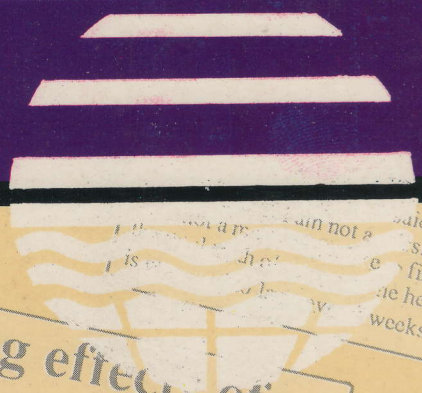
RAJASTHAN POLLUTION CONTROL BOARD

ANNUAL REPORT 1992-93



Rajasthan Pollution Control Board
Jaipur

Annual Report

1992-93

Foreword

I have great pleasure in presenting the Annual Report of the Rajasthan Pollution Control Board for the year 1992-93. Apart from fulfilling the mandatory requirements of section 39 of the Water (Prevention and Control of Pollution) Act, 1974 and Section 35 of the Air (Prevention and Control of Pollution) Act, 1981, we have also tried to avail of this opportunity to touch upon the major issues concerning environmental pollution in Rajasthan alongwith the corresponding administrative response.

I also wish to place on record my appreciation of the work done by Shri S. K. Shukla and Shri A. K. Bhargava in bringing out this Report.

A. K. Pande, IAS
Chairman

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Annual Report - 1992-1993

1.0 Introduction

1.1 **Burgeoning population**, endemic poverty and uncontrolled industrialisation have been the major contributors in the degradation of environment in India. The population of India in 1991 was 844 million, which is likely to touch the figure of 1000 million by the year 2001. As per official estimates, 237 million people (195 million in rural areas and 42 million in urban areas), constituting 29.9% of the entire population, are below the poverty line. The ever increasing population and abysmal levels of poverty have put unforeseen demands on common pool resources like rivers, lakes, mountains, natural streams, oceans and the ambient air. Degradation of land, water logging, sedimentation of reservoirs and water sources, deforestation and deterioration of the ambient air quality are some of the consequences of these enhanced pressures on common pool resources.

1.2 **Air Pollution** has become a serious environmental problem in many regions of the country. The levels of Sulphur dioxide and Oxides of nitrogen and Suspended particulates are increasing at an alarming rate, exceeding the permissible levels in many areas. Most of the rivers in the country are polluted because of direct discharge of industrial effluents and sewage into them. Most of the fresh water lakes in the country are now no more fresh water lakes.

1.3 **The legislative response** to these environmental problems is not very old. While enactments such as the Indian Forest Act, 1927, Pesticides Act, 1968, Wild life (Protection) Act, 1972 did touch upon issues concerning environment. These enactments cannot be said to have addressed the questions of environmental protection in their totality. The first focused legislation on environmental protection was the Water (Prevention and Control of Pollution) Act, 1974, which was enacted with the specific objective of "prevention and control of water pollution and the maintaining or restoring of wholesomeness of water". The other landmark legislation focused directly at environmental protection was the Air (Prevention and Control of Pollution) Act, 1981 followed by the omnibus Environment (Protection) Act, 1986.

Human Sacrifice for Environmental Protection

The roots of environmental consciousness are burried deep in the soil of Rajasthan. Maharaja Abhai Singh of Marwar (1724-49 A.D.) wanted to build a palace, for which timber was required. Village Khejarli located 25 kms. from Jodhpur and inhabited by the Bishnoi community, had Khejri trees in abundance. Maharaja's men went to cut the trees which was resisted by the Bishnois. Amrita Devi embraced a Khejri tree and challenged the soldiers that they could cut it only over her dead body. **Amrita Devi, three of her daughters** and his husband were killed by the soldiers. The other Bishnoi villagers followed suit, and met the same fate. In all **363 persons sacrificed their lives to protect the Khejri trees.** Ultimately, the Maharaja himself ordered the stoppage of the carnage - both of men and the Khejri trees.

"Forest Makes No Demand : Affords Protection Even to Axeman, Who Destroys It."

Gautam Buddha

2.0 Rajasthan Pollution Control Board - A Profile

2.1 The Rajasthan Pollution Control **Board** is a body corporate set up under section 4 of the Water (Prevention and Control of Pollution) Act, 1974. It was **first constituted** on February 7, 1975 with the objective of "prevention and control of water pollution and the maintaining or restoring of wholesomeness of water". Later, it was also entrusted with the responsibility of prevention, control and abatement of air pollution under the Air (Prevention and control of Pollution) Act, 1981. Enactment of the Environment (Protection) Act (EPA), 1986 has further widened the scope of activities of the Board. In particular, the implementation of the Hazardous Wastes (Management and Handling) Rules, 1989 and the Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 issued under the EPA, have also been entrusted to the Board. More recently the Ministry of Environment has made it mandatory for all industries to submit Environmental Audit Reports and the State Pollution Control Board is involved in the screening and acceptance of these Audit Reports.

2.2 The Rajasthan Pollution Control Board functions under the overall supervision of a Board constituted by the State Govt.The present **Board** was **reconstituted** by the State Govt. vide Gazette notification No. F 27(31) Env./78, dated 21.3.92 and consists of the **following members** :-

1.	Shri A. K. Pande, I.A.S.	Chairman
2.	OSD cum Addl. Secretary, Env. Department, Jaipur	Member
3.	Dy. Secretary (Fin.), Jaipur	Member
4.	Director Industries, Jaipur	Member
5.	Director, Medical & Health, Jaipur	Member
6.	Chief Town Planner, Jaipur	Member
7.	Chairman/Adm. Municipal Council, Jaipur	Member
8.	Chairman/Adm. U.I.T, Udaipur	Member
9.	Chairman/Adm. U.I.T, Jodhpur	Member
10.	Chairman/Adm., U.I.T, Kota	Member
11.	Chairman/Adm., U.I.T, Pali	Member
12.	Smt. Vasundhara Raje, M.P. New Delhi	Member
13.	Shri Meghraj Lohiya, M/s. Balaji Chemicals, Jodhpur	Member
14.	Prof. Bhagirathmal Sharma, Jaipur	Member
15.	Chief Engineer, RSEB, Jaipur	Member
16.	Executive Director, RIICO Ltd., Jaipur	Member
17.	Shri N. C. Rajvanshi, RPCB, Jaipur	Member-Secretary

2.3 The Board is headed by a full-time Chairman, The Board has its Head Quarter at Jaipur which consists of:

(a) Scientific Cell

Its functions are development of laboratories and all scientific activities including monitoring, survey and research studies on issues concerning environmental proctection. It also provides the scientific support to the Water, Air, Legal & Hazardous wastes management cells ;

(b) Water Cell

Its functions are control of water pollution at source, preparation of industry documents, implementation of industry-specific Minimum National Standards laid down under Environment (Protection) Act, 1986 and also those laid down by the Board, development of **clean and cheap Technol-**

ogy for effluents and processing of consent applications under the Water (Prevention and Control of Pollution) Act. 1974.

(c) Air Cell :

Its functions are control of air pollution at source, preparaton of industry documents, implementation of standards under the E.P.A. and also those laid down by the Board, processing of consent applications under the Air (Prevention and Control of Pollution) Act, 1981.

(d) Hazardous, Substances Management Cell :

The cell for hazardous Substances management was set up during 1992-93. Its main responsibilities are implementation of Hazardous Wastes (Management & Handling) Rules, 1989 and Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989.

(e) Cess Cell :

Its main responsibility is to make assessment of water cess on the basis of water consumed by specified industries and realization of the assessed amount thereof.

(f) N.O.C. Cell :

Functions are to grant N.O.C. (consent to establish) to new industries in respect of adequacy of Pollution control measures. This cell also renders advice to the State Govt. regarding siting of industries in cases referred to the Board.

(g) Legal Cell :

Functions are to render Legal advice, preparation & follow up of legal cases, suggesting progressive changes & improvements in legislations, documentation & drafting etc.

(h) Accounts Cell :

Budget & Accounts.

(i) Administration Cell :

Recruitment & Personnel affairs, service conditions and Board's meetings etc.

2.4 Regional Offices :

Keeping in view the vast geographical area of the State, the Board has set up regional offices at Jaipur, Udaipur, Kota, Alwar, Pali, Bhilwara and Jodhpur. A New regional Office at Bhiwadi has also been sanctioned.

All the Regional Offices are manned by qualified environmental engineers and have been provided with technical & scientific staff. The Staffing pattern of the Board & setup of its Regional Offices have been shown in **Annexure I and II**.

2.5 Central & Regional Laboratories :

(a) The Board has a Central Laboratory at Jaipur. It has facilities for monitoring of industrial effluents, stack emissions, surface & ground water and ambient air quality with certain latest and sophisticated instrumentation. It is presently functioning in a rented building but a modern **laboratory based on international standard** is in an advanced stage of construction with the consultancy of Indo-German bilateral project. This laboratory building is based on specific principles, such as dirty to clean, flexibility, adaptability, ergonomic dimentioning and sustainable maintainability. The central laboratory when completed, shall have facilities for sample reception, analysis of surface water, soil/Solid waste, hazardous substances, trace heavy metals, trace organics, toxicological, biomonitoring and microscopic Bacteriological/microbiological tests & Air analysis etc.

(b) The Board has also limited facilities for the analysis of Air and Water samples at its Regional Laboratories at Kota, Alwar and Jodhpur.

2.6 Board Building :

Ever since its inception, the Board was operating from rented accommodation. It was far too inadequate for its requirements. Early in the year 1992-93, the Board shifted to its own building in Jhalana Institutional Area at Jaipur. The New building of the Board, is a modern spacious structure with provisions for Board Room,

Indo German Bilateral Project

The Indo-German bilateral project is being implemented in the country from 1985. The project basically aims at improving the capabilities of the laboratories, both with the Central Board as well as with the selected State Pollution Control Boards, in terms of infrastructural facilities, instruments, technical expertise and environmental monitoring net-work. The project is being implemented by the Central and State Boards in consultation with the German Technical Co-operation Agency ((GTZ).

The Rajasthan Pollution Control Board is constructing its Central Laboratory at Jaipur with the consultancy of the GTZ. The laboratory is being designed as per the internationally accepted grid system and is characterised by features such as flexibility, adaptability, ergonomic dimensioning, safety and optimum space utilisation. The building is being constructed on a modular system, and is being provided with all round thermal insulation as well as double glazed windows. The building would be centrally air-conditioned with auxillary power supply, proper sanitary facilities and disposal system, treatment system for laboratory effluent, modular furniture, fume hoods, emergency showers, fire extinguishers and emergency exits etc.

Under the Indo-German project, laboratory planning and design has been identified as the nodal activity for the Rajasthan Pollution Control Board. Consequently, **Rajasthan Pollution ontrol Board has participated in giving consultancy services in laboratory planning and designing for other Pollution Control Boards namely, Taminl Nadu, Assam, Manipur, Meghalaya and Arunachal Pradesh.** For strengthening of monitoring net-work, the State Board is developing field monitoring Vans with the consultancy of the project for monitoring of surface and ground waters, industrial effluents, ambient air and air emissions. The Vans would be developed and equipped by the project and would be provided thermal insulation, double glazed windows, air conditioning, solar pannels and provisions for air circulation for incubators and freezers.

Committee Room, Library, a central PBX system, an electronic data processing centre, FAX, alongwith proper accommodation for the officers and staff. It also has sufficient working space and spacious open areas. The building for the central laboratory is also being constructed in the same campus and is expected to be completed during the year 1993-94. All the Regional Offices, except Jaipur Regional Office of the Board, are presently housed in rented accommodation. However, the Board has decided to construct its own buildings for Regional Offices in a phased manner. Regional Offices at Alwar and Kota are being taken up in the first phase.

2.7 Board Personnel

The sanctioned and working strength of the Board personnel as on 1.4.93 has been given in **Annexure III**.

2.8 Service Rules

No separate service rules for the Offices and employees of the Rajasthan Pollution Control Board were in existence. Intensive efforts were made during the year 1992-93 to formulate service rules, get them cleared by the Board and obtain the approval of the State Government under Section 12 (3) (a) of the Water (Prevention & Conrol of Pollution) Act 1974, Conseqently, the service Rules for the officers and employees of the Board were published by the State Government vide notification dated 30.3.93.

3.0 Meetings of the Board & its Sub-Committees

3.1 During the year 1992-93, meetings of the Board were held on 6.5.92, 10.7.92, 13.11.92 and 27.3.93.

3.2 The Board constituted the following Sub-Committees during the year 1992-93 :-

(a) Technical Sub-Committee was constituted on 24.12.92.

(b) Committee for recognition of laboratories under Water Act, 1974 and the Air Act, 1981 both U/S 17(2) was constituted on 29.10.92.

(c) The Cess Appellate Committee was reconstituted on 12.5.92.

(d) A Committee to review the various cases pending in different courts was constituted on 24.6.92.

3.3 Compositions of Committees

(a) Technical Sub-Committee

1. Prof. M.M. Dandekar, Civil Engg. Deptt., M.R.E.C., Jaipur — Chairman
2. Dr. A.K. Seth, Incharge, Zonal Laboratory, NEERI, Jaipur — Member
3. Two members of the industry (to be nominated by the Chairman, RPCB) — Member

(b) Laboratory's Recognition Committee

1. A.K. Seth, Incharge Zonal Laboratory, NEERI, Jaipur. — Chairman
2. Dr. A. K. Maheshwari, Sr. Ch. (Air), RPCB. — Member
3. Sh. D. C. Sharma ,Sr. Ch. (Water), RPCB. — Member
4. Concerned Regional Officer — Member
5. Sh. M.C. Rastogi,Ex. En. (Plg), RPCB — Co-ordinator

(c) Cess Appellate Committee

1. Shri A.K. Pande, IAS Chairman, RPCB — Chairman
2. Sh. S.P. Mathur OSD & Addl. Secy, DOE, GOR, Jaipur — Member
3. Prof. B.M. Sharma Jaipur — Member

(d) Review Committee : CourtCases

1. Shri A.K. Pande, Chairman — Chairman
2. Shri S.P. Mathur, OSD & Addl. Secy., DOE, GOR, Jaipur — Member
3. Prof. Bhagirath Mal Sharma, Jaipur — Member
4. Shri N. C. Rajvanshi, Member Secretary, RPCB, Jaipur — Member

It was thought desirable that before a formal meeting takes place, an outside legal expert be entrusted with the task of preliminary review of legal cases. In prusuant to this Retired D.J. was appointed on contract basis to examine the cases.

Record Disposal of Appeals

Cess AppellateCommittee, decided 56 cases in its three meetings held on 10.6.92, 7.8.92 and 1.12.92.

Review of Court Cases

Water/Air Acts empower the Board to initiate legal proceedings in the court of law against defaulters. More than 400 such cases are pending in different courts in the State. In a few of these cases, prosecutions were filed for minor technical offences. In some other cases, the units prosecuted have been shutdown permanently. In a good number of cases, pollution control measures have been installed and the units are now comlplying with standards. Keeping in view the dictum that the ***objective of the Board is to prevent Pollution and not to punish,*** *the Board has set up a sub-committee to examine all such cases pending in different courts so that such type of cases stated above could be withdrawn. The services of a retired District and Sessions Judge have been hired to advise the Committee in this task. It is expected that its decision shall, on the one hand, reduce the burden of avoidable litigation on the Board, and on the other, provide* ***relief to the entrepreneurs.***

4.0 Finance and Accounts of the Board

4.1 Section 37 of the Water (Prevention and Control of Pollution) Act, 1974 provides that the State Government may make such contribution to the State Board as it may think necessary to enable the Board to perform its functions under this Act. In addition to the grant received from the State Govt., the Board also raises revenue by the collection of Cess under Water (Prevention and Control of Pollution) Cess Act, 1977. The consent fees under the Water and Air Acts also form part of the revenues of the State Board.

4.2 The major items of revenue during the year 1992-93 were as follows :

item	Budget Estimates (In lakhs)
1. Grant-in-Aid	115.00
2. Reimbursement of Water Cess	30.00
3. Consent fees	10.00
4. Miscellaneous receipts	00.50
5. Interest on deposits	00.50
6. Opening balance	35.36
	191.36

4.3 The estimates of expenditure during the year 1992-93 were as follows :

1. Salaries & allowances	86.21
2. Office expenses	16.24
3. Other expenses	13.34
4. Non recurring expenses	75.57
	191.36

The Non-recurring items of expenditure mainly included expenditure towards the Head office building of the Board, construction of the Central Lab; vehicles, and scientific equipments for strengthening laboratories.

4.4 Audit and Accounts of the Board.

The annual accounts of the Board upto 89-90 have been completed. Audit by the Chartered Accountant upto 85-86 has been completed. The Audit Reports for 86-87 & 87-88 is nearing completion and its audit is likely to be received soon. Auditor for the year 88-89 & 89-90 has been appointed. The accounts for the remaining period are under completion.

Environmental Audit

Industrial concerns and local bodies should feel that they have a responsibility for abatement of pollution. The procedure of an environmental statement will be introduced in local bodies, statutory authorities and public limited companies to evaluate the effect of their policies, operations and activities on the environment, particularly compliance with standards and the generation and recycling of waste. An annual statement will help in identifying and focussing attention on areas of concern, practices that need to be changed and plans to deal with adverse effects. This will be extended to an environmental audit. The measures will provide **better information to the public**.

- From Policy Statement of Government of India for Abatement of Pollution.

5.0 Pollution Scenario in Rajasthan : An Overview

5.1 The geographical area of Rajasthan constitutes 10.21% of the country and is inhabited by 5% of the country's population, but it has been endowed with only 1.15% of the total water resources of the nation, The **scarcity of water in the State is matched by the abundance of its mineral resources**, bulk of which are non-ferrous and non-metallic.

5.2 Mining is prevalent in almost all parts of the State. Lime stone mining is carried out in Udaipur, Chittor, Kota, Bundi, Sawaimadhopur belts and also at Kotputli, Sikar, Alwar, Jodhpur, Nagaur(Gotan), Sirohi and Beawar. These mining operations are open cast in nature. There also exists great potentiality of lime stone exploration at Jaisalmer due to availability of steel grade lime stone. Khetri in Jhunjhunu District and Dariba in Alwar are areas where copper mining takes place, which is open cast as well as underground in nature. Mining of Zinc and Rock phosphate is prevalent in Udaipur and mining of lead & zinc in Bhilwara.

Mining of building stone is predominant in Jodhpur and Jaipur regions whereas Bhilwara is known for soap stone activities.

5.3 Majority of the industries in the State are mineral based, of which cement and cement products are the predominant ones. There are 14 major and around 80 small cement units in the State producing around 7-8 million tones of cement per annum and the production capacity is expected to be doubled in the near future. Similarly, Zinc Smelter at Debari (Udaipur), Copper Smelter at Khetri and Super lead-zinc Smelter at Chittor are three major Smelter plants in the State. Rajasthan is generating around 1400 M.W. Power from Kota Thermal Power Plant, Nuclear Power Plant, Rawatbhata, Gas based power plant at Anta and a few other captive power plants. Rock phosphate is another important mineral which makes use of Sulphuric acid to produce phosphatic fertilisers. There are 6 sulphuric acid plants and seven Single super phosphate plants in the State - majority of them are at Udaipur. Besides, there is one major Nitrogeneous fertilizer plant at Kota, 2 Chlor- alkali plants, one at kota and another at Alwar, major tyre plant at Kankroli, man -made Fibre plants at Kota and Jhalawar, major PVC plant at Kota and Freon gas manufacturing plant at Alwar along with major textile units at Bhilwara.

5.4 In addition to the above, there are clusters of SSI units in the State. Textile units are predominant at Pali, Jodhpur, Balotra, Sanganer and Bagru, whereas CPW units are confined to MIA, Alwar. Mineral grinding units, bricks/lime kilns, stone crushers etc. are spread all over the State.

5.5 Industrial water pollution is mainly confined to Jodhpur, Pali,Balotra, Bagru & Sanganer due to the existence of clusters of textile units; in Kota, it is on account of Thermal Power, Fertilizers and chemicals, Rayon units etc; In Udaipur, due to Zinc Smelter, SSP, Sulphuric acid, chemical units, etc; and in Alwar on account of Chlor-Alkali, Sulphuric acid, SSP, Freon gas manufacturing, and chemical units. The predominant water pollutants are BOD, COD, Oil and Grease, mercury,TSS, TDS, pH, Fluorides, and in specific cases, trace metals.

5.6 Water **Pollution is primarily affecting surface and ground water** Udaipur, Kota, Alwar, and Ajmer are prone to surface water pollution whereas Jodhpur, Pali, Balotra & Jaipur are the

areas where possibility of ground water pollution is quite significant.

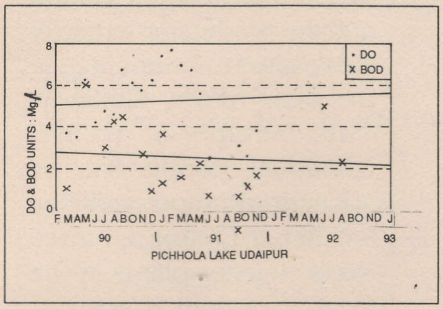
5.7 Industrial air pollution is prevalent in Kota due to coal/gas based Thermal power plants, Calcium carbide, Nitrogenous fertilizer, steam generating boilers,Cement plants etc; in Udaipur on account of Zinc Smelter, SSP, H_2SO_4, and Cement plants; in Chitttor due to Cement,Captive power and Super Lead-ZincSmelter plants : in Alwar on account of Chemicals,SSP. H_2SO_4, Mini-Steel plants, etc. Besides air pollution is also predominant in areas like Gotan , Behror and others where clusters of mini-cement, brick/lime kilns, mineral grinding units,stone crushing etc. have developed. The **predominant air pollutants** that are released into the atmosphere are basically **particulate matter**, Sulphur-di-oxide and oxides of nitrogen— all in the form of steady state conditions.

Important Water Bodies of the State

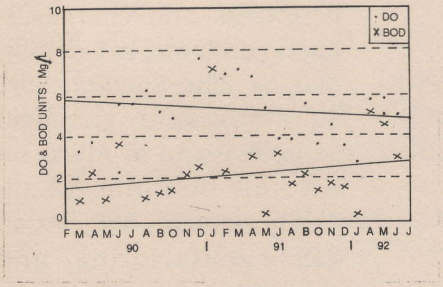
Qualitative Assessment

RPCB, under the programme of Monitoring of Indian National Aquatic Resources (MINAR) is maintaining following monitoring stations at selected water bodies of Rajasthan.

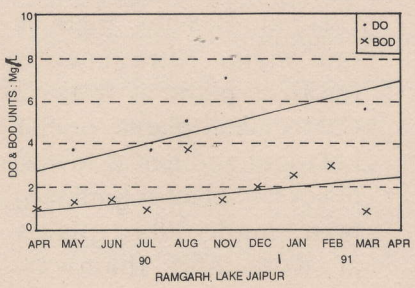
- Mahi.
- Kota Barrage, River Chambal, Kota
- Lake Pichhola, Udaipur.
- Lake Udaisagar, Udaipur
- Lake Ramgarh, Jaipur
- River Chambal, Rangpur village, Kota
- River Chambal, Rameshwar Ghat, Sawai Madhopur.
- Lake Pushkar, Ajmer.
- Well Water, 1 Km. upstream of Jodhpur.
- Well Water, Pali Town.
- Well Water, 15 Km. downstream along Bandi River.
- Banas River



Board has developed time-variable trends using *Computer Package* in respect of important water bodies like Udaisagar and Pichhola lakes of Udaipur, Rangpur (Kota) village and Rameshwar Ghat (Sawai Madhopur) of Chambal River and Ramgarh lake of Jaipur. Trends of important parameters like Dissolved Oxygen (DO) and Bio-chemical Oxygen Demand (BOD) have been developed.



As has been observed, there is a substantial decrease of BOD and increase of DO in the Udaisagar lake, thus indicating an improvement during the span of 1990-92. In case of Pichhola lake, the decrease of BOD and increase of DO is marginal. As regards Chambal river, there is deterioration in the Quality of water as the BOD has increased and DO level has decreased. Ramgarh lake, Jaipur has shown non- conventional trend in the sense that there is a marginal increase of BOD coupled with significant increase of DO.



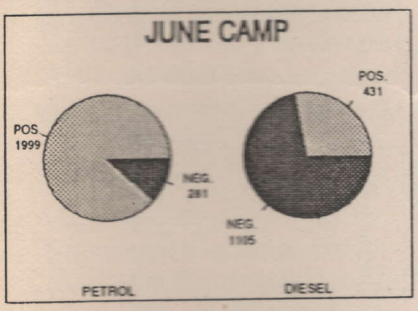
5.8 The **status of sewerage facilities in the state** is rather poor. Under the IDA assisted Water Supply and Sewerage Project, Jaipur, Jodhpur, Bikaner & Kota were partially sewered and an extended aeration treatment plant designed to cater approximately 4.5 lakh population of the walled city of Jaipur was built. In addition, Udaipur has also been partially sewered out of State plan funds.

None of the other cities has been benefitted with sewage treatment facility so far mainly because of resource constraint. During the VIIIth plan period a provision of Rs. 866.00 lacs has been kept for sewerage and sewage treatment against which an

expenditure of Rs. 15.76 lacs has been incurred for Bikaner, Pushkar and Jaisalmer schemes during 1992-93. A major portion of the proposed allocation in the VIIIth plan period shall go towards financing the 5.00 crore Mahamandir Sewerage Scheme in Jodhpur. Rest of the funds are likely to be spent on extending sewerage in uncovered areas of Kota, Mount Abu, Udaipur, Banswara & Nathdwara etc. where works are in progress, while a few more towns may also be taken up. Jaipur Development Authority has also taken up the work of laying part sewers in the Southern part of Jaipur City.

Automobile Air Pollution

Automobile air pollution has assumed greater significance with the continuous increase in vehicles. In the context of Rajasthan, there is an increase of more than one lac vehicles every year. Jaipur alone accounts for around 25% of the total vehicles in Rajasthan, followed by Jodhpur (11%), Kota (10%), Udaipur (8%) Ganganagar (7%) and Ajmer (6%). It has been reported that in the year 1991-92, total no. of vehicles in Jaipur was of the order of 2.8 lac which was 12.86% & 24.32% increase over the year 1990-91 & 1989-90 respectively.

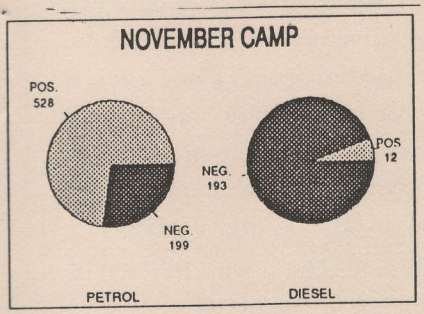


Having considered the significance of air pollution being caused by vehicular emissions, Govt. of India has prescribed standards of emissions for diesel as well as petrol driven vehicles.

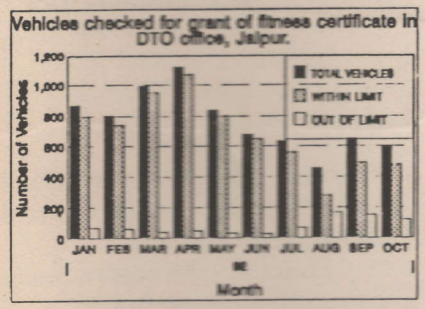
During the year 1992-93, Rajasthan Pollution Control Board (RPCB) organised two automobile emission check camps at various places in Jaipur, first in June 1992 in collaboration with Deptt. of Transport & Traffic Police and the second camp in the month of November with the Society for Public Awareness & Conservation of Environment (SPACE) and Deptt. of Transport.

It would be evident that during the June compaign 3816 vehicles were monitored, out of which 2280 were Petrol and 1536 Diesel driven vehicles. It was observed that 87.68% Petrol driven vehicles were found within the limit, whereas in case of Diesel, it was only 28%. Looking to the popularity of the campaign, it was extended for 15 days at Secretariate where about 3,000 vehicles were checked.

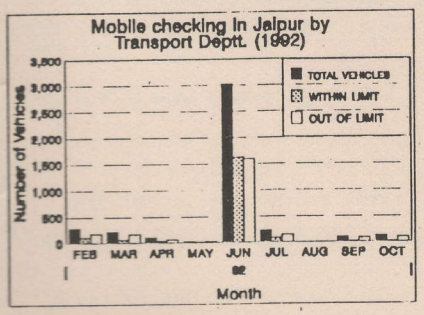
The results obtained are shown in the Pie Chart.



Similarly in November campaign, out of 932 vehicles, 727 were Petrol and 205 were Diesel driven vehicles. This time 72.68 and 5.85% Petrol and Diesel vehicles respectively were found within limits.



Besides above, the Transport Deptt. has also been regularly checking vehicular pollution in the District Transport Office (Goods & fitness office). Jaipur from the month of January 1992. The results so obtained from January 92 to October 92 are shown in the bar chart which reveals that out of 7640 vehicles, 89.5% were found emitting smoke within permissible limit. In addition to this static checking, mobile checking was also carried by the mobile flying squads of the Transport Department, the results of which indicate that out of 4059 vehicles checked 47.6% vehicles were found fit.



Transport Department has been taking effective steps in this direction. A legal notice is issued to the vehicle found emitting smoke more than the prescribed limit. During the year 172 cases challaned and a sum of Rs. 38 thousand was collected by way of penalty.

5.9 **Automobile air pollution is predominant in major urban areas** and is estimated to count for over 50% of the toal air pollutional load. There were 11.14 lakh vehicles in the year 1991-92 in the State of Rajasthan which is an increase of 26.84% and 11.72% over the no. of vehicles in 89-90 and 90-91 respectively. Jaipur alone accounts for around 25% of the total vehicles of the State. As per rapid assessment made on theoretical assumption, the total pollutional load in the State on account of vehicular emissions may be around 1145 Tons per Day (TPD) of which, Jaipur alone accounts for 280 TPD. Rajasthan State Pollution Control **Board** has been **organising automobile emission camps** from time to time in Jaipur and other towns and monitoring the vehicular emissions to generate the background data for evolving appropriate strategy for the control of automobile air pollution.

5.10 Pollution created by noise is prevalent mainly in urban areas, near the airports, industrial estates, construction sites, busy traffic junctures etc. Noise in urban areas is predominantly from automobiles, loud-speakers, construction activities, aircraft and railway operations etc. The Executive magistrates are authorised to pass regulatory orders under the Rajasthan Noise Control Act, 1963. The Rajasthan Pollution Control Board is empowered to regulate noise levels in industrial areas under the Air (Prevention and Control of Pollution) Act, 1981 through consent administration. The Rajasthan Pollution Control Board also keeps on monitoring decible levels of noise in different zones periodically. Standards of ambient noise in sensitive, residential, commercial and industrial areas have been prescribed by the Central Government. ■

The Problem

There is an increasing trend in environmental pollution. **Water is polluted** by four kinds of subsances : traditional organic waste, waste generated from industrial processes, chemical agents for fertilisers and pesticides for crop protection and silt from degraded catchments. While it is estimated that three-fourth by volume of the waste water generated is from municipal sources, industrial waste, though small in volume, contributes over one-half of the total pollutant load, and the major portion of this is coming from large and medium industries. For class-I cities of the Country, less than five per cent of the total waste water generated is collected and less than one-fourth of this is treated.

Ambient air quality trends in the major cities indicate that levels of suspended particulate matter are higher than the prescribed standards or limits, especially in summer months. Levels of nitrogen dioxide are increasing in urban centres with growing **vehicle emissions**.

- From Policy Statement of Government of India for Abatement of Pollution.

AMBIENT AIR QUALITY STATUS

The Rajasthan State Pollution Control Board (RPCB) has been taking up Air Quality Monitoring at various important industrial areas in Rajasthan. While doing so, conventional parameters like Suspended Particulate Matter (SPM), Oxides of Nitrogen (NO_x) and Sulphur-di-Oxide (SO_2) have been monitored. The average results obtained on random basis are given in the following table.

Table

Place	Ambient Air Quality (ug/m^3)		
	SPM	No_x	SO_2
1. Jaipur	285	15	5
2. Kota	375	60	18
3. Nimbahera	425	16	10
4. Chittorgarh	250	-	-
5. Behror	426	-	-
6. Jodhpur	460	-	-
7. Kotputli	389	-	-
8. Abu Road	240	-	-
9. Sikar	358	-	-
10. Ajmer	240	-	-
11. Gotan	265	-	-

For the sake of comparison, the Ambient Air Quality (AAQ) Levels in some major towns outside Rajasthan are given below:

Average Concentration of Parameters in Ambient Air Concentration in Metropolitan cities

	SPM	SO_2	NO_x
1. Bombay	300	35	60
2. Delhi	475	60	75
3. Madras	150	18	45
4. Calcutta	325	50	55

The standards of AAQ prescribed by the Central Pollution Control Board are as follows:

Concentration of Parameters (ug/m^3)

Areas	SPM	SO_2	NO_x
A. Industrial and mixed use	500	120	120
B. Residential and Rural	200	80	80
C. Sensitive	100	30	30

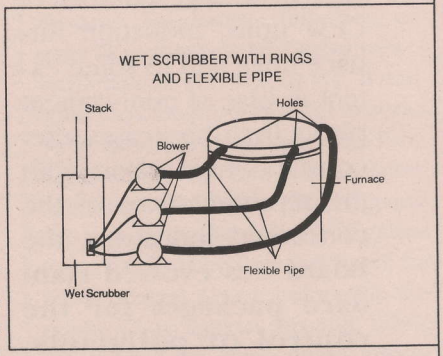
6.0 Consent Administration

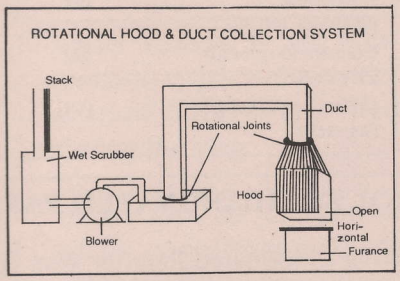
6.1 The provisions of secton 25 and 26 of the Water (Prevention and Control of Pollution) Act, 1974 and section 21 of the Air (Prevention and Control of Pollution) Act, 1981 dealing with consent administration are the nucleus around which the entire legislation for the containment of pollution revolves. Mandatory disclosure of information by the discharger of effluent/emission regarding the mode of discharge/ quantity and quality of discharge/emission, existing and proposed pollution control measures etc. provided for in these provisions, enable the Board to arrive at a just and reasonable decision for the disposal of such consent applications. These provisions require the polluter to apply for consent, empower the Board to dispose of application on the basis of material placed before it, prohibit the polluter from operating its plant without consent and empower the polluter with a right to appeal against the refusal of consent.

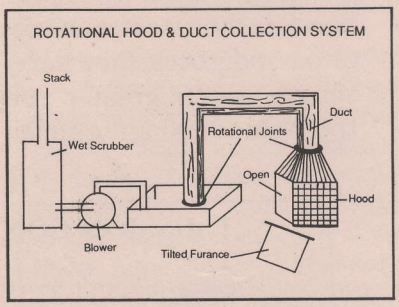
6.2 An effort was made in the year 1992-93 to evolve a **conscious consent policy** with the objective of speedy disposal of consent applications and making consent administration an effective tool for pollution control.

Emission Control in Induction Furnaces at Bhiwadi

There are 31 Induction furnace units operating at Industrial Area, Bhiwadi. As there was no standardised equipment to control emission at these furnaces, these have been a major source of pollution in the area. The Board succeeded in getting a wet scrubber installed in oneof the unit, but it had poor collection efficiency, thereby defeating the very purpose of having it. The Board officials studied the problem & improved the collection hood by providing rotating hood with three sides closed, installing it close to the furnace mouth. This improved the collection efficiency upto 90-95%. The other system, which has been introduced, has a collection ring instead of a hood. This ring is fixed on the periphery of the furnace & has suction holes in it. These suction holes are connected to wet scrubber through blowers. In this, the suction arrangement is fixed with the furnace & this is effective even when the furnace is tilted to pore metal. These systems are still under observation for further improvement.







Tiny Cement Plant

There are around 80 tiny Cement plants in the State, out of which, about 30 units have 20 tpd capacity and remaining to the tune of 50 tpd. These plants are based on Vertical Shaft Kiln (VSK) technology, mainly developed by Saboo, Jorhat and Cement Research Institute. Clusters of such units have developed at Behror, Abu Road and Kotputli. The air pollution is predominantly in the form of Suspended Particulate Matter (SPM), which arises from the kiln stacks and various transfer points.

RPCB, in the initial stages, considerd cyclone as adequate control equipment for the control of air pollution to achieve the prescribed limit of 400 mg/Nm3 of SPM. With the increase in the number of these units and with the development of clusters, standards were made stringent (250mg/Nm3) and wet scrubbers were required to be essentially installed by the units.

The Board now insists that ;

- Any unit having capacity of 50 tpd or more or a unit which is located in clusters is required to achieve a limit of 250 mg/Nm3, for which either wet scrubber or high efficiency cyclone or any other compatible equipment is essential.
- Units of 20 tpd capacity which are not located in clusters shall be permitted to achieve 400 mg/Nm3 for which, conventional cyclone or other suitable equipment would be sufficient.

The Board held a series of meetings with the representatives of different types of industries, persuaded them to adopt pollution control measures by removing their genuine difficulties. Such a policy has paid dividends in case of a large number of CPW units, induction furnace units and to some extent in case of mini-cement plants. In all these cases, after constant inter-action with the representatives of the concerned industries, the **Board has evolved standard packages for the control of pollutants**. Since these packages have been evolved in consultation with the representatives of the industries, they have shown much greater response in adopting the same.

6.3 Consent is now being given for a minimum period of one year in each case. The Board is in the process of identifying categories of industries which can be given consent for a longer period. The consent application form is being greatly simplified. Similarly, the conditions of consent have been simplified and standardised. The work of computerisation of consent administration has also been initiated.

6.4 **The Board made intensive efforts** for speedy disposal of applications seeking consent to establish and consent to operate under the Water and the Air Acts. The Table below reveals the disposal of such applications during the year 1992-93 :

6.5 The Board organised a **special drive to dispose** of the pending applications in the month of February and March. Some of the work

TABLE

	Cases pending (As on 1.4.92)	No. of Appl. Recd. during the year	Total	No. of App. disposed of during the year	Cases pending as on 1.4.93
Consent to establish (NOC)	112	222	334	267	67
Consent to operate (Water Act)	322	122	444	276	168
Consent to Operate (Air Act)	194	161	355	245	110

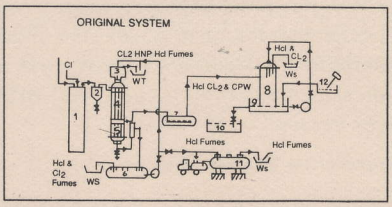
EMISSION CONTROL IN CHLORINATED PARAFFIN WAX UNITS

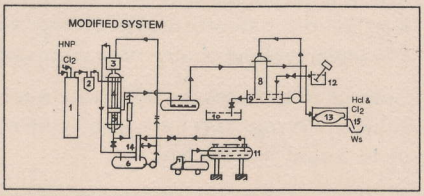
There are about 35 operating Chlorinated Paraffin Wax (CPW) producing units at MIA, Alwar. In the manufacturing process, Chlorine is reacted with HNP under controlled conditions. These industries were provided with all the required safety measures, but whenever there developed a high pressure in the vessel, chlorine + HCl emissions were released through water seals provided with different vessels. This emission polluted the environment, causing damage to flora & fauna around the plant.

Index

1. Reactor
2. Cyclone mist eliminator
3. Diluted HCL Tank (Re-circulation)
4. Graphite Absorber
5. Cooler
6. HCL Lecirculation Tank
7. Bubbler
8. Lime Tower
9. Lime recirculation tank.
10. spent lime recirculation Tank
11. HCL storage tank
12. Lime slurry preparation
13. Collapsable balloon
14. Water tower
15. Water Seal.

The problem was studied in depth by the RPCB & looking to the acceptability & economic viability, a buffer for collection of emissions (Cl_2 & HCl) and neutralizing the same in a controlled manner has been introduced. This buffer not only improved the quality of product but also provided better control over the plant. The model plant has already been established & many others are on the way to follow the same. The expenditure incurred was recovered by the new system with in a week's time. The operational cost is almost nil. The plant is now emission free.





done during this period gets reflected in the table given prepage, but there was a spill over in many cases, which gets reflected in the disposal figures for the month of April, 1993. The following table illustrates the point at hand :

Table

	Cases pending (As on 1.4.93)	No. of Appl. Recd. during the month	Total	No. of App. disposed of during the month	Cases pending as on 1.5.93
Consent to establish (NOC)	67	7	74	18	56
Consent to operate (Water Act)	168	28	196	101	73
Consent to Operate (Air Act)	110	30	140	89	51

The Board is continuing its efforts for a speedy disposal of all consent applications and the down-ward trend visible in the tables shown above & prepage is continuing.

6.6 So far as the question of **recalcitrant units** is concerned, the Board has adopted a policy of going from restrictive action to punitive measures i.e. filing injunction application for restraining the polluter from polluting before going in for a more serious penal action. However, in case of blatant violation, the Board has also resorted to the extreme remedy of **closing down** the unit by passing appropriate orders under section 33(a) of the Water Act.

6.7 During the year 1992-93, 5 criminal complaints under section 43 and 44 of the Water (Prevention and Control of Pollution) Act, 1974 and 10 injunction applications under section 33 thereof were filed in the competent Court. Similarly under the Air (Prevention and Control of Pollution) Act, 1981, 8 criminal complaints under Section 39 and 6 injunction applications under section 22(a) were filed during the year.

In addition to the above, action under section 33 (A) of the Water (Prevention and Control of Pollution) Act, 1974 was taken against M/s Hindustan Agro Chemicals Ltd., Bichhari which was

Toxic Litigation

M/s. Hindustan Agro Chemicals Ltd. had set up a chemical plant for the manufactre of H-acid at Village Bichhari, District Udaipur. The Liquid effluents and Solid Wastes produced from the process of manufacturing H-acid were highly toxic, characterised by compounds of Iron, Nitrates, Sulphates, Chlorides, organic & Inorganic acid, derivatives of Naphthalene and Colour etc. It contaminated the ground water in about 70 wells within a Radius of 6 Sq. Kms. Legal action was immediately taken by the Pollution Control Board against the unit. A public interest litigation was also filed by Indian Council for Enviro- Legal Action before the Supreme Court against this unit. While the units were close down and/or dismantled, the question of disposing of the residual sludge remained. After an indepth examination, the Hon'ble Supreme Court directed that the Sludge is to be entombed in a scientific manner under the supervision of a Technical Committee constituted by the Deptt. of Environment, Government of India with the assistance of the Rajasthan Pollution Control Board. Approximtely 750 metric tons of iron sludge was scientificaly entombed with the help of RPCB in ground pits made with scientific specifications at the cost of the industry. The case is still pending before the Hon'ble Supreme Court.

Crime and Punishment

A special court was set up at Pali for trial of cases under Pollution Control laws. Its jurisdiction covers the Districts of Pali, Jodhpur and Barmer. The Court started functioning during 1992-93.

The **Special Court** at Pali has **convicted** three dyeing and printing textile units of Pali of the offences of discharging polluted trade effluents in contravention of the provisions of the (Water Prevention and Control of Pollution) Act, 1974. Criminal complaints were filed by the Board Under Section 43 and 44 of the said Act.

Learned Magistrate has sentenced the partners of these firms with **imprisonment of one and a half years** each under both the sections and has also imposed fine varying from Rs. 1500.00 to Rs. 3000.00

installed and started operating their Chloro Sulphonic Acid plant without obtaining site clearance from the State Government and consent to establish and operate from the State Board. The **State Board** on 30.12.92 issued **directions** both under section 31 (a) of the Air Act and Section 33 (a) of the Water Act to Collector, Udiapur to ensure that the Chloro sulphonic Acid plant of M/S Hindustan Agro Chemicals Ltd. should not be allowed tobe operated. Consequently, **water and electricity connections of the unit were got disconnected by the Collector**, Udaipur. A writ petition filed against this order before the Hon'ble High Court is pending. No stay orders have been passed by the Hon'ble High Court till the publication of this report.

6.8 Section 28 of the Water (Prevention and Control of Pollution) Act, 1974 and section 31 of the Air (Prevention and Control of Pollution) Act, 1981 provide that any person aggrieved of the order made by the State Board under section 25, 26 or 27 may prefer an appeal to the appellate authority constituted under these Acts. A total of 28 appeals were pending before the appellate authority during the year 1992-93. A **total number of 9 cases** were decided by the appellate authority, of which, **8 were decreed in favour of the Board** and one against it. In 4 cases viz., two concerning M/s. Dalmia Dairy Industries located near the world famed Keoladeo Birds Sanctuary and one each concerning M/s CIMCO Ltd. and M/s Jai Drinks Pvt. Ltd., the Appallete Authority not only upheld the order passed by the Board, but also awarded the Board costs varying from Rs. 500/- to 2000/-.

Law and Policy

Policy making, legislation and law enforcement influence each other. The increase in the number of regulations increases difficulties in enforcement. Legislation regulating particular activities will be amended to incorporate and eliminate clashes with environmental criteria. Traditional instruments are becoming over-burdened. An integrated overview and organisational structure for decentralised environment impact assessments and environmental law enforcement based on cooperation with local authorities will be sought.

- From Policy Statement of Government of India for Abatement of Pollution.

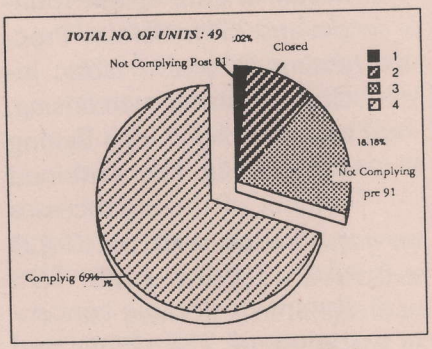
7.0 Pollution Control Status-17 Categories of Highly Polluting Industries

7.1 The Rajasthan Pollution Control Board has identified 49 major and medium units falling under the following 17 categories of highly polluting industries specified by Central Pollution Control Board, New Delhi :

- Distilleries
- Fertilizers
- Cement
- Thermal Power Plants
- Pulp and Paper
- Copper Smelter
- Pesticides
- Iron and Steel
- Basic drugs & Pharmaceuticals
- Zinc Smelters
- Dye and Dye intermediates
- Alluminium Smelter
- Oil refinery
- Petro-Chemicals
- Sugar
- Tanneries

7.2 All the Industries were required to comply with the standards for emission/discharge of environmental pollutants latest by December, 1991 as specified by Ministry of Environment and Forests. By an amendment in Environment (Protection) Rules, 1986, the time limit was extended/relaxed upto Dec., 1993 for Industries which have commenced production on or before May 16, 1981 and upto December, 1992 to industries which commenced production after May 16,1991. For availing of this extension, it was imperative for the industry to show adequate proof of commencement of physical work for establishment of facilities to meet the standards within a time bound programme.

7.3 Rajasthan Pollution Control Board has been making all round efforts to make the industries observe the norms of emission/effluent discharge. The present status of these units has been shown in this figure.



A glance at this figure would reveal that 34 out of 49 units are complying with the emission/effluent standards, 5 units have been closed down, while 9 units pre-1981 are required to comply with the norms latest by December, 1993. The only defaulter unit of post-1981 is also in the process of installing control measures. It is thus evident that *pollution cotrol status in these specified categories of industries in the state of Rajasthan is highly satisfactory.*

Critically Polluted Areas

Mechanisms will be evolved to reduce local concentration of pollutants in complex industrial sites. Strategies will be developed for areas with high pollution loads where the accumulative effect of the various types of pollutants would be taken into account including pollution of ground water. Existing units in these areas will be targetted for effective action. New units in these areas will be required to comply with location specific standards for stringent environmental quality objectives.

- From Policy Statement of Government of India for Abatement of Pollution.

8.0 Pollution from Textile Units in Pali, Jodhpur and Balotra : A Status Report

8.1 There are about 750 textile processing units in the SSI Sector in Pali, 159 in Jodhpur and 250 in Balotra. Processing of cotton fabric includes desizing, mercerising, kiering, bleaching, dyeing and printing. The combined effluent of these processes is alkaline with pH (9.12) and having high TDS alongwith sizeable concentration of TSS, BOD and COD. Waste can be classified as not-easily bio-degradable because of its complexity and is potentially damaging the surface and ground water as well as the land and vegetation.

8.2 It is estimated that the combined industrial effluents, from these textile processing units at Pali, Jodhpur and Balotra are approximately 18,000 KLD, 15,000 KLD and 2500 KLD respectively. Since Pali is an unsewered city, entire domestic as well as industrial effluents of the city is discharged in Bandi river. As regards Jodhpur and Balotra, the waste water is joining river Jojari and Luni respectively, which happen to be seasonal rivers. Seasonal nature of these rivers allows the waste water to flow without any dilution thereby polluting the sub-soil water. With rainfall, the waste residues/effluents flush out and pollute the down stream wells and the agricultural fields.

8.3 Since the units under reference are in SSI sector and the effluent is not easily bio-degradable, it is difficult for each industrial unit to treat its effluent so as to attain the prescribed standards. This situation has necessitated the concept of Common Effluent Treatment Plant (CEPT), at the terminal point.

8.4 One such CETP is already in existence in the Mandia Road Industrial Area (MRIA) Pali to treat only 1.0 million gallons (MGPD) per day out of 1.6 MGPD generation is from MRIA. Looking to the quantity of waste water, two more CETPs have been proposed by NEERI, one of 6 MGPD capacity at the Juncture of Gandhi Nagar Nala and Bandi river and another of 3 MGPD at MRIA.

8.5 Physical work of one more CETP at Pali and one CETP at Jodhpur is likely to be taken up early during the year 1993-94. In case of Jodhpur, a feasibility report prepared by Small Industries Development Bank of India (SIDBI) has already been cleared by the Board, while NEERI has carried out detailed scientific investigation for additional CETP's at Pali. In both the cases, the sources of funds for the CETP have been identified, and land for construction is being set apart. NEERI has also been entrusted with the task of preparing a feasibility report for the textile waste at Balotra. ■

Assistance for Adoption of Clean Technologies by Small Scale Industries.

Small scale industies are a special feature of our economy. Government are implementing a scheme for providing assistance for promoting combined facilities for treatment of effluents and solid wastes generated in clusters of small scale units. This scheme will be extended to provide necessary technical support as well.

- From Policy Statement of Government of India for Abatement of Pollution.

9.0 Information, Education and Communication (IEC) Activities of the Board

9.1 Section 17(1)(C) of both the Water & Air (Prevention and Control of Pollution) Acts provides that the State Board shall :

"Collect and disseminate information relating to water/ Air pollution and prevention, control or abatement thereof."

9.2 In furtherance of these objectives, the Rajasthan Pollution Control Board carried out the following activities during the year 1992-93 :

(a) Rajasthan Pollution Control Board, in collaboration with the State Productivity Council, organised a National Seminar on "Integrated Environmental Pollution Control and Management with special reference to multi-facet pollution", in May 1992.

(b) The Rajasthan Pollution Control Board, in Collaboration with Rajasthan Employers Association, organised a Seminar on "Environmental Protection Laws and Public Liability Act", in May 1992.

(c) The RPCB in Collaboration with an NGO namely Socety for Public Awareness & Conservation of Environment" (SPACE,) organised a seminar on "Environmental Audit" on 10th March, 1993, wherein the Key-note addresses were delivered by Eminent Environmentalists Shri Anil Agarwal and Dr. G.D. Agarwal.

Shri Anil Agarwal also delivered an address before an invited gathering on "Environmental challenge before India what does sutainability mean for us".

(d) On the World Environment Day, the 5th June, 92, advance work for tree plantation as well as actual tree plantation wherever possible was carried out in various industrial areas through the Regional Officers in collaboration with the Industries. Groups of school children were taken around the different industrial areas of the State to familiarise them with industrial pollution and control thereof. Similarly, a week-long drive was organised in Jaipur city to check automobile emissions. Similar drive was carried out in November, 92 in collaboration with the Society for Public Awareness and Conservation of Environment in Jaipur.

9.3 The following booklets were released and distributed free of cost by the Rajasthan Pollution Control Board as part of the activities carried out in connection with the World Environment Day 1992 :

(i) वाहन प्रदूषण

(ii) पर्यावरण प्रदूषण को जानिये

(iii) जल प्रदूषण–एक विचारणीय विश्लेषण

9.4 In order to encourage the officials of the Board as well as knowledgeable persons outside the Board to write pamphlets, monographs etc. on issues concerning environment and pollution control, the Board has approved a scheme wherein, a provision of giving monetary incentives has been made for such activities.

■

Public Awareness

Greater emphasis will be placed on promoting awareness, undertaking and competence in schools, colleges, and training institutions. Professional and non-governmental bodies will be encouraged to be more active in environmental training and building awareness.

- From Policy Statement of Government of India for Abatement of Pollution.

10.0 Management of Hazardous Substances

10.1 Management of hazardous substances under the E.P. Act is contained, as a mandate of law itself in the preamble of Act, when it recites, that "the purpose of the Act, is the prevention of hazards to human being, other living creature, plants and property." The Central Government, in excercise of the powers conferred upon it under E.P. Act, 1986 has framed and notified sets of rules, *for the purposes of cradle to grave aspects of management of hazardous substances.* The beginning, was comprehensive Rules to take care of the management and handling aspects of hazardous wastes, notified by the Central Government in July, 1989. Framed under the enabling provisions of the E.P.A. the *Hazardous Wastes (Management and Handling) Rules, 1989,* apply to *18 specified categories of wastes.*

10.2 Anyone generating hazardous wastes in quantities exceeding specified limits is required to take "all practical steps to ensure that such wastes are properly handled and disposed of without any adverse effects" Such a person is also responsible for the proper handling, storage and disposal of wastes. The rules prescribe a licencing system administered by State Pollution Control Boards for the handling and disposal of hazardous wastes. The rules provide for the packaging, labeling and transport of hazardous wastes and require State Government to compile and publish an inventory of Hazardous Wastes Disposal Sites. The import of Hazardous wastes into India for dumping and disposal has been prohibited under these Rules.

10.3 During the year 1992-93, following actions were initiated in this regard :-

(a) The inventorisation of hazardous wastes generation in six Districts of the State has been assigned to M/s Dalal Consultant, Bombay by the Central Pollution Control Board, New Delhi. The State Board is constantly monitoring their progress.

(b) The State Govt. has constituted District level Committees under the Chairmanship of the District Collector for selection of Hazardous Wastes Disposal Sites.

(c) Applications have been received by the Board for authorisation under rule 5 of Hazardous wastes (Management & Handling) Rules, 1989 which are under active consideration of the Board.

10.4 It was in November, 1989 that the Central Government issued the Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989. These Rules apply to industries that use or store specified hazardous chemicals & also prescribe the duties of various Governmental authorities. For example, the Central and State Pollution Control Boards are reqired to enforce governmental directives and procedures pertaining to the isolated storage of hazardous chemicals, and the District Collector and/or other, designated authority is required to prepare off-site emergency plans to contain major chemical accidents. The responsibility of preparing and upgrading on-site emergency plans rests with the 'occupier' who controls the industrial activities. An occupier must identify the major hazards posed by his industry, take steps to prevent, limit the consequences of an accident, inform and train workers in operational safety.

The principal objectives of the rules are the prevention of major accidents arising from industrial activities,

Gas Victims Get Relief

10th March 1992, Fumes of Hydrofluoric acid leaked from the pipes of M/s Shri Ram Fibres at Tijara (Alwar), resulting in damage to nearby crops.

Proceedings were initiated under the Public Liability Insurance Act. 1991, and the Collector Alwar on 29.3.92 passed order for the payment of compensation amounting to Rs. 81,489.00 to the victims under section 7 of the said Act. Immediate payment was got made to all concerned.

limiting the effects of such accidents both on men and on the environment. The industrial activities covered by these rules are defined in terms of processes and storages involving specified hazardous chemicals. This has, in effect, embraced most of the chemicals and petrochemical like Industries using substances which have hazardous, Inflammable, explosive, corrosive or toxic properties.

10.5 Public Liability Insurance Act 1991.

With the objective of providing immediate relief to the persons affected by accident occurring while handling hazardous substances, the Public Liability Insurance Act was enacted in 1991. The act for the first time in the history of environmental legislation has recognised the doctrine of fixed minimum compensation at a no fault liability basis. The State Board has identified 172 units which get covered under the provisions of this Act and are required to take the insurance. The Board has served notices to all such units, out of which, 63 units have taken the requisite insurance policy.

Polluter Pays

As the present system of jurisprudence does not provide for compensation to individuals for environmental damage, including effects on health and environmental damage caused by pollution, it is prosposed to set up special legal institutions to redress this deficiency and also make adequate arrangements for interim relief.

- From Policy Statement of Government of India for Abatement of Pollution.

11.0 Collection of Water Cess : Some New initiatives

11.1 The Rajasthan Pollution Control Board has been collecting cess from the specified industries and local authorities under the Water (Prevention and Control of Pollution) Cess Act, 1977. The Board collected the following amounts of cess during the last few years :

1989-89	11.43
1990-91	20.25
1991-92	40.50

11.2 During the year 1992-93, the Board achieved a quantum jump in the realisation of cess. In view of the enhancement in the rates of cess, with effect from 26.1.1992, the Govt. of India had prescribed a target of 65 lakhs for Rajasthan for the year 1992-1993.,Against this, the Rajasthan Pollution Control Board succeeded in collecting an amount of Rs. 115 lakhs during the year. This major increase in collection was possible partly because of enhancement of rates and partly because of some arrears which the Board could realise through intensive efforts.

11.3 An analysis of the procedure for the collection of cess and the nature of the assessing units revealed that an overwhelmingly large percentage of units covered under the Water (Prevention and Control of Pollution) Cess Act, 1977 consisted of small industries and most of the cess was being collected from a small number of large units. After detailed deliberations, the Board evolved a **self-Assessment Scheme** for all assessees whose annual liability under the cess Act was Rs. 6000/- or less. These assessees were expected to make their own assessments on the basis of the water consumed by them as well as the prescribed rates and file their returns alongwith the requisite amount of cess by a certain date. The option of the Assessing Authority to accept the same has been kept open. This policy, on the one hand, has greatly simplified the procedure for the entrepreneurs, and, on the other, has considerably reduced the work-load in the Board office. The scheme, still in its infancy, has received a very encouraging response.

11.4 In order to further streamline the work, the progress in the collection of cess has also been computerised. Computerisation is expected not only to simplify the processing of cases in the Head Office but also to ease the reconciliation of accounts. ■

Fiscal Measures

There are at present several fiscal incentives for installation of pollution control equipment and for shifting polluting industries from congested areas. The items, for which excise and customs rebate are allowed will be reviewed. This will stimulate the advancement of abatement technologies and create increased demands for the products.

- From Policy Statement of Government of India for Abatement of Pollution.

12.0 Pollution Control : Some perspectives

12.1 An analysis of the actual dimensions of pollution, and the strengths and weaknesses of the machinery for the control thereof reveals certain areas which demand a greater attention in the years to come. We may briefly touch upon some of these issues.

12.2 The existing machinary for the implementation of the pollution control laws is rather inadequate. There is a need to strengthen the Pollution Control Board and its Regional Offices in terms of manpower, mobility, office building and office equipments. In particular, there is need to set up a network of regional laboratories which can carry out specified items of analysis at their own level. These laboratories may function under the technical supervision of a central laboratory at Jaipur. Similarly, the Board needs to be provided with mobile laboratory for the analysis of water & Air samples. So far as consent administration is concerned, there is need to evolve a conscious consent policy which could be simple but effective. Identification of industries which are highly polluting in nature, and concentrated efforts for the adoption of control mesures by these industries could form a major plank of such a consent policy. The Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 visualise a large number of activities than under the consent administration to be carried out by the Board. There is need to pay greater attention than that has been given in the past to these responsibilities. In particular, creating greater public awareness regarding issues of pollution control and creating in-house capabilities in the Board for carrying out simple R & D activities are the areas requiring greater emphasis. Similarly, greater attention needs to be paid to the monitoring and publicity of sensitive alarm signals such as the status of ambient air and water quality.

12.3 In planning new industrial areas, the industrial promotion agencies should be made to simultaneously plan strategies for the disposal of effluents. In particular, wherever clusters of small scale industrial units are planned, there is need to provide for common effluent treatment plant right in the beginning. Similarly, the industrial promotion agencies need to identify different zones for setting up different types of industries. They could also take up an exercise for working out the carrying capacity of specified zones. These measures will go a long way in enabling a fair and expeditious decision regarding the siting of industries.

12.4 It is now well established that 80% of the water pollution is caused by domestic waste water which, in almost all parts of the State is either being used for growing vegetables or is left to create pollution of land/ground water/sub-surface water. At present, only Jaipur city has a waste water treatment plant but it can handle only about half of the total quantity of waste water generated. A few major cities like Kota, Jodhpur, Udaipur have waste water collection system i.e. sewerage system but no treatment plant exists at terminal points.

The provision of sewerage systems and effluent treatment plants needs to be considered for the following priority areas :

(a) All major towns having population above one lakh.

(b) All remaining District Head Quarters.

(c) Industrial towns

(d) Places of tourism or religious importance.

(e) Towns where drinking water supply is based partially or wholly upon local surface water.

(f) Towns where cesspools are created on account of topography or rain-fall, in absence of proper drainage.

12.5 The dumping of solid wastes, whether domestic, industrial or commercial, is posing serious problems to the urban community at large. Besides, it may deteriorate the ground water quality and also develop conditions conducive to breeding of mosquitoes. The suitable strategy to overcome this problem is to identify environmentally safe areas where disposal of solid wastes can be done scientifically. The sanitary land fill methodology may be adopted which may partly help in reclaiming the waste lands or undulated areas and partly make the system more economically viable.

It is important to workout risk analysis and assessment of potentially hazardous units in scientific manner. The safety and emergency measure should be spelt out at the planning process and these measures should strictly be implemented in the operational stages. There is also a strong need to create a regulatory and administrative infrastructure responsible for implementing environmental laws and regulations. The protection of public health by special control on the Manufacture, Storage. Transport and use of Hazardous Substance should be exercised effectively. Besides, the promotion of occupational health and safety alongwith transport policy and road safety should also be given due consideration. Adequate and stable means for the safe disposal of wastes without unacceptable environmental damage should be worked out at the stage of planning.

■

Cradle to Grave

The environmental effects, from production to disposal of products that are hazardous and toxic will be taken into account in the regulations. Chemicals will be reviewed according to the level of risk, and where safer alternatives have become available, restrictions will be imposed. Regulations for liability and compensation for damages will supplement standards, to promote greater care and caution, particularly in the management of hazardous waste and remedial action in case of contamination of soil and ground water.

- From Policy Statement of Government of India for Abatement of Pollution.

13.0 Action Plan 1992-93

As has been pointed out earlier, the past experience of the Board reveals that in its normal functioning, some activities get a greater attention to the neglect of others. In order to ensure that due attention is given to all the responsibilities entrusted to the Board under the Water (Prevention and Control of Polltion) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 the Board approved an action plan for the year 1993-94. While formulating the action plan, each individual responsibility entrusted to the Board under Section 17 of both the Water & the Air Acts were considered, and keeping in view the capabilities of the Board, activities for the discharge of that particular responsibility to be taken during the year 1993-94 were identified. A separate document by the name of "**Action Plan 1993-94**" has been published for internal circulation in the Board. Performance evaluation of the control equipments installed by units falling in the identified 17 categories, Identification of heavily polluting units in the small scale sector and concentrated effort for the control of pollution from these units, calculation of the assimilative capacity of the ambient environment in Kotputali and Behror, assessment of the water quality in some identified surface water bodies with reference to their legitimate uses, publication of documents for mass education, study of noise levels in different towns, are some of the areas which have been identified in the Action Plan for 1993-94.

Future Directions and Objectives

The objective is to integrate environmental considerations into decision making at all levels. To achieve this, steps have to be taken to:

- prevent pollution at source;
- encourage, develop and apply the best available practicable technical solutions;
- ensure that the polluter pays for the pollution and control arrangements;
- focus protection on heavily polluted areas and river stretches; and
- involve the public in decision making.

- From Policy Statement of Government of India for Abatement of Pollution.

Annexure-I

Staffing Pattern

Organisational Chart

Board

Chairman

Member Secretary

Scientific Cell	Technical Cell	Legal Cell	Administration Cell	Finance, Accounts & Cess Cell	Planning & Monitoring Cell
Sr. Chemist (Water)	XEn (Water)	Law Officer-I	XEn (Adm.)	Accounts Officer	XEn
Sr. Chemist (Air)	XEn (Air)	Law Officer-II	Computer		
Sr. Chemist (Air Monitoring)	XEn (NOC)	Law Officer-III	EDP		
Sr. Chemist (Haz)					

Annexure-II

Set up of Regional Offices* of the Board

(Headed by Regional Officer)

Jodhpur	Kota	Jaipur	Udaipur	Alwar	Pali	Bhilwara
Bikaner	Sawaimadhopur	Jhunjhunu	Rajsamand	Bharatpur	Sirohi	Ajmer
Churu	Chittorgarh	Dausa	Dungarpur	Dholpur	Jalore	
Jaisalmer	Jhalawar	Sikar	Banswara			
Barmer	Bundi	Tonk				
Nagaur	Baran					
Sri Ganga-nagar						

* *District's Jurisdiction includes the* ***District*** *at which Regional Office situates.*

Annexure-III

Sanctioned and Working Strength of Staff in 1992-93 (As on 1.4.93)

S.No.	Name of post	Sanctioned strength	Working strength
A.	**TECHNICAL**		
1.	Sr.Environmental Engineer	1	-
2.	Executive Engineer	9	7
3.	Assistant Engineer	16	10
4.	Junior Engineer	34	23
5.	Computer Programmer	1	1
B.	**SCIENTIFIC**		
6.	Sr. Chemist	4	4
7.	Chemist	2	1
8.	Jr. Chemist	15	8
9.	Jr. Biologist	1	-
C.	**LEGAL**		
10.	Law Officer Gr.I.	2	2
11.	Law Officer Gr.II.	1	1
12.	Law Officer Gr.III.	2	-
D.	**ACCOUNTS**		
13.	Accounts Officer	1	1
14.	Accountant	2	2
15.	Jr. Accountant	7	7
E.	**LABORATORY**		
16.	SLA Gr.I.	7	3
17.	Lab Attendant	7	6
18.	JSA	5	3
19.	Survey Khallasi	11	10
F.	**GENERAL**		
20.	P.S.to Chairman	1	-
21.	Officer Superintendent	1	1
22.	Personal Assistant	3	2
23.	Stenographer	8	2
24.	Office Assistant	1	1
25.	Data Entry Operator	2	1
26.	Inspector Gr. I	3	3
27.	Inspector Gr.ii	13	11
28.	Sr. Draftman	1	1
29.	UDC	10	10
30.	LDC	27	22
31.	Driver	13	11
32.	PBX Operator	1	1
33.	Field Assistant	1	-
34.	ClassIV	25	21
35.	Chowkidar	7	7
		245	**183**

Board's Publication

S.No.	Title	Year of Publication	Price Rs.
A .	**Industries Document Series**		
1.	Document on Edible Oil and Vanaspati Industry	1984	15/-
2.	Document on general Engineering Industry	1983	25/-
3.	Document on Pulp & Paper Industry	1983	40/-
4.	Document on Textile Processing Industry	1983	30/-
5.	Document on Cement Industry	1984	100/-
6.	Document on Pesticide Industry	1984	60/-
7.	Document on Copper Industry	...	150/-
8.	Compendium on Environmental Protection laws	1985	65/-
9.	Environmental Preservation and Protection An Integrated Scenario	1990	50/-
B.	**Environment Status Monograph**		
1.	Status of Environment and prevention and Control of Pollution in Rajasthan	1984	...
2.	Environmental Status Report, Kota	...	...
3.	Environmental Status Report, Jodhpur	...	...
4.	Environmental Status Report, Pali	...	...
5.	Environmental Status Report, Udaipur	1986	...
6.	Environmental Status Report, Alwar	1987	30/-
7.	Environmental Status Report, Bhilwara	1987	30/-
8.	Environmental Status of Lakes in Rajasthan	1986	55/-
9.	Study and Status of Environmental Consciousness in the Planned City,Jaipur.	1987	...
C.	**Annual Reports of Board**		
1.	Annual Report 1983-84		...
2.	Annual Report 1984-85		...
3.	Annual Report 1985-86		...
4.	Annual Report 1986-87		...
5.	A progress Report of Activities 1985-86		...
D.	**Other Publications**		
1.	Some General Aspects of Pollution Control and its administration		25/-
2.	Procedure for obtaining approval for site from Environmental Consideratins and Pollution Control measures for new industries		10/-
3.	Guidelines for Environmental management of Mining operation with particular reference to Air & Water Pollution Aspects	1987	...
4.	Standards and consent conditions and aspects of Administration in Pollution Control & Appropriate sanitation strategy for Rural Communities in Rajasthan		10/-

Order for the above Publications may be placed with Member-Secretary.
Rajasthan State Pollution Control Board,
4,Institutional Area,Jhalana Dungri,
JAIPUR-302 004

New Building of the Rajasthan Polultion Control Board

Central Laboratory under construction in the Board Premises

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