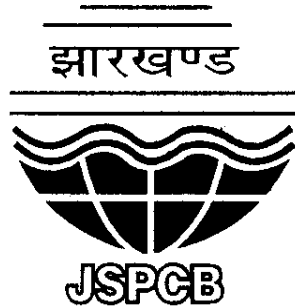


VISION DOCUMENT



VISION 2012-2017 AND STRATEGIC PLANNING

JHARKHAND STATE POLLUTION CONTROL BOARD

T.A. DIVISION BUILDING (GROUND FLOOR), H.E.C., DHURWA, RANCHI -834004
Phone.:2403852, 2403851, Fax:0651- 2403850, e-mail : jspcb@yahoo.co.in

TABLE OF CONTENTS

1.0 INTRODUCTION	1
2.0 CHALLENGES BEFORE JHARKHAND	5
2.1 S.W.O.T. ANALYSIS	9
3.0 PURPOSE OF VISION DOCUMENT & VISION STATEMENT	12
3.1 VISION STATEMENT	13
4.0 STRATEGIC PLANNING TO REALISE VISION	14
4.1 VISION DOCUMENT & STRATEGIC PLANNING CHOREOGRAPHED	16
5.0 INTEGRATED IMPLEMENTATIONAL STRATEGY	18
6.0 GOALS & OBJECTIVES	21
6.1 PLAN & IMPLEMENTPREVENTION & ABATEMENT OF WATER POLLUTION	25
6.2 PLAN & IMPLEMENT COMPREHENSIVE MEASURES FOR PREVENTION OF AIR ...	27
6.3 PLAN & IMPLEMENT ... MEASURES FOR PREVENTION OF LAND POLLUTION.	31
6.4 ADOPT & IMPLEMENT ... MEASURES FOR SUSTAINABLE USE OF RESOURCES.	35
6.5 SECURE BETTER WASTE MANAGEMENT.	37
6.6 INTRODUCE INNOVATIVE METHODS FOR POLLUTION PREVENTION & CONTROL.	41
6.7 ACHIEVE VISIBLE CHANGE IN THE WORKING OF JSPCB.....	44
6.8 MAKE JSPCB A LEARNING ORGANIZATION BY CONTINUALLY ... TECHNICAL....	47
6.9 EDUCATION FOR BETTER IMPLEMENTATION OF ENVIRONMENTAL LAWS.	49
6.10 INCULCATE HEALTHY ENVIRONMENT REGIME THROUGH MASS AWARENESS ...	51
6.11 ALIGN STAKE HOLDERS TO SELF REGULATION AND SELF CERTIFICATION.	54

ANNEXURES:-

- I. ISO 14001 - Role of Pollution Control Boards
- II. Charter for corporate responsibility of environment protection
- III. Environmental Management Systems (EMS): Australia

1.0 INTRODUCTION

Jharkhand was constituted on 15th.November, 2000 as the 28th. State of the Republic of India. It shares its boundaries with Bihar in the North, Orissa in the South, West Bengal in the East and Chhatisgarh and Utter Pradesh in the West. It lies between latitude 22°00' and 24°37' North and longitude 83°15' and 87°01' East. The geographic area of the State is 79,714 sq.km, which is 2.4% of the country's total geographic area. It includes the region which is predominantly tribal populous. It consists primarily of Chhotanagpur plateau, which is part of the Deccan Biographic province. The general topography of the State is undulated and full of hillocks and plateaus.

Jharkhand State consists of a series of four distinct plateaus, each occurring at a height which is different from that of the adjoining plateaus. The highest plateau is formed by Western Ranchi Plateau or the Pat region which is 800-1100m above the mean sea level. It is believed to be composed of Deccan lava and as a result of weathering , the lava has been converted to laterite and bauxite. The next plateau is the Ranchi plateau, which covers the whole of Ranchi, except the Pat region. The plateau is mostly composed of gneisses and granite and is about 600m above the mean sea level. This plateau is separated from the other surface of the sea elevation by the Damodar trough. It is the upper Hazaribagh plateau and is a continuation of the Ranchi plateau. The third plateau has an elevation of 300m above mean sea level and may be termed as lowest Chhotanagpur plateau. It consists mainly of gneisses and granites but partly of schist and other Dharwar rocks. The fourth plateau is a uniform surface formed by the river valleys, plains and lower part of the outer plateau lying between 150-300m above mean sea level. This again consists of gneisses, granites and the basaltic. Rajmahal hills and the Kaimur plateau belong to this erosion level.

The total population of the State is 26.91 million, which is 2.6% of the country's population. It is predominantly a rural State with 78.2% of its population living in 32000 rural settlements. Only 22.2% of its population is residing in 44 urban settlement. The average population density is 338 persons per sq.km. The tribal population is 26.3% of the total population of the State. East Singhbhum, Ranchi and Dhanbad are the most urbanized districts in Jharkhand. Godda and Garhwa districts have less than 5% urban population.

Jharkhand has 2.38 million hectares of forest area divided into 26 forest divisions. About 30 percent of the total geographic area is under forest. Of the total forest area, 18% is reserved forest, 79% is protected and remaining 3% is unclassified. Of the total reserved forests, 76% is in East and West Singhbhum and Palamu districts. Similarly, 5 districts, Hazaribagh, Giridih, East Singhbhum, West Singhbhum and

Palamu account for 75% of the protected forest area.. Jharkhand ranks tenth among the States and Union Territories in respect of the area under forest cover. Shri M.S.Swaminathan, the father of India's green revolution, visited Jharkhand in December,2007 and concluded his tryst with a highly positive remark, " I have not seen such a vast area of uncultivated land in entire India rearing to be cultivated." Between the lines , it could be read that there might be several fertile, barren land and forest segments in close proximity to the mineral resources, water and electricity, which would attract the entrepreneurs. PCB shall have to be vigilant with regard to siting of industries

The State of Jharkhand has an installed power generating capacity of 1390 MW as against the national capacity of 1,05,000 MW. The thermal power generating capacity in the State is 1260MW and is 24% of the national capacity. In the near future, the Government of India may plan to supplement thermal power generation with hydel and nuclear power. While hydel is benign, nuclear installations must be state of the art complement by routine surveillance by the Board.

There are many rivers flowing and passing by the geography of Jharkhand. The main sources of water in the state of Jharkhand are the rivers. Damodar, North Koyel, Maurakshi, Barakar, South Koyel, Ajay, Karkai and Subarnarekha are the major rivers of Jharkhand. The net irrigated area of the state is 1.57 lakh hectares.

Jharkhand is a state with a very well developed railway system. The major railway stations in Jharkhand are Bokaro, Ranchi, Jamshedpur and Dhanbad. Jharkhand state has 1,650 km of national highways and 6880 km of the state highways. It has well developed airway routes also. Delhi, Mumbai, Kolkata and Patna are linked by air routes with Ranchi. Sea ports in West Bengal and Orissa coast are within 400 km radius.

Jharkhand has an enormous amount of mineral resources and , according to an estimate , nearly one-third of the mineral wealth of the country can be found in the State. Nearly 66% of coal, 32% of iron ore, 26% of copper ore, 91% of pyrite and 58% of the graphite deposits of the country are found in Jharkhand. Mineral rich State with adequate availability of water, electricity, conveyance and above all steadfast manpower has attracted entrepreneurs from all over the country to establish industries. The Tatas were the pioneers. Coal mining also started 100 years back. At present there are 194 large, 180 medium and 2486 small scale industries of which 429 units have been identified as hazardous wastes generating units. The mosaic consists mainly of coal based and mineral based industries. Coal based industries are mining(both open cast and underground), coal washeries, thermal power plants, hard & soft coke , refractory and briquette plants. Mineral based industries are integrated iron and steel plants, alumina and aluminum, graphite processing , cement, copper , zinc, uranium, sponge iron, alloys manufacturing industries. Apart from these,

fabrication, metal surface treatment and agro based industries have also come up. By 2015, it is expected that number of industries shall double.

Industrialization shall enhance the population density converting many rural areas into urban areas. There shall be many fold increase in municipal solid wastes and bio-medical solid wastes as urbanization and development of an inhabited land on earth has proved to increase the load on municipal and bio-medical wastes. An average American generates 8 times more wastes per persons as compared to an average Indian.

Jharkhand State Pollution Control Board has been basically constituted for implementation of Environmental and Pollution Control Legislations, Rules and Notification pertaining to the State. In discharging the duties entrusted, the Board investigates, collects and disseminate data relating to water, air and land pollution, lays down standards for discharging of liquid effluents and gaseous emissions. The major objective of the Board are centered around pollution control and the protection of environmental quality and drawing up comprehensive programs for prevention, control or abatement of pollution from different sources. JSPCB plays an effective role for promotion of cleanliness of underground water, streams and rivers in the state; reuse/recycle of sewage, trade effluent on land for irrigation; saving on the use of water; reduction of wastes and prevention of disposal into water bodies and carrying out monitoring of the rivers of the state. The Board also plays a catalytic role in construction and functioning of Common Effluent Treatment Plants. For management of hazardous wastes, the Board issues authorization and promotes setting up of Treatment, Stabilization and Disposal Facility (TSDF). To control air pollution, JSPCB monitors ambient air of major cities and take mitigating steps for prevention, control and abatement of air pollution. The Board also looks after the implementations of Rules pertaining to Bio-medical wastes, Recycled plastic wastes, Municipal wastes and lead acid battery wastes.. Jharkhand State Pollution Control Board apart from being the lead player in pollution control and environmental protection by playing the regulatory command and control role, also plays a pro-active role to promote adoption of best practices in environmental management and by adopting perspective planning.

Starting as a regulator with the chief instrumentality of “command and control”, Jharkhand State Pollution Control Board has been in the process of re-strategizing its approach, by being pro-active and result oriented. The Board is also being technology driven as newer and advanced technology is generally found to be environment friendly often aiming at wastes reduction.

Jharkhand State Pollution Control Board has to cope with a host of challenges facing the State, most of the time, State specific, to maintain the environmental

sustainability in the face of global, national and local concerns, particularly contended with rapid industrial growth of industrial sector. For this purpose, focused attention to development of environmentally improved infrastructure facilities, setting standards where such standards are not prevalent today, upgrading the standards, looking to the technological transformation taking place in different segments of industries and managing these developments effectively and optimally to enhance the overall competence of the technical personnel and measuring equipments available with the Board have become imperative, the gap being tried to be filled up with more qualified and experienced personnel and newer and advanced equipments. Ultimately, laws by themselves do not secure compliance of the regulations but more importantly it is the role realization and commitment on the part of industries about their corporate responsibility that enables better compliance and up gradation of the environment. Any regulation is as good as its implementation and this dictum becomes realizable only when the regulators have the knowledge, skill and insight about the issues facing the organization and their solutions. The attempt in this Vision Document is to address these dimensions and strategies and set forth clear goals and objectives to be achieved in a time bound fashion and assign responsibilities and provide for planning, execution and monitoring. The spectrum of this Vision Document shall also cover those implementable ideas which will reduce the gap between the regulators and the stake holders. Pro-active, self regulation and self certification shall be the key words.

2.0 CHALLENGES BEFORE JHARKHAND

We are very much concerned about global warming and climatic changes that has begun to over power the natural environment that we have. The recently concluded Bali Summit is very much on debate. The one salient feature that is surfacing up from the deep is that one should explore, contain and control environmental degradation from within. Environment concerns must be disinfected at home. If the State of Jharkhand manages its environment and so are others states of the country, our contribution towards corrections on global warming and climatic change shall be fool proof.

The State of Jharkhand has enormous environmental challenges. Its mineral wealth had been and is being discriminately unearthed. Coal mining and beneficiation is perhaps one of the most polluting exercises. 66% of coal of the country resides in this state. Coupled with this are numerous thermal power plants which generate fly ash as waste. Conversion of iron ore blended with coal into sponge iron is one of the most polluting manufacturing process. Jharkhand has 32% of iron ore reserve of the country. About 20 manufacturing units of different capacities are in operation in the state with a total installed capacity of 3500T per day and many more will mushroom in the recent future. Amongst the various industrial sectors, the integrated iron and steel plants contribute a major load of pollutants to the environment from their sub-units, namely, coke oven, refractory, sintering, steel melting and captive power plants.

Jharkhand accounts for 29% of mineral wealth in the non-coal sector. Besides coal and iron ore, some of the important minerals present in the state are – bauxite, chromites, copper ore, lime stone, dolomite, manganese ore, mica, quartz, silica sand, pyrite, feldspar and bentonite, apart from uranium and many more minerals. Mineral based industries are air polluting in nature. Though, water is required in a mineral based industry, for cooling, quenching, processing, boiler, solid wastes disposal etc., the effluent from some of the sections does not undergo any significant change in terms of the water quality and can be recycled 100%, but most often, they are wasted. Mineral wastes generate 30-50% solid wastes which are of concern.

The entire Jharkhand is aflame with vertical construction to house its logarithmic increase in population. This means enormous amount of requirement of cement, concrete, fired mud bricks and after occupation abundance of water drawn from deep well borings. There are more than 940 crusher units, 280 brick units and 66 cement factories in Jharkhand. Whereas, manufacturing of cement, concrete and fired mud brick are source of air pollution, water table is going down deep and in some places, it has dried up.

Industries like to station themselves in the proximity of water. They need water. But most of the factories have a callous approach. Their effluents are allowed to escape into rivers. Pollution of river water is of concern, particularly Damodar River which bears the brunt of thermal power stations and coal washeries. The dumping of solid waste including hazardous waste on unauthorized land leads to leachates finding their way into water bodies be it wells, deep boring, ponds, streams or rivers.

Urbanization seems to have a synonym. It is transportation. Both the human and vehicle population in Jharkhand has increased by 10-12% in the last 5 years. Registered number of small vehicles in 2000 was 13337. In 2004 it increased to 103964. By 2008 it may surpass the 2 Lakh figure. Whereas human population generates municipal solid wastes, bio-medical wastes and other wastes such as plastic, used battery and e-waste, running vehicles are responsible for generating toxic air pollutants and heat.

Jewel in the crown of Jharkhand is its native population mostly living in the rural belt. The christening of the nascent state with the word "Jhar-khand" is not accidental. It is a bonafide signature. Apart from, 30 percent of the total geographic area being under forest, a bird's eye view shall reveal entire Jharkhand to be covered with greenery. This is perhaps the only state in the world where trees are worshipped. The natives are naturally endowed with the Gandhian philosophy of symbiotic living. Their daily chores are natural extension. They grow more trees than those they find perishing. They cut only dead branches for their fuel. They live an appropriate life akin to the biosphere. Rural area of Jharkhand used to be zero waste segments of the state but for the invasion of plastic and other similar wastes. Their daily requirement and wastes generation are mostly bio-degradable. They had been using compost technology for their entire wastes since time immemorial.

Manufacturing and transportation are the two main pillars of economic growth. Economic growth leads to urbanization. Urbanization throw up many problems connected with environment. Rural area and rural qualities shrink and in its place pollution load increases.

Pollution of any kind, be it of air, water or land ultimately percolates into the rivers that finally add to the burden of the ocean. Part of the pollutants which adhere to the upper surface of the earth or remain fluidized in the air for a longer time or enter into the water bodies meant for human consumption are of immediate danger to the population. Pollutants which enter into the rivers and finally into the sea water, are mostly water-soluble. Hence, pollutants generated in a small hazardous wastes generating industry, ultimately find its way into the globally spread ocean. In fact, presently, every person of urban population is aiding to pollution load. This becomes a global concern. The planet Earth, our solar system and our galaxy has an infinitesimal presence in the known universe. The irony is that the entire universe is

made up from the floating debris (wastes). So is the Earth.. Million of years of patient effort by the mother nature has endowed us with a heaven like Earth to live in No doubt, the Earth shall finally convert itself to debris accelerated by man made disasters. The question is how soon or how much later. Warning signals are forthcoming in the shape of Tsunami, climate change and global warming. The ultimate challenge is to delay the process of annihilation. Global environment management is the only therapy , in which every species of flora and fauna shall have to be nurtured and encouraged to play its role. Mankind shall act as workers, supervisors and achievers to reinstate the paradise lost. We have to follow mother nature's mandate in converting human generated wastes into purposeful raw material.

Jharkhand State Pollution Control Board has a dual responsibility. First, it has to carve ways and means to preserve the virginity of the rural areas. Simultaneously, it has to see that existing industries switch over to newer and advanced technology that are environment friendly as well as upcoming industries are meticulously sited and are harnessed with state of the art technologies. But one must be careful and knowledgeable. Many a times ignorant entrepreneurs are duped with obsolete technologies of the developed nations branded as latest technology. Rural industries reap the fruits of advancement without maligning their environmental quality and side by side urbanized segment learn and implement rural methods of minimizing waste generation where-ever possible. Reduce; recycle and reuse would be the key words which would lead us to rewrite the history of the future environment management.

In order to logically address the challenges before the Board, it has to armour itself with advanced information network. Globalized world is a shrunk world that has gone "flat" due to ever expanding information network. Distances have dwindled into Laptops. Developing and strengthening information network is the foundation for upgrading the skills and sharpening the insights of the regulators. The explosion of technology and related problems in the field of environment and pollution control cannot be adequately tackled with the old tools. Developing new tools and honing the skills of functionaries and transforming the organization as a learning organization would be possible only by intake of qualified and skilled personnel and equipping them with state of the art knowledge and practices for finding cost effective solutions to pollution control and environment management.

"Polluter pay" and Precautionary measures" are the main planks of pollution control regime. Time has come to switching over from reactive to proactive mode. Common Consent and Authorization to provide one shot application and clearance of the Consents under the Water Act, Air Act and Authorization under Hazardous Wastes Rules for a period of 5 years shall reduce the paper work and also provide a greater transparency. Development of environmental infrastructure in the shape of

common facilities like CETPs, TSDF, Incinerators and conveyance pipeline shall facilitate sustainable environmental management.

We need to have environmental indicators. These allow an industry to make measurements related to environmental performance. There is a saying that whatever gets measured, gets implemented and gets corrected. Thus, once the environmental indicators are able to measure the environmental initiatives and the performance, the environmental concerns, if any, would get corrected. The idea is to measure the different indices of performance in the environmental arena and then benchmark them with what they should be. They serve as a monitoring tool to track the environmental performance. To start with, an empirical equation need be computed which shall indicate quantum of wastes generated from a specific conversion of raw material, water and energy to final product. Material balance is the fore runner of proposed environmental indicators.

The last word on environment management is “awareness”. This distinguishes developing countries from developed countries. Awareness is not the benchmark of the academically educated class. Affluent countries generate far more wastes but they dispose it by any means even making poor and developing nations as their dump yards. An awared population yearns for zero waste. Vision 2017 would be interlaced with attractive awareness programme.

To promote adoption of Environmental Management System and define the role of Pollution Control Boards, CPCB organised a Workshop of all Pollution Control Boards and Committees on August 27, 1999. The following recommendations were made at the Workshop.

- **Adoption of ISO 14001 PLUS approach:** ISO 14001 compliments the efforts of regulatory bodies but not substitute the regulatory compliance. Since ISO 14001 certification in its present form does not assure regulatory compliance, it was recommended to adopt the ISO 14001 PLUS approach by amalgamating regulatory compliance and public disclosure along with ISO 14001 certification as is done in some other countries. The components and modus operandi of the ISO 14001 plus scheme need to be worked out in Indian context.
- **Creation of National Accreditation Body:** A National Accreditation Body needs to be created/designated to ensure a uniform code of conduct for the certifying agencies and the training agencies.

The above approach is a step towards self regulation and self certification.

Jharkhand State Pollution Control Board is determined to approach environmental management with clear vision followed by strategies and goals that will culminate into implementation and a better world to live and leave for the future generation.

2.1 S.W.O.T. ANALYSIS

<p>1</p>	<p>STRENGTH</p>	<ol style="list-style-type: none"> 1. 78% rural based population more akin to natural environment.. 2. 30% land under forest cover. 3. Vast mineral wealth 4. Ever improving rail line and air passage coverage. 5. 1400 mm average rain. 6. Two major rivers with several tributaries and water falls. 7. Remote chances of earthquakes and flooding. 8. Global concern and its feedback as torch bearers to overcome future shocks.
<p>2</p>	<p>WEAKNESS</p>	<ol style="list-style-type: none"> 1. Poor road network. 2. Closed unattended open cast, underground mines and pits inviting subsidence and flooding. 3. Very old mines and quarries. 4. Poorly maintained industries mainly thermal power stations and coal washeries having ineptual aberrations. 5. Poor infrastructural facility & inadequate man power. coupled with weak information network in the Board. 6. Lack of empirical data on raw material, product, energy & wastes generation ratio.
<p>3</p>	<p>OPPORTUNITIES</p>	<ol style="list-style-type: none"> 1. A virgin state rearing to be well structured. 2. Harnessing of coal bed methane to supplement energy needs. 3. Rain water harvesting for all industries and

		<p>residential/office/commercial buildings.</p> <ol style="list-style-type: none"> 4. Commercial exploitation of solid wastes namely, fly ash for TPS, char from sponge iron production, coal waste burden to the extent of export. 5. Close circuit recycling of treated effluents. 6. Setting up of network of Sewage Treatment Plant to cover entire state and 100% utilization of treated waste and effluent. 7. Stream lining of less polluting road transports complemented with pollutant absorbing/adsorbing tree plantation along both sides of roads and rail tracks. 8. Self regulation practices for industries followed by self certification. 9. Autonomous certification agencies affiliated with CPCB/SPCBs. 10. Healthy environmental mindset to be developed from the initial stages of alphabetical teaching amongst children(the future caretakers of the planet earth) through text book teaching and routine awareness programmes. 11. Rewriting history of the future of millions of rag pickers by providing them a decent employment with vast opportunities that lie hidden behind solid waste management.
<p>4</p>	<p>THREATS</p>	<ol style="list-style-type: none"> 1. Pollution of rivers particularly, Damodar & Subernrekha. 2. Urbanized and effluence based increase of Municipal , biomedical, recycled plastic, used battery and e-wastes. 3. Indiscriminate exploitation of minerals not coupled with healthy environment

		<p>management.</p> <ol style="list-style-type: none">4. Easy escape route through “polluter pays” syndrome.5. Dumping of obsolete technologies into the Indian market.6. Probability of illegal import of hazardous wastes.7. Increase in fuel driven vehicles coupled with proportionate increase in high rise building and old roads leading to green house effect and noise pollution in major cities.
--	--	--

3.0 PURPOSE OF VISION DOCUMENT & VISION STATEMENT

Our ex. President Shri APJ Abul Kalam used to advise countrymen to see dreams and convert the same into ideas for implementation. This millennium has presented to the inhabitants of Jharkhand a most appropriate platform to convert their long cherished dreams into ideas to brainstorm and put the selected ideas into practice to finally reap the fruit potentiated with the latest technological infusions. Forging a vision statement is significant for any organization because it provides the perspective and sets priorities for action. Jharkhand State Pollution Control Board also needs to see beyond the present scenario and envisage and construct the future scenarios and prepare to overcome the problems associated with them by developing capacities, skills and priorities : all built into a matrix of policy choices, instrument of implementation and targets. This calls for a vision that transforms and transcends the present and look to the probabilities of the future and create all around awareness of the future perspective that the organization needs to address.

The chapter “Environmental Challenges Before Jharkhand” opens up the need for long term planning and carefully structured strategy to tackle each and every concern. The SWOT analysis opens up the cards to play with. The whole process motivated by a vision is to be achieved with the involvement of all stake holders so that as we go along, the support of all will be forthcoming in its accomplishment. Mr. JRD Tata once remarked that when an idea, a project becomes “once own idea or project”, then individual’s involvement becomes overwhelming and there becomes a sportsman like spirit to see that it becomes a reality. Environment management is everybody’s project.

The objectives and the goals of SPCBs may be similar in many respects. For example, at the outset, we have to see that the biosphere does not deteriorate further by man made substances and energy. But a State which is dominated by forests, abundant minerals still to be mined and beneficiated, large cross-section of humanity which have natural heritage of living appropriately shall have to set priorities which may be quite different from other states. The challenge is to have a resonance of in-house culture and inflow of new and advanced technologies.

In effectively playing out its nodal role, JSPCB needs to develop clear goals, objectives and targets concerned with the present and emerging issues. A clearly focused vision has the potential of defining goals to be achieved and strategies to be accomplished the goals, delivered through implementational plans and targets. The purpose of the vision, hence, is all too evident.

VISION STATEMENT



**Jharkhand State Pollution Control Board aims at
taking Jharkhand through the path of
sustainable development,
equitable opportunities
and
appropriate governance
by rigorous implementation of environmental laws;
by being pro-active in preventing and mitigating
pollution;
by committing to the tenants of good governance;
by enhancing involvement of all;
and by promoting self regulation
and self certification among stake holders.**

4.0 STRATEGIC PLANNING TO REALISE VISION

Realization of vision needs development of goals and objectives, setting targets, defining tasks, assigning responsibilities & getting things implemented. Together this process is called strategic planning. JSPCB's Vision Statement describes what the organization wants to look like in the future. It is aimed at providing direction and inspiration to organizational goal setting. The earlier chapters have dealt with the challenges and issues that the State is faced with on the sustainable development front and these issues naturally become the critical issues that JSPCB is faced with, and so it must respond to the challenges. The right strategy needed in the form of developing the parameters for achieving the Vision and the process to achieving it. At the same time with all the commitments and resolve of the organization, JSPCB has its own limitations in relation to its role and functions and to that extent the overall scope cannot be comprehensive.

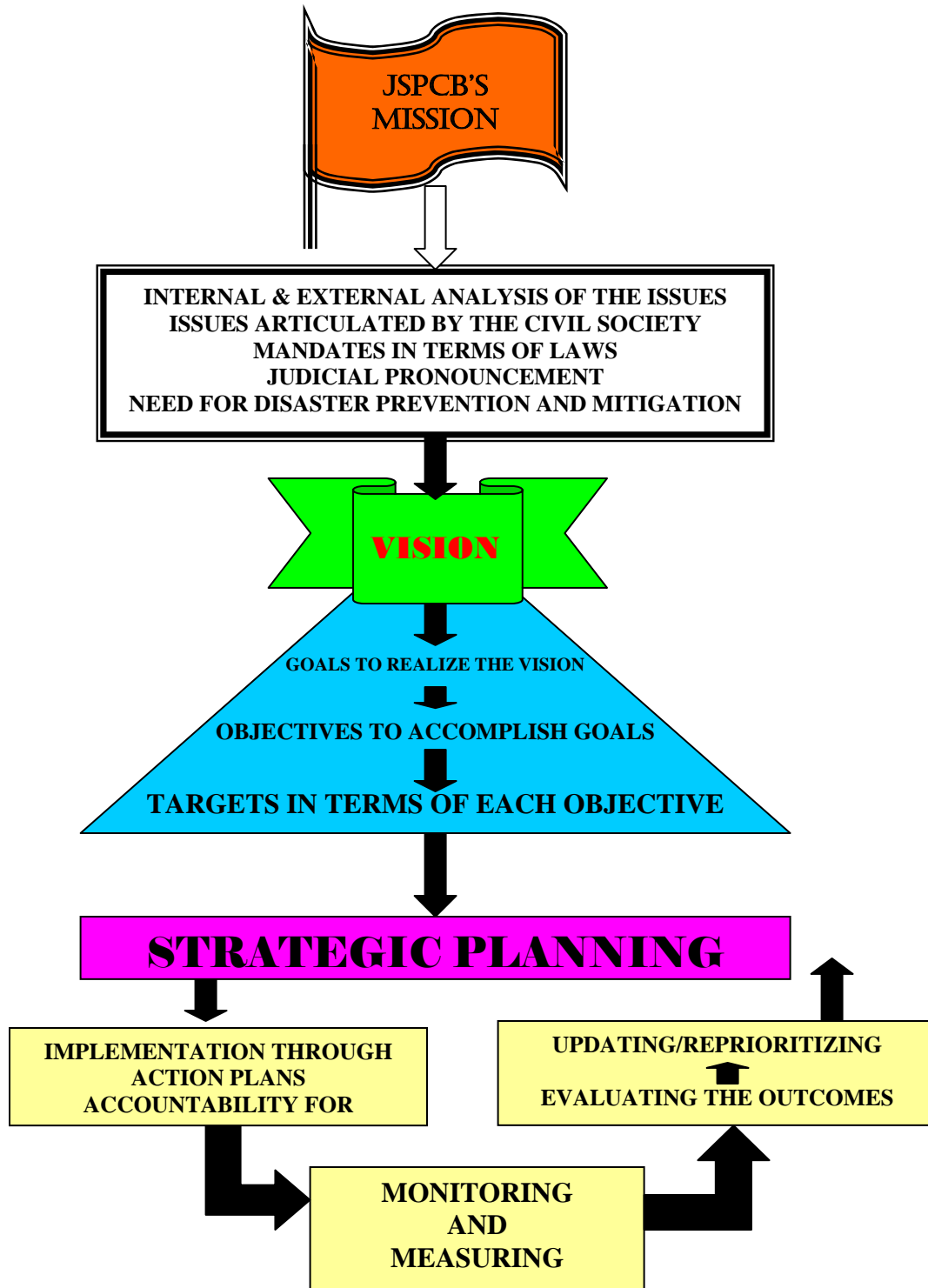
The limitations faced by JSPCB come up in different forms. Most important of these is the number of stakeholders concerned with environmental protection and pollution control. Several departments and agencies of Government are taking critical decisions about subjects impacting environment, but they have different perceptions about the environment. Working out collaborative approaches will secure better compliance with standards. JSPCB's role in this regard however is not overarching. The external environment is changing so fast that it is difficult to cope with all fall outs on the twin fronts of environment and pollution. State Pollution Control Boards do not possess the competencies and resources to tackle all such developments. It certainly has a central role to play as the chief regulator for pollution control, yet cannot operate in a completely limitless or boundless way. What is feasible is to prioritize in terms of the most critical issues and work out strategies for tackling them. JSPCB, while drawing up the Vision document has done this identification based on the mandates it is required to discharge in terms of the laws, the burning issues articulated by the civil society, judicial pronouncements and also its own analysis of internal and external issues which need to be addressed. Critics and advocates alike put forth, often contradictory ideas, and given all this, JSPCB would like to concentrate on tackling the most obvious risks pertaining to land, water and air, which is the primary responsibility of the Board.

A set of strategies is needed to give clarity to work pertaining to the realization of the Vision. For this, the strategic framework of JSPCB is designed as follows :-

-  A clearly stated Vision based on SWOT analysis..
-  Vision developed on the basis of the mandates, values and mission to accomplish.

- ✚ Goals to realize the Vision.
- ✚ Objectives required to accomplish goals.
- ✚ Targets in terms of each objectives.
- ✚ Accountability for implementation.
- ✚ Implementation through Action Plans.
- ✚ Review and monitoring.
- ✚ Evaluating the outcome.
- ✚ Reprioritizing and updating.

VISION DOCUMENT & STRATEGIC PLANNING CHOREOGRAPHED



VISION STATEMENT

Jharkhand State Pollution Control Board aims at taking Jharkhand through the path of sustainable development, equitable opportunities & appropriate governance by rigorous implementation of environmental laws; by being pro-active in preventing and mitigating pollution; by committing to the tenants of good governance; by enhancing involvement of all; and by promoting self regulation and self certification among stake holders.

1. Plan & implement comprehensive measures for prevention & abatement of water pollution.
2. Plan & implement comprehensive measures for prevention & abatement of air pollution for maintaining National ambient air quality standards..
3. Plan & implement comprehensive measures for prevention of land pollution.
4. Adopt & implement appropriate measures for sustainable use of resources.
5. Secure better waste management.
6. Introduce innovative methods for pollution prevention & control.
7. Achieve visible change in the working of JSPCB by making the organization more result oriented, transparent and accountable.
8. Make JSPCB a learning organization by continually upgrading technical and managerial skills.
9. Education for better implementation of environmental laws.
10. Inculcate healthy environment regime through mass awareness programmes.
11. Align stake holders to self regulation and self certification.

47
OBJECTIVES

5.0 INTEGRATED IMPLEMENTATIONAL STRATEGY

Challenges before the Board buoys up in the routine deliberation amongst the Board members, the employees of the Board, various regulatory and civic authorities and representative of the factory owners. Some are to be sorted out forthwith, some others are diluted with time and the remaining keeps floating in the mind, asking for development and implementation of strategy for their mitigation. There are some emerging issues which have developed in other states or some other part of continent. Sooner than later, these issues may also develop in our State.

A two pronged integrated implementational strategy is needed to contain and control environmental and pollution degradation. The first is in-house, where the Board itself assembles its think tank and find out a solution. The second, requires integrated approach in which various Government and Non-Government agencies take part. Vision 2012-2017 shall utilize both the option either separately or in tandem to draw out its future strategy. For example, bio-medical wastes, municipal solid wastes, e-waste, used battery wastes are some of the issues which cut across several agencies and meaningful goal realization would call for all of them discharging the tasks which are legitimately theirs.

Once, draft Vision 2012-2017 is finalized. The same shall be put for perusal at the highest level with a request to constitute a Task Force including members from all the concerned departments and agencies. The Task Force shall be headed by the Chief Secretary for assigning responsibilities, fixation of targets, monitoring of implementation and evaluation of the outcome.

Diagram-I gives in cyclic form the plan implementation process of JSPCB whereas Diagram-II depicts the approach of the agencies co-ordinated by the task force. The Annual Action Plan of the JSPCB sets the overall agenda while the components to be co-coordinated by the Task Force form a sub-plan of the Annual Action Plan.

STARTEGIC PLANNING CYCLE 1 – JSPCB

ENVIRONMENTAL SCANNING
PREPARATION THROUGH CONSULTATION

**ANNUAL ACTION PLAN/OTHER ACTION PLAN
FIXING MEASURABLE RESULTS**

BUDGET

SPECIFIC
RESPONSIBLTY &
ACCOUNTABILITY

IMPLEMENTATION

MANAGEMENT TOOLS:
CAPACITY BUILDING EXERCISES
TRAINING, SEMINAR & WORKSHOPS
GOOD GOVERNANCE

VISION 2012/2017
GOALS
OBJECTIVES
TARGETS
STRATEGY

REPORTING
&
MONITORING

UPDATING &
REPRIORITIZING

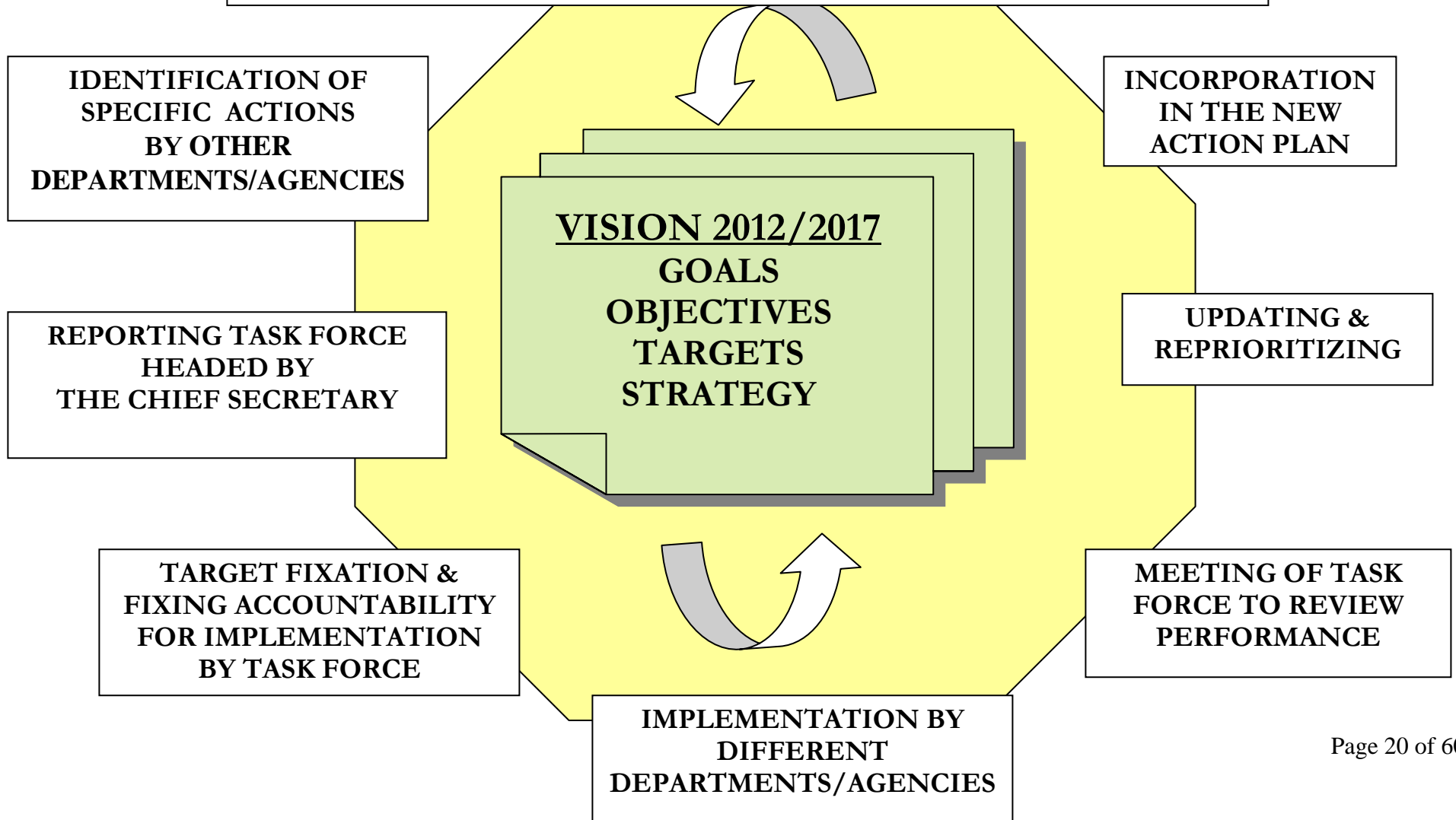
PHYSICAL TARGETS
ACHIEVED &
SHORTFALLS

PERFORMANCE
MEASUREMENT
& EVALUATION

BOARD MEETINGS
MONTHLY MEETINGS
RO'S MEETINGS
INTERACTION WITH STAKEHOLDERS

STARTEGIC PLANNING CYCLE 2 – TASK FORCE

ANNUAL ACTION PLAN OF JHARKHAND STATE POLLUTION



6.0 GOALS & OBJECTIVES

SNO	GOALS	OBJECTIVES
1	Plan & implement comprehensive measures for prevention & abatement of water pollution.	<ol style="list-style-type: none"> 1. To restore wholesomeness of rivers, lakes and water bodies and underground sources. 2. Assessment and reduction of pollution from non-point sources.
2	Plan & implement comprehensive measures for prevention & abatement of air pollution for maintaining National ambient air quality standards..	<ol style="list-style-type: none"> 1. Identifying processes leading to air pollution and suggesting sustainable alternatives. 2. Popularizing CNG/LPG/ renewable energy and getting programmes implemented based on cleaner fuels. 3. Increasing AAQM stations and introducing on-line air quality monitoring. 4. Identify critical areas having industrial air pollution and drawing up action plans to control. 5. Collect and disseminate information relating to air pollution. 6. Implementation of Air Action Plan to make clean city. 7. Develop load based standards for air emission.
3	Plan & implement comprehensive	<ol style="list-style-type: none"> 1. Inventorisation of dumping sites for

	measures for prevention of land pollution.	<p>MSW.</p> <ol style="list-style-type: none"> 2. Inventorisation of dumping sites for Hazardous wastes. 3. Up gradation of the Common Bio-medical Waste Treatment Facilities(CBWTFs) 4. Development and up gradation of municipal land fill sites. 5. More effective implementation of Battery Rules, 2001.
4	Adopt & implement appropriate measures for sustainable use of resources.	<ol style="list-style-type: none"> 1. Reduction in water consumption. 2. Rain water harvesting. 3. Reduce use of wood/coal for industrial purpose by switching over to other fuels. 4. Protect and conserve marine environment including migrating birds.
5	Secure better waste management.	<ol style="list-style-type: none"> 1. Hazardous Wastes Management. 2. Prevention of illegal dumping of wastes and carrying out restoration of contaminated land sites. 3. Developing tools for better waste management.
6	Introduce innovative methods for pollution prevention &	<ol style="list-style-type: none"> 1. Finalize and implement disaster management plan. 2. Implementation of charter for

	control.	<p>corporate responsibility of environment protection (CREP).</p> <ol style="list-style-type: none"> 3. Creation of wastes exchange centers. 4. Awards and incentives for promoting pollution abatement. 5. Corporate environmental audit reporting. 6. Incentives for ISO-14000 units.
7	Achieve exemplary change in the working of JSPCB by making the organization more result oriented, transparent and accountable.	<ol style="list-style-type: none"> 1. Strengthening of JSPCB and restructuring. 2. Interaction with other organizations. 3. Revamping working system. 4. Mandating the corporate to adopt practices for accomplishing corporate social responsibility and accountability. 5. JSPCB to further enhance the practice of good governance.
8	Make JSPCB a learning organization by continually upgrading technical and managerial skills.	<ol style="list-style-type: none"> 1. Comprehensive training programmes. 2. Use of modern management tools. 3. Seminars/workshops on bench-marked practices. 4. Expand the scope of journal club activities.
9	Education for better implementation of	<ol style="list-style-type: none"> 1. Impart better understanding about environmental and other related laws to all functionaries.

	environmental laws.	<ol style="list-style-type: none"> 2. Focus on Polluter Pays Principle & Precautionary Principle. 3. Delegation of powers and decentralized decision making.
10	Inculcate healthy environment regime through mass awareness programmes.	<ol style="list-style-type: none"> 1. Competition based sponsored programmes among educational institutions. 2. Seminars on environment related subjects among industries. 3. Sponsored cleanliness competition drives among blocks and panchayats. 4. Week long celebration of World Environment Days. 5. Media utilization to promote current environmental issues.
11	Align stake holders to self regulation and self certification.	<ol style="list-style-type: none"> 1. Statement on self regulation and self certification. 2. Accreditation to ISO approved industries. 3. Appointment of reputed auditors.

6.1 PLAN & IMPLEMENT COMPREHENSIVE MEASURES FOR PREVENTION & ABATEMENT OF WATER POLLUTION

OBJECTIVE - 1 TO RESTORE WHOLESOMENESS OF RIVERS, LAKES AND WATER BODIES AND UNDER GROUND SOURCES

SN	STRATEGY	TARGET	
		2012	2017
1	Review of all permissions granted to dispose trade effluent and sewage into any stream, tributary of a river or river and recommending sustainable disposal action.	Rivers:- Damodar Subernrekha	Rivers:- Damodar, Subarnarekha North Koyel, Maurakshi, Barakar, South Koyel, Ajay, & Karkai
2	Increasing number of monitoring stations along river stretches and reclassifying the stretches as per CPCB criteria with bio-monitoring.	2012	
3	Improving CETP performance by segregation of high COD, TDS and toxic streams, and emphasizing on their separate treatments by thermal destruction, detoxification, advance oxygen treatment.	Industries	Minicipalities
4	Installation/upgradation of STPs in Municipal Corporations and low cost sewage treatment technologies like Oxidation ponds, reed beds in Nagar Palikas and monitoring them for their efficient operation and performance.	2012	
5	Evolving efficient methods of utilization of sewage and suitable	2012	

	trade effluent in agriculture.		
--	--------------------------------	--	--

OBJECTIVE - 2 ASSESSMENT AND REDUCTION OF POLLUTION FROM NON POINT SOURCES

SN	STRATEGY	TARGET	
		2012	2017
1	Analyzing surface run offs, assessing pollution with respect to Nitrate, Phosphate, Sulphates, Pesticides and preparing and implementing mitigation plan.	Rivers:- Damodar Subernrekha	Rivers:- Damodar, Subarnarekha North Koyel, Maurakshi, Barakar, South Koyel, Ajay, Karkai
2	Advising State Government on use of bio-fertilizers and pesticides.	2010	

6.2 PLAN & IMPLEMENT COMPREHENSIVE MEASURES FOR PREVENTION & ABATEMENT OF AIR POLLUTION FOR MAINTAINING NATIONAL AMBIENT AIR QUALITY STANDARDS.

OBJECTIVE – 1 IDENTIFYING PROCESSES LEADING TO AIR POLLUTION AND SUGGESTING SUSTAINABLE ALTERNATIVES.

SN	STRATEGY	TARGET	
		2012	2017
1	Flue gas emission control by adopting cleaner fuel or change in APCM technology.	Large and medium scale industries	Small scale industries
2	Process emission reduction by optimizing raw material consumption and maintaining stoichiometric process parameter.	50% reduction	Further 50% reduction from the level obtained in 2012.

OBJECTIVE – 2 POPULARIZING CNG/LPG/ RENEWABLE ENERGY AND GETTING PROGRAMMES IMPLEMENTED BASED ON CLEANER FUELS.

SN	STRATEGY	TARGET	
		2012	2017
1	Providing infrastructure and complete network for Clean Fuel Programme.	All non-attainment cities namely Dhanbad, Jamshedpur, Jharia & Sindri & Municipal Corporations. All major cities.	Other district headquarters.

2	Adoption/Augmentation of public transport on cleaner fuel based on development of CNG infrastructure.	All Municipal Corporations.	All major cities namely Ranchi, Jamshedpur, Dhanbad, Bokaro, Dumka, Deoghar & Hazaribagh. Other district headquarters.
---	---	-----------------------------	---

OBJECTIVE – 3 INCREASING AAQM STATIONS AND INTRODUCING ON-LINE AIR QUALITY MONITORING.

SN	STRATEGY	TARGET	
		2012	2017
1	Providing online stations and networking at least one in a city.	All non-attainment cities and Municipal Corporations.	Other district headquarters.
2	AAQM stations operated manually	All district headquarters.	Remaining Nagar Palikas.
3	Providing online stations Measurement of PM _{2.5}	All chemical estates with area more than 50 Hectares. Large industrial integrated complex like Iron & Steel, Petrochemical refineries, Thermal Power stations. Regional Offices of JSPCB	All chemical estates with area less than 50 Hectares. All large Red industries. All Municipal Corporations.

OBJECTIVE – 4 IDENTIFY CRITICAL AREAS HAVING INDUSTRIAL AIR POLLUTION AND DRAWING UP ACTION PLANS TO CONTROL.

SN	STRATEGY	TARGET	
		2012	2017
1	Identify critical areas based on inventory and study of AAQ data and pollutants of concerned area.	All chemical estates and other critically polluted areas.	Clusters having industries with major emission.
2	Preparation and implementation of the Action Plan for identified critical areas.	All chemical estates and other critically polluted areas.	Clusters having industries with major emission.

OBJECTIVE – 5 COLLECT AND DISSEMINATE INFORMATION RELATING TO AIR POLLUTION.

SN	STRATEGY	TARGET	
		2012	2017
1	To carry out source apportionment studies	All Non-attainment cities	Other major cities
2	Studies on health impact	All Non-attainment cities	Other major cities
3	Display of AAQ data at strategic locations, daily update on website, relevant data to be made public by concerned departments/agencies.	All Non-attainment cities	Other major cities and district headquarters.

OBJECTIVE – 6 IMPLEMENTATION OF AIR ACTION PLAN TO MAKE CLEAN CITY.

SN	STRATEGY	TARGET	
		2012	2017
1	Implementation of ongoing action plan.	All Non-attainment cities	All Non-attainment cities
2	Preparation of Action plan & implementation	All other district headquarters.	Ongoing process
3	Measures to abate indoor air pollution- particularly in slum areas.	Major urban area.	All urban areas.

OBJECTIVE – 7 DEVELOP LOAD BASED STANDARDS FOR AIR EMISSION.

SN	STRATEGY	TARGET	
		2012	2017
1	Study on assessment of emission load based on source apportionment studies and ambient air quality. To recommend CPCB for developing load based standards.	For industries located in critically polluted areas. 2011	Incorporating more such areas cropped up due to ongoing industrialisation.

6.3 PLAN & IMPLEMENT COMPREHENSIVE MEASURES FOR PREVENTION OF LAND POLLUTION.

OBJECTIVE – 1 INVENTORISATION OF DUMPING SITES FOR MSW.

SN	STRATEGY	TARGET			
		2010	2012	2014	2017
1	Inventory of existing dump sites	Ranchi, Jamshedpur, Dhanbad, Hazaribagh & Bokaro	Deoghar, Giridih, Kodarma, Daltongunj, Chaibasa, Dumka	Chatra, Garhwa, Godda, Gumla, Jamtara, Latehar, Lohardaga, Pakur, Sahibganj, Saraikela, Simdega	Updating
2	Comprehensive EIA study/evaluation of existing dump sites.	Ranchi, Jamshedpur, Dhanbad, Hazaribagh & Bokaro	Deoghar, Giridih, Kodarama, Daltongunj, Chaibasa, Dumka	Chatra, Garhwa, Godda, Gumla, Jamtara, Latehar, Lohardaga, Pakur, Sahibganj, Saraikela, Simdega	Updating
3	Proper disposal as per MSW(M&H) Rules, 2000.	Ranchi, Jamshedpur, Dhanbad, Hazaribagh & Bokaro	Deoghar, Giridih, Kodarma, Daltongunj, Chaibasa, Dumka	Chatra, Garhwa, Godda, Gumla, Jamtara, Latehar,	Lohardaga, Pakur, Sahibganj, Saraikela, Simdega
4	Periodical Monitoring of MSW dump sites including ground water & AAQ near MSW dump sites.	Ranchi, Jamshedpur, Dhanbad, Hazaribagh & Bokaro	Deoghar, Giridih, Kodarama, Daltongunj, Chaibasa, Dumka	Chatra, Garhwa, Godda, Gumla, Jamtara,	Latehar, Lohardaga, Pakur, Sahibganj, Saraikela, Simdega

**OBJECTIVE – 2 INVENTORISATION OF DUMPING SITES
FOR HAZARDOUS WASTES.**

SN	STRATEGY	TARGET	
		2012	2017
1	Updating of inventory of HW generation.	On going process	On going process
2	Creation of TSDFs to cover each and every segment.	On going process	100% coverage
3	Comprehensive EIA study/evaluation of existing dump sites.	On going process	
4	Proper disposal as per HW(M&H) Rules, 2003(amended).	Containment of HW to the nearest TSDF.	100% containment of HW to the nearest TSDF.
5	Periodical Monitoring of authorized HW dump sites including monitoring of ground water & ambient air quality near HW dump sites.	Pre. Post and during monsoon by JSPCB By industries/ operators every three months.	

OBJECTIVE – 3 UPGRADATION OF THE COMMON BIO-MEDICAL WASTE TREATMENT FACILITIES(CBWTFs)

SN	STRATEGY	TARGET	
		2012	2017
1	Creation of CBWTFs	All major cities	Entire Jharkhand
2	Study of the performance of CBWTFs	As per CPCB guidelines.	
3	Up gradation of CPWTFs as per state of the art technology.	All major cities	Entire Jharkhand

OBJECTIVE – 4 DEVELOPMENT AND UP GRADATION OF MUNICIPAL LAND FILL SITES.

SN	STRATEGY	TARGET	
		2012	2017
1	To promote segregation at source and optimize recycling of reusable wastes as per upcoming technologies.	Awareness campaign through local bodies.	
2	Promote bio composting system	All authorized disposal sites	All households in Jharkhand
3	Up gradation of existing municipal landfill sites.	As per provisions in the MSW Rules by existing Municipal Corporations	As per provisions in the MSW Rules by newly constituted Municipal Corporations
4	Development of new land fill sites	On the basis of population and quantum of wastes generated	

OBJECTIVE – 5 MORE EFFECTIVE IMPLEMENTATION OF BATTERY RULES, 2001.

SN	STRATEGY	TARGET	
		2012	2017
1	To prepare report as per Battery(M&H) Rules,2001	To be completed by 2009.	
2	Public Awareness Programme	With the help of Battery manufacturers and major dealers once in a year.	
3	Ensuring buy back of used batteries.	• Up to 50% as per the Rules by manufacturers/ dealers/ importers and	Up to 90% as per the Rules by manufacturers/

		<p>submission of return to the JSPCB.</p> <ul style="list-style-type: none"> • Compulsory buy back/exchange by the dealers through duly issued buy back cards with attractive pay back. 	dealers/ importers and submission of return to the JSPCB.
4	Creation of battery manufacturing hub in major cities..	Promote rehabilitation of unauthorized reconditioners through franchisee by the manufacturers protecting their livelihood.	

6.4 ADOPT & IMPLEMENT APPROPRIATE MEASURES FOR SUSTAINABLE USE OF RESOURCES.

OBJECTIVE – 1 REDUCTION IN WATER CONSUMPTION.

SN	STRATEGY	TARGET	
		2012	2017
1	Plan for reduction in consumption of process water/ non-process water by 17 categories of industries	By 25% from the current level of 2007.	Additional 10%
2	Identify excess water consumption by industries other than 17 categories of industries and to optimize the use of water.	By 15% (large scale units) from the current level of 2007. By 10%(small and medium scale units) from the current level of 2007.	Additional 10% Additional 5%

OBJECTIVE – 2 RAIN WATER HARVESTING.

SN	STRATEGY	TARGET	
		2012	2017
1	Review consent and prescribe arrangement for rain water harvesting.	Rain water harvesting in 17 categories of industries.	
2	Compulsory inclusion of rain water harvesting in new units.	Rain water harvesting in all industries.	
3	Make data bank of consumption of water from sources other than rain harvesting in last 3 years and highlight the difference in saving(including Cess) in the media.	Saving in process water by 50% (including that from Objective 1)	Saving in process water by 70% (including that from Objective 1)

OBJECTIVE – 3 **REDUCE USE OF WOOD/COAL FOR INDUSTRIAL PURPOSE BY SWITCHING OVER TO OTHER FUELS.**

SN	STRATEGY	TARGET	
		2012	2017
1	Reduction in use of wood/coal by using alternative methods such as waste heat recovery, use of combustible wastes and recycled plastic waste. To review yearly return of the consent application.	20% reduction from the current year i.e.2008.	Additional 25%.
2	<ul style="list-style-type: none"> • Tree plantation by industries • Implanting number/year tags on existing trees. • Submitting yearly return in the consent application. 	20% increase from the current year i.e.2008.	Additional 25%.

OBJECTIVE – 4 **PROTECT AND CONSERVE MARINE ENVIRONMENT INCLUDING MIGRATING BIRDS.**

SN	STRATEGY	TARGET	
		2012	2017
1	PRand EIA studies submitted by industrial units to be reviewed to record status of marine environment, if any.	Data bank on the status	On going process
2	Updated reports & EIA studies to be reviewed every 5 years.	Visible growth in marine lives including migrating birds by 20%.	Visible growth in marine lives incl. migrating birds by additional 20%.

6.5 SECURE BETTER WASTE MANAGEMENT.**OBJECTIVE – 1 HAZARDOUS WASTES MANAGEMENT.**

SN	STRATEGY	TARGET	
		2012	2017
1	Setting up of TSDFs	To set up TSDFs in all the 5 Regional Offices at Ranchi, Jamshedpur, Dhanbad, Hazaribagh and Deoghar	
2	Inter-state development of TSDFs facility.	To acquire MOU from neighbouring states to allow passage of HW till such time that Jharkhand has self sufficient facility.	Exchange of specific wastes as per profile of the facility in neighbouring states.
3	Implementation of protocol for all TSDFs	Updated protocols may be implemented as per the CPCB guideline.	Different type of disposable wastes will be quantified, planned & finalized for disposal at facilities approved by CPCB/MoEF
4	Setting up of new integrated TSDF for rarified HW generating areas.	Sahibganj, Garhwa, and Simdega	
5	Co-incineration of high calorific – toxic wastes.	As per existing incinerable wastes load inventory, pilot plant to be set up near Jamshedpur	
6	Use of granulated slag (r/m for high value bye products)	Slag to be granulated and bye products to be marketed by the Occupier of factories.	

7	Use of fly ash : conversion of dumping sites into raw material storage for manufacturing bye products.	Use of 50% Fly ash to manufacture building bricks and marketing. 50% fly ash to entrepreneurs/contractors for using it for brick, tiles manufacture and road construction.	Export of fly ash to countries where soil brick is becoming a scarcity. Indigenous use of fly ash for strategic usage.
8	Use of Char waste	Use of 60% or more char waste as fuel by the Waste generator. Marketing of 40% or less char waste to brick manufacturers.	
9	Management of e-wastes	Separate storage, segregation and marketing facilities at major cities.	Separate storage, segregation and marketing facilities to cover entire Jharkhand..
10	Rehabilitation of contaminated sites	Major cities	Entire State.

OBJECTIVE – 2 **PREVENTION OF ILLEGAL DUMPING OF WASTES AND CARRYING OUT RESTORATION OF CONTAMINATED LAND SITES.**

SN	STRATEGY	TARGET	
		2012	2017
1	E-tracking of wastes	Establish connectivity with TSDFs and other common facilities by Jharkhand Information system based tracking system.	

2	Finger printing of illegal dumping sites	Appropriate training to JSPCB officials and facility operator's staff to identify source generator	
3	Restoration of contaminated sites	Identify practices which lead to damages of land and take preventive action as per law.	<ol style="list-style-type: none"> 1. Promote use of bio fertilizers/ bio-pesticides. 2. Restriction on use of top soil. 3. Reclamation of mines.
4	Satellite mapping	Continuous updating of information.	Continuous updating of information.
5	Information dissemination Center	Utilization and help updating of Indian State Level Basic Environment Database(ISBEID) and ENVISION.	To create State run dissemination Center linked with sites like ISBEID & ENVISION.

OBJECTIVE – 3 DEVELOPING TOOLS FOR BETTER WASTE MANAGEMENT.

SN	STRATEGY	TARGET	
		2012	2017
1	New initiatives	Reorganization of better performing industrial units by way of : 🚩 Green rating 🚩 Award by MoEF/CPCB/DoEF/ JSPCB 🚩 ISO 14001 🚩 OSHA 18001	Authorization for self regulation and self certification to industrial units with excellent record.

2	Green rating of common facilities	Evolve the mechanism for green rating and verification. Award of green rating to qualifying facilities.	
3	Whistle Blowers CVC OO No.33/5/2004 dt.17.05.2004	<ul style="list-style-type: none"> ▪ Develop the system with incentive/ reward schemes. ▪ Identify informers. ▪ Train and implement in industrialized hubs. ▪ Review the system. 	
4	Interlocking mechanism	Evolve mechanism, test and implement in Thermal Power Plants and Sponge Iron Plants.	Implement in CETP, TSDF incinerators etc.

6.6 INTRODUCE INNOVATIVE METHODS FOR POLLUTION PREVENTION & CONTROL.

OBJECTIVE – 1 FINALIZE AND IMPLEMENT DISASTER MANAGEMENT PLAN.

SN	STRATEGY	TARGET	
		2012	2017
1	Finalization of draft disaster management plan	2009	
2	Updating of plan based on past experience	Continuous process	

OBJECTIVE – 2 IMPLEMENTATION OF CHARTER FOR CORPORATE RESPONSIBILITY OF ENVIRONMENT PROTECTION (CREP).

SN	STRATEGY	TARGET	
		2012	2017
1	Implementation of CREP	On going activities	
2	Periodical review of progress made in implementation	On going activities	

OBJECTIVE – 3 CREATION OF WASTES EXCHANGE CENTERS.

SN	STRATEGY	TARGET	
		2012	2017
1	Industrial Associations will organize, set up and operate the waste exchange centers wherein industries will be involved as participators, operators and	In the first phase, waste exchange centre will be established at Jamshedpur, Ranchi	In the second phase, remaining

	regulators.	and Dhanbad for the following categories of industrial sectors:- 1. Chemical 2. Iron and steel 3. Thermal Power Plants 4. Sponge iron	categories will be covered.
2	Identification/inventorying of the units generating various wastes, process streams and other wastes and its potential for reuse in different industrial sectors.	-do-	-do-
3	An expert advisory committee shall be constituted for study and applicability of such wastes, which can be reprocessed, reused as input for different processes under the provision of various environmental laws.	-do-	-do-
4	Well equipped laboratory and pilot plants will be developed at waste exchange centre.	-do-	-do-

OBJECTIVE – 4 AWARDS AND INCENTIVES FOR PROMOTING POLLUTION ABATEMENT.

SN	STRATEGY	TARGET	
		2012	2017
1	Developing non-financial incentive schemes for units doing outstanding work in environmental management and pollution control.	Initially award would be given to the following categories of industries :- 1. Chemical 2. Iron and steel 3. Thermal Power Plants	In the second phase, remaining categories will be covered.

OBJECTIVE – 5 CORPORATE ENVIRONMENTAL AUDIT REPORTING.

SN	STRATEGY	TARGET	
		2012	2017
1	<p>New reporting system to be developed for environmental audit report with following specific details:-</p> <ul style="list-style-type: none"> • Excess production carried out than the consented quantities. • Excess water consumption, waste water discharge and hazardous wastes generated than the consented quantities and its implication to environmental management system during that period. • Total pollution load generated/reduced during the period. • HW generated and disposed to TSDF, incinerators. • Proposed reduction in wastes for next 3 months. • Any special innovative measures adopted for better environmental management system. 	New environmental reporting system in single format to be developed and implemented by 2011.	Continuous activities.

OBJECTIVE – 6 INCENTIVES FOR ISO-14000 UNITS.

SN	STRATEGY	TARGET	
		2012	2017
1	ISO-14001 will be made mandatory for large and medium units.	<p>The following category of industries will be covered:-</p> <ol style="list-style-type: none"> 1. Integrated Iron & Steel 2. Thermal Power Plants 3. Cement 4. Chlor-alkali 5. Aluminum 	Remaining other categories from the 17 highly polluting categories will be covered.

6.7 ACHIEVE VISIBLE CHANGE IN THE WORKING OF JSPCB BY MAKING THE ORGANIZATION MORE RESULT ORIENTED, TRANSPARENT AND ACCOUNTABLE.

OBJECTIVE – 1 STRENGTHENING OF JSPCB AND RESTRUCTURING.

SN	STRATEGY	TARGET	
		2012	2017
1	<u>Work force management :</u>		
	<ul style="list-style-type: none"> • Efficient and optimum use of existing manpower. • Out-sourcing of work where ever necessary • All existing vacant post shall be filled up. • Increasing the manpower to commensurate with the work load emerging from Vision document. • Creating a pool of consultants to assist the Board in various upcoming issues. 	Ongoing process.	
		Ongoing process.	
		By 2008	
		By 2010	
		By 2008	
	Developing data bank	By 2011	
	Industrial sector-wise data bank	By 2012	
	Setting up of zonal/district offices	By 2010	
2	<u>Infrastructure Development:-</u>		
	<ul style="list-style-type: none"> • State of the art laboratory equipped for micro analysis to fulfill complete regulatory requirements. • Mobile Laboratory • Office atomization to the existing national level. • New spacious building with all amenities. 	At Central Laboratory, Ranchi	All Regional Offices
		HO/all ROs	All district HQs.
		HO/all ROs	All district HQs.
		HO/all ROs	All district HQs.

OBJECTIVE – 2 **INTERACTION WITH OTHER ORGANIZATIONS.**

SN	STRATEGY	TARGET	
		2012	2017
1	Subject-wise notifications/ circulars/ directions / orders etc. shall be compiled together with soft copies and circulate to all concerned	By 2009 with periodic updating	
2	Preparation of JSPCB manuals for implementation of Acts/Rules.	By 2009 with periodic updating	
3	Periodic meetings and seminars for timely interaction with other organization.	As per requirements but not later than once in 6 months.	

OBJECTIVE – 3 **REVAMPING WORKING SYSTEM.**

SN	STRATEGY	TARGET	
		2012	2017
1	Physical movement of files to be replaced with on-line processing	Complete system shall be put in operation in phased manner.	
2	Monitoring team shall be provided with digital camera. Laptop and communication device. Inspection reports shall be immediately filled up at site and shall be forwarded online to H.O.	2010	
3	Procedure for on-line filling of application to be adopted. Status of the application to be made available on-line.	2010	

OBJECTIVE – 4 **MANDATING THE CORPORATE TO ADOPT PRACTICES FOR ACCOMPLISHING CORPORATE SOCIAL RESPONSIBILITY AND ACCOUNTABILITY.**

SN	STRATEGY	TARGET	
		2012	2017
1	Adoption of ISO 14001, SA 8000, OSHAS 18001 certification to be made mandatory to all industries.	Large & Medium under red category	Large, Medium and small.
2	Laboratory of auditors / consultants to obtain certification from MoEF, Ned Delhi.	In vogue	
3	Industrial associations to develop environment cell for providing guidance/ support to their member industries for their environmental management and compliance of environmental laws.	2009	

OBJECTIVE – 5 JSPCB TO FURTHER ENHANCE THE PRACTICE OF GOOD GOVERNANCE.

SN	STRATEGY	TARGET	
		2012	2017
1	Information regarding quality of river stretches/ streams / lakes, polluted ground water pockets, ambient air quality at various locations shall be made available on web site for public information.	Monthly updating	Daily updating
2	JSPCB to publish news letter/ magazines/ FAQs periodically and display the same on its web site.	By 2010	
3	Call Centre for immediate problem shooting .	At H.O.	At R.Os

6.8 MAKE JSPCB A LEARNING ORGANIZATION BY CONTINUALLY UPGRADING TECHNICAL AND MANAGERIAL SKILLS.

OBJECTIVE – 1 COMPREHENSIVE TRAINING PROGRAMMES.

SN	STRATEGY	TARGET	
		2012	2017
1	Training programmes for relevant issues of environmental management and pollution control. Operators of facilities and NGOs shall also be included.	Yearly Calendar for various training programmes starting from 2008.	
3	Sponsoring JSPCB officials and staff for attending Training/ seminars/workshop organized by CPCB and other agencies.	On going process.	

OBJECTIVE – 2 USE OF MODERN MANAGEMENT TOOLS.

SN	STRATEGY	TARGET	
		2012	2017
1	Implementation of management tools for enhancement of technical and managerial capabilities. <ul style="list-style-type: none"> • Visit of officials to other PCBs inside India and outside and sharing of experience among employees. • Invitation to management and technical experts for lectures on current management tools. . • Analyzing stake holders interest and concerns and planning suitable strategies. 	Ongoing process. Ongoing process. Ongoing process.	

OBJECTIVE – 3 **SEMINARS/WORKSHOPS ON BENCHMARKED PRACTICES.**

SN	STRATEGY	TARGET	
		2012	2017
1	Seminars/workshops on national and global issues related to environmental management and pollution control with national level premier technical institutions	A roaster on current topics to be made and request floated to premier institutes on routine basis starting from 2008.	

OBJECTIVE – 4 **EXPAND THE SCOPE OF JOURNAL CLUB ACTIVITIES.**

SN	STRATEGY	TARGET	
		2012	2017
1	To organize sessions on current advances made in the field of technology for pollution control and environment management.	Once every year from 2008.	Half yearly practice.
2	Review of printed material on pollution control and environment management and enlightening PCB personnel.	Half yearly practice.	Quarterly sittings.

6.9 EDUCATION FOR BETTER IMPLEMENTATION OF ENVIRONMENTAL LAWS.

OBJECTIVE – 1 IMPART BETTER UNDERSTANDING ABOUT ENVIRONMENTAL AND OTHER RELATED LAWS TO ALL FUNCTIONARIES.

SN	STRATEGY	TARGET	
		2012	2017
1	Sensitizing officers about general laws relevant to environment namely CRPC, IPC,CPC, Constitution of India, RTI Act , etc.	Once every year	Once every 6 months.
2	Better understanding of Environmental laws and their application. By imparting training to all officers by organizing moot court at HO/ROs; case study of judgments of SC/HC etc.	Once every year.	Once every 6 months.

OBJECTIVE – 2 FOCUS ON POLLUTER PAYS PRINCIPLE & PRECAUTIONARY PRINCIPLE.

SN	STRATEGY	TARGET	
		2012	2017
1	<p>Polluter Pays Principle</p> <ul style="list-style-type: none"> ✚ More effective implementation by imposing non-compliance penalties in addition to the action against the defaulters. ✚ Levying “Polluter Tax” or “Environmental charge” for non-compliance in water, air and 	Provisions of Rule 16 of the amended HW Rules, 2003 and provisions of Section-32 of Water Act,1974 for emergency measures in case of pollution of stream	

	hazardous wastes norms.	or well.	
2	<p>Precautionary Principle :</p> <ul style="list-style-type: none"> ✚ On the basis of anticipation of environmental degradation, suitable mechanism will be evolved to prevent and attack the cause of such degradation. ✚ A protocol for industries as well as common pollution control facilities, in case of any environmental emergencies to mitigate damage to environment to be prepared. ✚ Emphasis on crisis management and disaster mitigation. 		

OBJECTIVE – 3 DELEGATION OF POWERS AND DECENTRALIZED DECISION MAKING.

SN	STRATEGY	TARGET	
		2012	2017
1	Further delegation of powers and decentralization of decision making will be done across the Board.	2010	

6.10 INCULCATE HEALTHY ENVIRONMENT REGIME THROUGH MASS AWARENESS PROGRAMMES.

OBJECTIVE –1 COMPETITION BASED SPONSORED PROGRAMMES AMONG EDUCATIONAL INSTITUTIONS.

SN	STRATEGY	TARGET	
		2012	2017
1	Painting competition	Subject to strengthening of JSPCB manpower and facilities.	
2	Essay competition		
3	Tree plantation		
4	Exhibition		

OBJECTIVE – 2 SPONSORED SEMINARS ON ENVIRONMENT RELATED SUBJECTS AMONG INDUSTRIES.

SN	STRATEGY	TARGET	
		2012	2017
1	Seminar on Jharkhand specific issues.	Once every year	
2	Seminar on National concerns and its implication on the State and its population.	Once every year	
3	Seminar on Global concern and its implication on the State and its population.	Once every year	

OBJECTIVE – 3 **SPONSORED CLEANLINESS COMPETITION DRIVES AMONG BLOCKS AND PANCHAYATS.**

SN	STRATEGY	TARGET	
		2012	2017
1	Sponsored cleanliness competition drives among blocks and panchayats as per the following calendar :- 1. On the eve of “Chhat” 2. On the eve of “Eid”. 3. On World Environment Day.	Subject to strengthening of JSPCB manpower and facilities.	

OBJECTIVE – 4 **WEEK LONG CELEBRATION OF WORLD ENVIRONMENT DAY.**

SN	STRATEGY	TARGET	
		2012	2017
1	Cleanliness drive by Municipal Corporations and Nagar Palikas.	All or some of the strategies to be implemented depending on resource availability.	
2	Cleanliness drive among industrial units		
3	Poster competition among commercial outlets.		
4	5000M Marathon at HO/ROs		
5	Seminar on global topic .		
6	Prize distribution at HO/ROs		

**OBJECTIVE – 4 MEDIA UTILIZATION TO PROMOTE
CURRENT ENVIRONMENTAL ISSUES.**

SN	STRATEGY	TARGET	
		2012	2017
1	Monthly slot of 30 minutes in DD Jharkhand.	To be regularized by 2009	
2	One article per month in Daily news paper.		
3	Excellently maintained industrial units to show feature capsules in commercial channels.		
4	Hoarding and banners at conspicuous places.		
5	Do's and don'ts advertisements in daily news papers.		

6.11 ALIGN STAKE HOLDERS TO SELF REGULATION AND SELF CERTIFICATION.

OBJECTIVE – 3 STATEMENT ON SELF REGULATION AND SELF CERTIFICATION.

SN	STRATEGY	TARGET	
		2012	2017
1	Collection of information on existing system world wide.	2009	
2	Deliberation on statement among Board personnel	2009	
3	Seminar on self regulation and self certification with reputed industries with excellent record.	2009	
4	Deliberation with certifying agencies namely ISO.	2010	
5	Draft statement for perusal of CPCB	2010	
6	Enactment notification	2011	
7	Circulation among concerned department, agencies and stake holders	2011	

OBJECTIVE – 3 ACCREDITATION TO ISO APPROVED INDUSTRIES.

SN	STRATEGY	TARGET	
		2012	2017
1	Outsourcing auditing		
2	Selection of industries with excellent records and accreditation.	Large industrial units	Medium and small industrial units
3	Yearly review	On going process	

OBJECTIVE – 3 **APPOINTMENT OF REPUTED AUDITORS.**

SN	STRATEGY	TARGET	
		2012	2017
1	Post of auditors to be created and sanctioned	5 nos.	10 nos
2	Creation of audit cell	At HO	At ROs
3	Appointment of auditors	5 nos.	10 nos.

ANNEXURE - I

ISO 14001 - ROLE OF POLLUTION CONTROL BOARDS

To promote adoption of Environmental Management System and define the role of Pollution Control Boards, CPCB organized a Workshop of all Pollution Control Boards and Committees on August 27, 1999. The following recommendations were made at the Workshop.

- **Adoption of ISO 14001 PLUS approach:** ISO 14001 compliments the efforts of regulatory bodies but not substitute the regulatory compliance. Since ISO 14001 certification in its present form does not assure regulatory compliance, it was recommended to adopt the ISO 14001 PLUS approach by amalgamating regulatory compliance and public disclosure along with ISO 14001 certification as is done in some other countries. The components and modus operandi of the ISO 14001 plus scheme need to be worked out in Indian context.
- **Creation of National Accreditation Body:** A National Accreditation Body needs to be created/designated to ensure a uniform code of conduct for the certifying agencies and the training agencies.

ANNEXURE - II

CHARTER FOR CORPORATE RESPONSIBILITY OF ENVIRONMENT PROTECTION **A CPCB REPORT**

Industrial development is an important constituent in our pursuit for economic growth, employment generation and betterment in the quality of life. On the other hand, industrial activities without proper precautionary measures for environmental protection are known to cause environmental pollution and associated problems. Hence, it is necessary to comply with the regulatory norms for prevention and control of pollution. Alongside, it is also imperative to go beyond compliance through adoption of clean technologies and improvement in management practices. Commitment and voluntary initiatives of industry for responsible care of the environment will help in building a partnership for pollution control. This Charter on Corporate Responsibility for Environmental Protection (CREP) emphasize on these aspects.

Within the purview of CREP a series of industry -specific interaction meetings have been organized to formulate the Charter. The action points enlisted in the Charter are addressed to corporate bodies as well as regulatory agencies. Thus, the Charter is a commitment for partnership and participatory action of the concerned stakeholders. The Charter is also a road map for progressive improvement in environmental management systems. Thus, it is not necessarily limited to compliance of end-of-the-pipe effluent and emission standards. In a number of industrial sectors, the targets set in the Charter are ahead of effluent and emission standards. A National Seminar on Corporate Responsibility for Environment Protection was organized during 12-13 March, 2003 and after deliberations and discussions with the Industrial Associations, regulatory agencies, concerned Ministries, local bodies, NGOs etc. the Charter was released covering the action points agreed upon in the seminar, for implementation by the major polluting industrial categories in a time bound manner.

For implementation of the recommendations of the Charter, Eight Task Forces were constituted to review the progress of the work of task forces a National Conference on follow-up of Corporate Responsibility for Environment Protection was organized on July, 29, 2003. Every task force has met twice during the year to review the progress and to formulate action plans for respective category of industry. These task forces have been constituted for following industries:

- Chlor-alkali & Fertilizer industry
- Sugar & Pulp & Paper & Distillery
- Cement & Copper & Zinc Smelters
- Aluminum industry
- Integrated Iron & Steel & Thermal Power Plants
- Oil Refineries & Petrochemical industry
- Pesticides & Pharmaceuticals & Dye & Due intermediates
- Tannery

ANNEXURE - III



Australian Government

Department of the Environment, Water, Heritage and the Arts

]

Environmental Management Systems (EMS)

An Environment Management System (EMS) is a tool for managing the impacts of an organization's activities on the environment. It provides a structured approach to planning and implementing environment protection measures.

An EMS monitors environmental performance, similar to the way a financial management system monitors expenditure and income and enables regular checks of a company's financial performance. An EMS integrates environmental management into a company's daily operations, long term planning and other quality management systems.

Components of an EMS

To develop an EMS, an organization has to assess its environmental impacts, set targets to reduce these impacts, and plan how to achieve the targets.

The most important component of an EMS is organizational commitment. For an effective EMS to be developed and implemented, you need commitment from the very top of the organization, as well as all staff. Following are more examples of components that should be considered when developing an EMS.

Environmental Policy: this is a statement of what an organization intends to achieve from an EMS. It ensures all environmental activities are consistent with the organization's objectives.

Environmental Impact Identification: identification and documentation of the actual and potential environmental impacts of an organization's operations need to be undertaken. This can be achieved through undertaking an environmental audit.

Objectives and Targets: an environmental audit forms the basis of determining an organization's environmental objectives and targets. An organization can find benefits in adopting more stringent longer term objectives to encourage it to improve its performance. To continually improve, targets should be regularly reviewed.

Consultation: staff and community consultation should be undertaken before, during and after establishment of an EMS. This is necessary to ensure that all staff are involved in, and committed to the EMS. It can also help to improve public perception of the company, one of the benefits of implementing an EMS.

Operational and Emergency Procedures: all procedures should be reviewed to ensure they are compatible with the organization's environmental objectives and targets. Any changes should be included with the documentation.

Environmental Management Plan: this details the methods and procedures which an organization will use to meet its objectives and targets.

Documentation: all objectives, targets, policies, responsibilities and procedures should be documented along with information on environmental performance. Documentation is useful for verifying environmental performance to staff, regulators and the community.

Responsibilities and Reporting Structure: responsibilities need to be allocated to staff and management to ensure the EMS is implemented effectively.

Training: staff should undergo environmental awareness training to familiarize them with their responsibilities for implementing the EMS and with the overall environmental policy and objectives of the organization. This provides staff with the necessary skill and motivation for the effective implementation of the EMS.

Review Audits and Monitoring Compliance: review audits should be undertaken regularly to ensure the EMS is achieving its objectives and to refine operational procedures to meet this goal. In order to ensure regulatory and other requirements are being met, it is often necessary to undertake regular environmental monitoring.

Continual Improvement: an important component is continual improvement. An EMS comes into its best use when used to review progress towards the targets and objectives set by a company to protect the environment. The procedures set in place to meet these objectives should be constantly examined to see if they can be improved or if more effective systems can be introduced.

Benefits of an EMS

An EMS can assist a company in the following ways:

- minimize environmental liabilities;
- maximize the efficient use of resources;
- reduce waste;
- demonstrate a good corporate image;
- build awareness of environmental concern among employees;
- gain a better understanding of the environmental impacts of business activities; and
- increase profit, improving environmental performance, through more efficient operations.

An EMS can be a powerful tool for organizations to both improve their environmental performance, and enhance their business efficiency. An EMS is not prescriptive, rather, it requires organizations to take an active role in examining their practices, and then determining how their impacts should best be managed. This approach encourages creative and relevant solutions from the organization itself.

Although the implementation of an EMS is essentially a voluntary initiative, it can also become an effective tool for governments to protect the environment as it can assist regulation. For example, regulatory systems can encourage organizations to use EMS to meet standards, by providing incentives for strong environmental performance.

Likewise, organizations can use EMS to ensure that their performance is within regulatory requirements, and to keep ahead of more stringent regulations which might be introduced in the future.

International Environmental Standards - ISO 14000

The ISO 14000 series, currently being developed by the International Organization for Standardization (ISO), is a collection of voluntary standards that assists organizations to achieve environmental and financial gains through the implementation of effective environmental management. The standards provide both a model for streamlining environmental management, and guidelines to ensure environmental issues are considered within decision making practices.

ISO 14001 is the standard for Environment Management Systems. Many large businesses, particularly overseas, have obtained certification under the standard.

Benefits of International Certification

The benefits of having ISO 14001 certification are mainly realized by large organizations, as Small to Medium Enterprises (SMEs) have a smaller turnover and thus a correspondingly small return on the costs of certification.

Although a fully certified ISO EMS may not be suitable for smaller organizations, it does provide guidelines that assist organizations to consider all the relevant issues, and thus gain the most benefit from their EMS, even without certification. SMEs can therefore use ISO 14001 as a model for designing their own EMS.

However, larger organizations may find certification more valuable when considering the potential trade and market advantages of an internationally recognised and certified EMS. This was a significant factor for companies seeking certification under the ISO 9000 quality assurance standards, and is likely to be a factor in decisions regarding ISO 14001 certification.