

ENVIRONMENTAL MANAGEMENT

0601–001. Apate SA, Kumbhar SN, Tendulker SS, Kulkarni AS (Dept Bot, Gogate Jogalekar Coll, Ratnagiri 415162), **Ecotourism potential of Ratnagiri coast with special reference to Bhatye estuary.** *Nature Env Polln Techno*, **4**(3) (2005), 363-365 [7 Ref].

Paper reviews the potential and prospects of estuarine ecotourism in Ratnagiri with special emphasis on mangrove ecosystem. It present the overall analysis of the mangrove related ecotourism enterprise with the implicit assumption that the local communities should be benefited. However, due to several social and legal hurdles the goals have not been achieved so far as in case of neighboring Goa state. The paper further throws light on mangrove flora and avian fauna.

0601–002. Ashok KR, Kombairaju S (Dept Agricl Econ, Tamil Nadu Agricl Univ, Coimbatore 641003). **Estimation of direct and indirect use values of wasteland development in the semi arid tropics.** *Indian J Soil Conserv*, **33**(3) (2005), 235-237 [3 Ref].

The net present value of wasteland development was estimated at Rs. 370 ha⁻¹ in shelter belt areas grown with all trees and Rs. 8489 ha⁻¹ in shelter belt areas grown with cashew alone and the respective benefit cost ratios were 1.51 and 1.86. The employment generation was 207 man days ha⁻¹ for establishment and 26 man days for maintenance in shelter belt with cashew. The employment generation in inter-belt development was 18 man days for annual crops, 285 man days for cashew and 52 days for fuel wood trees. The indirect use values resulted from the project include increased investment in farming, favourable changes in well recharge, movement towards well defined property regime and increase in land values.

0601–003. Athalye RP, Quadros Goldin (Zoo Dept, BN Bandedkar Coll Sci, Chendani, Thane 400601). **A non-statistical pollution evaluator index for costal aquatic ecosystems based on abiotic environmental parameters.** *J Aquatic Bio*, **21**(1) (2006), 88-92 [9 Ref].

Paper describes a Pollution Evaluator Index (PEI) for coastal aquatic ecosystems. It is based on parameters of water and sediment. For calculating the PEI, the average values of the parameters are compared with their standard limit values for unpolluted ecosystems and percent variation from the limit values is calculated. Accordingly positive or negative points are given for the variation towards healthy or polluted conditions respectively. The calculation is explained using the 1999-2000 data on Thane creek and the advantages and the limitations of the index are discussed.

0601–004. Baby Saji, Goel P K (Dept Polln Std, Yashwantrao Chavan Coll Sci, Vidyanagar, Karnad 415124). **Environmental concerns of small scale mining in India.** *Indian J Environ Sci*, **10**(1) (2006), 25-30 [18 Ref.].

Small-scale mining activities are one of the important causes of environmental degradation as well as soil and water related problems. Paper highlights the major environmental problems such as effects of mining activities in agriculture and biodiversity; pollution of water, air and soil; water resource depletion; land crisis and social impacts association with different mining activities along with the impact of mining on coastal areas.

0601–005. Bandhopadhyay Amitava, Goswami MG, Kumar Sanjay (Natl Metallurgical Lab (CSIR), Jamshedpur 831007). **Improvement of environmental performance of integrated steel sector through process integration and optimisation measures and innovative waste management practices.** *Intl Symposium Environ Manag Mining Metallurgical Industries*, **11-14** Dec, 2005, Bhubaneswar, 245-265 [16 Ref].

The metallurgical and mineral processing industries are always known to be major contributors to environmental pollution. Amongst them, the iron and steel sector finds predominance simply because of the significant volume of effluents, emissions and solid wastes generated from the various process streams. A large number of innovations in waste management have resulted in implementation of integrated waste management plans in the steel sector as well as development of many value-added products. Paper takes an overview of some of those developments that have contributed significantly to improved environmental performance of the integrated steel sector in India.

0601–006. Chhatre A, Savarwal V (Dept Political Sci, Box 90204, Duke Univ, Durham, NC, 277080204, USA). **Political incentives for biodiversity conservation.** *Conserv Bio*, **19**(2) (2005), 210-317 [29 Ref].

In an attempt to better understand the gap between conservation policy and practice, the paper exams conservation policies and practice as they have played out in the Great Himalayan National Park, Himachal Pradesh. In particular the paper considers the park's experience within two larger contexts is Himachal's current development orientation. Each of these factors works to undermine state conservation policies. In the absence of strategic alignments in places such as Himachal Pradesh with strong democratic traditions, one must expect continued political support for potentially destructive megaprojects and an absence of political support for the conservation of biological diversity.

0601–007. Das NK, Das D (Orissa Sponge Iron Manufactures Assoc (OSIMA), Bhubaneswar). **Environment management of sponge iron industry clusters in Sundargarh-Jharsuguda area, Orissa, India.** *Int Symposium Environ Manag Mining Metallurgical Industries*, 11-14 Dec, 2005, Bhubaneswar, 140-143.

Environment management at the selected sponge iron industry clusters has been discussed. The cause of adverse environment impact are identified and action for mitigation has been described. Besides regular pollution control measures, the industry has launched a pilot project to implement CDM protocol which has dual advantage of waste based power production and Carbon Emission Reduction Credit.

0601–008. Dimri Anil K (Indira Gandhi Natl Open Univ, Regl Cent Aliganj, Lucknow 226024). **Prospects of medicinal plants in Uttaranchal, India.** *Flora Fauna*, **11**(2) (2005), 213-225 [11 Ref].

Paper is an outcome of series of field visit undertaken in Uttaranchal Himlayas to understand the problems and prospects of medicinal plant sector. Attempt has been made to access various dimensions with regards to the sector ranging from collection of plant species from the forest, cultivation of species, availability of planting material, legal issues and trading strategies adopted by the local farmers by taking the perceptions of key informants such as farmers, traders, government officials and local people into consideration. Comparative cost benefit analysis of some of the species has been carried out with the traditional crops including seed potato, paddy and wheat.

0601–009. Ghose Mrinal K, Sen PK (Cent Mining Env, Indian Sci Mines, Dhanbad 826004). **Environmentally safe design of tailing dams for management of iron ore tailings in Indian context.** *J Environ Sci Engng*, **47**(4) (2005), 296-303 [25 Ref].

Paper investigates the soil engineering properties for the construction of iron ore tailing dam, its foundation, construction materials and design data used for the construction analysis of the tailing dam. It also focuses on the characteristics of the tailings responsible for the determination of optimum size of tailing pond for the containment of the tailings. The studies on the settings characteristic of tailings indicate much less area in comparison to the area provided in the existing tailing ponds.

0601–010. Govil MC, Pandel U, Bose Aishwarya, Shashank Viswanadha (Dept Computer Engng, Malaviya Natl Inst Techno, Jaipur 302017). **Design of ecofriendly waste management system.** *Nature Env Polln Techno*, **4**(4) (2005), 551-554 [4 Ref].

The generation of garbage is directly proportional to the population growth in the best case and at worst it grows at an exponential rate within specific locations. Paper presents

the detailed design, analysis and implementation issues of environment friendly computer based waste management system.

0601–011. Gupta RD, Bariar Anuj (Dept Civil Engng, Motilal Nehru Natl Inst Tech, Allahabad). **Modelling of gaseous effluents by implementing Gaussian Model under GIS environment.** *J Environ Sci Engng*, **48**(1) (2006), 21-26 [9 Ref].

The Gaussian based air pollution model for the IFFCO plant at Phulpur, Allahabd implemented under GIS environment, has been tested for various validation points to check its efficacy and has been found to be suitable for prediction of air pollutants in future. Further a user interactive modeling interface has been developed using Visual Basic as a front-end, implementing the ArcObjects of the ArcGIS 8.3 to make it more user friendly and increase its acceptability among environmentalists, planners and decision makers.

0601–012. Jena PK, Ray P, Mohanty M, Jena S (Inst Adv Techno Environ Stud, 80A-83A, Lewis Road, Bhubaneswser 751002). **Mine resource conservation and environmental management.** *Int Symposium Manag Mining Metallurgical Industries*, 11-14 Dec, 2005, Bhubaneshwar, 87-97.

The need and procedure for Environmental Impact Assessment and Environmental Management Plan studies have been discussed. Some typical studies for a lime stone mine, an iron ore mine and a coal mine, have been described briefly. It is emphasized that, for better management of the mineral resources and keeping the mine area environmentally clean and also to make the area productive, it is necessary to make EIA & EMP studies and implement the programmes.

0601–013. Krishnakumar A, Padmalal D, Sobha V (Dept Environ Sci, Univ Kerala, Kariavattom Campus, Thiruvananthapuram 695581). **Is environmental degradation the root cause for communicable diseases in Kerala? a case study.** *J Environ Sci Engng*, **47**(2) (2005), 91-102 [23 Ref].

In Thiruvananthapuram district, especially in certain pockets of squalor and poor environmental quality, communicable diseases are being reported frequently. Study aims to highlight the cause of environmental degradation which are directly related to the health issues of Thrivananthapuram district. Based on this study some recommendations are also made for enhancing the environmental quality of the region.

0601–014. Mantri Vaibhav A, Mishra AK (Marine Algae Marine Env Discipline, Centl Salt Marine Chemicals Res Inst, Gijubhai Badhaka Marg, Bhavnagar 364002). **On**

monitoring mangrove vegetation of Sagar Island by remote sensing. *Natl Acad Sci Lett*, **29**(1&2) (2006), 45-48 [12 Ref].

The digital change detection study of mangrove vegetation of Sagar Island, Bay of Bengal, India was carried out by using multi-temporal satellite data of this area. Temporal image differencing, image rotating, principal component analysis and vegetation index differencing were used for the analysis. The area covered by mangroves in December 1998 was found to be 0.62 km² and that of in Dec 2001 was 1.6 km² with total increase of 1.04 km². The study has revealed the possibility of non- conventional methods in surveying biological renewable resources.

0601–015. Ram Y, Gupta AK, Chakraborti S (Centl Glass Ceramic Res Inst, Khurja Cent, Khurja 203131). **Environment-friendly gas-fired kiln for making glass beads.** *J Rural Techno*, **1**(6) (2005), 261-265.

Central Glass and Ceramic Research Institute (CGCRI) has developed environment-friendly and thermally efficient gas-fired portable kilns for making glass beads. The kilns are environment-friendly and very handy in transportation. The developed kilns are thermally efficient and can be operated with only two artisans. In this connection 22 kilns of two pots capacity were supplied and are being used by the artisans of Purdilpur, Moradabad, and Firozabad in Uttar Pradesh for making glass beads as well as jointless glass bangles. The feedback survey showed that the kilns are technically feasible and economically viable.

0601–016. Ramchandra TV, Rajinikanth T, Rajini VG (Cent Ecol Sci, Indian Inst Sci, Bangalore, 560012). **Economic evaluation of wetlands.** *J Environ Bio*, **26** (2 Suppl) (2005), 439-447 [13 Ref].

This paper with case studies discusses the valuation of ecosystem considering the direct, indirect and existence benefits. The economic valuation of wetlands helps to understand the constituent's function and benefits and this exercise could act as a catalyst for wetland conservation. Linkages between use values and ecosystem functions are highlighted to raise awareness among the users. The role of the stakeholders especially public and private sectors in managing the ecosystems in a sustainable manner has also been outlined in this paper while evolving the management strategies.

0601–017. Ramanaiah S, Niranjana Kumar K (47, Professors Qrts, SG Puram, SVU Campus, Sri Venkataswara Univ, Tirupati 517502). **Environmental impact on quality of ground water in Kadapa Municipal area, Andhra Pradesh, India.** *Indian J Environ Sci*, **10**(1) (2006), 37-41 [6 Ref].

Distribution of various constituents in groundwater, factors controlling chemistry of groundwater, water quality, comparison with drinking water quality standards and assessment of aquifer contamination have been studied. Attempt is also made to suggest a better groundwater quality management of deep aquifers of Kadapa municipal area, the details of which are discussed.

0601–018. Sao A, Pillai A, Gupta VK* (*Sch Std Chem, Pt Ravishankar Shukla Univ, Raipur, Chattisgarh). **A sensitive extractive spectrophotometric method for the determination of nitrite using phloroglucinol in various environmental samples.** *Cheml Environ Res*, **13**(3&4) (2004), 195-201 [16 Ref].

A sensitive spectrophotometric method for the determination of nitrite, a very common pollutant at ppm level is described. Proposed method is based on Greiss reaction. Nitrite reacts with p-aminoacetophenone and forms diazonium cation in acidic medium, which is subsequently coupled with phloroglucinol to form yellow orange dye in alkaline medium having an absorption maxima at 430 nm. The method has been successfully applied for the determination of nitrite in polluted water and soil.

0601–019. Sengupta Madhumala (Dept Edn, Calcutta Univ, Kolkata). **A study on environmental awareness of the teacher and their perception of teaching about environment.** *J Env Sociobio*, **2**(1&2) (2005), 93-102 [14 Ref].

Study finds out the level of environmental awareness of the trainee teachers and their attitude towards environmental education. The sample consisted of teachers of ICSE schools. Their attitude towards inclusion of environmental education in B. Ed. syllabus is positive. They supported most of the variables related to effective teaching of environmental education, namely, activity method of teaching, team teaching etc. Many of them even declared that teaching of environmental education along with other subjects will not pose any difficulty.

0601–020. Sethi PK, Tiwari SK (Natl Mineral Dev Corp Ltd. Donimalai Iron Ore Mine, Karnataka). **Environmental management in open cast iron ore mines: a case study of Donimalai Iron ore mine.** *Intl Symp Environ Manag Mining Metallurgical Industries*, 11-14 Dec, 2005, Bhubaneshwar, 19-27.

Attempt has been made to highlight various environmental practices adopted since 1970's at Donimalai Iron Ore Mines of National Mineral Development Corporation Ltd., India. The paper encompasses facts and figures related to mining scheme, environmental protection measures, implementation of rules & regulation, environmental monitoring, backfilling of exhausted mine and water conservation measures adopted.

0601–021. Sharda VN, Samra JS, Dogra Pradeep (Centl Soil Water Conserv Res Trng Inst, 218, Kaulagarh Rd, Dehradun 248195). **Participatory watershed management programmes for sustainable development: experiences from IWDP.** *Indian J Soil Conserv*, **33**(2) (2005), 93-103 [13 Ref].

Participatory watershed management has been successfully demonstrated through the development of six watershed in different agro-ecological regions of the country having diverse physiographic, climatic and socio-economic conditions. The watershed were developed as per Integrated Wastelands Development Programme (IWDP) guidelines. The analysis of data has revealed that watershed interventions on arable and non-arable lands in a participatory mode significantly reduced run off and soil loss which in turn improved crop productivity on an average by 28%.

0601–022. Sharma SC, Srivastava Richa, Roy RK (Natl Botl Res Inst, Lucknow 226001), **Role of Bougainvilleas in mitigation of environmental pollution.** *J Environ Sci Engng*, **47**(2) (2005), 131-134 [10 Ref].

Bougainvillea is a pollution tolerant plant and can help in the mitigation of air pollution besides its ornamental value in the landscaping. From the rich germplasm collection in NBRI Botanical Garden, tolerant plants have been experimented for road side plantation in view of mitigating the environmental pollution.

0601–023. Shivasankara GP, Rekha HB (Dept Environ Engng, PES Coll Engng, Mandya 571401). **Solid waste management in suburban area of Bangalore.** *Nature Env Polln Techno*, **4**(4) (2005), 495-500 [7 Ref].

Study was carried out to understand the existing solid waste management system in the area Kodigehally, Bangalore which is extended to an area of 5.5 sq km. Solid waste samples were collected from six sampling stations, which include residential, commercial and institutional areas. Physical and chemical characteristics showed that solid waste are rich in compostable matter and are suitable for vermicomposting.

0601–024. Sundar I (Dept Eco, Dte Distance Edn, Annamalai Univ, Annamalai Nagar 608002). **Methods and technologies of environmental impact assessment: a broad review.** *Nature Env Polln Techno*, **4**(4) (2005), 605-610 [5 Ref].

Paper presents an overview of importance of environmental impact assessment in the context of environmental degradation in consequence of industrialization, urbanization and agrochemicals. It analyses component of environmental baseline study, in terms of

survey of physical, environmental and biological environment, various aspects of environment impact analysis, indicators used in impact analysis and impact evaluation. Paper concludes with some policy measures to promote effective environmental impact assessment methods.

0601–025. Swar Akhila Kumar (Orissa State Polln Contl Brd, Bhubaneswar). **Environmental management practices and strategies for sponge iron plants.** *Intl Symposium Environ Manag Mining Metallurgical Industries*, 11-14 Dec, 2005, Bhubaneswar. 157-178 [9 Ref].

Sponge iron plants have been considered to be highly polluting industries in view of generation of substantial amount of air pollutants and solid wastes, which cause many environmental issues and public resentment. Paper presents the growth of sponge iron units in Orissa, their pollution problems, present environmental management practices, pollution control regulating framework and enforcement mechanism and strategies for further improvement to prevent pollution.

0601–026. Tamotia SK (Visa Int Ltd. 11, E Kamra Kanan, Bhubaneswar). **Waste in steel industry and its management.** *Intl Symposium Environ Manag Mine Metallurgical Industries*, 11-14 Dec, 2005, Bhubaneswar. 69-79.

The iron and steel industry while helping in the socio-economic development create a lot of pollution and waste management problem. An account of various pollutants both solid and liquid produced in iron, steel and allied industries, have been described. Methods adopted for processing those wastes have been briefly described and discussed. The management of waste through new technology have been briefly outlined.

0601–027. Vuppala Padmaja, Asadi SS, Anji Reddy M (Cent Env, Inst Sci Techno, Jawaharlal Nehru Technol Univ, Hyderabad 500072). **Role of remote sensing and GIS in assessment and mapping of groundwater contamination in municipal corporation of Hyderabad (Zone VI) Andhra Pradesh, India.** *Asian J Microbio, Biotechno Environ Sci*, 7(4) (2005), 645-652 [14 Ref].

Paper highlights the role of GIS in effective assessment of ground water pollution patterns and monitoring its trends in Hyderabad metropolis. It also explores the correlation between the concentration levels of pollutants in urban ground water and urban land use.

0601–028. Vyas AK, Vohra Sanjeeb, Gupta AB (Dept Civil Engng, Malviya Ins Techno, Jaipur 302017). **Development of cost functions of equipment for sewage treatment plants.** *Nature Env Polln Techno*, **4**(4) (2005), 491-494 [3 Ref].

Cost of equipment in sewage treatment plants can not be ignored while estimating total capital cost. Most of the times it is required to give preliminary cost estimates of equipment proposed in the plants. Costs of different sizes of equipment have been collected from various manufacturers all over the India. Such data have been plotted with respect of size or capacity of equipment. Relationship obtained by best fit curve has been projected as cost functions for various equipments.

0601–029. Zachariah EJ, Johny CJ (Atmos Sci Div, Cent Earth Sci Std, Thiruvananthapuram 695031). **Reduction in methane emission from Kerala estuaries.** *Asian J Water Env Polln*, **3**(1) (2006), 1-5 [18 Ref].

Wetlands are the largest natural source of methane. Kerala has a total of 127, 930 ha of wetland area. Measurements show that methane fluxes from Kerala's coastal lakes have decreased during the past decade. This could be due to the reduction in coconut husk retting activity in the lakes. Result of methane flux measurements for some of the coastal lakes in Kerala and statistics relating to the quantity of husk retted are reported and discussed.