

# Enduring Value, Through Values







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# CHAIRMAN'S STATEMENT

**We believe that businesses will increasingly play an important role in tackling and driving the sustainability challenge.**



We believe that businesses will increasingly play an important role in tackling and driving the sustainability challenge. Our focus on sustainability speaks of our conviction in pursuing value creating projects and at the same time having positive social and environmental outcomes.

2008 was another excellent year for us. A significant increase in volumes across all our metals combined with productivity gains and stable operating costs delivered industry-leading growth and returns for our shareholders. We achieved record revenues for the fifth consecutive year. For FY 2008 our revenue was \$8.2 billion and EBITDA was in excess of \$3.0 billion for the first time. We also generated excellent returns for our shareholders, as evidenced by a strong ROCE of 45.6% and a TSR performance of 58.9% in FY 2008.

The driving force behind all our achievements and success is our dedicated and talented workforce. We remain committed to provide challenging and rewarding work environment for our employees, and developing direct and indirect growth opportunities for the communities we work and live in.

Our governance framework at the Board level has been effectively guiding and steering all aspects of our sustainable development agenda. We are mindful of the manner in which we balance our business opportunities with the health and safety aspects and the environmental and social impact they bring. This is reflected in the manner in which we have effectively integrated corporate social responsibility in all our operations. This coupled with open communication, dialogue and engagement across our stakeholder community has created demonstrable value.

I am proud of the many achievements that are recorded within this report and pleased that they have been recognised through a number of sustainable development and CSR awards which have been accredited to our Group companies. Going forward, we aim to be an industry-leading company in this area and to continue to work closely with all of our stakeholders.

**ANIL AGARWAL**  
Chairman



# CHIEF EXECUTIVE'S STATEMENT

The theme of this report, 'Enduring Value, Through Values', encapsulates our business approach.



The theme of this report, 'Enduring Value, Through Values', encapsulates our business approach. Our core values of growth, entrepreneurship, excellence, trust and sustainability not only encompass our business philosophy, but also underline our relationships with all our stakeholders, shapes the culture of our company and guides us in our actions and decisions.

Sustainability is integral to our business philosophy. We see the key drivers of our approach as being, proactive engagement with our key stakeholders, attracting and retaining the best talent, our provision of a safe and healthy working environment, our focus on using environment friendly technologies in all of our businesses and our drive to conserve natural resources. We also believe we have a responsibility to engage with the communities in which we operate and to foster their social and economic development. These principles are embedded across the organisation and are a key element of our employee training, development and performance at all levels.

People are our key asset and drive our overall performance. Our vision is to build a flexible, agile and flat organisation with world class capabilities and a high performance culture. Respect for the individual, valuing diversity, fostering entrepreneurship, ensuring an enabling environment and developing a 'can do' attitude is a way of life at Vedanta. Training and development across levels for both employees and contractors is fundamental to our philosophy of fostering excellence.

We believe in nurturing leaders from within and provide opportunities for growth across levels and geographies. Our ACT-UP scheme has been

particularly successful in identifying business leaders at an early stage and placing them on a fast track programme. This ensures that we have succession management plans in place and that most of our future managers come from within. Similarly our Global Leadership Programme provides key and talented employees an opportunity to work on important projects and focussed assignments in an overseas environment.

We have continued our progress in the Health, Safety and Environment (HSE) arena. Our HSE management systems are designed to reflect best practices and raise the bar continuously in line with global bench marks.

Conservation of natural resources is a fundamental tenet. We are conscious, and are taking concrete steps with set targets at each of our businesses to use lesser resources. Our performance on energy and water conservation has been promising and even beyond targets in some instances, which are detailed in the report. This will continue to be a key area of focus in the coming years too.

Another area of focus has been to innovate in the use of mining and smelting residues and by products. Over a period, of time we have built partnerships and most of our residues today are used in the cement and brick manufacturing industry, road construction and other applications.

Our sustained efforts in health and safety show an encouraging trend. The Lost Time Injury Frequency Rate has come down by 50% over the last two years. However one area of concern is the contractor safety performance. It is very unfortunate and unacceptable that this year we had 19 fatalities, of which 18 involved contractor labours. We have

associated with consultants like British Safety Council, International Register of Certified Auditors (ICRA) and DuPont for independent assessments and improvement of our safety systems and practices in pursuit of our overriding goal of Zero Harm.

Growth for us is enhancing the quality of life and prosperity of the society at large. The work that our CSR and site management teams have performed through local needs assessment and the subsequent design and rollout of comprehensive development plans in partnership with government, NGOs and the community has been satisfying and encouraging. This year our reach included 383 villages impacting over 2.5 million lives. Our current programmes will continue to improve both in depth and reach.

I am pleased to introduce our first stand-alone Sustainable Development Report. This year we have attempted to report on 54 of the indicators in accordance with the guidelines of the Global Reporting Initiative. We welcome your feedback on it.

I am proud that each and every member of the Vedanta family is aligned with our sustainable development philosophy and objectives. The processes and performance on safety, health, environment, people and communities continue to evolve in line with the vision set out as part of our HSE and social policies. Going forward, we will expand and extend our approach by continuing to integrate social and environmental responsibility into every aspect of our business, reaffirming our commitment to being a responsible company.

**KK KAURA**  
Chief Executive Officer

# HIGHLIGHTS



## PEOPLE

- Over 29,000 full-time employees
- 7,000 professionals including 10% women professionals
- More than 1,300 professionals recruited from campuses during FY 2008
- 400 Stars of Business – employees on the fast track
- Over 2,000 employees covered under Vedanta's Long Term Incentive Plan
- 4% employee turnover

## HEALTH, SAFETY AND ENVIRONMENT

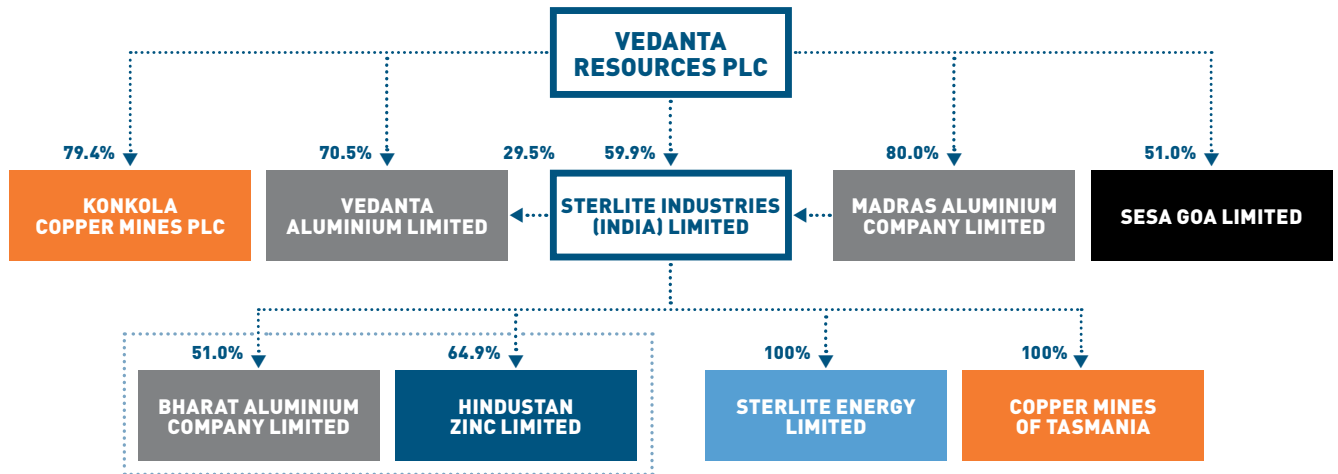
- LTIFR reduced by 24%, from 2.51 to 1.91 for FY 2008
- Zero incidents on occupational diseases
- 66,000 man-days of training on HSE best practices
- Operating sites ISO 14001 and OHSAS 18001 certified
- 350 Health and Safety professionals
- Health Project Outreach to more than 1.5 million people
- Significant reduction in specific water consumption – HZL (+12.5%), BALCO (+10%) and Sterlite's Copper Business (+7%) for FY 2008
- Significant reduction in specific energy consumption – HZL (+13%), BALCO (+4%), KCM (+3%) and MALCO (+2%) for FY 2008
- Residues like Fly Ash, Red Mud and Gypsum supplied to cement, brick and construction industries
- Green Energy – 107 MW Wind Power commissioned to date
- 350,000 plantation across all units in FY 2008

## COMMUNITIES

- 383 villages, impacting more than 2.5 million lives
- 70 villages under the Integrated Village Development Programme
- 72 NGO partners at regional, national and international level
- 25,000 children in 900 pre school centers supported under the Integrated Child Development Scheme, Government of India
- School based Mid Day Meal Nutrition programme for 200,000 children
- 2 million vocational training hours for youth
- Developed 1,650 farmers; 3,200 acres of land brought under cultivation
- 781 SHG's and 10,000 women members part of thrift savings and micro enterprise

# VEDANTA AT A GLANCE

## GROUP STRUCTURE



Our principal operations are located in India, where we have a major market share in each of our main metals: aluminium, copper, zinc and lead. There are also substantial copper operations in Zambia and a copper mine in Australia.

## OPERATIONAL HIGHLIGHTS

### ALUMINIUM

- Lanjigarh alumina refinery in operation
- Successfully tapped the first metal from Phase I (250 kt) of the 500 ktpa Jharsuguda Aluminium project, more than one year ahead of schedule; Phase II on track

### COPPER

- Acquired the 28.4% minority stake in KCM; total holding increased to 79.4%
- \$1.0 billion investment in Konkola Deep Mining Project and Nchanga smelter on track

### ZINC-LEAD

- 170 kt Chanderiya II Hydro zinc smelter and 88 kt zinc debottlenecking project successfully ramped up ahead of schedule; total production capacity now over 750 ktpa
- Capacity being expanded to 1,065 ktpa at an investment of \$900.0 million
- Exploration success increased mine life to over 20 years at expanded capacity of over 1.0 million tonnes per annum
- On course to becoming the largest integrated zinc-lead producer in the world

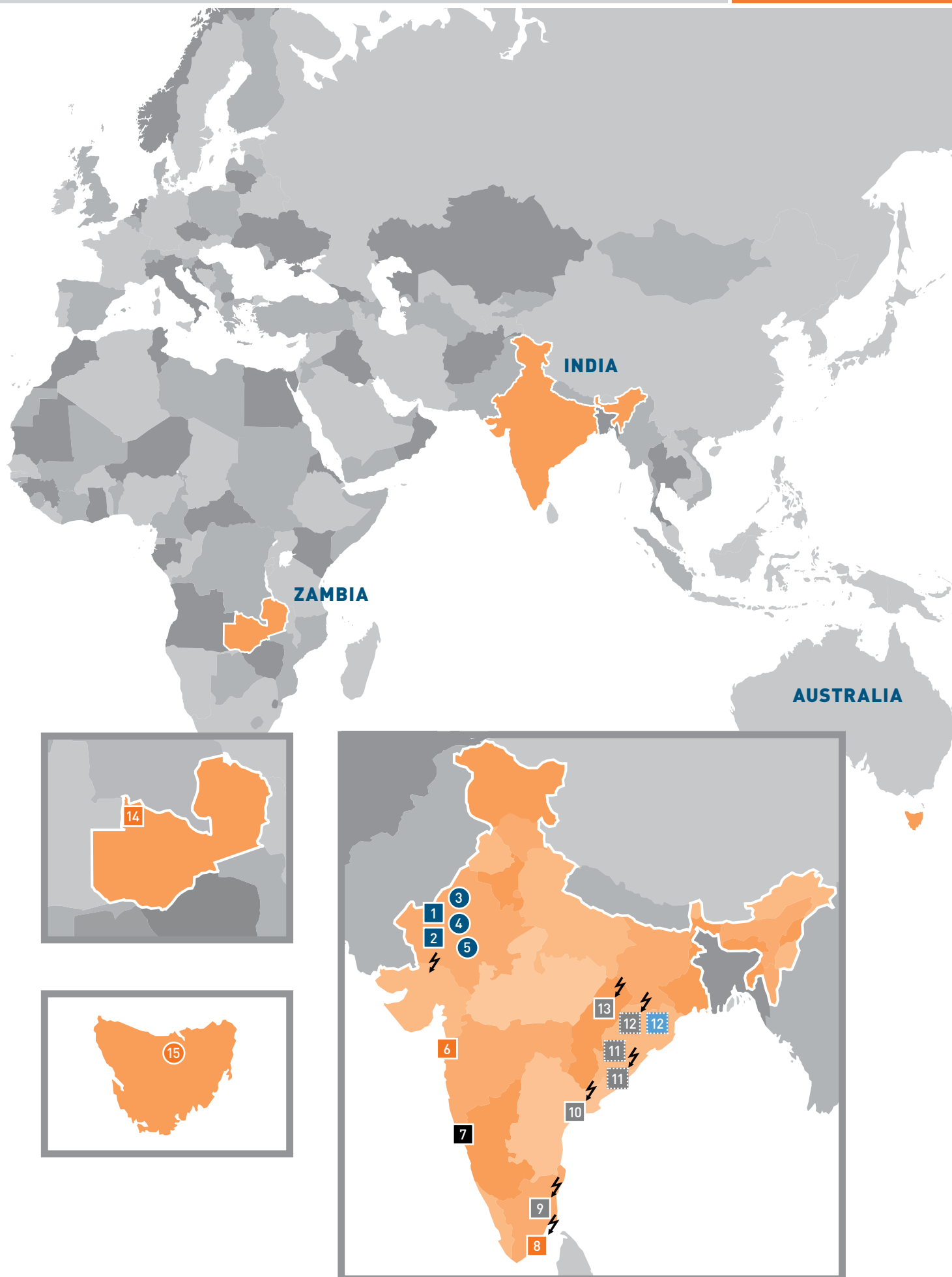
### IRON ORE

- Acquisition of Sesa Goa, India's largest producer-exporter of iron ore
- Delivered excellent growth and returns post acquisition
- Near term opportunity to increase iron ore production to 25.0 million tonnes

- Aluminium
- Copper
- Iron ore
- Zinc
- Power
- Projects under development
- Captive power plant

- Debari smelter
- Chanderiya smelters
- Rampura-Agucha mine
- Rajpura Dariba and Zawar mine
- Sindesar Khurd mine
- Silvassa refinery
- Sesa Goa
- Tuticorin smelter
- MALCO
- Vizag smelter
- Lanjigarh mine and refinery (VAL)
- Jharsuguda Aluminium (VAL) and Commercial Power project
- Korba smelter
- Konkola Deep mine and KCM smelter and refinery
- Mt. Lyell mine





Note: Map not to scale and is presented only to provide an indication of approximate location of facilities.

## COMPANY OVERVIEW

Vedanta Resources plc is a London-based diversified FTSE 100 metals and mining group, with extensive interests in aluminium, copper, zinc and lead, iron ore and commercial energy. The company currently operates in India, Zambia and Australia.



Vedanta Resources plc ('Vedanta' or the 'Group') is a London-based diversified FTSE 100 metals and mining group, with extensive interests in aluminium, copper, zinc and lead, iron ore and commercial energy. The company currently operates in India, Zambia and Australia. With a talent pool of over 29,000 employees globally, Vedanta's focus is clear and committed. Vedanta was the first Indian company to be listed on the London Stock Exchange in December 2003. Vedanta's Indian subsidiary, Sterlite Industries India Limited ('Sterlite') also achieved a successful US listing on the New York Stock Exchange in June 2007, raising \$2.0 billion.

Vedanta's 2008 revenues were \$8.2 billion, demonstrating a five-year compounded annual growth rate ('CAGR') of 53.5% with 2008 EBITDA at \$3.0 billion or five year CAGR of 68.1%. The Group's 2008 profits after tax of \$2.0 billion grew at 103.2% on a compounded basis over the last five years. For 2008 our operating costs were \$5698.1 million which includes employee compensation of \$344.7 million. Tax holidays and similar exemptions of \$160.6 million were received, while donations of \$3.5 million were made during 2008 (EC1, EC4).

Vedanta's principal operating companies comprise Hindustan Zinc Limited ('HZL') for its fully integrated zinc and lead operations; Sterlite and





Copper Mines of Tasmania Pty Limited ('CMT') for its copper operations in India/Australia; Konkola Copper Mines plc ('KCM') for its fully integrated Zambian copper operations; and Bharat Aluminium Company ('BALCO'), Madras Aluminium Company ('MALCO'); Vedanta Aluminium Limited ('VAL') for its aluminium and alumina operations; Sterlite Energy Limited ('SEL') for its commercial power generation business and Sesa Goa Limited ('SESA'), for its iron ore business.

To take advantage of the growth and development in India's electricity sector, Vedanta has entered the commercial power generation business. The Group is currently implementing a 2,400 MW commercial energy project at Jharsuguda, Orissa at an estimated cost of \$1.9 billion. The power business will be operated through SEL, a wholly owned subsidiary of Sterlite.

In the last five years, the Group has grown production capacities between 3-7 times in each of its primary metals. The Group currently has a production capacity of 754,000 tonnes in zinc and lead, 650,000 tonnes in copper, 400,000 tonnes in aluminium and over 12 million tonnes in iron ore. It has a clear roadmap of becoming a million-tonne per annum producer at the lowest decile costs in aluminium, copper and zinc as well as becoming a 25 million tonne producer of iron ore



within the next 2-3 years. Vedanta has undertaken several green field and brown field expansion projects to achieve this.

Vedanta has continually demonstrated its ability to deliver major value creating projects, offering unparalleled growth at lowest costs and generating superior financial returns for its shareholders. The capital expansions completed under the first phase of expansion, entailing an investment of \$2.2 billion, involved highly energy efficient and environment friendly technologies. These were completed at costs significantly lower than international benchmarks and in record periods. The next phase of the

expansion pipeline has an investment of over \$6.5 billion and is now underway.

Vedanta develops and manages a diverse portfolio of mining and metals businesses whilst carrying out its activities in a socially and environmentally responsible manner. The management of environment, employees, health and safety and community issues, in respect of its operations is central to the success of the company's business.

# ENDURING VALUE THROUGH

## OUR VALUES

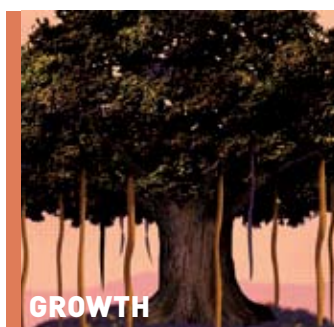


We foster an entrepreneurial spirit throughout our businesses and value the ability to foresee business opportunities early in the cycle and act on them swiftly. Whether it be developing organic growth projects, making strategic acquisitions or creating entrepreneurs from within, we ensure an entrepreneurial spirit at the heart of our workplace.

Our ability to translate an idea into reality within the shortest possible timeframe is critical to our rapid growth and diversification into new areas and commodities.

People are our most important asset and from day one we actively encourage them to seek new opportunities and pursue their goals.

We have fostered this entrepreneurial spirit amongst the individuals and communities who form a part of our entire value chain.



We continue to deliver industry-leading growth and generate significant value for our shareholders. Moreover, our organic growth pipeline is unrivalled and we are confident that we will continue to deliver significant growth for shareholders in the future. We have pursued growth across all our businesses and into new areas, always on the basis that value must be delivered.

We do not believe that we are the only beneficiary of our growth. We see growth as a means to increase the wealth and prosperity of our society at large. We clearly recognise the benefits that our growth brings to our key stakeholders and the communities in which we operate. Our growth has enabled us to significantly enhance the lives of hundreds of thousands of people in both India and Africa, and has helped to raise their living standards significantly.



Achieving excellence in all that we do is our way of life. We consistently deliver projects ahead of time at industry-leading costs of construction and within budget. We are constantly focused on achieving a top decile cost of production in each of our businesses. To achieve this, we follow a culture of best practice benchmarking. Our 'tonne-for-tonne' exploration philosophy is to replace each tonne of ore mined out with at least one tonne of new resource. Equally important to us is achieving benchmarks in health, safety and environment standards.

It is our people who make all this possible. They benchmark our operations and identify opportunities for continuous improvement and projects with high potential. Without this commitment to excellence, we would not have been able to achieve our growth and expansion we have managed to date.



The trust that our stakeholders place in us is key to our success. We recognise that we must responsibly deliver on the promises we make to earn that trust. We constantly strive to meet stakeholder expectations of us and deliver ahead of expectations.

We always behave in a manner that is consistent and upholds our value system. Trust is also our stakeholder's belief that we will always act in a competent manner. We take feedback seriously and act upon it. We continuously work to improve ourselves and enhance our ability to deliver at all times.

We actively foster a culture of mutual trust in our interactions with our stakeholders and encourage an open dialogue which ensures mutual respect. We believe that this is part of being a good corporate citizen.



We practice sustainability within the framework of well defined governance structures and policies and with the demonstrated commitment of our management and employees. Our sustainability team comprises over 425 full time resources and over 600 extension workers.

We aim not only to minimise damage to the environment from our projects but to make a net positive impact on the environment wherever we work. We fully recognise the importance of including local communities and other key stakeholders in our development strategy to ensure that our impact is positive.

Rather than simply providing aid, we aim to create sustainable livelihood opportunities – improving the quality of life for society and contributing to the basics of life harmoniously. We believe that the principle of sustainability is a key component of conducting business in a responsible manner and it is a primary aim of Vedanta to operate as a good corporate citizen.



# VALUES

- Strategic acquisition of Sesa Goa in April 2007
- Facilitating an Aluminium Park in Chattisgarh through a Public-Private Partnership
- Implementation of a \$6.5 billion growth pipeline currently underway

- 54% five-year compounded growth in revenue
- 7.4X increase in market capitalisation since Listing in 2003\*
- 105% five-year compounded growth in attributable profits
- 780+ Self Help Groups in the communities where we operate

- First phase of 500,000 TPA Jharsuguda Aluminium Smelter commissioned one year ahead of schedule
- +98% benchmark copper recovery
- 28.7 million tonnes gross increase to zinc-lead reserves and resources in 2008

- Acquisition of 28.4% stake in KCM in 2008
- Over 11,500 community youth covered in vocational training programmes

- CII National Award for Excellence in Energy and Water Management for Sterlite
- Nearly 1.5 million people participate in our Healthcare Programmes
- 24% improvement in lost time injury frequency rate in 2008
- Positively impacting over 380 villages and 2.5 million lives through community outreach efforts

\* between December 2003 and 15 May 2008

# OVERVIEW

Sustainable development is a key part of Vedanta's strategy and overall ethos. It represents a core commitment of our management and employees.



## OUR APPROACH

Sustainable development is a key part of Vedanta's strategy and overall ethos. It represents a core commitment of our management and employees.

Conducting our sustainable development programmes in a manner that helps our communities become more sustainable whilst enhancing shareholder and stakeholder value is fundamental to us. We plough substantial resources into our programmes and believe that it is imperative that we continue to be forward looking and responsible in our everyday operations.

During 2008 our sustainable development (SD) strategy prioritised three sustainable areas: inclusive growth for our people and communities, environmental management, and sustainable economic growth.

Our processes and performance have continued to develop. Effective control and delivery in the areas of safety, health, environment and social is a management imperative and is the subject of regular and detailed scrutiny at all levels.

A process based management system drives our sustainable development approach.

## GOVERNANCE STRUCTURE

Our Health, Safety and Environment (HSE) processes are governed by a Board appointed committee, chaired by Dr SK Tamotia, a non-executive Director. The other members of the committee are:

- Mr KK Kaura (CEO of Vedanta Resources).
- Mr MS Mehta (CEO Hindustan Zinc).
- Mr Pramod Suri (CEO Aluminium Sector – Operations).
- Mr Ramesh Nair (Vice President Sterlite Industries India).
- Mr CP Baid (Director of Operations Konkola Copper Mines).
- Mr CSR Mehta (HSE Co-ordinator).
- Ms Ruby Thapar (CSR Co-ordinator).

The committee meets each quarter and, occasionally invites the involvement of other relevant senior employees from around the business. This committee guides our sustainable development endeavours, sets annual targets and regularly monitors progress in line with our HSE and Social policies. We have dedicated teams and resources at each of the companies guided by local committees under the leadership of the subsidiary CEO's. Sustainable development performance is an important element of how all of our senior managers are assessed and remunerated.





#### ENVIRONMENT FRIENDLY TECHNOLOGIES

We endeavour to use technologies which are energy and water efficient, and have adequate waste management systems in place.

#### ENVIRONMENT IMPACT ASSESSMENT (EIA)

Our decisions on the possible environmental, social and economic impacts of our projects are based on rigorous EIA's such as risk and base line studies, social mapping and needs assessments and other sustainable practices both in our major expansion and new projects.

#### REVIEWS AND AUDITS

- Ongoing internal reviews and external periodic audits are conducted to monitor progress and measure performance against Score cards. All our business units are also analysed for risks related to corruption by our Management Assurance Services (SO2).
- Most of our operating units are certified applying the relevant international standards.
- Communication and reporting.

#### SCOPE OF THE REPORT

We have been developing our sustainable development communications and reporting systems, applying our website for the purpose and expanding our reporting. Over the last four years our progress

on sustainable development has been featured within our annual report. This is Vedanta's first stand alone sustainable development report. This report is aligned to GRI guidelines and reports on 54 GRI Indicators.

The report provides an overview of our performance and our sustainable development challenges. It outlines our work and progress and details how we intend to further our progress in the future.

#### RISKS AND CHALLENGES

Our position in the mining industry brings unique responsibilities and we are aware of the high expectations this places upon us. We acknowledge that the nature of our business and the remote locations where we operate, means we face a host of sustainable development challenges and risks.

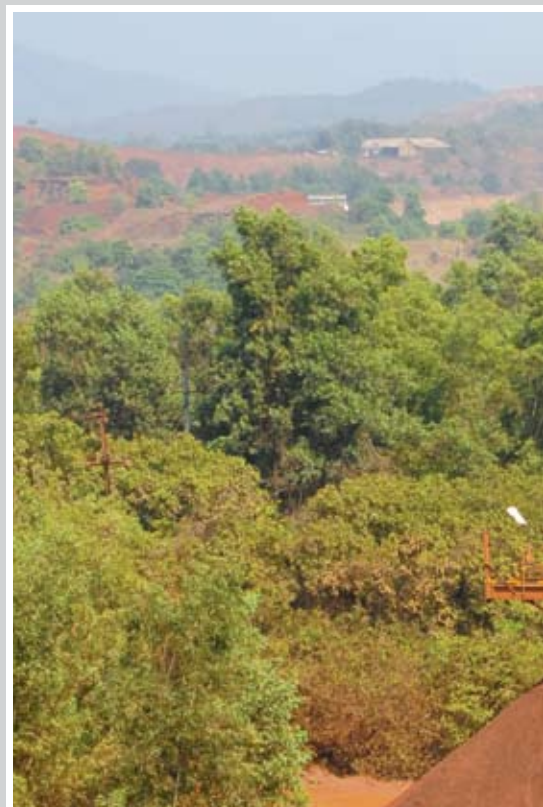
Mining activities are inherently hazardous and any accident or explosion may cause personal injury or death, property or environmental damage. We also operate in Zambia, which has a high incidence of HIV/AIDS, a threat to economic development.

Our periodic sustainable development reviews have helped us focus attention on issues that are important to our internal and external stakeholders. In the last year we collated key sustainability issues and concerns raised by external stakeholders and through our internal risk assessments. We acted upon them and conducted independent audit of our work, including our work in the communities.

We are committed to further aligning ourselves with globally recognised standards in communication and reporting, stakeholder engagement, community development, talent management and developing technical collaborations with the aim of achieving best in class in sustainable development policies, management systems and performance.

# ENVIRONMENT

We possess formal and rigorous environment management systems. Our processes have been developed over time and are designed to reflect best practise, minimise risk and maximise opportunity.



## ABOUT THIS SECTION

We possess formal and rigorous environment management systems. Our processes have been developed over time and are designed to reflect best practise, minimise risk and maximise opportunity.

We strive to achieve best practise in our management of environmental matters. This part of our report details the policies and systems that we have put in place to manage this aspect of our activities. It also reports our performance measured against key performance indicators.

We have also described within this section examples of environment friendly processes or technology and the re-use and recycling activities that have positive environmental impacts. This is an area of significant opportunity for many of Vedanta's businesses.

## POLICY

Our environmental policy which is part of our broader HSE policy is adapted and applied across all of our group companies. We aim to:

- develop, implement and maintain environment management systems

- aligned with our commitments and beliefs, and consistent with world-class standards;
- comply as a minimum with all applicable legislative and statutory requirements;
- conserve natural resources, raw materials, water and energy by process improvements, recycling and reducing and reusing waste;
- seek continual improvements through setting and reviewing targets, assessing and reporting environmental performance, applying best practices and providing all employees with relevant training;
- encourage contractors and suppliers to adopt our principles and practices.

## SYSTEMS

### MANAGEMENT RESPONSIBILITY

It is the responsibility of the head of our respective subsidiaries and the concerned department or section managers supported by the HSE committee, to ensure implementation of our environment policy.

### ISO 14001 CERTIFICATION

Majority of our sites are ISO 14001 certified.

Company	Unit	ISO 14001 Certification Status
HZL	CLZS	Certified
	ZSD	Certified
	VZS	Certified
	RAM	Certified
	ZM	Certified
BALCO	RDM	Certified
	Korba	Certified
	Mainpat	Certified
MALCO	Kawardha	Certified
	Mettur	Certified
Sesa Goa	Kolli	Certified
	Mining Division	Certified
	Pig Iron Plant	Certified
KCM	Met Coke Division	Certified
	Konkola	Certified
	Nampundwe	Certified
	Nchanga	Under Progress
Sterlite's Copper business	Nkana	Not Certified
	Tuticorin	Certified
CMT	Silvassa	Certified
	Mount Lyell	Not Certified

## AUDITS

Our environmental systems are subject to regular internal and external audits by trained and experienced in-house and external teams to ensure that our policy and systems are being effectively implemented.

## GREEN ENERGY

Most of the power generated in India is through thermal power plants given the large coal reserves in the country. We run our own captive power plants to meet the requirements of our mining and smelting operations at all our locations. These operate at a high PLF and low auxiliary consumption as

compared to the power utility plants. We aim to generate 10% of our energy requirement through green energy.

During the year, HZL commissioned 68.8 MW of wind power capacity in Gujarat and Karnataka, taking their wind energy capacity to 107 MW.





### ENVIRONMENTAL PROFESSIONALS

We have a dedicated team of 85 environmental professionals. They include certified auditors, environmental engineers, scientists and ecologists. This figure excludes the operation and maintenance personnel responsible for pollution control equipment such as effluent treatment plant, scrubber equipment and acid plants.

### PERFORMANCE INVESTMENT

In the financial year 2008, we invested \$53.11 million in environment management (EN30). Major expenditure areas included installation of a degassing unit and the height elevation of ash pond dyke wall at BALCO, secured landfill construction at Sterlite's Copper business and Reverse osmosis plant installation at HZL units.

### MATERIAL CONSUMED

The main inputs for the manufacture of the various metals produced by Vedanta are ores and fuel. The total consumption details for the reporting period are (EN1):

#### Main inputs

Inputs	Unit	Quantity
Bauxite	MT	2,002,361
Alumina	MT	576,645
Copper Concentrate	MT	1,376,500
Zinc concentrate	MT	860,654
Lead Concentrate	MT	108,113

### Fuels used

Inputs	Unit	Quantity
Metallurgical Coke	MT	266,338
LSHS	MT	8,686
Coal	MT	7,213,387
FO	KL	115,280
HSD	KL	75,931
LDO	KL	8,040
LPG/Propane	MT	16,841
Petrol	MT	101
Petroleum Coke	MT	6,974

None of our processes or operations utilise recycled input materials from external sources. However, residues generated during the operational

process are recycled as part of our activities (EN2).

### ENERGY CONSUMPTION

Energy is the main constituent of Vedanta's Carbon Footprint. Apart from emission related concerns, coal or petroleum based fuel are scarce resources and we are therefore continually working towards minimising our specific energy use.

Vedanta's direct energy consumption in the year 2007-08 was 43.10 million GJ (EN3). Individual company details of direct energy consumption are given below.

### Direct energy consumption in 2007-08 (million GJ)

HZL	BALCO	MALCO	Sterlite's Copper business	KCM	CMT	Sesa Goa	Vedanta (total)
8.73	24.54	2.97	2.51	3.87	0.12	0.35	43.10

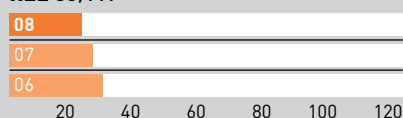
Direct energy use in our companies consists of fuel use in our operations and within captive power plants. The installed capacity in our coal powered captive power plants is 1,209 MW. This figure includes two captive power plants with capacities of 270 MW and 540 MW at BALCO, 90 MW at MALCO, 234 MW at HZL and 75 MW at VAL. We also have a 54 MW liquid fuel (LSHS) based power plant at Sterlite in Tuticorin. The consumption of power from these power plants represents the bulk of our energy use.



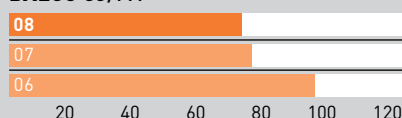
# ENVIRONMENT

## Energy consumption

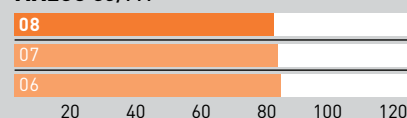
HZL GJ/MT



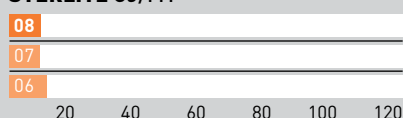
BALCO GJ/MT



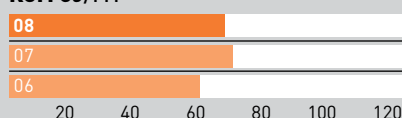
MALCO GJ/MT



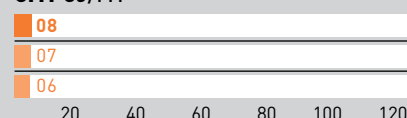
STERLITE GJ/MT



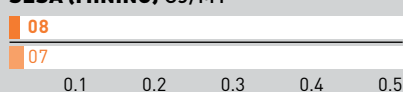
KCM GJ/MT



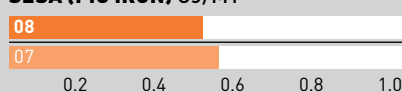
CMT GJ/MT



SESA (MINING) GJ/MT



SESA (PIG IRON) GJ/MT



Indirect energy use across all our operations was 10.80 million GJ, during the reporting period. This figure includes electricity purchased from external sources (EN4).

### Indirect energy consumption in 2007-08 (million GJ)

HZL	BALCO	MALCO	Sterlite's Copper business	KCM	CMT	Sesa Goa	Vedanta (total)
1.80	0.96	0.00	0.70	6.04	0.39	0.91	10.80

Energy conservation is an important objective at all our sites. Specific energy consumption has steadily decreased in our Zinc and Aluminium businesses owing to the use of state-of-the-art technology in new plants and numerous conservation measures. Against the target of 5% reduction, the achieved reduction in specific energy were HZL (+13%), BALCO (+4%), MALCO (+2%), and KCM (+3%).

In our Copper businesses, compared to the previous year, specific energy consumption has increased slightly at Sterlite's Copper business and CMT.

Major energy conservation initiatives are underway at our subsidiary companies. Some of these are highlighted below (EN5, EN6):

- our Zinc plants use Six-Sigma to implement energy conservation measures. During the reporting period HZL invested about \$0.5 million in these projects. The initiatives include replacing old electrical equipment with new energy efficient facilities, the conduct of projects aimed at optimising the power rating of various electrical installations

(such as pumps and cooling fans), replacement of filament type bulbs with LEDs or CF Lamps and maintenance activity on electrical equipment and cooling towers to improve efficiency. Our initiatives have resulted in a 13% decrease in specific energy consumption with respect to the previous year.

- BALCO reduced its specific energy consumption from 74.07 GJ/MT in FY 2007 to 70.87 GJ/MT in FY 2008, a decrease of 4%. One initiative was the installation of APFC capacitor banks to improve PF and reduce losses. Three VFDs with closed loop feedback for use in filtered aluminate liquor pumps in the alumina plant resulted in the reduction of energy use by 3 KWh/MT at the old BALCO smelter. As a result of the installation of VFDs and the modifications carried out in cooling towers, 4.4 KWh/MT of energy was saved at the new BALCO smelter. Work on the reduction of specific consumption of furnace oil in the cast house of the new BALCO smelter achieved a reduction in energy consumption from 17.5 L/T to 13.3 L/T of product. Other initiatives in progress are the

modification of ID fans of FTPs, and of compressor cooling systems, air audits, the installation of compressors for individual FTP and a programme of blower installations for pot and ladle cooling. These initiatives have led to an anticipated reduction in auxiliary power consumption of 34 KWh/MT in the new BALCO smelter.

- Sterlite's Copper business is developing fuel switchover projects to achieve greater energy efficiency. One major initiative is the planned installation of a bio-gasifier based super heater in place of the existing furnace oil based super heater. This initiative is expected to result in savings of around 5,300 MT of fuel oil per year. Installation of lower size cold well and hot well pumps, trimming of impellers and modifications in the cooling tower have also contributed to the annual energy savings of 2,142 GJ.

### WATER USE

Water has immense social, environmental and economic value globally. It is gradually becoming a scarce commodity. Vedanta appreciates this fact and is striving to lower water consumption across all its operations.

Our water requirements, particularly for fresh water, compete with the needs of local eco-systems and the food chain. Consequently a considerable amount of management attention is focused on reducing consumption at source and increased recycling and reuse of water.



Vedanta's water consumption in FY 2008 was 226.50 million m<sup>3</sup>. Details of water consumption by companies and by sources is as under (EN8).

Million m <sup>3</sup>	HZL	BALCO	MALCO	Sterlite's Copper business	KCM	CMT	SESA
Sub Surface/Groundwater	2.8	0.0	0.0	0.7	130.1	0.0	0.0
Surface Water	3.1	41.0	4.4	2.7	31.8	3.8	0.1
Rainwater	0.2	0.0	0.0	0.6	0.0	0.0	5.9

Specific water consumption has decreased in HZL, Sterlite's Copper business and BALCO compared to the previous year.

Against the target of 5 to 10% reduction, the achieved reduction in specific water consumption were HZL (+12.5%), BALCO (+10%), and Sterlite (+7%). At KCM and CMT, there was a slight increase of 2% and 3% respectively. There was a minor increase (0.2%) in MALCO's specific water consumption due to the addition of split condensers in the captive power plant. This step improved the vacuum for better utilisation of steam.

Most of Vedanta's operations use surface water. At our Zinc plants most water is obtained from surface water

reservoirs, except at Rampura Agucha Mine where sub surface groundwater is used. HZL's Chanderiya lead zinc smelter at Chittorgarh is one of the largest lead-zinc smelting locations in the world. Water for this plant comes from the Gosunda Dam, which is a prioritised wetland (as classified by the National Expert Committee on Wetlands of the Ministry of Environment and Forests, India). Apart from this reservoir none of our surface water sources are listed on any of the National Wetland Conservation lists. Both BALCO and MALCO draw surface water for its operations from Hasdeo River and the Stanley Reservoir respectively.

Sterlite's Copper business, sources most of its water from the Papanasam Dam at Tuticorin and from the

Damanganga River at Silvassa along with minor quantities of groundwater. It also has two 30,000 m<sup>3</sup> capacity rainwater reservoirs at Tuticorin which are extensively utilised for its operations.

KCM is one of the world's wettest mines. Mine water is used in the concentration process. The Nchanga Mine draws about 80,000 m<sup>3</sup> per day of mine seepage water. The mine water is directed to underground sumps and settlers where the sediments are removed. Once the sediment has been removed, the water is then pumped into a surface sump and from there into a reservoir. Water is then distributed to the concentrator for use in the plant.


Another 80,000 m<sup>3</sup> per day of water is sourced from the Kafue River. Excess mine water is pumped into the Kafue River after de-silting. Nampundwe Mine at KCM pumps approximately 2,700 m<sup>3</sup> per day of mine water. In addition, it also draws 1,300 m<sup>3</sup> per day from groundwater and supplies it to the communities around the mine.





# GEO-TEXTILE: NEW APPROACH FOR RESIDUE MANAGEMENT





In the initial period mining was carried out at upper layers and mine spread was horizontal, which ensured abundant supply of laterite for covering clay portion of dump and also for making filters with series of rock walls to arrest erosion. However as the mine went deeper, the reject composition was mainly of clay of magniferous and phyllatic nature which was very prone to erosion and does not support the plant growth. Use of geo-textiles is a new approach to control erosion of mine dumps as well as to establish plantations.

Geo-textile is a thin permeable material consisting of coir fibres interwoven with nylon filaments to provide support and strength. Initial experiments using geo-textiles was conducted with the technical support of Coir Board, Kerala. The desired strength to withstand the monsoon and right species of grass was developed after three years of trial.

At Codli mine, geo-textiles are laid on the dump surface before onset of the monsoon. Special erosion control and nitrogen fixing grass seeds of *Stylosanthus Hamata*, Congo and other mixed varieties are sown on the geo-textiles along with organic manure of *Glyricidia Pigs* and used for fixing the geo-textile in the first year and subsequently, native plant species are planted.

Geo-textile reduces impact of rain on the dump surface, thus preventing erosion and also conserving moisture by acting as mulch for the better growth of the plant. Grass seeds germinate, decompose within three years by which time the dump stabilises with vegetation.

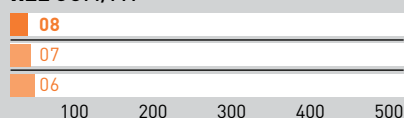
Use of Geo-textiles is an integral part of dump management and has now successfully been replicated at different mining sites for dump reclamation.



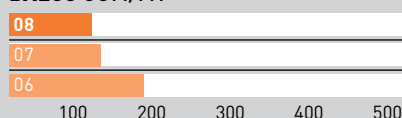
# ENVIRONMENT

## Water consumption

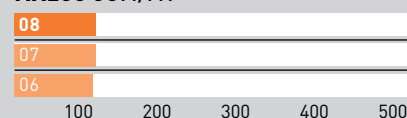
HZL CUM/MT



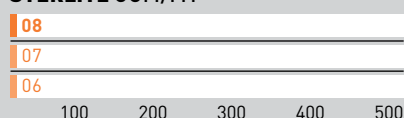
BALCO CUM/MT



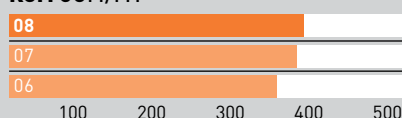
MALCO CUM/MT



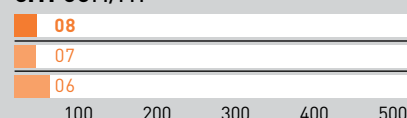
STERLITE CUM/MT



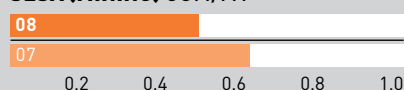
KCM CUM/MT



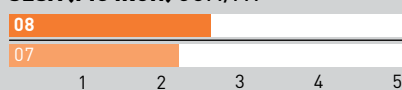
CMT CUM/MT



SESA (MINING) CUM/MT



SESA (PIG IRON) CUM/MT



CMT has sourced about 3.8 million m<sup>3</sup> of water from the east and west Queen Rivers during the year.

At VAL, Lanjigarh, water is sourced from the Tel River.

At Sesa Goa's mining operations most of the water requirements are met through rainwater harvesting in mine pits. We also recycle and reuse the treated tailing effluents generated by the beneficiation plants.

### BIO DIVERSITY

Environment Impact Assessment studies are carried out for all our debottlenecking and expansion projects. Vedanta operates its mines and plants only after obtaining all the necessary clearances from the relevant authorities. We strive to take the utmost care to protect the biodiversity which may be affected by or is adjacent to any of our operating locations. Our record in this area shows that an environmentally aware industry can actually help conserve the ecosystem.

### PROTECTED REGIONS (EN11)

Vedanta's copper operations consist of Sterlite's Copper business, Copper Mines of Tasmania (CMT) and Konkola Copper Mines (KCM). Sterlite's Copper business operates from Tuticorin in Tamil Nadu and Silvassa in Dadra and Nagar Haveli.

According to the field studies and records of the Botanical Survey of India and Forest Department, there is no indication of the presence of any endangered or vulnerable species around Sterlite's Copper business locations.

Mining, tailings storage and water resource areas of Copper Mines of Tasmania (CMT), at Queenstown consists of about 23.45 km<sup>2</sup> of leased Crown Land. This leased land is adjacent to Regional Reserves and is managed by the Tasmanian Parks & Wildlife Service. Mount Lyell mine is close to Tasmanian Wilderness World Heritage area.

The Aluminum business consists of Bharat Aluminum Company (BALCO), Madras Aluminum Company (MALCO) and Vedanta Aluminum Limited (VAL). VAL is a new company and its plants are located in Lanjigarh and Jharsuguda in Orissa. The Lanjigarh alumina refinery became operational this year. The Lanjigarh plant is located on a road connecting state highway SH-6 (Bhawanipatna-Rayagada) to Lanjigarh and is surrounded by small villages, agricultural lands and grazing lands. The Niyamgiri plateau (1,210 m), Bamandeb Dongar (1,033 m) and Niyamgiri hill (1,306 m) are the major elevated land features in the area. The valleys are mostly narrow and well dissected. The nearest forest block is the Patragurha Reserved Forest which is located to the north east of the plant and is mostly covered with Sal (Shorea Robusta). There are no national parks, IUCN red list areas or Ramsar wetlands in a 20 km radius of the Lanjigarh plant.

BALCO and MALCO do not undertake any activities in or near national parks, sanctuaries or biosphere reserves, Ramsar wetlands or IUCN red list areas. BALCO's Mines at Chattisgarh are, however, close to the Kumratha Reserve Forest while MALCO's Kolli Mines occupies a small part of

reserved forest (an area of 0.08 km<sup>2</sup>). In association with the State Forest Department, BALCO is preparing wildlife management plans for the area for a 10 km radius at its Kawardha and Mainpat mines.

Vedanta's Zinc and Lead business are conducted by Hindustan Zinc Limited (HZL). None of the smelters and mines of HZL are situated in or near any endangered ecosystems. HZL's smelters and mines in Rajasthan are located close to notified reserve forests. Part of the Zawar mines lease area comes under reserved forest for which necessary clearances have been obtained.

None of Sesa Goa's activities or operations are situated in a biodiversity sensitive zone. The company's pig iron and coke manufacturing facilities are located in industrial areas and the mining operations occupy forest, government and private land. The company has necessary clearance to undertake mining in the forest land

### POLLUTANTS AND EMISSIONS

Mining and metallurgy processes produce by products which require the conduct of careful and robust procedures to ensure that they do not harm the environment in the vicinity of their sites. We have a strong track record of innovation in this area. Examples of how we address this important issue are presented below:

- the operations of Sterlite's Copper business's at Tuticorin and Silvassa have always maintained a zero-discharge rule. The solid wastes generated are carefully deposited in landfills or disposed of by applying useful end applications. Due to



- these measures, the impact on local bio-diversity has been minimal and there have been no noticeable effects on wildlife or vegetation (EN12);
- VAL has undertaken extensive planting of pollutant resistant and fruit bearing trees in and around the project site. This will not only serve as a pollution sink and noise barrier but will also enhance the bio-diversity of the surroundings. The socio economic study done by XISS at VAL corroborates the afforestation work done by VAL in the plant area and around the rehabilitation colony in collaboration with Dandakarnya, a local NGO;
  - at our zinc and lead operations, gaseous emissions comprising mainly of SO<sub>2</sub> and particulate matter can affect the surrounding ecosystem. High efficiency particulate traps (such as bag filters and ESPs) and tail gas scrubbing systems ensure that such emissions are within permissible limits. Impacts due to contaminated water are minimised by adopting zero-discharge policy. No wastewater is discharged outside the plant boundaries. Additionally over 20,000 trees have been planted by HZL during the period to enhance the local eco-balance;
  - Sesa Goa has initiated various rehabilitation measures in a depleted mine area covering 19 hectares in Karnataka. It has constructed water shed development and forestry management programmes that include the construction of check dams, water ponds as well as the

plantation of agaves (Agave Attenuate) and fruit bearing trees. The company has planted 83,000 saplings at various mining locations and about 1,670 saplings in and around the plant premises of pig iron and coke units. The company is conducting a project through researching and identifying fungus for effective mine land reclamation in association with the Microbiology Department of Goa University. This research project has reached the field trial stage and is expected to be implemented in regular plantation programmes soon.

#### CLIMATE CHANGE

Our operations are largely dependent on energy sources. Most of our operations are in India. India being a non-annexe-1 country as per the Kyoto protocol of UNFCCC is not bound with any emission reduction targets.

Our products are important and necessary components of economic development. We recognise and strive to meet the challenges that climate change presents to our industry through our product and systems development and through working closely with a variety of stakeholders.

We have identified projects and areas to develop renewable energy sources and also recover the waste heat present in our process fluid streams to ensure that a non polluting source of energy is delivered. We plan to invest more in these areas and reduce any impact of our operations on environment and also reduce our costs of operations. (EC2)

#### GREENHOUSE GAS AND OZONE DEPLETING SUBSTANCES

Our operations are energy intensive. Fuels like coal, coke, furnace oil, diesel, and LPG are used at all our locations. To reduce the cost of power production and increase reliability, a number of captive power plants have been established across our operations which operate at benchmark standards. All these activities result in emission of carbon dioxide a major emission from our operations.

Carbon emissions in this report have been estimated based on our energy consumption. We will, in the near future, track carbon dioxide emissions as per the greenhouse gas protocol. Emission factors published by UNFCCC and Central Electricity Authority of India have been used. Emissions from employee transit and other internal transport related emissions have not been accounted for. This year our operations are estimated to have emitted 13.13 million tonnes of CO<sub>2</sub> (EN16).

To contain our greenhouse gas emissions, we have focused on waste heat recovery, use of alternate fuels and renewable energy (EN18).

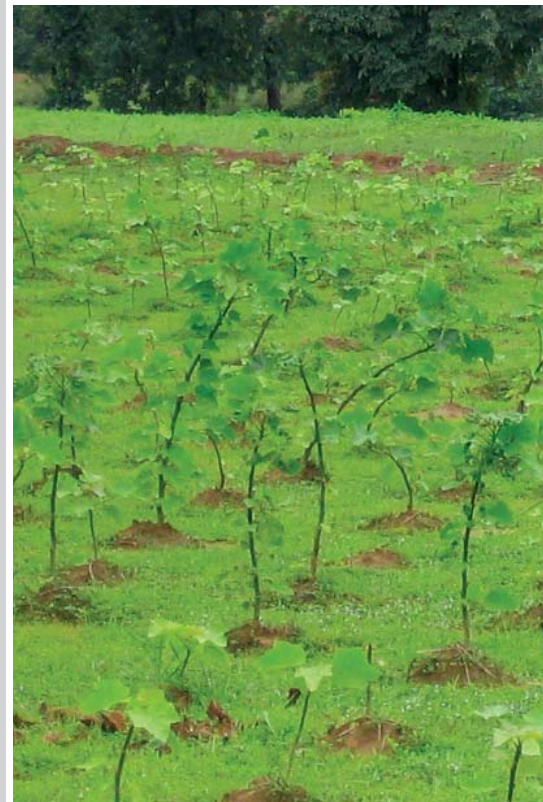
#### OZONE DEPLETING SUBSTANCE

The Montreal Protocol (1987) aimed to regulate and ban the use of ozone-depleting substances internationally. India is one of the signatories to the Protocol. The country has formulated rules and committed to phasing out ozone depleting substance production.

None of the compounds comprising of ozone depleting substance



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(Chlorofluorocarbons, hydro-chlorofluorocarbons, carbon tetrachloride, methyl chloroform and halons) are used in any of the processes associated with our operations. However, a small amount is being used in air conditioning and refrigeration units in our offices and laboratories (EN19).

CMT and Sesa Goa have completely banned the use of equipments based on ozone depleting substance. Sesa Goa has a policy which mandates the purchase of new equipment, free from chlorofluorocarbon (CFC), halons and methyl chloroform (MCF). The policy also requires that any third party services used (for the repair or servicing of air conditioners, coolers, refrigerators or fire extinguishers) are not applying substances which are banned under ozone depleting substance protocol.

## AIR EMISSIONS

The significant emissions from our processes are SO<sub>2</sub> and fluorides. During the year, total fluoride emissions were about 18 tonnes. Total SO<sub>2</sub> emissions were about 0.14 million tonnes in FY 2008 (EN20). We understand their impact and have put in place robust control mechanisms to limit these emissions within permissible regulatory standards and voluntary standards wherever applicable.

We place emphasis on 'cleaner technology' and 'reduction at source' principles.

Other emissions tracked at entity level are suspended particulate matter, oxides of nitrogen, carbon monoxide and lead emissions. Some initiatives

## CLEAN DEVELOPMENT MECHANISM INITIATIVES (CDM PROJECTS)

Vedanta has taken measures to reduce GHG emission from its operations.

- workshops on GHG emission reduction and CDM projects were conducted across the group companies with the help of experts.
- initiated number of projects to reduce emission levels.
- one project each in SESA Goa and HZL has been registered with the UNFCCC as a CDM project activity.
- during the year, around 23,000 Voluntary Emission Reduction (VER) have been sold and around 16,000 Certified Emission Reduction (CER) have been accrued at HZL.

Other prominent identified projects are:

- wind power projects in Gujarat and Karnataka.
- waste heat recovery projects.
- energy and fuel consumption reduction projects.

This is aimed at multiple objectives of reducing the GHG emissions, generating revenues and improving the efficiency of existing processes.

taken are:

- at HZL a building ventilation system commissioned at the refinery section of the Chanderiya smelter has improved the work place environment. To reduce SO<sub>2</sub> emissions, a project is ongoing to address the tail gas treatment at our Vizag smelter.
- BALCO and MALCO have been successfully employing a number of projects to reduce fluoride emissions. During this reporting

- period quad cyclones have been installed in the alumina kilns to reduce stack emissions. Additionally the installation of a dry scrubbing system at both companies has resulted in a greater than 93% reduction in pot room ducted fluoride emissions.
- at Sterlite's Copper business a matte hood has been modified for one of the furnaces to reduce dust emissions. Dust collection systems have been installed; in the reporting



- year for new Rock Phosphate Silo Conveyors transfer points. This activity has greatly reduced the localised dust levels in the area.
- at KCM acetylene soot collection systems have been installed at our continuous copper rod plant to improve the work place environment. The company has also undertaken various projects to reduce SO<sub>2</sub> emissions at the Nkana smelter.
  - CMT has introduced a truck tyre washing system to reduce fugitive emissions from transportation.

### CLEANER TECHNOLOGY INNOVATION

Some of our processes are industry leading and include:

- application of hydro powered smelters for zinc production.
- use of pre-baked technology for aluminum refining at BALCO and VAL and the non recovery type coke oven plant at Sesa.
- use of caesium based catalysts in sulphuric acid production.
- achievement of lean SO<sub>2</sub> gas concentration through the use of 'Cansolv' technology.
- design and construction of a zero waste tail gas treatment plant at Hindustan Zinc for reducing SO<sub>2</sub> emission.

### WASTEWATER

A zero discharge of wastewater practise is maintained by recycling and reuse at most of our operations (EN10). Wastewater discharges at some operations (KCM and other aluminium operations) conforms to statutory limits and have the requisite permits to discharge as well.

Wastewater discharge by site (EN21).

S. No	Plant	Quantity of discharge
1	Hindustan Zinc	Zero discharge
2	Sterlite's Copper business	Zero discharge
3	BALCO Unit-1	1,920 cum per day
4	BALCO Unit-2 and CPP	Zero discharge
5	MALCO & CPP	3,500 cum per day
6	VAL	18,720 cum per day
7	KCM	300,000 cum per day
8	CMT	43,000 cum per day
9	SESA	Zero discharge

### SOLID WASTE

Our mining, beneficiation, metal extraction and power generation activities result in the generation of both hazardous and non-hazardous wastes; such as mine overburden, tailings, slag, red mud, jarosite, fly-ash and gypsum.

We focus on a '4R' waste strategy – Reduce, Recycle, Reuse and Reclaim. Most of our mineral wastes are used in the construction for strengthening of embankments of tailing dams. Other wastes are either disposed to lower end applications (e.g. gypsum/red mud to cement manufacturers) or disposed in tailing dams or secured landfills. Most of our fly-ash is supplied for cement manufacturing and we are also assessing the feasibility of its potential usage in brick manufacturing. Certain hazardous wastes such as waste and used oil, refractory, refuse and batteries are sold to authorised recyclers registered with the regulatory authorities.

During the year, we generated 124,026,557 tonnes of solid wastes, of which 2,339,354 tonnes were re-used and 1,187,951 tonnes were deposited in secured landfill sites (EN22). The remainder was disposed in other safe and permitted ways as described above. Some specific examples are outlined below:

- at HZL, all fly-ash is supplied to the cement industries with zero stock of fly-ash being maintained on site. Other initiatives include obtaining statutory clearance for the use of ISF slag and WK slag in road construction and cement manufacturing. 80,000 tonnes of ISF slag was supplied for the manufacture of cement on a trial basis. The disposal of Jarosite and other hazardous sludge are performed in an environment friendly manner through deposition in secured and lined facilities applying a leachate collection



# ENVIRONMENT



system. Metal recovery is conducted by applying Moore cake treatment and the recycling of ETP cake, HGP dust and anode mud. At Chanderiya Smelter Jarosite is stabilised by converting it into Jarofix using lime and cement. The Jarofix so converted is safely disposed in lined Jarofix disposal yard. At all other smelters Jarosite is stabilised using lime and disposed in secured landfill. At Rajpura Dariba mines part of the tailing generated is mixed with cement for back filling the mine to support mines rock strata.

- waste management initiatives in our Aluminum businesses focus on Spent Pot Lining (SPL) and red mud. BALCO and MALCO have been successful in disposing a part of the SPL as fuel to cement industries. Unused SPL is deposited in secured landfill sites. MALCO's initiatives to use red mud for cement manufacture have gained momentum and 24% of the by-product is being disposed off in this manner. This initiative is a unique achievement in India. A seminar of Red Mud was organised at MALCO in partnership with CII in which cement and brick manufacturers, TERI and the Tamil Nadu Pollution Control Board participated. The objective of this seminar was to raise awareness amongst cement and brick manufacturers about red mud utilisation. 100% of the fly-ash generated at MALCO and 44% of the fly-ash generated by BALCO has been supplied to the cement industry.

- our Copper operations have improved their Gypsum reuse and copper recovery. At Sterlite's Copper business, we have achieved a quality improvement in gypsum which has given impetus to its sale to cement companies. In the reporting year 1,108,838 tonnes of Gypsum was sold against a generation of 751,683 tonnes. Slag from Sterlite's Copper business at Tuticorin is being used in road construction. 123,532 tonnes has been sold this year (628,704 tonnes were generated).
- at Sesa Goa the majority of solid waste generated by mining activity is overburden and tailings. Overburden waste is stacked and subsequently either backfilled into the exhausted mine pits or rehabilitated. Rehabilitation is performed by the planting of fast growing trees on the dumps and subsequent replacement with local species, once the dump is stabilised. Geo-textiles are used for stabilisation of dumps and as erosion control measures. Tailings are treated with adequate dosing of flocculants and then deposited in exhausted mine pits for settling. Canteen waste is converted into vermi-compost through the application of the latest technology and subsequently used as manure. Used and spent oil is sent to MoEF authorised recyclers. At the pig iron plant, granulated slag, sludge from the thickener and dry dust from the gas cleaning plant are the major solid wastes generated. Granulated slag is sold to cement

manufacturers. Whilst thickener sludge and dry dust are blended with iron ore fines and subsequently sold.

- Vermi-compost units have been installed at Chanderiya Smelter, Sterlites Copper business and Sesa Goa to convert all canteen waste into organic manure which are used internally as manure for our plantations.

We will continue to explore new ways to recycle and find alternate uses of solid waste in order to minimise their impact on the environment.

None of our units are involved in trans boundary movement of hazardous waste as defined under the terms of the Basel Convention (EN24).

## SPILLS (EN23)

During the reporting period there were two incidents of spills. At HZL, during the transfer of sulphuric acid to a nearby port for export, one of the acid transport tankers leaked resulting in discharge of 20 MT of acid to the ground. The area was cordoned off immediately and neutralisation was performed using lime. The solid waste generated was checked and corrected for pH and stored in a designated area. The affected top soil was also removed and replaced. This incident was reported to the statutory authorities and did not result in any fines, penalty or warning.

One effluent spill was recorded by KCM during the period. A small quantity of acidic effluent spilled from KCM Nkana





Acid Plant into the water system. Because of the small amount, the quantity of acid was not quantified. However, the situation was quickly brought under control by adding quick lime to the effluent and the source of the spill was sealed.

#### PRODUCT RESPONSIBILITY

Systematic efforts are made to address all health and safety issues throughout the manufacturing cycle of metals and acids (PR1). Metals are intermediate products used by other industries for making finished products. The metals dispatched from the group's operations do not pose any health and safety risk (EN26). The exceptions are by products like sulphuric acid and phosphoric acid, which are transported from our smelting sites to customers in tankers by road. Protocols governing the transportation of hazardous materials are adhered to, including comprehensive labelling with detailed information relating to the content of the containers, safe use of the product and its safe disposal (from a community and environmental perspective).

To mitigate the risks in the event of an accidental spill, we have put in place several mechanisms to educate the transporters and to ensure the technical fitness of the tankers. Written guidance concerning emergency procedures are provided with each Acid tanker in the form of a transport emergency (TREM) card. The information is provided in English and a number of local languages. This card enlists measures to be taken in case of

an emergency. Regular checking of tankers by competent persons is carried out to avoid any spillages and to ensure that the tankers reach customer's premises safely. Drivers of acid tankers are briefed about preventive measures in case of a spill. They are also made aware of the adverse impacts of spills.

Almost the entire range of Vedanta's products are shipped in bulk and do not require any packaging material. Roughly 115,200 cubic feet of wooden pallets have been used this year in transporting copper rods at Sterlite, Tuticorin. At BALCO 18,000 cubic feet of wooden pallets have been used to transport Aluminum Ingots. These wooden packs are dismantled and used for other purposes by our customer's (EN27).

No fines or administrative/judicial sanctions were levied on any of Vedanta's operations for non-compliance with any applicable laws and regulations, including those pertaining to environment and marketing practices (EN28, PR2, PR4, PR9).

Since the produced metals are used by other industries, we do not need to engage in extensive advertising. Our marketing department ensures that one-to-one communication with customers is maintained and customer feedback is also obtained (PR5). Vedanta adheres to laws, standards and the relevant sections of voluntary standards such as the ICC International Code of

Advertising Practise and OECD Guidelines for Multinational Enterprises.

#### CUSTOMER HEALTH AND SAFETY

Our products are either materials or intermediates used for manufacturing other products and are fully consumed in the process. Our metals do not pose any direct health and safety hazard to our customers. No formal procedures have thus been put in place for assessing the impact of its product and services during its life cycle. However for all our by products like acids we use Material Safety Data Sheets (MSDS) detailing how they are to be handled. The safety impacts of the products during loading and storing of materials are taken care of and managed accordingly.

#### PRODUCTS AND SERVICES LABELLING

There are no regulations on production information and labelling other than the physical dimensions and chemical compositions of various grades of metals produced. Test Certificates indicating the dimensions and composition of the product are issued along with delivery invoices to customers.

Sterlite's Copper business and HZL also sell sulphuric acid which is one of their major by-products. Sulphuric acid transportation and transaction document includes a TREM card which lists the characteristics, health effects, precautions to be taken, actions to be taken in cases of exposure and the relevant contact details.

# HEALTH AND SAFETY

Vedanta is committed to achieving best practice of health and safety at all our sites.



## ABOUT THIS SECTION

Vedanta is committed to achieving best practice of health and safety at all our sites. This section describes our policies and management systems and records our performance applying industry key performance indicators. We have also detailed within this section case studies which record examples of health and safety innovation that have been undertaken by our subsidiary companies.

Our health and safety systems are well established and are regularly reviewed and monitored taking into account our experiences and industry best practise. Knowledge sharing around Vedanta's companies plays an important part in this process.

## POLICY

Our health and safety policy which is part of our broader HSE policy is to:

- develop, implement and maintain health and safety management systems which are aligned with our commitments and beliefs, and are consistent with world-class standards;
- comply as a minimum with all applicable legislative and statutory requirements;
- seek continual improvements through setting and reviewing targets, assessing and reporting health and safety performance, using appropriate best available practices and providing all employees with relevant training;
- encourage contractors and suppliers to adopt principles and practices adopted by us;

- implement regular health surveillance and risk-based monitoring of employees.

## SYSTEMS

### MANAGEMENT RESPONSIBILITY

Day-to-day management responsibility for health and safety matters rests with the senior management at each of our sites. They are supported in this role by 290 health and safety professionals that are specifically employed for this purpose around the group.

All operational sites in India and Zambia have OHSAS 18001 certification.

Company	Unit	OHSAS 18001 Certification Status
HZL	CLZS	Certified
	ZSD	Certified
	VZS	Certified
	RAM	Certified
	ZM	Certified
BALCO	RDM	Certified
	Korba	Certified
	Mainpat	Certified
MALCO	Kawardha	Certified
	Mettur	Certified
Sesa Goa	Kolli	Certified
	Mining Division	Certified
	Pig Iron Plant	Certified
KCM	Met Coke Division	Certified
	Konkola	Certified
	Nampundwe	Certified
	Nchanga	Certified
Sterlite's	Nkana	Certified
	Tuticorin	Certified
Copper business	Silvassa	Certified
CMT	Mount Lyell	Not Certified

## HEALTH AND SAFETY AUDITS

Regular internal audits are performed on our health and safety systems at each of our sites. All of our operating locations are required to implement safety programmes to address any identified areas of risk during the conduct of these audits. Typical areas of examination include levels of investment in operational integrity and ensuring that appropriate resources, training and operational systems are in place.

External audits are conducted on our health and safety systems and performance where our management and health and safety professionals deem that such as exercise would be beneficial. An example during this reporting period was at BALCO where specialists were brought in to assess the functionality, adherence to and adequacy of the company's health and safety systems. HZL also conducted external safety audits on its smelters.

Audit recommendations are discussed in HSE committee meetings at unit and company level and implementation ensured.

Safety risk assessment and disaster management plans are integral to all our expansions and new projects.

## TRAINING

Addressing cultural attitudes to health and safety matters within the parts of the world in which we operate can present considerable challenges to organisations that conduct their activities in the mining and metals sector. We focus on awareness and prevention. Our training systems are well established and cover all our locations. Safety training is compulsory





for all contractors and employees. Regular refresher courses are conducted by reputed agencies like National Safety Council for existing employees. Modules include introductory levels and specialised safety courses aimed at addressing particular aspects of our activities.

In the year 66,000 man-days of training on health and safety matters was imparted to employees and contractors.

#### INTERNAL REPORTING

Our health and safety systems include reporting mechanisms to ensure that information, applying our key performance indicators, is monitored regularly by our senior management at unit and group level and action taken when required. These include key industry indicators such as Lost Time Injury Frequency Rate (LTIFR), Total Injury Frequency Rate (TIFR), and Severity Index (SR).

Since 2006 we have been recording 'near misses' ensuring that minor incidents are also captured within our reporting processes. This data is an important indicator of safety performance and potential major hazard management tool in ensuring that future incidents are avoided.

#### SAFETY INITIATIVES

Riding on the success story of the HSE steward system and near miss reporting implemented last year, our safety culture has been strengthened further with the introduction of exclusive contractor safety officers for all major contractors and company appointed exclusive safety officer for pool of smaller contractors. We have also given thrust to vehicle/driving safety and initiated guidelines in this respect. These initiatives have promoted safe behaviour among contract workmen and reduced risks at our operations.

This year, external safety audits have been carried out to assess the functionality, adequacy and adherence of safety management system across our operations.

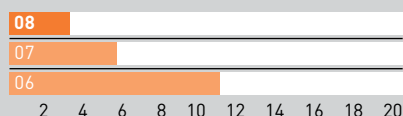
In addition to this to assess the safety performance, safety score card and physical condition tour audit system have been introduced. Safety score card is a point based system which assesses key performance indicators like LTIFR, TIFR, safety training, review mechanism, near misses recorded, etc to judge the safety performance of the unit on monthly basis. Physical condition tour is a field audit focusing on general work place conditions, facilities, material handling, equipment health, hazard control, emergency systems and PPE compliance.



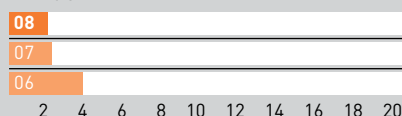
# HEALTH AND SAFETY

## LTIFR

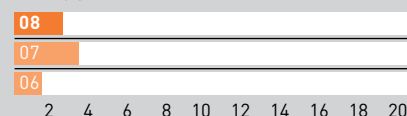
### HZL



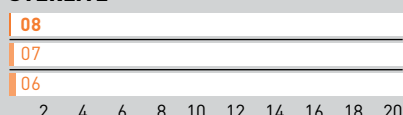
### BALCO



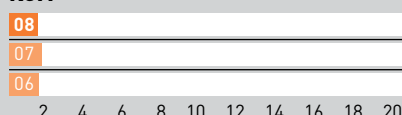
### MALCO



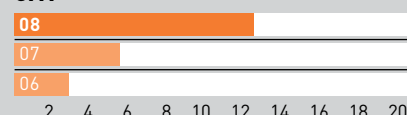
### STERLITE



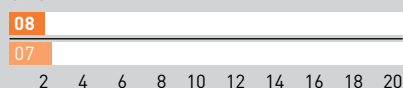
### KCM



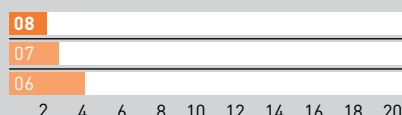
### CMT



### SESA



### VEDANTA



## PRODUCT SAFETY

### CUSTOMER HEALTH AND SAFETY

Our products are materials or intermediates used in the manufacturing of other products and do not pose health and safety hazard to our customers. Therefore, we have not placed any formal procedure for assessing the impact of our products and services during their life cycles. We do publish material safety data for all our products detailing how they are to be handled.

### LABELLING

For metals there is no regulatory requirement to produce product data and labels other than information concerning physical dimension and chemical composition. Certificates reporting this information are issued alongside delivery notes to our customers. Our Zinc and Copper business also produce and sell acidic by products. Customer information in this instance lists the characteristics, health effects, precautions required, information concerning exposure and contact details.

### TRANSPORTATION

The acid by-products produced by our Zinc and Copper businesses are transported to our customer's premises in tankers. We have put in place several mechanisms to educate transporters, to ensure that the vehicles are in an appropriate condition and fit for purpose. These include regular vehicle inspections. Acid tankers are provided with a transporter emergency (TREM) card in English as well as in vernacular language. This

card enlists measures to be taken in case of an emergency. Drivers of acid tankers are also briefed about preventive measures in case of a spill and its adverse impact.

## OCCUPATIONAL HEALTH

The health of our employees is monitored through periodical medical examinations. During the year more than 55,000 examinations were conducted.

Our focus is to contain the exposure to dusts containing heavy metals such as lead, cadmium and arsenic, gaseous emissions such as SO<sub>2</sub> and fluorides, and other physical conditions such as high noise levels in certain activities and heat stress.

Occupational experts have been employed at all mines and smelters for regular occupational health examinations of all employees, contractors and workplaces. Initial and periodical medical examinations are carried out as per regulatory requirements. In addition, specific medical examination is also carried out with respect to blood lead/cadmium levels, siliosis, chest X-rays, audiometry, spirometry and vision.

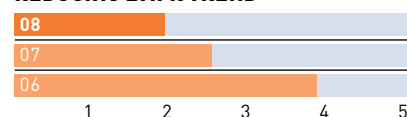
## PERFORMANCE

### KEY PERFORMANCE INDICATORS

Our recent trend continued to show improvement in key performance indicators during the year.

This year LTIFR was 1.91 against 2.51 in FY 2007. This translates to a reduction of 24% vis-a-vis a target of 25% across our operations (LA7).

### REDUCING LTIFR TREND



Our overall Total Injury Frequency Rate fell to 6.8 (11.30 FY 2007). Similarly our overall Severity Rate (SR) was 2.11 (3.05 FY 2007).

HZL, Sterlite's Copper business and Sesa Goa have shown a significant reduction in LTIFR over the years. The statistics at MALCO and CMT are much more influenced by individual incidents as the operations of these companies are much smaller.

KCM has embarked on a series of major expansion projects to extend mine-line and increase production.

LTIFR for each of our Group companies is reported below.

KPI	HZL	BALCO	MALCO	Sterlite's Copper business	KCM	CMT	SESA	Vedanta
LTIFR	3.07	1.95	2.49	0.09	1.47	12.16	1.8	1.91



These have resulted in an influx of contractors from different parts of the world including semi-skilled and unskilled labourers. We have partnered with IRCA to strengthen the safety of our contractors.

#### FATALITIES

Our target is zero fatalities and any incident which results in a fatality is one too many. Despite our considerable efforts to avoid the occurrence of these incidents, we had one employee fatality at BALCO. There were thirteen fatalities of contract employees in operations and five fatalities of contract employee in projects. Of these, five occurred at HZL, one at BALCO, one at Sterlite's Copper business, six at KCM, one at Sesa Goa, and four at VAL.

To strengthen the contract workmen's safety, we have increased focus on their training specially related to the nature of their job and have deputed safety officers at all our sites. We have also ensured that all our major contractors depute their own dedicated safety officers additionally.

Going forward we have collaborated with renowned safety consultants to strengthen our safety systems further.

#### OCCUPATIONAL HEALTH

No occurrence of any occupational illness was reported from any of our locations. During the year, more than 55,000 PME were conducted (LA7).

#### TRAINING

We provide initial and periodic training to all employees and contractors. We strive to ensure that specialist training is provided for employees where we believe it is necessary.

Fifty-four employees were trained for a certified auditor's course by the British Safety Council. Special training was provided to 22 employees on risk assessment, 12 were trained in ergonomics and 11 were trained in work place implementation. Special safety training on forklift operations was given to 45 employees.

An external safety audit was conducted for BALCO by M/s. Chilworth to assess and measure adherence of our safety management systems.

At VAL capacity building in work place safety continued during the year in association with National Safety Council. The emphasis is on improving behavioural aspects towards safety along with strengthening systems and hardware.

During the year 66,000 man-days (including contractors), of HSE training was imparted. Consequently, significant performance improvements were achieved across our operations (LA10).

#### EMERGENCY PROCEDURES DRILL

A full scale emergency procedures drill was conducted at HZL's Chanderiya Lead Zinc Smelter in Rajasthan under the aegis of the National Disaster Management Authority (NDMA, an organisation chaired by the Indian Prime Minister) and the Disaster Management Institute (DMI), Bhopal. Participants also included the local government services.

Our on-site and off-site disaster management strategies were implemented in this exercise and independently assessed to be satisfactory. Certain areas of weakness were identified and these were addressed as part of the follow up procedures.



# PEOPLE

**People are the core of our business.  
We nurture our leaders from within and  
provide opportunities for growth across  
levels and geographies.**

## ABOUT THIS SECTION

People are the core of our business. We nurture our leaders from within and provide opportunities for growth across levels and geographies. All positions within the organisation are leadership positions making significant contributions to the organisation as a whole.

A well-defined process for career development with challenging assignments and responsibilities at a young age, attractive working environments with highly competitive incentives, and a pool of high quality professionals ensure our position amongst the preferred employers in the regions in which we operate.

Our ambitious growth initiatives coupled with the competitive markets in which we operate mean that it is important for us to recruit, develop and retain talented and motivated employees that share Vedanta's vision and values. We believe that our success is due to the commitment, passion and contribution of our employees.

This section describes our policies and management systems and records our performance applying key industry performance indicators. We have also detailed within this section case studies which record examples relating to our people practices.

## POLICY

Our people policies, which are applied across all of our group companies, are to:

- follow a philosophy of meritocracy and we are committed to ensuring that our workplaces are free from

all forms of discrimination or harassment on the basis of age, caste, sex or religion;

- manage our businesses in a fair and equitable manner, meeting all our social responsibilities as a direct and indirect employer and respect the human rights of all of our stakeholders;
- have robust processes and systems in place for leadership development, training and growth to deliver value to the organisation and society;
- to provide employees with the opportunity to report matters which they believe to transgress or contravene our Code of Conduct as part of whistleblower policy (S04);
- ensure that our supplier and customer relationships are conducted in a fair, proper and transparent manner;
- strive to achieve and drive forward industry best practise in our social stewardship;
- on acquisitions and mergers, uphold and honour all ongoing commitments ensuring a smooth integration of both organisations and sharing of best practices;
- comply with all applicable legislative and statutory requirements and align with the principles in the Convention on the Rights of the Child of the United Nations and Convention 138 of the International Labour Organisation;
- be a responsible and good local neighbour.

## SYSTEMS

### RECRUITMENT

'The right person for the right job' is the philosophy which drives our

recruitment. This has helped us recruit the best people. We believe in inducting large number of fresher's from campus and providing them growth opportunities from within. This enables us to consistently attract world-class professionals.

We recruit young professionals from campuses in a variety of disciplines including Engineering, Management, Accountancy from premier Institutes. We have relationships with over 100 engineering colleges, 20 MBA Institutes in India and the Institute of Chartered Accountants in India.

Vedanta has both a high brand value and recall at all these institutions. Our senior management visit them regularly as guest lecturers on technical matters, the business world and managerial issues. We also include and visit minority institutes, colleges from remote states or provinces in our Campus Recruitment Programme to ensure that opportunities are provided for deserving candidates from all regions and walks of life.

In the last four years we have hired over 2,900 engineers, of which 1,300 were hired in this year alone. We propose to hire a similar number over the next few years. This recruitment trend makes us an 'employer of choice' on engineering campuses.

Sesa Goa runs a Technical School that trains local candidates in various skills and vocations. We provide merit based opportunities for internships as well as recruitment to the students.

In Zambia we offer merit scholarships to students studying mining,



metallurgy, geology, natural sciences and engineering at the University Of Zambia and The Copper Belt University, for short or long term study programmes.

At KCM we offer internships and vacation employment to students from vocational institutions which are of direct relevance to our activities. Preference is given to students sponsored by KCM and those who engage in project work as a requirement for their qualification. Others are offered vacation employment subject to departmental requirements and our ability to manage them. We have experienced an influx of students from various training institutions across Zambia applying for internships. This initiative has made KCM an employer of choice at Zambian universities. Many of our other companies also offer internships to students. These arrangements include mentoring and supervision of project work to ensure a meaningful training outcome.

Our graduate recruitment activity in Zambia is conducted in the region where the plant is based. This policy generates significant employment opportunities for the local population and supports local economic development (EC7).

We have also introduced a countrywide recruitment programme for school leavers who are taken on as trainees. All nine provinces of Zambia are covered by the project. The aim is to offer school leavers in the remotest parts of the country an opportunity of employment.





# PEOPLE

## SUNIPA ROY, MANAGER – SMELTER EXPANSION PROJECT AT DARIBA

I was recruited by HZL through the Group's campus recruitment initiative after graduating in Metallurgical engineering from REC Durgapur (now NIT Durgapur) in 2003. I originally worked in rotational training assignments and was subsequently posted to the Phase I smelter project for on the job training.

I have had enormous opportunities for cross functional learning from basic engineering tasks to the final commissioning of the plant. These experiences have been enriching, and empowering with opportunities for independent decision making. Having been designated as a 'Star of Business', I see myself in various leadership positions going forward.

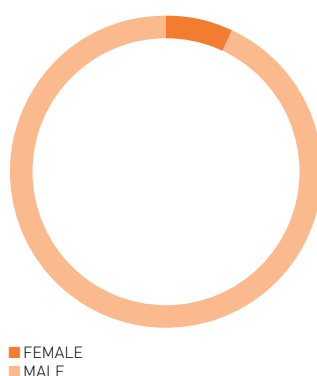
## RECRUITMENT OF LOCAL POPULATION (EC7) SCIENCE GRADUATE RECRUITMENT AT BALCO

	Chattisgarh	Children of Employees	Others	Total	%
2005-06	228	81	54	363	85%
2006-07	185	72	40	297	87%
2007-08	218	47	0	265	100%
Total	631	200	94	925	90%

We have prioritised local employment and employability levels. BALCO (Chattisgarh) is an illustration. Of the 925 Science Graduates recruited at BALCO in the last three years 90% were from the local State, of which 24% were children of BALCO employees. The local area used to be dependent primarily on agriculture as their primary source of income. Our presence has created further opportunities for both direct and indirect employment enhancing the quality of life of the locals.

We have had an increasing trend in the last few years of women professionals joining the Group. Appropriate policies are in place to address gender issues and ensure conducive working environments.

### EMPLOYMENT OF WOMEN %



Last year we conducted a special recruitment drive to engage armed forces personnel to apply their specialised skills in administration, human resources, logistics and infrastructure across our subsidiary companies.

### BENCHMARKING

We appreciate the need to keep abreast with the global trends on people development. We regularly benchmark ourselves with industry standards. This year we participated in two such surveys conducted by BT Mercer and Hewitt. The recommendations from both have been translated into action plans for implementation.

### LEADERSHIP DEVELOPMENT

We have robust processes and systems in place to nurture leaders, succession planning and the development of talented people.



Important positions around the group are mapped and we ensure that the required succession management processes are in place. An important element of our culture is our focus on nurturing our future leaders from within our businesses. Most of our senior personnel have spent a significant part of their careers working within and around our Group.

Our fast track development programme called ACT UP is based on Vedanta's unique Leadership Competency Framework, covering aspects like an increased desire to achieve, enhanced business acumen, the ability to manage environments which are external to the ones in which they operate and enhanced people development and team player skills. Employees who qualify through this process are christened 'Stars of Business' and are immediately earmarked for key roles, fast growth and appropriate remuneration. The assessment process comprises a case study presentation, group activities, psychometric testing and one on one interaction.

In the last two years 400 employees within the professional pool have been identified as 'Stars of Business'. Each 'Star of Business' is assigned a development programme spanning a five year horizon. Specialised behavioural and need based programmes are conducted to enable the 'Stars' to take on accelerated responsibilities.

#### GLOBAL LEADERSHIP PROGRAMME

Our Global Leadership Programme provides opportunities for high achieving employees to work on important projects in one of our overseas operations for a period of six to twelve months. The primary goal of the programme is to create a pool of managers that are prepared for global leadership positions through exposure to different cultures, other areas of the business and display core company values of modesty, commitment and integrity.

This year we completed the first cycle of the programme. 50 employees from operations, maintenance and mining participated. The second cycle, which will also encompass 50 employees, will also include staff drawn from our finance, commercial and human resources functions.

#### MANISH NEHRA, MANAGER – INSTRUMENTATION

I am an Electronics and Communication Engineer from Gulbarga University, and joined Sterlite Copper as a graduate trainee in 1996. As part of the Global Leadership Programme I was posted on an assignment aimed at increasing recovery and production at KCM. This assignment besides honing my professional skills also was a great opportunity to work in a multicultural environment. On the soft skill side, I am now more systematic in my approach to solving problems and documentation, management styles ingrained from my Zambian colleagues.





# PEOPLE

## AGNESS MUSONDA MOFYA, ENGINEER – SMELTER INSTRUMENTATION

I am an Electrical Engineer with a specialisation in Electronics and Telecommunications from the University of Zambia. I joined KCM as a graduate trainee in July 2005 and as part of the Global Leadership Programme, was posted on assignment at Vedanta's Copper Business at Tuticorin. Here, I have been involved in various projects that were aimed at improving the plant availability. I also had the opportunity to conduct training for the technicians and contractors in the Instrumentation department. During my tenure I learnt a lot about the smelting and instrumentation processes. This experience also taught me that it is important in life to push yourself forward. I now feel empowered to take on the challenges of an accelerated career growth path and in turn implement my learning's at KCM.



## LEARNING AND DEVELOPMENT (LA11)

We focus on technical and behavioural capability building across our employee pool by applying various learning and development initiatives. We regard this area as an important aspect of our business.

## MANAGEMENT DEVELOPMENT PROGRAMMES

We work with various institutes to provide customised Management Development programmes. They are aimed at two kinds of employees; one is to provide business orientation to young engineers who have completed one to five years with the group and the second is an intensive programme for our managers in SBU head positions.

Training includes conference attendance and visitation programmes to the operations of other companies. Under these schemes our employees visit best in class mines and smelters across the world to learn new practices.

Our science graduates also have the opportunity to study for a degree in engineering in collaboration with the prestigious Birla Institute of Technology and Science. The programme is partly funded by the company.

KCM has collaborated with The Goldfield Business and Leadership Academy to coordinate and conduct its training and employee development, upgrade training infrastructure and also provide system support for proposed solutions. In the course of the year, work commenced on infrastructure upgradation and the train the trainer programme where 245 personnel



participated. In addition 889 employees have been trained in Supervisory Development.

KCM also developed a counselling and business awareness programme for leavers and people who have retired in line with the KCM Social Responsibility Plan. The aim is to prepare employees for life after formal employment. We would adopt this model across our other companies in the coming year.

## AWARENESS ON POLICIES AND CODE OF CONDUCT

Awareness programmes regarding our policies and code of conduct are conducted regularly (SO3). The code of conduct is read and signed of by all the executives of the company (HR3).

## EMPLOYEE INDUCTION

All new joiners participate in comprehensive induction programmes which are customised for different levels of employees. This includes training on our policies, benefits, company culture, broad perspective and understanding of our business and systems.

## MENTORING

New graduate entrants participate in our mentorship programme. This helps them settle in and smoothen the transition from the campus to the work place. Mentors are employees who started their professional career with us. They are required to undergo training before delivering this type of support.



#### JOB ROTATION

Job rotation and exposure to different parts of the business is ingrained into our human resources philosophy. This aids in the process of leadership development by ensuring that our employees obtain a well rounded understanding of our businesses and also acts as a good motivational tool.

#### NAV JYOTI

Nav Jyoti, is our programme for the spouses of our employees at BALCO. 174 spouses participated in the eight courses conducted. The objectives of this programme are two fold – firstly to assist the participants to appreciate the dynamics and demands of industrial life and secondly to help them strike a work life balance. Modules on creative parenting, time management techniques and managing their own careers at the same time were part of this programme.

#### PERFORMANCE IMPROVEMENT

All our subsidiary companies have adopted varied performance improvement engines. Our philosophy is to challenge apparent boundaries and limits to our growth.

Sterlite's Copper business has a Total Quality Management programme (TQM) which this year covered 150 employees drawn from 14 teams. Recently the company also began a Total Productive Maintenance (TPM) programme.

#### NAV CHETNA

BALCO initiated a novel programme called 'Nav Chetna'. This year 944 employees participated in 41 batches. It is based on the simple axiom: 'a world class company needs world class minds'. It encompasses a three day experiential learning programme targeted at all employees. It aims to rekindle the desire to excel and bring about a cultural transformation within the organisation. It includes psychometric tests, self realisation exercises, and sessions on self motivation, lateral thinking, problem solving methodologies, managing conflict, and team and group dynamics.

At the end of the course the participants commit to a qualitative improvement in their work through improved production and productivity, improved inter-personal relations, better safety awareness and team work. The effectiveness of the programme is measured after three and six months post the completion of the contact programme.

#### S HINGNE, ASSOCIATE MANAGER, SMELTER

'The workshop is a very good medium through which you get to know your inner-self. Previously I was not able to appreciate the thoughts and views of other people as well as I could have. Now I have a much better understanding of the views of others and have reduced friction with my colleagues.'

#### RK TIWARI, ASSISTANT CHARGEMAN, CELLER, FABRICATION SBU

'I have been able to improve the bonding and team spirit amongst my associates and the course positively influenced my whole outlook towards my employment. My levels of professionalism have been enhanced and my reasoning and convincing powers improved.'

#### R SALEEM, SR. PROCESS TECHNICIAN FABRICATION

'After the workshop I realised that nothing is impossible. I learned to define goals, improve planning and achieve targets on time. The course helped me have a more positive attitude towards work and life. I have also stopped trying to change others and started rediscovering myself.'

#### RAJENDRA SINGH KANWAR, JR. PROCESS TECHNICIAN-3 SMELTER

'My professional-life and dedication to work has greatly improved. I am also much more amenable to discipline and my team.'

#### SL BISHWAS, OPERATOR-2 FABRICATION

'I am now more committed to my work and bonded with my team. I have been proactively working on new ideas for improved efficiency and am more safety conscious.'



# PEOPLE



HZL and BALCO have adopted Six Sigma training. 1,644 employees attended this year. The Group now has 94 black belts and 743 green belts. 102 projects have been completed to date. HZL also has quality circles and 602 employees involved in these initiatives through 86 active Quality Circles.

## INTERNATIONAL ACCREDITATION

The American Society for Quality's International Team Excellence Award competition is a prestigious international team accolade. This year, 31 teams were invited to compete in the finals. Three TQM projects from Sterlite's Copper business were selected for a live presentation at the American Society for Quality's (ASQ) World Conference on Quality and Improvement to be held in Houston:

1. An increase in  $P_2O_5$  recovery from 96.8% to 97.5% at Tuticorin.
2. An increase in debottlenecking Selenium plant capacity to 120%.
3. An Improvement in the Copper Cathode Quality from Liberator Cells, in Electro Refining.

## PERFORMANCE MANAGEMENT

Vedanta has a culture of meritocracy and encouraging high performance. Our Performance Management System is a key tool which helps us measure, reward and improve performance.

All our employees who are trade union members are governed by long-term agreements. These require the conduct of performance reviews prior to decisions being made on matters such as promotion or re-assignment.

Our non-unionised workforce has an annual performance review (LA12). We follow a five point scale for measuring performance which follows the normal distribution curve. Feedback and identification of areas of improvement for further development are an integral part of the performance appraisal process.

Performance linked variable pay is an important component for all our employees holding key positions across group companies. In the first quarter

key performance areas (KPA's) and key results areas (KRA's) are assigned to individual employees in line with our business plan and customer focus. The targets are adjusted where necessary at mid-term performance reviews. Approximately 30% of the KRA's relate to matters such as training, health and safety, environmental matters and other corporate social responsibility areas. The KRA's are fixed using a top down approach applied by the CEOs and management teams of each business. They are given equal weighting when determining rates of variable pay.

Fresh graduates too undergo training and probationary period reviews before getting confirmed.

## REMUNERATION AND BENEFITS

In principle our remuneration levels are directly linked to performance, future potential, levels of responsibility and the market value of our employees (LA14).

We conduct periodic market surveys to ensure that our employees are remunerated at rates which are the best in the industry. We believe that this policy ensures that we attract and retain the best people and remain the company of choice for aspiring students. Typical entry level salaries are more than twice the minimum wages of the regions in which we operate (EC5).

Our employees are provided with free medical facilities where there are company owned hospitals. They also receive medical insurance, personal accident insurance and conveyance facilities (LA3).



Vedanta also has robust performance reward system in place through schemes like Long Term/Short Term Incentive Plans (ESOPS), Monthly Production Incentive Scheme, Performance Rewards, Milestone based Incentives, Retention Bonus, and CEO Kitty to name a few.

#### COMMUNICATION

We maintain a variety of communication channels through which employees interact in a transparent manner about the business performance at unit and group level. Our companies maintain formal processes such as daily departmental meetings, monthly review meetings and management committee meetings. Our companies also maintain intranet services to facilitate communication and the dissemination of information. We also publish a variety of in house magazines (Copper Tone, Zinc News, BALCO Buzz, Konkola News, Yagna). Many of these publications are written in local languages.

Our Employee Contact Programme is conducted monthly. Under this framework our HR representatives interact with our employees in their workplaces and discuss their suggestions, feedbacks and grievances. These are then highlighted to senior management during monthly review meetings.

The Chief Executive of all of our companies addresses our employees each month on the company's performance including environmental, health and safety parameters. These occasions are also applied for recognition of employees and to highlight new initiatives. Employees also get the opportunity to air their views and queries to the CEO.

#### CONTRACT EMPLOYEES

Our companies firmly believe in developing and training its contract employees. All our contract employees are trained in health, safety and operational practices and are also part of our Six Sigma improvement teams. The core idea here is to think beyond legal compliances and to find innovative methods of contractor management.

#### HUMAN RIGHTS

68% of our workforce are members of trade unions (LA4). We believe in maintaining industrial harmony by being pro-active with respect to resolution of labour issues and have open and frequent communication to maintain cordial relations with our employees and their trade unions (HR5).

Our regular dialogue with our trade unions includes matters relating to remuneration, allowances, service conditions, health and safety,

#### CHAIRMAN COMMUNICATES

An important aspect of the way we do business is ensuring that our senior management connects with our employees. The Chairman's workshop is one such platform. Our Chairman, along with other members of our senior management team, conducts a day long interactive workshop with varied small select employee forums from around the business throughout the year.

Ten such forums took place during this period. These forums have been successful in encouraging the exchange of often novel and innovative ideas and information. They have also succeeded in disseminating the vision of the Group to our employees.



# PEOPLE



It is against the company's philosophy to have any exploitative practices with regard to manpower. All of our companies have a policy of adhering to applicable local human rights legislation. We do not employ child labour (HR6) and do not use, or allow our supply chain or contractors to use, forced or coerced labour and require them to adhere to our own policies in this area (HR7).

Most of HZL's units are SA 8000 certified. Vedanta adheres to the principles established in the Convention on the Rights of the Child of the United Nations, and to Convention 138 of the ILO.

## QUALITY OF LIFE

We have townships close to most of our operating locations. Our townships feature hospitals, schools, shops and markets. In many of our locations they are the centre of local economic activity. A common example is the markets they create for local agricultural and service suppliers.

All of our townships have facilities for indoor and outdoor sporting activities (such as tennis, badminton, swimming, golf, table tennis and billiards). Many feature an open air theatre. Festivals are often celebrated with noticeable pomp and gaiety and events for children and families form part of every such celebration. A feature of our townships is their sporting and social

activities which are organised by our employees.

Our tremendous growth has been made possible by the hard work of our employees. To sustain this we believe that it is important our employees maintain a proper work life balance. We actively encourage activities such as birthday celebrations, departmental get-togethers, picnics, yoga, meditation, sports competitions, and involvement in community activities. These are organised by voluntary committees formed by the employees and their families catering to different age groups. One such example is summer camps often conducted for children in our townships.

We are proud that Gokilavani an employee from Sterlite's Copper business won the Federation Cup Powerlifting Championship and will represent India in the Asian Power Lifting Championship at Tashkent, Uzbekistan. Similarly Shubham Sarangi, son of N Sarangi, a BALCO employee won two gold medals at the state swimming championships and represented Chattisgarh in the national Indian swimming championships.

environment and employee welfare. Much of this activity is conducted applying Joint Consultative Committees which are forums that have equal representation from our unions and management. There are also other prominent committees like 'Safety Committee', 'Housing Committee', 'School Committees', 'Canteen Committees', 'Transport Committees', editorial teams of house magazines and committees related to social securities like PF Trust etc. having the Non-Executive representatives as members.

A notice period as specified by legislation of the region of operation is given in case of any operation changes (LA 5).



### DEMOGRAPHIC PROFILE

As of 31 March 2008, we have 28,443 full-time permanent employees and 29,871 contract employees across our units in India, Zambia and Australia (LA1).

	Australia	India	Zambia	Total
Full-time Non Unionised	43	6,919	2,739	9,701
Full-time Unionised	46	10,103	8,583	18,732
Full-time Employees	89	17,022	11,322	28,443
Contract Labour	165	28,736	970	29,871
Total	254	45,758	12,292	58,304

### EMPLOYEE REPRESENTATION (LA13)

	Total	Female	
		Number	%age
Board of Directors	7	0	0.00%
Senior Management	215	3	1.40%
Executives	7,143	786	11.00%
Full time employees	28,443	1,919	6.75%

Age Group	Full time Employees	Executives
Less than 20 years	21	0
20-30 years	8,670	3,111
31-40 years	6,389	1,594
41-50 years	7,984	1,612
51-58 years	4,997	717
More than 58 years	382	109
Total	28,443	7,143

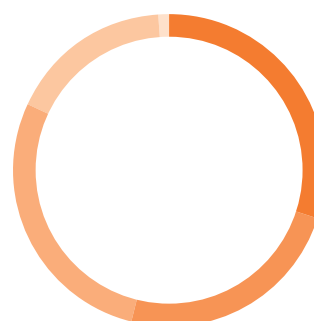
### AVERAGE HOURS OF TRAINING (LA 10)

Company	Total Training hrs	Training hrs per employee
Malco	2,600	3.80
BALCO	131,192	25.72
VAL	1,540	4.53
HZL	123,936	19.44
Sterlite	62,067	50.83
KCM	38,458	3.40
Sesa	27,112	16.00
Vedanta	358,273	13.41

### EMPLOYEE TURNOVER

The employee turnover for Vedanta during FY 2008 was 4%. The constituent elements are recorded below. (LA2)

### EMPLOYEE TURNOVER %



- LESS THAN 20 YEARS
- 20-30 YEARS
- 31-40 YEARS
- 41-50 YEARS
- 51-58 YEARS
- MORE THAN 58 YEARS



# OUR COMMUNITIES

The communities around our plants are our key stakeholders. They are an integral element of how we conduct business and the development of our medium and long term plans and strategies at unit and Group level.



## ABOUT THIS SECTION

The communities around our plants are our key stakeholders. They are an integral element of how we conduct business and the development of our medium and long term plans and strategies at unit and Group level.

Our work with the communities is defined through a framework and is customised based on the nature of the business cycle – from an R&R in green field projects to begin with to a more focused and encompassing approach in brown field projects. We have a two fold approach – Intensive intervention in select villages identified through an indicator driven process designated as the 'Integrated Village Development Programme' and an Extensive approach in the other villages.

Our CSR and site management teams assess local needs and prioritise them. We then design and roll out comprehensive and extensive development plans in partnership with the government, NGOs and the community. Ongoing internal reviews and social audits every 2-3 years facilitate transferring autonomy to the villages and expanding our reach.

## POLICY

Our social (community) policy, which is applied across all of our group companies, is to:

- be a significant contributor to addressing social needs within the communities in which we operate;
- create sustainable partnerships
- strive to actively enter into dialogue and engagement with our stakeholders;
- strive to achieve and drive forward industry best practise in our social stewardship;
- comply with all applicable legislative and statutory requirements;
- be a responsible and good local neighbour.

## SYSTEMS

Partnerships are the core driver of our work with the communities.

A resource based multi location company like ours navigates through a complex and evolving set of social and stakeholder challenges. Our unique stakeholder combination and our ability to work collaboratively with them have been instrumental for our license to operate and long-term success.

We have a three-tier approach to our community investment – local, regional and state level, for meeting both the macro and micro needs and identified gaps. The Public Private People Partnership (4P) model helps us enhance relationships and networks and converge ideas through collaborations for sustainability (S01).



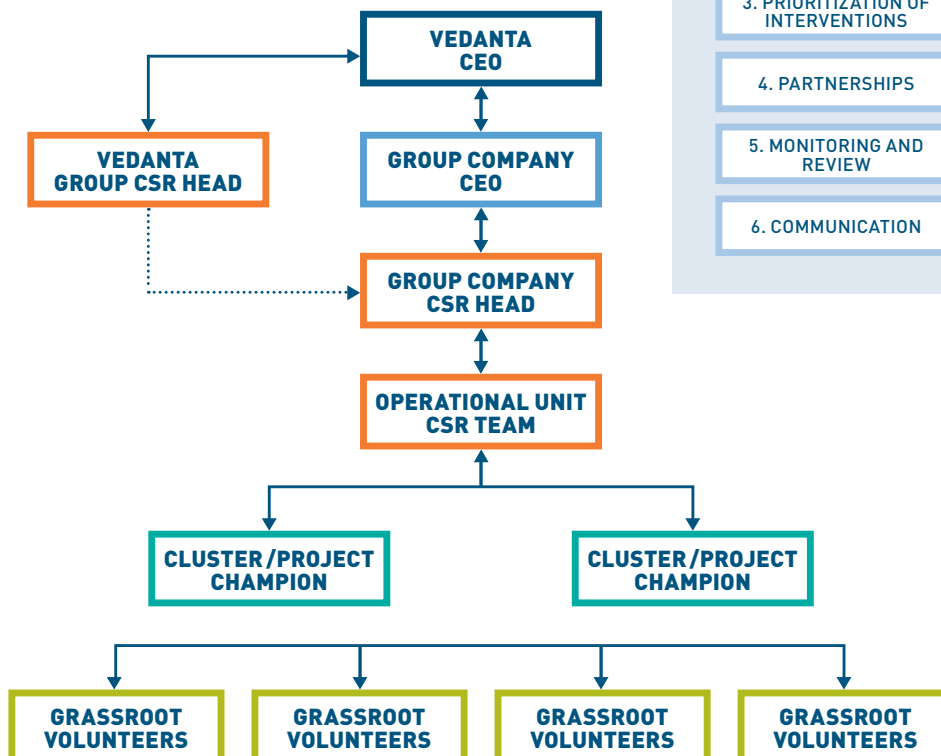
#### OUR COMMUNITY MODEL

Our key focus areas are:

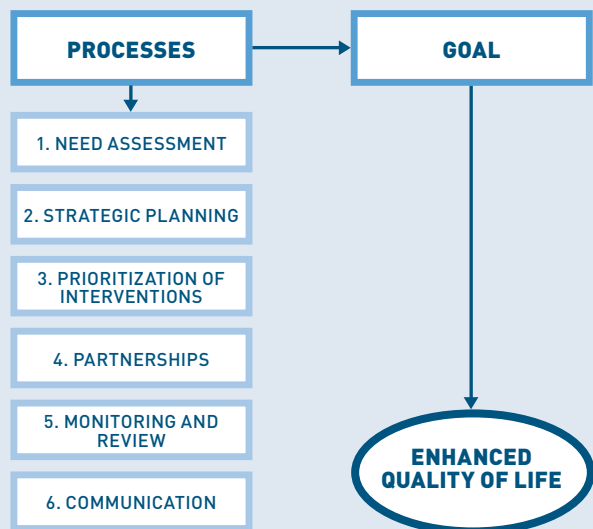
- social Investment – education, health and livelihood;
- bio Investment – agriculture, water harvesting and social forestry.

We have 93 full time employees and 1,031 Cluster Champions and Volunteers

#### STRUCTURE OF OUR CSR DEPARTMENT



#### PROCESS MODEL







Our approach to community development is holistic, robust, integrated, intensive, long-term and sustainable. Our stakeholder engagement process, coupled with base line study and need assessment helps us develop and shape our programmes for a three- to five-year

period for select villages. A village-wise matrix plots annual performance indicators against set targets. The other villages are covered under our Good Neighbourhood Programme and eventually in a phased manner aligned to the Integrated Village Development Program.





# INTEGRATED VILLAGE DEVELOPMENT



# OUR COMMUNITIES

**‘The pro-activeness and commitment of Hindustan Zinc towards social responsibility is remarkable. Definitely the economic and social contribution at district and state level has helped scale new heights in public private partnership domain.’**

Dr P L Agarwal (I.A.S), District Collector, Chittorgarh



## PERFORMANCE

The scope of our work during the reporting period embraced 383 villages, in 12 districts of India and Zambia positively impacting 2.5 million people. Our CSR programme were maintained with an investment of \$20 million. The table opposite highlights the outcome and impact of our interventions.

### PERFORMANCE AT UNIT LEVEL – FROM EXTENSIVE TO INTENSIVE

Our approach to communities and their development is holistic, robust, and integrated taking into account the remoteness of many of our locations. The communities around our plants are one of the significant stakeholders. It is customised according to the business

cycle – commencing with rehabilitation and resettlement in green field projects and graduating to a more focused and encompassing approach in brown field projects.

Our approach is two pronged. It involves an Intensive intervention through our Integrated Village Development Programme and an Extensive one through our good neighbourhood programme. All villages under the Integrated Village Development Programme are identified through an indicator driven process. Ongoing internal reviews and the performance of social audits every two or three years facilitates transferring autonomy to the villages and expanding our reach.





Focus Area	Intervention	Actual FY 2008	Actual FY 2007
<b>PARTNERSHIP</b>	Participating NGOs in our partnerships	72	48
<b>VILLAGES</b>	Total villages involved	383	150
	Villages within the Integrated Village Development	70	15
	Youth participating in vocational training	11,533	10,000
<b>SUSTAINABLE LIVELIHOOD, CAPACITY BUILDING AND EMPOWERMENT</b>	Training hours generated (million)	2.0	0.50
	Women Self Help Groups	781	550
	Cumulative Fund Base (INR million)	17.41	12.05
	Total Women Membership	10,055	7600
<b>HEALTH AND SANITATION</b>	Cataract Operations	2093	510
	Family Planning Adopted (No of families)	3,134	1,200
	Health Outreach Project (million)	1.5	1.0
	School midday meal provision	200,000	150,000
	Students in 16 company run schools and colleges	15,725	7,500
	Overall Pass %	80%	75%
<b>EDUCATION</b>	Child Care Centres (CWC)	93	53
	% children brought to normal nutrition grade* in CWC	56%	45%
	ICDS centres	900	nil
	Children covered under ICDS centres	24,350	-
	Scholarships	374	350
	Youth enrolled in computer education	55,000	-
	Farmers trained in agricultural practices	1,650	1,300
<b>FARM PROJECT</b>	Land covered under micro irrigation, water and soil management (acres)	3,120	1,100
	Coverage of cattle and domestic livestock under veterinary management	65,540	40,000
<b>TEAM</b>	Community extension team	1,031	1,026

\* Based on WHO Growth Monitoring Index (Weight by Age)



# OUR COMMUNITIES

**'It has been a unique experience working with a corporate entity which understands and matches the social commitment in thought, word and deed. The pace of social progress is quite commendable.'**

Ashutosh Singh, Regional Coordinator,  
Rajasthan & Gujarat, Aide et Action

## INTEGRATED VILLAGE DEVELOPMENT PROGRAMME

Partnerships with community, the wider civil society and government have helped us shape our "Integrated Village Development Programme". This programme serves as a benchmark to address the real needs and craft sustainable programmes for long term inclusive growth of the communities where we operate. The module is intensive, long term and sustainable. This process involves cross functional working and drawing on internal resources from within the company.

Based on a base line and need assessment, a three to five year perspective has been plotted for 70 villages across the Group. This plan aims to secure long term sustainability of village institutions. A village-wise matrix plots annual performance indicators against a target oriented implementation plan. The remaining 313 villages are covered by our good neighbourhood programme which applies the same village development principles. The plan is to eventually cover these villages under the Integrated Village Development Program (Intensive) in a phased manner. For next year we have plans to expand the programme to 50 of the 313 extensive villages.

## IMPACTING THE GRASSROOTS – AN ILLUSTRATION

We worked with the local communities of the Niyamgiri Vedanta Nagar to ensure sustainability and ownership of the projects, processes and outcomes.

The township featured amenities including housing, power, water connection, primary school, community centre, market complex, medical centre, preschool centre, road, and temple. Of 108 displaced families, 34 families opted for cash in lieu of employment, and of the balance 74 families, one member from each family was trained and is engaged with the Company. Going beyond, we strategically engaged with local farmers and women building their skills under need based vocations.

Taking a step further, the base line and need assessment studies helped us to plan for the long term. The strategy was to go beyond Niyamgiri Vedanta Nagar and expand our work to periphery villages in and around Lanjigarh. A three-five year perspective evolved as the Integrated Village Development Programme and will encompass 70 villages in a phased manner. We focused intensively on 18 villages while the remaining 56 were covered under neighbourhood extension programme.

The major investment areas included livelihood and social capital. Creating livelihood opportunities in both farm and non-farm sector made us work simultaneously with 600 farmers across 650 acres of land to improve yield optimization and encourage multi-cropping pattern. We also encouraged 30 women SHGs to develop local entrepreneurial skills along with marketing abilities. Secondly, the social capital reflected hope for us to identify

and customize our programmes for education, health and nutrition and women empowerment to the needs of the local community keeping in mind the traditional practices. We demonstrated the best practices which were gradually accepted and facilitated positive behaviours in the domain of health, nutrition, preschool and primary education.

An impact study by Asian Institute for Sustainable Development in collaboration with Xavier Institute of Social Services, Ranchi in 2008 acknowledged several milestones over a period of time in 18 villages.

Among the targeted families, average monthly income rose by INR 2,500, while area under irrigation increased by 35% through water harvesting and water stream channelization. Commercial vegetable cultivation became a household practice. Child immunization increased to 71% and nutrition level of under five children improved to 69% under the child care centres project. Resource mobilization also helped improvement in rural infrastructure on the public private partnership model particularly in drainage system, primary education facilities and link road across the 18 villages. The micro enterprise project ensured additional monthly income of INR 1,000 for SHG members.

The programme has been reaching out to 59 villages in Rajasthan demonstrating strong institutional systems and outcome. Village



Development committees form the fulcrum around which the entire development process is rolled out. Godwa village in Rajasthan delineates the development of the community in partnership with HZL. Initially it lacked basic amenities like electricity, primary school and road. The first challenge was to mobilize people to come together to address the challenge. The work then expanded to form village institutions to take the process forward. This included the formation of four SHGs with 52 members and a cumulative fund of INR 60,000, the delivery of vocational training for rural youths by SANKALP, the development of ten organic farming demonstration sites, the provision of fruit plantations in six acres through 24 farmers collectively, the construction of three kilometers road connecting the village to the local market hub, the construction of a child welfare centre for 40 pre-school children and the establishment of a primary school. "The most important was ensuring access to services rather than being a service provider and we were motivated to be self sustainable from the beginning," remarked the SHG group leader.

'Roads and electricity provision are basic amenities which we simply didn't have. HZL's initiative and village collectiveness was the key to our transformation. It has taken us three-four years to evolve as an empowered village unit. The electricity connectivity for 94 of our households was ensured through the involvement of each

household including voluntary contribution for the same. We are now set for a significant enhancement in the quality of our life', remarked Ganesh Dangi, village leader Godwa.

The finiteness of the efforts at HZL and VAL were validated by ORG, New Delhi and Xavier Institute of Social Service (XISS) respectively in 2008.

ORG evaluated Godwa village as part of the social audit of 32 villages at HZL. Under the Integrated Village Development Programme at HZL, the Village Development committees have been empowered to carry forward the development affairs of their own accord and maintain sustainability of the development process, which is remarkable effort by the CSR team. The impact of SHG and organic farming initiatives were appreciated. 40% improvement in nutrition level and 100% immunisation level of preschool children through child welfare centre was also established. D Banerjee, Managing Director, ORG.

#### REHABILITATION AND RESETTLEMENT

Our rehabilitation and resettlement philosophy means that we go beyond statutory compliances, through applying our community development model to create long term sustainable socio economic impacts.

We demonstrated this philosophy at VAL in Lanjigarh through the integrated village development approach which encompasses 89 villages in a phased manner. We focused intensively on 18 villages while the remaining 71 were

'VAL has done a commendable job while rehabilitating the displaced people in their well-planned rehabilitation colony. We are happy to note that VAL has also extended its programmes to 89 villages which demonstrate the inclusive growth under the integrated village development programme. We witnessed commercial viability in the farm based initiatives with people willingness to engage in business ventures beyond subsistence.'

Dr Himadri Sinha,  
Professor, XISS

covered. The township today has access to all basic facilities and livelihood options, along with collective responsiveness for sustainability.

Similarly, at Vedanta Alumina Jharsuguda project, 145 families were rehabilitated. Today, the township is known as Maa Kamleshwari Nagar.

Prior to the conduct of the project an independent assessment and socio-economic survey was conducted by Xavier Institute of Management, Bhubneshwar.

The township, was set up with an investment of approx \$ 2.9 million with



## OUR COMMUNITIES

**‘Besides business, HZL has also integrated social goals in a very professional manner. Be it the plant or the nearby village, the focus is maintained.’**

ML Mehta, Former Chief Secretary & CEO, Rajasthan Mission on Livelihoods, Government of Rajasthan



individual houses for 145 families. The project delivered amenities such as housing, sanitation, an elementary school, livelihood based capacity building and promotion of micro enterprise in both the farm and non farm sector. In collaboration with ACCESS (a national NGO) and local administration, a customized module for local skill development has been designed.

We have made provision for direct and indirect employment in our business enterprise through training and development programmes for one member of the eligible families. All our rehabilitation and resettlement activities were conducted in consultation with local stakeholders. It also facilitated the process of dialogue and mutual understanding to arrive at a win-win situation.

Our ongoing project activity is regularly monitored by stakeholders including local government.

### NEIGHBOURHOOD PROGRAMME EDUCATION PROJECTS

Our companies manage 16 schools that cater to 15,725 children. The overall pass percentage was 80%. All the schools are affiliated to government recognised boards. They deliver classes up to higher secondary levels.

8,580 children in the age group of 3-6 years study in the 93 child care centres run in partnership with the Sterlite Foundation.

Six mid-day meal kitchens were operational this year in Rajasthan ensuring that the children received at

least one substantial meal daily. In conjunction with the government there are plans to extend the programme for children up to class eight. This means that the kitchens will serve more than 200,000 children in three districts in next academic session. In the second phase of the project, we have plans to extend the project to Orissa and Chattishgarh and expand it at Rajasthan.

Sterlite's Copper business and MALCO operate 27 evening study centres that ensure continuity in education for over 1,600 local children

BALCO, HZL and MALCO operate 65 adult literacy centres involving 944 local women. The module includes completion of three levels of study. 70% of the women have reached the third stage this year, and the remaining 30% have now been declared literate.

We have promoted a variety of sporting activities at national and local level. These include our involvement in the National Level KCM Premier Football League in Zambia, the Kumar Mangalam Memorial Football Tournament at Zawar Mines in Rajasthan and the Indian/Pakistan veteran's cricket match at Udaipur. Our companies also participate in the sponsorship of international athletes. One of these, the power lifter Mala Sukhwal, (sponsored by HZL) won four gold and one silver medals at the recent Commonwealth Games at New Zealand. Our aim is to promote talent from these rural areas and provide platforms to excel.



We have supported 374 students with scholarships for academic excellence in upper primary, secondary and senior secondary level education.

#### HEALTH PROJECTS (LA8)

Our health projects reached 1.5 million people during the reporting period.

Our mobile health camps motivated more than one million people to bring about a positive change in their behaviour (covering a variety of issues including child immunisation and HIV/AIDS). We participated in a door to door campaign in Zambia to build public awareness of orphans and vulnerable children who are susceptible to HIV and other infections. At BALCO, we have partnered with CARE India, District AIDS Control Society, SROUT (an NGO), the Truckers Association, and the employee union leaders on an advocacy and awareness programme on HIV/AIDS. On world AIDS day, at BALCO we sent out a text message using mobile phone technology to over 450,000 subscribers of Chattisgarh State to generate awareness on HIV/AIDS.

Specialised initiatives accompanied by clinical support at village level have resulted in diagnosis and referral of more than 50 DOTS and RTI cases to city hospitals for higher clinical management.

3,100 family members were motivated to adopt permanent family planning methods. 2,093 cataract surgeries were also undertaken.

Our group of companies operate eight hospitals. They extend their services to more than half a million people, including employees and their families and provided basic health care, diagnostic and treatment services.

Project Swawalambi Gram is an integrated development project to harness non-conventional sources of energy (Bio-Gas). This year at BALCO we constructed 90 Bio-Gas plants in partnership with Chattisgarh Renewable Energy Development Authority (CREDA) and 90 families. The energy generated from the project is used as fuel for cooking and as a source of electricity too. The use of

cattle bio waste as raw material for the plant, has contributed substantially towards keeping villages sanitised.

#### SUSTAINABLE LIVELIHOODS Farm and Allied Sector

We empower local farmers to avail local government schemes for water storage, irrigation, soil management and organic farming. 1,650 farmers have achieved enhanced yields across 3,200 acres of land. 1,450 families took up allied farm based projects such as the keeping of goats, poultry, pisciculture, mini dairy and promoting livestock health insurance covering more than 65,540 livestock. Krishi Vigyan Kendra and the Asian Institute for Sustainable Development have been our partners across these initiatives. An overall farm yield productivity growth of 49% was secured in comparison to previous year. Going forward we have tied up with NABARD under their 'Wadi Project' to provide sustainable livelihood opportunities to 1,000 tribal families of Lanjigarh.

At the Neer Dhara project supported by BALCO, we initiated water storage



# OUR COMMUNITIES

**‘Through BALCO’s Mamta project in 100 Anganwadi centres, we have seen a perceptible change in the health of the women and children.’**

Mr Ashok Agarwal (I.A.S.), District Collector, Korba



development, targeting 1,000 hectares, 450 families and four villages. This was performed in partnership with NABARD and local networks that provided technical assistance to impact agricultural productivity. This year, 100 hectares recorded a 20% increase in yield.

## Non-Farm Sector

We have supported more than 781 women Self-Help Groups (SHG) with 10,500 members that have a cumulative fund base of INR 17.4 million. These projects helped us gain insights from the experiences of our civil society partners, our employees and volunteers. Dhanalaxmi a SHG member at Tuticorin is the recipient of the CII Women Exemplar Award 2008.

KCM invested training, infrastructure support and material assistance into a 53 member women’s cooperative project that was designed to cater to one of the most vulnerable sections of local society, widows. The original six month pilot project covered three modules – tailoring, design, and business management. The next phase involved education on business management. These trainings were jointly delivered by KCM and Don Bosco Youth Training centre at Chingola. The cooperative eventually won the contract for supplying KCM with overalls and dustcoats. The new business is now diversifying and aims to design, produce and market traditional garments and school uniforms locally.

Our companies have been involved in capacity building. They have supported around 11,000 young people in enhancing their employability skills

with the aim of enabling them to fill employment opportunities such as sales and marketing, IT, service and jobs within the manufacturing sector. We have worked to mobilise financial support from local institutions and this has created 2,500 business entrepreneurs who are themselves creating new jobs.

At Lanjigarh in Orissa, 100 entrepreneurs have been trained and developed in the ancillary business sector. Together they are engaged in civil construction jobs and transportation related supply chain to VAL and other nearby industrial units.

## RURAL INFRASTRUCTURE

Rural infrastructure continues to drive the development agenda in the villages in the local communities where we are based. Infrastructure connects people and brings prosperity through access to markets and information. We partner with the District Rural Development Agency under various government schemes (EC8).

An example is Basantpara village in Orissa which has recently experienced electrification for the first time. The same project will bring electric lighting to 13 villages near Lanjigarh for the first time. In Meena Ka Jhopra and Godwa village in Rajasthan, the village leaders collaborated with the local bureaucracy and HZL and now have electricity for the first time.

Resource sharing between local authorities, BALCO and HZL has resulted in the construction of sixteen kilometres of local roads near the Mainpet Mines and over 40 km of local

roads at Kawardha in Chattisgarh and the construction of Singatwara bridge connecting Zawar to Oda in Udaipur reducing the travel distance by 26 km.

## EXTERNAL SOCIAL ASSESSMENT

Internal and external assessments have been a key element of our learning and forward looking process.

ORG, a research agency based in New Delhi recently audited 32 of 59 villages under the Integrated Village Development Programme of HZL. The report highlighted:

- 72% growth in basic services like safe drinking water, improved sanitary conditions, nutrition of children through mid-day meal, enrollment of pre-nursery children in child welfare centers and self employment activities for rural youth and women.
- remarkable improvement in the income levels in 72% of the families after undergoing vocational training in various trades to INR 8,000 per month.
- empowered self help groups now exist in the model villages and cumulative fund base rise to INR 500,000 assisting setting up of micro enterprise.

A Socio Economic Impact Evaluation of 89 villages was conducted at VAL, Lanjigarh by XISS, a leading institute in the area of social sciences and rural development, based at Ranchi. The report highlighted:

- school drop out have fallen from 70 to 20%.
- child mortality has dropped to 16% from 40%.
- nearly 2,400 people were benefited directly or indirectly through



- commercial vegetable farming.
- the entire Lanjigarh Block benefited by health and sanitation infrastructure created by VAL.
- road connectivity has improved with several villages and main roads electrified.

#### PERFORMANCE AT REGIONAL LEVEL BAL CHETNA PROJECT

The Integrated Child Development Scheme (ICDS) is a centrally sponsored scheme of the Government of India. It aims to provide services to pre-school children in an integrated manner so as to ensure proper growth and the development of children in rural, tribal and slum areas.

We are working to develop around 900 ICDS centres located in seven districts of Chattisgarh, Rajasthan and Orissa. They are being enhanced in collaboration with the department of Women and Child Development (WCD) applying our Public Private People Partnership Model (4P). The Sterlite Foundation is our strategic and technical partner for 800 centres in Orissa and Rajasthan. The module's key focus is retention of children at the centres, by making learning fun through the play-way method, health facilities, and the cognitive development of the children.

The projects are managed by a Project Head with a team of Chief Co-ordinators that are responsible for each district. 104 project staff work with our subsidiary company CSR teams. More than 2,200 child care workers, helpers and a further 400 Ancillary Health Workers (ASHA) have been trained under this project.

Our companies have also worked to ensure that regular supplies of supplementary nutrition and toys have been made available at the centres. Local government officials regularly monitor these centres through a district project monitoring committee under the chair of the respective district collector on a monthly basis.

Going forward we have plans to enhance 10,000 similar centres under this project in a phased manner.

#### COMPUTER EDUCATION

HZL's Computer Education Project reaches to 40,000 children and youth, through the involvement of 200 schools and 50 village literacy centres in four districts of Rajasthan. 1,000 computers, accessories, furniture, fixtures and fittings along with five year maintenance services are part of the project package.

The project has two aims: firstly educating young people on basic computer techniques and secondly to eradicate illiteracy amongst adults in the centres through our computer based literacy module.

In Zambia, KCM has focused on improving the capacity of teachers to promote computer education amongst children and young people applying seminars and courses. 15,000 school children from 19 high schools are covered under the programme. 300 computers and other accessories have been provided.

Sterlite Foundation are our strategic partners in Rajasthan and Zambia.

They have developed the module for the programme along with imparting 10 days intensive training to the teachers and master instructors. 450 master instructors have been developed in Rajasthan and 38 instructors in Zambia under the programme.

#### BUSINESS IN A BAG

Hundreds of millions of the world's poor lack access to eyeglasses, a basic, low-cost health product that allows people to work and support their families. In partnership with Scojo Foundation, the initiative addresses this issue (presbyopia or up-close vision), an age related ailment which results in diminished near sightedness. The project trains and equips couples as Vision Entrepreneurs (VE) to, conduct eye care marketing and awareness-generating campaigns, host one-day 'vision campaigns' in under served villages, sell a selection of affordable, high-quality, stylish, Vision Spring-branded eyeglasses, and refer those in need of advanced eye care to partner clinics. The VE's receive three days training in basic eye care and business management and receive close, ongoing support from staff, followed by periodic refresher courses.

The 60 VE couples at HZL, BALCO, MALCO, VAL and Sterlite's Copper business sell low cost reading glasses doubling productivity and enhancing the quality of life of those suffering from presbyopia. The project has also given a sustainable livelihood option to these couples. The project has sold over 4,000 spectacles with an income of INR 2,500 per month per household.

Scojo Foundation (renamed as Vision



# OUR COMMUNITIES

**'VAL through its CSR department is doing lots of developmental work in partnership with government at Lanjigarh like family planning camps, safe drinking water through tube-wells, child care centres and sports and cultural events. In addition every village is connected to the main road through concrete roads. They are also going to provide electricity to 18 villages which will be a milestone in this area.'**

Saraswati Munda, Sarapanch Lanjigarh

Spring) is an international development agency which pioneered the presbyopia correction based business model by enabling local people to sell powerful, affordable product in their communities. The 'Vision Entrepreneur' receives his or her own Business in a Bag, a sales kit containing all the products and materials needed to market and sell eyeglasses.

## **PERFORMANCE AT STATE LEVEL VEDANTA CANCER HOSPITAL AND RESEARCH CENTRE, RAIPUR**

The Vedanta Cancer Hospital and Research Centre is first of its kind in central India. At a cost of \$76 million the project is a collaborative venture between the Government of Chattisgarh and BALCO. Currently in the first phase of development, the 100 bed centre will be equipped with advanced technology for prevention, treatment and management of cancer.

The foundation stone was laid on 8th August 2007. The hospital will be fully functional by late 2009. The Vedanta Cancer Hospital & Research Centre will bring healthcare, particularly cancer care, of international standards to the people of Chattisgarh and the surrounding area. The hospital will also incorporate a cancer research centre and an academic institution to provide world leading training to oncologists, technicians and related health care professionals.

Plans also include the introduction of two primary healthcare centres in the districts of Chattisgarh with mobile vans visiting the villages of Korba and Kawardha. They will be equipped to

enable diagnosis of the disease and develop awareness and education within local populations about cancer. Planned secondary health centres, will enable cancer screening and detection. Tertiary care, including comprehensive diagnosis, consultation services, and preventive checks and counselling, will be provided at the hospital and research institute.

Supporting cardiac care and neuro sciences, the Group has plans to develop the existing Cardiology Centre at Udaipur into a heart hospital, with state of the art equipment and medical experts providing heart care services and management. We will also be setting up state of the art health clinics in technical collaboration with Apollo Hospital at Lanjigarh and Jharsuguda.

## **THE STERLITE MATRIMANGAL POST GRADUATE GIRLS COLLEGE**

The Sterlite Matrimangal Post Graduate Girls College at Ringus in Rajasthan imparts educational, vocational and professional opportunities for rural girls pursuing higher studies. The institution had an enrolment of over 850 girls in the three disciplines of Arts, Commerce and Science last academic year, of whom 48% were from the rural areas of Rajasthan. On graduation most of these girls obtain skilled jobs as academicians or administrators. Going forward we have plans to introduce some more job oriented professional courses under the guidance of an educational consultant.

## **CHITTORGARH FORT – LIGHT AND SOUND SHOW**

Chittorgarh Fort is one of India's prime

tourist destinations. In collaboration with the Department of Tourism, HZL sponsors a light and sound show. This show depicts the history of the fort in a creative and innovative manner.

## **THE SESA FOOTBALL ACADEMY AND NICOLA CORVO MEMORIAL SESA TECHNICAL SCHOOL**

Both these organisations are located in reclaimed mine areas.

The Sesa Football Academy is residential and accommodates 30 students for a period of four years. The curriculum includes formal schooling within local schools and intensive sports and physical education training at the academy. Pupils receive specialist football coaching. Graduating from the academy requires both academic and football excellence.

The Nicola Corvo Memorial Sesa Technical School offers fitter, mechanical, instrument mechanic and multi-skilled electrician courses. 56 students are enrolled every year, based on merit, and receive a scholarship instituted by Sesa Goa. On graduating, the students usually obtain employment within the local manufacturing industry.



## PARTNER ORGANISATIONS AND NETWORKS

Our partnerships bring a fresh perspective to our projects and keep us abreast of innovations in the CSR arena. Enumerated below are some of our partnerships

- Aide et Action, Rajasthan
- Asian Institute for Sustainable Development, Ranchi
- Care India
- CII
- Department of Animal Husbandry
- Department of Education
- Department of Health and Family Welfare
- District Administration
- District AIDS Control Cell
- District Blindness Control Society
- District Industries Centre
- District Rural Development Authority
- Helpage India
- Krishi Vigyan Kendra
- NABARD
- Naandi Foundation, Hyderabad
- National Population Stabilisation Fund (Government of India)
- SANKALP, Udaipur
- Society for Self-less Social Service, Bissamcuttack
- SROUT-Chattisgarh
- Sterlite Foundation
- SCOJO Foundation
- UNGC
- USAID
- Women and Child Development Department

## UN GLOBAL COMPACT

In the reporting period BALCO, HZL and MALCO reiterated their commitment to the UNGC principles. Active participation has helped us share our best practices and leverage the innovation of others.





# ENSURING BETTER HEALTH FACILITIES



'I thank BALCO for adopting our centre under project Mamta. The uniform distributed by BALCO has helped immensely in improving the attendance of the children and reduce absenteeism' quotes Punni Bai, Anganwadi worker at Songuda.

Punni Bai further iterates, 'BALCO intervened in 100 Anganwadi centres of Korba district with the objective of ensuring better health facilities for expecting and lactating mothers and malnourished children. The other significant part of the intervention is promoting pre-school education for the 3-5 year olds. The lack of awareness among the community towards mother and child care lead to under utilisation of benefits available at Anganwadi centres through the ICDS programme.

This main objective was to make a robust and responsive system which can leverage the benefits of the Anganwadi centres in remote villages. Meetings, door to door visits, and capacity building meetings of Anganwadi workers were conducted to revitalise the system. To generate community demand for better services from Anganwadi centres, the platform of Gram Sabha was used to bridge the gap in demand and supply. The Gram Sabha was mobilized to play the role of catalysts ensuring sustainability of the project.

'As a result of the meetings and door to door visits conducted by BALCO, I now

see Didi coming weekly for the health check up' comments Mohan Lal, Kotwar of Songuda.

He further commented, the project identified and isolated the influencing agents from among the villages who could play an influencing and pivotal role in the village set up. At the village level the Sarpanch, village leaders and adolescent girls were targeted. At the family level mother in laws, husbands and daughter in laws were counselled. The overall objective was to engage the community members to create an inclusive environment at the village level towards mother and child care.'

'The project a public private initiative which is the first of its kind in Chattisgarh between the State Government, SROUT, a local NGO and BALCO has been very successful. The project impact has been significant with IMR and MMR reduction from 85 to 42 and 115 to 60 per 1,000 respectively and fall in extreme malnutrition cases by 15%. Institutional delivery increased from 18% - 35%. Attendance of children in Anganwadi centres increased from 45% - 97%. I witness a change in the Anganwadi Centre. I did not know that this centre could be so beneficial to pregnant and lactating mothers. The construction of the kitchen shed has given an immense respite to the children. Now they breathe in clean air' commented Jharuram Chauhan, Panch of Ajar Bhaar village.



## OUR COMMUNITIES

**‘Through introduction of bio-gas plants in Mainpat Mining site, our women folk no longer go out in search of fire wood in forests and this is a great relief to them.’**

Ram Narayan, Secretary Panchayat,  
Village Kudaridi

## CASE STUDIES



### NOTHING SUCCEEDS LIKE SUCCESS

‘My name is Lalita. I always had many dreams and ambitions. My mother educated my sister and me, until the 10th standard and then got us married. I wanted to study further but my husband was against it. Finally he divorced me and I ended up back at home. When I heard about the vocational course through the HZL cluster coordinator I was initially apprehensive. But then I thought, maybe this was the opportunity I was always waiting for. With great difficulty I sought my mother’s permission to attend class. I chose the hospitality trade along with learning about computers. My confidence gradually enhanced through personality development classes. After the successful completion of the course I was selected by the HR Department of Rajputana Resort through an interview and I now earn INR 4,000 per month. It gives me great pride to be able to support my family. My mother is proud of me and happy that I defied her to join the training.’

### KCM – COMMUNITY MEDICINE

KCM enhances the quality of its services by providing a comprehensive health service which is more accessible and has brought it closer to its employees and their families. The KCM health services introduced ‘door to door’ family health checks which commenced in December 2007.

The service aims to provide basic health information and counselling in addition to health checks, conducted in the privacy and comfort of each employee’s home. Information about the project was disseminated through notice board messages, brochures, intranet notices, meetings with union representatives and the Human Resources department. A meeting was held with community leaders who represented the respective Resident Development Committees (RDCs) through the Chingola city council office and permission to carry out the exercise was granted by the Chingola District Health Management team (DHMT). Training was provided to the

team of eight nurses and four community volunteers.

Home visit activities include general health assessment, health education on HIV and AIDS, hypertension, cervical cancer, breast cancer, prostate cancer and other common diseases. Each household is provided with an Insecticide Treated Net (ITN) to facilitate malaria protection

- comprehensive health checks were provided to 1,019 households from January to March 2008. 4,267 adults and children were seen during these home visits.
- 3,013 miners and their dependants were provided with HIV counselling and testing in the comfort of their living rooms.
- the improved awareness levels made employees and their families more conscious about their health which in turn has led to reduced medical expenditure.



#### KCM'S INTEGRATED APPROACH TO HIV/AIDS

One of our strategies in meeting the HIV/AIDS challenge was to establish partnerships within the community and other stakeholders.

Partnerships within the community have been made through applying home based care and support groups to encourage community acceptability of the programme.

Other partnerships include a USAID supported programme called the Global Development Alliance (GDA) that seeks to promote HIV programmes within the mining and the agricultural sector. The programme is coordinated through the Comprehensive HIV/AIDS Management Programme (CHAMP) that provides technical support in implementing programme activities. Grant support for the programme was \$215,109.

Achievements through this partnership have included improved monitoring and evaluation of programme activities, training in areas that include psychosocial counselling, palliative care and prevention of mother to child transmission (PMTCT). It has resulted in an increased uptake of individuals accessing counselling and testing services, HIV treatment care and support.

The Zambia National AIDS Network (ZNAN) is another partner supporting our HIV/AIDS programmes. It provides support in the area of clinical and diagnostic services through the provision of antiretroviral drugs, laboratory equipment and consumables, training in antiretroviral management and in the provision of nutritional supplements. The impact of this partnership has been the improved health, longer life and wellbeing of clients accessing this treatment for free. More employees and members of the community are now accessing this service. The programme received a grant support of approximately \$750,000

#### DHANALAXMI – THE CII WOMAN EXEMPLAR FOR 2008

My name is Mrs S Dhanalakshmi. I am 27 years old, a mother of two and hail from Tuticorin. I was the eldest of three children in my family. Due to the low income of my parents and also because of my poor health, I discontinued my education at a very early age. Post my marriage my husband was earning just enough to sustain us and I found it hard to run our household and provide for my two children.

I started my own business of cultivating mushrooms with very little knowledge and lot of family opposition. Poor yields

rendered my venture unsuccessful. It was at this time that I heard of the Sterlite's SHGs. In 2003 I got trained in mushroom cultivation, restarted my business and simultaneously started training other women interested in cultivating mushrooms. A loan assistance of INR 25,000 from the Mahalir Thittam, a Women's Development Cooperative helped me scale my business. Each member of my Group now earns INR 2,000 per month from the sales proceeds. Post my recognition by CII for the Woman Exemplar award for 2008 my Group is very encouraged. We have plans to establish a mushroom centre in our village going forward.

'Most of our SHGs have shown growth rate of more than 500%. For me, this is real achievement as the women understand the concept of social enterprise better than their counterparts.'

Kishan Jat, Cluster Champion of Puttholi in Rajasthan



# AWARDS



## HR

- Golden Peacock National Training Award 2007 for Best Training Practices
- CII HR Excellence Award 2007 Commendation Level for strong commitment to HR Practices to Sterlite's Copper business
- Indian National Suggestion Scheme Association (INSSAN) 2007 for Unique Employee Involvement and Best Suggestions Award to Sterlite's Copper business



## HEALTH, SAFETY AND ENVIRONMENT

- Golden Peacock Environment Management Award 2007 to MALCO
- Asian Mining Environmental Sustainability Award 2008 by Asia Mining Congress, Singapore for Sustainable Asia Mining Project of the Year to Sesa Goa
- Safety Gold Award 2007 from Royal Society for Prevention of Accidents, London to HZL, Debari, HZL
- Best Asian Power Plant and Best Emission Reduction Power Plant Awards 2007 to HZL, Chanderiya CPP by Asian Power Charlton Media Group of Singapore
- Water Efficient Unit Award & Innovative Case Study Award 2007 from CII Godrej GBC, Hyderabad to HZL, Chanderiya CPP
- Safety innovation Award 2007 from Institute of Engineers to HZL, Chanderiya and Debari
- Greentech Environment Excellence Award 2007 to MALCO



## COMMUNITIES

- Golden Peacock CSR Award 2008 to HZL
- Pegasus CSR Award 2007 to HZL
- FIMI Social Awareness Award 2007 to HZL
- State Population Stabilization Award 2007 to HZL, Chanderiya



## OTHER

- 9th Annual Process Excellence Award 2008 from International Quality and Productivity Centre, UK to HZL
- ICWAI National Award for Excellence in Cost Management 2007 to HZL
- National Award for Excellence in Cost Management by – ICWAI (Institute of Cost & Works Accountants of India) to MALCO

- Sterlite's Copper business has also bagged Creative Workplace by INSAAN – 2007
- IMC RBNQA Certificate of Merit 2007 to Sterlite's Copper business
- Dunn & Bradstreet – American Express Corporate Award 2007 for Top Indian Company in the Non-Ferrous Metals Sector to HZL
- Golden Peacock award for Excellence in Corporate Governance-2007 to HZL
- CII HR Excellence Award Chattisgarh Chapter to BALCO
- Golden Peacock Occupational Health and Safety Award 2007 to HZL, Chanderiya
- Leadership and Excellence award 2007 in Environment, Health and Safety to HZL, Vizag from CII (Southern region)
- Golden Peacock Environment Management Award 2007 to BALCO
- National Safety Award – Ministry of Labour and Employment, Government of India to BALCO
- Greentech Safety Excellence Gold Award 2008 to BALCO
- Mines Safety award for Mainpat and Kawardha Mines, BALCO from Director General of Mines Safety, Bilaspur region
- Greentech Environment Management Award to BALCO
- Tasmanian Tidy Towns Environmental Innovation Award 2008 to CMT
- Excellence in Worker's Welfare and Environmental Management Award 2006-07 from FAPCCI to HZL, Vizag
- Leadership and Excellence award 2007 in Environment, Health and Safety from Greentech Foundation to Sterlite's Copper business
- CII National Award for Excellence in Energy and Water Management 2007 to Sterlite's Copper business
- State Bhamashah Award 2007 to HZL, Chanderiya and Debari
- Certificate of Excellence from District Administration, Udaipur 2007, Chittorgarh & Bhilwara 2008
- CII ITC Sustainability Commendation Certificate 2007 to Sterlite's Copper business
- CII Women Exemplar Award Winner -2008 to Dhanalaxmi – SHG member and women entrepreneur promoted by Sterlite's Copper business



# POLICIES

## HEALTH, SAFETY AND ENVIRONMENT POLICY

At Vedanta Resources plc, we believe in sustainable development and are committed to effective management of health, safety, environment and community development as an integral part of our business. Accordingly, we will strive to:

Develop, implement and maintain Health, Safety and Environment ('HSE') management systems aligned with our commitments and beliefs and consistent with world-class standards.

Comply with applicable HSE regulations in all our activities, thereby providing a safe and healthy work environment.

Seek continual improvements through setting and reviewing targets, assessing and reporting HSE performance, using appropriate best available practices and providing all employees with HSE training.

Implement regular health surveillance and risk-based monitoring of employees.

Conserve natural resources, raw materials, water and energy by process improvements, recycling and reducing waste including waste utilisation.

Work with communities to contribute to their development.

Encourage contractors and suppliers to adopt principles and practices adopted by us.

Communicate with all our stakeholders on the progress and performance of HSE management.

**This Health, Safety and Environment Policy was approved by the Board of Directors on 1 June 2005.**

## SOCIAL POLICY

At Vedanta Resources plc, we believe in sustainable development and are committed to raising the quality of life and social well-being of communities where we operate.

Towards this, we will be guided by following:

Our community development initiatives will be prioritised based on local needs. Broad areas of focus will be:

- Social Investment – Health, Education and Livelihood.
- Bio Investment – Water harvesting, agriculture and social forestry.
- Environment conservation.

All operating locations will incorporate CSR activities as an integral part of their business plan and have an appropriate organisation to implement the same.

We will be open to working with like minded associates, Government bodies and other volunteer organisation in pursuit of our mission.

We will measure and report progress as per social accounting systems and encourage third party reviews for effective delivery and measurable impact.

We will regularly communicate with all our stakeholders on the progress and performance on social management.

**KK KAURA**  
**CHIEF EXECUTIVE OFFICER**

24 October 2005

# KPMG'S ASSURANCE OPINION ON SUSTAINABLE DEVELOPMENT REPORT FOR 2007-08

## INTRODUCTION

We have performed an independent limited assurance review of the Sustainable Development ('SD') Report ('the Report') prepared by Vedanta Resources plc ('Vedanta') for the period 1 April 2007 to 31 March 2008 with respect to 'selected social and environmental performance indicators'.

Our work has been undertaken so that we might state to Vedanta those matters we have been engaged to state in this opinion and for no other purpose. Accordingly, this assurance opinion is prepared in accordance with the terms of our engagement. We do not accept or assume responsibility to anyone other than Vedanta for our work, for this opinion, or for the conclusions we have reached.

## RESPONSIBILITIES OF VEDANTA

Vedanta is responsible for the preparation and presentation of the Report and the information and assessments contained within it; for the identification of material SD issues for inclusion in the Report; for determining the Group's objectives in respect of SD performance and for designing, implementing and maintaining appropriate performance management and internal control systems to record, monitor and improve the accuracy, completeness and reliability of SD data from which the reported information is derived.

Vedanta asserts that it has used the GRI G3 guidelines as a framework to prepare the Report.

## RESPONSIBILITY OF KPMG

Our responsibility is to express our conclusions to Vedanta, based on our independent assurance review of 'selected social and environmental performance indicators' in the Report, performed in accordance with the International Standard on Assurance Engagements (ISAE 3000): Assurance engagements other than audits or reviews of historical financial information. This standard requires us to comply with ethical requirements in the planning and performance of our assurance opinion.

We have reviewed 'selected social and environmental performance indicators' from those SD performance indicators reported by Vedanta as per GRI G3 guidelines.

The review has been delivered under Mr Deepankar Sanwalka (Executive Director at KPMG, India) and managed by Mr Rahul Kar (Manager at KPMG Singapore) who has similar experience in the mining and metal sector and Mr Yasir Ahmad (Manager at KPMG, India). A multi-disciplinary team of health, safety and environmental (HSE) and assurance professionals were engaged on this review along with Ms Shireen Naidoo (Director at KPMG South Africa) who provided high level guidance.

## BASIS OF WORK AND LIMITATIONS

The procedures selected by KPMG depend on our judgment, including the assessment of any risks of material misstatement of the subject matter and the purpose of our review. In making these assessments we have considered internal controls relevant to Vedanta's preparation and presentation of information in the Report, in order to design procedures appropriate for gathering sufficient evidence to determine that the 'selected social and environmental performance indicators' are not materially misstated or misleading. Our assessment of relevant internal controls is not, however, for the purpose of expressing a conclusion on the effectiveness of Vedanta's internal controls. Our review did not constitute an audit in terms of generally accepted auditing standards.

We planned and performed our review to obtain information and explanations that we considered necessary to provide sufficient appropriate evidence for our limited assurance expressed below. We believe that our work performed as set out below provides an appropriate basis for our conclusions. However, our review did not form any opinion on the following:

- performance indicators not covered by our work;
- validity of data relating to prior years or trend analysis: and
- subjective text not related to the data reviewed.

The reliability of the SD performance indicators is subject to inherent limitations given their nature and methods for determining, calculating or estimating such data. Therefore, it is important to understand the 'selected social and environmental performance indicators' and related statements in the Report, in the context of these limitations.

## SELECTED 2007-08 SOCIAL AND ENVIRONMENTAL PERFORMANCE INDICATORS

The performance indicators selected by KPMG for the limited assurance review were determined by considering Vedanta's key SD risks, performance areas considered relevant to management and stakeholder decision-making processes, and our experience of the risks and mitigating approaches associated with reporting SD performance. These are collectively referred to as the 'selected social and environmental performance indicators' and comprise the following:

## HEALTH AND SAFETY

- Work related Fatalities
- Lost Time Incident Frequency Rate
- Total Injuries
- Reported cases of Noise Induced Hearing Loss (NIHL)



# KPMG'S ASSURANCE OPINION ON SUSTAINABLE DEVELOPMENT REPORT FOR 2007-08 CONTINUED

## ENVIRONMENT

- Direct Energy Consumption (Fuel used)
- Indirect Energy Consumption (Electricity purchased)
- Total water withdrawal by source (ground and surface water)
- Sulphur Dioxide (SO<sub>2</sub>) emissions
- Fluoride emissions
- Total Carbon Dioxide (CO<sub>2</sub>) emissions
- Total wastewater and solid wastes disposed

## WORK PERFORMED

Our review comprised of:

- obtaining an understanding of the systems used to generate, aggregate and report the selected social and environmental performance indicators at the following four sites and Head Office of Vedanta in Mumbai:
  - Chanderiya complex of Hindustan Zinc Limited in Rajasthan
  - Korba complex of BALCO in Chattisgarh
  - Sesa Goa operations in Goa
  - Tuticorin complex of Sterlite Industries Limited in Tamil Nadu

The four sites selected for sample reviews comprise representative operations for Vedanta in Zinc and Lead, Aluminium, Iron and Copper production sectors;

- conducting interviews with management and representatives during site visits to obtain explanations for 'selected social and environmental performance indicators' data trends, management information system and review processes and understand the consistency of the reporting processes compared with prior years; and
- assessing the reasonableness of assertions made in the Report associated with the 'selected social and environmental performance indicators' in light of our findings.

## CONCLUSION

In our opinion and based on our limited review, we have no reason to believe that the selected social and environmental performance indicators are not fairly stated.

**DEEPANKAR SANWALKA**

**EXECUTIVE DIRECTOR**

KPMG India

1 August 2008

# GRI INDEX

S. No.	GRI Code	Description	Brief Details	Coverage	Core/Additional	Page No.
1	EC1	Direct economic value generated and distributed including revenues operating costs, employee compensation, donations and other community investments, retained earnings and payments to capital providers and governments.	Revenue \$8203.8 million. Operating cost \$5698.2 million. Employee compensation \$344.7 million. Donations \$3.6 million. Tax holidays and similar exemptions \$160.6 million.	Fully covered.	Core	8
2	EC2	Financial implications and other risks and opportunities for the organisation's activities due to climate change.	CDM opportunities explored, two projects registered on UNFCCC.	Partially covered.	Core	21
3	EC3	Coverage of the organisation's defined benefit plan obligations.	Not covered.	Not covered.	Core	–
4	EC4	Significant financial assistance received from government.	\$160.6 million.	Fully covered.	Core	8
5	EC5	Range of ratios of standard entry level wage compared to local minimum wage at significant locations of operation.	During the reporting period, all Company employees earned greater than 2 times the minimum wage stipulated. At least minimum wages was ensured for all contract labour employed.	Fully covered.	Additional	36
6	EC6	Policy, practices and proportion of spending on locally-based suppliers at significant locations of operation.	Not covered.	Not covered.	Core	–
7	EC7	Procedures for local hiring and proportion of senior management hired from the local community at locations of significant operation.	Local residents are given priority in all entry level positions. We believe in developing our leaders from within. Recruitment to senior positions is done only in exceptional cases.	Partly covered.	Core	31 & 32
8	EC8	Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, in-kind or pro bono engagement.	Ongoing.	Partially covered.	Core	50
9	EC9	Understanding and describing significant indirect economic impacts, including the extent of impacts.	Not covered.	Not covered.	Additional	–
10	EN1	Materials used by weight or volume.	Our material input for smelting units includes bauxite, alumina, concentrate of zinc, lead and copper.	Fully covered.	Core	15
11	EN2	Percentage of materials used that are recycled input materials.	None of our processes or operations utilise recycled input materials from external sources.	Fully covered.	Core	15



# GRI INDEX

## CONTINUED

S. No.	GRI Code	Description	Brief Details	Coverage	Core/Additional	Page No.
12	EN3	Direct energy consumption by primary energy source.	Direct energy consumption during the year was 43.10 million GJ.	Fully covered.	Core	15
13	EN4	Indirect energy consumption by primary source.	Indirect energy used during the year was 10.80 million GJ.	Fully covered.	Core	16
14	EN5	Energy saved due to conservation and efficiency improvements.	Energy saved due to various initiatives is measured in terms of reduction in specific energy consumption. Detailed in the report.	Partially covered.	Additional	16
15	EN6	Initiatives to provide energy-efficient or renewable energy based products and services, and reductions in energy requirements as a result of these initiatives.	Various energy conservation projects taken across units are detailed in the report.	Fully covered.	Additional	16
16	EN7	Initiatives to reduce indirect energy consumption and reductions achieved.	Not covered.	Not covered.	Additional	–
17	EN8	Total water withdrawal by source.	Water withdrawal from groundwater, surface water and rainwater has been reported. Majority of the water is from ground.	Fully covered.	Core	17
18	EN9	Water sources significantly affected by withdrawal of water.	Not covered.	Not covered.	Additional	–
19	EN10	Percentage and total volume of water recycled and reused.	100% recycling treated water at HZL, Sesa Goa, Sterlite and BALCO Unit-2 and CPP.	Partially covered.	Additional	23
20	EN11	Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.	Vedanta's operations are located in India, Zambia and Australia. Parts of Reserve forests are located in the surroundings of some of the locations of HZL, BALCO, MALCO, VAL and CMT. No notified reserved forest in close vicinity to Sesa Goa and Sterlite's Copper business.	Fully covered.	Core	20
21	EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.	Due to the eco-friendly measures taken at our units, impact on local bio-diversity is minimal.	Partially covered.	Core	21
22	EN13	Habitats protected or restored.	Not covered.	Not covered.	Additional	–
23	EN14	Strategies, current actions, and future plans for managing impacts on biodiversity.	Not covered.	Not covered.	Additional	–
24	EN15	Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk.	Not covered.	Not covered.	Additional	–

S. No.	GRI Code	Description	Brief Details	Coverage	Core/Additional	Page No.
25	EN16	Total direct and indirect greenhouse gas emissions by weight.	Vedanta's operations are estimated to have emitted 13.13 million tons of CO <sub>2</sub> .	Fully covered.	Core	21
26	EN17	Other relevant indirect greenhouse gas emissions by weight.	Not covered.	Not covered.	Core	–
27	EN18	Initiatives to reduce greenhouse gas emissions and reductions achieved.	In order to contain our GHG emissions, we have focused on waste heat recovery, use of alternate fuels and renewable energy.	Partially covered.	Additional	21
28	EN19	Emissions of ozone depleting substances by weight.	Our processes do not use the compounds comprising ozone depleting substances.	Fully covered.	Core	22
29	EN20	NO, SO, and other significant emissions by type and weight.	Total SO <sub>2</sub> and fluoride emissions during the year were approx. 0.14 million and approx. 18 tons respectively.	Fully covered.	Core	22
30	EN21	Total water discharge by quality and destination.	HZL, Sesa Goa, Sterlite and BALCO Unit-2 and CPP maintain zero discharge. Discharge from other units is detailed in the report.	Fully covered.	Core	23
31	EN22	Total weight of waste by type and disposal method.	Solid waste generated – 124,026,557 tonnes. Reused – 2,339,354 tonnes and disposed to secured landfill – 1,187,951 tonnes.	Fully covered.	Core	23
32	EN23	Total number and volume of significant spills.	There were two minor incidents of spills; one at HZL and another at KCM.	Fully covered.	Core	24
33	EN24	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally.	None of units are involved in trans boundary movement of hazardous waste as per the terms of the Basel Convention.	Fully covered.	Additional	24
34	EN25	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organisation's discharges of water and runoff.	Not covered.	Not covered.	Additional	–
35	EN26	Initiatives to mitigate environmental impacts of products and services and extent of impact mitigation.	The after-sale environmental impacts of our metal business are not significant as it mostly involves physical transformation.	Fully covered.	Core	25
36	EN27	Percentage of products sold and their packaging materials that are reclaimed by category.	Almost entire range of our products are shipped in bulk and they do not require any packaging material.	Fully covered	Core	25



# GRI INDEX

## CONTINUED

S. No.	GRI Code	Description	Brief Details	Coverage	Core/Additional	Page No.
37	EN28	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations.	No fines or administrative/judicial sanctions were levied on any of Vedanta's operations for non-compliance with any applicable laws and regulations, including those pertaining to environment.	Fully covered.	Core	25
38	EN29	Significant environmental impacts of transporting products and other goods and materials used for the organisation's operations, and transporting members of the workforce.	Not covered.	Not covered.	Additional	–
39	EN30	Total environmental protection expenditures and investments by type.	Vedanta invested \$53.11 million in environment management.	Fully covered.	Additional	15
40	LA1	Total workforce by employment type, employment contract and region.	Details available in table on page 39.	Fully covered.	Core	39
41	LA2	Total number and rate of employee turnover by age group gender and region.	Details available in table on page 39.	Fully covered.	Core	39
42	LA3	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by major operations.	a) Personal Accident Insurance b) Medical Insurance/Hospital facility c) Conveyance d) Uniform washing e) Production Incentive	Fully covered.	Additional	36
43	LA4	Percentage of employees covered by collective bargaining agreements.	68%	Fully covered.	Core	37
44	LA5	Minimum notice period(s) regarding operational changes, including whether it is specified in collective agreements.	As specified by legislation of the region of operation.	Fully covered.	Core	38
45	LA6	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programmes.	Not covered.	Not covered.	Additional	–
46	LA7	Rates of injury, occupational diseases, lost days and absenteeism and number of work related fatalities by region.	LTIFR reduced to 1.91; 24% reduction from previous year.  No evidence of occupational disease.  There was one fatality among our employees and 18 fatalities among our contract employees.	Fully covered.	Core	28 & 29

S. No.	GRI Code	Description	Brief Details	Coverage	Core/Additional	Page No.
47	LA8	Education, training, counselling, prevention, and risk control programmes in place to assist workforce members, their families, or community members regarding serious diseases.	Awareness sessions on HIV AIDS, Malaria, and Occupational Health.	Fully covered.	Core	49
48	LA9	Health and safety topics covered in formal agreements with trade unions.	Not covered.	Not covered.	Additional	–
49	LA10	Average hours of training per year per employee by employee by category.	HSE training – 66,000 man days during the year. Total training per employee is 13.41.	Partly covered.	Core	29 & 39
50	LA11	Programmes for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings.	Listed in section on Leadership Development & Talent Management.	Partly covered.	Additional	34
51	LA12	Percentage of employees receiving regular performance and career development review.	The non unionised work force is subject to performance appraisals once a year. All trainees have reviews twice a year. Unionised employees are governed by Long Term Agreements which stipulates performance reviews on movement to a higher category.	Fully covered.	Additional	36
52	LA13	Composition of governance bodies and breakdown of employees per category according to gender, age group, minority group membership and other indicators of diversity.	Details available in table on page 39.	Fully covered.	Core	39
53	LA14	Ratio of basic salary of men to women by employee category.	There is no significant difference between male and female employees of same grade and service.	Fully covered.	Core	36
54	HR1	Percentage and total number of significant investment agreements that include human rights clauses or that have undergone human rights screening.	Not covered.	Not covered.	Core	–
55	HR2	Percentage of significant suppliers and contractors that have undergone screening on human rights and actions taken.	Not covered.	Not covered.	Core	–
56	HR3	Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained.	All non unionised employees are trained in Code of Conduct. All new joiners are given training in policies and procedures of the company.	Partly covered.	Additional	34



# GRI INDEX

## CONTINUED

S. No.	GRI Code	Description	Brief Details	Coverage	Core/Additional	Page No.
57	HR4	Total number of incidents of discrimination and actions taken.	Not covered.	Not covered.	Core	–
58	HR5	Operations identified in which the right to exercise freedom of association and collective bargaining may be at significant risk, and actions taken to support these rights.	No operation has identified risk of denial of freedom of association. All unionised environments of the company carry out collective bargaining exercises periodically.	Fully covered.	Core	37
59	HR6	Operations identified as having significant risk for incidents of child labour, and measures taken to contribute to the elimination of child labour.	Vedanta does not employ child labour (as defined in local laws and regulation) in any form.	Fully covered.	Core	38
60	HR7	Operations identified as having significant risk for incidents of forced or compulsory labour, and measures taken to contribute to the elimination of forced or compulsory labour.	Vedanta does not have any form of bonded or forced labour in any of its locations.	Fully covered.	Core	38
61	HR8	Percentage of security personnel trained in the organisation's policies or procedures concerning aspects of human rights that are relevant to operations.	Not covered.	Not covered.	Additional	–
62	HR9	Total number of incidents of violations involving rights of indigenous people and actions taken.	Not covered.	Not covered.	Additional	–
63	S01	Nature, scope, and effectiveness of any programmes and practices that assess and manage the impacts of operations on communities, including entering, operating, and exiting.	The programmes are sustainable and have been implemented through community engagement and the Public Private People Partnership model with the aim of enhancing the quality of life of the communities. Baseline surveys are conducted to initiate the process and define our target so as to set goals for an effective programme implementation and social audits ensure the same. Our Three tier approach helps us reach out across all level and stakeholders. Our role as an enabler helps us manage projects and resources under various development schemes. Building capacities of the communities confirms their potential to identify, create and capitalise opportunities for themselves given the platform and impetus.	Fully covered.	Core	40

S. No.	GRI Code	Description	Brief Details	Coverage	Core/Additional	Page No.
64	S02	Percentage and total number of business units analysed for risks related to corruption.	All our business units are analysed for risks related to corruption.	Fully covered.	Core	13
65	S03	Percentage of employees trained in organisation's anti-corruption policies and procedures.	All employees in critical position are trained on Vedanta Code of Conduct which specifies anti corruption policies of the company.	Partly covered.	Core	34
66	S04	Actions taken in response to incidents of corruption.	All incidents reported are duly investigated and in case the same is confirmed appropriate actions are taken against the concerned employees who may even be separated from the organisation.	Fully covered.	Core	30
67	S05	Public policy positions and participation in public policy development and lobbying.	Not covered.	Not covered.	Core	–
68	S06	Total value of financial and in-kind contributions to political parties, politicians, and related institutions by country.	Not covered.	Not covered.	Additional	–
69	S07	Total number of legal actions for anti-competitive behaviour, anti-trust, and monopoly practices and their outcomes.	Not covered.	Not covered.	Additional	–
70	S08	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations.	Nil	Fully covered.	Core	–
71	PR1	Life cycle stages in which health and safety impacts of products and services are assessed for improvements and percentage of significant products and services categories subject to procedures.	As the metals produced do not pose any direct health and safety hazard to the customers, no formal procedures are required for assessing the impact of its product and services during its life cycle. For the by products like acids we use Material Safety Data Sheets (MSDS) detailing how they are to be handled.	Partially covered.	Core	25
72	PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes.	Nil. No such incidents have been reported.	Fully covered.	Additional	25



# GRI INDEX

## CONTINUED

S. No.	GRI Code	Description	Brief Details	Coverage	Core/Additional	Page No.
73	PR3	Type of product and service information required by procedures and percentage of significant products and services subject to such information requirements.	Not covered.	Not covered.	Core	–
74	PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labelling, by type of outcomes.	Nil	Fully covered.	Additional	25
75	PR5	Practices related to customer satisfaction, including results of surveys measuring customer satisfaction.	One-on-one communication with customers and regular feedback obtained.	Partially covered.	Additional	25
76	PR6	Programmes for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship.	Not covered.	Not covered.	Core	–
77	PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship, by type of outcomes.	Not covered.	Not covered.	Additional	–
78	PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data.	Not covered.	Not covered.	Additional	–
79	PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services.	Nil	Fully covered.	Core	25

# GLOSSARY

## AIDS

Acquired Immune Deficiency Syndrome

## APL

Above Poverty Line: families above poverty line as defined by respective state governments

## ART

Anti Retroviral Therapy

## ASHA

Accredited Social Health Activist

## ASQ

American Society for Quality

## BALCO

Bharat Aluminium Company Limited, a company incorporated in India

## BPL

Below Poverty Line: families above poverty line as defined by respective state governments

## CAGR

Compound Annual Growth Rate

## CDM

Clean Development Mechanism

## CER

Certified Emission Reduction

## CFC

Chloro Fluoro Carbon

## CFL

Carbon Fluorescent Lamp

## Cii

Confederation of Indian Industry

## Cluster

Comprising 5-10 villages or specified geographic/revenue boundary as per prevailing local laws.

## CLZS

Chanderiya Lead and Zinc Smelter, a unit of HZL

## CMT

Copper Mines of Tasmania Pty Limited, a company incorporated in Australia

## CO<sub>2</sub>

Carbon Dioxide

## COP

Communication on Progress

## CSR

Corporate Social Responsibility

## CWC

Child Welfare Centre

## Differently able

Refers to physically or orthopaedically handicapped

## DMI

Disaster Management Institute, India

## EBITDA

Earnings Before Interest, Taxes, Depreciation and Amortisation

## EIA

Environment Impact Assessment

## ESOP

Employees Stock Option Plan

## ESP

Electrostatic Precipitator

## FAPCCI

Federation of Andhra Pradesh Chamber of commerce and industry

## Farm Initiative

Agriculture and livestock development initiatives

## Fatality

The death of an employee or contractor resulting from a work related injury

## FO

Furnace Oil

## FTSE

Financial Times Stock Exchange

## GHG

Greenhouse Gas

## GJ

Giga joules

## GRI

Global Reporting Initiative

## Health Outreach

Populace and village coverage through various health initiatives like mobile health camps, specialised health drives, hospitals and clinics

## HIV

Human Immuno Virus

## HSD

High Stock Density, it is a fuel oil

## HSE

Health, Safety and Environment

## HZL

Hindustan Zinc Limited, a company incorporated in India

## ICDS

Integrated Child Development Scheme: anganwadi catering to health and educational needs of children in the age group 0-6 yrs.



# GLOSSARY

## CONTINUED

### ILO

International Labour Organisation

### INR

Indian rupees

### IUCN

International Union for the Conservation of Nature and Natural Resources

### Integrated Village Development

Sustainable development with an investment on social development, bio development and infrastructure development of a village. The nomenclature of this programme differs from company to company within the group

### IRCA

International Register of Certificated Auditors, it is internationally recognised certification body for auditors of management systems

### ICDS

Integrated Child Development Scheme

### IMS

Integrated Management System

### ISO 14001

An international environmental management system standard published by the International Standardisation Organization

### KCM

Konkola Copper Mines PLC, a company incorporated in Zambia

### KL

Kilo litre

### km

kilometres

### KPA

Key Performance Areas

### KRA

Key Result Areas

### kwh

Kilo-watt hour

### LDO

Light Density Oil, it is a fuel oil

### LED

Light Emitting Diode

### Lost Time Injury

An accident/injury forcing the employee/contractor to remain away from his/her work beyond the day of the accident

### LPG

Liquefied Petroleum Gas

### LSHS

Low Sulphur High Stock, it is a fuel oil

### LTIFR

Lost Time Injury Frequency Rate: the number of lost time injuries per million man-hours worked

### MALCO

The Madras Aluminium Company Limited, a company incorporated in India

### MCF

Methyl Chloro Form

### MMR

Maternity Mortality Rate

### MSDS

Material Safety Data Sheets

### MT

Metric Tonnes

### MW

Mega Watt

### NABARD

National Bank for Agricultural and Rural Development

### NDMA

National Disaster Management Authority, an organisation chaired by Prime Minister of India

### NGO

Non-Governmental Organisation

### NIT

National Institute of Technology

### Non Farm Initiative

Women micro enterprise, income generation through vocational skills

### ODS

Ozone Depleting Substances

### OHSAS 18001

Occupational Health and Safety Assessment Series (standards for occupational health and safety management systems)

### ORG

Operational Research Group

### PME

Periodical Medical Examination

### PPE

Personal Protective Equipment

### PPPP

Public Private People Partnership

### RAM

Rampura Agucha Mine, a unit of HZL

### RDM

Rajpura Dariba Mines, a unit of HZL

### REC

Regional Engineering College

**Recycled water**

Water released during mining or processing and then used in operational activities

**Regional**

Refers to district, sub division levels

**RMOL**

Rajasthan Mission on Livelihoods

**RTI**

Reproductive tract Infection

**R&R**

Rehabilitation and Resettlement

**SBC**

Sterlite Bal Chetna Project

**SBU**

Strategic Business Unit

**SF**

Sterlite Foundation

**SHG**

Self Help Group: group of women engaged in thrift and inter-lending business not more than 20.

**SIIL**

Sterlite Industries (India) Limited

**SO<sub>2</sub>**

Sulphur dioxide

**SR**

SR number of man hours lost per thousand of man hours worked.

**State**

Refers to state level with impact across various stakeholders/public domain

**TB (DOTS)**

Tuberculosis (Directly Observed Treatment Scheme)

**TIFR**

Total injury frequency rate: the number of time injuries per million man-hours worked

**TPM**

Total Productive Maintenance

**TQM**

Total Quality Management

**TREM**

Transport Emergency card

**UNFCCC**

United Nations Framework Convention on Climate Change

**UNGC**

United Nations Global Compact

**Unit**

Refers to the rural vicinity of business operations

**VAL**

Vedanta Aluminium Ltd, a company incorporated in India

**VE**

Vision Entrepreneurs

**VER**

Voluntary Emission Reduction

**VFD**

Variable Frequency Drive

**VZS**

Vizag Zinc Smelter, a unit of HZL

**Water used for Primary Activities**

Total new or make-up water entering the operation and used for the operation's primary activities; primary activities are those in which the operation engages to produce its product

**XISS**

Xavier Institute of Social Service

**ZM**

Zawar Mines, a unit of HZL

**ZSD**

Zinc Smelter Debari, a unit of HZL

# NOTES





# NOTES





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