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# JINDAL STEEL & POWER

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2<sup>nd</sup> BUSINESS SUSTAINABILITY REPORT 2014-15



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BUILDING THE NATION OF OUR DREAMS

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# About the Report

Jindal Steel & Power Limited (JSPL) is an Indian business conglomerate with operations spread across India, the Middle East, Africa, and Australia. Its core areas are steel, power, infrastructure and mining. It has also a specialized machinery division for manufacturing equipment, steel foundry and pressure vessels.

This is JSPL's second business sustainability report, authored in conformance with the latest Generation 4 set of Global Reporting Initiative (GRI) guidelines on sustainability reporting. Based on materiality assessment conducted in-house, information on eleven aspects has been disclosed.

JSPL is committed to annually reporting its performance on business sustainability and sharing it with all its stakeholders.

We welcome you to share your views, suggestions and feedback with us at [miniya.chatterji@jindalsteel.com](mailto:miniya.chatterji@jindalsteel.com).

## Data Management Approach

In 2014, JSPL created a system for sustainability-related data collection and management. Using a bottom-up approach to data collation, it collects information from all data owners at its Indian, Mozambique, South Africa and Oman sites. Data owners in each department are responsible for providing and approving sustainability-related data and information pertaining to their department to the sustainability officer at the site location who, in turn, relays the data to the corporate sustainability team.

In FY 2014-15, JSPL has completed the first phase development of a fully automated portal for business sustainability performance management. This portal has been created for the

purpose of collecting, analysing and benchmarking sustainability related data from different units spread across India, Oman, Mozambique and South Africa.

Assumptions and standard calculation methodologies for estimation and quantification of data have been used. For calculation of carbon emissions, emission factors provided by IPCC and Central Electricity Authority and Ministry of Power, Government of India have been used. Water, waste and electricity issues have been reported on an actual basis.

In order to provide a balanced perspective of performance in this report, we have discussed our key accomplishments, developments and initiatives during the reporting year.

There have been no significant changes in our operations / size / structure / ownership. Our supply chain has remained the same for the reporting period. However, sourcing options are currently under review and changes (if any) would be discussed in the next report.

## Assurance

This sustainability report has been examined and assured by an external third party. The assurance statement is provided.

# Report Scope and Boundary

The report includes the following operations of JSPL (and its subsidiary Jindal Power Ltd.)



**INTEGRATED STEEL PLANT**  
JINDAL STEEL & POWER LTD.  
Angul, Orissa, India



**INTEGRATED STEEL PLANT**  
JINDAL STEEL & POWER LTD.  
Raigarh, Chattisgarh, India



**PELLET PLANT**  
JINDAL STEEL & POWER LTD.  
Barbil, Orissa, India



**HEAVY MACHINERY UNIT**  
JINDAL STEEL & POWER LTD.  
Raipur, Chattisgarh, India



**CAPTIVE POWER PLANT**  
JINDAL STEEL & POWER LTD.  
Dongamauha, Chattisgarh, India



**INDEPENDENT POWER PRODUCER (IPP)**  
JINDAL POWER LIMITED  
Tamnar, Chattisgarh, India



**COAL MINE**  
JINDAL MINING SA (PTY) LTD.  
Kiepersol, South Africa



**IRON ORE MINE**  
JINDAL STEEL & POWER LTD.  
Tensa, Orissa, India



**INTEGRATED STEEL PLANT**  
SHADEED IRON & STEEL LLC  
Sohar Industrial Port, Oman



**COAL MINE**  
JSPL MOZAMBIQUE MINERAIS  
LIMITADA  
Mozambique



**STEEL ROLLING MILL**  
JINDAL STEEL & POWER LTD.  
Patratu, Jharkhand, India



*"Steel, power, and infrastructure industries are the lifeline of India's development agenda. The growth of these industries means that more people in India will avail of electricity, have houses to live in, and be better connected via good roads and bridges. Our business sustainability adds to India's growth and prosperity. JSPL is in service to build the Nation of our dreams, with the support of and ultimately for the benefit of all our stakeholders.*

*JSPL's 2nd Business Sustainability Report provides a data backed assessment of the resilience of our organization. It explains our sustainable business model, how we practice sustainable business and production processes, as well as tangibly lead the way in building a better world.*

*I invite you to read the report and welcome your comments, engagement, and participation in the work we do at JSPL."*

**- Naveen Jindal**  
**Chairman, Jindal Steel and Power Ltd.**

## Message from Managing Director & Group Chief Executive Officer



Dear Stakeholders,

I am pleased to offer you Jindal Steel and Power's 2nd Business Sustainability Report. The report is a data backed review of the specific actions taken by JSPL during the Financial Year 2014-15 as well as the priorities ahead to ensure that the company is on the path of speedy, holistic, and authentic growth.

During the year JSPL's business has focused more than ever before to produce the cost efficient steel. We have also taken a major step and diversified in to a new business line of construction materials of which the major raw materials are obtained from re-using waste generated by our manufacturing plants. This year we have established ourselves in new markets in India and in Africa, and have prioritised providing our customers with the highest quality of products and service. To secure our raw material sources, a dedicated Coal Management Group was established in the company. Further two new teams, Risk & Compliance Management as well as Energy Management, were set up to ensure the company's sustainable growth. This year four new company policies for Human Rights Protection, Policy Advocacy, Stakeholder Mapping and Engagement, Product Life cycle Sustainability were incorporated at JSPL. Our innovations to develop and deploy technologies for producing steel in a more environment friendly way were the subject of a case study included in Global Compact Network India's annual compendium of best sustainable business practices 2014-15, as well as an entire chapter in a book published by students at Harvard University after they visited our operations. I take this opportunity to also announce that in 2015 JSPL qualified and committed to be a Lifetime Member of the United Nations Global Compact; in continued service to improve the state of the world we have signed up as Foundation Member of the World Economic Forum; and we also became a signatory of the World Steel Association Sustainability Development Charter. At JSPL social commitment lies at the core of our business. JSPL has founded and runs a slew of universities, training schools, community colleges, and schools in India. In August 2014 we founded a new university the OP Jindal University (OPJU), under an Act of Legislature in the state assembly of Chhattisgarh. Also I am personally engaged in the construction of high-quality community toilets in the villages surrounding our operations. The sanitation of these toilets is managed by local women volunteers.

Going forward we will continue to invest in our greatest asset – our people. In fact we have just embarked on a large scale project of multi-skilling every JSPL employee. Raw material procurement at economical prices and cost efficient production processes will remain our top priority, and we are excited about several technological and process enhancements in our production that will come through in the year ahead.

I encourage you to read our 2nd Business Sustainability Report that will further showcase to you the internal robustness of our company. You will find that JSPL stands on a strong foundation of values and single-minded commitment to our work with an emphasis on systems driven work processes. Such that challenges only serve as catalysts to further the growth of JSPL and all its stakeholders.

Regards,

Ravi Uppal

# Message from Chief Sustainability Officer



Dear Stakeholders,

Through our 2nd Business Sustainability Report we would like you to know JSPL better. We have made every effort here to provide you with a detailed account of the sustenance of our business, data disclosures and trends, as well as showcase the core identity of our company which is pivoted on nation building, strong social commitment, and emphasis on technology. We have also followed up on the issues highlighted in last year's materiality analysis and inform you of the specific actions we have taken over the course of the year to overcome each issue.

The main highlights for JSPL's business sustainability this year have clearly been i) the establishment of a Risk & Compliance team, and a dedicated Energy Management team, at every JSPL operation site. ii) ensuring 100% compliances and transparency via data collection, management, and disclosures. iii) incorporating 4 new group policies. iv) focusing our CSR activities to an agenda for education, health & sanitation, building development infrastructure. v) gaining credibility for our environment friendly production processes at the United Nations and Harvard University. We have also deepened our engagement with the World Economic Forum and the World Steel Association. vi) due to various policy related events in India this year, raw material availability at economical rates has been a foremost priority for JSPL. You will notice in this report that our business model has therefore evolved towards an emphasis on cost efficient steel production as well as further strengthening our sales services.

We also thought you would be interested to know about how life at JSPL feels like. At any time we are surrounded by colleagues with diverse backgrounds, speaking any of 58 different languages, working out of our 33 offices all over the globe, who are either ferried by chartered plane flying twice a week across our main India operations, or who are present via sophisticated telepresence facilities installed at our offices. There is a high sense of patriotism amongst employees across all sites. The Indian National Flag is hoisted prominently at all our premises. Employees like to wear flag pins and flag wrist bands. There is also an emphasis on a structured and process oriented working style, with an openness to adapt to new technologies and innovations. In this report we have also included some pictures of our townships where JSPL employees live. Also we thought it important to mention to you JSPL's environment friendly and universal access office buildings.

You will further notice that social commitment is placed at the core of JSPL's business. The upliftment of communities living in the regions we operate is of utmost importance to us. But it is also crucial for us to contribute tangibly towards solutions to global challenges, and ensuring that our products are used for a variety of socially relevant purposes.

I hope that you will enjoy reading our report.

Sincerely,

Miniya



# About Jindal Steel and Power Limited

Jindal Steel and Power Limited (JSPL) is a major business conglomerate in India with a significant presence in steel, power and infrastructure. With an annual turnover of over US\$ 3.14 billion, it is part of the US\$ 18 billion diversified O.P. Jindal Group. The company expands its horizons by increasing its production capacity, diversifying investments and leveraging its core capabilities, which enables it to foray into new businesses. Currently, it has several business initiatives running simultaneously across continents.

JSPL is led by its Chairman Mr Naveen Jindal, the youngest son of Shri O.P. Jindal. The company produces economical and efficient steel and power. From the widest flat products to a whole range of long products, JSPL today boasts a product portfolio that caters to needs all across the steel space.

It has the distinction of producing the world's longest rails of 121 metres, large sized parallel flange beams, high strength angle irons for transmission towers and high strength earthquake resistant TMT rebars.

JSPL operates the largest coal-based sponge iron plant in the world and has an installed capacity of 3.25 MTPA of steel at Raigarh in Chhattisgarh. A 0.6 MTPA wire rod mill at Patratu and a 1.0 MTPA bar mill at Patratu, Jharkhand have been commissioned. Among the facilities commissioned by the company recently are a 1.5-MTPA steel melting shop and a plate mill for making five-meter-wide plates at Angul, Odisha and a 2 MTPA steel melting shop at Oman. The company aims to expand rapidly and contribute substantially to India's long term growth story.

# JSPL an Inclusive Workplace

16.7% WOMEN IN ACCELERATED LEADERSHIP PROGRAMME (JLMT)\*

3.2% OF TOTAL EMPLOYEES ARE WOMEN

19 DIFFERENT EDUCATION BACKGROUNDS OF EMPLOYEES\*\*

27.1% EMPLOYEES AGED LESS THAN 30 YEARS

66.1% EMPLOYEES AGED BETWEEN 30-50 YEARS

6.8% EMPLOYEES AGED GREATER THAN 50 YEARS

6 SPECIALLY ABLED EMPLOYEES (ACROSS INDIAN OPERATIONS)

4.5% EMPLOYEES ARE NON-INDIAN

58 LANGUAGES# SPOKEN BY EMPLOYEES

JSPL OFFICES IN 13 COUNTRIES

33 OFFICES IN DIFFERENT CITIES

27 STOCKYARDS AT DIFFERENT LOCATIONS

\* Basis of JLMT joined in 2015-16

\*\* Basis survey conducted in 2015-16. Please see page 31 of this report.

# Please see page 32 of this report

## Women Commanding Heights at JSPL



Mrs Shallu Jindal is a member of JSPL's Board of Directors

Captain Sucharita is the Pilot of our Bell 429 Helicopter

Captain Asmita is the Pilot of JSPL's Pilatus Private Aircraft

# JSPL in Numbers

US\$ 18BILLION JSPL IS PART OF THE ILLUSTRIOUS US\$ 18 BILLION OP JINDAL GROUP

US\$ 3.14BILLION ANNUAL TURNOVER OF JSPL IN FY 2014-15

9 MTPA PELLETT-MAKING CAPACITY

6.75 MTPA INSTALLED STEEL-MAKING CAPACITY (GLOBAL AND INDIAN)

5,085 MW TOTAL INSTALLED POWER CAPACITY

22,000+\* EMPLOYMENT OPPORTUNITIES WORLDWIDE

21 COUNTRIES STEEL EXPORTS

1,700+ DEALERS PAN-INDIA RETAIL NETWORK ACROSS 450 DISTRICTS

₹87.46 CRORES TOTAL CSR SPENDING IN FY 2014-15

50,000+ FAMILIES BENEFITED BY THE COMPANY

\*(Employees + Contractual Workforce) (1US\$ = ₹ 62.5908)

# JSPL Operations at a Glance

## RAIGARH

SMS	3.25 MTPA
BF	1.67 MTPA
DRI	1.32 MTPA
Plate Mill	1.00 MTPA
RUBM	0.75 MTPA
MLSM	0.70 MTPA
CPP	824 MW

## ANGUL

CGP	225,000 Nm3/HrBF
DRI	1.8 MTPA
SMS	1.5 MTPA
Plate Mill	1.5 MTPA
CPP	810 MW

## BARBIL

Pellet Plant	9 MTPA
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## PATRATU

WRM	0.60 MTPA
Rebar Mill	1.0 MTPA

## OMAN

HBI	1.5 MTPA
SMS	2.0 MTPA

## JPL

Tamnar	2800 MW
Tamnar	600* MW

## MINING

Iron Ore	3.11 MTPA
Tensa Mines (Domestic)	

## OVERSEAS

Operations  
 South Africa (Anthracite Coal)  
 Mozambique (Coking Coal & Thermal Coal)  
 Australia (Coking Coal & Thermal Coal)

## Exploration / Development / BD

Mauritania (Iron Ore)  
 Senegal (Power BDs)  
 Cameroon (Iron Ore)  
 Namibia (Iron & Manganese)  
 Botswana (Thermal Coal)  
 South Africa (Lime Stone)  
 Indonesia (Coking Coal & Thermal Coal)



Employees in the Control Room of JSPL's Plate Mill at Raigarh

# Our Steel Products

## Rails and Head Hardened Rails

JSPL is manufacturing the world's longest 121 meter long track rails, with a facility to factory weld in lengths of up to 480 meter. JSPL has bagged the first order of long rails for the Dedicated Freight Corridor Project. The Company will produce long rails upto 260 metres in length and beyond. These rails will be transported in customised rakes, enabling safer and faster rail travel through sharp reduction in welding joints across tracks. JSPL has also set up a state-of-the-art online Rail Head Hardening facility for the first time in the industry, which is a game-changing initiative in the rail industry. These head hardened rails are currently imported from Europe and Japan for use in upcoming Metro Rail projects in various cities.

## Jindal QuickBuild Solutions

JSPL's QuickBuild construction solutions include ready-to-use cut & bend rebars and weld mesh. QuickBuild solutions bring the best quality in rebars, processed accurately through a superior and fully automated process. The use of our ready-to-use factory built rebars improves project execution. Similarly, the use of weld mesh eliminates activities, such as cutting, marking, spacing of rebars and binding with wires. We are delivering the products through market-based service centres.

## Parallel Flange Beams and Columns

JSPL has pioneered the production of medium and heavy hot rolled parallel flange beams and column sections in India. These sections are cost-effective through savings in steel consumption and provide ultimate design flexibility to the structural designers. Wide product range is available from 180 mm to 900 mm. These are used in refineries, airports, flyovers, metro rail projects, shopping malls, power plants, stadiums, cement & steel plants and industrial sheds, among others.

## Structural Steel

JSPL has the distinction of producing high strength angle irons in transmission line towers (TLT) market within India, meeting all major international standards. The demand for sheet piles has increased, especially for infrastructure projects. The Company has fully utilised its state-of-the-art Rail and Universal Beam Mill at Raigarh to produce steel sheet piles (U-shaped) that conform to the highest quality standards. Moreover, we recently introduced Parallel Flange Bearing Pile sections and successfully produced W Sections of American ASTM series for the North American export market. These sections are available in mild steel and high tensile category, conforming to stringent quality norms.

## Plates and Coils

JSPL has commissioned a superior quality Slab Caster with highest capacity and strength, for the first time in India. Therefore, we are well-positioned to offer heavy plates and coils in various value-added grades that were hitherto imported, making Indian industry self reliant. These find use in general engineering, structural fabrication, hi-tensile and micro-alloyed grades, pressure vessels and boilers, bridges and flyovers, corrosion-resistant applications, railway wagons, oil and gas pipelines and shipbuilding.

## Speedfloor

JSPL has come up with revolutionary and innovative techniques to eliminate the outdated conventional flooring system, with suspended concrete flooring system known as 'Jindal Speedfloor'. Speedfloor is a light weight concrete / steel composite floor innovation that is easy to install and offers twin advantages of quicker construction and reduced consumption of concrete. An extensive range of joist depths and topping thicknesses that satisfies loading and fire requirements, offers contractors and end users an efficient and cost effective suspended concrete floor. It is perfect for multi-storey buildings and car parks.

## Wire Rods

JSPL offers wire rods in 5.2 mm to 22 mm diameters from its first unit at the proposed 6 MTPA capacity integrated steel plant at Patratu, Jharkhand. The wire rods come with the promise of high quality and dimensional precision. The latest technology assures high degree of thermo-mechanical properties along with unparalleled dimensional accuracy, providing consistency of mechanical properties within a coil and from coil to coil. Therefore, the wire rods are the material of choice among wire drawers across the country. The mill is equipped with coil reforming technology which ensures that the coils are shipped with adequate care and reach customers with excellent coil stability without any damage.

## Jindal Panther TMT Rebars

JSPL has developed a new brand by the name of "Panther" for which the first product is the high-strength earthquake-resistant construction TMT rebars.

# Products Range



# Financial Snapshot of JSPL (Consolidated Basis)

Direct Economic Value Generated (₹ crore)	
Gross revenues from operations	21420.58
Net revenue from operations	19400.67
Economic Value Distributed (₹ crore)	
Major operating costs <sup>1</sup>	6725.74
Employee wages and benefits	1090.34
Payments to providers of capital <sup>2</sup>	2583.70
Community Investment	87.46
Total Capitalization (broken down in terms of debt and equity) (₹ crore)	
Net worth	19369.83
Borrowings	45500.74

<sup>1</sup> Operating Cost = Cost of materials consumed+ Purchase Stock in trade + Change in Inventories + Employee Benefit expense

<sup>2</sup> Payment to providers of capital= Interest Cost



JSPL's Anthracite Coal Mine at Kiepersol Colliery, South Africa

# Jindal Power Limited

Committed to the 'Power For All' initiative of the Indian Government towards ensuring 24X7, reliable and affordable power.



Jindal Power Limited (JPL), a subsidiary of JSPL, is one of India's leading power generation companies. It is involved in various stages of operation, implementation, development and planning in thermal, hydro and renewable energy sector. JPL has the unique distinction of setting up India's first Mega Independent Power Plant (IPP) in the private sector- 1,000 MW thermal power plant at Tamnar, Chhattisgarh.

JPL has further enhanced power capacity at Tamnar by 2,400 MW. The last unit of 600 MW was successfully synchronised recently, taking JPL's total installed independent power capacity to 3,400 MW. This has made JPL the largest single location power producer in Chhattisgarh.

#### Salient features

- First power plant (4X250) MW in India to achieve 'mega power' project status in the private sector
- Certified with ISO 9001:2000, ISO 14001:2004 and OHSAS 18001:2007 standards
- Water is supplied from Kurket river, which is 25 kilometre away from the plant
- A dam of 18-metre height has been built on Kurket river
- Coal was transported to the power plant, via a 6.9 kilometre (approx.) pipe conveyor belt in the reporting year
- The Company has established a 258 kilometre 400 KV double circuit transmission line from the plant to the PGCIL

sub-station at Raipur. Through this, power can be sold anywhere in India

#### Upcoming Projects

JPL has signed agreements to develop three hydroelectric power projects, with a combined capacity of 6100 MW<sup>3</sup> in Arunachal Pradesh, in joint venture with Hydro Power Development Corporation of Arunachal Pradesh Limited (HPDCAPL).

The Company plans to develop a 1980 MW coal-based thermal power project near Krishnapatnam port in Andhra Pradesh.

#### KEY HIGHLIGHTS

- Sets new benchmarks in india's energy sector for early completion of Power projects
- Ranked as fourth best performing power station among 25 major operating stations in the country
- Commercial operation (cod) of unit 3 (600 mw) in january, 2015
- Successful synchronisation of unit 4 (600 Mw) in march 2015
- Saved 39.02 Mu energy with the completion of new energy conservation projects

<sup>3</sup>JPL had signed for 6100 MW hydro power capacity in Arunachal Pradesh in the year 2008 (4500 MW) and 2009 (1600 MW)

# 1.0

## Establishing JSPL's Business Sustainability Division

Sustainability at Jindal Steel and Power Ltd. means ensuring the organization's holistic growth with authenticity, such that we are able to support our organization's long term success as well as contribute significantly towards building a better world.

Business Sustainability department at JSPL was set up in July 2014 to help ensuring that the pace of growth of the company was matched with good quality growth. The vision was for JSPL to be a truly remarkable, global, and authentic organization where all stakeholders grow along with the company. As we started out to establish JSPL's Business Sustainability department we were cognizant that JSPL's sustainability must be defined by its employees and the company's own vision for its own sustenance. Accordingly, we embarked upon a project of defining what sustainability specifically meant at JSPL via 3 sets of online surveys, meant for 300 pre-identified employees, and several brainstorming sessions with JSPL's top management. Based on the results of these surveys and brainstorming sessions, we were then able to a) accurately define business sustainability at JSPL, and b) identify this new department's top priorities for the year ahead.

This section of JSPL's second Business Sustainability Report is a disclosure of the establishment and priorities of ensuring business sustainability at JSPL.

### i) Conceive-Cast-Collaborate

At the core of the process of setting up JSPL's Business Sustainability department was a simple principle: Conceive-Cast-Collaborate, which is described below.

**Conceive:** Depending upon the maturity of an organization, sustainability has a different meaning at different organizations globally. For instance, it could mean ensuring company compliances, implementing Corporate Social Responsibility (CSR), preserving the environment, rolling out business strategy, or even catalysing innovation. Therefore, as a first step, it was important to accurately define what Business Sustainability meant at our company. We decided to search within the company itself for its meaning. We wanted to know what employees felt was a pre-requisite for JSPL to sustain itself as a business.

Three sets of online employee questionnaires survey followed. Employees were asked qualitative and quantitative questions about the current state of JSPL and where they would ideally like it to be in 10 years. The questions revolved around JSPL's

work culture, brand, productivity, ethics, governance, business strategy and carbon footprint. We asked the employees to name the top three strengths of JSPL.

We then organized a series of brainstorming sessions with JSPL's top management. A set of external stakeholders were thereafter consulted. This process helped us clearly derive the meaning and priorities of business sustainability at JSPL. Sustainability at JSPL meant ensuring its holistic growth with authenticity, such that we are able to ensure JSPL's long-term success as well as contribute significantly to building a better world.

**Cast:** A factor that critically determines the sustainability of an organization is where it 'casts' or places sustainability in its organogram. At JSPL we decided that the organization's long-term, holistic, and authentic approach to sustainability could permeate through all its businesses and processes only if Business Sustainability became a central coordinating node within the company. It needed to be cast in a manner that enabled it to coordinate different departments of the company, related to the company's long-term success.

Accordingly sustainability officers, tasked with supporting all aspects affecting business longevity, were appointed at every site location. They report to the Chief Sustainability Officer who i) leads JSPL's Business Sustainability department ii) as part of the CEO's office assists him in coordinating across specific departments iii) reports to the Chairman on issues related to JSPL's social commitment.

This unique organization structure ensures that best practices for the company's business longevity are rolled out strategically in tandem with the company's top management.

**Collaborate:** All sustainability officers have been trained in-house to undertake Business Sustainability related responsibilities. There is a virtual meeting held every Monday and Friday that brings together all sustainability officers and the corporate business sustainability team. Sustainability officers at each site clearly map out their own key stakeholders – these include colleagues who are relevant to the site's business longevity, specific individuals amongst local communities, NGOs in the region, regulatory authorities, customers and specific media persons. Further, sustainability officers have been trained to interact regularly with their stakeholders in order to identify issues that impact the sustenance of business at respective sites. Information impacting business longevity is gathered in this



Premises of JSPL's Steel Plant Site at Raigarh

way directly from sites through each site's sustainability officer and reported to the business sustainability team during weekly virtual meetings.

The roadmap for specific actions required is drawn up after discussions with the concerned department or business unit head. Implementation of these actions is then rolled out by the CEO or by department and business unit heads.

Overall the Business Sustainability department plays its 'change management' role in adherence to three golden rules:

- i) Every analysis must be thoroughly data-backed
- ii) Road map for change must be drawn through a consultative process involving all relevant internal and external stakeholders
- iii) Roll out 'change' with tact, friendship, and collaborative action amongst relevant stakeholders

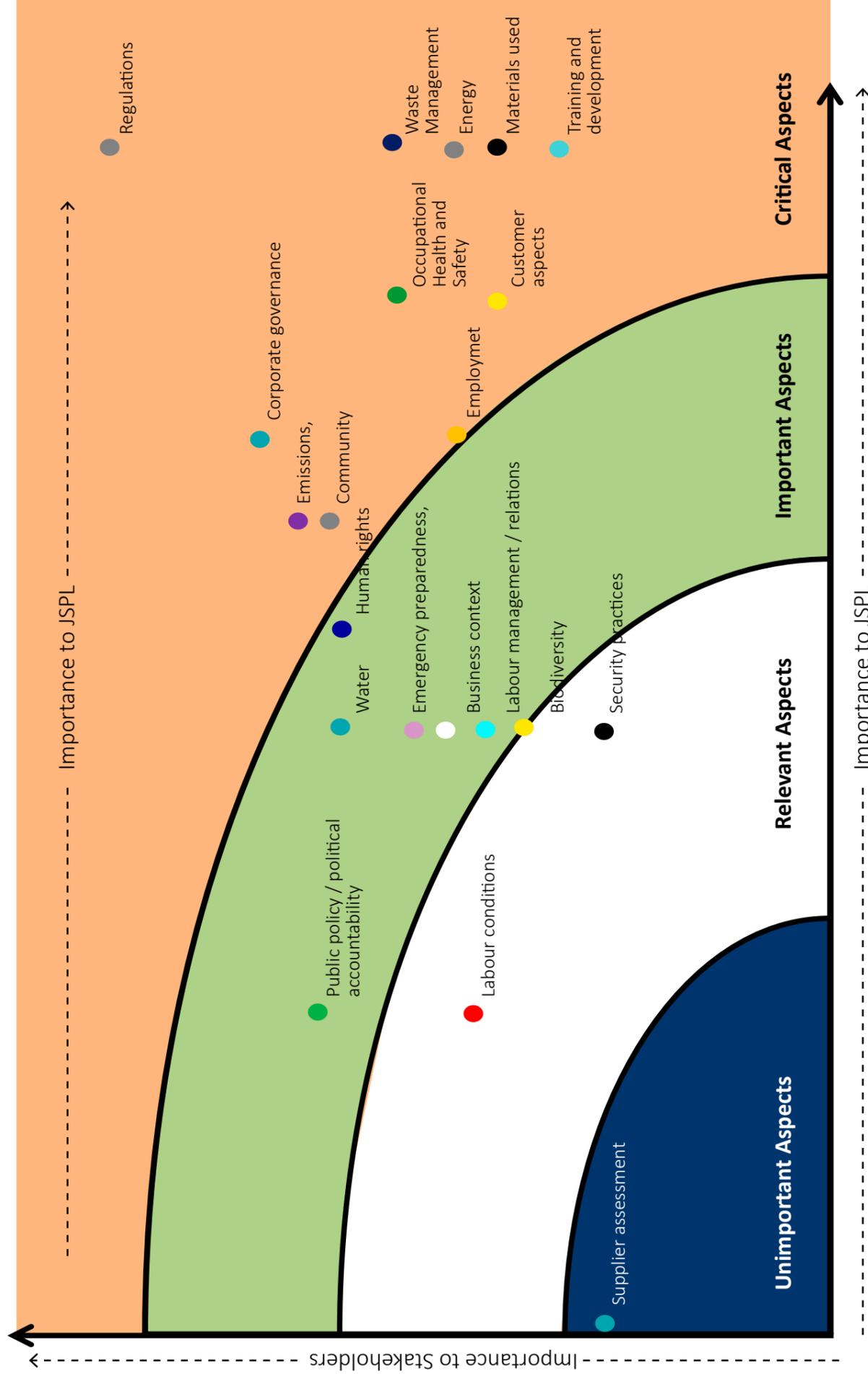
### ii) Overcoming Materiality Issues

'Materiality issues' are those that are important to a company's stakeholders as well as to its core business. At JSPL such materiality

issues are mapped by its Business Sustainability department to ensure holistic and long-term growth of the company.

In September 2014, JSPL's Business Sustainability team undertook an analysis of the company's materiality issues for the first time. To do this the team first identified JSPL's top 15 stakeholder groups who were directly or indirectly affected by JSPL's activities and those who may have interests in the operations of the company. After that a consensus driven effort led to the identification of a set of materiality issues. Each of these issues have a direct or indirect impact on JSPL's ability to create, preserve or erode economic, environmental and social value for itself, its stakeholders and society at large. These materiality issues often have a financial impact on the organization as well.

22 aspects that were identified as material are presented in the materiality chart below. These issues have been discussed as disclosures that run through this report. Further, specific Global Reporting Initiative indicators that are relevant to each of the most critical 11 aspects are also disclosed in this Business Sustainability report.



## Most Critical Materiality Issues for JSPL FY 2014-15

1. Regulatory Compliance
2. Corporate Governance
3. Waste Management
4. Raw Material Management
5. Training & Development
6. Energy
7. Occupational Health & Safety
8. Customer Aspects
9. Emissions
10. Community
11. Employment



Employees on the Factory Floor of JSPL's Mill at Patratu

Since 2014, JSPL has used this materiality analysis to build its business sustainability strategy, stakeholder communication, strategic planning, operational management, and capital investment decisions. Subsequently, key engagements have been developed by respective departments along with relevant stakeholders to overcome materiality issues. During FY 2014-15 we have taken the following steps to address JSPL's most critical materiality issues:

#### Regulations

- All environmental and social compliances for the relevant statutory norms and existing consents to operate were thoroughly reviewed. Recruitment of Risk & Compliance Managers was initiated (and later implemented) at all JSPL group's operational site locations.
- Establishment of the Internal Risk Management Committee was initiated (and later implemented).
- On 1 October 2014, JSPL introduced 'iComply', an automated online system, to check and record statutory compliances at our site operations.
- On 4 November 2014, the Investors & Risk Committee at the Board level was constituted, later it was separated to create 2 separate Board level committees: 1. Investors Committee 2. Risk Management Committee.
- A Risk Management Policy for JSPL was established and constituted for the company.

#### Energy

- Energy conservation initiatives at Tamnar have resulted in a total saving of 39.02 Million Units of power in FY 2014-15.
- Energy Management System ISO 50001 was established in Barbil and initiated at Raigarh, Raipur and Angul. In this way all JSPL operations sites are now certified/in process of being certified for ISO 50001.
- Energy Managers were recruited at all JSPL group sites.

#### Occupational Health & Safety

- JSPL has evolved and published a detailed set of safety standards for all its workplaces in the form of a comprehensive handbook called Global Safety Standards.
- In FY 2014-15 JSPL became the only company in India to have a 60-metre Turntable Ladder, a fire fighting machine for fighting the fire at high rise structures and buildings.
- Accident frequency rate reduced by 18.59%\*
- Accident severity rate reduced by 35.95%\*
- Fatality rate reduced by 34.32%\*
- Man-days lost on account of accidents reduced by 16.41%\*

#### Materials Used

- In FY 2014-15 JSPL charted out a detailed raw material management plan. This is discussed comprehensively in the section on Sustainable Business Model of this Business Sustainability Report.
- A Coal Management Group was constituted internally at JSPL in February 2015.

- JSPL diversified into the construction business with facilities for making bricks, road stabilizer, light weight aggregate and cement, partly from the waste generated by its other manufacturing units.

#### Training and Development

- 24712 man-days of training was imparted to employees till the end of third quarter in FY 15.
- The Oman centre witnessed the introduction of the LEAD programme. Thirty of its employees are now a part of this programme. More details on this can be found in the section on Top Priorities for JSPL's Business Sustainability of this Business Sustainability Report.

#### Corporate Governance

- In March 2015, the Company Started the process of appointing a 'Compliance & Risk Management Officer' at each of its sites. An Internal Risk Management Committee was also established later.
- Employees were brought together and consulted at regular intervals. The Telepresence system has greatly helped this consultative process, facilitating interactions among teams across different geographies. Regular Telepresence meetings ensure that all decisions are consensual.
- Physical level meetings of JSPL's Group Executive Committee were held on the following dates in 2014: April 7, May 9 and 20, July 24, September 8, October 14 and November 19. In 2015 a meeting was held on March 14. Also, a meeting of JSPL's Senior Management Committee took place on June 14, 2014, bringing together 169 senior managers from across JSPL's operations worldwide.

#### Community

- JSPL has set up 4 tele-medicine centres at Raigarh, Tamnar, Barbil and Angul during the year. See the Around Our Operations section of this Business Sustainability Report for more details.
- In August 2014, The O.P. Jindal University was founded by the Jindal Education and Welfare Society (JEWS). The university was established by an Act of Legislature in the state assembly of Chhattisgarh.
- 7 community toilets were built in Raigarh area, 2 school toilets were built in Angul, 6 community toilets were renovated and 1 new community toilet was constructed in Patratu, 1 community toilet was built in Jeraldabaru, 1 community toilet was renovated and 1 new community toilet was built in Asanboni. In Tamnar, 475 low cost single unit toilets and 9 school toilets were built.
- JSPL's CSR programme focused around three themes: Health & Nutrition, Education and Community Infrastructure.

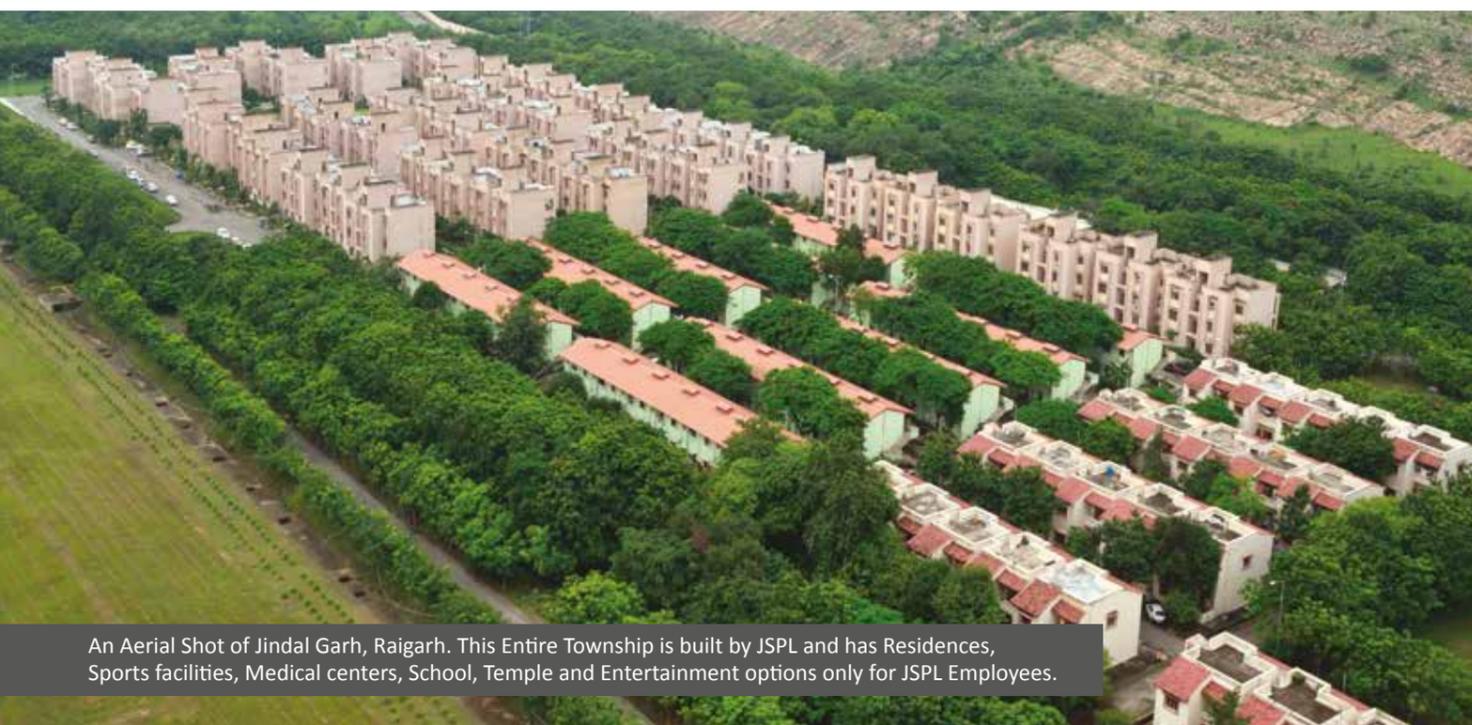
\* This includes figures for Raigarh Steel Plant, Raigarh Cement Plant, JPL Tamnar, DCP, Angul, Barbil, Patratu, Raipur, Tensa, Delhi/NCR for both JSPL and JPL as covered in our last business sustainability report 2013-14



An Aerial Shot of Jindal Nagar, Angul. This Entire Township is built by JSPL and has Residences, Sports facilities, Medical centers, School and Entertainment options only for JSPL Employees.



An Aerial Shot of Urja Nagar, Tamnar. This Entire Township is built by JPL and has Residences, Sports facilities, Medical centers, School, Temple and Entertainment options only for JPL Employees.



An Aerial Shot of Jindal Garh, Raigarh. This Entire Township is built by JSPL and has Residences, Sports facilities, Medical centers, School, Temple and Entertainment options only for JSPL Employees.

# 2.0

## The Top Priorities for JSPL's Business Sustainability

FY 2014-15 was JSPL's first year of incorporating business sustainability as a core aspect of its operations. The first few months were dedicated to define and set up the Business Sustainability department as well as the team. Subsequently rolling into action, there have been a few important milestones achieved towards establishing JSPL's success for the long term:

1. Establishing a Risk and Compliance Management team
2. Establishing an Energy Management team
3. Constituting 5 company policies (for Risk Management, Human Rights Protection, Policy Advocacy, Stakeholder Mapping and Engagement, Product Life cycle Sustainability)
4. Ensuring the company's business model sustainability (with emphasis on JSPL's raw material procurement plan and establishing structured business processes)
5. and instituting JSPL's core identity and building the company's brand around that.

Also JSPL's CSR activities were focused on to 3 themes of:

1. Education
2. Health nutrition and population stabilization
3. Community Infrastructure

There was greater emphasis that JSPL's social commitment of 'clean and green country' must be embedded in all aspects of its business. In this context, the use of new technologies for more environment friendly manufacturing processes were encouraged, and existing such technologies were showcased at important international forums such as the United Nations, World Economic Forum, World Steel association. Also in terms of employees' safety, accident frequency rate was reduced by 18.59%\* and fatality rate was reduced by 34.32%\*.

In large part, these early milestones were achieved because of a clear prioritisation of needs. Once JSPL's Business Sustainability department was established, the top priorities in FY 2014-15 for ensuring JSPL's business longevity were decided in consultation with the company's employees. These top priorities were then presented to the Group Executive Committee for review. This list of top priorities are disclosed below:

### i) Ensuring 100% Compliances

JSPL is a law abiding and legally compliant company, and its management also strongly propagates this commitment. In

FY2014-15 a complete review of all statutory compliances was undertaken. An online portal for managing compliances called 'iComply' was put in place, and employees across sites were trained on how to use iComply.

Further, in FY 2014-15 JSPL also initiated the recruitment process for a team of Risk and Compliance Officers located at every site (later implemented in FY 16). Later, an Internal Risk Management Committee was also institutionalized at the Corporate Office. Risk and Compliance Officers at each site report to the Plant Head as well as to the Internal Risk Management Committee. Tools for identifying the most important risks faced by JSPL were created, and each risk was assigned a risk owner, detailed risk mitigation steps, and risk mitigation timeline.

Ensuring 100% compliances is the top most priority for JSPL, and the company plans to continue efforts towards strengthening a) JSPL's compliance management systems b) training programmes to shape employee mind set towards always fulfilling all their compliance obligations.

### ii) Ensuring Raw Material Security

On 24 September 2014, the Supreme Court of India declared that the coal blocks allocated by the Government of India since 1993 were done in an arbitrary way. Subsequently 214 out of 218 coal blocks (including JSPL's coal blocks) that had been allocated since 1993 have been de-allocated and are being auctioned/allotted in a phased manner through a competitive bidding process. While the coal blocks earmarked for private sector are being put forward for E-Auction, the coal blocks earmarked for Government Companies & State Governments are being allotted under a separate scheme.

In later sections of this Business Sustainability Report, we have provided full disclosures on the consequences of the Supreme Court's declaration on JSPL group's business sustainability. JSPL's top management put in place a business plan for ensuring its raw material security ahead of the start of the re-allocation process of coal blocks. A Coal management Group was constituted within the company, whose objective was to procure coal both for steel and power business from the most appropriate & cost effective external sources of coal. In parallel JSPL participated in the government led bidding process of the coal blocks. In addition to the above endeavour, the newly formed Group is also vigilant about the new opportunities abroad.

\* This includes figures for Raigarh Steel Plant, Raigarh Cement Plant, JPL Tamnar, DCP, Angul, Barbil, Patratu, Raipur, Tensa, Delhi/NCR for both JSPL and JPL as covered in our last business sustainability report 2013-14



Iron Ore Pellets being Poured by Stacker-Reclaimer Machine in JSPL's Pellet Plant in Barbil

### iii) Establishing Sustainable Steel and Power Production Processes

JSPL believes that investing in new technologies for inventing more environment friendly manufacturing processes is the greatest contribution that companies can make towards contributing to the conservation of the planet. Because on one hand production of steel and power are crucial elements for every country's economic development, and on the other hand economic development must not be at the cost of nature's loss. However history shows that most of the technology breakthroughs for protecting the environment in production processes usually need decades to make it to the mass market<sup>4</sup>. To cut global emissions in half over the next 40 years, these technology innovations need to be deployed faster and on a wider scale<sup>5</sup>, and this is where large private companies can play an important role by developing as well as deploying these new technologies.

JSPL invested in developing and deploying for the first time in the world a technology to manufacture steel using energy produced via the process of coal gasification. While India's steel plants had traditionally relied on imported coking coal, which was necessary to run blast furnaces, a coal-gasification setup would allow JSPL to make use of locally available Indian non-coking coal, turning it into synthesis gas or syngas and in turn using the syngas as a reducing agent to make steel. This technology is a more environment friendly way to produce steel and the by-products (e.g. tars, ammonia, and sulphur) of the production process

can be either re-used in the production or re-cycled and sold in the market. It has taken JSPL four years to build such a coal gasification plant and the company has learned many lessons in the process. Later sections of this Business Sustainability Report provide more details on the deployment of this technology. In FY 2014-15 JSPL showcased the lessons learned from the company's efforts to deploy this technology at a few prominent forums. The objective was to help other companies learn from JSPL's experience and also adopt this technology.

On January 18, 2015, thirty two students from Harvard University and MIT visited JSPL's coal gasification plant in Angul, and wrote out an in-depth case study about the lessons learnt by JSPL in building this plant. The book containing this case study as a dedicated chapter on India will be published in September 2015. You will find a copy of the book chapter written by the students of Harvard and MIT in the 'Case Study' section of this Business Sustainability report.

On February 14, 2015, the Global Compact Network India (GCNI) included JSPL's coal gasification technology for steel production as one of the twenty-one best practices of sustainable business in India. A case study of this technology was published in a compendium that was launched at GCNI's National Day held annually. JSPL was invited also to speak about sustainable steel production at a panel discussion on the occasion of GCNI's National Day conference in Bangalore.

In March 2015, JSPL was invited to the prestigious 'Think Conference' in Stuttgart, Germany to speak to a large global audience about its practice in life cycle sustainability of its products. During the conference JSPL was recognised for implementing industry best practices for achieving economic efficiency (innovation, energy efficiency, and productivity), social equity (education, health & nutrition, population stabilization, nation building) and environmental accountability (environment friendly steel production, biodiversity, renewable energy).

### (iv) Building an Authentic Corporate Identity and Brand

The responses to a series of employee surveys, SMS campaigns, and workshops with employees and top management conducted by JSPL's Business Sustainability department indicated that JSPL has in its very essence a breakthrough innovative spirit embedded by its founding father, the revered Mr. O.P. Jindal.

The survey results showed that this spirit clearly lives on within the organization in the ways employees think and in everything employees do. The very nature of the industry JSPL is in as well as the company's large size makes JSPL an important component in the growth story of every country JSPL is present in. The passion for building the Nation of our dreams drives JSPL on a daily basis. The company is also active on issues of national and global significance, and the survey responses also demonstrated that employees believed that as leaders in the industry and responsible corporate citizens we must continue to lead towards solutions for problems affecting the people of the world at large.

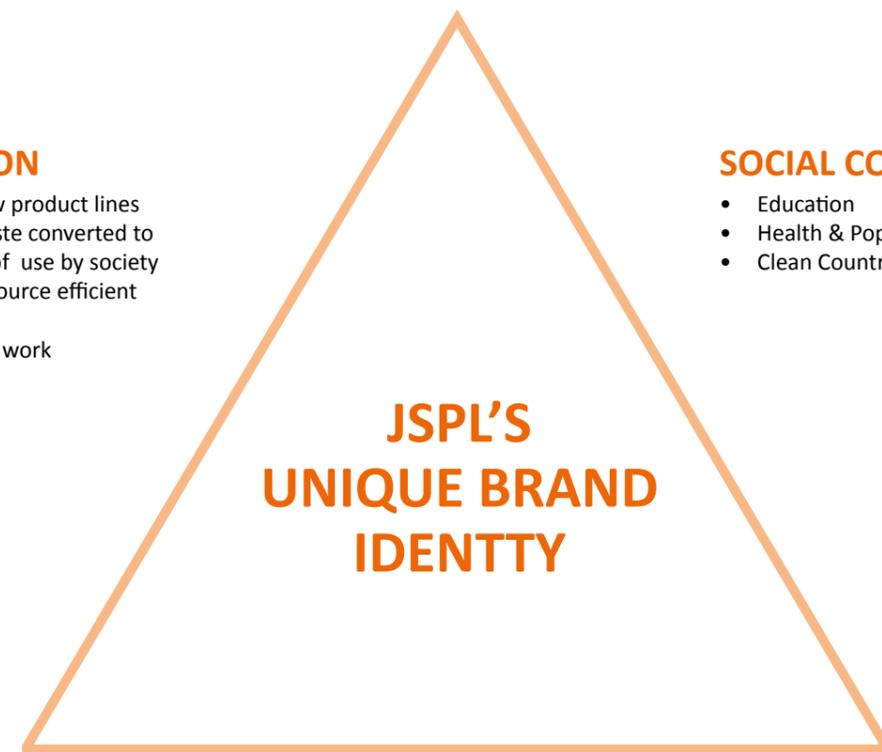
Innovation is intrinsically and deeply embedded in the DNA of the company, and so is the company's mission of Nation Building, along with a strong sense of Social Commitment. As JSPL grows rapidly and diversifies in products and geographic locations, this is who JSPL is at its core.

### INNOVATION

- Exploring new product lines
- Industrial waste converted to by-products of use by society
- Energy & Resource efficient technologies
- Innovation at work

### SOCIAL COMMITMENT

- Education
- Health & Population Stabilization
- Clean Country / Green Country



### NATION BUILDING

- Building the country's infrastructure
- Enhancing quality of human life
- Economic development of the least developed regions
- Upholding the Indian National Flag
- Creating islands of development & prosperity on plant sites

<sup>4</sup> According to researchers at the UK think tank Chatham House and the patent-search firm Cambridge IP, in the past it has taken 19 to 30 years to achieve wide use of new technologies of manufacturing that prevent climate change. <https://hbr.org/2010/01/can-technology-really-save-us-from-climate-change>

<sup>5</sup> <https://hbr.org/2010/01/can-technology-really-save-us-from-climate-change>

## On Authenticity

Over the last 50 years, more than a 1000 studies have attempted to determine the definitive characteristics of truly great, industry leading organizations. But the results have been at best inconclusive.

Research has shown that this is because each winning organization is a unique entity in itself<sup>6</sup>. It was found that industry trailblazers introspect and establish their unique corporate brand identity on the basis of authenticity. They are true to what they are and do not try to be like some other.

In line with this reality, JSPL has built a unique brand identity for itself defined by Innovation in its DNA, its mission of Nation Building, and Social Commitment embedded in its business.

unique intervention wherein members of the top talent team are exposed to various interventions including advance management programmes at leading institutions, executive coaching and exposure to global best practices. In FY 2014-15 twenty JSPL senior employees were nominated to be part of this programme.

## LEAD Programme

The Leadership Exploration and Development (LEAD) programme is a 6-8 month intervention focused on “delivering leadership development through business performance”. The programme has two elements, an individual development module for mid-level leadership encompassing i) leading self ii) leading others iii) and leading change. This aspect of the programme focuses on developing an individual’s leadership potential and usually includes five coaching sessions, five functional training workshops and peer-to-peer learning segments. The second element requires each participant to deliver exemplary performance through a breakthrough project (BtP) for six months focused on initiatives ranging from cost optimization, process improvement, strategic initiatives, and innovations. Driven by the head of the site location, the BtPs are reviewed monthly. Once incubated in the LEAD programme, each of the BtPs is implemented in the organization.

## Trainee Programmes

In FY 2014-15 a batch of 16 trainees were recruited into a fast-track career development programme as part of the Jindal Lead Management Trainee (JLMT) Programme. The JLMT programme is specially designed to include orientation to the company and includes four months of project work at JSPL’s plant site in Raigarh, three months at the Jindal Power site in Tamnar, three months at JSPL’s plant site in Angul and two week-long classroom sessions on steel making and power production. Thereafter, JLMTs are placed at different key positions in the company. JSPL also has the Graduate Engineer Trainee programme (no recruitment in FY 14-15), as well as a Management Trainee programme for 52 fresh graduates from business management institutes.

At all times there are on-going mandatory training activities that include behavioural, functional, as well as technical training programmes. The target man-days of training is three per employee. In FY 2014-15 approximately 700 employees attended the Employee Assessment Centre, an annual one-day assessment of each employee, which results in a detailed report on each employee’s strengths and working areas.

## (vi) Maintaining Robust Internal Management Processes

During a year of changing external business and policy environment, business at JSPL operated smoothly. This was due to a systematic approach to business processes that was especially emphasised and led by MD & Group CEO Mr Ravi Uppal.

Strategic meetings and reviews happened at frequent intervals to ensure all employees at JSPL move together in unison. A two-day strategy meeting of JSPL’s Senior Management Committee took place in June 2014, which witnessed the participation of 130 of JSPL’s 169 senior most managers. All global



Employees in the Control Room of JSPL’s Mill at Patratu

## (v) Attracting and Nurturing Leaders

There is a strong emphasis at JSPL on nurturing young and diverse talent. The company is led from the front by the young and dynamic leadership of its Chairman Mr Naveen Jindal. JSPL’s MD & Group CEO Mr Ravi Uppal takes personal interest in nurturing young leaders on a rolling basis in the CEO’s Office, providing mentorship and opportunities to learn from him. There is an emphasis on trusting young professionals with leadership roles in the company. For example JSPL’s Head of Strategy and Business Coordination as well as its Chief Sustainability Officer are both under 35. Today 27.1% of JSPL is less than 30 years of age.

Other forms of diversity include bringing in local/regional as well as foreign talent as well as encouraging recruitment of employees with varying educational backgrounds. The company has taken on the challenge of improving its gender ratio, by not only recruiting more numbers of girls in the company but also nurturing female leadership.

In FY 2014-15 JSPL has also brought in a few important domain experts, for which JSPL’s Human Resources team scouted globally to look for talent.

Emphasizing the company’s focus on innovation and technology, two new leadership positions of Chief Technology Officer (CTO) and Chief Innovation Officer (CIO) were created this year in the company, positions that were subsequently filled by Mr Sabyasachi Bandopadhyay and Mr Vipul Anand respectively. Further, JSPL’s Learning and Organizational Development function is led by the Chief Learning Officer, Dr Prabhu Agarwal with the mandate to nurture talent on a continuous basis. Some of the highlights of the leadership development programmes at JSPL in FY 2014-15 are as follows:

### Voyage of Discovery Programme

At JSPL, identifying top talent is a continuous process. The effort is to encourage the most talented people to acquire skills that will help them take on increasingly challenging roles and responsibilities. The “Voyage of Discovery Programme” is a

and regional site locations of the company were represented at the meeting. Through FY 2014-15 a marketing meet was conducted every month involving the participation of all regional managers for sales and marketing at JSPL. Also, the MD & Group CEO Mr Ravi Uppal, held reviews with site-level leadership on site or through a video conference every month.

A focal area in FY 2014-15 was to digitise processes across the company. For example, the eNFA system now ensures that all Notes for Approval (NFA) are processed electronically. Also, iComply, which went live this year, is a system that helps the company ensure that all statutory compliances are not only in place but can be easily tracked on a password protected electronic dashboard. The first phase of the Sustainability Performance Management system is also now ready. All data concerning JSPL’s business sustainability is collected on a monthly basis and assessed electronically. The recruitment of a Group CIO this year led to the initiation of several new steps in the area of automation.

## (vii) Motivating Employees to Provide Leadership on Issues Critical to the State of the World

Apart from CSR projects, employees at JSPL have piloted large-scale initiatives towards i) stabilizing India’s population;

ii) providing creative solutions for developing infrastructure for the most needy; iii) upholding India’s National Flag and iv) starting up educational institutions.

In partnership with Hindustan Latex Family Planning Promotion trust (HLFPPT), promoted by HLL Life-care, a Government of India enterprise, JSPL rolled out an initiative where by female condoms would be sold through an innovative service delivery channel. The innovative approach makes female condoms and male condoms accessible to urban and semi-urban cities in India through web based inventory controlled electronic vending machines manufactured with steel facilitated via JSPL. JSPL signed a MOU with HLFPPT in September 2014. Thereafter the steel for manufacturing these vending machines was facilitated via JSPL to HLFPPT at a zero-profit-zero-loss basis. These vending machines are being strategically placed in public spaces which also provide privacy to the buyers of the condoms.

In FY 2014-15, JSPL launched an initiative to build innovative modular toilets using its own construction materials. Several designs were studied. MD & Group CEO Mr Ravi Uppal played a key role in the initiative. So far three locations have been identified in the Raigarh district to construct the modular community toilets.

<sup>6</sup>Source: <https://hbr.org/2007/02/discovering-your-authentic-leadership>



Employees on Factory Floor of JSPL's Mill at Patratu

Later sections of this Business Sustainability Report provide details on both these initiatives. JSPL's Chairman Mr Naveen Jindal continues to lead the Flag Foundation that places India's National Flag in public spaces. As of March 31, 2015, the Flag Foundation of India has installed 40 monumental flagpoles of 100-foot height and 12 monumental flagpoles of 207-foot height, across India.

JSPL also leads in the area of providing quality, affordable education. It has two universities (OP Jindal Global University, Sonapat and the OP Jindal University, Raigarh); one training school (Jindal Institute of Power Technology, Tamnar) for power plant professionals; five O.P. Jindal Community Colleges in Odisha, Chhattisgarh and Jharkhand and four Industrial Training Institutes based on public-private partnership schemes with the Government of India. JSPL has also provided 332 community teachers to 160 government children's schools at Raigarh, Tamnar, Nalwa, Angul and Patratu benefiting 5500 students.

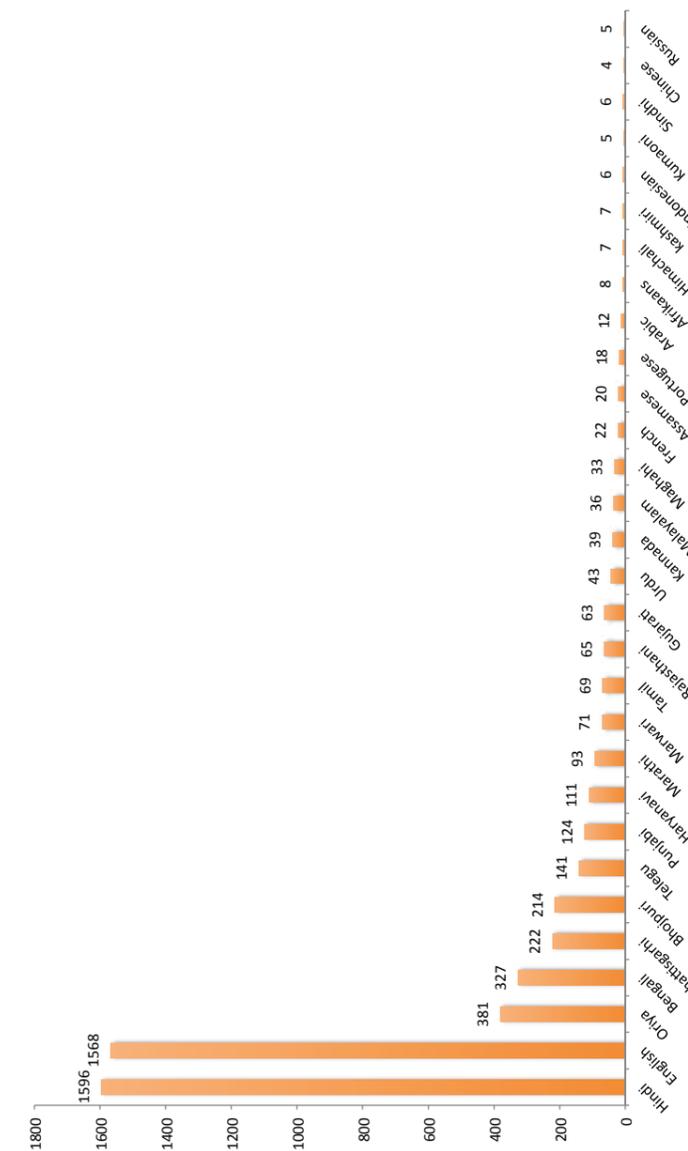
Further, JSPL was invited for the first time to the World Economic Forum's Annual Meeting at Davos in 2015. The motto of the World Economic Forum is to improve the state of the world Nations.

Given the company's interests in manufacturing steel, power, and infrastructure, JSPL is literally building Nations. The company continues to create economic value in every country where it operates and contributes to healthy ecosystems and strong communities.

### United Nation's Global Compact and Jindal Steel and Power Ltd

JSPL is a lifetime member of the Global Compact Network India and a life time member of the United Nations Global Compact. The Chief Sustainability Officer of JSPL is also a part of the Steering Committee for Sustainability of the Global Compact Network India. On February 14, 2015, the Global Compact Network India released a report on sustainability best practices of Indian and global companies. The report featured JSPL's business case for sustainability and the opportunities utilized by the company for integrating sustainability, measurement of impacts. It also featured key initiatives taken by JSPL for addressing risks and challenges. Today, JSPL uses highly advanced technologies like a top recovery turbine. Its coal gasification plant at Angul attracted special focus in the report because of its low impact on environment as compared to conventional methods. The technology also allows utilization of wastes as raw materials for various applications.

### Languages Spoken by Employees at JSPL\*

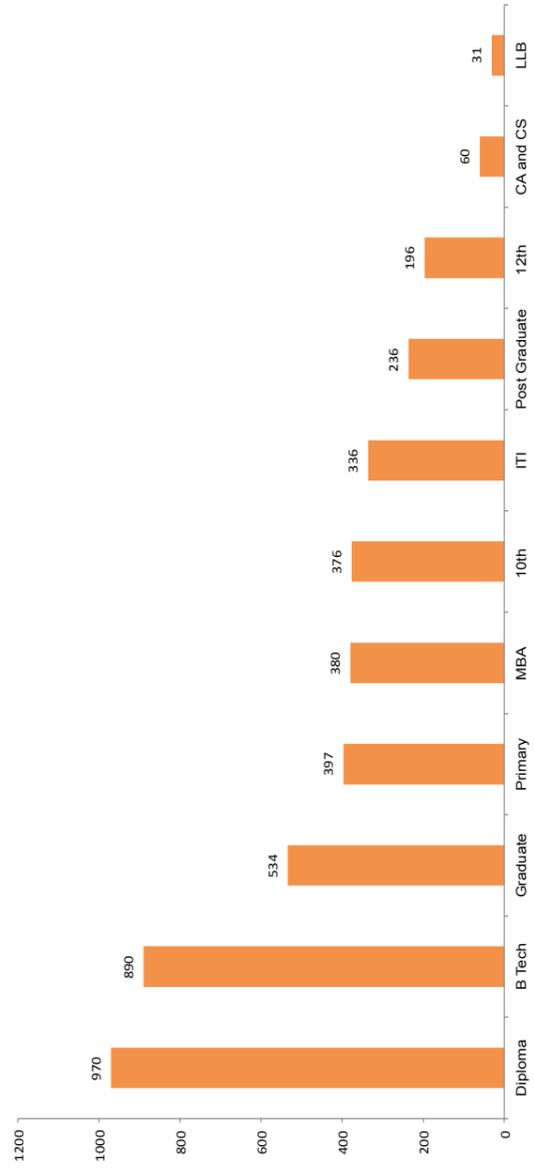


\*Basis survey conducted in FY 2015-16, 1671 Employees participated

### Other Languages Spoken by Employees at JSPL

Angika
Awadhi
Bagheli
Bundelkhandi
Dogri
Garwali
Konkani
Maithili
Marathi
Marwadi
Sambalpuri
Sankethi
Sindhi
Tulu
Dutch
German
Italian
Japanese
Kartuli
Malagasy
Nepali
Nishi
Russian
Spanish
Swahili
Tswana
Xitsonga
Zulu

## Diversity of Educational Backgrounds of Employees at JSPL\*



\*Basis sample of 4557 Employees collected in FY 2015-16

## Other Educational Backgrounds of Employees at JSPL

M Tech.
LLM
PhD
MBBS
MD
Boiler Certification
Mining Certification
Safety Certification

# 3.0

## JSPL has a Sustainable Business Model

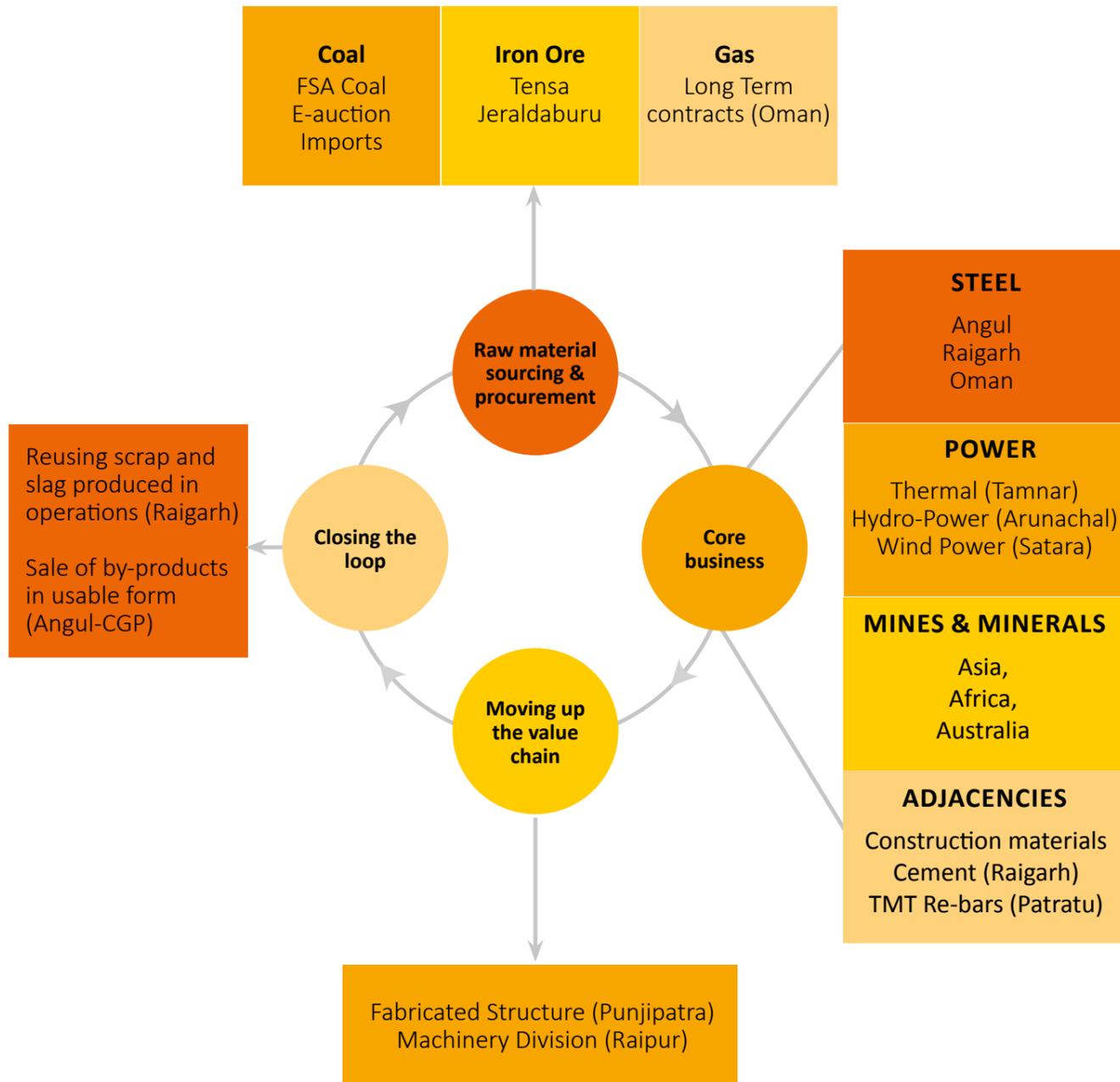
In its judgment on August 25, 2014, the Supreme Court declared the allocation of coal blocks made through the screening committee and government dispensation routes to be arbitrary and illegal. Following this on September 24, 2014 the allocation of all 218 coal blocks except for the one allocated to SAIL, the other to NTPC and two to UMPPs since 1993, were cancelled. The Supreme Court allowed 42 mines, which were operational, to continue production till March 31, 2015. It ordered the allottees of these mines to make an additional payment at the rate of Rs 295 per tonne on the coal extracted.

This section of JSPL's Business Sustainability Report explains how despite the events that followed this Supreme Court order, JSPL's business model remains stable. It discloses the events that subsequently unfolded and their implications on JSPL's business. Additionally, there were two more important enhancements to JSPL's business model related to diversification in products and in global operation sites, such that JSPL's business model during FY 2014- 15 is described in the figure:



JSPL's Coal Gasification Plant in Angul

## Description of Supply Chain in JSPL's Integrated Business Operations



Gathering Lime Stone by Stacker-Reclaimer Machine in JSPL's Steel Plant at Raigarh

This section of the Business Sustainability Report is a disclosure of five enhancements to JSPL's business model made during FY 2014-15, namely

- i) Evolution of raw material procurement model for production in response to new Government policy/decisions in India.
- ii) Diversification of JSPL's business portfolio of markets and products
- iii) Cost efficient steel production
- iv) Sustainable Supply Chain
- v) Customer Centricity

### i) Raw Material Procurement

What actually happened? Following the Supreme Court order, JSPL had to give up its coal mines that supplied coal to its steel and power operations in India. The organization also paid an additional levy of INR 3,089.25 crores (for the period from commencement of mining to September 30, 2014) and on the similar basis the Company has accrued additional levy of INR 118.01 crores (for the period October 1, 2014 to March 31, 2015) (Including the amount of JPL its subsidiary).

Thereafter, on October 21, 2014, the Coal Mines (Special Provisions) Ordinance, 2014 (now an Act) was promulgated to enable the allocation of coal mines to successful bidders. Bidders were short-listed through two stage bidding process and the successful bidders were declared after conduct of E-Auction through Auction route kept for Private/Govt sector and blocks earmarked only to Govt sector were allotted to Govt through allotment process. All these allocations either through E-Auction or Allotment routes were based on End Use Plants. The objective of the Ordinance was to minimize any impact on core sectors

such as steel, cement and power utilities, which are vital for the development of the Nation. However, end use of many of the blocks was changed causing substantial impact on core sectors. JSPL's Utkal B1 coal block was consolidated with Utkal B2 block and the end-use of the combined block was changed to power. However, as the original allottee, JSPL relied on Utkal B1 to feed its coal gasification plant in Angul to make environment friendly steel was actually made in-eligible to participate in Utkal B1 & B2. JSPL appealed this at the High Court and won a favourable judgement.

The High Court was of the view that the classification of end-use for the coal blocks involved in the present petitions as also the merger of the Utkal B-1 and Utkal B-2 needed to be reviewed in light of the observations by the Hon'ble High Court in its decision. The Court thus ordered the de-merger of Utkal B1 and B2 mines and directed that Utkal B-1 and Utkal B-2 be taken off from the auction process.

Subsequently, through the transparent bidding process conducted by the Government, JPL won two coal mines, Gare Palma IV/2 and IV/3 and Tara respectively. With this JPL secured about 322 MT of extractable coal reserves. However, Gare Palma IV/1 (won by Bharat Aluminium Company Limited), Gare Palma IV/2 and IV/3 and Tara were not allocated to the winning bidders by the Government saying that the bid did not reflect fair value. The company in press release said that "We fail to understand as our bid was much below the ceiling price during the reverse auction process and would make best efforts to engage with the coal ministry and Government authorities to present the facts". Later the company decided to contest this decision in Hon'ble Delhi High Court which in hearing of March 26, 2015 observed

The ceiling price for the Gare Palma IV/2 and IV/3 mine was fixed by the Government at Rs 700. JPL quoted -108, which means that the company quoted Rs 808 lower than the ceiling price fixed by the Government. The ceiling price for the Tara mine was Rs 970 and JPL quoted -126 which means an effective bid price of Rs.1096/t.

This means that JPL in fact quoted a reduction of Rs 808 for Gare Palma IV/2 and IV/3 and of Rs 1096 for the Tara mine from below the ceiling price as fixed by the Government. The value the company offered for Gare Palma IV/2 & IV/3 mine was 21.3 times the intrinsic value and 26.6 times of Intrinsic value as fixed by the Government for Tara. Therefore, there is no basis to the claim that the prices quoted by JPL were low.

that there was no obvious reason for not allowing JPL, which was a preferred bidder, rights to the block. "We are not very impressed with this. This does not smack of fairness. We don't want any third-party rights to be created", Justice Ahmed said in the court. The matter is sub-judice and the company hopes to get a favourable verdict from the Court. JSPL and JPL have worked on a detailed plan for sustaining coal supply for their production processes.

More importantly, In our view No mine can be compared to each other because each mine is unique in terms of the amount of reserves it holds, it's present status whether it is in production or yet to be developed, Peak Rated Capacity, logistics, strip ratio, calorific value and so on. Moreover, acquiring the Gare Palma IV/2 & IV/3 mines makes little business sense to any company other than JPL because as per approved Mine Plan, any bidder is required to produce 6.25 MTPA and there is no access to them except a rail head, which is 60 kms away, to evacuate huge quantity of coal.

However after it started operating this mine, JSPL built a dedicated 6.9 km long pipe conveyor system to ferry the coal from the washery to JPL's power plant. In the absence of such a facility, moving the coal would be a daunting challenge for any other company. The mine has a rating capacity of 6.25 million tonnes, which translates into 20,000 to 21,000 tonnes of coal per day. This would require 1,000 tipplers of about 20 tonnes capacity round the clock...a clearly unsustainable proposition in the long run. Moreover, the tipper trips would have an adverse impact on the environment to the extent of 1566 tonnes CO<sub>2</sub>/year<sup>7</sup> if the mine operated for 300 days a year. Such heavy traffic would have also resulted into number of road accidents causing lot of distress among the local villages.

JSPL and JPL have worked on a detailed plan for sustaining coal supply for its production processes. As a first step the company has put in place a dedicated coal management group, which would design and implement a comprehensive coal procurement strategy. This group includes senior management, which would examine various dynamics including planning, sourcing and procurement of coal and ensuring logistics for its timely delivery.

Secondly, JSPL intends to meet its coal requirements through a combination of e-auction, imports and linkages. Currently, we import significant volumes of coal from our own mines in Mozambique and Australia. We also import coal from other mines in Australia and South Africa. We are already taking

steps to ensure that the logistics are in place. The company also intends to participate in subsequent rounds of coal block and linkage auctions.

### Coal for Power Business

JPL has an installed capacity of 3400MW in Tamnar, in the form of 3 End User Projects (EUP). EUP-I is for 4 x 250MW units, while EUP-II and EUP-III are for 2 x 600MW each. There is a Power Purchase Agreement (PPA) in place for EUP-II of 400MW (with Tamil Nadu) and 350MW (Kerala). Another PPA (medium-term) is in place for EUP-I of 200MW (Tamil Nadu).

Before the mines were de-allocated, EUP-I sourced coal from Gare Palma IV/2 and IV/3; EUP-II sourced coal from its linkage with Coal India Limited (CIL) and the partially operational EUP-III ran on imported coal. As stated earlier, JSPL won Gare Palma IV/2 & IV/3 and Tara coal mines through a transparent bidding process managed by the Government. Had this stayed, the company would have changed its sourcing strategy such that Tara mines were to feed EUP-I while Gare Palma IV/2 & IV/3 would feed EUP-III. EUP-II would have continued with the current coal linkages.

The government's subsequent decision to overturn the result of JSPL's successful bid is sub-judice as noted earlier. However it is important to note that even if the company had won these coal blocks in the e-auction, the Tara coal block would have been available to it for real production and use only after 18 months.. Further, for utilization of coal from Gare Palma IV/2 and IV/3, the company needs to sign PPAs. Due to this reason, in the budget for FY 2015-16 the company had made its operating plans without these coal blocks. This is why the rejection of JSPL's winning bid for Gare Palma IV/2 & IV/3 and Tara coal mines does not have any immediate impact on JSPL's business model.

According to the company's operating plan three units of EUP-I (4x250MW) would run on a continuous, priority basis. If load is available, then the fourth unit will run as well. EUP-II (2x600 MW), which is covered by a coal linkage, will run at least 1 unit. It will operate its second unit subject to availability of load and coal. As for EUP-III (2x600MW), COD has been obtained for its first unit and the second unit has achieved full load. The two units of EUP-III would also run depending upon the availability of load and coal.

### Coal for Iron and Steel Business

Because of its enhanced capacities, JSPL's sponge iron production has grown by 26%, steel production by 25%, and steel product sales by 15% in FY 2014-15. JSPL has mustered an installed steel capacity of 6.75 MTPA. All its plants are fully operational and geared to scale new highs of production in FY2015-16.

To ensure raw material for these enhanced capacities, JSPL intends to reduce its DRI operations in favour of blast furnaces, thereby reducing its dependence on thermal coal.

### (ii) Business Portfolio Diversification

In FY 2014-15 JSPL diversified its product portfolio by consolidating and expanding its construction materials business. This section of the Business Sustainability report provides an overview of this business.

## Diversification of Business by Creating a New Business Vertical at JSPL for Construction Materials



Suspended Flooring System (Speedfloor) | EPS Structure | Light Gauge Structure | Soil Stabilizer (JGRS)  
Light Weight Aggregate | Bricks & Pavers | Cut & Bend TMT Bars | Welded TMT Bar Mesh | Cement

<sup>7</sup>Emission factor: <http://www.ghgprotocol.org/files/ghgp/tools/co2-mobile.pdf>; for a distance of 6 kms



# Speedfloor

De-scaffold your site. Flooring Simplified.

JSPL brings to you **SPEEDFLOOR** - a lightweight suspended concrete flooring system **an innovative technology from New Zealand**

**Floor cycle** - Time saving depending upon the system adopted

**Cost effective** - Reduction in floor thickness, saving in foundation

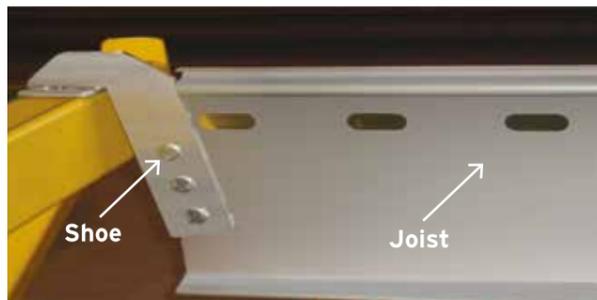


Three-mm roll-formed, galvanized steel joist of grade 350 that offers all the benefits of open-webbed truss system

## The Speedfloor advantage

Reduces dependency on labour | Pre-punched holes for accommodating services  
Rapid construction | Multiple floors at a time

## Product specifications



Shoe Joist

JOIST (Series 200, 250, 300, 350 and 400 mm)



Edge Angle Hanging Angle

Hanging Angle L40 X 75 X 1.8 mm, Edge Angle L40 X 90 X 1.6 mm



Plywood

Plywood 1.2 Meter X 2.4 Meter X 12 mm



Lock bars

Lock Bar 630 mm, 930 mm & 1230 mm

**More than 1 lakh square feet delivered**

## Flow diagram - Speedfloor Installation Process



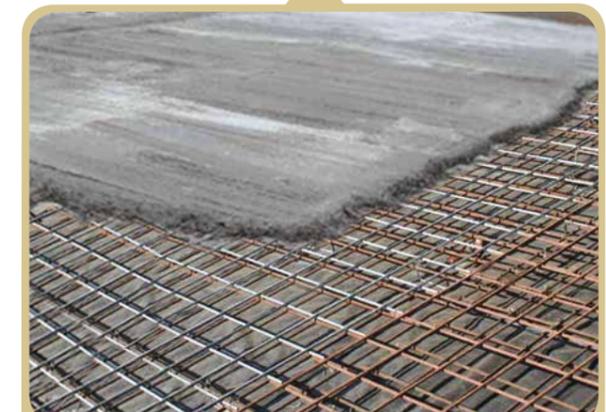
1 Speedfloor joist lifted into place



6 3 days after pour lock bar and plywood removed



2 Lock bars slide into pre-punched holes to support the plywood shuttering



5 Mesh laid out and tied into place. Concrete poured



3 Lock bars placed approximately 300 mm apart to give plywood support



4 Plywood introduced from top

## Marquee Projects



Medanta Hospital, Gurgaon



Mfar Building, Bengaluru



G.D. Goenka University, Gurgaon



OPJIT Hostel, Raigarh



Race Club, Hyderabad



OPJCC, Raigarh

## EPS Panel

*Smart way to stay cool in summer and warm in winter*

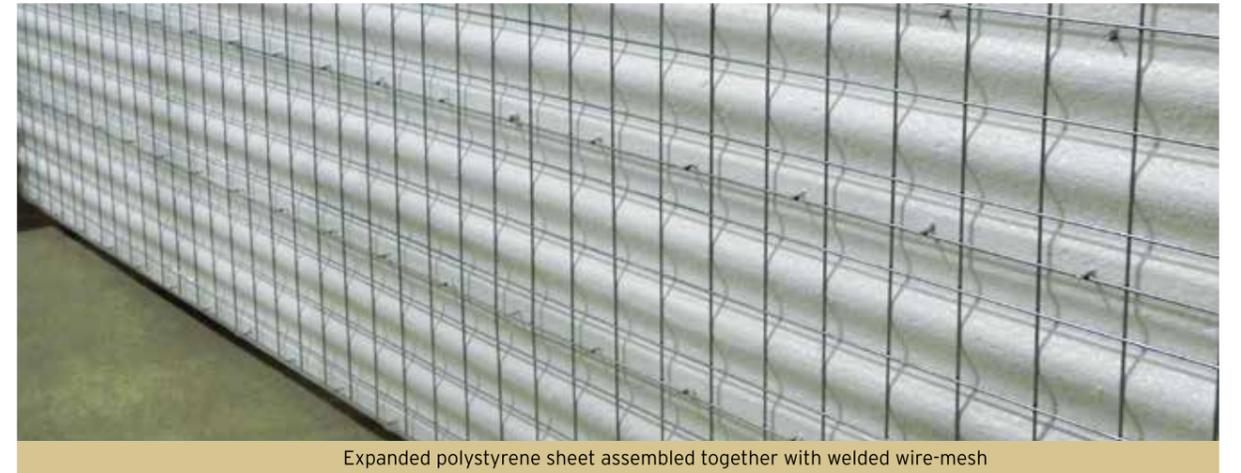
For load bearing walls (G+3), external wall cladding in traditional reinforced concrete structures, non-load bearing partition walls, floors and roofs.

**Faster Construction** over traditional

**Saving in electricity** consumption

**Saving in foundation cost** due to reduced structural weight

Bringing to India, renowned Italian building technology from Schnell



Expanded polystyrene sheet assembled together with welded wire-mesh

### EPS Panels are used in construction of



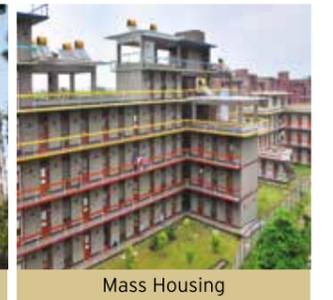
Industrial Townships & Colonies



Hostels



Staff Quarters



Mass Housing

### Projects Executed



Residential Township, Angul



## Flow diagram - EPS Panel Installation Process



## Light Gauge Structure (LGS)

Build to last



Water Free ! Aggregate Free ! Cement Free ! Construction  
Innovative technology for single floor extension over existing RCC buildings  
Time saving with respect to RCC Construction



Galvanized cold formed steel section

### The LGS advantage

Reduces labour dependency | Longer building life  
Fire, Earthquake and Wind resistant as per design and location

### Applications

LGS can be used in construction of:

- Modular and Industrial Buildings
- Low Rise Residential Buildings
- Villas
- Labour Camps
- Multi Storey Residential Apartments
- Hospitals
- Schools



Single Floor Extension over 50 year old RCC building



Site project office

## Flow diagram - LGS Installation Process



## Light Weight Aggregate (LWA)

Light weight | Eco-friendly | High thermal and fire resistance

High strength with low density

For use in structural concrete, bridges and highways



### Physical properties

Bulk Density ( Loose)	800 to 900 kg/m <sup>3</sup>
Aggregate Strength	above 5 Mpa
Aggregate Size	10 and 20 mm
Fire Resistance	Yes

### Advantage over natural aggregate

LWA (Kg/cum)	Natural (kg/cum)	
Aggregate density	834	1550
Concrete density	1400-1900	2300-2500

### Applications

- Structural Lightweight Concrete
- Floor and Roof Screeds
- Roof Tiles
- Land Drainage
- Bulk Fill
- Precast
- Arrestor Bed
- Hortag
- Filter Media
- Refractory



Plant capacity of 300,000 cum per annum

## JGRS (Jindal Global Road Stabilizer)

Road to the future with cutting-edge, eco-friendly soil stabilization technology



Hydration activated soil stabilising powder - re-engineers a wide range of soil

25 - 30% reduction in project cost

60 - 80% reduction in aggregate requirement

40 - 45% faster over conventional road construction

### JGRS is used in



### The JGRS advantage

Increases the bearing capacity by stabilizing the soil | Eco-friendly construction

Reduction in the thickness of the road layers | Uses locally available material and eliminates need for plant produced material (GSB, WMM)

### Test Results of JGRS with different types of soils

JGRS Stabiliser %		CBR (%)											
		CRR1			IIT Kharagpur			IIT Roorkee			Road Lab, RSA		
		0%	4%	6%	0%	4%	6%	0%	2%	4%	0%	2%	4%
SOIL TYPE	Clay (CL)	-	-	-	3.6	66.8	74	-	-	-	-	-	-
	Clay (CL)	-	-	-	2.7	60.9	95.3	-	-	-	-	-	-
	Silt	12	265	317	-	-	-	5.4	29.6	74.7	-	-	-
	Sand	-	-	-	-	-	-	14.7	97.8	137	25	55	118
	Gravel	-	-	-	-	-	-	-	-	-	29	140	240

JGRS Stabiliser %		UCS (Kg/cm <sup>2</sup> )											
		CRR1			IIT Kharagpur			IIT Roorkee			Road Lab, RSA		
		0%	4%	6%	0%	4%	6%	0%	2%	4%	0%	2%	4%
SOIL TYPE	Clay (CL)	-	-	-	7.3	29.7	24.9	-	-	-	-	-	-
	Clay (CL)	-	-	-	1.9	23.8	32.7	-	-	-	-	-	-
	Silt	-	16.3	26.4	-	-	-	1.8	13.8	16.5	-	-	-
	Sand	-	-	-	-	-	-	0.38	4.8	13.6	-	3.95	20.5
	Gravel	-	-	-	-	-	-	-	-	-	-	12	20

## Bricks

Jindal high strength fly ash bricks and concrete pavers

High Strength | Zero Breakage | Supreme Finish | Savings in binding mortar and plaster

Production capacity: 3.7 lakh bricks/day. Instant Delivery



### Product specifications

	Jindal Bricks	Jindal Uni Paver
Weight	3.2 to 3.6Kg	4 to 4.2Kg
Size	230 x 110 x 75mm	242 x 130 x 80mm
Compressive Strength	>=100kg/cm <sup>2</sup>	>=200kg/cm <sup>2</sup>
Water Absorption	8-10%	4-5%

## Jindal Panther Cement

Lohe se bana Lohe sa bana

Unmatched strength | High durability | Corrosion resistant



### Applications

For constructions like:

- Residential
- High rise commercial buildings
- Underground construction
- Mass concrete works
- Heavy foundations
- Sea-shore constructions

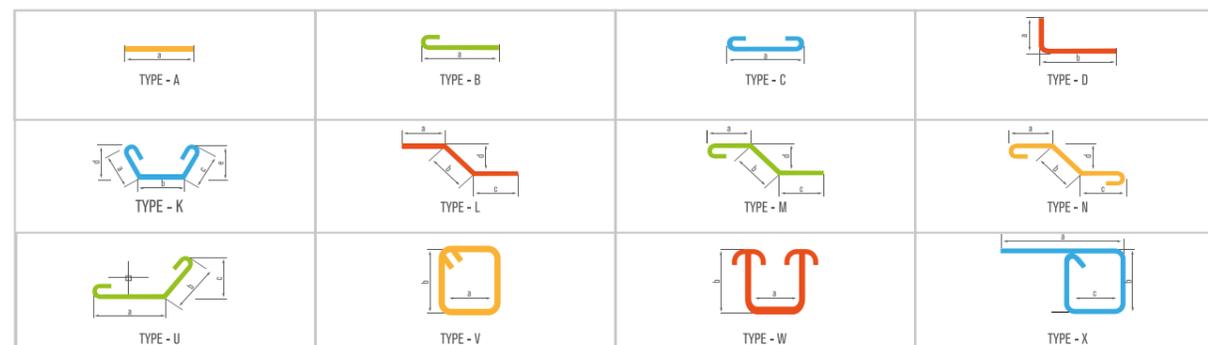


## Cut & Bend TMT Bars

Zero scrap | Less labour intensive | Cost effective | Faster



### Product Range



Diameter of the bar used: 6mm-40mm

## Welded TMT Bar Mesh

Zero scrap | Ready to use | Reduces dependency on labour | Cost effective



### Product specifications

Bar diameter	6 to 12 mm
Aperture	50, 100, 150 and 200 mm
Width	1200 to 3200 mm
Length	2000 to 6000 mm

### Schnell Home

JSPL's Schnell home is an innovative and unique solution that makes it possible to construct environment friendly houses fast and at a low cost. Schnell homes come with heat insulation and as much as 60% heat dispersion. This technique of construction technique has been developed by the Italy-based Schnell group. The technology reduces construction time by more than 50% and the material used is fully recyclable, thus providing a much more eco-friendly option to the current traditional mode of constructing homes. It involves replacing bricks and blocks with polystyrene sheet panes, assembled with welded wire mesh. The panels are finished on site by pouring or spraying concrete to obtain different structures such as vertical walls, stairs and roofs. JSPL believes that in light of rapid urbanization and the growing need for housing among India's fast multiplying middle-class, Schnell homes are clearly the way to go.



An example of a Residential Building Constructed using Schnell Technology at Angul

JSPL has constructed homes using this technology at Jindal Nagar, the township at its Angul location. This was the first application of the technology in Odisha and only the second in India. These homes are fast to build, environment friendly, strong and durable.

The company is constructing 820 more flats with the technology at Angul. When finished, this would be the most modern and environment friendly township in the country.

### Diversification of Business by Strengthening Global Footprint

JSPL is diversifying its business also by capitalising on opportunities in high growth markets. In FY 2014-15 its footprint extended across Oman, South Africa, Australia and Mozambique.

In Oman (Middle East), the company has set up a US-\$500 million, 1.5-MTPA gas-based hot briquetted iron plant and a 2-MTPA integrated steel plant. The Oman facility uses cutting edge technology from Italy and is the country's first and largest steel melting shop and third largest in the Middle East & Gulf region. The SMS was commissioned in a record 23 months from the date of commencement of the site work in 2012. Some key features of this facility are:

- Electric arc furnace (EAF): the world's largest and first gravity hot DRI feeding system
- A 200-tonne ladle furnace, one of its kind in the Middle East
- The world's first and largest continuous casting machine with a capacity of 2 MTPA
- Vacuum degassing furnace that enables processing of special steels on the furnace to cater to specific customer needs

In Australia, the company has invested in greenfield and brownfield resource sector companies and projects to supplement its planned steel and power projects in India and beyond.

On the African continent JSPL holds coal operations in South Africa and Mozambique. The South African mine is an underground anthracite mine, and remains a prominent producer of high quality anthracite and lean bituminous coal in South Africa. Across the border at JSPL's Mozambican mine, extraction of both thermal and coking coal through an opencast mining method is achieved.

Being a corporate native of the emerging economic power of the Indian sub-continent, JSPL, came to the realisation that its wide and inherent experience in the development of its home market can assist with stimulating a similar rise in Africa. The continent shares many similarities and shared history with India, which provides an unprecedented opportunity for both rising economic giants to march together into the future, for the mutual economic and social benefit of their respective peoples. Our African operations span through South Africa, Mozambique and our strategy has shown significant results in improving the quality of life for the people, while nurturing the environment that has produced good quality coal.

Going global has not only helped JSPL gain access to raw material supplies but also to find new markets. In FY 2014-15 JSPL's global operation sites became more integrated with its business in India. Across geographies, JSPL works in line with a common culture, a standardized set of rules and processes and a coordinated approach with some degree of customization around local cultures.



### Transformation of Business - Machinery Division

#### Background:-

The Machinery Division of Jindal Steel & Power Limited (JSPL) was established in the year 1992 at Raipur in the state of Chhattisgarh. The division was developed with the intention of catering to the burgeoning demands of a rapidly growing JSPL. For years, this unit was supplying equipment to its sister units and played a major role in ensuring that the projects undertaken at various locations by the JSPL Group were catered to on a timely basis. Even though the unit acquired the scale and capability to venture outside, it focussed on serving its internal customers first as that was its primary responsibility. Even the machinery that was installed at this unit centred on supplying equipment to Steel & Power plants of JSPL Group

#### Challenge faced by Machinery Division

Many of the projects in which the machinery division has supplied lot of equipment are in their final phases; thereby the demand for equipment from these projects are scarce.

Since the demand from internal projects had started to reduce, machinery division was made to look outside for business.

The need to get external orders to survive required the unit to undertake a dedicated approach towards product development and management as well as changing the manner in which it projects itself to the external clientele

#### Steps taken to meet the challenge head on

In order to gain a foothold in the external market as well as to stay competitive, the unit decided to compartmentalise its product portfolio into the following five business verticals

- Equipment for Steel Plants, Power Plants & Mines
- EOT Cranes
- Pressure Vessels & Heat Exchangers
- Ferrous Castings
- Bulk Material Handling Equipment

Along-with setting up of business verticals, a dedicated business development manager has also been assigned to each and every vertical

This has ensured that each and every vertical is given equal weightage in terms of development and responsibility towards the growth of the vertical is well defined

Other than structuring its product portfolio, the unit also decided to leverage its competence in manufacturing varied kind of equipment by augmenting its product portfolio. This ensured that an enhanced product basket was available to its external customers and they were made to look at JSPL-Machinery Division as a vendor who could supply quality equipment for their varied requirements

#### Actions taken to improve visibility of Machinery Division

Since a structured framework was developed to tap the external customers, the focus now began to shift towards improving the visibility of the Machinery Division leading to the following activities which would help it to enhance its image as a preferred vendor to the external customers

- **Undertaking Registration process at customers:-** Machinery Division has aggressively started to pursue enlistments at various customers.
- **Re-Launching of Newly designed website:-** Detailed website has been developed for Machinery Division listing various business verticals ensuring structured information is available to the internal as well as external customers
- **Brochures:-** Business vertical-wise brochures are being created designed
- **Emailer System:-** A dedicated Emailer System has been developed to ensure that our external customers are aware of the latest product developments that take place at Machinery Division
- **Increased Customer Interaction:-** Customer Interactions & meets have been increased as well as customer visits to plants are being encouraged so that our capabilities are clearly understood by the prospective external customer
- **Social Media:-** JSPL Machinery Division is also trying to increase visibility by tapping the social media handles of JSPL Corporate Communications team. This shall ensure that Machinery Division figures prominently on all communications sent out by the JSPL Group

The focus on increasing external customer contact and steps taken to improve visibility have just about started to bear fruits. This can be gauged from the fact that conversion rate of 26% for external customers was achieved.

No. of External Customers Contacted	No. of External Customers from Whom Enquiries Received	No. of Customers from whom Orders Received	External Customer Conversion Rate
More than 150	94	24	26%



Aerial Shot of Factory Floor at JSPL's Machinery Manufacturing Plant at Raipur

### Impetus to Business Development Initiatives

In order to survive and stay ahead of the competition as well as to increase avenues of revenue generation, the unit has started to undertake various initiatives to search for new business opportunities wherever synergies with its existing facilities exist. Some of these business initiatives, still in the stage of infancy, are listed below:-

- Business of Refurbishment of Rolls for Steel Plants in collaboration with M/S Welding Alloys. This shall not only provide a new revenue stream but also ensure that Machinery Division helps in quick refurbishment of Rolls at its Raigarh and Angul units and in the process brings down the overall cost involved in refurbishment of rolls. Additionally, the unit shall also look to tap the external clients in this business vertical, once it develops the necessary scale and capability

- On-going Collaborations talks with various technological suppliers to strength its existing business verticals. The Machinery Division has entered into a technical collaboration with Kawasaki Heavy Industries (KHI) for the manufacture of Stacker Reclaimers for the Angul Project. Collaborating with a reputed technology partner will ensure that the Machinery Division creates a space for itself in the Bulk Material handling space once this project is successfully executed
- Developing a post-sale service ecosystem for its Field Engineering Services (FES) Team to provide a comprehensive solutions package and offering to its customers. Since the unit already undertakes commissioning and erection activities, the development of this post-sale service dimension shall ensure that the unit is able to provide holistic manufacturing and service basket to its customers and support relevant business functions

### (iv) Cost efficient steel production

Since inception of the company there has been a strong focus on energy and cost-efficient steel and power production at the company. Some examples of measures implemented to improve production efficiency during FY2014-15 are as follows:

1. Replacing Light Diesel Oil (LDO) with a by-product of Coal Gasification Process (CGP) namely, 'Gasification Oil' in Power Plant, Process Boiler and SMS; thus avoiding additional procurement of LDO
2. 4 MW power generation achieved from the synthesis gas pressure recovery 'Turbo Expander' at the DRI Plant
3. Replacing LC80 refractory by Andalusite based refractory
4. Reduction of Fines generation by segregating through Magnet
5. Hot sponge iron charging to electric arc furnace at JSPL, Angul
6. Installation of back pressure recovery turbine in blast furnace at Raigarh

This year, the evolution of JSPL's raw material sources has laid greater emphasis on having efficient manufacturing processes. The company has taken on a goal that part of the profit margins that previously came from the company's backward integrated business model must now come from greater efficiency in production.

However there are many parts such as processes, policies, skills, capacity that can be improved in order to increase efficiency. The management at JSPL were of the view that every improvement in performance and value to stakeholders results from a change to the organization, however not every change in the organization will result in an improvement in performance and value. Therefore the company first set out to build an understanding of exactly where to focus its resources to achieve the goal. This led JSPL to decide in February 2015 to:

- Deploy a turnaround strategy pivoted in the Theory of Constraints that would build greater efficiency in its production processes.
- Multi-skill its employees to increase manpower efficiency

The Theory of Constraints stipulates five focusing steps: 1. Identify the system's constraints. 2. Decide how to leverage the system's constraints. 3. Subordinate/synchronize everything else to the above decision. 4. Elevate the system's constraints. 5. If in the previous steps a constraint has been broken then goes back to Step 1. Thinking within this framework, JSPL's management team drew out a plan to improve production efficiency on the basis of identifying, focusing, and improving a few parts in the production process that were assessed as not adequately

performing at the desired levels. The plan would enable each part of the company's operations to know not only what it must start doing to increase efficiency of the whole organization, but also what each part must stop doing that is not contributing to efficiency.

It was further planned (and later implemented in FY 2015-16) to deploy a dedicated 'Theory of Constraints Team' each on the plant sites at Raigarh and at Angul. These two teams had the mandate to conduct a data backed study of where the weakest link in the production efficiency on their site operations lies, then propose a solution to improve efficiency of that link. It was also planned to have several consultative workshops on the Theory Of Constraints across the company, so as to procure the buy-in from every one towards the specific steps required to implement change. Key management personnel were also to be provided with the book Eliyahu M. Goldratt, The Goal: A Process of Ongoing Improvement. The company's management was of the view that people only resist change when they do not see the value in the change for their own selves. The consultative workshops were therefore crucial to communicate to employees that the changes will be a win for all stakeholders, so as to plan together and turn any resistance to enthusiastic change.

As a parallel process, in March 2015 JSPL also decided to embark upon an initiative called Process Based Organization, whereby every employee would be trained on two or three skills in addition to the employee's core competency. This multi-skilling programme is to be boosted with a detailed assessment of team structures and productivity across the company. Roles on which employees are currently placed will also be reviewed, to ensure lean and process based human resources.

### (v) Sustainable Supply Chain

In October 2014 JSPL signed off on a group policy for ensuring sustainability embedded in the lifecycle of its products. By way of this policy JSPL committed to embed sustainable practices into the entire life cycle of JSPL's products, starting from business operations such as raw material procurement techniques, to product manufacturing, transportation of finished goods, and disposal by consumer.

Establishing a sustainable source of raw material has been a top priority for the company's business sustainability. Detailed information on how this was achieved in FY 2014-15 is in the 'Ensuring raw material security' section of this Business Sustainability Report.

Further, JSPL's supply chain network is managed by the company's procurement team. The procurement team is organized at the corporate and at the site level, depending on the total order

value of the business done with any specific vendor. All orders of an amount larger than ₹ 1,00,00,000 (for Maintenance, Repair and Operations) and ₹ 50,00,000 (For Projects) is managed by the company's procurement team at the corporate office. All other vendor relationships are dealt with at site level. In October 2014, a list of JSPL's site level suppliers and vendors was consolidated, along with each of their contact details. This team structure has ensured cost efficiency as well as proximity to local vendors. This has also enabled JSPL to influence vendors with sustainable business practices in the following ways:

- 1. Value Chain Partners:** JSPL works towards sensitizing all of its value chain partners (suppliers, service providers, transporters, customers) for fulfilling their roles and responsibility towards sustainability principles.
- 2. Sustainable Supply Chain:** JSPL ensures that sustainable business practices are embedded in the entire supply chain of its business activities.
- 3. Local Factors:** JSPL engages local communities at its sites of operations to do business with the company. This helps the company in bringing a balance between economic, social and environmental impact of its operations on local communities. JSPL's CSR Policy also promotes entrepreneurship in local communities and tries to engage interested entrepreneurs for services and jobs.

Also, sustainability is very much a part of JSPL's end-products and its usage. JSPL manufactures products of quality that complies with regulatory and statutory requirements. Most of the company's operations are ISO 9001, 18001, 50001 certified. Sustainability is embedded in the development of new products by endeavouring to provide sustainable solutions to the requirements of various sectors, and ensuring that new products are designed and manufactured with energy efficiency and environment protection in mind. In FY 2014-15 there has been greater emphasis on selling steel to companies who manufacture products such as wind mills that ultimately contribute towards a more sustainable world.

#### (vi) Customer Centricity

As a priority, JSPL's business model has a sharp focus on serving its customers with the finest quality products at economic prices on time and in full. The company's Business-to-Business as well as retail products place customers at the centre of their operations. In FY 2014-15 the following initiatives to ensure customer centricity was undertaken:

1. 5 new stockyards were launched to ensure products are placed closer to the customer.
2. An initiative for Key Accounts Management was started in 2014. This initiative focussed on providing additional

services to its most valued customers, who are chosen on the basis of i) frequency and volume of orders, ii) segment of operation iii) customer's past relationship with JSPL. All orders from these Key Accounts are serviced 100% within a specified number of days of clearance. Key Account Managers provide customised service to Key Account clients, and to do so they are trained to do a competitor analysis for each of their accounts and make action plans with timelines.

3. Direct feedback retrieval systems were established with enhanced grievance mechanisms.
4. Branding of all JSPL dealer shops under JSPL's unique 'Retail Identity Programme', providing staff with training, post-training certificates, and uniforms.
5. Retail dealers were further encouraged to provide home delivery facilities to clients.
6. Enhanced marketing initiatives included offering JSPL branded products as give-aways. One such product – a car sun shade, became a popular product amongst customers in summer 2014-15. Customers used these branded car sun shades in their cars, thus also becoming brand ambassadors for JSPL.
7. There is a continuous review of quality control of products, and any rejections or complaints in FY 2014-15 were escalated to the company's CEO Mr Ravi Uppal.
8. 12 Marketing Meets took place on the 1st week of every month during the year, bringing together the company's CEO, Marketing Head, all Sales Regional Managers, Chief Financial Officer, Chief Sustainability Officer, and other key employees in JSPL's Sales & Marketing department. These Marketing Meetings start at 9:30 am and go on through the day including dinner. High performing Dealers are sometimes invited to be part of JSPL's Marketing Meet, and present their business and suggestions to the group.

The company also engaged its customers in formulating its strategic business decisions. A sample of customers were consulted during the formulation of JSPL's business sustainability policies. This year JSPL has participated in the most prestigious forums such as the World Economic Forum's Annual Meeting in Davos, where it leveraged the opportunity to meet with its key customers. In FY 2014-15 JSPL has also created a plan to involve customers in the company's CSR activities.

As part of its strategic plan, JSPL is focusing on being a service provider to customers rather than only selling its products. This would require a great deal of preparatory work on JSPL's end such as – devising and creating the specific logistics capability to do so; ensuring real-time knowledge of the customer's stock inventories; knowing the customer's pain points and needs on a daily basis. FY 2015-16 would witness the roll out of a sophisticated mechanism towards achieving this.

# 4.0

## JSPL Practices Sustainable Business Processes

Building robust business processes is a priority at JSPL, driven especially by its MD and Group CEO, Mr Ravi Uppal. In recent years the company has rolled out systems for quality management (ISO9000), environment management (ISO14000) and occupational health and safety management (OHSAS18000) at Raigarh, DCP, Tamnar, Raipur, Angul, Barbil, Tensa, Patratu. JSPL's unit at Angul has been certified for social accountability (SA 8000) and all operation sites in India are being certified for energy efficiency (ISO 50001). Alongside, the Business Sustainability department has worked with appropriate departments in the company to ensure that the highest standards of ethics, governance and risk mitigation processes are practiced. Alongside, JSPL's Human Resources department leads in ensuring that the company's values are enshrined in its business and that all its actions are ethical.

This section is a disclosure of the important measures taken especially during FY 2014-15 towards strengthening business processes at JSPL.

### i) Ethics and Values

JSPL has a well-defined policy called 'Group Code of Conduct' (GCoC), embodied in a handbook given to every new employee. The GCoC is reviewed regularly. As on every year, in FY 2014-15 workshops were held at all sites to train employees to abide by the GCoC. E-learning modules too are available on the employee intranet to help employees stay up with the codes.

During the year, employees completed certification and declarations pertaining to compliance with the GCoC. It is mandatory for all employees to certify at least once in two years. Every employee is required to give three declarations pertaining to conflicts of interest in ownership of property, employment of a relative at JSPL and business relations with JSPL.

In FY 2014-15 JSPL signed off on five new company policies – Risk Management Policy, Policy on Human Rights Protection, Policy for Policy Advocacy, Policy on Stakeholder Mapping and Engagement and Policy for Life cycle Sustainability. JSPL has, therefore, established all policies required by the National Voluntary Guidelines stipulated by the Ministry of Corporate Affairs.

Further there is a procedure outlined for employees to make proactive declarations of any conflict of interest with the

company. The 'Speak-Up' Forum organized several times in the year for employees helps raise an alert on any ethical concern noticed anywhere within the company.

JSPL has had a Group Chief Ethics Officer since April 2013 and he is actively engaged in ensuring that all policies are implemented. He frequently sends out emails on ethical practices to all employees. Employees are encouraged to connect with him and share any dilemmas and concerns or even violations of ethical conduct in full confidence. JSPL's Group Whistle Blower Policy is implemented across all group companies including the subsidiaries. It encourages employees to report any violations to the Group Ethics Officer without any fear and provides them with protection. The compliance of policies and procedures are additionally monitored by the Group Internal Audit and reviewed every quarter by the Board Committee on Governance & Business Ethics.

It is important to note that these institutional mechanisms for proactive implementation and responsive enforcement of ethical practices have been working vigorously.

### ii) JSPL Partners with All Stakeholders

Historically, JSPL has maintained a relationship with all its stakeholders marked by candour and transparency, revolving around regular consultations and disclosures. This is because we realize that our success is intricately tied up with the quality of our relationship with our stakeholders.

On the continuum of our evolving relationship with stakeholders, JSPL now views them as strategic allies for both mitigating business risks and expanding its markets. To this end in 2014-15 the company established a structured framework for new authentic ways of engaging with relevant groups of stakeholders and key members within those groups.

This section of JSPL's Business Sustainability report is a narrative of what we did in the year to further enrich our stakeholder engagement.

### Investors

JSPL's Investor Relations department diurnally interacts with investors, analysts and market intermediaries. The objective of the organization is to:

Principle	Applicable JSPL's Policies	Link for the Policy
<b>Principle 1:</b> Businesses should conduct and govern themselves with Ethics, Transparency and Accountability	a. Group Whistle Blower Policy	<a href="http://www.jindalsteelpower.com/sustainabilities/governance.html">http://www.jindalsteelpower.com/sustainabilities/governance.html</a>
	b. Group Code of Business Conduct	<a href="http://www.jindalsteelpower.com/sustainabilities/governance.html">http://www.jindalsteelpower.com/sustainabilities/governance.html</a>
	c. Code of Conduct for Board of Directors and Senior Management of the Company.	<a href="http://www.jindalsteelpower.com/img/admin/report/pdf/CODE_OF_CONDUCT_FOR_SENIOR_MANAGEMENT.pdf">http://www.jindalsteelpower.com/img/admin/report/pdf/CODE_OF_CONDUCT_FOR_SENIOR_MANAGEMENT.pdf</a>
	d. Code of Internal Procedures and Conduct for Prevention of Insider Trading in Shares of the Company	Available on JSPL Intranet
<b>Principle 2:</b> Businesses should provide goods and services that are safe and contribute to sustainability throughout their life cycle	a. Environment Policy	<a href="http://www.jindalsteelpower.com/policies.html">http://www.jindalsteelpower.com/policies.html</a>
	b. Quality Policy	<a href="http://www.jindalsteelpower.com/policies.html">http://www.jindalsteelpower.com/policies.html</a>
	c. Total Productivity Management Policy	<a href="http://www.jindalsteelpower.com/policies.html">http://www.jindalsteelpower.com/policies.html</a>
	d. Sustainability embedded in Life Cycle of Products.	Available on JSPL Intranet
<b>Principle 3:</b> Businesses should promote the well-being of all employees	a. Employee Well Being Policy	Available on JSPL Intranet
	b. Safety & Occupational Health Policy	<a href="http://www.jindalsteelpower.com/policies.html">http://www.jindalsteelpower.com/policies.html</a>
<b>Principle 4:</b> Businesses should respect the interests of, and be responsive towards all stakeholders, especially those who are disadvantaged, vulnerable and marginalized	a. Stakeholder Mapping and Stakeholder Engagement Policy	Available on JSPL Intranet
	b. CSR Policy	<a href="http://www.jindalsteelpower.com/policies.html">http://www.jindalsteelpower.com/policies.html</a>
<b>Principle 5:</b> Businesses should respect and promote human rights	a. Human Rights Protection Policy	Available on JSPL Intranet
	b. Prohibition of Sexual Harassment of Women Employees at Work Place	Available on JSPL Intranet
	c. Group Code of Business Conduct	<a href="http://www.jindalsteelpower.com/sustainabilities/governance.html">http://www.jindalsteelpower.com/sustainabilities/governance.html</a>
	d. Group Whistle Blower Policy	<a href="http://www.jindalsteelpower.com/sustainabilities/governance.html">http://www.jindalsteelpower.com/sustainabilities/governance.html</a>
	e. Code of Conduct for Board of Directors and Senior Management of the Company	<a href="http://www.jindalsteelpower.com/img/admin/report/pdf/CODE_OF_CONDUCT_FOR_SENIOR_MANAGEMENT.pdf">http://www.jindalsteelpower.com/img/admin/report/pdf/CODE_OF_CONDUCT_FOR_SENIOR_MANAGEMENT.pdf</a>
<b>Principle 6:</b> Businesses should respect, protect, and make efforts to restore the environment	a. Environment Policy	<a href="http://www.jindalsteelpower.com/policies.html">http://www.jindalsteelpower.com/policies.html</a>
	b. Energy Policy	Available on JSPL Intranet
	c. Code of Conduct for Board of Directors and Senior Management of the Company	<a href="http://www.jindalsteelpower.com/img/admin/report/pdf/CODE_OF_CONDUCT_FOR_SENIOR_MANAGEMENT.pdf">http://www.jindalsteelpower.com/img/admin/report/pdf/CODE_OF_CONDUCT_FOR_SENIOR_MANAGEMENT.pdf</a>
	d. Group Code of Business Conduct	<a href="http://www.jindalsteelpower.com/sustainabilities/governance.html">http://www.jindalsteelpower.com/sustainabilities/governance.html</a>
<b>Principle 7:</b> Businesses, when engaged in influencing public and regulatory policy, should do so in a responsible manner	a. Policy Advocacy	Available on JSPL Intranet
<b>Principle 8:</b> Businesses should support inclusive growth and equitable development	a. CSR Policy	<a href="http://www.jindalsteelpower.com/policies.html">http://www.jindalsteelpower.com/policies.html</a>
<b>Principle 9:</b> Businesses should engage with and provide value to their customers and consumers in a responsible manner	a. Quality Policy	<a href="http://www.jindalsteelpower.com/policies.html">http://www.jindalsteelpower.com/policies.html</a>
	b. Group Code of Business Conduct	<a href="http://www.jindalsteelpower.com/sustainabilities/governance.html">http://www.jindalsteelpower.com/sustainabilities/governance.html</a>

Sl. No.	Questions	P1- Ethics, Transparency and Accountability	P2- Product Life Cycle Sustainability	P3- Employee Wellbeing	P4- Stakeholder Engagement	P5- Human Rights	P6- Environment	P7- Policy Advocacy	P8- Inclusive Growth	P9- Customer Value
1	Does the policy conform to any national / international standards? If yes, specify.	Y	Y	Y	Y	Y	Y	Y	Y	Y
		JSPL is signatory to World Steel Sustainable Development Charter, 2012. The Company's policies reflect the purpose and intent of United Nation Global Compact, World Steel Sustainable Development Charter, GRI guidelines and as per international standards, such as ISO 14001, OHSAS 18001, ISO 9001.								
2	Has the policy been approved by the Board? If yes, has it been signed by MD / owner / CEO / appropriate Board Director? <sup>[1]</sup>	Y	Y	Y	Y	Y	Y	Y	Y	Y
3	Does the Company have a specified committee of the Board / Director / Official to oversee the implementation of the policy?	Y	Y	Y	Y	Y	Y	Y	Y	Y
4	Has the policy been formally communicated to all relevant internal and external stakeholders?	Y	Y	Y	Y	Y	Y	Y	Y	Y
5	Does the Company have in-house structure to implement the policy/policies?	Y	Y	Y	Y	Y	Y	Y	Y	Y
6	Does the Company have a grievance redressal mechanism related to the policy/policies to address stakeholders' grievances related to the the policy/policies?	Y	Y	Y	Y	Y	Y	Y	Y	Y
7	Has the Company carried out independent audit/evaluation of the working of this policy by an internal or external agency?	Y	Y	Y	N	N	Y	N	Y	Y

<sup>[1]</sup> All policies are reviewed by the Board members and approved by the respective Board Committee. The policy is then signed by either the Whole time Director or the MD & Group CEO.

- Ensure investors, analysts, and market intermediaries gain the right understanding of JSPL
- JSPL commands fair value in the market
- Raise funds when needed

Key stakeholders like investors, financial analysts and market intermediaries related to JSPL's financial health are kept informed through presentations, press releases and weekly, monthly, and quarterly reports prepared by JSPL's Investor Relations department led by Mr D Balasubramanyam. Investors and analysts visit our plant sites and meet our senior management at briefings organized periodically by the department. Further, Mr Balasubramanyam stays constantly connected to them on SMS and phone.

### Customers and Dealers

The customer is the focus of almost everything JSPL does and, therefore, ideals like On-Time-In-Full (OTIF) delivery is at the

- August 2014. JSPL created a company policy for Stakeholder Mapping And Stakeholder Engagement
- Stakeholder Identification
- November 2014, JSPL identified 15 key stakeholder groups based on the below criteria:
  - a. Potential impact
  - b. Legitimacy
  - c. Concerns
  - d. Necessity of involvement
  - e. Influence
  - f. Willingness to engage
  - g. Degree of contribution

top of the agenda. its people particularly in customer facing departments like sales and marketing, are an important asset for the company. JSPL's MD & Group CEO presides over monthly marketing meets that bring together all regional managers from across the country to JSPL's Gurgaon office.

In FY 2014-15 JSPL enriched its CRM processes with the addition of 'Key Account Management,' an initiative focussed on providing additional services to its most valued customers, who are chosen on the basis of i) frequency and volume of orders, ii) segment of operation iii) customer's past relationship with JSPL. Regular meetings are held with these customers and an agreement on the framework of the working relationship is reviewed and signed off on a yearly basis.

JSPL encourages its dealers to deliver its Panther-TMT products at the doorstep of clients who buy one tonne or more of the bars.

- JSPL's current engagement with each of the 15 stakeholder groups was analysed on a spectrum of: informing, consulting, involving, collaborating and / or empowering the stakeholder.



Taking further the information disclosed, stakeholders are engaged continuously or at regular intervals based on specific needs through:-

- One-on-one meetings,
- Collective meetings,
- Grievance redressal mechanisms
- Town-halls
- Field visits to communities etc.

JSPL made a public disclosure of its stakeholder engagement through:

- Industry
- Business Sustainability Report 2014
- JSPL website

### Media

Among the highlights of FY 2015-16 was the creation of a more structured approach to managing JSPL's media relations. JSPL's Corporate Communication team plays a proactive role in engaging with media and other stakeholders who need information related to the company. In FY 2015-16 the team re-organized itself internally around custodians at the corporate Office in Delhi. The custodians are corporate communications team members, each with specialized knowledge of a domain and responsible for engaging with media and other related external stakeholders on that area. Headquartered in Delhi, JSPL's corporate communication department is represented at all the capital cities of Indian states where the company operates. JSPL's head of Corporate Communication Mr Gaurav Wahi is the official spokesperson ensuring that JSPL's communication on media is standardised and consistent.

### Employees

The work culture at JSPL ensures that all its employees function as members of a well-knit family united by a collective belief in the importance of their daily preoccupation with steel, power and infrastructure, for themselves, their company and the Nation. Nationalism and resilience are the watchwords of JSPL's work culture. Both through good and challenging times, employees continue to do their best at JSPL. In FY 2014-15 there have been special efforts to highlight and strengthen this intrinsic work culture.

Led by JSPL's human resources department, the company's employee engagement practices are customised in line with local cultures of the different regions where the company operates. The company speaks to its people in their language. The HR team provides training, motivation and regular company updates. On billboards and the employee Intranet best performers are hailed. Sports activities and tournaments are organized regularly. Every JSPL township has excellent sports facilities. The JSPL employee guesthouse in Raigarh is appropriately enough called the 'Jindal Life Enhancement Centre. It is a popular venue for employee recreation with a large swimming pool, gymnasium, spa and massage facility, billiards room and two restaurants.

Birthdays and wedding anniversaries of every employee is celebrated at JSPL with email announcements and very often with cakes and savouries. Celebrations also include events like Safety Week.

In FY 2014-15 the emphasis has been on recruiting and retaining more women. JSPL celebrates the Women's Day, conducts workshops to sensitize men and women employees about sexual harassment policy and ensures that women employees have equal resources and access to leadership as male employees.

More details on JSPL's human resources are in the section titled Sustainable Production. Employee training and development activities at JSPL are explained in the Business Sustainability Priorities and the Sustainable Production Sections of this Business Sustainability Report.

### Community

JSPL has always been passionate about taking care of local communities around its sites and, therefore, after assessing the needs of such communities scientifically, it designs a slew of activities custom designed for their upliftment. In this regard, JSPL's Chairman Mr. Naveen Jindal leads by example as he won for all Indians the right to hoist the Indian National Flag. He established the Flag Foundation of India. Mr Naveen Jindal also founded the Citizens' Alliance for Reproductive Health and Rights, an organization that brings together Indian civil society for stabilizing India's population. Awards won by JSPL for community service in FY 2014-15 are included in the section Awards and Recognition in this Business Sustainability Report.

Details on JSPL's large number of CSR activities is provided in the section Building a more Sustainable World - in the sub-section Around our Operations, of this Business Sustainability Report. Details on large scale initiatives to improve the state of the world (that are done by JSPL apart from its CSR work) is included in the section Building a more Sustainable World - in the sub-section Beyond Our Operations. The section on Case Studies also provides a few concrete examples of action taken by JSPL to care for people.

JSPL's CSR activities are wide ranging and implemented with passion by its team of driven social savants under the inspiring leadership of JSPL's Head of CSR. Further, in FY 2014-15 the CSR programme was re-aligned to focus on 3 specific themes: 1. Education; 2. Health, Sanitation & Population Stabilization; 3. Community Infrastructure. JSPL's M.D. & Group CEO closely overviews the re-alignment process. The intention is for JSPL to have the deepest impact possible on a few specific challenges that the local communities face. At the ground level, different locations have CSR officers who conduct the field work and interact with the communities on a regular basis. These officers act as a bridge between the Company and communities and inform the Corporate CSR team about the needs of the locals. Apart from this, 'Third party Need and Impact Assessment' is also carried out so as to check that the results of the CSR programs are in line with the community needs.

JSPL's products and processes are designed for the least possible impact on local communities and their quality of life. For more details read Building a Sustainable World in this Business Sustainability Report.

### Environment

JSPL considers the environment as an important stakeholder of its operations, engaging with them by investing in new technologies for environment protection and ensuring compliance to environment-related norms. To do so, the company has dedicated teams of environment experts at all site locations and at its corporate office in Delhi.

As a large multinational company JSPL believes that it can play a role in funding and implementing new technologies that would help in mitigating climate change. Most of these initiatives and decisions are taken at the plant level. The Chairman Mr Naveen Jindal is himself actively involved in such initiatives, which involve substantial investments. The coal gasification plant is a good



JSPL's Billboard on Promenadestrasse at the World Economic Forum's Annual Meeting 2015, Davos

example of the company's investment in experimenting with new technologies for steel production that are more environment friendly. Details of this are in the section Case Studies of this Business Sustainability Report.

JSPL's Environment Management Division interacts with stakeholders such as regulators, consultants, investors, NGOs and communities to ensure that all statutory environment norms are complied with. Further, Environment Laboratory at Barbil centre has been empanelled as an environmental consultant by the State Pollution Control Board (SPCB) of Odisha for a period of three years. It will assist the SPCB with environmental policies and norms for pollution control. More details about our environment practices are in the section Sustainable Production.

#### Meaningful Engagement with Industry Associations

In August 2014 a major initiative of JSPL's Business Sustainability department was to review all memberships to industry associations as well as to plan an engagement roadmap with each. The review exercise involved a consultative process with concerned employees and department heads. JSPL's MD and Group CEO Mr Ravi Uppal was closely engaged with this process and engagement roadmap.

Further to this exercise, JSPL took a decision to focus its engagement with a set of 24 industry associations that were of the greatest relevance to the company: Associations to which the company could make the most meaningful contributions.

It was also decided that JSPL must leverage its membership with the 24 industry associations to support like-minded communities, address concerns, access resources, industry and industry information and education opportunities.

It is worth noting that JSPL's Chairman Mr Naveen Jindal is a member of the World Economic Forum's Young Global Leader alumni community. It's MD and Group CEO Mr Ravi Uppal is on the Board of the World Steel Association. JSPL's Chief Sustainability Officer is on the Steering Group for Sustainability United Nations Global Compact India and member of the World Steel Sustainability Expert Group. The company is also the Founding Member of BRICS Chamber and Coal Producers Association and a Lifetime member of the Global Compact Network India.

In 2014-15 JSPL was represented by its Chairman Mr Naveen Jindal at major forums of industry associations. For example, he spoke at the Second Edition of India Steel 2015, an event organized by the Ministry of Steel along with FICCI; the 6th India Coal Summit organized by the Indian Chamber of Commerce; the Metals, Mining, Minerals and Material conference organized by the Delhi chapter of the Indian Institute of Metals; the Steel Summit organized by CII. The MD & Group CEO Mr Ravi Uppal also spoke at prominent forums during the year, including at the Dialogue on Power Sector, a high-level interaction organized by CII.

## List of Memberships and Associations

S.No.	Name of the organization
1.	Association for Iron and Steel Technology (AIST) – India Member Chapter
2.	Alloy Steel Producers Association of India
3.	The Associated Chambers of Commerce & Industry of India
4.	Association of Power Producers
5.	BRICS Chamber
6.	Confederation of Indian Industries
7.	Coal Producers Association
8.	Credit Rating Information Services of India Limited
9.	Engineering and Export Promotion Council of India (EEPC India) (Engineering Export)
10.	Federation of Indian Chambers of Commerce and Industry
11.	Federation of Indian Minerals Industries
12.	Indian Iron and Steel Sector Skill Council
13.	Independent Power Producers Association
14.	Infrastructure & Logistics Federation of India
15.	Pellet Manufacturer's Association
16.	PHD Chambers of Commerce
17.	Sponge Iron Manufacturers Association (SIMA)
18.	Steel Furnace Association of India
19.	Steel Research and Technology Mission of India
20.	Global Compact Network India
21.	United Nations Global Compact
22.	USIBC
23.	World Economic Forum
24.	World Steel Association

# Engaging Stakeholders at JSPL

Stakeholder	Sustainability Context	Team Responsible	Mode of Engagement	Frequency of Communication
<b>Investors</b>	The mandatory Business Responsibility Reporting in Annual Declarations of top 100 companies in India, BSE GreenEx, and CarbonEx are instances of growing investor interest in sustainability aspects of business. JSPL has also frequently received queries from its investors and potential investors regarding sustainability performance.	Investor Relations' Team	<ul style="list-style-type: none"> <li>One-on-One</li> <li>Investor Conferences</li> <li>Roadshows</li> <li>Interactions with analysts</li> <li>Dedicated E-Mail ID</li> <li>Dedicated Investor Page on Company website</li> </ul>	Daily basis along with quarterly updates to all investors,
<b>Customers</b>	JSPL places customer centricity as a crucial element of its business strategy.	Sales and Marketing Team	<ul style="list-style-type: none"> <li>Annual Customer Satisfaction Surveys</li> <li>One-on-One Meetings with customers.</li> <li>Exhibitions</li> <li>Dealer meets</li> <li>Key Account Management</li> </ul>	Daily basis along with annual feedback.
<b>Suppliers</b>	JSPL believes that supply chain is critical to driving efficiency in our business context.	Procurement Team	<ul style="list-style-type: none"> <li>Annual Vendor Meet</li> <li>One to One Meetings</li> <li>Supplier Audits</li> </ul>	Daily basis and need based, as well as Annual communication for feedback.
<b>Industry Associations</b>	JSPL leverages industry associations to voice concerns, support like-minded community, access resources, industry information and education opportunities.	Sustainability Team	Public Platforms/ Interactions	Need Based
<b>Employees</b>	For JSPL, employees are the most important partners for the holistic success of the company.	Human Resources Team	<ul style="list-style-type: none"> <li>Emails</li> <li>Interactions</li> <li>Employee Satisfaction Survey</li> </ul>	Continual
<b>Local Community</b>	JSPL closely partners with the communities living in the regions JSPL operates in, in order to operate in a more conscious and responsible manner.	Corporate Social Responsibility Team	<ul style="list-style-type: none"> <li>Need assessment surveys</li> <li>Field Visits,</li> <li>Pamphlets, Interactions / Workshops / Seminars etc.</li> <li>Impact assessment studies</li> </ul>	Continual
<b>Media</b>	Media acts as one of the strongest opinion maker.	Corporate Communication Team	<ul style="list-style-type: none"> <li>Press Releases</li> <li>Media Page on Company website</li> <li>Interviews and Press conferences</li> </ul>	Continual
<b>Government and regulatory agencies</b>	Law-making, implementation and monitoring institutions are important to JSPL. Engagement with these institutions through an ethical manner helps JSPL remain in line with the changing regulatory environment.	<ul style="list-style-type: none"> <li>Corporate Affairs Team</li> <li>Company Secretary</li> <li>Group Environment Team</li> </ul>	<ul style="list-style-type: none"> <li>Letters to concerned institutions</li> <li>Meeting through Forums</li> </ul>	Need Based



Employees at a Workshop during JSPL's Core Management Group Meet in 2015

### iii) Good Governance:

Corporate governance at JSPL is oriented to greater accountability, inclusivity, equity, responsibility and transparency in the company within the following framework:

- Engaging a diverse and highly experienced Board of Directors with expertise in industry, finance, management and law
- Deploying well-defined governance structures that establish checks and balances and delegate decision-making to appropriate levels
- Adopting transparent and robust systems, processes, policies and procedures
- Making high levels of disclosures for dissemination of corporate, financial and operational information to all stakeholders
- Having strong systems and processes to ensure full and timely compliance with legal and regulatory requirements

This framework is implemented through a combination of strategic governance structure and an operational governance structure, which have been described below:

**1. Strategic Governance Structure:** This is composed of a high-

level Group Executive Committee (GEC), Core Management Team (CMT) and a Senior Management Committee (SMC), all with individual and collective roles and responsibilities.

**2. Operational Governance Structure:** This is composed of a high-level Management Committees (MANCO) for each business segment and Unit Committees (UNICO) at each location. Continuous meetings and deliberations at these levels ensure timely and appropriate decision-making and helps drive collective change in an efficient and effective manner.

**3. Board of Directors:** This apex governing body frames and drives corporate governance policies. Its role includes creating value for the company's stakeholders while remaining committed to its vision, mission and values. In line with its commitment to the highest standards of governance practices the Board has adopted the Group Code of Conduct and other regulatory requirements. To safeguard the interest of all stakeholders, reconcile conflicts of interest and assess management performance, it has appointed independent directors. All Board members have expertise in industry, operations, finance, legal and management. The Board provides strategic guidance and independent views to the company's management while discharging its fiduciary responsibilities.

# Board of Directors



Mrs. Savitri Jindal  
Chairperson Emeritus



Mr. Ratan Jindal  
Director



Mr. Naveen Jindal  
Chairman



Ms. Shalu Jindal  
Director



Mr. Ravi Uppal  
Managing Director & Group CEO



Mr. Rajeev Bhaduria  
Wholtime Director



Mr. Dinesh Kumar Saraogi  
Wholtime Director



MR. Ram Vinay Shahi  
Independent Director



MR. Arun Kumar Purwar  
Independent Director



MR. Arun Kumar  
Independent Director



MR. haigreve khaitan  
Independent Director



Mr. Chandan Roy  
Independent Director



MR. hardip singh wirk  
Independent Director



MR. sudershan kumar garg  
Independent Director



Mr. Shalil Mukund Awale  
Nominee Director, IDBI Bank

4. The Board meets periodically to discuss and decide company/ business policies and strategy apart from other regular business matters. Board Meetings are usually held at the Corporate Office of the company in New Delhi. During 2014-15, five Board Meetings were held in 2014 on April 29, July 15, August 6, October 9 and November 4 and two in 2015 on February 3, and March 18.

5. Board Committees play a vital role in strengthening corporate governance practices and focus on issues. They ensure expeditious resolution of matters. Committees at the Board level make recommendations to the Board on various matters when required. All observations, recommendations and decisions of the committees are placed before the Board for information or for approval.

1) Audit Committee	4) Health, Safety, Environment and CSR Committee (HSE-CSR)
2) Nomination and Remuneration Committee	5) Governance and Business Ethics Committee
3) Stakeholders Relationship Committee	6) Investment & Risk Management Committee

6. The HSE-CSR Committee oversees the implementation of quality, occupational health, environment and CSR policies. It provides direction and monitors progress in those areas other than reviewing operational performance, safety and environmental risks and compliance to health, safety, and environment laws. The committee makes recommendations on CSR budgeting and spending and recommends activities in a given business context. It is chaired by an independent director and has one independent director and two executive directors. Senior officers from different departments are invited to its meetings to brief members and present reports on items on the agenda of these meetings. During the reporting period, the committee met four times.

Location	ISO 9001	ISO 14001	OSHAS 18001	ISO 50001
Angul, Orissa, India	✓	✓	✓	Under process
Barbil, Orissa, India	✓	✓	✓	✓
DCPP, Chattisgarh, India	✓	✓	✓	Under process
Patratu, Jharkhand, India	✓	✓	✓	Under process
Raigarh, Chattisgarh, India	✓	✓	✓	Under process
Raipur, Chattisgarh, India	✓	✓	✓	Under process
Tamnar, Chattisgarh, India	✓	✓	✓	✓
Tensa, Orissa, India	✓	✓	✓	Under process

## iv) Risk and Compliance Management

Our web-based compliance management tool, “iComply”, went live in 2014 with three key objectives:

- Create a comprehensive inventory of compliance obligations
- Facilitate understanding of legal and regulatory requirements among process owners
- Set-up an automated compliance reporting and monitoring process

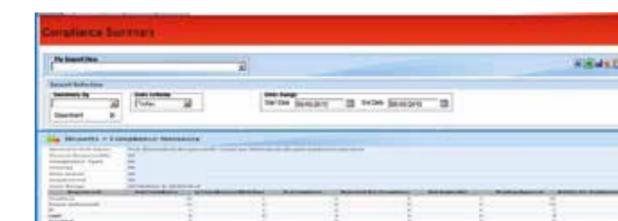
The key to the success of iComply is an employee’s individual effort to use the tool appropriately for ensuring 100% compliance with all statutory norms.

As part of this system, about 400 statutes and acts, translating into roughly 15,000 individual compliances for the group have been catalogued. Each has been assigned to an ‘owner’ amongst JSPL employees whose responsibility it is to ensure adherence under the supervision of an ‘approver’. Automated monitoring and tracking of compliances ensures that nothing escapes notice and delays, if any, are met with appropriate escalation and timely closure. In addition, the reporting mechanism helps in tracking the percentage of compliance achieved. JSPL’s iComply reduces chances of human error and ignorance.

### Key Features of iComply:-

- Central repository of all applicable compliances, statutory forms, licenses and evidences for compliances
- Flexibility to customize the tool based on needs and practices
- Enables creation of multiple approval and escalation levels
- Enables customizable dashboards and compliance status and exception reports
- Facilitates customizable alerts and reminders
- Audit Trails to track compliance at every step
- Enables easy updating of central repository as and when legislative amendments are introduced

### Example of Compliance Summary Report



In FY 2014-15, it was initiated by JSPL’s Business Sustainability team to institutionally set up risk management in the company. During the year, a formal structure for risk identification, assessment, prioritization and mitigation was also developed by senior members of the company’s management. The Board’s Investment and Risk Management Committee was split into two Committees one of them being the Risk Management Committee.

Also a risk management policy was designed to promote stable business growth and a pro-active approach in reporting, evaluating and resolving risks associated with the business. The policy forms a structured and disciplined approach to risk management to guide decisions on risk related issues. It has three key objectives:

1. To encourage/improve informed business decisions keeping risks in mind and without exposing the Group to avoidable hazards
2. To enable coordinated identification, prioritisation and management of risks without adding undue administrative burden
3. To enable compliance with appropriate regulations, wherever applicable, through the adoption of best practices.

In addition, appointment of Internal Risk Management Committee was also initialised (later implemented). This body has identified an indicative list of 25 risks that are reviewed constantly. This list would change depending on timelines for mitigation, but at all times they would reside in one of the following five buckets:

- i) Strategic and portfolio risks
- ii) Customer and operational risks
- iii) Finance and investment risks

- iv) Brand and reputation risks
- v) Regulatory and compliance related risks

#### Internal Risk Management Committee

The Internal Risk Management Committee is responsible to develop and oversee the implementation of the overall risk management framework as per ISO 31000. This includes undertaking of comprehensive risk identification exercise; conduct review sessions to ensure mitigation actions are progressing as planned and provide periodic updates to the executive body of JSPL's parent company, JSPL's Group Executive committee.

Further in FY 2014-15 JSPL's Business Sustainability team started the process of recruiting and placing 'Risk and Compliance Officers' at each of its operating sites (later implemented in FY 2015-16). These officers are responsible for identifying, reporting and, most importantly, mitigating risks at their sites. They are expected also to ensure 100% compliance with applicable rules, laws, legislations and guidelines and manage the "iComply" platform for their respective location(s). The officers report to their respective plant head and to the Internal Risk Management Committee.



Employees in the Control Room of JSPL's Steel Plant at Angul

# 5.0

## Sustainable Production Processes at JSPL

Establishing sustainable production processes at JSPL means manufacturing high quality products, at most optimum cost, with the least negative impact on environment and society, during the manufacturing as well as life-cycle of JSPL's products.

JSPL strives to achieve this by investing in new technologies that optimize operational efficiencies and costs. A good example of such investments is its coal gasification plant, a new technology that saves on energy and boosts manufacturing efficiency. Almost all waste produced from this plant is either re-used in the production process or sold. At JSPL sustainable production processes imply a strong emphasis on product longevity. For example, the rebars manufactured at Patratu in Jharkhand are more resistant to disasters like earthquakes and fire. With light gauge steel (LGS) it is possible to build earthquake resistant high rise edifices in less time.

The use of LGS technology would be crucial to a rapidly urbanizing India, a country which has 18% of the world's population but only 2.4% of its total land space. LGS can help address this imbalance because the technology makes it possible to build safe, cost-effective, resource efficient, and environmentally friendly high-rise buildings quickly. LGS frames reduce labour intensity and construction time. They provide greater architectural flexibility, structural integrity and much higher resistance to earthquakes. At Punjipathra JSPL manufactures light-weight cold-formed steel sections for speedy low-rise building construction on automated roll forming lines.

JSPL's power business too contributes to India's growth story. According to World Bank data, 25% of India's population<sup>8</sup>, or about 300 million people<sup>9</sup>, do not have access to electricity. JSPL is narrowing this gap through captive generation capacity of 1661 MW, Independent power production capacity of 3400 MW(JPL) and 24 MW wind power generation capacity. In Odisha, only 43 per cent of households use electricity as the primary source of lighting. This financial year, JSPL embarked upon an important rural electrification project in Barbil, Odisha in partnership with the district and state administration, lighting up 250 households within two months.

#### Key Features of Light Gauge Steel (LGS) Manufactured by JSPL

1. Prefabricated panels: High precision and faster construction (60% faster)
2. Light weight: Ease of handling, lower chance of progressive collapse, higher earthquake resistance
3. Dimensionally stable: durable construction, doesn't expand or contract with moisture or temperature variations
4. Thermal & acoustic insulation: Expanded poly styrene or rockwool insulation, vapour barrier, energy efficient, reduced HVAC load by up to 10%.
5. Fire resistance: Fire rating as per building code, internal wall of gypsum / cement board, external wall of cement board
6. Less sound transmission: Gypsum board with cement fibre board increases the STC of rockwool / EPS insulation
7. Seismic resistance: Pin jointed or simply supported connection allowing the joints to flex, ductile system for dissipating load
8. Eco-friendly: Minimal requirement of natural resources such as wood and water, low carbon foot print

Country Name	Percentage of Population with Access to Electricity <sup>10</sup>
Russian Federation	100
China	99.7
Brazil	98.93
Pakistan	91.37
Sri Lanka	85.1
South Africa	82.7
Nepal	76.3
India	75

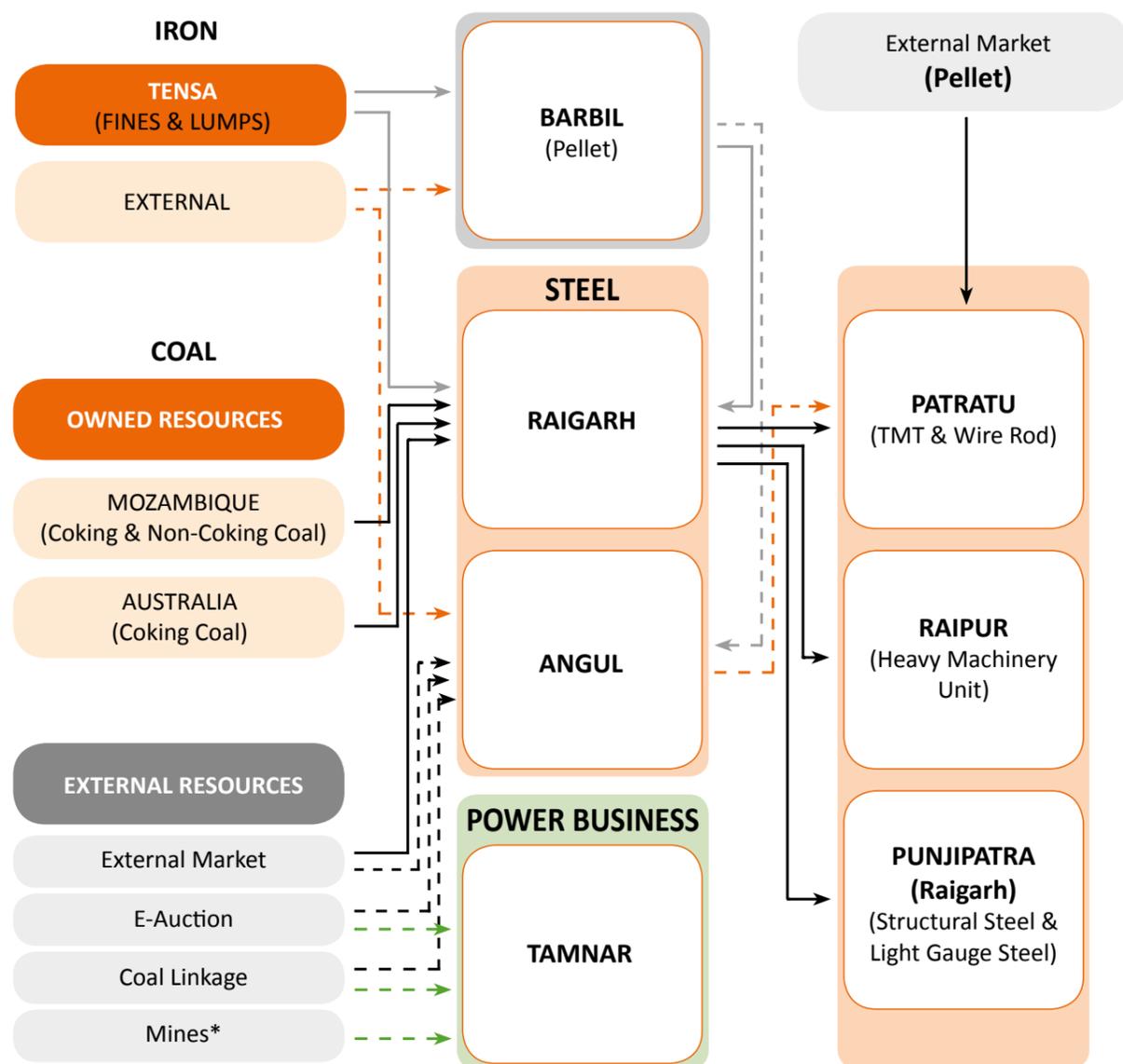
<sup>8</sup> World Bank Database (<http://data.worldbank.org/indicator/EG.ELC.ACCS.ZS>) <sup>9</sup> Considering India's current population of 1.21 billion ([http://www.dataforall.org/dashboard/censusinfoindia\\_pca/](http://www.dataforall.org/dashboard/censusinfoindia_pca/)) <sup>10</sup> World Bank Database (<http://data.worldbank.org/indicator/EG.ELC.ACCS.ZS>)

Product	Unit of Measurement	FY 2014-15
Finished steel products*	Tonnes	2318830
Semi-steel products	Tonnes	3082302
Pellets	Tonnes	3218677
Power	Million kWh	17929
Casting (Raipur)	Tonnes	1832
Machining (Raipur)	Tonnes	11564.40
Iron Ore mined (Tensa)	Tonnes	489915

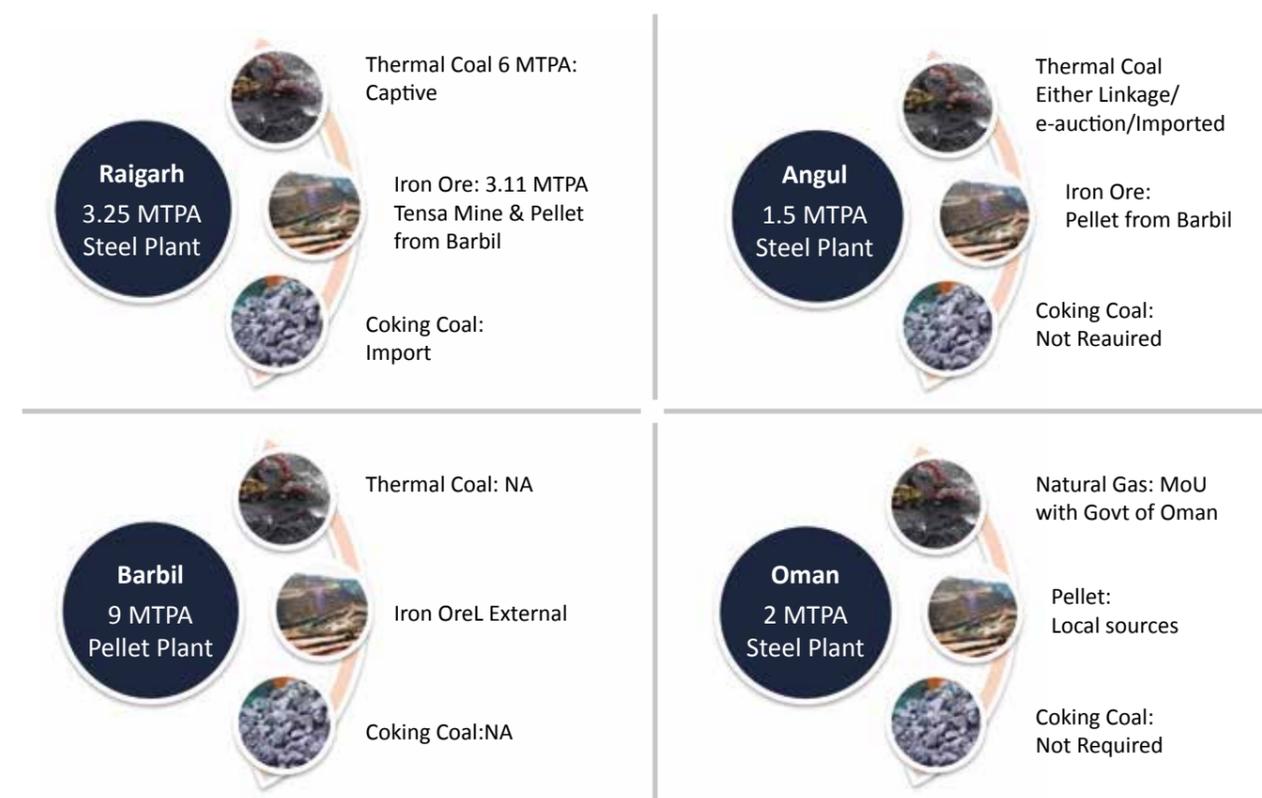
\* Indian operations

### i) Raw Material Sourcing Plan:

A detailed disclosure of JSPL's business model for raw material procurement is provided in two sections of this report: Top Priorities for JSPL's Business Sustainability and JSPL has a Sustainable Business Model. Here is a summary of the disclosure:



While JSPL endeavours to secure its coal and iron interests through different options, it is alongside adopting innovative ways to reduce its demand by, for example, switching to the blast furnace route for producing DRI. This uses coking coal from Australia and our own sources in Mozambique. Likewise, where quality grade iron ore is not available, we are exploring ways and means of using lower grade iron ore with Fe content of less than 60%, which is available in abundance.



Overview of Raw Material and Production Capacity at JSPL's Steel Production Plant sites

Therefore JSPL's raw material consumption for FY 2014-15 has been presented below:

Material	Consumption (in MT)	Material	Consumption (in MT)
Limestone	772316	Bentonite	16466
Dolomite	457962	Clinker	177921
Clinker	177921	Gypsum	16824
Iron Ore	5802228	HBI	50096
Reused material		Finished scrap	51056
Slag	335590		

### ii) Achieving Operational Excellence:

JSPL is on the path of developing leaner and cost-optimized operations. This is significant as the company's business operations are spread across four continents, Asia, Middle-East, Africa and Australia. The company leverages technology wherever possible in its processes to reduce costs and increase efficiency.

financial year, have been scaled up to include Delhi, Gurgaon, Raigarh, Angul, Tamnar, Patratu and Barbil. This has helped JSPL drastically cut business travel costs, enhance employee productivity and curtail carbon footprint. Small steps like reducing colour prints have helped the company cut both carbon footprints and costs.

Specialized energy management teams have been stationed at Raigarh, Angul, and Tamnar. These teams work towards improving

For example, tele-presence facilities, which were launched last

efficiencies and reducing the specific energy consumption of plants. At JPL Tamnar, the energy conservation initiatives resulted in a saving of 39.02 MU in the year. Among the steps for energy conservation were:

- Power saving in raw water pump by impeller trimming at Tamnar
- Power saving in condensate extraction pump by reducing one stage at Tamnar
- Running of three CW pump in place of four by proper monitoring and maintenance of cooling water system at Tamnar
- GRP blades of cooling tower fan replaced with FRP blades in 15 cells at Tamnar
- Reduction in power consumption in air compressor by optimizing boiler ignitor cooling air at Tamnar
- APC reduction in BFP by optimizing DP across FCV at Tamnar
- Energy-efficient coating in CW & ACW Pumps at Tamnar
- Duct modification done as per CFD analysis to reduce air ingress due to erosion and ID fan loading at Tamnar
- Reduction of special power consumption by optimised operation and maintenance practices of ash handling plant, CCPC and Rabo pump at Tamnar
- Stopping of one HFO pump and two LDO pumps by modification in system at Tamnar
- Installation of VFD in degasifier in DM plant at Tamnar
- Installation of back pressure recovery turbine in blast furnace at Raigarh
- Hot sponge iron charging to electric arc furnace at JSPL, Angul
- Installation of auto drain valve in the compressor of the RUBM plant at Raigarh

- Installation of lighting energy saver in SAF at Raigarh
- Optimisation of VD condenser pump in SMS-3 at Raigarh
- Installation of timer-based control system in cold saw descaling pump of MLSM plant at Raigarh
- Installation of lighting energy saver in sinter plant at Raigarh
- Modification of FD fan suction duct for one FD fan in the 2X25 MW power plant at Raigarh

#### Oman

- Power saving of 185 kwh/T by installation of Gravity feeder for charging Hot DRI (@ 650 deg c) to electric arc furnace at Oman
- Auxilliary power saving of 28 MWH/day during shutdowns by optimization of Cooling tower fans ,sea water pumps , SVC's & WTP pumps at Oman
- Installation of timer based control system (12 hrs.) in all locations within SMS Shop of JSIS, Oman.
- Trial on going to optimize working ID Fans for FTP of SMS, Oman. Saving of 19200 Kwh/day envisaged at Oman
- Near Zero blow down water achieved from level of 80 m3/day by closely monitoring the conductivity of RO water and temperature of cooling circuit temperature at Oman.
- Reduction in approx. 7T of refractory brick load per campaign by using old bricks at top side wall & upper bull nose area & thus reducing refractory waste generation at Oman.
- Trial Usage of Aluminium Smelter plant carbon by-product as carburizers at Electric arc furnace, Oman done. Carburizer cost saving of 0.9 usd/T achieved at Oman.
- Successful trial usage of recovered alumina powder (By-product of Aluminium smelter plant) done at secondary steel making area Oman. Cost saving of 1 usd/T achieved by reduction in consumption of aluminium.

Indian operations		FY 2014-15
Total Coking coal	Quantity (tonnes)	11,81,926
	Energy (TJ)	33,834
Total non-coking coal	Quantity (tonnes)	17630505
	Energy (TJ)	246843
Total Coke	Quantity (tonnes)	1,68,305
	Energy (TJ)	4,416
Total FO / HSD / LDO	Quantity (KL)	163678
	Energy (TJ)	6871
Others	Quantity (Kg)	4292
	Total	176

JSPL has signed agreements<sup>11</sup> to develop three hydroelectric power projects with a combined capacity of 6100 MW in Arunachal Pradesh. JSPL has a wind power production capacity of 24 MW at Satara, Maharashtra.

### iii) Environment Management

The Company has developed Environment Management teams at every location . The divisions comprises of trained technical staff, which manages the environment related aspects of JSPL's units and projects. Details on JSPL's Environment Management practices are included in the section JSPL Practices Sustainable Business Processes. JSPL's Environment management teams

assess new projects to determine their impact on environment, constantly monitor emissions/discharges and their control during production processes, increase awareness among workforces, up-grade and retrofit pollution control systems, initiate steps for resource conservation, monitor environmental parameters and the on-line environment data base management system.

JSPL has modern environmental laboratories equipped with sophisticated instruments, for conducting quality assessment of environmental parameters (air quality, water quality, noise and so on) as well as emissions and discharges (stack emissions and liquid effluents). Standard Operating Procedures (SOPs) are in place as part of the ISO 14000 benchmarks. These ensure regular



Aerial Shot of Clarifier at JSPL's Steel Plant, Raigarh

monitoring of energy consumption and conservation, waste generation and disposal, air and GHG emissions, as well as noise.

JSPL has installed Air Pollution Control Equipment (APCE) such as electrostatic precipitators (ESP), scrubber systems, cyclones, bag-houses, and waste heat recovery systems to reduce emission from its operations. The company has also installed a centralised de-dusting system with an electrostatic precipitator for dust control. During the year, a new bag filter was installed at lime ground hopper and circuit at SMS 3 at Raigarh.

The company has installed state-of-the-art devices for curbing atmospheric pollution. Real time check on the performance of these devices is done through automated online analysers such as opacity meters and ambient air quality monitoring stations (AAQMS). To further track and reduce emissions, JSPL has installed continuous emission monitoring systems at Raigarh, Angul, Barbil, Tamnar, Patratu and Oman. These systems are connected to pollution control boards for continuous tracking. Shaded Steel at Oman has installed the Ambient Air Quality Monitoring

Station (AAQMS) and it is connected with the monitoring centre of Ministry of Environment and Climate Affairs.

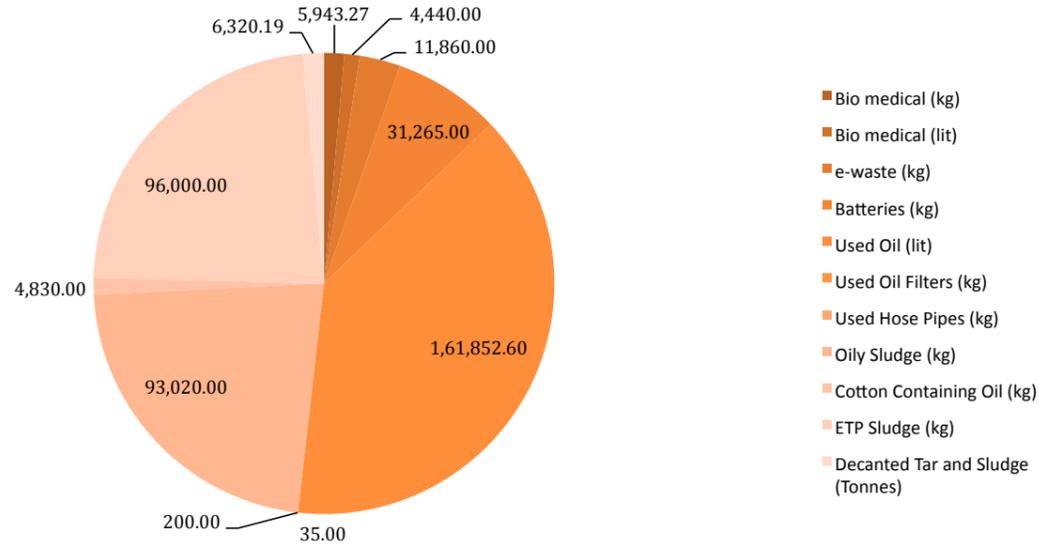
In FY 2014-15 at the Raigarh operations site, JSPL has started a life cycle assessment study for steel plate production. Earlier, GHG accounting was also carried out for all operations at Raigarh. . GHG inventory is maintained at Oman unit and data are submitted to Ministry of environment and Climate Affairs, Sultanate of Oman.

At the company level (JSPL and JPL) during FY 2014-15, JSPL's GHG Scope 1 emissions for the year are estimated at 29068.83 thousand tonnes of CO2 and Scope 2 emissions at 186.24 thousand tonnes of CO2. GHG Scope 1 emissions for JPL, Tamnar operations specifically are 10948.62 thousand tonnes of CO2.

<sup>11</sup> JPL had signed for 6100 MW hydro power capacity in Arunachal Pradesh in the year 2008 (4500 MW) and 2009 (1600 MW)

iv) Waste Management

**Hazardous Waste Disposal**



The major waste items generated from JSPL's operations are tailings produced during the extraction and beneficiation processes, slag and sludge during mineral processing, ash from power plants and hazardous wastes such as used oil, tar and char.

To collate all fines and usable wastes, JSPL has set up a sinter plant at Raigarh. The company utilizes the fly ash and slag generated to produce high-strength bricks. Most of the waste produced from JSPL's Coal Gasification Unit at Angul is either re-used in the process or can be recycled into a usable form to be sold and utilized by other industries.

JSPL has put in place brick-making plants at Angul, Patratu and Raigarh, which use fly ash and slag generated from power plants, DRI, and blast furnace. These plants manufacture fly ash bricks, rectangular pavers, uni-pavers, kerb stones and retaining walls.

Location	Capacity
Angul	1.17 MTPA
Patratu	30,000 Bricks/day
Raigarh	300,000 Bricks/day

Through 2014-15, JSPL commissioned the Slag-Atomisation Plant (SAP) at the Steel Melting Shop (SMS) II and the advanced Electric-Arc-Furnace (EAF) slag processing technology in collaboration with the Korean technological supplier, M/s Ecomaister Co Ltd in Raigarh. The company also installed a slag crusher plant to use the slag generated from the SMS.

In Tensa, JSPL made an inventory of the e-waste being generated. Most of the e-waste was disposed of through an agency authorized by the State Pollution Control Board and the rest was stored according to the guidelines prescribed by the central Pollution Control Board.

The installation of solid waste (non-process waste) processing unit at Angul was another important waste management step. Here domestic solid waste from the residential colony and plant premises are segregated to plastic, glass, tin, rubber, cotton and cardboard. Food and kitchen wastes are processed to generate compost for horticulture. Non-biodegradable waste is collected, separated and sold off to waste recyclers.

At Tamnar, a 2-TPD biogas plant was commissioned, which uses kitchen waste as feed. During FY 2014-15, hazardous waste was produced in form of used oil, used oil filters, oil contaminated cotton, oily sludge and PGP TAR and sludge were produced. All these wastes were either reused internally or sent to authorized-recyclers. The quantity of this waste disposed during the year, includes 146.068KL of used oil, 35 Kgs and 599 numbers of used oil filters, 200 Kgs of used hose pipes, 96,000 Kgs of ETP sludge and 604.23 Kgs of oil contaminated cotton. A small amount of waste is also stored at sites within the permissible limits. Besides, there was 31265 kgs of batteries, 5943.27 Kgs of bio-medical waste were disposed, and 12,760 Kgs of e-waste from Indian operations was produced during the year. These wastes were disposed-off as per respective applicable regulations.

There are also non-hazardous wastes which are generated through JSPL's Indian operations. JSPL has been successful in recycling or reusing over 72.38% of the non-hazardous waste generated (excluding the overburden).

Waste generated at JSPL's unit at Oman, generated 84,352 MT of non-hazardous wastes (including organic waste, quench tank fines, iron oxide fines, wooden scrap, scale sludge, and other industrial non-hazardous waste). 200 Kgs of e-waste and 16 KL used oil was also generated at the Oman location.

Non Hazardous Waste*	Unit	Generation (Total)	Utilization / Disposal (Total)	%age Utilization / Disposal
Slag	Tonnes	150076.235	150076.23	100.00
Mill scale	Tonnes	18820.5332	17389.533	92.40
Internal scrap	Tonnes	23110	17133	74.14
Ash	Tonnes	3217064	3064389	95.25
Knock out sand	Tonnes	0	0	0
Electrode Flux	Tonnes	1800	1800	100.00
Overburden	Tonnes	3	3	100.00
Bottom Ash	Tonnes	19747365	19747365	100.00
Fly Ash	Tonnes	2390209.19	1787817.6	74.80
DRI Char	Tonnes	391302	391302	100.00
DRI Bag filter dust	Tonnes	143009	10357	7.24
DRI Accretion	Tonnes	618271	4990	8.06
DRI ABC Dust	Tonnes	18325	590	3.22
BF Slag	Tonnes	687014	687014	100.00
BF Dust catcher dust	Tonnes	7139	6302	88.28
BF Slurry from ETP	Tonnes	3401	2549	74.95
BF Stock house dust	Tonnes	3741	1735	46.38
BF Cast house dust	Tonnes	1561	1382	88.53
SMS Slag	Tonnes	947743	730080	77.03
SMS EAF Bag-Filter dust	Tonnes	21326	0	-
SMS RMH Bag-Filter dust	Tonnes	7505	6832	91.03
SMS Bag Filter Dust	Tonnes	15312	7323	47.83
SMS Caster scale	Tonnes	7323	1550	21.17
PGP Ash	Tonnes	115294	115294	100
SAF Slag	Tonnes	37668	37668	100
SAF Bag-Filter dust	Tonnes	3331	287	8.62
RUBM/MLSM/Plate Mill Scale	Tonnes	25879	25879	100
Sinter ESP Dust	Tonnes	18891	18891	100
Sinter Bag-Filter dust	Tonnes	5022	5022	100
LDP Bag-Filter dust	Tonnes	7965	7965	100
Tar	MT	115294	115294	100

\* This includes figures for Angul, DCCP, Patratu, Raipur, JPL Mines, JPL Tamnar ( 4X250 & 4X600), Tensa, Raigarh Steel and Cement, JSPL Mines.



Aerial Shot of Clarifier at JSPL's Steel Plant, Angul

### v) Water Management

JSPL attempts to reuse and recycle water in a variety of ways like scrubbing of flue gases, slag granulation, slag cooling, dust suppression and horticulture. It is reused in rolling mills too (after oil is skimmed out). The company has installed a close-circuit effluent-recycling system in its DRI plant. Rainwater harvesting structures have been constructed for ground water recharge in consultation with water resource departments across all units. Also, surplus rainwater collected in open pits, is used as make up water for operations.

Some key initiatives for water conservation in FY 2014-15 were:

1. Water treatment plant with a capacity of 10m3/hr installed at Barbil
2. A sewage treatment plant of 150KLD installed at Soyabali Housing, Barbil. This works on the Fluidised Aerobic Bioreactor (FAB) technology
3. 3600-liter bio digester and 50-KLD phytoid bed installed at Barbil
4. At Tamnar, ETP installed to treat wastewater from the power plant commissioned

### vi) Managing JSPL's Internal Social Footprint

With operations in three continents, JSPL is a truly multinational organization and it, therefore, works relentlessly to create an environment conducive to a workforce made up of people from diverse cultures and nationalities. It aims to create an environment of mutual trust and collaboration by implementing systems that bring in the right talent, deepen employee engagement and increase employee utilisation and productivity.

A few years ago, JSPL defined the company's core values as POSSIBL:

- P: People passion,
- O: Ownership,
- S: Sense of belonging,
- S: Sustainability,
- I: Integrity,
- B: Business excellence
- L: Loyalty.

HR policies are in place for the smooth functioning of people processes and procedures in areas like recruitment, leave, succession planning, career development, rewards and recognition, learning and development, medical and accidental benefits, employee separation, retirement benefits, travel, welfare and recreation.

#### Gender Parity

Approximately 3.2 percent of JSPL's workforce at the Group level is currently women. This is an aspect that the company is working hard to improve with a series of efforts. These efforts are not just to increase the number of women employees at JSPL, but also to ensure men and women at JSPL both get equal access to leadership and resources, opportunities to leadership

#### Women Employees\*

2012-13	2013-14	2014-15
3.90%	3.76%	3.61%

\* Data for JSPL (Standalone)



positions, that there is no wage disparity whatsoever, and that the aspirations of men and women at JSPL match their exact roles in the organization.

There is also an emphasis on preserving each men and women employees' individual authenticity within the organization. JSPL's Chief Sustainability Officer has made a personal commitment to ensure that these objectives are met and participated in campus recruitment drives in FY 2014-15 to ensure more women were recruited, and then mentored within the organization.

Two salient features have especially enabled these efforts:

#### i) The top management walks the talk:

The Chairman Mr Naveen Jindal and the MD & Group CEO Mr Ravi Uppal have both facilitated the placement of women at key senior positions in the company. And post



Employees in the Control Room of JSPL's Coal Gasification Plant, Angul

boarding, they have provided support to the initiatives of these highly placed women at the right moments. This visible support from the top management to women employees has had a positive impact for women down the entire organization.

## ii) Approaching gender parity as part of the larger context of drawing diverse perspectives

JSPL's approach has been to encourage an eclectic work environment where various diverse perspectives – young, old, local, global, male, female – are brought in, healthily debated and accepted. This is why it is important that the organization recruits individuals with diverse backgrounds and equally important that it helps these diverse people preserve their individual perspectives and present them on appropriate platforms even if those perspectives are different from the majority view. It is this thinking that shapes the organization's approach to gender diversity too.

In FY 2014-15, 6% of new recruits in India at JSPL were females. JSPL is retaining its women employees by providing a flexible, comfortable and secure work environment. Some of our key strategic employees, the President Finance, the Chief Sustainability Officer, the Vice President Marketing, are all women. JSPL is also increasing the visibility of these women leaders who are role models for other women in the company. Also a committee on internal complaints related to sexual harassment has been formed. A workshop on prevention of sexual harassment at workplace was conducted in March 2015 by legal experts from the Counsel to Secure Justice, a not-for-

profit organization that provides counsel to women and child victims of crime. Counsel to Secure Justice is also JSPL's official partner for conducting enquiries against any internal complaint of sexual harassment.

## Youth and Mentorship

As in the FY 2014-15, 25.6% of JSPL's employees in India and 36% of JSPL's employees in Oman were below the age of 30. Almost 52.5% of JSPL's new recruits in FY 2014-15 were also below 30. JSPL's Chairman Mr Naveen Jindal himself is one of India's youngest business leaders and is part of the community of Young Global Leaders of the World Economic Forum.

There is a conscious effort at JSPL to recruit young talent. A subsequent focus, therefore, has been to ensure mentorship and support to the young. The MD & Group CEO of JSPL Mr. Ravi Uppal leads this process by including a team of young managers in the CEO's office, appointed on a rotational basis. These young managers support him by coordinating JSPL's separate businesses and functions and are thereafter placed at key leadership positions in the company. Mentorship in this way has been an important value and practice at JSPL, led by the company's CEO as a role model.

Also, the HR department has put in place a scientifically evolved process for succession planning which involves identifying and grooming a pool of talented youngsters for key positions in the business. In the last financial year, we launched the Young Leaders Programme (YLP) targeting first-time managers. YLP focuses on

leading self and leading others to build effectiveness. The young and talented managers work with CXOs and are groomed for prominent leadership roles.

JSPL has a well-developed learning and development team that runs training programmes at a group and individual basis for its employees. The Jindal Lead Management Trainee programme, Graduate Engineer Trainee programme and Management Trainee programme are all directed towards developing young talent in the company. The focus of these training programmes is to manage the self, manage others, and manage JSPL's business. Coaching, peer learning and mentorship by senior leaders are an integral part of these programmes. Details of these programmes are in an earlier section, The Top Priorities for JSPL's Business Sustainability in this Business Sustainability Report. In FY 2014-15, 16 employees were included in the Jindal Lead Management Trainee programme, none in the Graduate Engineer Trainee programme and 52 in the Management Trainee programme.

## Learning and Development

Every year, based on training needs identified by an annual Performance Development Review (PDR) process during the

### Employees Coverage in Skill and Safety Upgradation training\*

2012-13	2013-14	2014-15
75%	61%	72%

\* Data for JSPL (Standalone)

### Workforce break-up by type (as on March 31, 2015)

Country	CG Level	Supervisory Level	Workers (Permanent)	Trainees	Retainer	Allied	Contractual	Total	Specially Abled
India	4,780	2,253	1,466	71	55	4903	13,191	26719	6
Oman	260	126	238	9	4	0	0	637	0
South Africa	0	77	157	3	0	0	0	237	0
Mozambique	61	57	291	54	0	0	408	871	0

### Permanent Employee break up by gender (as on March 31, 2015)

Country	Male	Female	Total
India	8,306	319	8,625
Oman	619	18	637
South Africa	200	37	237
Mozambique	446	17	463
<b>Total</b>	<b>9571</b>	<b>319</b>	<b>9962</b>

### Permanent Employee break up by age (as on March 31, 2015)

Country	Less than 30	Between 30 to 50	Greater than 50	Total
India	2,216	5,814	595	8,625
Oman	228	378	31	637
South Africa	58	155	24	237
Mozambique	198	242	23	463
<b>Total</b>	<b>2,700</b>	<b>6,589</b>	<b>673</b>	<b>9962</b>

months of March-April, training programmes for each employee are planned. JSPL's training policy recommends an internal-external trainer ratio of at least 1:4.

All trainings at JSPL are managed by JSPL's Learning & Development department, led by the Chief Learning Officer. The following table contains information about the efforts of company till the end of 3rd quarter of the reporting year.

### Training Man days

Training type	No. of Training Programs	No. of Participants	No. of Mandays of Training
Technical/Functional	1120	17320	19419
Behavioural	146	3486	5293
<b>Total</b>	<b>1266</b>	<b>20806</b>	<b>24711.75</b>

### Collective Bargaining

Jindal Steel & Power Factory Workers Union has been in place since 1994 at Raigarh for protecting the rights of workers. 100% of non-supervisory permanent employees at Raigarh are members of this union. There is also the Jindal Steel & Power Mazdoor Sangha, JSPL Industrial Workers Union, Jindal Steel & Power Labour Union and Jindal Mazdoor Sabha at Angul, Odisha. All arrangements with respect to collective bargaining and trade unions are as per applicable laws of the land.



Employees in JSPL's Mills at Patratu

### New joiner break-up by gender and age

Country	Male	Female	<30	30-50	>50	Total
India	659	42	341	316	44	701
Oman	185	0	74	106	5	185
South Africa	0	0	0	0	0	0
Mozambique	173	7	149	25	6	180
<b>Total</b>	<b>1019</b>	<b>49</b>	<b>561</b>	<b>450</b>	<b>57</b>	<b>1068</b>

### Attrition break-up by gender and age

Country	Male	Female	<30	30-50	>50	Total
India	907	71	388	447	143	978
Oman	NA	NA	15	17	2	34
South Africa	18	10	4	20	4	28
Mozambique	73	11	60	23	1	84
<b>Total</b>	<b>998</b>	<b>92</b>	<b>471</b>	<b>504</b>	<b>149</b>	<b>1124</b>

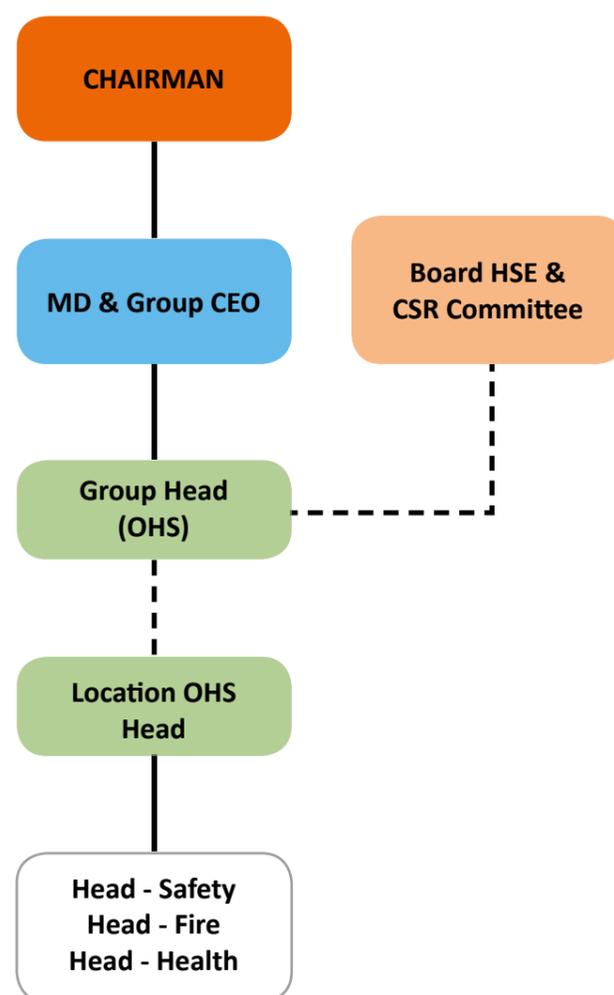
### vii) Occupational Health & Safety

JSPL has a well-defined occupational health and safety policy, which incorporates quality control systems like OSHAS18001 to protect and promote the safety and health of workers. JSPL complies with the codes and guidelines stipulated by the Factories Act, 1948, Mines Act, 1952, The Motor Transport Workers Act, 1961, Coal Mines Labour Welfare Fund Act, 1974 and the Mines Labour Welfare Fund. All new projects and significant modifications to existing facilities are subject to a Pre Start-up Safety Review. In FY 2014-15 there have been no new initiatives at the policy level for safety.

In FY2014-15 JSPL became the only company in India to acquire a 60-metre turntable ladder—a fire-fighting machine to battle fires in high-rise structures. Imported from Australia and installed in Angul, the machine can throw water and foam jet to a height of 85 meters.

In terms of governance, safety related aspects are typically discussed by the HSE-CSR Committee of the Board of which the MD & Group CEO is a part. He is keenly involved in ensuring the safety of all workers in the company. JSPL has a head of Health & Safety who leads a team of health, safety and fire professionals located at every site. Further, there are occupational health centres at all JSPL sites manned by doctors and nursing staff. In FY 2014-15 more than 95 thousand medical tests were carried out including of employees and contractors.

At the site level, to ensure continual monitoring and review of safety practices three committees have been put in place: Central Safety Committee, Departmental Safety Committee, and the Contractor Safety Committee. Internal and external safety audits and inspections are carried out regularly all year round to identify potentially risky behaviour, activities and operations. In addition, during FY 2014-15 the following four new committees took off at each site to ensure periodic OHS performance reviews and monitoring



- Corporate HSE & CSR Committee (quarterly)
- Location Apex Safety Committees (monthly)
- Departmental Safety Committees (monthly)
- Contractor Safety Committees (monthly)

In FY 2014-15 a total of 1389 safety committee meetings were held.

Safety training enjoys considerable importance at JSPL. All new employees undergo 'safety induction' prior to starting work. Classroom training as well as specialised practical training programmes are conducted. Safety seminars, workshops, and toolbox talks with employees and workers are a regular feature at sites. 83 mock drills and rehearsals were carried out to test the emergency preparedness across the group.

In FY 2014-15 the Head of Health & Safety led an initiative aimed at sensitizing and involving site-level line managers in safety audits and other safety related responsibilities. Line managers were encouraged to take safety walks to motivate employees to adopt safe work ethics and prevent unsafe acts and working conditions. In another initiative the number of first aid boxes on shop floors was increased to make them easily accessible at any time. Over the last few years, JSPL's Health & Safety Department has ensured that labels, indicators, posters, tags, and signs related to safety are appropriately displayed in the plant area to keep employees alert at all times to any potential danger. Notably in FY 2014-15, there were zero recordable accident at the company's Raigarh cement plant, Raigarh mines and washery, Dongamahua Captive Power Plant (DCPP), JPL Tamnar, Patratu, Raipur and Tensa.

#### Safety Parameters in FY2014-15\*

- Accident frequency rate reduced by 18.59%
- Accident severity rate reduced by 35.95%
- Fatality rate reduced by 34.32%
- Man-days lost on account of accidents reduced by 16.41%

#### Safety Performance of Indian Operations

	Raigarh	JPL Mines	Angul	Barbil
No. of Lost Time Injuries	5	2	4	2
No. of Fatalities	3	-	3	-
Man days Lost	19000.00	164	18,541.00	44
Frequency Rate	0.39	0.85	1.74	0.31
Severity Rate	915.18	69.82	4,619.36	6.91

British Safety Council, UK awarded the following sites with International Safety Award for implementing world class safety practices:

- Jindal Steel & Power Limited (Machinery Division), Raipur
- Jindal Steel & Power Limited, Patratu
- Jindal Steel & Power Limited, Barbil
- Jindal Power Limited (4X250 MW), Tamnar
- Jindal Power Limited (4X600 MW), Tamnar

Greentech Foundation of India awarded the following sites in recognition of the high level of their safety practices:

- Silver Safety Award to Jindal Steel & Power Limited, Patratu
- Gold Safety Award to Jindal Steel & Power Limited, Barbil
- Appreciation Certificate to Jindal Power Limited (4X250 MW), Tamnar

National Safety Council, India awarded safety award to Jindal Power Limited (4X250 MW), Tamnar.

\* This includes figures for Raigarh Steel Plant, Raigarh Cement Plant, JPL Tamnar, DCPP, Angul, Barbil, Patratu, Raipur, Tensa, Delhi/NCR for both JSPL and JPL as covered in our last business sustainability report 2013-14



Fire and Safety Team in JSPL's Pellet Manufacturing Plant, Barbil

### Some Examples of Safety Awareness Campaigns at JSPL Sites

**Angul:** JSPL's Angul unit celebrated National Safety Week during 4-10 March 2015 with awareness programmes for workers, employees, children and community members in and around the plant. A mobile awareness campaign was launched where a van was driven across the plant, sensitizing employees and workers on safety protocols and precautions. A safety theme competition called 'Safety King' and fire-fighting and rescue drills were conducted.

**Raigarh:** Raigarh observed the National Safety Day on March 4, 2015, marking the culmination of the National Safety Week Campaign, which had started on February 25 with a safety rally.

**Tensa:** The TRB Iron Ore Mines in Tensa celebrated the 17th Mines Environment & Mineral Conservation Week under the

aegis of the Indian Bureau of Mines, Bhubaneswar from January 27 to February 2, 2015. The mine was inspected on February 2 by IBM officials. The programme ended with a poster competition, a safety model exhibition, safety prize distribution and a cultural programme.

**DCPP:** JSPL organized a safety programme from January 19 to 24 focused on employee wellness. It featured yoga and ergonomics sessions and a mini-marathon. On one day of that week, employees abstained from having sugar. Also a thought-of-the-day competition was organized that required them to give one thought or make a poster related to health. The week included a fitness day during which all employees went through a BMI and BP test to find the fittest employee. It ended with the health reward day on which the best thought, poster and fittest persons were felicitated.

# 6.0

## JSPL is Building a Sustainable World

By virtue of its main business interests—steel, power, infrastructure and manufacturing—JSPL quite literally builds Nations. In India and in Africa its plants are located in the least economically developed regions like Chhattisgarh, Jharkhand and Odisha in India and Mozambique, Senegal, Botswana, Namibia, Mauritania and Cameroon in Africa<sup>12</sup>. The business model is cost effective and enables JSPL to provide employment to locals, build townships and develop the regions. Further, JSPL enhances the

quality of life of people who live in its operational areas with its CSR activities, which are compliant to local laws.

Human development Index of Indian states JSPL operates in<sup>13</sup>

Location	State	State HDI
Raigarh	Chhattisgarh	0.358
Patratu	Jharkhand	0.376
Angul	Odisha	0.362
Barbil	Odisha	0.362
Tamnar	Chhattisgarh	0.358
Satara	Maharashtra	0.572
Tensa	Odisha	0.362
Punjipatra	Chhattisgarh	0.358
Raipur	Chhattisgarh	0.358
Dongamahua	Chhattisgarh	0.358

Human development Index of countries JSPL operates in

Country	HDI	Country	HDI
Australia	0.993	Mozambique	0.393
Botswana	0.683	Namibia	0.624
Cameroon	0.504	Oman	0.783
China	0.719	Senegal	0.485
India	0.586	South Africa	0.658
Indonesia	0.684	Zambia	0.561



Students Inside a Classroom in JSPL's O.P. Jindal School at Raigarh

<sup>12</sup> As defined by United Nations Development Programme, the HDI (Human Development Index) is a summary measure of average achievement in key dimensions of human development: a long and healthy life, being knowledgeable and have a decent standard of living. source: <http://hdr.undp.org/en/content/human-development-index-hdi>  
<sup>13</sup> India Human Development Report 2011 – Towards social inclusion, Oxford University Press, 2011 ([http://www.iamrindia.gov.in/ihdr\\_book.pdf](http://www.iamrindia.gov.in/ihdr_book.pdf))



Naveen Jindal School of Management, Dallas, Texas, USA



O.P. Jindal University, Raigarh, Chhattisgarh



Jindal Global University, Sonapat, Haryana



Jindal Institute of Power Technology, Tamnar, Chhattisgarh



O.P. Jindal Community College, Raigarh, Chhattisgarh



O.P. Jindal School, Tamnar, Chhattisgarh



O.P. Jindal School, Raigarh, Chhattisgarh



O.P. Jindal School, Kunjemura, Tamnar, Chhattisgarh



O.P. Jindal Community College, Patratu, Jharkhand



O.P. Jindal Community College, Angul, Odisha



O.P. Jindal School, Patratu, Jharkhand



O.P. Jindal School, Angul, Odisha

Since inception, JSPL has been gradually growing its CSR portfolio of projects. In FY 2014-15 a full review of CSR projects was undertaken on the lines of focusing the company's CSR activities around 3 themes of

1. Education
2. Health, nutrition and population stabilization
3. Community Infrastructure development

In addition to the above 3 themes for CSR projects, JSPL's overall social commitment emphasises on preserving a 'Clean and Green Country' in every region of the world JSPL operates in. This social commitment is embedded in every aspect of JSPL's business, and is implemented so far mostly by the company's Environment Management team.

Further, JSPL is engaged in activities that improve the state of our world both around its sites and way beyond. Such transformational activities are led by its Chairman Mr Naveen Jindal, himself.

This section of the Business Sustainability Report is a disclosure of the company's social commitment around its operations (CSR) and beyond its operations.

### Around JSPL's Operations

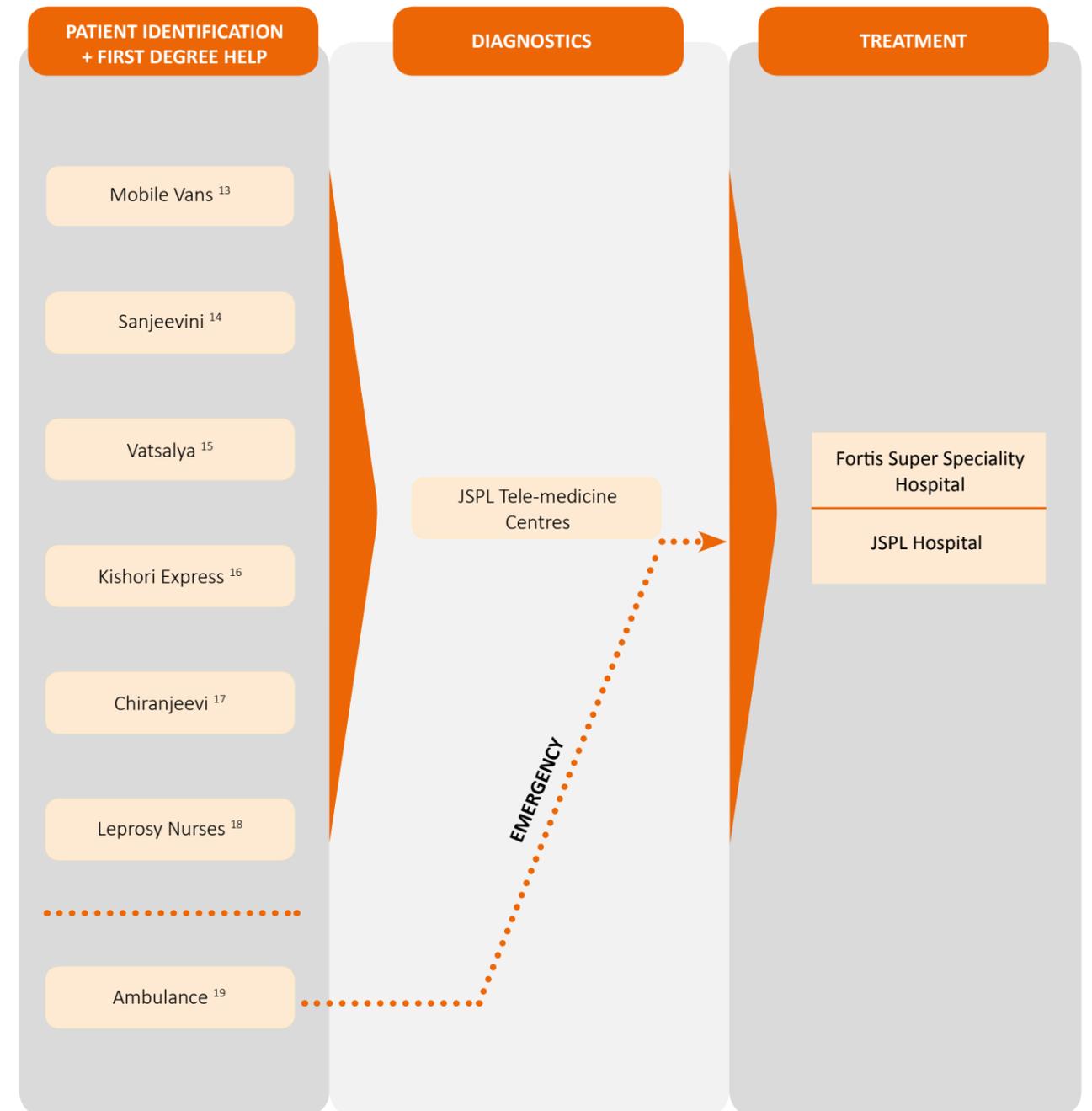
The business operations of JSPL rejuvenate local economies and provide employment to local communities directly and indirectly. Since communities are a key stakeholder in its business operations, JSPL reaches out to them even before embarking upon its projects and this engagement turns into a lifelong relationship marked by benevolence and support. From consultative workshops to building relations with stakeholders to addressing potential challenges, such as individual or community concerns over its projects, JSPL attends to every social detail with compassion. It organizes workshops and conducts social impact assessment studies involving locals. This invests the company with an understanding of community expectations, which, in turn paves the way for co-creating value both for the company and local communities.

A brief description of JSPL's flagship CSR projects are provided below. For details on all CSR projects JSPL publishes a dedicated CSR Report which can be obtained by writing to [miniya.chatterji@jindalsteel.com](mailto:miniya.chatterji@jindalsteel.com) or by visiting our website <http://www.jindalsteelpower.com/sustainabilities/csr-approach.html>.



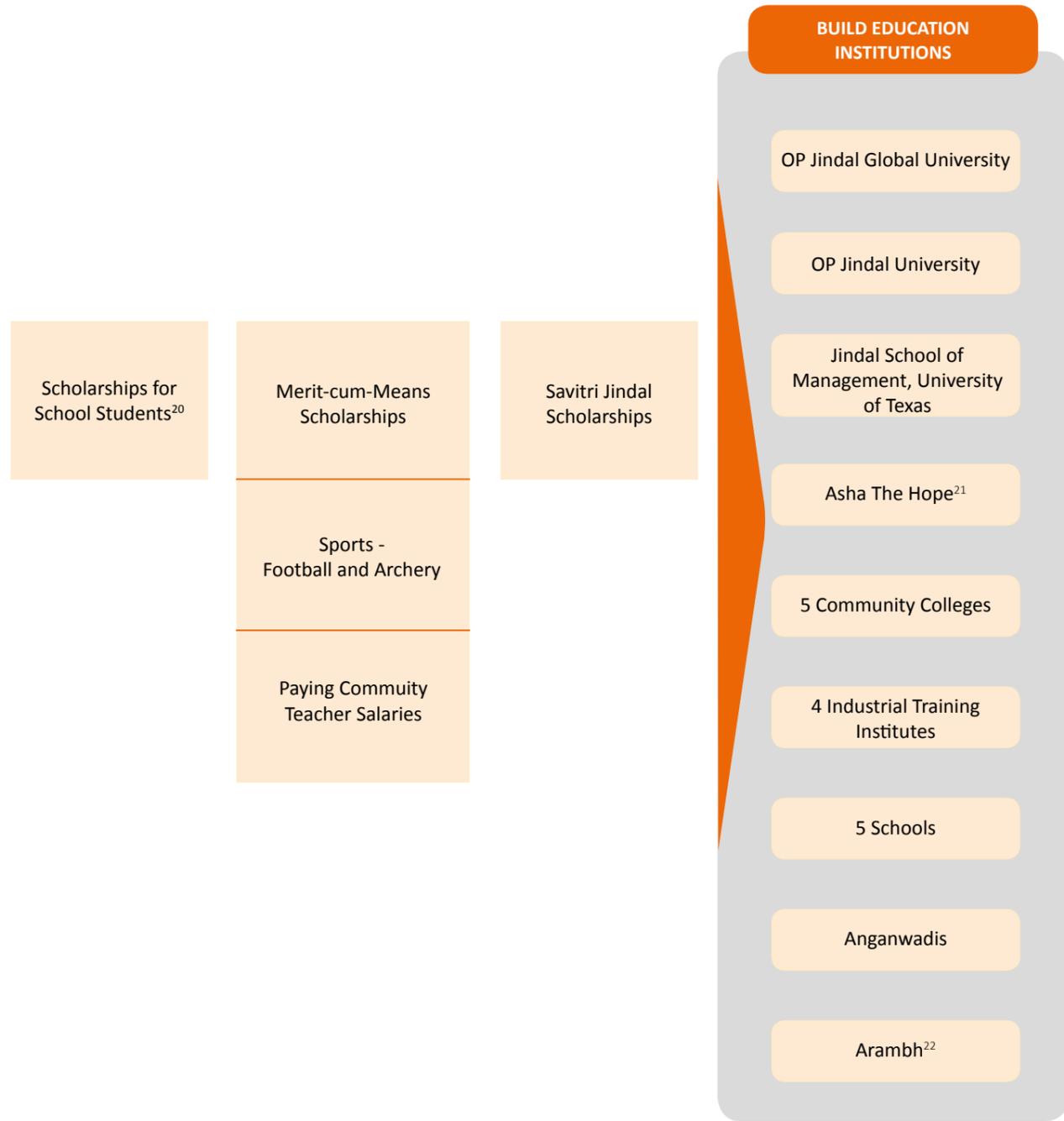
A Student in JSPL's ASHA - THE HOPE Centre at Raigarh

### JSPL'S STRATEGY TO IMPROVE HEALTH OF LOCAL COMMUNITIES



<sup>13</sup> Mobile dispensaries that tours surrounding villages continuously, equipped with 1 doctor and medicines  
<sup>14</sup> Medical dispensary, patients are examined and provided medicines here  
<sup>15</sup> Trained women volunteers continuously tour the surrounding villages to carry out pregnancy care, child birth, and adolescent health services.  
<sup>16</sup> Mobile van touring the surrounding villages for medical check-ups, haemoglobin tests, awareness generation and nutrition supplements of adolescent girls.  
<sup>17</sup> Women volunteers touring the surrounding villages to identify malnourished children and providing appropriate nutrition.  
<sup>18</sup> Nurses tour the surrounding villages to identify leprosy patients and provide them with first aid care.  
<sup>19</sup> 24 Hr emergency services for transporting individuals from local villages to a hospital.

JSPL's STRATEGY TO EDUCATE THE NEXT GENERATION



A disclosure on JSPL's CSR projects at each of the company's operating sites is listed out as below:

Location	Health, Nutrition and Population Stabilization	Education	Clean and Green Country	Infrastructure Development	Others
<b>Tamnar</b>	<ol style="list-style-type: none"> <li>1. Vatsalya</li> <li>2. Tele Medicine Centre</li> <li>3. Health Camps</li> <li>4. Sanjeevani Health Centre</li> <li>5. Combatting Malnutrition</li> </ol>	<ol style="list-style-type: none"> <li>1. Community teachers support to government schools</li> <li>2. Uthaan- Skill Development</li> <li>3. Merit cum Means Scholarships</li> <li>4. Teacher training</li> <li>5. Balwadi</li> </ol>	<ol style="list-style-type: none"> <li>1. Community Plantation</li> <li>2. Construction of toilets</li> <li>3. Water bodies renovation</li> <li>4. Khel Wadi at Government Schools</li> </ol>	<ol style="list-style-type: none"> <li>1. Construction of Roads</li> <li>2. Construction of Hospital</li> <li>3. Community building construction</li> <li>4. Other Rural Infrastructure</li> </ol>	<ol style="list-style-type: none"> <li>1. Promotion of Agriculture based livelihood programs like Wadi, Sri</li> <li>2. Non-Farm based SHGs like Mushroom Cultivation, Handicrafts</li> <li>3. Sports promotion</li> <li>4. Animal Husbandry Camp</li> </ol>
<b>Raigarh</b>	<ol style="list-style-type: none"> <li>1. Asha- The Hope</li> <li>2. Health Camps</li> <li>3. Leprosy Camps</li> <li>4. Tele Medicine Centre</li> <li>5. Referrals to Super Speciality hospitals</li> </ol>	<ol style="list-style-type: none"> <li>1. Women Literacy Mission</li> <li>2. Community teachers support to Government Schools</li> <li>3. Scholarship</li> <li>4. School Infrastructure building</li> <li>5. Setting up computer centres</li> </ol>	<ol style="list-style-type: none"> <li>1. Ground Water Recharging</li> <li>2. Renovation of Drinking water facilities</li> </ol>	<ol style="list-style-type: none"> <li>1. Construction of bridges</li> <li>2. Construction of Roads</li> <li>3. Installation of CCTVs</li> <li>4. Construction of community buildings</li> </ol>	<ol style="list-style-type: none"> <li>1. Promotion of Sports</li> <li>2. Non-Farm based micro enterprises promotion</li> </ol>
<b>Angul</b>	<ol style="list-style-type: none"> <li>1. Kishori Express</li> <li>2. Tele Medicine Centre</li> <li>3. Health Camps</li> </ol>	<ol style="list-style-type: none"> <li>1. Jindal Vidya Peeth</li> <li>2. Aarambh- Pre School</li> <li>3. Scholarships</li> <li>4. Community teachers support to government schools</li> </ol>	<ol style="list-style-type: none"> <li>1. Community Plantation</li> <li>2. Toilets Construction</li> </ol>	<ol style="list-style-type: none"> <li>1. Water Shed Development</li> <li>2. Community Infrastructure building</li> <li>3. Roads Construction</li> </ol>	<ol style="list-style-type: none"> <li>1. Sports Promotion</li> <li>2. Non-Farm Microenterprises promotion</li> <li>3. Farm Based Micro enterprises promotion</li> </ol>
<b>Barbil</b>	<ol style="list-style-type: none"> <li>1. Health Camps</li> <li>2. Tele Medicine Centre</li> <li>3. Kishori Express</li> </ol>	<ol style="list-style-type: none"> <li>1. Building up of School Infrastructure</li> <li>2. Scholarships</li> <li>3. Community teachers support</li> <li>4. Teacher Training</li> </ol>	<ol style="list-style-type: none"> <li>1. Community Plantation</li> <li>2. Toilets Construction</li> </ol>	<ol style="list-style-type: none"> <li>1. Rural Electrification</li> <li>2. Rural Infrastructure construction</li> </ol>	<ol style="list-style-type: none"> <li>1. Sports Promotion</li> </ol>
<b>Patratu</b>	<ol style="list-style-type: none"> <li>1. Tele Medicine Centre</li> <li>2. Health Camps</li> <li>3. Combatting Malnutrition</li> </ol>	<ol style="list-style-type: none"> <li>1. Scholarships</li> <li>2. Building up of School Infrastructure</li> <li>3. Building up of School Infrastructure</li> </ol>	<ol style="list-style-type: none"> <li>1. Bio-gas Management</li> <li>2. Toilets Construction</li> </ol>	<ol style="list-style-type: none"> <li>1. Construction of Bridges</li> <li>2. Construction of Roads</li> <li>3. Construction of other Rural Infrastructure</li> </ol>	<ol style="list-style-type: none"> <li>1. Sports Promotion</li> <li>2. Non-Farm Microenterprises promotion</li> </ol>
<b>Raipur</b>			<ol style="list-style-type: none"> <li>1. Building of Toilets</li> </ol>		

<sup>20</sup> Merit-cum-Means Scholarships for school students of socially backward background <sup>21</sup> A school for rehabilitation and empowerment of specially abled students.

<sup>22</sup> A pre-school centre meant for the children in the community whose parents are working

## Tamnar

The intervention of JSPL in Tamnar is designed to improve the living standards of people dwelling in its 38 supported villages. They aim to address both proactive and reactive indicators and cater to issues concerning health, education, and livelihood. The CSR projects strengthen farm and non-farm-based Self Help Groups (SHGs). Infant mortality rate and maternal mortality rate among local communities in this region were disconcertingly, which prompted the 'Vatsalya' project in 2010.

**VATSALYA (flagship CSR project in Tamnar):** Involving 48 village-based trained women called Swasthya Sanginis this project has been catering to 38 villages around JSPL's thermal power project and mines since 2010. Its primary objectives are to:

- Create awareness among communities on health related issues.
- Reduce IMR & MMR through ANC/PNC related awareness and service.
- Increase institutional delivery
- Create awareness about anaemia

These objectives are achieved with the help of these Swasthya Sanginis who belong to the villages and visit every home for building relations as well as identifying pregnancy cases. These social workers make their visits at scheduled times for taking pregnant women to appropriate doctors for antenatal check-ups, TT injections, iron tablets and also delivery. In return and for their

service, the Swasthya Sanginis receive benefits. For example, for each delivery facilitated by them they get INR 150 from the Vatsalya project budget.

The percentage of safe deliveries in villages supported by JSPL stands at 75% as compared to a dismal 18% in the other villages thanks to Vatsalya .

## Raigarh

JSPL is developing dwellings for local communities in its 42 villages in and around Raigarh. In the reporting year, JSPL constructed a showpiece road called 'Marine Drive' in the Raigarh District. This was a large infrastructure project. JSPL also provided CCTV facilities at major public locations. JSPL has supported the local communities by education their women, promoting sports and educating specially-abled people at the ASHA- The Hope centre.

**ASHA - THE HOPE (flagship CSR project in Raigarh):** It addresses the needs of the specially-abled, regardless of caste, creed, sex or socio-economic differences. This centre goes beyond providing therapeutic or educational rehabilitation and moves decisively to engage them in sustainable livelihood programmes. JSPL trains them in income generating vocational skills like screen printing, candle-making, tailoring and computers. They are also assisted in getting a disability certificate, pension, bus pass and loans through micro-finance schemes and other government benefits.

## Angul

JSPL's CSR activities benefit communities in the 33 villages it has been supporting in and around Angul. The company runs a pre-school Aarambh especially for the children of migrant workers in the nearby communities. This preschool fulfils the educational and nutritional needs of children. In addition, JSPL has built substantial infrastructure in rural Angul, initiated a watershed development project (see section 'Case Studies of JSPL's Business Sustainability'), in addition to a projects for livelihood creation through SHGs in non-farm based activities. 'Kishori Express' is a flagship CSR project of JSPL in the region and benefits the health of adolescent girls.

**KISHORI Express (flagship CSR project in Angul):** Kishori Express, as the name suggests, is dedicated to the cause of better health care for adolescent girls. Essentially, Kishori Express aims to improve the health of adolescent girls through regular medical check-ups, haemoglobin tests, awareness generation and nutrition supplements. Chiefly, it targets anaemia through timely detection and treatment. Kishori Express engages in disseminating knowledge on life skills, health and hygiene through a customised audio-visual touch screen quiz system. This project is being executed by JSPL through a Public Private Partnership with the National Rural Health Mission, Integrated Child Development Scheme and Zila Swasthya Samiti, Angul. In

FY 2014-15 Kishori Express organized the haemoglobin test of 40999 girls of 301 villages.

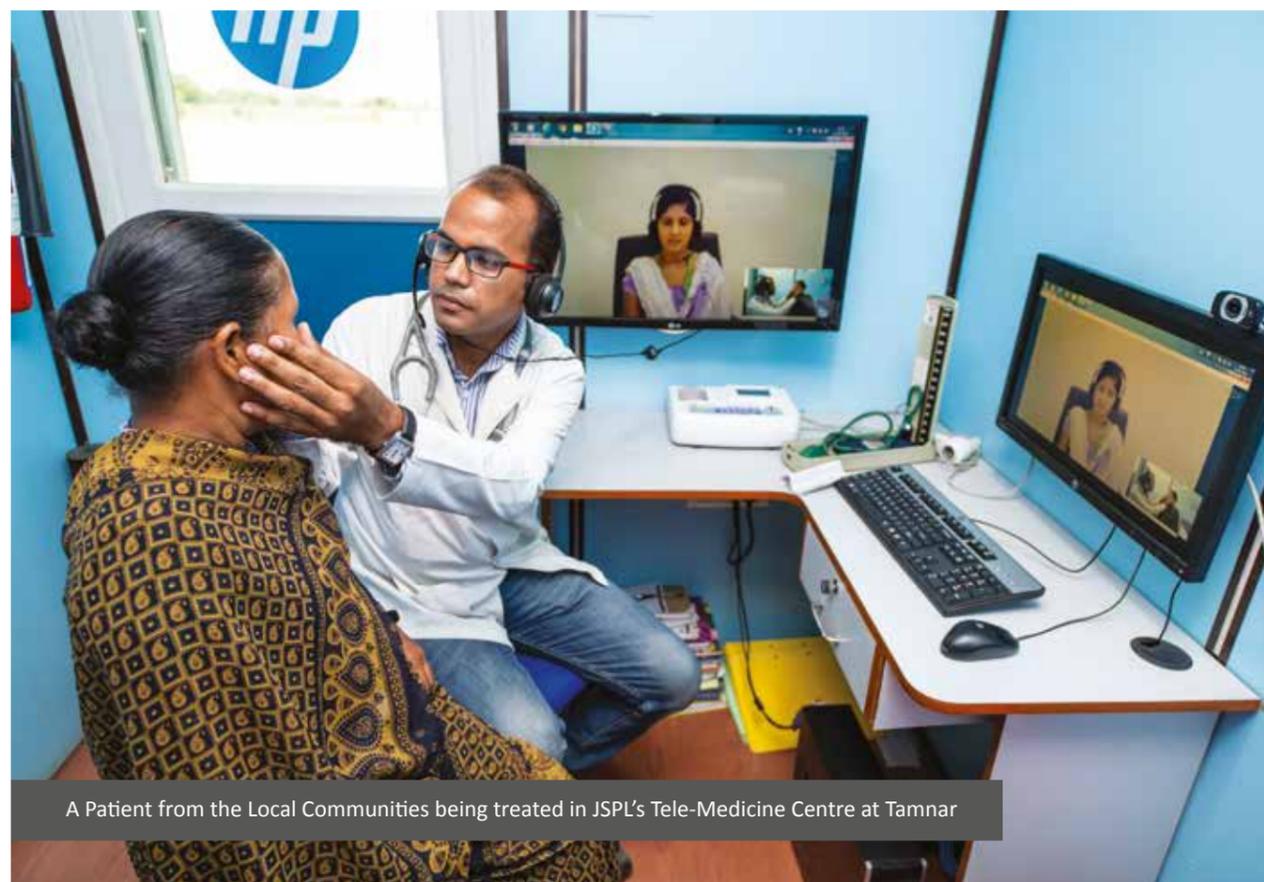
## Patratu

The CSR projects of JSPL at Patratu benefits local communities living in 15 villages located around its manufacturing facility. The projects include promoting sports, building toilets and combating malnutrition. For addressing health-related issues JSPL has established a tele medicine centre in association with Hewlett Packard (HP).

**Telemedicine Centre (flagship CSR project in Patratu):** This centre aims to help people living in the 15 surrounding villages supported by JSPL can virtually consult doctors at the super speciality hospital in Raigarh.

## Barbil

In Barbil, CSR projects have helped communities of 27 villages located around the site of JSPL. These projects have provided rural electrification to these villages, constructed community toilets and promoted sports.



A Patient from the Local Communities being treated in JSPL's Tele-Medicine Centre at Tamnar



Women from local communities earning a living in JSPL's food processing centre at Angul

### SHG Management Training

JSPL promotes the formation of Self Help Groups (SHGs), especially ones managed by women. Through JSPL's CSR programmes the company has built the capacity of SHGs/individual farmers in supplementary income generation activities like fishery, vegetable farming and poultry. At present, 529 Women through Self Help Groups are now networked and supported by the micro entrepreneurship promotion measures of JSPL. By imparting required training, capacity building and providing base capital and zero cost working capital support as well as appropriate linkages the Company has enabled these SHGs to transform themselves to Self Help Entrepreneur (SHE) in manufacturing and marketing of herbal beauty care products, low cost sanitary napkins, food processing, market oriented terracotta products, jute products, incense stick making, tailoring and mushroom cultivation.

With the objective of regularizing the functioning of the SHG's a 12-day training session was conducted in February 2015. The training was broken down into four batches of three days each. The curriculum covered "panchsutras", various government programmes, importance of savings, proper book-keeping and maintenance of MIS. The prime objective of this effort is to shift the focus of SHG's from un-productive consumption to productive utilization of funds generated through savings.

### Africa

In Africa, JSPL's operations vision is to build strong and lasting relationships with our communities, by enabling open and constructive dialogue and ensuring that our endeavours are mutually beneficial to all involved, in the true spirit of Ubuntu ("Unity"). In this spirit, we lend a hand to communities by assisting in the development of social infrastructure like healthcare and educational facilities, and also water infrastructure. It is our belief that a healthy community makes for a healthy and friendly operating environment and workforce.

Jindal Africa recognises education as one of the building blocks

of any nation and considers it a major priority in line with the continent's millennium goals. Our organisation aims to nurture young minds and educate the youth so that they can contribute to the continent's development. This is being done through bursary schemes aimed at benefiting young junior degree students who are pursuing various studies within the mining and engineering profession, and also offering a multitude of internship programmes which are aimed at offering on-the-job training to graduates in the mining industry.

Understanding that we operate in rural areas and as such impoverishment hinders a child from an optimised schooling experience. Our organisation supports through means of



Health Centre at JSPL in Mozambique

### JSPL's CSR Activities in South Africa

At JSPL's South African operations, CSR activities are aligned to the Social Labour Plan (SLP) on the basis of which funds are allocated towards CSR activities and committed towards upliftment programs in partnership with the Department of Mineral Resources. The SLP for South Africa impacts nine surrounding communities which range from proximity of a few kilometres to a maximum of 50km from the mine. CSR initiatives include refurbishment of schools, hospitals, and playgrounds. In alignment with our strong vision for improving quality of life by enhancing rural urban divide the company initiated a long standing rural requirement to electrify two of the mines nearest communities. Any community projects are identified in partnership with all local traditional councils, the local municipality and the socio economic demand of the prospective areas.

Continued efforts are adhered and practised towards progressive development on self-dependency and encouragement for practical skills for individuals and communal long-term prosperity thus enabling communities to become entrepreneurial and self-sufficient. The colliery has successfully implemented various initiatives including logistical solutions being operated by the communities on the colliery with assisted donation of the trucks by the organisation.

Grievance redressal and communication channels play a vital role in community engagements. Informal interactions with the communities include those which happen at a regular basis between field workers and locals during their visit to the communities. Formal arrangements include the committee which governs and monitors the progress of activities conducted for the communities. Apart from this, contact numbers, pamphlets etc. are distributed to community chiefs along with an escalation matrix. Liaison offices have also been set up for each of the communities to enhance the level of interaction with the communities.

school substance farming for daily consumption, donations of school clothing, educational toys and ad hock assistance thus improving the ultimate learning experience for every scholar.

Jindal Africa's Mozambican operation has made significant contributions to local healthcare facilities in the form of an ambulance to the Tete provincial authorities, to help improve

their response to medical emergencies. The organisation has also constructed a clinic (avg. 80 patients per day) on its mining site that is open to community members, and has distributed much-needed supplies to local clinics and healthcare centres. The healthcare centres are not only about assisting those who are sick, but also tasked with providing much needed preventative health measures such as sex education, nutritional information, counselling faculties and HIV/AIDS testing.



Students inside a Classroom in a School at JSPL's Kiepersol Colliery Site, South Africa

## Oman

At JSPL Oman, we work for the benefit of the Omani society with a special focus on local communities. Our construction projects, among them a multi-purpose hall, a children's park and a football ground, have provided an opportunity for students to tone their skills. For adult education programs, we have donated a well-furnished school building and blackboards in the village of Nabr. In the health sector, we organize regular blood donation camps for our employees and also indifferent schools for the benefit of local communities. We also organize meetings to improve relations between Indian and Omani people.

We were committed to enter exciting phase with a rollout that includes the construction of a footpath on either side of the road leading to the Nabr village from the service road in Liwa and the donation of electrically operated wheel chairs. Also on the CSR agenda are distributed mobile phones customized for the hearing impaired, constructed waiting sheds, donated coolers and carpets to mosques, clean up the Nabr beach, encourage sports clubs to participate in football leagues and extend self-income opportunities to people in surrounding areas

Adding to the list, in the present agenda, recently a public Majlis has been constructed for Al Jufra village community. Again to encourage young Omanis to participate more in sports activities a football ground with all modern amenities is constructed for Al Had cub in Gadafan. Making waiting sheds for schools in order to protect small kids from scorching summer.

Looking towards the health of Omani people, under Project Vision, several eye check camps were organized in recent past. Lot many poor adult's eyes got tested and all of them were gifted with eye glasses to get benefitted in old age. Almost all schools in Liwa area has been covered under project Vision and hundreds of children who are detected with vision problem, CSR at JSPL Oman distributed eye glasses to all of them. Presently, after completing in all schools of Liwa Wilaya we are heading towards schools in Shinas to execute this project.

JSPL Oman is now committed to Al Noor blind association to make a multipurpose auditorium for the blind people inside the association compound. This auditorium, directly and indirectly, is going to help the blind people connected with Al Noor blind association, in numerous ways.



Winning Team at Soccer Match Organised by JSPL Oman in 2015

## JSPL's Emphasis on Preserving a 'Clean and Green Country'

JSPL has a strong focus on the social commitment of keeping the country clean and green. For this the company first and foremost ensures that its operations operate within the prescribed standards. When a better technology is available with lower impact on environment, JSPL has moved ahead to adopt it. JSPL's Coal Gasification Plant for steel production at Angul is one such example.

Apart from this JSPL has put in place equipment like electrostatic precipitators, scrubber systems, cyclones, bag-houses, waste heat recovery systems and water treatment plants. JSPL has also installed a centralised de-dusting system with an electrostatic precipitator for dust control. A sinter plant has been installed to collate all fines and usable wastes, which are used in the blast furnace.

JSPL has also established modern environmental laboratories at operation sites, equipped with instruments for conducting quality assessment of environmental parameters (air quality, water quality, noise) as well as emissions and discharges (stack emissions and liquid effluents). Its standard operating procedures, adhering to ISO 14000 benchmarks, ensure regular monitoring of energy consumption and conservation, waste generation and disposal, air and GHG emissions and noise.

## Beyond Our Operations

The efforts of JSPL in FY 2014-15 have been to further strengthen the position of social commitment within its core business strategy. As demonstrated by the preceding sections of this Business Sustainability, the company has moved purposefully in this direction. This section of the report discusses three areas of intervention led by Chairman, Mr Naveen Jindal, which go beyond JSPL's business operations and contribute significantly to improving the state of the world.

### Education

JSPL has made substantial philanthropic contributions to the cause of providing education. Some of its educational institutions are located close to the company's sites and are a part of its CSR programme. These activities provide education to local communities and have been detailed in the previous section, Around Our Operations. However, besides CSR, JSPL has built educational institutions and provides education in areas that are beyond JSPL's site operations in India and elsewhere.

Chairman of JSPL, Mr Naveen Jindal, which has founded two universities in India. One of them, the OP Jindal University (OPJU) started in September 2014 under an Act of Legislature in the state assembly of Chhattisgarh. Earlier, in January 2009, the Chairman had founded the OP Jindal Global University in Sonapat.



JSPL Employees Cleaning Surrounding Areas of JSPL's Corporate Office, New Delhi on an early morning of a weekend



O.P. Jindal Global University in Sonapat

JSPL runs several other institutions as well: One training school (Jindal Institute of Power Technology, Tamnar) for power plant professionals; five O.P. Jindal Community Colleges in Odisha, Chattisgarh and Jharkhand; four industrial training institutes through a public private partnership scheme with the Government of India.

Also, in India, JSPL provides 332 community teachers to 160 Government children's schools. Further it runs schools in Raigarh, Tamnar, Nalwa, Angul and Patratu for 5500 students.

In the United States, after he was named UT Dallas Distinguished Alumnus, 2010, the Chairman of JSPL, Mr Naveen Jindal endowed the School of Management with the largest alumni gift given to the university up until then. Later, the Board of Regents at the University of Texas named the school the Naveen Jindal School of Management.

The work of the five-year-old OP Jindal Global University deserves special mention because the university has contributed not just to quality education in the liberal arts but also emerged as an intellectual voice shaping the Indian and global policy agenda. OPJGU is a constellation of five colleges: Jindal Global Law School,

Jindal Global Business School, Jindal School of International Affairs, Jindal School of Government and Public Policy and Jindal School of Liberal Arts & Humanities, on a modern 80-acre residential campus in the National Capital Region of Delhi.

With a faculty-student ratio of 1:15 this UGC-recognized university has provided education to students from diverse economic backgrounds. Beyond academics, OPJGU has emerged as a prominent influencer of public policy with its faculty regularly publishing editorials in the country's National newspapers. Further, the Oxford University Press publishes OPJGU's India Public Policy Report every year.

In FY 2014-15 the India Public Policy Report mapped the issue of poverty, hunger, and malnutrition with data and suggested solutions. It is available on <http://www.jsgp.edu.in/pdf/IPPR-Summary.pdf>. Also in March 2015 it hosted the India-Israel Track II Dialogue workshop and the India-Pakistan Peace conclave, the former in collaboration with the Interdisciplinary Centre Herzliya, Israel and The Indian Council of World Affairs. At the workshop Indian and Israeli academicians and diplomats discussed the Israel-Palestine conflict, Israel's strategic position in West-Asia and India-Israel bilateral relations. It was attended notably by the

Deputy Chief of Mission, Embassy of Israel. The India-Pakistan Peace conclave brought together students and faculty from Lahore University of Management Studies and O.P. Jindal Global University in a series of open house discussions. The purpose of the conclave was to chart out a common future for the two Nations.

### Winning the Legal Battle for the Rights of Indian Citizens to Fly the Indian Flag

As a young entrepreneur in the 1990s Mr Naveen Jindal, like many other people his age, took pride in the tricolour, but could not hoist it because of the laws prevailing then in the country. After completing his MBA he returned from the US, a country where the National Flag was allowed to be hoisted by its citizens. He wanted Indians to have the same right and moved the Delhi High Court with a writ petition under Article 226 of the Constitution. Eventually he won his legal battle for himself and the whole Nation. In 2002 the Union Cabinet announced that citizens will be free to fly the National Flag respectfully on all days from January 26, 2002. The Government subsequently issued a new flag code (Flag Code of India 2002), with guidelines for flying the National flag.

Subsequently, the Chairman of JSPL Mr Naveen Jindal set up the Flag Foundation of India (FFI) with the vision of instilling in citizens of India a sense of pride in the tiranga (tricolour), India's National Flag. To achieve this, the FFI uses all possible means—music, art, photography, cultural programmes, festivals, seminars and workshops. Collaboration with civil society and advocacy groups, corporate houses, educationists and like-minded individuals, with a special focus on children and youth, is a part of its work.

Later, in 2009 JSPL's Chairman Mr Naveen Jindal campaigned for and got a favourable ruling from the Ministry of Home Affairs on December 22, 2009, to let monumental flags be flown at night with appropriate illumination.

In March 2014, the FFI erected a 207-foot flag-mast bearing a 37-kg flag at the Central Park, Connaught Place, New Delhi in partnership with the New Delhi Municipal Corporation. In September 2014, a 207-foot flagpole was gifted to the Government of Afghanistan-- Kabul's first and highest monumental flagpole.

### Duty Free Shops

Since September 2005 Indian citizens are allowed to purchase with Indian rupees at the Indian Tourism Development Corporation (IDTC) run duty free shops at airports. This was due to the efforts of JSPL's Chairman Mr. Naveen Jindal who had taken up the issue with the government to allow transactions in India's national currency. It took him 3 years to convince the Indian government to do so. Mr. Naveen Jindal stated, "To my mind, when we are adopting a new symbol for the Rupee and want to display it with pride, then why are we not willing to accept the Rupee at our own duty free shops!"

The FFI has so far installed 43 monumental flagpoles of 100 feet height and 12 monumental flagpoles of 207 feet height, across India. In all, it has so far installed 55 monumental flagpoles in the country, which is the highest number in the world for a country. Besides India, there are just 13 more countries with such flagpoles.

### Population Stabilization

The Citizens' Alliance for Reproductive Health and Rights is a voluntary organization founded by the Chairman of JSPL Mr Naveen Jindal in November 2011. The Alliance brings together politicians (cutting across party lines), activists and journalists on one platform to create awareness about maternal and infant mortality and family welfare that impact population levels in India. The purpose is to raise awareness and set examples through a target-based, action-oriented, inclusive approach.

The Alliance brings together and engages technical experts to help find feasible and actionable solutions that can be implemented in each state. Mr Jindal's effort has been to draw a cross-section of opinion makers into this Alliance, including politicians cutting across party lines.

The Partnership for Maternal, Newborn & Child Health terms the Citizen's Alliance as "a unique leadership initiative" which "has created a platform to bring together parliamentarians across party lines to combine their energies and strengthen efforts toward promoting reproductive health and population stabilization."

In FY 2014-15, JSPL has also signed a MOU with Hindustan Latex Family Planning Promotion Trust (HLFPPT), which is one of the oldest and pioneering non-profit organisations working for more than two decades towards ensuring safe motherhood and better child health, for creating greater access to condoms and sanitary napkins. The task is to adapt to the changing dynamics of healthcare service delivery and devising innovative, cost-effective solutions for placing condom vending machines in urban and semi-urban areas in India. The project would start from a smaller scale of 50 condom vending machines for the pilot. As the project gains acceptability in the market, the scale would reach a few hundred in the next year. Details on JSPL steel condom vending machines are included in the section Case Studies of this Business Sustainability Report.

<http://creative-codes.com/naveen-jindal/citizens-alliance-for-reproductive-health-and-rights/>  
The Partnership is governed by a Board, and administered by a Secretariat hosted at the World Health Organization in Geneva, Switzerland. The Partners' Forum brings together all PMNCH members together on a regular basis. (<http://www.who.int/pmnch/about/en/>)

# 7.0

## Case Studies of JSPL's Business Sustainability

### Case Study 1:

#### Coal Gasification Plant at Angul

A group of students from Harvard University and MIT visited the steel plant of JSPL at Angul on Jan 18, 2015 as part of Asiatrek (<http://www.asialeadershiptrek.org/program-overview-2/>) a student leadership programme. On their return, they wrote a business case study on the coal gasification technology used for DRI by JSPL, for the first time in India. This is included as an internal resource at the library of Harvard University. Further, the students are in the process of publishing a book that would include chapters on the group's key learnings from their travels in Asia. Below is the full version of the chapter that they have written on what they experienced in India.

#### Introduction

After visiting Japan, South Korea, Indonesia, and Malaysia on the Asia Leadership Trek, we arrived at our fifth stop: India. India's growth story and the excitement around the newly formed government led by Prime Minister Modi featured in many of our discussions with leaders in other countries. When we arrived, the country was abuzz with preparations for President Obama's impending visit and meeting with Modi. We were excited to have the opportunity to learn more about India's plans for future growth and economic development from some of its most important business and government leaders.

Western media has discussed India's growth story for well over a decade. Its economic progression was slow under the left-leaning government for several decades. Then, in 1991, India took steps towards becoming a free-market economy and proceeded to grow at a much faster rate, due in part to economic liberalization reforms. In the 2000s, India's GDP grew at ~7-9% for more than a decade, driven by rapid growth in the services sector. In the early 2010s, however, India's GDP growth and FDI flow experienced a slump. The country's poor infrastructure, stringent labor laws, and overall difficulty in doing business (India was ranked #133 in the World Bank's rankings on the ease of doing business in 2010) scared away the once-attentive domestic and foreign investors. But recently, after the election of a new pro-business government led by Prime Minister Modi, India's GDP has once again started growing at a faster rate, and there is a new optimism globally about India's growth prospects in the coming decades.

Despite its rapid economic development, India is often criticized for not growing in an inclusive way. Critics point out that most of the country's recent economic development has been limited to the big urban centres, while people in the less-developed parts of the country continue to rely on traditional agricultural practices and live in poverty without access to high-quality healthcare, sanitation, and education. The inequality present in Indian society was evident to all of us on the Trek the minute we landed in the country and witnessed its high-rise glass buildings built next to slums and young children begging outside shiny malls. This divide extends beyond economic lines. Despite his popularity, Modi is regarded with suspicion by India's religious and other minorities, who worry that his conservative Hindu ideals and seemingly blind eye when it comes to mounting tensions will exacerbate ethno-religious divides.

Dr Raghuram G. Rajan is the Governor of the Reserve Bank of India (RBI), and a major player in determining how India's economy is steered. When we met with Dr. Rajan in Mumbai, he illustrated the sheer scope of India's problem: it is no longer possible to follow the old growth path (first exporting textiles, then offering mass assemblies to industrial countries, and finally graduating to information economies). The industrial countries simply cannot provide the necessary demand.

If this worry seems too macro and abstract, consider a problem with concrete numbers: each year, 12-14 million Indians join the workforce. In other words, a new Australia's worth of jobs is needed each year, if India is to keep people gainfully employed.

The economic and financial leaders of India thus face an array of challenges, among them figuring out how to develop domestic demand without slipping into inflation or a credit crunch; stimulating the creation of millions of jobs annually; and finding investors who will not drop ties at every social disruption. These tasks are some of the issues that keep Dr. Rajan up at night.

We also spoke in depth about India's strategy for fostering industry and business formation. The Governor warned us that India does not have a good track record in picking industries to bolster and that Modi's "make in India" campaign must focus on creating frameworks, infrastructure, human capital, and connectivity in order to succeed. It certainly must refrain from picking winners and losers by specific industry area.

Before closing, Dr. Rajan expressed concern for a topic that

JSPL office building in Gurgaon is certified as an energy efficient building in gold category by the Indian Green Building Council. The building has various features such as daylight management, heat insulation by air cavity. It also practices water recycling using an STP plant, dual line system, dual flushing systems, and having all taps with sensors. Further this is a universal access building with handicapped ramps to reach every location in the building. The building has outdoor solar lights too. Inside the office there are various signages and posters for employee well-being and safety

would reassert itself at several points during our trip: regulation. Land acquisition, protecting those with no paper deeds despite hundreds of years of habitation on a plot, and the strategic use of natural resources continue to be major concerns for Indians at the ground level all the way up to politicians in New Delhi.

With this background on India's economic development and income inequality, we were looking forward to understanding in more detail the country's growth plans for the coming years. Mr. Naveen Jindal is both the Chairman of Jindal Steel and Power Limited (JSPL), India's third-largest steel-producing company, and a former Member of Parliament. He is ideally positioned to reflect on India's recent political developments while also giving us his view about the private sector in India.

Moreover, our meeting with Mr. Jindal involved visiting JSPL's coal gasification plant in Angul, a small district in the state of Odisha, which gave us an opportunity to visit a rural part of the country. We were particularly excited to meet with Mr. Jindal and visit Angul because we had already heard about some of the political and regulatory hurdles JSPL had faced while setting up and operating the plant. We were also curious to hear about the company's sustainability initiatives, since it is one of the major steel- and power-producing companies in a country primarily reliant on coal for its energy needs and facing pressure from the global community to manage its carbon footprint. During our visit to the plant, we spoke extensively not only with Mr. Jindal but with Ms Miniya Chatterji, Chief Sustainability Officer of JSPL and Mr Jona Pillay, Head of Jindal Coal Gasification Project, which enabled us to understand the many challenges that JSPL faced while setting up its coal gasification plant in Angul.

Our experience at the plant serves as an important case study of resource regulation, infrastructure development, sustainable technology, and the often disruptive impacts of altering the way factories and industries are established. It is the authors' hope that the study will be helpful to anyone wanting to learn more about setting up infrastructure projects in India and about the roles played by the government and the private sector in such investments—though we must also provide the caveat that this study presents only one view of the situation: our research was based entirely on our conversations with JSPL's employees mentioned above and does not include the views of other players in the situation, for example the government and the media, except by implication. Rather than provide a broad overview of all the players, this study focuses on one player in particular—JSPL itself—in order to provide a window into the intricacies of India's economic system.

## The Angul Coal-Gasification Steel Plant

In mid-2000, Om Prakash Jindal (affectionately known as Babuji) was touring a Coal-To-Liquid fuel plant run by the company Sasol in Secunda, South Africa. The plant produced synthetic fuel (150,000 bbl/day of liquefied fuels) using a coal-liquefaction technology. Completed in 1980, in response to the embargo preventing the import of oil and natural gas to South Africa, the plant also produced a host of valuable by-products—town gas and downstream chemicals and fertilizers. Babuji was interested in using the same coal-gasification technology to make steel in his own country, India.

Babuji was the owner of a large steel and power company in India called the Jindal Group. At that time, Jindal Group was dependent on importing foreign coking coal to make steel using the conventional blast-furnace technique. He was tired of being exposed to the price variability of international coal markets for one of his plants' major inputs. He dreamt of making use of the enormous domestic coal reserves that India holds, but he knew that the type of coal found in India, non-coking, would never work for the blast-furnace methods currently in use. The coal-gasification technology at Sasol's Secunda plant, engineered by the German firm Lurgi GmbH, represented an opportunity to use entirely domestic resources—non-coking coal and iron ore—to make steel.

Fifteen years later, Babuji's son, Naveen Jindal—now Chairman of the company Jindal Steel and Power—faced a difficult decision: keep fighting for his father's vision of a more environmentally friendly steel plant that used indigenous coal as its feedstock, or submit to the mounting pressures that had been brought to bear against him and the plant's sustainability.

## The Promise of Coal Gasification

Steel-making involves removing impurities from iron and combining it with other elements, such as nickel and vanadium. Steel-makers generally use two different methods to bring about this transformation. The first method is the basic oxygen method, which first uses an oxygen furnace to melt pig iron; then cooled oxygen and the other materials are used to remove impurities, prior to the alloy being introduced to the slag for final pouring. Though this approach is used in the majority of steel-production systems worldwide, the high capital costs of blast furnaces, coke ovens, and other factory units make it an endeavor with a high upfront cost. The second method is the electric arc furnace method. This requires a reduction gas, i.e. natural gas, to reduce solid ore in the direct reduction process (DRI), in order to produce "sponge iron." One major challenge for this approach is the relative scarcity of natural gas. As Secunda and others have proved, however, the reduction gas can also be derived from coal (specifically non-coking coal).

It was this last critical aspect—the possibility of deriving reduction gas from non-coking coal—that attracted Babuji and in turn his son Naveen to the coal-gasification technology used in South Africa.

While India's steel plants had heretofore relied on imported coking coal, which was necessary to run blast furnaces, a coal-gasification setup would allow Jindal Steel & Power Limited (JSPL) to make use of locally available Indian non-coking coal, turning it into synthetic gas or syngas and in turn using the syngas as a reducing agent to make steel. Some by-products (e.g. tars, ammonia, and sulphur) also have potentially high market value.

## Challenges Involved in Building the Angul Plant

JSPL started construction of a DRI furnace and steel facility in 2009. The plant was sited in Angul, a small district in the state of Odisha, and strategically located less than five kilometers from a coal block. Developing all of the components on the same site and being able to transport coal from a nearby coal field would

lead to greater efficiencies, larger profit margins, and a smaller environmental footprint.

JSPL acquired the coal block in Orissa in 2003, through the processes established by the government in 1993. The 1993 law enshrined the government's preference for awarding coal blocks to companies willing to perform value-add activities within India itself, instead of extracting the coal only to sell it in the international raw-materials market. With the proper permits in hand, JSPL started thinking about technology. In South Africa, Sasol had partnered with Lurgi, a German engineering and technology company, to set up Secunda CTL. Jindal followed the same model in India, engaging Lurgi to license out its gasifier technology to JSPL and to engineer several key processes critical to the plant.

## Lack of Domestic Technical Partners

Disaster struck in 2005, when O.P. Jindal died in a helicopter crash. His son, however, was just as determined to build the Angul plant. As the newly appointed Chairman of JSPL and a Member of the Indian Parliament representing the Congress Party, Naveen Jindal supported his father's focus on ensuring high-quality construction, as well as his insistence on partnering with domestic firms. Naveen knew that using domestic partners would result in a higher cost structure, but he was keen on developing Indian manufacturing know-how, just as he was keen on making good use of domestic coal resources. His approach was summed up as "Do it well, do it in-house."

As a result of this decision, JSPL decided to use the Indian engineering firm, L&T, to manufacture its gasifier units. This was a risky decision that set the plan back by at least two years, since L&T had never worked on manufacturing this technology before. By hiring them, JSPL was in a way paying for L&T's learning curve. The decision cost JSPL precious time, but the investment paid off for India, as it contributed to the country's skill, know-how, and overall technological progress.

## Land Acquisition

Over the next few years JSPL carried out the painfully slow process of land acquisition—purchasing land from small-holders who lived where the future mine and plant sites would be located. Unlike in some countries with stronger eminent-domain policies, small-holders in India can resist selling for extended periods and thus interrupt the progress of large construction projects. The district of Angul, where some land needed to be cleared of forests and villagers, was no exception. Demonstrations, uprisings, and the blockading of construction activity constantly set back progress. JSPL made several efforts to give back to the local community, including paying salaries above market rate and engaging in efforts to provide community health and schooling, set up women's cooperatives, and employ locals. Despite these efforts, however, JSPL still had a hard time expediting the land-acquisition process.

## Transporting Technology and Attracting Talent

In order to be close to a coal block and build a large plant on affordable and relatively unproductive land, JSPL planned to build the plant in a remote setting in the state of Odisha. But

transporting large, heavy equipment and factory components out to the site was challenging and expensive. Vehicles with these loads had a hard time traveling on poor-quality roads and crossing dilapidated bridges.

The biggest challenge in building the plant was attracting and keeping talented workers on the remote Angul site. Since this was the first coal-gasification plant being built in India, the local engineers did not have the necessary know-how. JSPL recruited some of the best talent in the country, chemical engineers who had previous industry experience. It also recruited a small group of experienced South Africans who had worked on the Sasol plant. Yet, even after recruiting the right mix of people, retaining them remained a challenge.

Because of JSPL's diverse areas of expertise and the integrated nature of the plant, the engineers were able to make use of structural steel and cement directly from JSPL's own production, cutting down costs. Still, the project ran into difficulties in meeting deadlines and containing costs. Ultimately, building the world's first coal-gasification plant for DRI was completed several years late.

## The Supreme Court gets Involved

In 2012, the government's Comptroller Auditor General released a report that strongly affected JSPL's plans for operating the steel plant in Angul. The report concluded that, given average production costs, companies that had been awarded coal blocks over the preceding twenty years, since 1993, could be making as much as 295 Indian Rupees (about \$5) in profit per ton of coal mined. The authors then went on to estimate that these companies could make as much as \$30 billion in aggregate profits over a thirty-year period. The report concluded that the government had lost billions in revenues because it had granted the licenses without competitive bidding; the report offered three recommendations for policy reform: (i) create a single window for permitting, (ii) use competitive bidding to ensure that the exchequer reaps a portion of the profits, and (iii) have the ministry of coal do more to incentivize good performance while punishing bad.

The media circulated this information rapidly and widely, portraying the current system as an unfair accruing of Indian people's money to private companies like JSPL. The comptroller's report itself did not mention anything about corruption, but the news reports elicited a flurry of accusations.

On September 24, 2014, JSPL weathered another blow when the Supreme Court of India declared that the land allocations made in the coal industry in 1993 were arbitrary and illegal, since they were conducted without competitive bidding. JSPL and other players in the industry were informed that 214 of the 218 blocks (including the Angul coal block) that had been allocated in 1993 would be de-allocated and reissued through a competitive bidding process. Furthermore, JSPL and other companies would have an additional levy of an amount commensurate with the

<sup>21</sup> Gas cooling and cleaning, tar and phenol extraction, ammonia and Sulphur production, and the gasification process itself.

<sup>22</sup> L&T has been hired several times since then to work on similar projects in China.

“excess” profits they had earned to date, which were 295 Indian Rupees per ton of coal extracted. The court also mandated that coal production must stop in these blocks by March 31, 2015.

This additional levy and redistributions would have a huge financial impact on the Angul plant. JSPL went along with the Government’s decision, duly paid the additional levy, and hoped that it would receive a fair chance at re-bidding for the Angul coal block. As promised, the government reallocated each of the 214 coal blocks towards either power production or iron/steel production. But the Angul coal block was delineated as a power-sector block, which implied that it could not be used by JSPL’s Angul plant for steel production. JSPL filed a petition at Court against this decision, and the Court instructed the government to explain the basis of its allocation of the block. In February 2015, JSPL won back two of its other coal blocks in the bidding process. However, a few weeks later the government rejected JSPL’s bids for the two blocks, citing them as “outliers” because they were lower than the winning bids for other, similar blocks. The government said that it would take a final decision on these mines only after further examination of the bidding process and prices and that it would consider the option of giving away these mines to either Coal India or the state governments.

Within hours, Naveen Jindal wrote the following words in a letter to all employees of JSPL: “We have played by the rules of the bidding process and firmly believe that we have been unfairly treated. We need to respond to this challenge with all our strength and resilience. We will do everything to protect our interests.”

For the coal-gasification technology to remain viable and operate sustainably, a captive coal block is quintessential. Coal at a higher price would make the technology financially unviable, ultimately impacting the entire process of steel-making. Also, the coal supply had to be close to the site, since the process requires that the coal be freshly mined and immediately gasified. A consistent supply of the same coal needs to be provided to avoid variation in the performance of the technology.

### The Angul Plant Today

At the time of writing, the Angul plant runs at 50% capacity but is steadily ramping up; it is anticipated to reach 80% capacity over the next few months. The government’s reversal of the bidding for the Angul coal block is currently under review by a technical committee. Even though the coal-gasification technology itself has proved to be more environmentally sustainable than other commonly used steel-manufacturing processes, its future in steel production depends on the decisions made by the Indian government and courts.

Sitting in his private plane en route to visit the Angul plant, Naveen Jindal set out for us the best- and worst-case scenarios. If JSPL wins the court case to re-designate the Angul coal block as a steel-production block, he will have the chance to bid for the block, hopefully win it, and then implement his plan of using Angul coal to make more environmentally-friendly steel. If the block remains designated for power, JSPL could still bid for it and use it to fuel one of its power plants nearby. However, this power plant is a 810MW plant, costs approximately \$1 billion in

investment, and has the potential to employ 1,000 local workers. In comparison, the Angul steel plant is a \$3+ billion investment and employs 1,500 workers currently, a number that will probably increase as the plant reaches a higher capacity. Without the neighboring coal block, the Angul steel plant would need to bring coal from a greater distance, at a minimum of twice the cost. Moreover, coal bounces and grinds as it travels, which leads to more powder, or fines, that are unusable at the plant.

Naveen sighed, stared out the window, and wondered how he should proceed in order to make his father’s vision of a more environmentally friendly steel plant come to life.

### Conclusion

We believe that there is a lot to be learned from this case study about the roles that government and the private sector play in the economic development of a country. Our meetings with India’s top businessmen and government leaders during the Asia Leadership Trek, made it clear to us that India is at a critical juncture right now, with a high GDP growth rate, a favorable demographic dividend that will last for the next couple of decades, an educated and English-speaking workforce, rapidly increasing internet and mobile-phone penetration, and many other ingredients for economic success. History suggests that the private sector will play a dominant role in driving the country’s economic development through job creation, workforce development, and investments in infrastructure and technology.

However, as highlighted by Dr. Rajan in our meeting with him, in order to maintain sustainable growth, the government needs to provide necessary regulatory support and protection to the private sector and the country’s citizens. While there is undoubtedly more complexity in this case than meets the eye, dilemmas like the one faced by JSPL have discouraged investment by private companies in India’s less developed regions, especially among foreign investors who are less familiar with the country and more skittish in times of change. In order to attract investment, the government must do more to make the country business-friendly while maintaining a focus on pro-poor, inclusive growth.

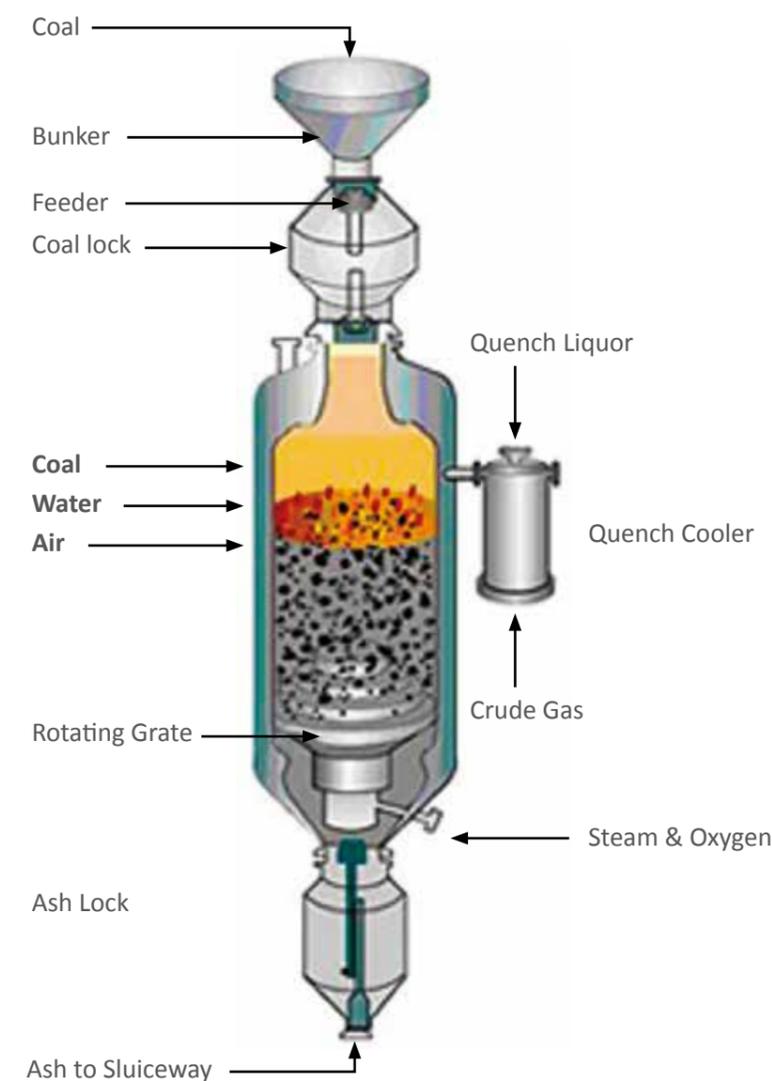
The new government, led by Prime Minister Modi, is heavily focused on making India an easier place to do business; it has softened labor laws by making hiring and firing easier and liberalized key sectors to facilitate foreign investment. The administration also passed an ordinance whereby industry can acquire land from farmers more easily. Yet, while a lot of these business-friendly policy initiatives are well-intentioned, India has historically struggled with the implementation of such policies, due to rampant bribery and corruption in middle and lower layers of the government. Modi has discussed improving governance and transparency to eliminate corruption, a reform that, if successful, would help overcome the concerns around policy implementation over the next few years. Since our visit however, Modi’s popularity seems to have dwindled. How his government reacts to the recent collapse of an industry-backed land reform bill, recovers from a much-criticized proposal to limit the RBI’s monetary policy powers, and rises to critical social policy challenges will play a large role in shaping India.

We feel fortunate to have had the opportunity to visit and learn about India from some of its top leaders at such an exciting and optimistic point in the country’s growth story. The country’s future depends on the government’s ability to provide necessary support to the private sector, however, concerns about the

inclusiveness of India’s growth are valid, and we hope that the government will continue to prioritize social policies involving healthcare, education, and workforce training, in addition to promoting business-friendly policies.

### Exhibits

Exhibit 1. Diagram of the Lurgi Dry-Ash Gasifier (<http://www.netl.doe.gov/research/coal/energy-systems/gasification/gasifipedia/lurgi>)



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# SUSTAINABILITY PRACTICES

Case Study 2:

## A More Environment Friendly Way for Steel Production

The Global Compact Network India (GCNI) which is United Nations Global Compact 's Indian arm has included JSPL's coal gasification technology for DRI as 1 of 19 Best Sustainability Practices in India. A specific Case Study on this technology was included in GCNI's compendium on Best Sustainable Practices in India, launched in February 2015 at their Annual National Meeting. The Case Study as has been published by GCNI in their compendium is reproduced in the pages that follow.



# Jindal Steel & Power Limited

Jindal Steel and Power Ltd (JSPL) is a US \$ 3.8 billion business conglomerate with a dominant presence in steel, power, mining and infrastructure sectors. The company has a workforce of 15000 people. JSPL produces innovation driven energy efficient steel and power through backward and forward integration. The company has operations in Chhattisgarh (India), Jharkhand (India), Orissa (India), Oman, Georgia, Mozambique, Botswana, South Africa, and Australia.

## JSPL'S BUSINESS CASE FOR SUSTAINABILITY

JSPL ranks sustainability as one of its top priorities. Sustainability as a principle is embedded in JSPL's core business operations. In placing sustainability at the forefront of its overall business operations, JSPL has created a cross-functional Sustainability Division to ensure overall quality and holistic growth of the company.

Adapting for a Green Economy has been a priority for JSPL. This has led the company to invest in advanced technologies like Top Recovery Turbines and Coke Dry Quenching, to ensure that they minimise the environmental impact of the company's activities.

JSPL focuses on compliance of all 10 UNGC principles with a special focus on principle 9 i.e. "Encourage the development and diffusion of environmentally friendly technologies". This has been achieved by investing in latest technologies and in-house innovations towards energy efficient and lesser polluting steel production, which ensures JSPL is on the path of holistic growth, caring for all its stakeholders and the planet.

JSPL's approach to sustainability also focuses on the establishment of a unique organisational structure which helps ensure that proper business practices are efficiently communicated across the entire organisation. The Sustainability Division at JSPL is responsible for

business strategy at plant sites, as well as doing responsible and sustainable business. The team of Sustainability Officers are embedded in all plant locations, led by a Group Chief Sustainability Officer who is physically located next to the Group's Chief Executive Officer in Delhi, and reports to him.

## OPPORTUNITIES FOR INTEGRATING SUSTAINABILITY

Being a company which has always been associated with the steel, power, and infrastructure sector and being one of the country's largest global conglomerates, JSPL has faced several challenges while addressing environmental concerns but has kept its reputation of being an environmentally conscious company intact by making constant endeavours to address these issues.

The major challenges faced by the company can be discussed on two levels:

- ▲ First, the sectors in which JSPL operates are energy intensive and are a contributor to man made Green House Gas (GHG) emissions. These sectors are normally dependent for energy on fossil fuels for energy.
- ▲ Second, JSPL is a responsible company that is actively engaged in limiting its carbon footprint. However climate change policy measures may induce in future GHG emission caps on JSPL's businesses. It is therefore a major challenge to manage all operations by focusing on energy efficiency and reducing GHG emissions.

JSPL invested its resources for over 3 years to build India's first Coal Gasification for DRI plant, which is a highly energy efficient method of steel production.

This process has a lesser impact on the environment as compared to the combustion process – the carbon dioxide emitted in the process is entirely absorbed back

into the process and the hydrogen sulphide emitted is entirely converted into sulphur. Also, the coal gasification process uses non-coking coal which is more readily available than coking coal. This helps the company reduce its energy consumption and hence GHG emissions.

The coal gasification plant also has 7 by-products viz—gasification oil, rectisolnaphtha, clear tar, phenolic pitch, depitched tar acid, ammonia, and sulphur, which can be further used as fuel or feedstock for extracting chemicals and oil, thickeners for mixing with paints, varnishes, etc.

Further, the company has invested in technologies which help in recovering energy from exhaust gases and hence make production processes efficient. These technologies help reduce consumption of natural resources and also help curb GHG emission.

Finally, JSPL is also investing in a large portfolio in solar and wind energy. The company has installed various off grid solar power street lights and small solar power plants to harness available solar energy. JSPL also has assets in wind energy.

## MEASURING IMPACTS

The most important cornerstone for maintaining a check on the sustainability operations of the company is the establishment of processes in place to measure the impact of these operations.

JSPL has put the following procedures in place for impact measurement:

- ▲ A Sustainability Performance Management System which consolidates and monitors all relevant aspects of sustainability. This system is hosted on a dedicated portal, which helps in regularly monitoring and analysing close to 500 sustainability parameters. This also helps JSPL in creating a comparative benchmark for itself vis-a-vis other companies in the industry.
- ▲ The company regularly conducts self and third party assessments to estimate the number of lives impacted by its social programmes and activities.
- ▲ JSPL has established robust policies for human rights, employee well-being, energy.



environment, occupational health and safety, product quality, product life cycle, and Corporate Social Responsibility. The implementation of these policies is regularly checked at board meetings by the top management and on-site by the Sustainability Team.

### ADDRESSING RISKS AND CHALLENGES

A primary challenge in the implementation of sustainable business activities is to change the mindset of employees such that all projects are implemented with a long term and holistic approach, taking into consideration the well-being of all stakeholders and the environment. The company attempts to overcome this challenge by holding regular workshops, hiring local Sustainability Officers at plants, and placing sustainability at the centre of the company's business operations.

Also for a company primarily engaged in the production of a high quality end product, ensuring the sustainable lifecycle of the products too has been a challenge. This can be overcome by sensitising its employees to the principles of sustainability, and checking for sustainability criteria being followed by its vendors.

Beyond that, given the large scale and geographical extent of its businesses, it has also been a challenge to implement best practices to ensure sustainability and to measure the impact of those best practices. For this reason, some of JSPL's earlier efforts to measure the carbon footprint across the group had failed.

Following its philosophy of investing in technology for environment protection, JSPL has created for the first time in India a Coal Gasification plant for manufacturing direct reduced iron (DRI) plant. Coal Gasification is a highly energy efficient way to manufacture iron and has a much lower environmental impact as compared to coal based DRI. All 7 by-products of this technology are being re-used in the process or re-cycled. The investments in creating this technology over 3 years, the various local innovations involved in overcoming challenges, and the lessons learnt can be useful for other companies who would like to adopt this technology of producing clean steel.

### Case Study 3: Watershed Development in Odisha

JSPL has one of its largest operations in Angul, Odisha. Its environmentally friendly coal gasification plant is also based here. The company works closely with local communities to share and co-create value for them. One such initiative was the development of watersheds in the area.

#### Background

The Banarpal Block in the Angul district of Odisha is faced with the problem of run-offs which cause soil erosion, depletion of groundwater and sedimentation of water bodies. This is a growing threat to the region's farming community.

A study conducted by the CSR team of JSPL revealed that the problems of low agriculture income was due to continuous depletion of groundwater table, lack of irrigation facilities and traditional agriculture practices. The team then evaluated various options for soil conservation, water harvesting and livelihood enhancement. The option of partnering with Government agencies was also explored.

#### Challenge

Basic details of watershed development project

Name of Watershed	Name of Villages	Name of Gram Panchayat	Block
Jay Kissan	Tubey, Maratira, Kulei	Samantraur, Tubey	Tubey
Kalapata	Derjang, Madhiamunda	Tubey	Tubey

Resolving the region's issues of soil erosion, deforestation and sedimentation of water harvesting structures, would involve an integrated water management system that brings into play measures like conservation of fertile soil, runoff harvest, recharging ground water, introduction of new crop varieties and technologies and creation of green belts. The system would help enhance the incomes of the village community through superior crop and livestock management.

The two key objectives of the Watershed Management Project are:

- To enhance agricultural production and productivity through better crop management and horizontal and vertical expansion of the net cropped area as a result of ground water recharge and soil erosion control.
- To enhance equity-based income in rural families and ensure holistic socio-economic development of the community.

The project villages are located in an undulating and sloping terrain with heavy soil erosion. Most of population in the project area depend on agriculture and allied activities for their livelihood. These areas suffer from problems of low crop productivity due to soil erosion, poor water management and lack of exposure to new crop technologies even though annual rainfall is satisfactory. The major challenges faced were:

- Soil weathering & degradation of fertile top-soil: Heavy rainfall and light soil in the area resulted in severe soil erosion thus leading to formation of rills and gullies. The surface runoff causes loss in the fertile top-soil.
- Conventional agriculture practices & lack of irrigation facilities: The farmers were very poor and their ability to take risk and invest in necessary inputs for optimizing agriculture was low. The area was prone to water logging situations due to clogged natural drainage system. The farmers had fallen into a vicious cycle as reflected in the figure below.
- Reduced productivity of livestock: Unscientific animal husbandry practices were associated with scarcity of good quality fodder for cattle resulting in low milk yield. In the absence of proper market linkages, the dairy farmers failed to get a good price for milk and other dairy products.
- Lack of employment opportunities: On account of depletion of natural resources, the scope for agricultural labour was low resulting in seasonal poverty induced migration. Lack of awareness about bank credit and market linkages and defaulter issues became a barrier to their seeking self-employment.
- Existing village dynamics: Poor health and hygiene practices were prevalent. Gender inequity, ignorance about government schemes and absence of strong community-based organizations were other issues. There were no distinct leaders in the village leading to unstable village dynamics.

#### Approach

NABARD was identified as a potential agency and a highly credible partner. An NGO, highly experienced in implementing watershed projects was chosen by the community as the implementing partner for the project and a multi-party agreement was signed amongst these organizations in the presence of village watershed committees of Jaykissan and Kalapata watersheds, first in November 2012 and later on February 28, 2013 for full-scale implementation. A geographical area of about 1400 hectares was covered as a part of the project.

The project was divided into six phases:-

- |  |                   |
|--|-------------------|
| 1. Mandatory Shramdaan   | Completed         |
| 2. Net Planning  | Completed         |
| 3. Capacity Building Phase (CBP)   | Completed         |
| 4. Feasibility Study Report (FSR) & Preparation of Detailed Project Report (DPR) | Completed         |
| 5. Full Implementation Phase (FIP)   | Ongoing           |
| 6. Handing over of assets and maintenance fund to the Community Institutions     | Yet to be started |

NABARD	Village Community	JSPL Foundation
<ul style="list-style-type: none"> <li>56% of Project Cost</li> <li>(Cost for land treatment)</li> </ul>	<ul style="list-style-type: none"> <li>4% of the Project Cost</li> <li>(Mandatory Shramdaan of minimum 16 % in form of unskilled labor)</li> </ul>	<ul style="list-style-type: none"> <li>40 % of Project Cost</li> <li>(Project management Cost &amp; Livelihood Support Fund)</li> </ul>

NABARD	JSPL Foundation	Project Facilitating Agency	Village Watershed Committee
<ul style="list-style-type: none"> <li>Funding for physical treatment.</li> <li>Support for convergence with government and banking schemes.</li> <li>Supervision and Monitoring of Project.</li> <li>Contribution to maintenance fund during the full implementation phase.</li> </ul>	<ul style="list-style-type: none"> <li>Co-funding with NABARD for training, capacity building and livelihood support.</li> <li>Supporting Project Facilitating Agency</li> <li>Co-holder of programme and co-monitoring of project.</li> <li>Anchoring livelihood and other Quality of Life through CSR Interventions.</li> <li>Social campaigning of water conservation, recharge and increase in ground water level.</li> </ul>	<ul style="list-style-type: none"> <li>Programme Holder</li> <li>Project facilitating Agency</li> <li>Facilitating convergence of support from all agencies to watershed community.</li> <li>Receive administrative overheads, capacity building funds and other net planning and feasibility report fund.</li> <li>Joint signatory with VWC in operating the bank account.</li> </ul>	<ul style="list-style-type: none"> <li>Owning of Project and Implementation of project.</li> <li>Receipt of fund for implementation and execution of work.</li> <li>Sharamdaan through unskilled labour</li> <li>Sustain institutions for execution, equity, transparency and extension.</li> <li>Responsible for operationalising the maintenance fund and maintenance of assets during project execution.</li> </ul>

#### Management Role and Approach to intervention



Local Communities Benefiting from JSPL's Watershed Management in Angul

The project was conceptualized in August 2011 followed by 300 days of mandatory Shramdaan contributed by the village community of the four project villages. This was a prerequisite for the approval of the project by NABARD. Once this was sorted out, the project was approved by NABARD on December 28, 2011 and the Capacity Building Phase (CBP) work started in January, 2012.

Once the capacity building, feasibility and DPR stages were completed, implementation began with the aim of reducing soil erosion. Soil erosion was minimized through the creation of physical earth structures for obstructing and retarding the flow of running water along the slope and thereby the water getting time to recharge the ground water table. Biomass conservation has been brought through massive plantation and grass bedding.

Changes in cropping patterns and formation of Self-Help Groups (SHG) also propelled the project forward. Mono cropped area was converted to double- and triple-cropping areas. SHGs have been formed / revived and linked with local banks for credit linkages and women focused micro-enterprises. Linkage to local markets was also provided to these micro-entrepreneurs as a part of the project. Village-level institutions like youth clubs, common interest groups, water-user groups, and farmers' clubs were initiated and strengthened. Additional livelihood opportunities were also created for wage labourers through earthwork, drainage line treatment and asset creation in the project villages.

#### Monitoring and Continuous Improvement

The progress of the work under the Integrated Watershed Management Project is monitored by the funding agencies through periodic field visits, monthly and quarterly planning and progress reports, fund utilization certificates, sustainability monitoring and self-monitoring by village watershed communities.

#### Key Achievements of the Project

- 126 acres of un-cultivable fallow land has been turned cultivable thus increasing agricultural production and productivity through horizontal and vertical expansion in net cropped area and About 350 Acres of mono crop land have been converted into double cropping.

- About 90 Acres of mono crop land have been converted to triple crop land
- Drainage line treatment and creation of physical structures have improved the groundwater table. More than 35000 saplings have been planted reducing soil erosion.
- The VWC has been strengthened with greater decision-making powers and comprises of 40% women members thus reducing gender inequity in decisions regarding Common Property Resources.
- Cultivation of major food crops has increased by an average of 50 % thus reducing hunger and malnourishment.
- Promotion of microenterprises with bank credit and market linkages has provided sustainable livelihood options to SHGs, marginal farmers and landless labourers.
- Increase in groundwater table in the region by building physical structures

Here are a few of the large number of activities that were taken up as a part of the project:

Key Interventions	Approach
<ul style="list-style-type: none"> <li>Free grazing and tree cutting leading to slope / soil denudation</li> <li>Controlling soil erosion</li> <li>Ground Water Recharge</li> <li>Soil and moisture Conservation</li> <li>Biomass conservation and regeneration</li> <li>Plant Protection and social forestry</li> <li>Wage creation in the local area to check labour migration</li> <li>Strengthening of the village level institutions</li> <li>Promotion of micro enterprises through SHGs</li> <li>Marketing facilitation of local produce</li> </ul>	<ul style="list-style-type: none"> <li>Social ban on free grazing and tree cutting enforced by gram sabha</li> <li>Soil erosion was controlled through creation of physical earth structures for obstructing the flow of running water, giving the water time to recharge the groundwater table, leading to minimum soil erosion.</li> <li>Afforestation was brought about through massive plantation. Mono cropping was converted to double cropping and triple cropping.</li> <li>Wage generation was augmented through by engaging community in earthworks for area and drainage line treatment and asset creation in the project villages.</li> <li>Several village-level institutions like youth clubs, common interest groups, farmers' interest groups, water user groups, farmers' clubs and self-help groups have been formed/ strengthened.</li> <li>Women-focused micro enterprises have been created with linkage to the local market.</li> </ul>

#### Basic details of watershed development project

SI No	Watershed	Slope Point	2012-13	2013-14	2014-15
			Dt.11.6.2013 (Feet) BGL	Dt.30.05.2014 (Feet)BGL	Dt.05.05.2015 (Feet)BGL
1	Jay Kissan	High	24.6	21.95	19.58
		Med	19.8	18.60	17.15
		Low	17.6	16.90	15.65
2	Kalapata	High	17.55	15.70	14.80
		Med	15.20	14.20	13.90
		Low	12.50	11.30	10.85

## Case Study 4: The Role of Steel in Stabilizing India's Population

A concept note was prepared by Hindustan Latex Family Planning Promotion Trust for creating JSPL Steel Vending Machines for Female & Male Condoms in India. Below is the full version of this concept note.

### Background

In March 2012, female condoms were listed by the United Nations Commission on Life-saving Commodities for Women and Children as one of the 13 high-impact, effective, but overlooked tools that “if more widely accessed and properly used, could save the lives of more than 6 million women and children”. Designed for vaginal insertion, the female condom is the only dual protection method that women can initiate and use without their partner's active participation and without any medical supervision, providing women with control over safer sex, their health, and health of their family. It is regarded as the only woman-initiated family planning method.

### The Challenge

While the popularity of the female condom is growing internationally, it has not really picked up pace in India. Conservative views about sex, high cost, poor awareness, ignorance on functionality, and misconceptions about the product discourage stores from stocking it and people from buying it despite its introduction almost two decades ago. A few attempts to set up vending machines for male condoms in India have failed to be effective in the past because of 1. Vandalization of machines and 2. Shyness to buy condoms in an open public area

### Objective

- To stabilize India's population growth in a unique way that actually empowers women. Increase accessibility and availability of female and male Condoms in secured locations (minimising chances of vandalization) where (especially) female condoms can be accessed in privacy.
- To affect a massive behaviour change and get women to be in control of their pregnancies and family planning.

### Proposed Intervention

JSPL in partnership with HLPPT (promoted by HLL Lifecare, a Government of India enterprise) plans to roll out female condoms for general population through an innovative service delivery channel. This would be a breakthrough innovation to

make condoms accessible to the general population using web-based inventory-controlled electronic vending machines placed in discreet locations. These machines would be made with steel facilitated via JSPL.

### Operational Model

The project would be implemented through a partnership between JSPL and HLPPT. JSPL would facilitate steel at a nominal price to HLPPT, which would make the vending machines. The HLPPT would source condoms- both male and female from its parent organization HLL Lifecare Limited. These specially designed vending machines are small, clean and good looking, They can be easily placed at discreet locations in public areas. They would dispense both male and female condoms on the insertion of money, equivalent to the subsidised cost of the condoms. JSPL would encourage a large number of companies to spend a part of their CSR funds on buying these machines from HLPPT. The machines will bear a small logo of the company that has sponsored it. This way the programme can achieve scale.

In addition, HLPPT would be responsible for the maintenance of these machines on an AMC basis. It will also attend to the supply and loading of condoms in these vending machines

and cash flows. As an implementing partner, HLPPT would leverage its over eight years of experience in the field of female condoms and through a mapping exercise identify locations for the vending machines. Thereafter it would conduct behaviour change campaigns to create consumer awareness and demand. The key communication messages would focus on the benefits of female condoms, STI/HIV prevention, contraception and unique product attributes.

This is critical for mobilizing broad-based support and sustained demand. Efforts would be made to “de-stigmatize” female condoms. For each target group, an effective communication strategy, including context and target group specific messaging, would be designed. To ensure its success, HLPPT would undertake outreach activities and station female condom peer educators (PE) at the community level. These PEs would act as points of reference in the community for any information about female condoms. They would train key community members about how to use FCs and key misconceptions about it.

This would offer both female and male condoms from sophisticated vending machines placed at discreet locations in public areas room for general population.



A JSPL Steel Vending Machine for Female and Male Condoms placed at JSPL corporate office in New Delhi



India's Population Challenge

## Case Study 5: JSPL's Business Case for Creating Skill Centre Inside the Manufacturing Site

### Background

Back in 2011, JSPL Barbil as a unit faced challenges concerning with employee productivity. Pellet Plant I of 4 MTPA was operational and Pellet Plant II of 4 MTPA was in project stage. Since we were doubling our capacity, we needed equipment competent and multi skilled operators to run both the plants with maximum capacity. It has become imperative for us to devise a way of working where the traditional divisions between work areas and separate disciplines are removed, and individuals are given responsibility for a range of different types of task. We had to devise a managerial strategy based on developing competency within the workforce and the full utilization of these capabilities.

Under such circumstances, we had to employ our best practices in Learning & Development and had to implement rigorous training practices / competency assurance systems, which would,

on the long run help our people to learn and develop into more skilled operators, thereby increasing our man power productivity and aide in the Sustainability of our organization.

### Initial Needs and Subsequent Planning

We benchmarked the best processes of Tata Sponge, Joda, Tata Steel, Noamundi, and Aditya Birla Industries to work out what would best fit our mode of operations. In order to take the process ahead, we also took valuable inputs from our TPM consultant simultaneously brain storming with our Operations and Maintenance team.

A need was felt to have a cross functional Learning & Development team with members from Operations, Maintenance, Electrical and Instrumentation along with HR, so that the actual training needs can be identified based on organization needs, a balance can be kept between on-the-job and off-the-job training, and ensure that staff feel comfortable and confident to competently carry out the tasks and has an awareness of their operating bounds.

Subsequently a need was felt to build a separate Learning Centre so as to achieve the following objectives as far as Learning & Development is concerned:

- Achieve sustainable development.
- Optimizing Production Cost.
- Increase Productivity without compromising Quality;



9 Technical Brochures on How to Handle Machinery which were Completely Conceptualised, Written, Edited, and Used by JSPL Barbil Employees Themselves.



Models of machinery at JSPL's pellet plant in Barbil. These models were conceptualised and manufactured by JSPL Barbil employees and manufactured on site. This is at the Skills centre inside JSPL's pellet plant at Barbil

- Customer Satisfaction.
- Develop a Multi-Skill Inventory

### Best Practices in Learning & Development

#### 1. Mapping the Knowledge and Skills:

Our first and foremost endeavour was to map the knowledge and skills of our frontline engineers, supervisors and workers. Mapping was done for knowledge and skills on the relevant machine components, equipments and processes. Knowledge was mapped through assessment tests on the relevant components, equipment and processes. Similarly, feedback was collected from the supervising officer to gauge the skills of the person.

Once Knowledge & Skill Mapping was completed, we arrived at the training needs of every frontline engineer, supervisor and worker. The training needs identified were further analysed and subsequently training plan was created to train our people.

#### 2. Building a Learning Centre:

The Second endeavour was to create a Learning Centre facility that would be equipped with all the modern facilities as far as Learning & Development is concerned. Close to around 100 people (48 Jindal Employees across all functions and around 50 contractor employees) worked in total collaboration and a Learning Centre was built in 4 months which contains around 330 cut models of all equipments in pellet plant related to Operations, Maintenance, Electrical and Instrumentation. Each and every model laid down at Skill Centre has been made by cutting the equipment at a sectional angle (via lathe machine) to

demonstrate what is inside and how that particular equipment or component of the machine operates. None of the models (except one) have been purchased separately and all have been built by re using the scrap machines of the plant. Further, a prototype model of the entire Pellet Plantequipments has been made to demonstrate Pelletization Process clearly indicating the input raw materials and the output product.

The foundation stone of the Learning Centre was laid down on September 1st 2014, and in a short span of 4 months, a centre for Learning was built with the help of a highly motivated cohesive cross-functional team and on finally it was inaugurated on 18th December 2014 by Honourable MD & Group CEO Mr. Ravi Uppal.

#### 3. Build a Pool of In House Trainers:

An added challenge was to equip the training centre with in house trainers who would be skilled enough to prepare training modules and thereafter conduct in house trainings to train and transfer their learning to develop their sub-ordinates. Therefore, a Train The Trainer Programme was conducted for 18 In House Trainers by an external Training institute at our Unit and they went through a certification course to be formally inducted as our In House Trainers.

#### 4. Preparing Training Modules and Conducting Trainings In House:

On successful completion of their certification course, our In House Trainers began preparing modules of their respective training topics based on the machine components, specific equipments and processes. With the availability of the Learning Centre, Classroom trainings conducted began to be followed

by a Model Training to aid in the clear understanding of the concepts being taught in the classroom. A practical exposure of the theoretical concepts was very much required; hence efforts were made to incorporate cut models of smallest of equipments in the plant.

#### 5. Preparing Reference Pocket Manuals:

It is a known fact that whatever is taught in a training programme, a trainee retains only a few percentage of it and the knowledge begins to fade away with time, unless there is a frequent revision of the concepts. Hence, the need arose to create Reference Pocket Manuals of all machine components, specific equipments and processes. The basic purpose of the pocket manual is to keep it in the pocket and refer to the concepts mentioned in the manual as and when required on the shop floor. All pocket manuals were made in house with immense help from our In House Trainers who prepared respective pocket manuals for their respective training programmes.

#### 6. Preparing One Point Lessons and Conducting On Job Trainings:

For easy reference in the shop floor and enhancement of knowledge and skills related to operations and maintenance, several One Point Lessons (OPLs) were made for all machines. Reference to one point lesson would serve as a quick reference as to which is a correct mode of operation and which is not.

Simultaneously, impetus was given on On Job Trainings (OJTs) to be conducted at the shop floor in front of the concerned machine. Regular tool box talks and Shop Floor trainings about major process would help in the improvement of skills of the employees along with the knowledge gained during the classroom trainings.

All OPLs were prepared by our frontline engineers and operators and knowledge was shared by conducting On Job Trainings at the shop floor.

### Results of the Break-through Initiative

Implementing the best practices in Learning & Development turned out to be break through initiative that phenomenally increased the frequency of knowledge sharing thereby contributing to increase of training man days be it classroom trainings, model trainings or on job trainings. However, the prime challenge was to map the effectiveness of trainings and align them directly to business.

We started following the 4 steps of Kirk Patrick Model to gauge the effectiveness of trainings wherein we were able to collect the Reaction of the trainees after a training programme, Learning Index through a pre and a post test and the Behavioural Changes of the trainee from the Reporting Officer.

There were certain Key Performance Indicators (KPIs) deliberated at management level which would help us in enhancing the productivity. The aim of the break through initiative was to:

1. Reduce the breakdowns due to lack of knowledge and skills.
2. Reduce the quality defects due to lack of knowledge and skills.
3. Reduce the accidents due to lack of knowledge and skills ; and
4. Increase in employee morale and Improvement of Knowledge and skills.

Learning & Development team further framed a set of Key Activity Indices (KAIs) – activities that would help in achieving all the KPIs – including Operator Skill enhancements and training them to handle multi skilled operations. It was decided by management that to achieve higher productivity, there has to be enhancement of operation time of the plant and hence there has to be elimination of breakdowns and defects due to lack of knowledge and skills to a bare minimum.



Employees at the Skills Centre inside JSPL's Pellet Plant at Barbil

## Awards and Recognitions FY 2014-15

### JSPL

- 'Excellence Award for Pioneering Efforts' in the field of Coal Gasification in India given by the Mission Energy Foundation to Mr. Naveen Jindal
- 'National Award for Excellence in Energy Management' given by CII to JSPL in 2014
- 'National Award for Innovative Training Practices' given by ISTD Delhi to JSPL in 2014
- 'Dun & Bradstreet – Infra Award 2014' in the power category given to JSPL
- Two 'Green Leaves' awarded by Centre for Science & Environment (CSE) to JSPL, Raigarh in 2015
- 'Chhattisgarh Industrial Health & Safety Award', for endeavours to facilitate health and safety given by the Government of Chhattisgarh to JSPL in 2014
- Prize for Innovative HR Practices given by Global HR Excellence Awards to JSPL in 2015
- 'Award for Best CSR Practice' in the category of Education given by Think Media Inc. to JSPL in 2014
- 'Award for Project Excellence' given by Global Symposium to JSPL in 2014
- 'PAR Excellence Award for 5S Implementation and Technical Paper Presentation' given by QCFI to JSPL in 2013
- 'Procurement Excellence Award' for being an 'Outstanding Leader in Procurement' given at the 2nd Annual CPO Forum India & Awards to JSPL in 2014
- 'Innovation in Employee Retention Strategies' given by Greentech Foundation to JSPL in 2014
- 'Award in the 2nd Best category for Overall Mining' – Mega Mines Group given by the Annual Safety Fortnight Competition to JSPL in 2015
- 'Award for Outstanding Leader in Procurement' at the Conference Asia Award Ceremony given to Mr. Pravin Purang, Group Head – Procurement & SCM, in 2014

### Angul

- 'Mission Energy Foundation - Team Award' for 'Operational Excellence' for India's first Gasification Plant given to JSPL
- 'Green Tech Awards' for 'Training Excellence & Best HR Leader' given to JSPL in June 2014

### Barbil

- 'International Safety Award' given by the British Safety Council, UK, to JSPL
- 'Green Manufacturing Excellence Awards: Green Achievers – 2014' in the 'Metal & Mining sector' for 'Outstanding Adoption of Green Initiative in Environment Management Practices' given by to JSPL
- 'Global Environment Platinum Award 2014' for 'Outstanding Achievement in Reducing Pollution and Environment Management, given to JSPL
- 'NSCI Safety Award' given to JSPL in 2014
- 'ABP News HR & Leadership Award' in the category 'HR Excellence Awards for Innovation' given to JSPL
- 'Global Training & Development Leadership Award', in the category, 'Best Results Based Training', given by the World HRD Congress to JSPL in 2015

- Gold Award at the InterNational Convention on QC Circles-2014 (ICQCC-14)

### Patratu

- 'International Safety Award' from British Safety Council, UK, given to JSPL
- The 'Safety Award in the Silver Category' for maintaining best safety standards given by Greentech Foundation of India to JSPL

### Raipur

- 'International Safety Award' from British Safety Council, UK, given to JSPL
- 'Chhattisgarh Leadership Awards', organised by Think Media Inc. in the category 'HR Person of the Year' given to Mr. Ravi Shankar

### Raigarh

- 'Greentech Foundation, Gold Award' for 'Excellence in the Field of Environment Management' in the 'Metal & Mining' Category for its work in pollution control, resource conservation, greenery and solid waste utilisation given to JSPL in 2014
- 'Performance Excellence Award' in the 'Platinum Category' given by the Indian Institute of Industrial Engineering (IIIE), Mumbai, to JSPL in 2013
- 'Shrishti Green Cube Award' given for 'Good Green Governance' to JSPL
- 'Greentech Environment Award' in the 'Gold Category' in the metal and mining sector given at Gare IV/1, Raigarh, to Jindal Opencast Coal Mine
- 'Greentech Environment Award' in the Gold Category in the thermal power sector given to the Captive Power Plant, Dongamahua
- Team awards to DRI-I, BF-II (Gold) given to JSPL
- 'Par Excellence Awards' given at 'National Level and Chapter Conventions' to JSPL Quality Circle teams
- AIMA Case study competition on Best CSR practices (AIMA 5th Business responsibility Summit)

### JPL

- National Awards –'Gold & Silver Shield for Meritorious Performance in the Power Sector', given for 'Early Completion of Projects' by the Central Electricity Authority (CEA) and the Ministry of Power to JSPL
- 'Dream Companies to Work for Awards' (Power Sector) given by the World HRD Congress to JSPL in 2015
- 'International Safety Award' from British Safety Council, UK
- 15th Annual Genentech Award-2014 in "Gold Category" in Thermal Power sector in India
- 3rd Annual Greentech CSR Award – 2013, Vatsalya – Awarded Silver
- National Energy Management Award - 2014 by CII for "Energy Efficient Unit"

# Way Forward

## Dear Stakeholders,

FY 2014-15 was JSPL's first year of incorporating business sustainability as a core aspect of its operations. The department was established, the team was put in place, and priorities were defined. Following which, the rest of the year there were substantial and crucial steps taken towards ensuring the company's business longevity.

As discussed in this Business Sustainability report, some of these steps were - establishing a Risk and Compliance Management team, establishing an Energy Management team, constituting 5 company policies (for Risk Management, Human Rights Protection, Policy Advocacy, Stakeholder Mapping and Engagement, Product Life cycle Sustainability), ensuring the company's business model sustainability (with emphasis on establishing a raw material procurement plan, structured business processes, ways to increase sales orders), as well institute JSPL's core identity and building the company's brand around that via collaborating with various departments internally in the company at all times.

Also JSPL's CSR activities were thoroughly internally reviewed by repeated site visits, the lives impacted per CSR project were mapped, and accordingly CSR projects were focused on to 3 themes of education; health, nutrition, and population stabilization; and infrastructure.

There was emphasis on JSPL's social commitment of 'clean and green country' to be embedded in all aspects of its business. In this context, the use of new technologies for more environment friendly manufacturing processes were encouraged, and existing such technologies were showcased at important international forums such as the United Nations, World Economic Forum, World Steel association. There were also important strides taken in ensuring safety for all employees at JSPL. One of the highlights of FY2014-15 was that JSPL became the only company in India to have a 60 metre Turntable Ladder, a fire fighting machine for fighting the fire at high rise structures and buildings. The machine can throw water and foam jet up to 85 meter height to fight any fire emergency. This Turntable Ladder was imported

from Australia and installed at JSPL's plant in Angul. Accident frequency rate was reduced by 18.59% and fatality rate was reduced by 34.32%.

In this way there has been considerable work done, especially given that the initial months of FY 2014-15 were used for establishing what business sustainability meant at JSPL, organizing the business sustainability team, and its priorities.

The next year promises to provide larger opportunities for JSPL to continue to move on the path of speedy, holistic, and authentic growth. The priorities for JSPL's business sustainability in FY 2015-16 is as follows:

- Procuring raw material at economic costs
- Improving productivity of capital and employees
- Establishing JSPL's Research & Development centre
- Ensuring the smooth functioning and success of the 2 new teams created - Risk & Compliance Management team; Energy Management team
- Building greater synergies between JSPL's domestic and international operations sites
- Establishing and implementing a detailed stakeholder management plan at JSPL
- Taking strides in further strengthening JSPL's brand identity

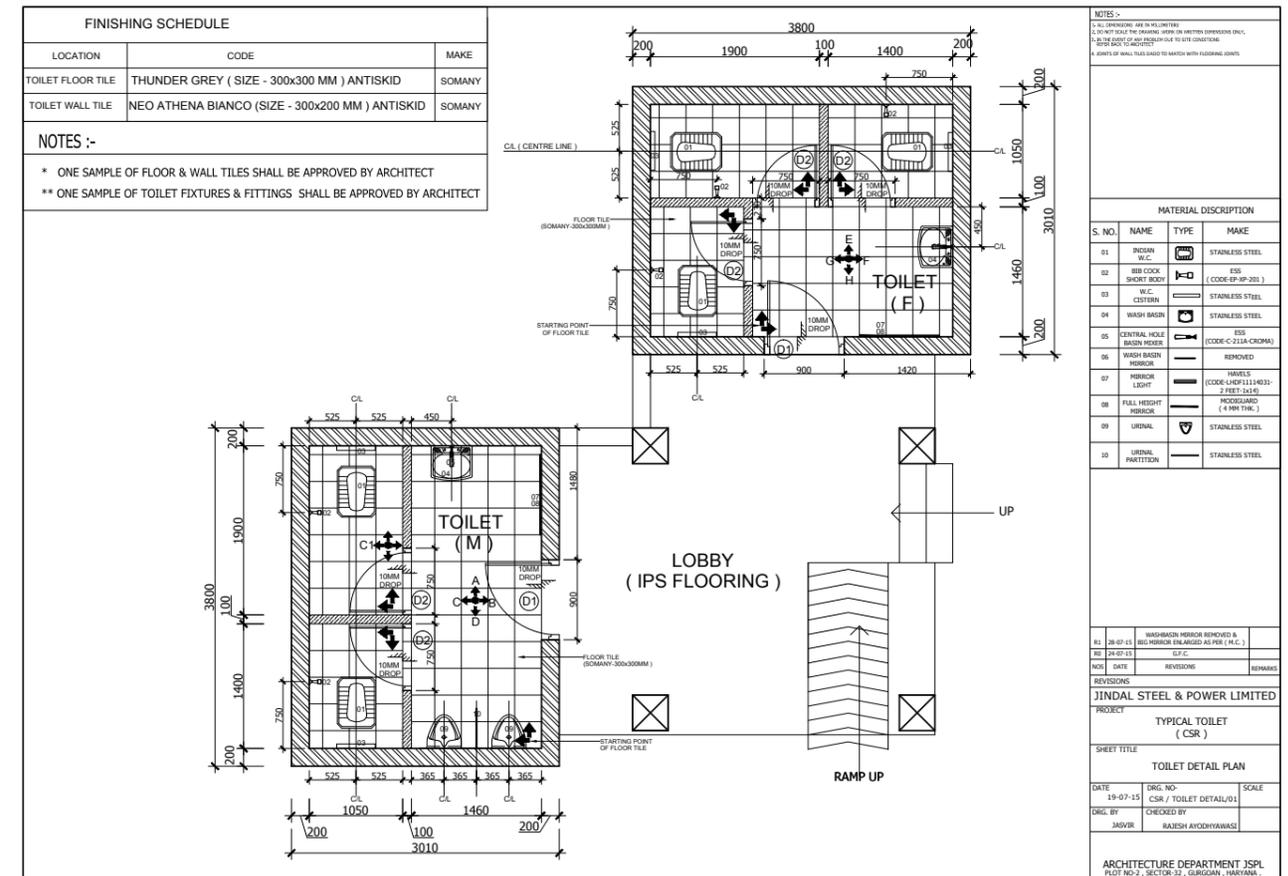
- Continuing with thematically focusing CSR activities towards education, health & nutrition, and infrastructure building for local communities in regions JSPL operates in
- Ensuring continuous improvements in health, safety, and environment management at JSPL
- Scaling up substantially the initiatives undertaken for JSPL's Chairman's vision of stabilizing India's population

Further, JSPL is excited about the completion of construction of a state-of-the art school for 900 students in the most disastrous struck area of Nepal. This site in the Lalitpur region was previously occupied the Patan Higher Secondary School, that was one of the most important heritage schools in Nepal but had developed cracks in the building due to the earthquake earlier this year. The design of the new school has been prepared by JSPL's architecture department and has been approved by the Government of Nepal. JSPL is the only private company building a school in post-earthquake Nepal.

Another initiative that the company is enthusiastic about is the completion of construction of JSPL community toilets in villages. JSPL's community toilets have been carefully designed by JSPL's architecture department to provide the best sanitation and aesthetics in rural India. Why should the quality of toilets in



3-D drawing of JSPL's School for 900 Students to be Constructed in Patan Nepal



Architectural Drawing of JSPL Community Toilets

India's villages be any less than the toilets in the metropolises of the world? The unique model of JSPL's community toilets ensures that the local community is engaged in every part of the construction process of the community toilets. Also cleanliness of each toilet is maintained by women in the village. These women are part of the Village Mahila Samooh, and have self-organized themselves to take responsibility of keeping the community toilets clean daily.

In the next year, JSPL is also looking forward to scaling up the Chairman's initiative for stabilizing India's population. In FY 2014-15 JSPL facilitated the sale of steel at a zero-profit basis from JSW to Hindustan Latex Family Planning and Protection Trust. JSPL also designed sleek vending machines made of this steel, and partnered with HLFPPPT to bring female condoms at a very subsidized cost in India. JSPL's steel vending machines distribute female condoms at a subsidised cost and male condoms, at public places that also ensure privacy and safety. As a pilot JSPL has purchased 50 steel vending machines for condoms from HLFPPPT. In the next year JSPL will facilitate other companies to purchase from HLFPPPT these steel vending machines for condoms, in return for a great branding opportunity to place only the purchasing company's logo and branding on the machines.

There is an ongoing effort to strengthen data collection and data management at JSPL. This effort will continue as a priority through the next year. JSPL is thrilled to be closely engaged with World Steel Association on providing disclosures to all aspects of business sustainability of the company. JSPL's Chief Sustainability Officer is a member of the Sustainability Experts Group at the World Steel Association.

To ensure the well-being of all stakeholders, JSPL will continue to focus on procuring raw material at the most economic costs possible with a renewed emphasis on more cost-efficient production processes. JSPL is also excited about the establishment of a dedicated Research & Development centre during FY 2015-16 which will also focus on innovations towards energy and cost efficient steel making. The next year will further see the implementation of various strategies to increase productivity of capital and employees at JSPL. The company's greatest asset is its talented human capital and the next year will see initiatives across the company for multi-skilling each JSPL employee.

**Miniya**  
Chief Sustainability Officer



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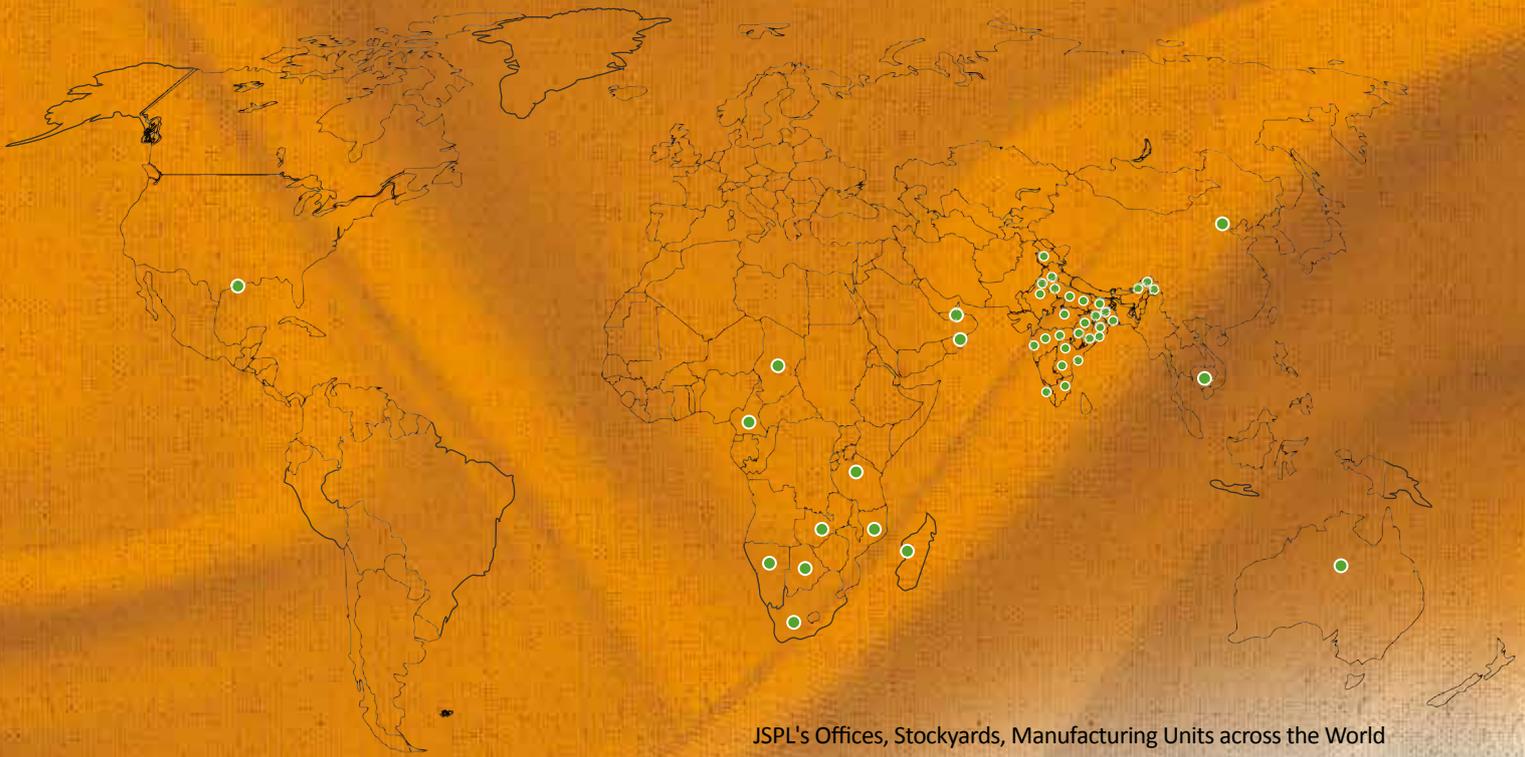
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JSPL's Chairman Mr. Naveen Jindal won for all Indians the right to hoist the Indian National Flag. He moved the Delhi High Court with a writ petition under Article 226 of the Constitution, and eventually won the legal battle for the Nation. In 2002 the Union Cabinet announced that citizens will be free to fly the National Flag respectfully on all days from January 26, 2002. Mr Naveen Jindal thereafter established the Flag Foundation of India that places India's National Flag in public spaces.



Monumental Indian National Flag hoisted by Flag Foundation of India at Central Park, Connaught Place, New Delhi



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