

## CSR PERFORMANCE OF THE PUBLIC SECTOR IN INDIA: A STUDY OF ENVIRONMENT MANAGEMENT AT NALCO

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### Abstract

*An upsurge in the fortune of a corporate entity not only swells its coffer, but also for times its public service commitments. This social commitment is primarily attributed to the growing realization that by engaging itself in social initiatives, a company earns reputation as a responsible corporate citizen, which gives it competitive edge. Eventually, the economic sense of business has broadened to demonstrate a moral sense, beyond profit. Corporate social responsibility constitutes an organization's commitment towards the society in return for the social resources it exploits. Of late, the global campaign against environment pollution - as a threat to human existence, has positioned corporate environment and waste management as new face of corporate social responsibility. This study explores the approaches of the Indian public sector to environment and waste management with special reference to the National Aluminium Company Ltd.*

**Key Words:** Corporate social responsibility, corporate environment management, industrial waste management, environmental impact assessment, sustainable development.

### Introduction

Arthur Page, founder of the first public relations department, upheld the view that “business in a democratic society begins with public permission and ends with public approval”. By engaging itself in social initiatives, a corporate enterprise earns the distinction of being a good company and an acceptable brand personality. A good corporate social responsibility plan can help a company to achieve brand visibility, recognition, and awareness among the stakeholders which can give the company a competitive advantage. Corporate social responsibility is an expression of a company's social commitment in the form of returns for the benefits it receives from the society. By so doing a company not only projects a favorable corporate image, but also demonstrates its commitment to democratic traditions. Viewed from this enlightened perspective, corporate social responsibility is not an unnecessary expenditure rather an investment for the future.

The concept of social responsibility of business assumes overriding importance in a country like India with more than 30 percent of people below poverty line who cannot afford the basic human needs. There are 35 percent illiterate people who are outside the fringe of developing India, for whom the high sounding ICT revolutions carry little meaning. But, the country is also home to the world's richest corporate houses, and club of young millionaires, which registered a 22 percent growth in 2012. The rich corporate houses cannot afford to ignore the deprived and marginalized sections, they cannot survive as island of affluence surrounded by a community, which is deprived of the basic minimum facilities of civilized life. A disgruntled community's anger can explode any time, if left unaddressed, making the survival of business difficult.

A company's commitment to social responsibility is defined by its corporate philosophy, its mission and vision, and the strategic choices. As such, some organisations do just to fulfill the statutory legal obligations, but others demonstrate highest degree of voluntarism to add value to the life of the communities around by providing civic facilities, and controlling the negative impacts of their processes. Of late, owing to greater acceptance of environment pollution as a challenge to the mankind and global efforts for its redressal, the scope of corporate social responsibility

has been expanded to incorporate 'environment management' within its purview. Despite it being a fact that many companies are still doing just a lip service in this regard, the efforts of some others deserves to be applauded. To name a few, companies like NALCO, NTPC, BHEL, TISCO *etc.* have good traditions of sponsoring for the cause of the environment (ET, 2006).

Against this backdrop, this article explores the changing dynamics of corporate social responsibility in India with specific reference to the environment management efforts of National Aluminium Company Limited (NALCO). At Nalco, the environment policy stretches beyond the statutory environmental protection to its strategic management. However, in practice the company's efforts leave a lot to be desired (Pradhan, 2002).

### **Importance of the study**

The world today is witnessing a paradoxical situation, on one hand profit prioritization drives corporate to spell their coffers even if it amounts to ignore their moral responsibility, on the other hand some corporate are coming forward to contribute their best for the betterment of the humanity. Evil forces are at constantly at work to obliterate world peace; forces are also at work to promote universal brotherhood. There are mindless actions that amount to damage the environment, but there are also forces constantly at work to protect the natural environment. There are forces spreading corruption, there are also forces fighting to reduce corruption in public life. These contradictions are eloquent testimony to the fact that the humanity is ripe with two types of people-one group attempts to misuse the environment to their own advantage, the other committed to create a better environment for all. Spreading the noble missions of the later while exposing the actions of the former, are among the issues that deserves attention today. This will go a long way in creating the much needed awareness on the importance of philanthropy, especially today when it is witnessing a decline. Promoting the understanding that philanthropy is not a wasteful expenditure rather a productive investment can go a long way in strengthening corporate social responsibility.

### **Objectives of the study**

This study seeks to ascertain the response to corporate social responsibility of the Indian corporate sector in general and the National Aluminum Company Ltd in particular. While examining the CSR responses to a broad array issues, the study focuses on the environment and waste management efforts of the company.

The specific objectives of this study are:

1. To analyse the CSR responses of the Indian public sector
2. To examine the level of CSR commitments of NALCO
3. To explore the waste management practices at Nalco
4. To examine Nalco's attempts in minimizing the impacts of its processes on the environment
5. To examine Nalco's attempts in promoting a wholesome environment.
6. To understand the community perception on Nalco's value addition to community life

## Review of Literature

The concept 'corporate social responsibility' has evolved over time with gradual expansion of its scope, owing to the push and pull factors of responding to rising public opinion, and the need for projecting a wholesome corporate image. Noted economist Milton Friedman has described the social responsibility notion as "a fundamental subversive doctrine". Disapproving corporate leaders behaving like civil servants he said "if business does have a social responsibility other than making a maximum profit for stockholders, how do they know what it is? (Murphy, 1985: 476). Many corporate leaders in the early twentieth century agreed with Friedman's view of corporate social responsibility and believed that 'the business of business is businesses'.

In 1920s and 1930s notions of social responsibility changed to include concerns for those directly involved with the corporations-employees, stockholders, customers, local community, and even government. Reeves and Ferguson called this the 'good citizen' concept (Murphy, 1985: 477). Latter, the concept was further expanded to the "social leader" concept of corporate social responsibility, which visualized the organization as deeply involved in attempting to solve social problems and would advocate any governmental intervention necessary to achieve "quality of life goals" (Murphy, 1985: 477).

During 1970s and 1980s, cuts in state funding for social, cultural, educational, and welfare programmes have increased pressure on business and industry to carry a large share of the financial burden for such programmes in their community. The dynamic social, political, technological and economic environment of 1980s has caused great changes in the role of corporations in society, and pushed business leaders and PR practitioners into the public spotlight. It called for a new spirit of volunteerism, new forms of public and private partnerships, and new private sector initiatives for solving social problems. The "good citizen" and "social leader" concepts of social responsibility merged into a "super citizen-leader" role from which few executives and their companies can or should escape.

RCA chairman Thornton F. Bradshaw has said "..... The basic goal of private enterprise remains what it has always been-to produce needed goods and services, earn a fair return on investment, and succeed as an economic institution. The new dimension that must be observed –a new bottom line for business, really-is social approval. Without it economic victory would be pyrrhic, indeed. A socially accountable organization must be a "thoughtful" institution, able to rise above immediate economic interest and to anticipate the impacts of its actions on individuals and groups, from shareholders to employees, to customers to fellow breathers of the air and fellow sharers of the land. A successful business organization must possess a moral sense as well as an economic sense (Murphy, 1985: 484).

The march of liberal and democratic ideas has brought to focus people's feelings, emotions, and attitudes in corporate policy formulation. Profit, no doubt, is essential for business survival, but in the larger context of the society it is not an end in itself; it is only a means to serve the larger society. In this context, Keith Dayton maintains: "we are not in business to make maximum profit for our shareholders. We are in business for only one reason- to serve society. Profit is our reward for doing it well. If business does not serve society, society will not tolerate our profits or even our existence" (Ghosh, 2001). Dow Chemical's former chairman outlined the tenets of CSR in his statement "the business community's efforts to solve social problems must be integrated with long term profit growth. If done properly, solving social problems is both good business and good citizenship, for the two goals are wholly compatible" (Murphy, 1985:480).

In fact, enlightened self-interest has brought the profit motive in line with the social objective of a company. As Arjay Miller, past president of Ford Motor Company has said “the ability of a corporation to protect and enhance shareholder’s equity depends crucially upon prosperity, goodwill, and confidence of a larger community” (Ghosh, 2001). As such acceptance of a larger measure of responsibility towards the community is good business as well as good citizenship.

### **Genesis of Corporate Environment Management**

The passion for rapid development through modernization, urbanization and technological advancement has, to a great extent, weakened our sense of commitment to preservation of the natural environment. The development driven destruction of natural resources like forests, trees, wildlife and the flora and fauna, and the unmindful pollution of our water resources and the air, have started paying back in the form of frequent droughts, floods and high variability in rains. The deadly consequences are changes in fertility and mortality, loss of competitiveness, reduced output in resource-based sectors, ecological imbalances, acid rain, global warming and many more. Emission of manmade greenhouse gases like carbon dioxide, methane, nitrous oxide, ozone and halogenated fluorocarbons in addition to activities like increase in radio waves, micro-link communication systems are attributed to the global climate inconsistencies. With the current rate persisting, scientists predict that by 2050, India will be at least three degrees Celsius hotter, many of its rivers would have dried up, floods and droughts would be regular, cyclones more intense and there will be severe water and food shortage (Bose, 1999).

The effluents, solid wastes, particles, and other hazardous wastes discharged by industrial establishments alone account for one-third of the total environmental pollution. The presence in air, beyond certain limits, of various pollutants discharged through industrial emissions has a baneful effect on the health of the people, animal life and vegetation. The industrial wastes go straight into watercourses making them unfit for use. Our efforts for industrialization and urbanization, therefore, must not ignore the environment factor, failing which, all our developmental efforts will end up in threatening human existence. In order to maintain a symbiotic relationship between the ecology and economy, and achieve sustainable development, adequate environmental protection measures are required to be taken both at the project planning and implementation stages.

Being actively involved with the United Nations campaign for protection of the ‘Human Environment’, starting from the Stockholm conference in 1972, the Government of India initiated efforts to implement decisions of the international campaign. The approach adopted to achieve sustainable development was strict enforcement of environmental laws and proactive measures for environment management. Special attention is being given to control the environmental pollution caused due to industrial activities.

Through consistent effort during the last two decades new technical information on health, safety and environmental aspects of industrial activities emerged. Public concern for the environment was further stimulated by several highly publicized environmental incidents like the Bhopal Gas Tragedy. Comprehensive new regulations came into effect providing for unprecedented penalties for non-compliance. This chain of events stimulated a response from industry. Most companies expanded their health, safety and environmental management, and adopted new programmes to ensure that they were properly protecting their employees and the environment and complying with statutory regulations. The emerging business environment characterized by competition, high degree of public awareness, and

rise of strong public interest groups to some extent forced corporate enterprises to look after issues affecting the society including environment. Against this backdrop, corporate commitment to protection of the environment got a boost.

While complying with the policy measures to protect the environment from further degradation, some industrial units have also voluntarily introduced new approaches to minimize the damage to the environment caused by their processes and for promotion of a healthy environment. Against the backdrop, 'environmental impact assessment', 'environmental auditing' development of eco-industrial parks, environment awareness campaigns, and environment management training programmes has emerged as popular approaches.

Looking into the issue from the perspective of the Indian Mining sector, AnwarulHoda committee has recommended seven principles to constitute the core of the sustainable development framework for India (Cause because, 2012):

- (i) Incorporating environmental and social sensitivities in decisions on leases;
- (ii) Strategic assessment in key mining regions;
- (iii) Managing impacts at the mine level impact through sound management systems;
- (iv) Addressing land, resettlement and other social impacts;
- (v) Community engagement, benefit sharing and contribution to socio-economic Development;
- (vi) Mine closure and post closure mining operations must prepare, manage and progressively work on a process for eventual mine closure;
- (vii) Assurance (of continued improvement in performance against SDF) and Reporting (it to the public domain).

### Research Design and Methods

At the core of this paper is a study of the National Aluminum Company Limited (NALCO), which was incorporated into the Indian public sector in 1981, only to emerge as a Navratna company by catering to the aluminum demands of the country in particular and the humanity in general. It is among the few profit making corporate enterprises under the public sector in India. The two production units, the mining and refinery unit, and the smelting plant are located at Damanjodi and Angul, in two opposite parts of the state of Orissa and the captive power plants of the company is located near the later.

A field study to assess the environment management practices, was followed by review of the company literature on the subject. The company's ubiquitous hoardings, posters, environmental policy statements, special literature were more exciting to the researcher. To examine the veracity of the impression already developed in the researcher, a survey was conducted to know the views of the public on the issue. To carry forward the social survey, a pre-structured questionnaire containing 11 questions was used as the main tool of data collection. The respondents for the study comprise 60 members of the local community (representing both the sexes and various age groups) belonging to six villages including a rehabilitation colony, situated in the immediate neighborhood of the two production units of the plant. Ten persons from each of these villages were randomly selected and the questionnaire was administered among them to know their views on Nalco's corporate social responsibility commitments. This was followed by

informal interactions with few members of the community both at the refinery and smelting plants of the company. The respondents for the study do not include employees of the company who live in its immediate neighborhood, though family members and relatives of a very few living in the neighborhood community may have been included.

### Results and Discussions

The Indian corporate sector has shown exemplary commitment to CSR with few aberrations. The Mahartnas alone have spent more than 1100 crores on CSR initiatives during the first half of 2011(Nash, 2012). Government of India has engaged itself in putting a policy framework in place so as to further strengthen the public sector commitment to CSR initiatives. Under the CSR guidelines issued in April 2010 by the department of public enterprises, all central public sector units have to create, mandatorily through board resolution, a CSR budget as a specified percentage of their net profit during the previous year. The expenditure range of CSR in a financial year will be 3-5% of the net profits in case the profit is less than 100 crores. 2-3% (subject of a minimum 3 crores), where the net profit is in between 100-500 crores. and 0.5-2% in case of net profits exceeding 500 crores. These guidelines have been incorporated in the Companies Amendment Bill 2011, thereby making it statutory obligation of the corporate enterprises. The public sector unit's apex body, SCOPE (Standing conference of public enterprises) has already emphasized the need for having social audits on CSR activities.

Among the major CSR initiatives of Indian Public Sector Enterprises are community development, resettlement, rehabilitation, protecting the environment, waste utilization and policies associated with conservation and sustainable development. The CSR fund allocation and expenditure of the Maharatna and Navratna public sector enterprises in India are presented in table-1, which is self-explanatory.

Table-1: CSR allocation/spending of some Central Public Sector Enterprises 2009-10 to 2011-12

Sl. No.	Name of the CPSE	Year	CSR allocation (Rs in Crores)	CSR as percentage of (PAT) of the previous year	Utilisation of CSR funds (Rs in Crores)
1.	Coal India Limited	2009-10	43.81	2.11	40.14
		2010-11	262.28	2.73	152.33
		2011-12	553.33	5.09	37.26
2.	Indian Oil Corporation Limited	2009-10	37.69	1.28	46.85
		2010-11	131.11	1.28	128.41
		2011-12	95.60	1.28	48.80
3.	National Thermal Power Corporation Limited	2009-10	16.74	0.20	20.40
		2010-11	72.37	0.83	72.21
		2011-12	45.52	0.50	6.48
4.	Oil & Natural Gas Corporation Limited	2009-10	322.52	2.0	268.87
		2010-11	335.35	2.0	219.03
		2011-12	378.48	2.0	21.86
5.	Steel Authority of India	2009-10	80.00	1.30	78.79



	Limited	2010-11	94.00	1.39	68.95
		2011-12	64.00	1.30	22.94
6.	Bharat Heavy Electrical Limited	2009-10	3.14	0.1	6.01
		2010-11	21.55	0.5	4.30
		2011-12	30.05	0.5	1.80
7.	Bharat Petroleum Corporation Limited	2009-10	14.72	2.0	14.12
		2010-11	22.00	1.43	18.23
		2011-12	7.73	0.5	1.50
8.	GAIL (India) Limited	2009-10	55.91	2.0	45.78
		2010-11	69.54 *	2.0	48.43
		2011-12	80.95 *	2.0	14.85
9.	Hindustan Aeronautics Limited	2009-10	No CSR	not declared	3.90
		2010-11	allocation		1.79
		2011-12	„		0.17
			5.00		
10.	Hindustan Petroleum Corporation Limited	2009-10	15.00	2.41	13.84
		2010-11	15.00	1.54	20.10
		2011-12	30.78	2.00	3.59
11.	National Aluminium Company Limited	2009-10	12.72	1.0	12.72
		2010-11	8.14	1.0	8.14
		2011-12	10.69	1.0	10.69
12.	NMDC Limited	2009-10	80.00	1.90	83.07
		2010-11	81.56	1.80	62.23
		2011-12	80.13	0.57	37.24
13.	Power Grid Corporation of India Limited	2009-10	12.67	0.75	4.31
		2010-11	20.41	1.00	15.58
		2011-12	26.97	1.00	6.62
14.	Rashtriya Ispat Nigam Limited	2009-10	12.75	0.95	9.37
		2010-11	15.40	2.00	11.73
		2011-12	12.00	1.82	5.39

# for 2011-12, the spending is up to September 2011; \* includes the carry forward amounts of the previous financial years;

Nalco has allocated additional funds to Nalco Foundation, amounting to Rs.8.14 crores, Rs.10.69 crores, and Rs. 8.49 crores respectively during 2010-11, 2011-12, and 2012-13 financial years.

In 2014-15, 1,790 social development projects started operation under the corporate social responsibility schemes in the country, Maharashtra having the biggest share. 51 public sector enterprises spend Rs. 2,387 crore under CSR whereas the private sector enterprises spend 3,951 crores under the scheme.

The number of projects operationalised during 2014-15 in various states is as follows:

Andhra Pradesh	-79
Delhi	-66
Rajstan	-89
Madhya Pradesh	-71
Gujrat	-111
Maharashtra	-202
Karnataka	-95
Tamilnadu	-97
Uttar Pradesh	-80
West Bengal	-79

(Source: Ministry of Corporate Affairs, Govt. of India)

#### NALCO's Approach to CSR

Nalco's approach towards CSR, articulated in the corporate credo of Nalco Foundation are:

- To work with communities in the vicinity of Nalco projects as partners for sustainable development;
- To take up sustainable development projects to support education, health, drinking water and basic amenities along with income generation programmes;
- To promote art, culture, heritage and sports, with a special emphasis on tribal art and culture;
- To take care of the flora and fauna, creating a beautiful and salubrious environment.

Nalco's spending on issues concerning environment and CSR from 2007-8 to 2010-1, in table -2, speaks about the company's commitment to CSR.

Table-2: Periphery Development & CSR initiatives of NALCO

Head of expenditure	2007-08		2008-09		2009-10		2010-11	
	Rupees in crores	% age of total profit	Rupees in crores	% age of total profit	Rupees in crores	% age of total profit	Rupees in crores	% age of total profit
Research and Development	1.02	0.062	3.48	.273	2.67	.328	1.19	.146
Plantation and horticulture	2.55	0.156	2.80	.220	3.62	.444	4.25	.522
Environment and pollution control	0.75	.0459	0.69	.054	0.62	.076	0.81	.099
Peripheral development, CSR expenses and provisions	24.48	1.5	22.25	1.748	13.84	1.700	16.65	2.045
Profit after tax (crores)	1631.52		1272.27		814		1069	

(Source: Collated from data collected from NALCO Annual Reports)



All along NALCO was allocating 1% of its net profit for periphery development (PD) programme. During 2010-11, the company decided to set up a NALCO Foundation for its Corporate Social Responsibility (CSR) activities, with allocation of an additional 1% of NALCO's net profit every year to fund the projects to be undertaken by this foundation, thereby raising the company's CSR budget to 2 percent of the net profit. For 2011-12, ` 21.38 crore was allocated by NALCO for its peripheral development and CSR activities, which is 2% of the Company's net profit in the previous year.

Among its major CSR initiatives during 2010-11, NALCO Foundation has come forward to set up an Industrial Training Institute (ITI) at Marichamal village in the tribal-dominated Koraput, under the aegis of district administration. To run its mobile health units more professionally, the organization has taken up a project with Wockhardt Foundation. For the formal education of tribal children, NALCO Foundation is sponsoring 250 children to Kalinga Institute of Social Sciences (KISS), Bhubaneswar. To mitigate the menace of malaria and many water-borne diseases, projects have been taken up to distribute mosquito nets and water filters in 18 villages of Damanjodi sector. In recognition of its CSR initiatives, NALCO received the PSE Excellence Award, 2011, in the Maharatna and Navratna category, instituted by the Department of Public Enterprises (DPE), Government of India and Indian Chamber of Commerce, New Delhi on 19th September, 2011.

The data on the perception of the community on Nalco's role in peripheral development is presented in Table- 3. The figures reveal that the community is not satisfied with the company's efforts to look after the area's development.

Table -3: Community perception of Nalco's role in development

	Yes	No
Community satisfied with the community relations activities of Nalco	24(40)	36(60)
Nalco adequately looks after the community	15(25)	45(75)
The area got developed because of Nalco	39(65)	21(35)

*Numbers in the parentheses indicate percentage*

### **Environment Management at NALCO**

Having been established reputation as a responsive manufacturing concern, Nalco's endeavour has been to improve its environmental performance through application of environmental friendly material, technology and processes, limiting the emission level and recycling and reutilization of the industrial wastes, and have introduced sustained programmes to establish high standard in the field of environment management.

#### **(i) Environment Problems Associated with NALCO**

Among the waste products of NALCO, which are considered to have serious impact on the environment, are the 'fly ash' produced by its captive power plant at Angul, the 'red-mud' produced by the aluminium refinery at Damanjodi, 'fluoride' released by the smelter plant at Angul and the waste water. The Captive power plant being a coal-based unit with a capacity of generating 720 MW of electricity produces 4900 tones of fly ash per day, which is more than 70 % of the total quantity of the residues produced. The fly ash generated is disposed in three ash ponds spreading over an

area of 828 acres. The ash ponds not only put an environmental burden on the state but also give rise to several complex socio-economic problems.

#### (ii) Waste utilization at NALCO

NALCO's efforts in controlling pollution of the environment cover both preventive and curative strategies. To prevent the pollution of air, the fly ash generated in NALCO, is mixed with water and pumped through pipelines to the ash deposit ponds located at a distance of six kilometers (Nalco in harmony with nature, 2002). It has also a recycling plant to purify the water to avoid contamination of the river water.

Through research and development activities, the company has succeeded in productive reutilization of the fly ash, red mud, and wastewater, etc. To utilize the fly ash, the company is seriously engaged in extraction of beta aluminum, fly ash brick blocks, granite tiles and ceramic products, expansion of ash pond dykes using huge quantity of fly ash, experimental use of fly-ash in plantations and agricultural fields as manure, and exploring the possibility of back filling of abandoned coal mines by fly ash.

The company has been engaged in utilization of the *red-mud* in developing fiber-reinforced polymer composition (doors and window panels, tiles and sheets etc.), social conditioners/ fertilizer, ferrite cement etc. NALCO's efforts to study the impact of fluoride involve biological monitoring of fluoride around smelter to assess the impact on vegetation and bovine population and epidemiological survey to investigate the fluoride impact on human beings around the smelter. Environment impact assessment and environment management programmes along with risk analysis and disaster management plan are its special efforts towards controlling its environment.

#### (iii) Environment Awareness Campaign at NALCO

To instill the habit of sound environment management amongst employees, the company undertakes sustained environment awareness campaigns in the form of plantation programmes, publication of newsletters & information brochures, wall writings, posters, screening of video films on environment, health and safety issues. To fund the expanding scope of its environment management projects, NALCO has consistently increased its peripheral development budget.

### Community perception on NALCO's Environment Management

To know the views of the community on the environment pollution problems associated with NALCO's operations and preventive measures taken by the company a questionnaire was administered among 60 members of the community carefully selected from a number of villages surrounding the plant. The members were asked to mention three biggest problems faced by them in order of priority because of NALCO. The response of the community members is presented in table 4.

Table-4: Problems faced by community because of NALCO

	1 <sup>st</sup> Priority	2 <sup>nd</sup> priority	3 <sup>rd</sup> priority	TW priority	Rank (R)
Disease to livestock, and human beings due to fluoride release	26	3	1	85	1

Environment pollution	1	11	18	43	3
Loss of crop due to release of contaminated water	3	16	11	52	2
Congested and poor housing facilities	7	8	5	42	4
Lack of proper sanitation	5	4	6	29	7
Lack of proper drainage and sewerage system	4	3	1	19	8
No employment opportunity to the locals	5	7	8	37	5
Lack of drinking water facility	6	5	4	32	6
Lack of uninterrupted power supply	3	3	6	21	8

$TW(\text{Total Weightage}) = (1^{\text{st}} \text{ priority} \times 6) + (2^{\text{nd}} \text{ priority} \times 5) + (3^{\text{rd}} \text{ priority} \times 4) + (4^{\text{th}} \text{ priority} \times 3) + (5^{\text{th}} \text{ priority} \times 2) + (6^{\text{th}} \text{ priority} \times 1)$  R-rank of preference

The problems are found to be area specific. The first three problems in the table are associated with the Smelter plant community at Angul, whereas the later six are mostly confined to the neighboring community of the Mines & Refinery complex at Damanjodi. It is clear from the table that diseases to live stock and human beings due to fluoride release by the smelter plant is mentioned as the most serious problem followed by loss of crops due to contaminated water. The study revealed that the company's efforts to solve pollution related problems of the community leave much to be desired. Despite the company having established a de-fluorination plant, fluoride release at smelter site continues to affect the livestock as well as human beings and livestock. It was alleged that the company's defluorination plant remains non-functional for reasons known to the company officials.

### Conclusions and Suggestions

The "super citizen-leader" role of corporate social responsibility has impacted corporate leaders to an extent of volunteering for social causes. As part of their efforts to improve community life, manufacturing units are volunteering to improve their environmental performance through application of environmental friendly material, technology and processes. Efforts are being made to control the emission of industrial wastes and harmful gases to the environment by following the sustainable development framework. Recycling and reutilization of the industrial wastes are prioritized so as to protect the natural environment and minimize its harmful effects. In this regard new approaches like 'environmental impact assessment', 'environmental auditing', establishment of eco-industrial parks', 'environment awareness campaign', 'training programmes on environment management at the enterprise level' have emerged as more popular approaches.

The National Aluminium Company Limited performed appreciably in the environment management front. Its efforts for recycling, and reutilization of the industrial waste deserve to be applauded. But, still a lot remain to be expected in the area of minimizing the harmful impacts of the company on the natural habitat. Viewed from the community perception, the company's claim of maintaining a wholesome environment seems to be overrated. Checking the release of fluoride and its harmful impacts continues to be threat to the company's relationship with the community. The company cannot afford to ignore, when it is attempting to position itself as a global leader in sector. Therefore, the issue functionalizing the de-fluorination plant must get prioritized in the agenda of the company.

### Limitations of the Study

The limitation of time and recourses get reflected in the contents of this paper. Its reliability could have enhanced by making the analysis broad based- incorporating data different units. For, this, dynamics of the CSR expenses could not be properly investigated.

### Scope for Further Research

Understanding the dynamics of CSR expenses and the prioritization of issues remains to be investigated. The second question, is it the statutory obligation to spend on CSR, promoted by the government of India recent times, or the volunteerism for social cause that drives public sector CSR expenditure?

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