach
- Spoil dump management issues, obstacles and technical measures
- Miyawaki method
- Case studies of vetiver system technology implementation: global review

### **Participation:**

The course will be useful for the top and middle level mine managers as well as mine environment and CSR managers. The Public Relation Officers will also be benefitted by this course and will get new approach of dealing with PAP and R&R issues.

### **How to Send Nomination**

Please send the names of your nominees with their designations and addresses to the Course Coordinator before **21.10.2013**.

### **Accommodation**

Accommodation for the participants is normally booked at the Technology Guest House of IIT, Kharagpur on prior request. Alternatively there are local hotels available in the town. However, the accommodation in the campus is considered to be convenient.

### **Course fee**

*A course fee of Rs. 20000.00 per participant for the course inclusive of course material is payable by demand draft in favor of "CEP-STC, IIT, Kharagpur" payable at Kharagpur. The course fee will not be refunded unless the nomination is withdrawn 3 weeks before the commencement of the course. The course fee does not include boarding and lodging charges. IIT Kharagpur is exempted from Income Tax and while sending the course fee no Tax should be deducted. Course fee including Boarding and lodging will be Rs 25000/- per participant i.e Rs 5000 additional for boarding and lodging from 13-16 November 2013*

Companies sending more than 4 participants will avail the following reduced fee:

1. For 5 participants: Rs 85000.(excluding boarding and lodging)
2. More than five participants: Rs. 16000 /- for every additional participant .(excluding boarding and lodging)

### **Address for Communication**

For any other information or sending nomination please write to:

**Prof. Khanindra Pathak,**

Course Coordinator

Department of Mining Engineering

IIT Kharagpur-721302

Phone: 03222283722 Mobile: 09800877877, Fax: 03222282700/282282

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### **Department of Mining Engineering, IIT Kharagpur**

Set up in the year of 1956, this Department has steadily grown as one of the best mining education centre in the country. Besides offering undergraduate, postgraduate, and doctoral courses in Mining Engineering, it is actively involved in short term courses and research activities in the areas of Mining Machinery, Mine Safety and Reliability, Mine Fire and Explosions, Model Studies in Ventilation, Rock Mechanics and Ground Controls, Numerical Analysis of Mine Structures, Underground and Surface Environment, Geometrics and Remote Sensing, Mine Closure Planning and relevant computer applications. Short-term courses, consultancy, sponsored research programmes and postgraduate project works are part of the department's regular activities.