Corporate Sustainability Report 2004 - 05

Clear Vision:

Benchmarking against the best in the world

Futuristic Technology:

Cost effective and modern steel plant

Ingredients of sustainability

Transparent Leadership:

Transparency in transactions, operations and interactions with stakeholders

Young Thinking:

Innovate, benchmark, appetite to absorb more and deliver beyond expectations

Guide to contents

Ernst & Young has carried out assurance work on environmental and social performance data. They also reviewed other information included in this report.

Message from Sajjan Jindal

Rhetoric to Reality **is our way of demonstrating sustainable progress.**

I am delighted to present JVSL's first Corporate Sustainability Report. I believe that integrating sustainability into our business philosophy would enhance our capacity to maximize value in the long term.

Sustainability is best demonstrated in our history. Jindal group founder, my father Mr. O P Jindal, began his career as a farmer and with his belief and dedication rose to be the epitome of steel industry. It was his conviction and vision that brought us where we stand today. He always said that our aim is to invest in future and thrive.

With a very humble start, JVSL today has grown manifolds to produce 1.8 tonnes of crude steel, 3.62 million tonnes of pellets, 1.78 tonnes of HR Coils and 0.69 tonnes of galvanized coils/sheets. We have not achieved this by just being there but it is the result of hardship, dedication and belief in ourselves and our stakeholders.

The steel industry is on the upswing due to strong growth in demand globally and keeping this in mind we have decided to expand our steel making facilities from existing 2.5 to 3.8 million tonnes. In addition to this we have decided to focus on manufacturing value-added products and this year's product mix included 40% of value added products.

In line with our philosophy of **benchmarking our performance** with the best in the industry we have migrated to low cost structure. We are in the process of acquiring EURO IKON and EURO COKE, which are currently being operated and managed by us. We have merged our parent company Jindal Iron and Steel Company with JVSL and we have plans of acquiring JSW power limited which is a 290 MW power plant. It is this low cost-high return foundation that would help place us in the list of steel icons of India.

We believe in **partnering with stakeholders**, understand issues and challenges they face and join hands with them in their ongoing initiatives in addition to developing specific programs for their well being. We have a dedicated Jindal Foundation that looks into this side of our activities. Our aim is to go beyond philanthropic principles and find long term solutions with our stakeholders. At present we do not have any structured approach towards having dialogue with them but we do have plans to engage them in future.

Sajjan Jindal
Vice Chairman and MD

Report scope and profile

This is our first sustainability report highlighting non-financial performance. Through this report we have tried to establish a communication channel with our stakeholders, beyond employees and shareholders. This report is divided into four parts. The first part begins with introduction of our business, values, governance structure and management systems. Thereafter second part details our economic performance. Emphasis here is on how our actions benefits our stakeholders such as local community, suppliers, customers, etc. Third part is centered around our environmental performance and the part four of the report elaborates on our social initiatives.

The report also presents our efforts to improve non-financial performance, through case studies.

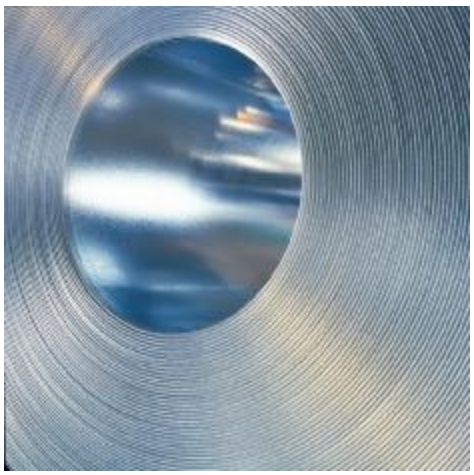
Towards the last part is the attestation statement provided by Ernst & Young.

Reporting framework

For environment and social performance we have considered Global Reporting Guidelines (GRI) and for financial data, criteria and definition used are based on generally accepted accounting principles in India.

Report scope and period

This report covers our downstream and upstream activities i.e. Vasind, Tarapur, and Vijayanagar. The reporting period is financial year 2004-05.



Company profile

"If we work hard and be good to people around we will surely succeed"

O.P. Jindal

JVSL is an Indian Integrated Steel Company strategically focused to achieve the lowest conversion costs per tonne of steel in the world. We have our presence in Karnataka and Maharshtra in India.

JVSL's stock is widely held and publicly traded on the Bombay and National stock exchanges, India.

Upstream

Upstream activities are in the form of iron ore, hot rolled coils, coal and coke production. The plant is modern and **eco-friendly** which uses COREX technology.

JVSL is the only flat steel producer in south India, and the first integrated steel plant in India to use oxygen based iron and steel making with continuous casting and hot rolling.

	Volume
Hot rolled	1.78 mt
Crude steel	1.88 mt
Pellets	3.62 mt
Employees	4100

Downstream

Downstream activities are in the form of **Cold rolling** and Galvanizing.

JVSL has India's largest integrated galvanising facilities in private sector accounting for 25% of total galvanising production in the country.

	Volume
Galvanized coils and sheets	0.69mt
Employees	2470

Governance

Importance of corporate governance has always been recognized by JVSL and is manifest in the company's vision.

JVSL is committed to highest standards of corporate governance in all its activities and processes. We look at the corporate governance as the cornerstone for all sustained superior financial performance for serving all the stakeholders and for instilling pride of association. At the heart of the company's corporate governance policy is the ideology of transparency and openness in the effective working of the management and the board. It is believed that the imperative for good corporate governance lies not merely in drafting a code of corporate governance but in practicing it. JVSL has put in place systems of good governance as recommended by SEBI and now confirms the compliance of corporate governance as contained in clause 49 of the listing agreement.

As a proactive step we have been following the corporate governance practices much before the code became mandatory; like achieving a reasonable balance of independent and non-independent directors in the composition of board of directors, setting up audit committee and other business committees, making adequate disclosures and business to be deliberated by the board.

At present we do not have any separate committee at the board level that is tracking our non-financial performance but we do discuss these issues in various meetings. We have deployed CSR framework at every location and personnel directly report to Jindal CSR Foundation.

We have in place range of policies centered around environment, health and safety and our employees and nearby communities. We take utmost care that these policies are translated into action.

The Board of Directors comprises of 12 Directors of which 8 are non-executive. The chairman is non-executive and the number of independent Directors is 8.

The Board's role includes strategic planning, risk management, communication with investors and other stakeholders, and standards of business conduct.

The Board has three committees namely, audit committee, shareholder/investor grievance committee and remuneration committee.

Management Systems

All our upstream and downstream operations are certified for ISO 9000. Our integrated steel plant at Toranagallu has been certified to Environmental Management Systems (ISO 14001) and Occupational Health and Safety Assessment Series (OHSAS 18001). For ease of implementation we have integrated all these management systems. We are also currently pursuing to obtain ISO 14001 certificate for our downstream operations as well.

As a forward looking organization we initiated SIX SIGMA and asset management exercise in our downstream units with an objective to benchmark our cost and productivity in line with most efficient standards worldwide.

Policies and metrics

Our business systems, which combine our policies, management systems and metrics, translate our values into decisions and actions to achieve our business and sustainability objectives.

We have several important policies that address environmental and social part of our business.

JINDAL VIJAYANAGAR STEEL LIMITED

QUALITY, ENVIRONMENT AND OCCUPATIONAL HEALTH & SAFETY POLICY

We shall strive for continual improvement and innovation in our integrated steel plant operations for quality products and services in a healthy eco-friendly work environment including hazard identification and risk management and create a niche in national and international markets.

We commit ourselves to achieve it through:

- Endeavoring to protect the safety and health of its employees and the society at large affected by its activities on a pro-active basis.
- Prevention of pollution by zero waste generation concept by implementing recovery, recycle, and reuse techniques.
- Delivering the quality products and services at competitive price in time to the satisfaction of the customer.
- Implementing the effective environmental management practices in all our activities ;
- Complying with all legal statutory rules and regulations of the state and central government and other requirements to which the company subscribes.
- Pursuing this policy through company objectives and targets with employee participation.
- Upgrading the knowledge and skill levels of all employees including contractors` employees, through education and training for continual improvement of performance in all the activities.

This policy, its objectives and targets and the levels of implementation shall be periodically reviewed to ensure that it remains relevant and communicated to all concerned.

Rev. : 02
Date: 23.07.02

(SAJJAN JINDAL)
Managing Director

Sustainability Metrics

We have used Global Reporting Initiative (GRI) guidelines for identifying sustainability metrics. We have put in lot of efforts in identifying non-financial performance metrics but we still have not reached a stage when these indicators are integrated with our business strategy.

We plan to cover all the core indicators in our next report and attempt GRI in-accordance report in the year 2005-06. This approach would help us identify strategies for growing our business in a manner that further enhances value for our stakeholders.

Year 2004 – 2005

Our Operations

We increased our capacities from that of 2003 – 2004 as follows:

- Pellet plant - 3.0 MTPA to 4.2 MTPA
- Hot metal - 1.6 MTPA to 2.5 MTPA
- Liquid steel – 1.6 MTPA to 2.5 MTPA
- Hot Strip Mill – 1.6 MTPA to 2.0 MTPA

We rationalized our costs by:

- Operation & maintenance of the coke oven facility given to Euro Coke & Energy Pvt. Ltd.
- 3.0 MTPA iron ore beneficiation plant set up to reduce alumina content (by 0.6 %)in iron ore thereby allowing the use of relatively inferior raw material.
- 100 MW power plant leased from JSW Power Ltd. which utilizes waste gases from production processes thereby lowering cost of captive generation of power.

We improved processes across our operational cycle as follows:

Pellet plant:-

- Increased bed height operations;
- Use of high pressure COREX waste gas in the Pellet plant to reduce costs.

COREX plant:-

- Introduction of iron ore fines in addition to pellets to improve productivity.
- Modification of coal to improve melting rate.
- Gunniting practice adopted to improve refractory life.
- Shaft modification to reduce choking frequency & cleaning time and increase productivity.

Basic Oxygen Furnace plant:-

- Slag splashing technique for lining the converter.
- LPG replaced with COREX gas to reduce costs.

Hot Strip Mill unit:

- Realignment of processes to eliminate furnace roof collapse breakdowns.
- Finishing mill modified to improve strip quality.
- Equipment substitution to eliminate cylinder failure.

Our Financials

The total revenue for the financial year 04 – 05 is Rs. 7,035.90 crores.

The upstream unit sales were

- 0.85 million tonnes of pellets;
- 0.045 million tonnes of slabs; and
- 1.03 million tonnes of HR coils.

The downstream units sales stood at 0.73 million tonnes which represents our value added products such as CR/CRCA coils and galvanised products.

This year we introduced 17 new products which accounted for additional revenues.

- We refinanced our high cost debt by raising low cost debt with varying maturity profiles aggregating to Rs. 1,553 crores.
- We reduced our debt – equity ratio from 2.75 to 1.33
- We improved our EBIDTA from 33% in the first quarter to 40% in the fourth quarter.
- We processed more than 85% of the accepted orders in 7 days against the stipulated period of 15 days.

Our Responsibilities

Health, Safety, Energy, Environment, Training & Social Initiatives

We are aware of our responsibilities and hence improve our EHS performance year after year.

We conduct regular health check up of our employees as well as contractors.

We have a job rotation policy for our workers in order to minimize the occurrence of any occupational disease or abnormality.

The occupational health centre in our upstream facility is open round the clock complete with a resident doctor, an ambulance and all the necessary life – saving equipment to handle any kind of emergency.

Our safety performance this year shows a decreasing trend in the following:

Incident Rate - 06

Severity Rate - 625

Fire Incidents - 4

Frequency Rate - 3

Dangerous Occurrence - 16

We continuously encourage our personnel to monitor and report all Near Miss Incidents.

We clocked 1.5 million hours without accidents this year. We are striving hard to eliminate any kind of an accident in our units and “Zero Accidents” is our ultimate goal.

Year 2004 – 2005

Energy

Our total energy consumption across all our operational units is

Power – 2,182.42 million kWH

Fuel - 1.9 million tonnes

Our efforts to reduce the total energy consumption were:

- 100 MW gas based power plant to increase COREX gas utilization, to use surplus blast furnace gas and to consume coal fines resulted in 4% increase in COREX gas utilization.
- Installation of a gas holding tank to store BOF gas resulted in reduction of annual coal consumption by 64,000 tonnes.
- Usage of COREX gas for coke oven heating.
- Modification of coolant system of 6 – HI Mill from 2 – tank to 1 – tank system saved 1 L units/year.
- Installation of VVF drives in Air Knife blowers and Cooling blowers saved 30% power.
- Modification of cooling towers of pump house to reduce power consumption.
- Replacement of LDO by HFO in Alloy furnace for fuel conservation.
- Application of six sigma tools to reduce power consumption in TM – 4 & TM – 5.
- Replacement of DC motors & drives by AC motors and drives for CGL – 1 resulted in savings of Rs. 14,62,000.
- LPG fired soaking furnace installed instead of electrical heating in CGL1 reduced power consumption by 10 kWH/tonne but increased LPG consumption minimally by 1 kg/tonne.

Environment

We perceive our environmental issues as a profit centre and hence are able to optimize our operations without increasing our environmental load.

Together our upstream and downstream operations consumed 76,73,740 cu.m of fresh water.

Our total air emissions this year were:

- SOx – 1,117.68 tonnes
- SPM – 1,882.19 tonnes
- NOx – 774.31 tonnes

Our upstream operations used 510511 tonnes of waste like MS scrap, COREX and BOF sludge, Oxide dust, Lime fines, etc as raw material.

We have an exchange scheme for lead – acid batteries consumed in our units.

We have 1192 acres of green belt landscaped over an area of more than 33% with a 95% survival rate.

Together our upstream and downstream operations generated

- 52,878.26 KL of Waste Oil;
- 3,13,230.04 MT of Solid waste;
- 20,90,695 cu.m of Effluent;
- 575 Kg of Biomedical waste.

Some of the prominent initiatives undertaken by our units to improve our environmental performance are as follows:

- De-dusting system for COREX Cast Houses.
- Augmentation of Scrubbers by Bag filters.
- Use of treated effluent for Horticulture.

Four project activities from our upstream operations have been identified by us as CDM opportunities:

- Generation of electricity from COREX and BOF waste gases.
- Generation of electricity from waste heat of coke oven gases.
- Partial Substitution of clinker with granulated slag from slag cement production
- Generation of electricity from waste gases of COREX & BOF.

Our total environmental HSE expenditure this year was Rs. 1,041.64 lakhs.

Training

This year we imparted training to our personnel for 124597 hour and On Job training for 46116.5 hours. In addition we introduced special Executive MBA programs for our select personnel in collaboration with NMIMS, Mumbai.

Social Initiatives

We care for the society we work in and believe in empowering the locals so that we are truly Sustainable.

Our JSW Foundation manages all the social activities which have been systematically classified into 10 different programs viz. STI & AIDS, Health, Livelihood, Education, Culture, Capacity Building, Drinking Water, Infrastructure Development, Sports, & BPO.

This year our major social initiatives include:

- Rehabilitation of dwellers near Toranagallu station.
- Development of Sandur road.
- Development of Bypass road for Hospet.
- Development of a Stadium in CS School, Sandur.
- Development of Gymkhana at Bellary.
- Sponsoring of YPO meet for awareness of Hampi heritage site.
- Rehabilitation of Garages.

Location reports

Upstream: Vijayanagar

Our upstream operation is located in Vijayanagar. It is the modern Greenfield integrated steel plant of 2.5 Mtpa HR Coil capacity based on environment friendly COREX Technology (1.6 Mtpa) and Blast Furnace (0.9 Mtpa) along with environment friendly Vibro-Compacted Non-Recovery Coke Ovens.

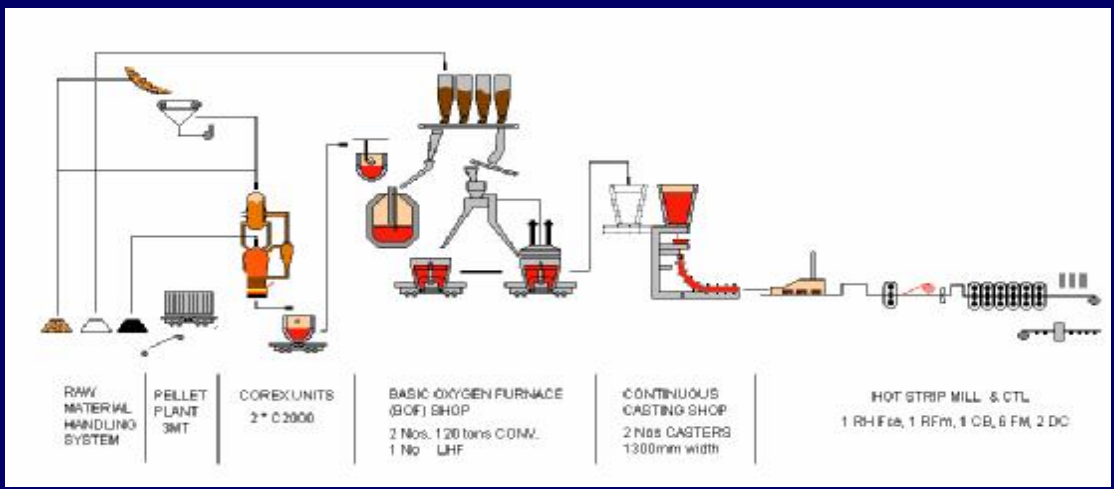
JVSL has an interesting history. This site was inaugurated by Late Prime Minister, Mrs. Indira Gandhi in 1971 for an integrated steel plant which was to be named as Vijayanagar Steel Plant. From 1971 to 1994, public sector and several private sector units explored the possibility of putting up the steel plant but none succeeded primarily due to resource constraints and it remained as a dream. In 1990 when private sector was offered and 4 major players came forward to have a joint venture with Karnataka State Industrial Infrastructure Development Corporate but withdrew due to shortage of power, water, road and rail linkage and other infrastructural facilities. Despite these constraints our founder Shri O.P. Jindal Group, started Vijayanagar Steel Plant in 1994 and completed in just 33 months.

JVSL started its operation through back ward integration by commissioning of Hot Strip Mill (Hot Rolled Coil being the Product) in 1997 and the major milestones are as follow.

- Hot Strip Mill commissioning in 1997.
- Iron and Steel making of capacity 0.8 million tones in 1999 along with power plant.
- Pelletisation of 3 mtpa capacity in 2000.
- Iron and Steel making became 1.6 mtpa in 2001.
- Expansion of pelletisation to 3.0 mtpa to 4.2 mtpa in 2004.
- Iron and Steel making expanded to 2.5 mtpa in 2004 with the addition of Blast Furnace-1.
- Addition of 0.6 mtpa coke making facility – 2004.
- Addition of 100 MW power plant in 2004.
- 4mtpa complex by March-2006.

Salient Features of JVSL:

- Installed in the heart of rich iron ore belt
- Only flat steel producer in South India.
- Fast growing plant in India.
- Operating with very high efficiency
- High man power productivity
- No liquid effluent from the plant



Downstream: Vasind and Tarapur

Vasind

Galvanizing operations started in June 1994 and is now set to produce 3,00,000t/year of hot dip galvanized strip in soft and hard category in coil form. Further cutting and/or corrugation of sheets is done as required.

Two 4Hi and one 20Hi reversible cold Rolling mills are available with all auxiliary facilities to produce cold rolled strip coils.

The erstwhile Jindal Steel & Alloys limited, cold rolling division with its entire operations is affiliated to Jindal Iron & Steel Co. Ltd., as per the conducting agreement with effect from 1st June, 2003.

Tarapur

JVSL - Tarapur unit has two divisions : Coated Strips Division & Cold Rolling division:

Coated Strips Division

Production facilities of the division include :

Galvanizing Line - I was set up in the year 1989 to produce Galvanized Coils and Sheets - Plain(G.P) & Corrugated (G.C). The present range covers production of sheets of thickness from 0.13 mm to 0.42 mm and width from 762 mm to 1035 mm. The installed production capacity of the line is about 4000 MT at average size of 0.22 X 900 mm per month.

Galvanizing Line - II was set up in the year 1995 to produce Galvanized Coils and Sheets - Plain(G.P) & Corrugated (G.C). The present range covers production of sheets of thickness from 0.20 mm to 0.67 mm and width from 762 mm to 1000 mm. The installed production capacity of the line is about 13000 MT at average size of 0.40 X 900 mm per month.

Galvanizing Line - III was set up in May'1999 to produce Galvanized Coils and Sheets - Plain(G.P) & Corrugated (G.C). The designed capabilities of this line include production of sheets in thickness range 0.30 mm to 2.0 mm and width range 762 mm to 1250 mm. Production capacity of the line is 17000 MT at average size of 0.50 X 1250 mm per month.

Cold Rolling Division

Cold rolling division was set up in the year 1994, to produce high quality Cold Rolled Steel (C.R) in the strip Coil form to feed CSD and ensure better in-house management of the raw material .

Our vision

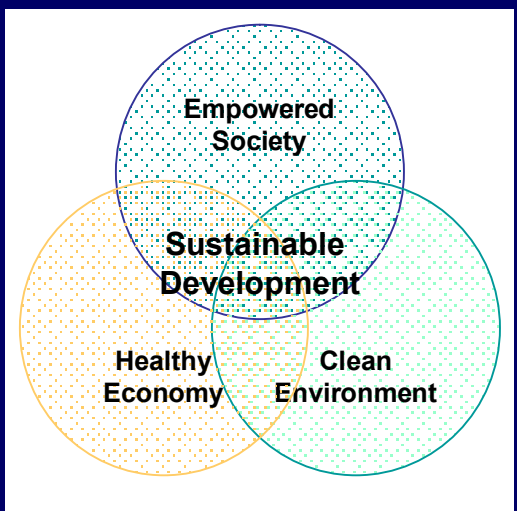
Our vision is to produce 10 million tonnes by the year 2010 and have the greenest plant in the world.

- The preparation and grooming of the next generation of **young thinkers**
- Continuous improvement of **cost stewardship** in the value chain
- Ability to nurture lasting **customer relationships** by anticipating needs and delivering beyond expectations
- Be **catalyst of growth** amongst country's steel industries
- Marketing of **value added branded products** for both domestic and global markets

Strengthening compliance

Our aim is to look beyond compliance-take our policies beyond what's required and set targets for what we desire. We have achieved compliance with all applicable regulatory requirements. This was mainly because we integrated all the compliance requirements in various management systems such as EMS and OHSAS. Various audits are conducted periodically to ensure we remain within the stipulated norms.

"Measuring our performance and demanding excellence in all three areas motivates us to think out-of-the-box and take a long-term view".



Living our values

Young thinkers

We commit significant time and resources in supporting the development of our employees. The aim is to enhance their knowledge on key sustainability issues. We understand that it's the people who would turn our values into reality.

Cost stewardship in the value chain

We constantly explore possibility of reducing cost per tonne of steel produced. We possess one of the lowest conversion cost in the world which is the result of our efforts to have best available technology in place and trained workforce at all levels.

Customer relationships

We have quality management systems in place and one such element there is customer satisfaction. We invite our customers feedback on our products and strive to deliver as per their requirements. In fact the best example is that we develop the production plan as per our customer's requirement and have so far achieved zero inventory of finished product.

Catalyst of growth

World over per capita consumption of steel is 150kg whereas in India this figure stands at 30.8 kgs, which leaves a vast room for growth. We have plans in place to expand our steel making facilities from 2.5 to 3.8 million tonnes of steel.

"Create ambition in the mind of people and give them path to grow. Teach them fishing rather than providing fish"

Dr. B N Singh
CEO Upstream

"It is the attitude that matters, not the profits alone"

Dr. Vinod Nowal
ED Commercial and CSR

Stakeholder engagement

We are trying to innovate ways to engage stakeholders, especially the communities through continuous dialogue and undertaking several community related projects.

Though our engagement process is not a systematic one we have initiated dialogue with our stakeholders. To be more specific this year we have engaged local community in structured dialogue. At each location we have dedicated workforce to carry out this dialogue.

Community

We identified different issues at different locations, right from basic necessity of food, clothes and shelter to broader issue of generating employment. Jindal South West Foundation supported this initiative. Based on the results of this process, we identified three issues as most important i.e. Health, Education and Promotion of sports and culture.

Education on agenda

Shramsadhna vocational training centre at Vasind was established where more than 150 students have been enrolled. The centre has collaborated with Father Agnel Polytrechnic, Bandra, Mumbai. Range of vocational training include; tailoring, electrician, plumbing, and TV repair, etc.

Akanksha vocational training centre at Vijayanagar is engaged in the stitching of school uniforms for children., Welding and masonry classes are conducted for the unemployed.

Health

We have excellent occupational health centers at all the locations and have free access to local community.

Sports and culture

To promote sports and culture we sponsor various state and National level tournaments at our own cost.

A livelihood study was carried out in the vicinity of Vijayanagar, in partnership with BASIX, objective of which was to promote sustainable livelihoods.

Our other stakeholders include: employees, regulatory authorities, suppliers, customers and shareholders

Employees

These are the key stakeholders and we map their concerns as part of our annual appraisal process. We have a grievance mechanism in place wherein the employees can take up any issue with their immediate superior and if not satisfied, can go to unit head directly.

We engage our employees in our day-to-day planning and invite their suggestions as part of suggestion box scheme. These suggestions are suitably rewarded to encourage increased participation.

Government agencies

We will continue our consultation processes with governments where we operate. As part of the compliance we submit Environmental Statement every year to regulatory authorities to apprise them on our environmental, health and safety performance. In addition a report is being sent to labour commissioner on safety performance.

Suppliers

We have initiated annual dialogue with our suppliers. Results of vendor rating are communicated to the suppliers of interest in this forum and suppliers are encouraged to express their concerns. We focus on developing local suppliers and plan to increase the share of local supplier for regular spares.

Customer

The fact that we plan our production based on customer requirements demonstrates our commitment to deliver best to our customers. During the year we have not received any complaint from any of our customer on account of quality.

Shareholders

We have detailed shareholders engagement process which is covered in our annual report.

Our performance

In this section we report on our economic, environmental and social performance in 2004.

Economic

The financial year of 2004-05 was a landmark in the history of JSW Steel Limited. As a result of merger with Jindal Iron and Steel Company Limited (JISCO) and Jindal South West Holdings Limited (JSWHL), JSW Steel Limited emerged as the third largest integrated steel manufacturer in India. The merged company reported the following performance:

Gross Sales	INR 703.59 million
Net Sales	INR 667.93 million
Exports	INR 329.38 million
EBIDTA	INR 236.58 million
Cash Profit	INR 189.56 million

We have reported profit after tax of INR 87.01 million in 2004-05, the highest in our short existence.

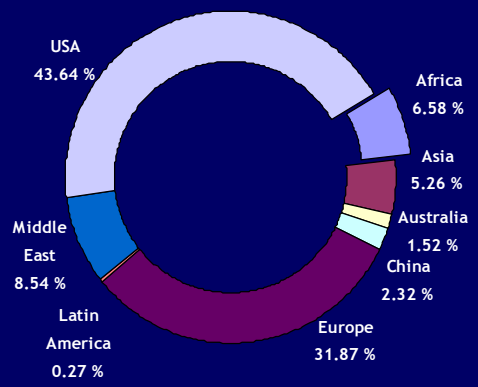
"We have observed change in attitude of our employees from volume based working to quality first."

Shakarpratap Singh Tarapur

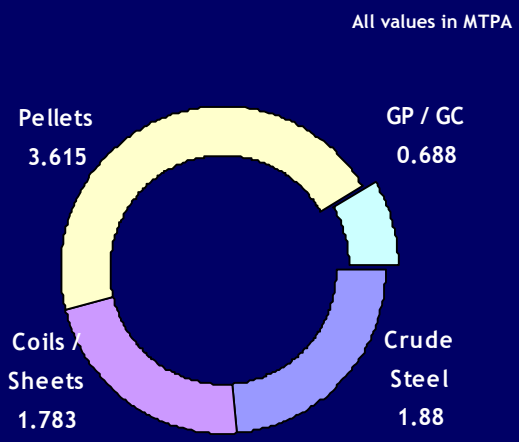
	INR (Million)
Total taxes paid	60.25
Cost of materials	284.88
Manufacturing & other expenses	137.64
Employee remuneration & benefits	10.72
Community investment	1.4

As a business, maximizing long-term shareholder value is our prime focus. In our efforts to fulfill this aim, we also create wealth and economic benefits for many groups and individuals beyond our own shareholders and employees.

Geographic Breakdown of Markets



Production



Our aim is to have the Greenest Steel Plant in the world.

Environment

To soften our environmental footprint we are working to reduce emissions, waste discharges and energy consumption and adopting strategies to improve green cover in the vicinities we operate. We have invested in various pollution control projects during the year which have resulted in significant improvement in our environmental performance:

	Upstream	Downstream
Waste as Raw Material (tons)	510511	435
Water Consumption (cu.m)	6761559.5	912180
GHG Emissions (t CO_2)	6374795	NR
Waste Oil (KL)	52400	478.26
Effluent (cu.m)	1607940	482755
Solid Waste (MT)	309233	3997.04
Waste Water Recycle (cu.m)	5642065	50200
Waste Water Reuse (cu.m)	297021	303108.6

Resource utilization

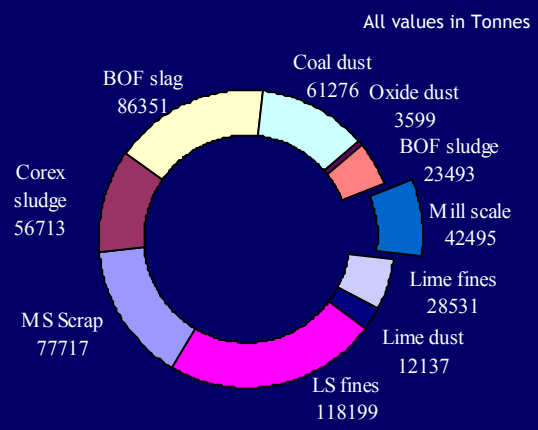
Reducing waste generation at source itself is our priority. It not only lowers impact on environment but also results in significant savings.

We understand that our effluents can affect water quality if disposed untreated. We have appropriate effluent treatment plants at our facilities and treated effluent is reused in our premises resulting in “zero discharge” in our downstream units. Treated sewage is absorbed 100% in our plant and colony for greening the area.

This year we did not receive a single complaint on Environmental grounds for both our upstream and downstream operations.

We also ensured that we did not have any issue of non compliance with the pollution control boards both upstream and downstream.

Wastes as Raw Material



Finding new ways to energy conservation is not only important for the reduction of Green house gas emission but also important for our bottom-line.

Energy

Our energy consumption per tonne of hot rolled coils, steel plates and sheets was 363.8 kwh/tonne and that of galvanized coils and sheets was 218.61 kwh/tonne. Out of total energy used 97% was taken from JTPCL upstream while 3% was generated in house and for downstream 68% was generated in house and 32% was taken from the grid. Energy audits by experts in the field, deployment of latest technologies and benchmarking have helped reduce specific energy consumption at all the locations.

Case study

Installation of Gas holder:

Earlier the gas used in flares was gas surplus but with the increase in the COREX gas requirement for internal heating and the requirement of COREX gas in the proposed 100 MW power plant it was felt that there was scope to use the BOF gas power generation. Therefore it was decided to install a gas holder to collect the BOF gas generated while blowing and supply from the holder to the network for power generation. The investment made for the project is 25 Crores.

The expected saving from the project would be: Reduction in the coal consumption to the tune of 64,000 tonnes annually at 2.5 Mt stage and 100000 tones at 4 Mt stage.

100 MW gas based Power Plant Project was conceived in the Year 2003 in order to achieve the following:

To increase the COREX gas utilization to 97 % from the level of 93.5 % achieved in the year 2002-03. The corresponding increase in utilization to the tune of 4 % would generate power equivalent approx 9.8 MW.

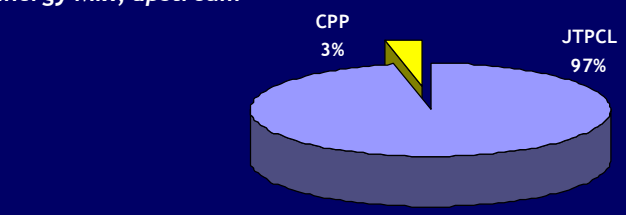
To use surplus blast furnace gas available from the Blast Furnace after meeting the internal requirement for Boiler and Stoves for power generation.

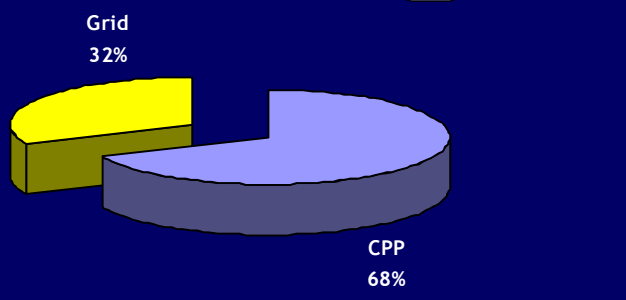
To use coal fines in the existing 2 x130 MW power plants as we were facing problem of disposing off good amount of coal fines generated in the complex due to environmental issues and thereby displace approximately 30 % of COREX gas in the 2 X130 MW power plant and use that gas in the proposed power plant and thereby achieve the energy optimization in the complex

Some of the energy conservation measures implemented at downstream operations:

- Installation of AC drives in CGL1 instead of DC drives.
- Modification of coolant system of 6 HI Cold Rolling mill from two tanks to one tank system
- Installation of lightening transformer in cold rolling mill, pickling line 2 and HR Slitting line
- Installation of VVVF drives in air knife blowers of galvanizing lines
- Conversion of DC drives to AC in galvanizing units
- Application of six sigma tools to reduce power consumption in TM – 4 & TM – 5.

Energy Mix, upstream





Energy Mix, downstream

We subscribe to the philosophy- "think globally and act locally"

Greenhouse Gas Emission

The very nature of our activities has a bearing on global climate change. We use carbon intensive fuels in our operations and have contributed to 6374795 tonnes* of CO_2 during the year from our operations.

We are committed to reduce specific energy consumption at all locations and improve energy intensity. Our efforts focus on;

- Reducing emissions from production
- Increasing energy efficiency, and
- reducing indirect emissions

We manage greenhouse gas emissions through process modifications and energy and materials conservation.

Usage of COREX gas for coke oven heating: As per the original scheme, the fuel envisaged for initial heating up of the oven batteries was LDO oil. The initial investment for the proposed facility was Rs 8 Crores. Since the fuel is used for initial heating only and subsequently the facility would have to be redundant, once the oven are put in operation. As the petro fuel is expensive and the estimated cost of this fuel required for achieving the desired temperature was Rs 8 Crores. In all, total requirement was Rs 16 Crores for this project.

Innovative thought: In the brainstorming session, an innovative idea of using the COREX gas came up for initial heating of Coke Oven by extending the pipeline from Lime Calcination plant to the Coke oven plant. The estimated cost was around Rs 4.00 Crores and the operating cost was around 0.57 Crores. In all the requirement was 4.6 Cores as against the requirement of Rs 16.00 Crores for the earlier proposal. Time was the constraint at the time of decision making where we were left with only three months before start up of the date for heating. But as a result of meticulous planning by the dedicated team, the work of laying pipeline was completed well within the schedule.

We have identified four CDM activities at our upstream site:

- ***Generation of electricity from COREX and blast furnace waste gases.***
- ***Generation of electricity from waste heat of coke oven gases.***
- ***Partial substitution of clinker with granulated slag fro slag cement production.***
- ***Generation of electricity from waste gases of COREX and BOF.***

*GHG emissions have been calculated using fuel consumption data and IPCC Emission factors

Water

According to European IPPC Bureau, integrated steelwork's water consumption is between 5 cubic meters per metric ton of steel (m^3/T-S) and 100 m^3/T-S of water for their operations, and sometimes less than 5 m^3/T-S. We have consumed 3.3 m^3/T-S of water during this year. Water is mainly used as process cooling water which is re-circulated back in the process, only make up water is added.

For conservation of water Tarapur, one of our downstream operations implemented the following:

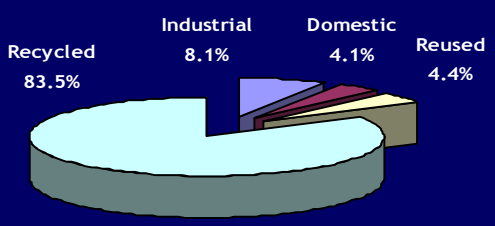
- Installation and calibration of water meters at all consumption points.
- Connection of main overhead overflow tank to the CSD – 2 / LPG yard emergency tank.
- Re circulation of ammonia cylinder cooling water.
- Skin pass water re circulation in CSD-3.
- Cut off of pickling line water circulation in rinse tank subsequently after line stoppage.
- Proper use of blow down water of D.G. set.
- Periodical checking and arresting water leakage in the system.
- Creating awareness & close monitoring through consumption pattern will be done to achieve the target.

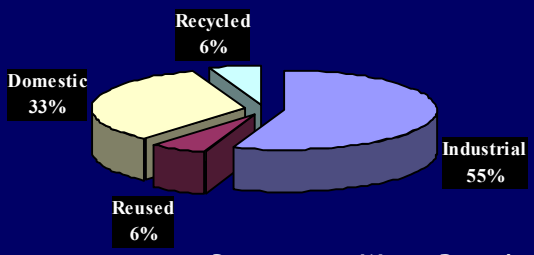
Wastewater

Water used at various unit processes is diverted to effluent treatment plant where it is treated to desired levels. Blow down water is used for dust suppression in raw material handling section.

Treated sewage water is reused in township for gardening and landscaping.

Upstream Water Recycle & Reuse





Downstream Water Recycle & Reuse

Environmental Monitoring

We regularly carry out environmental monitoring for air and water quality assessment. We have installed online monitoring systems at various stacks for our upstream operations. Ambient air monitoring is done regularly in the plant premises and nearby villages to assess the air quality of the region. Water quality monitoring is carried out once a week for standard 8 parameters.

The respective State Pollution Control Boards monitor and inspect the environmental performance of our operating sites in Karnataka and Maharashtra.

To further strengthen our system of monitoring we invite pollution control board to carry out third party independent assessments.

Environmental Compliance

Every year we submit an environmental statement to pollution control board that gives detailed account of our environmental performance.

It is the result of our rigorous environmental monitoring that all our facilities are complying with State Pollution Control Board norms and there were no environmental contraventions companywide during the year.

Our upstream operations are certified for internationally acclaimed Environmental Management Systems (ISO 14001) and Occupational health and safety assessment series OHSAS 18001. Implementation of these systems has further improved environmental performance at upstream processes.

Our downstream operations are gearing up for Environmental Management Systems (ISO 14001) certification.

Air emissions

Air pollutants from our processes include Suspended Particulate Matter (SPM), Oxides of Sulphur (SOx), and Nitrogen Oxides (NOx).

At our upstream operations we have continued to invest in technology development for reducing the amount and density of these pollutants. Some of the measures adopted include;

- De-dusting systems at junction houses of raw material handling system, ore bin of the pellet plant, LHF-2 of BOF/CCP, tower top of COREX modules and the stock houses of blast furnace
- Dust suppression in the conveyors of the pellet plant
- De-dusting system for HMDS of BOF/CCP, material handling and packing unit at the cement plant, stock house and Flexowell of COREX and cast house of blast furnace
- Incineration for the controlled burning of plant waste

Our Emissions this Year

	Upstream	Downstream
Stack Emissions		
SOx (tonnes per year)	638.27	830.00
NOx (tonnes per year)	760.31	14.00
SPM (tonnes per year)	1757.37	124.82
Ambient*		
SOx (ug/cu.m)		71.42
NOx (ug/cu.m)		83.13
SPM (ug/cu.m)		270.24

* Data for ambient monitoring not received from upstream location.

HSE Expenses

Expenditure in this category reflects upgrading of environmental standards at all the facilities. Significant portion includes operation and maintenance of pollution control equipments and environmental monitoring.

This year for all operations combined we invested Rs. 1041.64 Lakhs towards improvement of health, safety and environmental performance.

De-dusting System of COREX Cast Houses

The system was developed to reduce cast house fumes generation.

The system captures all fume generating points by energizing them to suck the fumes to the collection system.

Scheme Details:

Air Volume - 9,00,000 m^3/hr

No of Bags - 300 / chamber

No of Chambers - 10

Air to Cloth Ratio - 1.61 m^3/m^2/hr

Control System - 24 PLC Dampers

Spark Arrestor - 1

Cost - Rs. 26.00 crores

Emissions from Chimney - 22 mg/Nm^3 (Std: 150 mg/Nm^3)

Work Area Dust

Cast House 1- **2900** µg/Nm^3 (Initial - **92500** µg/Nm^3)

Cast House 2 - **2526** µg/Nm^3 (Initial - **85400** µg/Nm^3)

Augmentation of Scrubbers by Bag Filters

The dust laden fumes from Ball mill outlet pass through cyclonic separator where the coarse particles are separated. The air with fine dust is subjected to high efficiency pulse jet cleaning type of Bag Filters that remove the fine dust with 99.5 % efficiency and allow only clean air out of the chimney.

Scheme Details:

Air Volume - 76,200 m^3/hr

No of Bags - 585 / unit

Air to Cloth Ratio - 1.1 m^3/m^2/hr

Final Disposal - Dust converted to slurry and returned to mixer

Cost - Rs. 50.00 lakhs (both units)

Emissions from Chimney 1 - 22 mg/Nm^3 (Std: 150 mg/Nm^3)

Emissions from Chimney 2 - 17 mg/Nm^3 (Std: 150 mg/Nm^3)

Work Area Dust

Ball Mill 1- **2764** µg/Nm^3 (Standard - **5000** µg/Nm^3)

Ball Mill 2 - **2526** µg/Nm^3 (Standard - **5000** µg/Nm^3)

For us Safety is not just another compliance area – It is a Way of Life.

Our commitment to Safety and Health Performance extends to everything we do across all our plants, the goal is to create a healthy and safe working environment for all our stakeholders.

Safety & Occupational Health

We believe in creating a safe and healthy workplace for all our employees, contractors and the general public. Zero accidents is our ultimate goal and we are striving hard to achieve that. We are working towards reducing the risks and improving the safety conditions. We have invested in upgradation of fire fighting and safety equipment across all sites during the year which has resulted in significant improvement in our safety performance

	Upstream	Downstream
Near Miss Incidents	16	0
Minor Injury	23	15
Major Injury	8	0
Absentee Rate (%)	0.86	0
Lost Man – Days	13435	0
Work Related Fatalities	0	0

We understand that equal participation is required from the management as well as employees and therefore we have ensured that the HSE Committees have maximum representation from our employees and that they are empowered with decision taking authority at the local level.

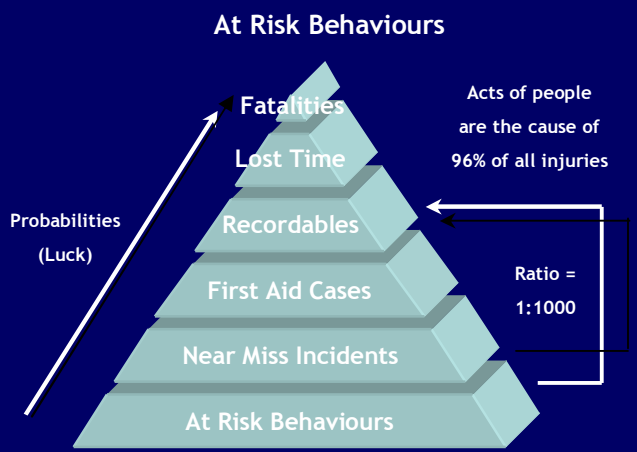
We have a policy wherein the HSE Expenses get the first preference and are cleared on the basis of importance and urgency. We do not compromise on HSE issues vis-à-vis production pressures.

We conduct regular audits to keep a check on the existing conditions and training programs to keep our employees updated with the basic and the latest HSE trends.

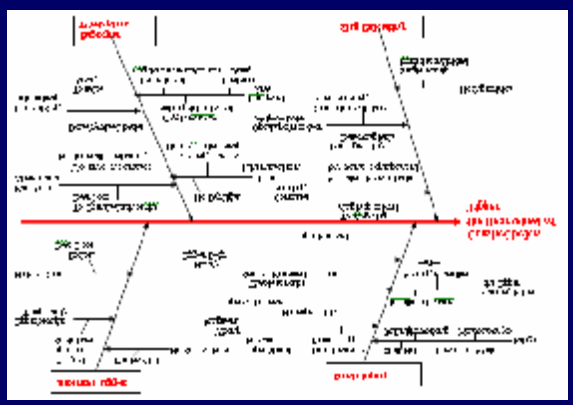
We have established a system to learn from incidents occurring in our facilities through an extensive Root Cause Analysis.

We have a suggestion scheme in operation in our downstream facility which further adds to our continual improvement.

Behavioural Safety Pyramid



Cause & Effect Diagram



We recognize that nurturing talent of our employees is vital for our long term success.

Training

We have an integrated and disciplined approach to providing employees with training and other opportunities to help them develop the skills, knowledge and experience necessary to continue to expand their capabilities and contribute to the success of the organization.

Training needs are assessed as part of yearly appraisal wherein each employee identifies areas where he/she wants to be trained. Immediate supervisor and senior managers, evaluate the training requirement, identify the skills required to achieve company and individual goals, assess employee talent, identify skill gaps and create development plans for the individual.

Our training programs include Behavioural Programs, Quality, Safety & Environment related programs, and Technical & Functional programs.

We have bi-level training feedback system to assess the efficacy and effectiveness of the training imparted.

There is an immediate feedback after every training program followed by a feedback after 3 to 6 months based on an individual's performance.

Apart from the basic training modules we also have specific programs developed from our personnel which include:

Executive MBA Program

For our downstream operations we have initiated this program in collaboration with Narsee Monjee Institute of Management Studies, Mumbai. This is 18 months module and during the year 28 participants enrolled for the program.

Employee Community Advancement Scholarship

The company initiated a scholarship scheme to promote a culture of technical education among employees, their wards and community. During the year 10 scholarships were awarded with an investment of INR 0.25 million.

Outbound programs for Experiential Learning

To bond employees better, we conducted programs involving personnel across various disciplines. This initiative helped employees develop and sharpen their behavioural, leadership and team working skills.

Our Training Records	Upstream	Downstream
Personnel	(values in hours)	
Senior Management	5372	1468
Middle Managers	7364	5162
First Line Managers	44904	5725
Workmen	51632	2970
Subject		
Professional Upgradation of Qualification	3944	4397
Technical Skills Upgradation	21028	8338
Administrative	2744	2565
Management	31148	9122
On the Job Training	45598.5	518

"We believe that we must, with honesty of purpose, make a difference in the environment in which we operate".

Social Responsibility

As responsible corporate citizens we understand the community requirements and have linked our business goals with social initiatives. To ensure that we address social issues with total integrity and intensity we have established the JSW Foundation. Naturally at JSW Foundation we've always found time to address the issues of the common man and especially those of the weaker sections of the society.

We consider ourselves responsible for setting up schools and providing the best secondary and tertiary health care through the state of the art hospitals, apart from providing employment both direct and indirect.

The locals and the community at large have benefited from our ongoing developmental activities which is evident from their response in the stakeholder engagement process.

The JSW Foundation is managed by an exclusive Project Head along with the Project Champions (Plant Heads).

We have classified our developmental activities under the following progammes:

- STI & AIDS
- Health
- Livelihood
- Education
- Culture
- Capacity Building
- Drinking Water
- Infrastructure Development
- Sports
- BPO
- Women Empowerment

The main issues which we are trying to solve are poverty and illiteracy principally because our plant is established in a rural area where there are harsh climatic conditions and scanty rainfall.

"we've always found time to address the issues of the common man and especially those of the weaker sections of the society"

Computer Aided Learning Centres

In association with Azim Premji Foundation, we plan to achieve quality in the provision of elementary education to children by creating excitement in schools so that children are attracted and retained in school. Our aim is to establish ten learning centers by 2005 and two hundred by 2010. This initiative improves access, content and delivery of elementary education.

Shramsadhna Vocational Training Centre in Vasind

This center at Vasind in association with Father Agnel's community polytechnic, Bandra, provides skill development, career guidance and creates awareness of modern methods of agriculture and animal husbandry. It caters to the needs of communities staying in and around Vasind Padgha, Asangaon, Shahapur and Khadawali in Maharashtra.

Programme for personality & entrepreneurship development

Entrepreneurship development training program was organised between 23 March to 28 March with the help of MCED which was attended by 75 students. The broad areas covered were qualities of entrepreneurs, how to start an enterprise, how to formulate project report, where to avail funding from, various Government schemes to promote self employment, where to avail necessary permissions, licenses, etc.

Career Guidance Programme

Career choice is most crucial decision that student make, as it decides the course of the entire life. For last the three years we are organising career guidance workshops in rural schools around Vasind & Tarapur to ensure that career is an informed choice. Students in rural schools have both intellect & plethora of skills. The only thing that make them lag behind is the lack of awareness about available careers. What differentiates the career graph of students from rural & urban school is not the intellect but the access to information about careers that the urban children have.

Nari Vikas Kendra

With programmes targeted towards women and children the Kendra has become a hub for social development in Bellary district, Karnataka.

Other education initiatives

Providing educational aid to students in rural and backward areas of Maharashtra and Karnataka. The foundation also runs Jindal South West Employee Community Advancement scheme wherein scholarships are granted to employee's children pursuing technical courses.

Conducting teachers training programmes for village schools.

Jindal Sanjeevani Hospital

As a part of promoting community health services a 22 bedded, fully air conditioned, Jindal Sanjeevani Hospital with secondary and tertiary health care services was established in July 2004. A number of free health checkup camps including cardiac assessment, ante natal clinics, tuberculosis detection, blood donation and immunization services for community children have been organised.

Providing the best secondary and tertiary health care, this hospital has 24 hours casualty and emergency wards. It is fully equipped with state of the art operation theatre and modern diagnostic departments.

In addition to the above, as a part of promoting health awareness among the people in surrounding villages, health camps have been organized such as AIDS awareness program, Eye Camp, Leprosy eradication camp, etc. In addition, blood donation camp and pulse polio immunization camp have also been organized. With a view to ensure good health of the employees, periodical Executive Health Check up has been organised for the employees in the age group of 40 years and above.

Jindal Hospital in Vasind

This sister concern of Jindal Sanjeevani Hospital takes care of the community in and around Vasind.

Community Initiatives

Infrastructure Development

JSW Foundation cares to enhance the infrastructure in non-mainstream areas so as to make a difference to the people living around the region.

• At Bellary, Karnataka the load carrying capacity of the roads were increased. The concrete roads also reduced dust pollution levels of the surrounding villages.

• The main road to Hospet, 12000 sq. mtrs at the gateway to the historical Hampi World Heritage site, was concreted.

• Toranagallu, a small village on NH 13 that faces high traffic movement, had about 4500 sq. mtrs. concreted to prevent dust pollution.

• Sandur, a mining town in Bellary district, faced heavy traffic from miners' trucks carrying iron ore. To ease traffic congestion and reduce the dust level, the Foundation helped concrete road of 1.5 kms.

Best Township

Jindal Vijayanagar Steel Ltd. township with modern infrastructure and amenities for employees also opens its sports and education facilities to the community of

its neighborhood. The township has bagged the Prime Minister's Award for Design and Urban Planning.

Van Chetana Kendra - A joint venture of Forest

Department & JISCO, Van Chetna Kendra is a community park developed for residents of Vasind village. Forest Department provided the land for park & JISCO developed a garden on it. This Kendra is also a information centre regarding wild life of the area

Clean Bellary Project

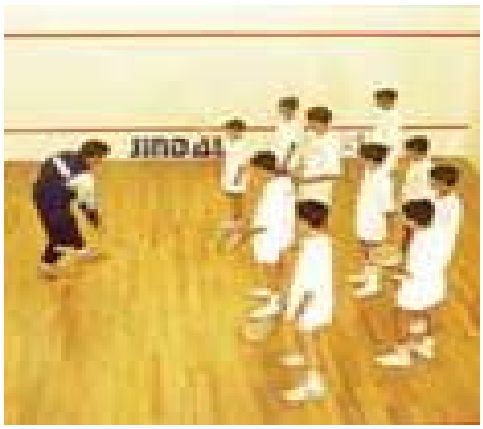
The Foundation started a Cleanliness Awareness Programmes at many wards of the City Municipal Council of Bellary. A mechanised garbage disposal system was introduced for the first time when the Foundation presented a special truck fitted with self-loading and unloading hydraulic system of 5 cub. mtr. including 25 garbage bins along with 200 dust bins.

Sports Initiatives

The Badminton training centre regularly organises state level badminton tournaments in Karnataka.

Jindal Squash Academy in Vasind

This academy was set up to promote excellence in sports and give exposure to rural youth. The Academy has nurtured talent and converted them into budding sportsperson. Young sportsperson from this Academy have represented India at the Asian Junior and World Junior championships. This academy has produced players of national & international repute.



Art & Culture Initiatives

Link between Art and Business

This initiative forges a link with the business and art community and brings them closer to mutually enrich the two streams of work.

The Jindal Art Foundation collaborated with the Royal Court Theatre, London, the British Council, Mumbai and Rage Productions in providing a platform to Indian playwrights through a series of workshops at the sylvan surroundings of Jindal Iron & Steel Company, Vasind. The drama scripts, approved by the Royal Court theatre were showcased at the 'Writers' Bloc' a Festival of 9 original plays at Prithvi Theatre and National Center for Performing Arts (NCPA), Mumbai.

Jindal Art Foundation

The Jindal Art Foundation was established in 1984 to create an awareness of and access to contemporary art practices in India. Publishing a quarterly magazine, The Art News Magazine of India, this Foundation is the parent body of Jindal Arts Creative Interaction Centre and the Hampi Foundation.

Friends of JJ School of Arts Trust

Establishment of Friends of JJ School of Arts Trust to restore the buildings and its surrounds, and add value to the school curriculum.

Arts & Business
INDIA

JINDAL ART FOUNDATION

National Centre for the Performing Arts
Jindal Arts Creative Interaction Centre

Jindal Arts Creative Interaction Centre

On an invitation of the National Centre for the Performing Arts, Jindal Art Foundation established its cultural wing, the Jindal Arts Creative Interaction Centre (JACIC) in 1994. It operates as an independent body under the umbrella of the NCPA providing a platform for a wide range of activities encompassing the various art forms. The centre encourages creative interaction between the arts, organises film premieres, promotes art awareness through a series of workshops, beautifies city spaces through its 'Art in Public Places' scheme, and generates awareness for social issues by organizing debates, workshops and panel discussions.

The Art News Magazine of India

The focus of The Art News Magazine of India, a quarterly publication on the visual arts launched in April 1996, is to:

• Bridge the lacunae between arts centers, artists, art professionals and others interested in accessing information related to contemporary art and artist.

• Provide news on events and issues in the arts through in-depth coverage from important centers in India and abroad.

• Carry news, views, features, profiles and interviews, and attempt to make the art world accessible for providing current art trends to a greater number of people.

• The Art News Magazine of India was selected to represent the emerging trends in international art in Paris, and also won the First Prize in a national printing competition hosted by the All India Federation of Master Printers.

Art & Culture Initiatives

HAMPI Foundation

The Hampi Foundation was formed in 2000 to formulate a comprehensive and holistic master plan for the management of the unique heritage in the ruins of the great Vijayanagara Empire.

• The founder members, Ms Shama Pawar Shapiro, Dr. Debaorah Thiagarajan and Mrs. Sangita Jindal, took this step to establish an intelligent and comprehensive attitude to heritage management.

• The Foundation sponsors the Hampi Utsav Festival where local and national level artistes participate in dance, music and other forms of art.

• It has drawn up the master plan for the conservation of the Chandramuleshwara temple, which will be its first conservation project. This is being done in association with the Global Heritage Fund, San Francisco to ensure international standards.

Publications

• The Foundation sponsored the book New Light on HAMPI, edited by John M Fritz and George Michell, which incorporates recent research on Vijayanagar Empire.

• The Foundation co sponsored the book The Guide to the Architecture of the Indian Sub continent by Takeo Kamiya, an eminent Japanese Art Historian.

Data table

	Upstream	Downstream
Economic		
Net Sales (Rs. Lakhs)	539335.00	Not Reported
Payroll (Rs. Lakhs)	6667.05	Not Reported
ROACE (%)	0.27	Not Reported
Taxes Paid (Rs. Lakhs)	35505.03	Not Reported
Donations (Rs. Lakhs)	36.25	Not Reported
Supplier Breakdown (Rs. Lakhs)	Not Reported	22392.847
Non core business expenses (Rs. Lakhs)	140.08	Not Reported
Environment		
Waste as Raw Material (tonnes)		
MS Scrap	1009948.34	Nil
Corex sludge	56713.00	Nil
BOF slag	86351.00	Nil
Coal dust	61276.00	Nil
Oxide dust	3599.00	Nil
BOF sludge	23493.00	Nil
Mill scale	42495.00	Nil
Lime fines	28531.00	Nil
Lime dust	12137.00	Nil
LS fines	118199.00	Nil
Lime Sludge	Nil	435
Energy Consumption (kWH)		
Power Utilised (kWH)	2.03E+09	1.53E+08
Fuel Consumed (Tonnes)	1.88E+06	2.31E+04
Water consumption (cu. m)	6.76E+06	9.12E+05
GHG (t CO_2)	6374795.00	Not Reported
Air emissions		
Stack		
SOx (tonnes per year)	638.27	830
NOx (tonnes per year)	760.31	14
SPM (tonnes per year)	1757.37	124.82
Ambient		
SOx (ug/cum)	35.08	71.42
NOx (ug/cum)	39.99	83.13
SPM (ug/cum)	103.00	270.24

	Upstream	Downstream
Environment		
Waste generated		
Hazardous Waste		
Waste Oil (KL)	52400.00	478.26
Batteries		
Lead Acid Batteries (nos)	103.00	Exchanged
Dry Batteries (nos)	0	Not Reported
Zinc Dust (MT)	Not Reported	2923.421
ETP sludge (MT)	Not Reported	2161.69
Spent Acid in ARP (MT)	Not Reported	25082.82
Carbuoys 5 to 200 lit (Litre Equivalent)	Not Reported	39155
Solid Waste (MT)	309233.00	3997.037
Effluent (cu. m)	1607940.00	482755
Domestic Waste (Kg)	Not Reported	32850
Biomedical Waste (Kg)	500.00	75
Non compliance	Nil	Nil
Wastewater recycle and reuse (cu. m)	296450.00	481271
HSE Expenses (Rs. Lakhs)	611.00	430.63543
Social		
HSE Committees		
Workers (nos)	105.00	38
Management Representatives (nos)	101.00	45
Safety data		
Near miss incidents	16.00	0
Minor Injury	23.00	15
Major Injury	8.00	0
Absentee rate	0.86	0
Lost Mandays	13435.00	0
Work related fatalities	2.00	0
Training		
Personnel (hours)	109272.00	15325
Subject (nos/hours)	58864.00	24422
On job training	45598.50	518
Employee Benefits (Rs. Lakhs)	202.89	318.13
Complaints	Nil	Nil

JVSL Sustainability Report- Reader Survey

We aim to continuously improve our sustainability performance and also innovate the mode of communication to reach wider stakeholder groups. You can help us by completing and returning this questionnaire or by providing your feedback electronically at suresh.iyer@jsw.in and/or post to Suresh Iyer, Jindal Vijayanagar Steel Limited, Jindal Mansion, 5 A G Deshmukh Marg, Mumbai 400026

Q1: What is your opinion of the ease of understanding of the report?

- Very easy to understand
- Easy to understand
- Difficult to understand
- Very difficult to understand

Q2: What portions of the report particularly interested you (indicate all that apply)?

- Dialogues
- Group Philosophy
- JVSL Environmental Vision
- Creation of a Sustainable Society
- Developing New Energy Technologies
- Economic Perspectives
- Environmental Management
- Overview of the JVSL Group's Environmental Impact
- Global Warming Prevention Measures Contributions to a Recycling-Based Society
- Environmental Undertakings in Various Aspects of Business Activities
- Reinforcement of CSR Management
- Social Contribution
- Communication
- Employee Relations
- Safe operation and Health Care

Q3: What portions of the report do you think should be improved or added in the future?

Q4: Please indicate your opinions or comments concerning other aspects of this report or Environmental activities of JVSL.

Q5: Who are you?

- Customer
- Government agency
- JVSL Group employee or employee family member
- Business partner
- School or educational institution
- Business or business organization
- Shareholder or investor
- Environmental NGO
- Resident who lives in the vicinity of an JVSL facility
- Other (please specify).

Name:	Occupation:
Address:	Email:
Gender:	Telephone: