

Report of the 'Expert Body' constituted by the Ministry of Environment & Forests, Government of India in pursuant to the Hon'ble Supreme Court Order dated 18.03.2011 in the matter relating to Petitions for Special Leave to Appeal (Civil) No.(s) 14698/2010 (from the judgment and Order dated 26.04.2010 in SCA No. 3477/2009 of the High Court of Gujarat at Ahmedabad) Khimjibhai Lakhabhai Baraiya vs Union of India and with S.L.P. (C) No. (s) 15016, 32414 and 32615 of 2010 relating to the location of Cement Plant (1.9 MTPA; 1.50 MTPA Clinker), Captive Power Plant (50 MW) and Coke Oven Plant (1.5 LTPA) at Village Padhiyarka, Taluka Mahuva, District Bhavnagar, Gujarat by M/s Nirma Limited

Contents

	<i>Page</i>
Background	1
Responses to Specific Issues identified by the Hon'ble Supreme Court	
(a) Whether the lands in question were wetlands / water bodies?	7
(b) Whether the project could come up on such wetlands / water bodies and if so, what would be its impact on environment? Would it lead to environmental degradation?	12
(c) If at all the project could come up, what steps the user agency should take in the interest of environment protection?	16
(d) The precise current status of the project may also be indicated by the Expert body	16
Conclusions and Recommendation	17
Acknowledgements	18
Annexures	1-8
Figures	1-25

Report of the 'Expert Body' constituted by the Ministry of Environment & Forests, Government of India in pursuant to the Hon'ble Supreme Court Order dated 18.03.2011 in the matter relating to Petitions for Special Leave to Appeal (Civil) No.(s) 14698/2010 (from the judgment and Order dated 26.04.2010 in SCA No. 3477/2009 of the High Court of Gujarat at Ahmedabad) Khimjibhai Lakhabhai Baraiya vs Union of India and with S.L.P. (C) No. (s) 15016, 32414 and 32615 of 2010 relating to the location of Cement Plant (1.9 MTPA; 1.50 MTPA Clinker), Captive Power Plant (50 MW) and Coke Oven Plant (1.5 LTPA) at Village Padhiyarka, Taluka Mahuva, District Bhavnagar, Gujarat by M/s Nirma Limited

Background

M/s Nirma Ltd. (project proponent) applied for Terms of Reference (TOR) on 5th September 2007 to set up a Cement Plant (1.5 MTPA; 150 MTPA Clinker), Captive Power Plant (50 MW) and Coke Oven Plant (1.5 LTPA) on 268 ha of Government wasteland at Padhiyarka village in Mahuva taluka of Bhavnagar District, Gujarat. The project proponent prepared a detailed rapid Environmental Impact Assessment (EIA) and Environmental Management (EM) plan and submitted to MoEF in July 2008 for Environmental Clearance (EC). The Environmental Appraisal Committee (EAC) - Industries recommended the project for granting EC, after examining the relevant documents including Application in Form 1, Prefeasibility Report, draft Terms of Reference and EIA/EMP, and after presentation and discussion of the proposal in EAC and subsequent clarifications furnished to EAC. Based on the recommendation of EAC, MoEF granted Environmental Clearance (EC) on 11th December 2008 with certain specific conditions. In both Form 1 and EIA, the project proponent described the status of land at the site as Government wasteland.

Much before 2008, the local communities were resistant to the allotment of 268 ha of land to Nirma by the Government out of 400 ha of land transferred by the Government to its Salinity Department for the construction of Samadhiala (also written as

'Samadhiyala') Bandhara (often written as Bandharo) in Shen Shuri (often written as Samsaniyo river and locally known as Han Hori) river/stream catchment, the Bandhara being at 2.5 km away from Nirma site. The Bandhara is check dam constructed to prevent salinity ingress during high tide into low lying areas that receive freshwater from the catchments of rivers/streams originating from micro watershed and to store fresh water for the use of local farmers. The resistance of local communities to the Cement Plant of Nirma was because of the reduction of storage capacity of the water body that would follow due to the allotment of submergible land to the Cement Factory complex. The State Government asked the Salinity Division to examine the issue. The Salinity Division, while admitting reduction in the storage capacity of Bandhara, suggested remedial measures to meet the short fall of storage of water due to allotment of submergible land to Nirma's Plant. In March 2009, the local communities formed the Bandhara Khettwadi Paryavaran Bachav Samiti and filed a PIL (SCA 3477/2009) at Hon'ble High Court of Gujarat. In 29 April 2009, the Government constituted the Shelat Committee under the Chairmanship of Shri S.K. Shelat, the then Adviser to the Chief Minister of Gujarat to resolve the issue of location of Nirma's Plant in the submergible area of Bandhara.

The Committee recorded in its Report that 100 ha of land allotted to Nirma was in the submergence area of the Bandhara and rest was the catchment, and suggested three options to the Government: (i) allow the plant to set up on the 268 ha, (ii) surrender 54 ha close to the dam (suggested by Nirma) and (iii) to cancel submergible 100 ha of the land allotted to Nirma. The Government adopted option (ii) and issued Order dated 8.12.2009 asking the company to surrender 54 ha of land and deepen 40 ha out of 54 ha at its own cost and further deepen 62 ha out of 75 ha of adjacent Government land.

The local communities were not satisfied with the action taken by the Government of Gujarat and filed a PIL (Special Civil Application No. 3477 of 2009 in matter Shree Mahuva Bandhara Khettwadi Paryavaran Bachav Samiti (Petitioners) vs Union of India & 5 [Respondent(s)] in the Gujarat High Court, and the Hon'ble Court ordered on 24/04/2010 that an additional 46 ha of land should be surrendered and deepen as per the

suggestion of Government, besides deepening of 54 ha and 75 ha as directed by the Government and also made other stipulations. Not satisfied with judgment, the Petitioners filed Misc.Civil Application No. 1473 of 2010 in Special Civil Application No. 3477 of 2009 at the Division Bench of Hon'ble High Court of Gujarat and the Court dismissed the petition on 27.09.2010. The MoEF also filed an affidavit in the High Court of Gujarat. Not satisfied with the judgments of Hon'ble High Court of Gujarat, the local communities filed before Hon'ble Supreme Court of India a petition for Special Leave to Appeal (Civil) No. (s) 14698/ 2010 (from the judgment and order dated 26.04.2010 in SCA No. 3477/2009 of the High Court of Gujarat at Ahmedabad) in matter of Khimjibhai Lakhbhai Baraiya (Petitioners) vs Union of India & ORS (Respondents) with SLP (C) No. (s) 15016, 32414 and 32615 of 2010.

The Hon'ble Supreme Court entertained SLPs Nos 14698 and 15016 of 2010 against the judgment of Hon'ble High Court of Gujarat and issued Notice to the MoEF to file an affidavit indicating whether the water body would get polluted/affected as and when the proposed Cement Plant becomes operational.

The MoEF filed two affidavits – one affidavit before the Hon'ble High Court of Gujarat in CA No. 1473 of 2010 in SCA No. 3477 of 2009 through Director of Regional Office, MoEF, Bhopal on 01.09.2010 and the other before Hon'ble Supreme Court in the matter mentioned above on January 2011. Both the affidavits **conclude** that the Cement Plant may not pollute the water body if stipulations specified in EC are implemented.

In January 2011, the MoEF appointed an Expert Committee consisting of 7 members with Professor C.K. Varshney as its Chairman (Varshney Committee) to: (i) inspect the plant site to oversee the implementation of the project by Nirma, (ii) verify the ground situation in the vicinity of plant site and the factors which may cause impact on the water body and (iii) cover any other point related to the environmental issues of the project. The Committee visited the site and held discussions with stakeholders and submitted its report to MoEF. The Report clearly states that "Samadhiala Bandhara possess all the characteristic features of wetland ecosystem (fresh water body) supporting rich aquatic

vegetation composed of different types of aquatic plant species, aquatic birds, fish and amphibians”, besides other points relevant to the terms and conditions put forth to the Committee.

EAC (Industries) considered Varshney Committee Report in its meeting held on 23rd February 2011 and invited Nirma also for the meeting and to present its case in entirety. The EAC concluded that there could be alternative sites enough in the vicinity that breed no contention. Based on the recommendation of EAC (Industries), the MoEF issued a Show Cause Notice to Nirma under Section 5 of Environment Protection Act, 1986 for permanent suspension of work and revocation of the EC granted to the Cement Plant, Captive Power Plant and Coke Oven Plant on 11th March 2011.

The Hon'ble Supreme Court of India, in its order dated 18/03/2011, while dealing with the Petition (s) for SLA (Civil) No (s). 14698/2010 (from the judgment and order dated 26/04/2010 in SCA No. 3477/2009 of the High Court of Ahmedabad) in the matter of Khimjibhai Lakhabhai Baraiya versus Union of India and others and alongwith SLPs No. (s) 15016/2010, 32414/2010 and 32615/2010, directed the Ministry of Environment and Forests to call for the report of an Expert Body consisting of five independent reputed scientists who will visit the site and answer the following four issues (**Annexure I**):

- a) Whether the lands in question were wetlands/water bodies;
- b) Whether the project could come up on such wetlands/water bodies and if so, what would be its impact on environment? Would it lead to environmental degradation?
- c) If at all the project could come up, what steps the user agency should take in the interest of environment protection; and
- d) The precise current status of the project may also be indicated by the Expert body; and also give hearing to the Respondents No. 4 - user agency (Nirma) as well as to the objectors and submit its report within six weeks.

Pursuant to the Supreme Court order dated 18/03/2011 relating to above mentioned matter, the MoEF constituted the following panel of experts of Expert Body (**Annexure 2**):

Chairman

Professor C R Babu

Professor Emeritus

Former Pro-Vice Chancellor, University of Delhi

Ex-Chairman of Indian Subcontinent Plant Specialist Group of

Species Survival Commission of IUCN

Centre for Environmental Management of Degraded Ecosystems (CEMDE)

School of Environmental Studies, Delhi-110007

Members

Dr. Asad R Rahmani

Director, Bombay Natural History Society

Mumbai

Dr. Parikshit Gautam

Director, Freshwater & Wetlands, WWF-India

Delhi

Dr. Ligia Noronha

Director, Resources, Regulation and Global Security

The Energy and Resources Institute (TERI)

New Delhi

Professor Brij Gopal

Coordinator, Centre for Inland Waters in South Asia

Vice President, National Institute of Ecology

Chief Editor, International Journal of Ecology & Environmental Sciences

Executive Vice President, International Society for Limnology

Member, Board of Directors, International Society of River Science

Ex-Professor, School of Environmental Sciences, JNU

New Delhi

Dr. E J James

Director, Water Institute, Karunya University, Coimbatore
and Former Executive Director,
Centre for Water Resources Development and Management
Calicut

Secretary

Dr. P B Rastogi

Director, Ministry of Environment & Forests (MoEF)

Subsequently, the MoEF also included Shri Paritosh Tyagi (Former Chairman, CPCB, Delhi) as member of the Expert Body (**Annexure 3**).

The Expert Body visited the site of Nirma Cement Plant and interacted with the Nirma officials and consultants, objectors as well as different local groups on 18th April 2011 and also interacted with the State Government officials on 19th April 2011 at Ahmedabad (**Annexure 4**). During the site visit, the experts surveyed the entire water body/wetland (Bandhara) and also the site where the work on Nirma's Cement Plant was initiated (**Figure 1**). The members also met more than 1000 objectors at the site and heard their viewpoints (**Figures 2 & 3**). At the site the Expert Body interacted with the Nirma officials (**Figure 4**) and heard the presentation made by the consultants and also examined the toposheets, contour maps and satellite imageries. The Expert Body visited Malan Bandhara - a huge water body which will be connected to Samadhiala Bandhara by Government of Gujarat (**Figure 5**). The Experts also met the representatives of two groups at Mahuva on the evening of 18th April 2011 - one group argued in favor of the project at the site as it provides employment to local youths (**Figure 6**) and the other group argued against the project as it leads to environmental degradation and scarcity of water during dry months and loss of livelihood of farmers due to proposed mining activities (**Figure 7**).

Based upon the intensive survey of the water body/wetland, the inspection of the site where Nirma Cement plant is coming up, and after analysis of the documents submitted and, presentations made by different stakeholders, and after hearing the clarifications given by State Government officials, the observations of the Expert Body on the four issues raised in the Supreme Court Order are presented in the Report. The report also contains conclusions and recommendation based upon the observations presented in the report.

Responses to Specific Issues identified by the Hon'ble Supreme Court

a. Whether the lands in question were wetlands / water bodies?

Yes. Most of the land allotted to M/s Nirma Ltd. for the Cement plant, Coke oven plant and the Captive power plant, delimited by 3.82 m contour line above MSL (mean sea level), lies **within the wetland/water body** created in the year 2000 by the construction of Samadhiala Bandhara as a Salinity Ingress Control structure (**Figure 8**).

Explanation:

Water body is a generic phrase to include any depression on land - natural or man-made - that holds water for some time, irrespective of its size (area or depth) or shape. The boundaries of the water body are determined by the water level at FRL (full reservoir level) in case of man-made water bodies such as tanks and reservoirs where FRL is designed at the time of creation OR at the HFL (highest flood level). The HFL is usually demarcated at the highest water level reached once in 100 or 50 years.

Wetland is another generic term which covers a very wide range of aquatic habitats - from water saturated and waterlogged marshy lands to deep water bodies (lakes and reservoirs) as well as flowing waters such as creeks, streams, springs and rivers. This broadly all-inclusive term has been adopted by the International Convention on Wetlands, popularly known as Ramsar Convention which defines them as:

"Wetlands are area of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish, or salt, including areas of marine water, the depth of which at low tide does not exceed six metres"

The term has been adopted internationally and the Government of India has accepted it by joining the Convention as a Contracting Party since 1982.¹

Another widely accepted definition of wetlands, by Cowardin et al (1979)² considers three main features of wetlands: hydrophytes, hydric soils and shallow flooding at some time of the year.

Hydrophytes are plants which require waterlogging or submergence for their growth and reproduction. Hydrology i.e., the water regimes (in terms of water depth, duration, frequency, amplitude and timing of flooding of the substratum) primarily determines the kind of vegetation, other fauna and the ecosystem processes. Soils which develop specifically under waterlogging/water saturated conditions are called hydric soils. Though the total biodiversity of any wetland is usually very high, in vast majority of wetlands globally, only a couple of species - sometimes only one plant species dominates the vegetation almost completely.

The Present Case:

In 2000, the Salinity Control Department of Gujarat, constructed a 200 m long concrete bund across the Motapat creek (**Figures 9 & 10**), which had a free communication with the sea (Gulf of Khambhat), near village Samadhiala (Mahuva taluka) in order to prevent salinity intrusion in to the upstream reaches of the creek (**Figures 10 & 11**). This formed part of the State's SIPP (Salinity Intrusion Prevention Programme). The bund had an

¹ According to the MOEF, wetlands are:

"an area or of marsh, fen, peatland or water; natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water, the depth of which at low tide does not exceed six meters and includes all inland waters such as lakes, reservoir, tanks, backwaters, lagoon, creeks, estuaries and man-made wetland and zone of direct influence on wetlands that is to say the drainage area or catchment region of the wetlands"

² *"Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. Wetlands must have one or more of the three attributes: (i) at least periodically, the land supports predominantly hydrophytes; (ii) the substrate is predominantly hydric soil; and (iii) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year." (Cowardin et al. 1979, US Fish & Wildlife Service, Washington, DC.)*

elevation of 3.82 m above MSL and its foundation was laid a couple of meters below the MSL. Consequently, the freshwater runoff from the river Shen Shuri river/stream (locally known as Han Hori) and its catchment area created a freshwater reservoir which has a total water storage capacity of 62.3 mcf (million cubic feet) and a total water spread area of 244 ha at 3.82 m contour level (**Figure 25**). Thus, the Samadhiala bandhara lies in the lower part of the drainage basin of the River Shen Shuri (locally known as Han Hori) (**Figure 9-11**).

We wish to add that depending upon the annual variation in the rainfall in this semi-arid coastal region, the entire 244 ha may or may not get filled with water. In exceptional years, the water body may even exceed the area and overflow through the bund into the sea.

Besides controlling the salinity intrusion, this reservoir was foreseen by the Water Resources Department to benefit the farmers by lift irrigation (**Figure 20**) of 300 ha of cultivable lands in villages Samadhiala, Patwa and Doliya.

According to the figures on record, at least 100 ha of the water body/wetland on the upstream side lie within the 268 ha land originally allotted to Nirma Ltd. Like much of the remaining wetland/water body, this 100 ha area had been subjected to submergence for a few months after the monsoon rains. Apart from this 100 ha, several hectares of the remaining 168 ha are also low-lying and retain water for a few months after the rainy season (**Figure 12 & 13**).

All members of the Expert Body walked through the entire 2.5 km length of the Samadhiala Bandhara wetland/water body, passing through the entire width between the water channel and the dry higher margins, from the Bund over the Motpak Creek to the project site of Nirma Ltd. The entire area is dominated by at least four species of sedges such as *Scirpus* sp. and *Cyperus* sp. (**Figure 14**) and only a couple of patches were found in flowering. Another typical wetland plant, *Typha angustata*, is present in abundance (**Figure 15**) nearer the water margins - apparently where water stays longer during the

year. Among other truly aquatic and wetland plants which occurred in abundance in the water and on moist soils in the area were: *Marsilea*, *Paspalum*, *Potamogeton pectinatus*, *Zannichellia*, *Najas*, *Ceratophyllum*, *Vallisneria* (**Figure 16**), *Eclipta* and *Alternanthera*. *Salsola*, *Suaeda* were two common species of saline moist habitats.

During our visit, we noted a couple of thousands of water birds belonging to about 25 species in the area, including globally threatened species such as Lesser Flamingo, Eurasian Spoonbill, Painted Stork, Black-necked Stork, Black-headed Ibis, Black-tailed Godwit, Pelicans and Blackbellied Terns (**Figure 17 & 18**). A list of the water birds of the area, including winter migrants, is annexed (**Annexure 5**).

At several places in the shallow water bodies still holding water in between the drier parts, there were frogs in very large numbers. Among other fauna, we noticed a few molluscs.

As far as soils are considered, they invariably bore the signature of flooding in the area. In general, the upper 30-50 cm layer was clayey with significantly large amounts of organic matter, and in dried up patches, deep cracks had developed that occur only after flooded clayey soils dry up (**Figure 19**).

Based on the above noted facts, the area could be categorised both as a water body and a typical wetland, and *we conclude that the area allotted to Nirma Ltd. at or below 3.82 m contour line above MSL is an integral part of the 244 ha Samadhiala wetland*. The remaining area allotted to Nirma Ltd. constitutes the adjacent catchment of this wetland. The catchment in fact exceeds far beyond and drains through the project area. The catchment exerts therefore a major influence on its hydrology, water quality, flora and fauna.

We may add that until the year 2000, the area had been a tide-influenced saline/brackish coastal marsh (wetland) whose salinity regime had been altered by the construction of the Bandhara.

The Water Resources Department of the Govt. of Gujarat has a well defined scheme of connecting the four Bandharas - Malan, Samadhiala, Nikol and Kalsar through spreading channels. The Government had sanctioned a budget for constructing 'spreading channels' from Malan Bandhara to Samadhiala Bandhara but somehow the works could not be taken up.

This wetland has several important functions/ecosystem services. Besides (1) preventing salinity intrusion and (2) facilitating irrigation (**Figure 20**), the wetland has helped (3) ground water recharge thereby raising the groundwater table (as reported by the State Agriculture Department of Gujarat), (4) supported a rich biodiversity, (5) provided valuable grazing grounds (**Figure 21**) and (6) supported livelihood. The Govt. of Gujarat has admitted during our discussions that the Samadhiala Bandhara as well as other bandharas are a CPR (common property resource). The Govt. has no objection to the farmers using water from the Bandhara for irrigation. (**Figure 20**).

b. Whether the project could come up on such wetlands / water bodies and if so, what would be its impact on environment? Would it lead to environmental degradation?

No. No project, whether industrial or otherwise, should be allowed within a wetland/ water body.

Explanation:

According to the National Water Policy 2002, drinking and irrigation are accorded the first and second priority in the allocation of water resources. The bandhara is a major source of water for both drinking (groundwater) and irrigation in the surrounding villages.

Any anthropogenic activity that potentially alters the hydrological regime or obstructs water flow into the wetland/water body or affects the water quality should not be allowed within an area of influence close to the wetland/water body.

A project located within the water body/wetland is bound to directly impact on it and degrade it through obstruction of water flow, natural hydrological regimes, topography, disturbance to the flora and fauna, some level of erosion, and different forms of pollutants (if any). There should be an adequate buffer strip between the boundary of the wetland/water body and the project site so as to prevent obstruction of natural flows and direct impacts on the wetland.

Further, this wetland supports fairly rich and important biodiversity and livelihood of local communities. Therefore, it is not desirable to have a cement plant in this wetland as well as in its immediate vicinity.

Impacts in the Present Case:

Earth excavated from the surrounding lands (purportedly for creating canals/channels/deep water storage area) is being used to raise the level of the project site to 6.3 m above MSL - i.e. about 2.5 m above the contour level of the wetland boundary. Even if the project does not directly discharge any solid or liquid waste directly into the Bandhara, it is beyond imagination that there will be nothing flowing down from the elevated project land that will be surrounded by the wetland and the canals draining into it.

The raising of land under the possession of the plant by filling it up with soil from nearby areas may cause flooding in the upstream reaches, and cause erosion carrying sediments downstream into the bandhara with the runoff.

A very significant problem so far overlooked is that about 125 ha of land (marked A1, A2 and A3 (**Figure 22**)) proposed to be deepened outside the 268 ha area of land originally allotted to Nirma Ltd. Out of this an estimated 70-75 ha of the land lies within the 3.82 m contour line above MSL level of the original Bandhara. We are surprised that in order to compensate the loss of water from the 100 ha of wetlands possessed by Nirma Ltd, another 70-75 ha of the adjacent area in the wetland is also being destroyed.

The project and its associated activity of deepening a total of 192 ha area - both below and above the 3.82 m contour level, besides the creation of wide deep canals on three sides of the project site, obviously to raise the ground level for the Project (**Figure 23**), will drastically alter the shape, size, depth and hydrology of the original wetland. The dredged out areas to increase the water storage capacity will neither be a substitute nor a compensation for the lost wetland. It is significant to highlight that the proposed deepening of the wetland area will in all likelihood cause salinity ingress because of the proximity to the sea level. The project will therefore negate the very objective of the salinity control in the area.

The impacts of the project and the environmental degradation caused by it will extend to the agricultural productivity in different ways - through availability and quality of water and likely air pollution (howsoever small). The Mahuva area is known for its onion production (6% of the country's total) and groundnuts, among other crops. The area is stated a double-crop area.

It was argued on behalf of the Nirma Ltd. that dredging and canals will create extra water storage capacity for the benefit of the people. It is not explained how under the present rainfall and evapotranspiration conditions an extra 62 mcft water will runoff from the same catchment. However, if this happens, the possibility of the Project using at least some of the freshwater stored in the Bandhara around its site - either directly or through groundwater abstraction - cannot be ruled out.

The project site will invariably contribute to erosion and transport of silt to the Bandhara as well as transport of some liquid wastes through the drains. This is likely to affect the water storage capacity, water quality and alter the vegetation structure and the habitat of other fauna. If zero discharge and total utilization of solid wastes by the plant are not achieved, it will lead to the degradation of the existing wetland and affect its functions.

Coal-based thermal power plants and coke-oven plants are heavy polluting industries and fugitive emissions from these units as well as from the Cement unit will have adverse impacts on the aquatic life and water quality in the Bhandara. Coke oven plant can be highly polluting for air due to release of volatile gases from coal. Scrubbing of emissions and use of excess water for quenching can produce effluent containing phenol and cyanides besides several other potentially toxic compounds which if discharged may result in fish kills and damage to other biota.

We have serious concerns also about the use of seawater for the power plant. It is not clear where it will be disposed off. If it escapes into the canals, the Bandhara will be salinised negating all the purposes and efforts of the State Government to improve agriculture in the area.

Similarly, the plans for the disposal and treatment of sewage, irrespective of the amount, are not provided. The Project plans an expansion into future. The impacts of such an expansion on the limited land without access to more land, water, minerals, etc. cannot be assessed now.

We learned from the Govt. of Gujarat that in-principle approval has been given for 3468 ha of land lying immediately adjacent to the project site (except for a small patch) for mining activity (**Figure 24**). Nirma Ltd. had asked for more than 4000 ha of land and may need more for expansion of the project. The mining of limestone in the lands approved in principle by the Gujarat Government (if allowed after proper EIA clearance) can be a disaster for the Samadhiala Bandhara as the lands lie in the catchment of the reservoir. Mining can affect the water flow into the reservoir and thereby reduce water

availability. It is feared that there will be extensive salinity ingress in the mined pits and the pumping saline water from mine pits to extract mineral create havoc on the fresh water of Samadhiala. The impacts of mining on the adjacent lands on the Samadhiala wetland have to be taken into account before considering the project at all.

We examined the views and arguments placed before us by Nirma Ltd. and their consultants. We do not agree with their views. Our response to their presentations are given in the **Annexure 6**.

c. If at all the project could come up, what steps the user agency should take in the interest of environment protection?

Based on the arguments presented above in response to questions 1 and 2, in our view, the project cannot and should not come up in the present area.

At this stage, it is also important to highlight that the Samadhiala Bandhara wetland/water body is a CPR (common property resource) as admitted by the Govt. of Gujarat during our discussions. The Hon'ble Supreme Court in its recent Judgement on 28 January 2011, in Civil Appeal no. 1132/2011 @SLPC no. 3109/2011 (Jagpal Singh & ors vs State of Punjab & Ors), has held that the village commons cannot be allowed to be encroached upon or allotted for any profit making activity, and also directed all State Governments to prepare schemes for eviction of illegal occupants from all common lands for the common use of the villagers.

d. The precise current status of the project may also be indicated by the Expert Body.

Civil works and procurement of equipment and machinery were in progress before cessation of works on 12.03.2011. Site visit supported by photographs show the progress made on construction of civil works and lists have been provided by the Company for equipment already delivered and those ready for dispatch besides financial summary,

construction status and status of other infrastructure established at the site (**Figure 19 & Annexures 7 & 8**).

It can be seen that work has proceeded on the Cement Mill (kiln blending silo reheater tower, raw mill, coal mill, raw material hopper cooler house, workshop and a few other structures such as office, canteen and boundary wall). On the basis of Purchase Orders and Work Orders and taxes, etc. it is claimed that Rs. 493.00 Crores have been committed on the Cement Project, the estimated cost of which was Rs. 995.00 Crores (i.e. 49%). The valuation of the work completed will be quite different from the value of purchase and work orders. The unused material supplied at site and equipment delivered can be shifted and used. It will be a very detailed exercise to assess the loss represented by the value of works that have to be abandoned and the expense that cannot be recovered which will, apparently, be a much smaller amount than Rs. 493.00 Crores. As a very rough guess, we consider that such amount may not exceed Rs. 100.00 Crores.

Conclusions and Recommendation:

Based on the observations made on the topography and ecology of the area in and around the site of Nirma Cement Plant Complex, discussions held with all stakeholders including project proponents (Respondent No. 4), petitioners and local communities and analyses of the observations presented in the Report, the committee concludes the following:

1. Location of Nirma Cement Plant (1.91 MTPA), Captive coal based Power Plant (50 MW) and Coke Oven Plant (1.5 LTPA) on 268 ha of land allotted to M/s Nirma Ltd. by the Govt. of Gujarat at Padhiaraka Village, Mahuva Taluka, Bhavanagar District is a part of Samadhiala Bandhara water body and its periphery in the catchment. This is a coastal saline natural ecosystem converted into fresh water ecosystem (considered as local Common Property Resource) by the construction of a Bandhara to: (i) prevent salinity ingress to the surrounding fertile crop fields; (ii) store water used for irrigation during dry period; and (iii) recharge ground water.

2. The location of heavy polluting units-coal based thermal power plant and coke oven plant together with the cement plant would generate particulate matter/fugitive emissions and effluents that will lead to reduction in crop yields due to interference in photosynthesis and transpiration and will also bring changes in the ecology of water body. The accidental release of effluents may contribute to the degradation of environment and fish kills in the water body and damages to other aquatic flora and fauna. Further, the location of the industrial complex would adversely impact the ecosystem services. The lime stone mining in 3460 ha, the bulk of which is crop area, will lead to the creation of over burden dumps (OBDs) and deep voids (pits) which may result in the reduction in catchment area and possible salinity ingress and make the entire area, which is agriculturally important, particularly for onion production (Mahuva alone constitute 6 % of country's production) environmentally and ecologically degraded.

3. It may also be noted that Mahuva taluka also harbours Asiatic Lions and four of them are spotted in and around Bandhara water body (based on Gujarat Forest Department Census, 2010). In fact, there is a Reserve forest within 10 km radius of the site. Two critically endangered vulture species (White-backed Vulture and Longbilled Vulture) and many other globally threatened bird species are seen around the Bandhara.

Recommendation:

In the light of above, the committee unanimously recommends that the site of the cement plant industrial complex of Nirma be relocated elsewhere outside Samadhiala Bandhara – a Common Property Resource (CPR) – and its periphery.

Acknowledgements:

The Expert Body acknowledges logistics provided by the State Government of Gujarat, particularly Gujarat State Pollution Control Board.

Annexures

Annexure 1: Supreme Court Order dated 18.03.2011

ITEM NO.22

COURT NO.1

SECTION IX

S U P R E M E C O U R T O F I N D I A RECORD OF PROCEEDINGS

Petition(s) for Special Leave to Appeal (Civil) No(s).14698/2010

(From the judgement and order dated 26/04/2010 in SCA No.3477/2009 of The HIGH COURT OF GUJARAT AT AHMEDABAD)

KHIMJIBHAI LAKHABAI BARAIYA
VERSUS

Petitioner(s)

UNION OF INDIA & ORS.

Respondent(s)

(With prayer for interim relief and office report)

With S.L.P. (C) No.15016 of 2010

(With prayer for interim relief and office report)

S.L.P. (C) No.32414 of 2010

(With prayer for interim relief and office report)

S.L.P. (C) No.32615 of 2010

(With prayer for interim relief and office report)

Date: 18/03/2011 These Matters were called on for hearing today.

CORAM :

HON'BLE THE CHIEF JUSTICE

HON'BLE MR. JUSTICE K.S. PANICKER RADHAKRISHNAN

HON'BLE MR. JUSTICE SWATANTER KUMAR

For Petitioner(s) Mr. Sanjay R. Hegde, Adv.
In SLP 14698/2010 Mr. Krutin Joshi, Adv.
and SLP 32414/2010: Mr. Abhishek Malviya, Adv.
Mr. Anil Kumar Mishra, Adv.

In SLP 15016/2010 Dr. Rajeev Dhawan, Sr. Adv.
and SLP 32615/2010: Ms. Kamini Jaiswal, Adv.
Mr. A.J. Yagnik, Adv.
Mr. Abhimanue Shreshtha, Adv.
Mr. Divyesh Pratap Singh, Adv.

For Respondent(s) Mr. D.A. Dave, Sr. Adv.

Mr. Nikhil Goel, Adv.
Mr. Ramesh Singh, Adv.
Mr. Naveen Goel, Adv.
Mr. Marsook Bafaki, Adv.
Ms. Sheela Goel, Adv.
Mr. L.N. Rao, Sr. Adv.
Mr. Shyam Divan, Sr. Adv.
Ms. Hemantika Wahi, Adv.
Mr. Gopal Subramaniam, SG.

Mr. Haris Beeran, Adv.
Ms. Padmalakshmi Nigam, Adv.
Mr. Anand Verma, Adv.
Mr. S.N. Terdal, Adv.
Mr. Goolam E. Vahanvati, AG.
Mr. Haris Beeran, Adv.
Mr. A. Venayagam Balan, Adv.

UPON hearing counsel the Court made the following
O R D E R

Learned Solicitor General, with his usual fairness, stated that he would like to re-visit the environment clearance in respect of the project undertaken by Respondent No.4, particularly, in view of the conflicting stand taken in the affidavits from time to time.

After hearing learned senior counsel on both sides, we are of the view that Expert Appraisal Committee of the Ministry of Environment and Forest will call for the Report of an Expert Body consisting of five independent reputed Scientists who will visit the site and answer the following issues:

(a) Whether the lands in question were wet lands/water bodies;
(b) Whether the project could come up on such wet lands/water bodies and if so, what would be its impact on environment? Would it lead to environmental degradation?

(c) If at all the project could come up, what steps the user agency should take in the interest of environment protection; and

(d) The precise current status of the project may also be indicated by the Expert body.

The Expert body will give hearing to Respondent No.4-user agency as well as to all objectors and shall submit its Report. This exercise will be completed by the Expert body within six weeks. The Report will be then submitted to the Ministry of Environment and Forest which will then take its decision within two weeks.

We make it clear that we express no opinion on the merits of the case and all contentions on

the merits of the case are kept open. We may clarify that the Expert body will give its Report and Ministry of Environment and Forest will also take its decision uninfluenced by any observations made in the pending proceedings.

Mr. Dave, learned senior counsel appearing for the user agency fairly states that, on 7th April, 2011, they will move the High Court and withdraw the pending writ petition in view of this Order.

Place these petitions on 10th May, 2011.

[Alka Dudeja]
A.R.-cum-P.S.

[Madhu Saxena]
Assistant Registrar

Annexure 2: Office Memorandum of MoEF constituting Expert Body

F. No. L-11011/7/2010-IA-II (I)
Government of India
Ministry of Environment and Forests

E mail: plahujarai@yahoo.com

Telefax: 24363973

Paryavaran Bhavan, CGO Complex

Lodi Road, New Delhi-110003

Dated: 30th March, 2011

OFFICE MEMORANDUM

Sub: Constitution of Expert body in pursuance to the Directions of the Hon'ble Supreme Court dated 18.03.2011 in respect of Petitions for Special Leave to Appeal (Civil) no. 14698, 15016, 32414, and 32615 of 2010 filed by Khimjibhai Lakhabhai Baraiya Vs. Union of India and others in the matter of the Cement Plant (1.9 MTPA; 1.50 MTPA Clinker) and Captive Power Plant (50 MW), Coke Oven Plant (1.5 LTPA) near Village Padihiark, Taluka Mahuva, District Bhavnagar, Gujarat by **M/s Nirma Limited – regarding**

The Hon'ble Supreme Court vide order dated 18.03.2011 (copy enclosed) has directed that "Expert Appraisal Committee (EAC) of the Ministry of Environment and Forests will call for the report of the Expert body consisting of five independent reputed Scientists who will visit the site and answer the following issues":

- a) Whether the lands in question were wet lands / water bodies;
- b) Whether the project could come up on such wet lands / water bodies and if so, what would be its impact on environment? Would it lead to environmental degradation?
- c) If at all the project could come up, what steps the user agency should take in the interest of environment protection; and
- d) The precise current status of the project may also be indicated by the Expert body.

2.1 Pursuant to the Directions of the Hon'ble Supreme Court pertaining to the proposed Cement plant of Nirma in Gujarat, EAC (Industry) at its meeting on 26.03.2011, proposed the following panel of experts of Expert body:

- i. **Prof. C.R. Babu**
Centre for Environmental Management
of Degraded Ecosystems,
School of Environmental Studies,
University of Delhi, Delhi-110 007.

Chairman

- ii. **Dr. Asad R Rahmani** - Member
Director,
Bombay Natural History Society,
HornBill House, Dr. Salim Ali Chowk (Opp. Lion Gate),
Shaheed Bhagat Singh Road,
Mumbai – 400001
Tel: 022 – 2282 1811
Fax: 022 – 2283 7615
Email: bnhs@bom3.vsnl.net.in
- iii. **Dr. Parikshit Gautam** - Member
Director, Freshwater & Wetlands,
WWF-India,
172 B, Lodhi Estate,
New Delhi- 110003
Tel: 011- 4150 4820
Fax: 011- 2469 1226;
E-mail: pgautam@wwfindia.net
- iv. **Dr. Ligia Noronha** - Member
Director, Resources,
Regulation and Global Security,
TERI, Darbari Seth Block, IHC Complex, Lodhi Road,
New Delhi - 110 003
Tel: 011 – 2468 2100 (Ext: 2319);
Fax: 022 – 011 – 2468 2144 / 2468 2145;
Email: ligian@teri.res.in
- v. **Prof. Brij Gopal** - Member
National Institute of Ecology,
41-B, Shiv Shakti Nagar,
Jagatpura Road,
Jaipur - 302017
Tel: 0141 – 2751 345
Email: brij44@gmail.com;
- vi. **Dr. E.J. James** - Member
Director,
Water Institute, Karunya University,
Karunya Nagar,
Coimbatore-641 114, Tamil Nadu.
Tel: 0422 – 2614300; (Ext: 4478);
Fax: 91 422 2615615;
Email: info@karunya.edu

- 2.2 Dr. PB Rastogi, Director, MoEF will function as the Secretary of the Expert Body.
3. The Expert body shall:
- look into the issues that mentioned in para 1, above
 - inspect the plant site of M/s Nirma Limited and will give hearing to M/s Nirma Limited as well as to the objectors
 - the expert body may co-opt additional experts, if required.
4. The Committee shall submit its report to the Expert Appraisal Committee by 15.04.2011 for its consideration. The report then will be submitted to the Ministry which will take its decision within two weeks.
5. The TA/DA for non-official members shall be borne by the Ministry as per rules. Sitting fee of Rs. 3000/day to the members will be paid during the site visit and for the meetings to be held for preparation of the report.
6. The arrangements for the site visit shall be made by the Gujarat Pollution Control Board. Shri Purshotam Sakhre, research Officer and the concerned officer of the SPCB, Gujarat shall accompany and assist the expert body for the site visit.
7. This issues with the approval of the IFD vide its Dy no. 536/IFD/E/2011 dated 23.03.2011.

(Dr. P.L. Ahujarai)
Director

Encl: as above

Copy to:

- 1) The Chairman / all members of the Expert Committee.
- 2) The Secretary, Department of Environment and Forests, Government of Gujarat, Gandhinagar, Gujarat.
- 3) The Chief Conservator of Forests (Central), Ministry of Environment and Forests, Regional Office, (West), Link Road No. 3, E-5, Arera Colony, Bhopal – 462 016. (M.P.)
- 4) The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi – 110 032.
- 5) The Chairman, Gujarat Pollution Control Board, Paryavaran Bhawan, Sector 10-A, Gandhinagar, Gujarat -382010
- 6) M/s Nirma Limited, Nirma House, Ashram Road, Ahmedabad -38009, Gujarat,
E-Mail: vndesai@nirma.co.in / cement_project@nirma.co.in.
(Fax: 079-27546999)

Annexure 3: Office Memorandum of MoEF for inclusion of additional member of Expert Body

F. No. L-11011/7/2010-IA-II (I)
Government of India
Ministry of Environment and Forests

E mail: plahujarai@yahoo.com
Telefax: 24363973
Paryavaran Bhavan, CGO Complex
Lodi Road, New Delhi-110003
Dated: 13th March, 2011

OFFICE MEMORANDUM

Sub: Constitution of Expert body in pursuance to the Directions of the Hon'ble Supreme Court dated 18.03.2011 in respect of Petitions for Special Leave to Appeal (Civil) no. 14698, 15016, 32414, and 32615 of 2010 filed by Khimjibhai Lakhabhai Baraiya Vs. Union of India and others in the matter of the Cement Plant (1.9 MTPA; 1.50 MTPA Clinker) and Captive Power Plant (50 MW), Coke Oven Plant (1.5 LTPA) near Village Padihiark, Taluka Mahuva, District Bhavnagar, Gujarat by **M/s Nirma Limited – regarding**

This is in continuation of this Ministry OM of even no. dated 30th March, 2011 regarding constitution of expert body in pursuance to the Hon'ble Supreme Court order dated 18.03.2011 on the above subject.

2. Shri Paritosh Tyagi, Ex- Chairman, Central Pollution Control Board, will be the member of the expert body.
3. The TA/DA for the non-official member shall be borne by the Ministry as per rules. Sitting fee of Rs. 3000/day to the member will be paid during the site visit and for the meetings to be held for preparation of the report.
4. This issues with the approval of the IFD vide its Dy. No. 694/IFD/E/2011 dated 13.04.2011 and Competent Authority.

(Dr. P.L. Ahujarai)
Director

Copy to:

- 1) The Chairman / all members of the Expert Body.
- 2) The Secretary, Department of Environment and Forests, Government of Gujarat, Gandhinagar, Gujarat.
- 3) The Chief Conservator of Forests (Central), Ministry of Environment and Forests, Regional Office, (West), Link Road No. 3, E-5, Arera Colony, Bhopal – 462 016. (M.P.)
- 4) The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi – 110 032.

- 5) The Chairman, Gujarat Pollution Control Board, Paryavaran Bhawan, Sector 10-A, Gandhinagar, Gujarat -382010
- 6) Shri Paritosh Tyagi, Ex-Chairman Central Pollution Control Board, 48-B, Green View Apartments, Sector 15 -A NOIDA- 201 301.(E-mail: paritoshtyagi@gmail.com)
- 7) M/s Nirma Limited, Nirma House, Ashram Road, Ahmedabad -38009, Gujarat, E-Mail: vndesai@nirma.co.in / cement_project@nirma.co.in.
(Fax: 079-27546999)
- 7) Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhawan, CGO Complex, Lodhi Road, New Delhi – 110 003.
- 8) The Pay & Accounts Officer, Govt. of India, MoEF, New Delhi-110003
- 9) IFD/Budget and Account Section
- 10) Guard File / Monitoring File / Record File.

(Dr. P.L. Ahujarai)
Director

Copy for information to:

- i. PS (MEF) / PPS Secretary (E & F) / PS to SS (JMM) / PA to Adviser (NB)

Annexure 4: List of participants in discussions held on 18th April 2011 at Nirma Plant Site and on 19th April 2011 at Gandhinagar (Ahmedabad)

List of Participants in discussions held on 18th April at Nirma Plant Site and on 19th April at Gandhinagar

S.N. Name of Participants	Designation/ Department
Expert Body	
1. Prof. C R Babu,	Chairman
2. Dr. Asad R Rahmani	Member
3. Dr. Parikshit Gautam	Member
4. Dr. Ligia Noronha	Member
5. Dr. Paritosh C Tyagi	Member
6. Prof. Brij Gopal	Member
7. Dr. E J James	Member
Ministry of Environment & Forests	
8. Dr. P B Rastogi	Secretary
9. P. R. Sakhare	Research Officer
State Government of Gujarat	
10. Dr. S K Nanda	Private Secretary, F & E Department
11. S J Desai	Secretary, Narmada & Water Resource Irrigation Department
12. P.B. Chovatia	Executive Engineer (NWRD)
13. C.V. Natpam	CE(S) & AS, Water Resource Department
14. A.M. Mankal	Joint Secretary, Revenue Department
15. A.C. Acharya	Revenue Department, Mahuva
16. R B Anguri	Office of the Collectorate, Revenue Department Bhavnagar
17. B.R. Patel,	Dy. Collector, Revenue Department, Mahuva
18. B.P. Choudhary	Additional Collector (Co-ordination), Revenue Department, Bhavnagar
19. J.K. Jha	Director Environment and Additional Secretary, Forest & Environment Department.
20. H.D. Shrimati	Additional Industries Commissioner, Industries Commissioner- Industries. & Mines Dept.
21. J M Patel	Additional Director, Ecology & Mining Deptt. Gandhinagar,
22. Sanjay V. Dane	Geology, Commissioner of Geology & Mining Gandhinagr

- | | |
|-------------------|---|
| 23. R.M. Pipalia | Superintendent Engineer, Salinity Ingress
Prevention Civil (SIPC) – Water Resource, Rajkot |
| 24. R P Pethari | Under Secretary, Water Resource. |
| 25. P.B.. Angoori | Officer of the Collectorate, Bhavnagar |
| 26. Rajula | D E E, Salinity Control, Rajula |
| 27. M.K. Shifal | T.C.M. Pathiyarku |
| 28. L.A. Shiyal, | A.A.E S.P.P.I |
| 29. C.L. Balen | - |
| 30. B.H. Gosai | Talati Cum Mantri, Vangar |
| 31. M.K. Shiyar | Talati Cum Mantri, Pathiyarka |
| 32. M H Joliya | |

GPCB Officials

- | | |
|--------------------|-------------------------------------|
| 33. Hardik Shah | Member Secretary, GPCB, Gandhinagar |
| 34. B.M. Mukerjee | GPCB, Gandhinagar |
| 35. J.D. Goshari | DEE, GPCB Gandhinagar |
| 36. D.B. Prajapati | SSA, GPCB Gandhinagar |
| 37. B M Makwana | SO, GPCB, Gandhinagar |
| 38. R.P. Gupta | DEE, GPCB, Bhavnagar |
| 39. A.V. Shah | RO, GPCB, Bhavnagar |
| 40. B.R. Kunadia, | SSA, GPCB, Bhavnagar |
| 41. R.B. Malwa | GPCB, Bhavnagar |
| 42. R B Makvana | JSA, Bhavnagar |
| 43. B M Mapekhare | SO, GPCB, Bhavnagar |

M/s Nirma Limited

- | | |
|-----------------------|----------------------|
| 44. Hirenghai Patel | Managing Director |
| 45. V N Desai | Vice President |
| 46. Ashish Desai | Project Co-ordinator |
| 47. Ajay Khushu | General Manager |
| 48. Mitesh Patel | - |
| 49. Umesh Sharma | - |
| 50. Vijay Kumar Gupta | - |
| 51. Ashish Desai | - |
| 52. G.K. Khatry | - |
| 53. Gaurav Gadani | - |
| 54. Tarch Vashnav | - |

Consultants of M/s Nirma Ltd.

- | | |
|----------------------|-------------------------|
| 55. Ramesh Singh | Advocate |
| 56. K.A. Rao | University of Delhi |
| 57. A.K. Sinha | University of Rajasthan |
| 58. K.P. Sharma | Consultant |
| 59. Marisita Sharma | MIN MEC |
| 60. Rajeev L. Semwal | Independent Consultant |

Annexure 5: Bird species recorded in the wetland of Samadhiala Bandhara in 2010-2011 and along with a Note on faunal diversity around Nirma Plant area (Mahuva)

Bird species recorded in the wetland of Samdhiyala bhandara (wetland) in 2010-2011 and a note on Faunal Diversity in Nirma Plant area (Mahuva)

Bird Species Protection	Number	IUCN Status	Wildlife Act
GREBES			
Little Grebe IV <i>Tachybaptus ruficollis</i>	500	Least Concern	Schedule
Great Crested Grebe IV <i>P. cristatus</i>	5	Least Concern	Schedule
PELICANS			
Great White Pelican IV-B <i>Pelecanus onocrotalus</i>	100	Least Concern	Schedule
Unidentified pelicans	700		
RAPTORS AND VULTURES			
White-backed Vulture I <i>Gyps bengalensis</i>	Very few	Critically Endangered	Schedule
Long-billed Vulture Schedule I <i>Gyps indicus</i>	Few	Critically Endangered	
CORMORANTS & DARTERS			
Great Cormorant IV-B <i>Phalacrocorax carbo</i>	100	Least Concern	Schedule
Indian Shag <i>P. fuscicollis</i> IV-B	200	Least Concern	Schedule

Little Cormorant <i>P. niger</i> IV-B	3000	Least Concern	Schedule
--	------	---------------	----------

Oriental Darter IV-B <i>Anhinga melanogaster</i>	5	Near Threatened	Schedule
--	---	-----------------	----------

HERONS & EGRETS

Indian Pond Heron IV-B <i>Ardeola grayii</i>	500	Least Concern	Schedule
--	-----	---------------	----------

Cattle Egret <i>Bubulcus ibis</i> IV-B	500	Least Concern	Schedule
---	-----	---------------	----------

Western Reef Egret IV-B <i>Egretta gularis</i>	200	Least Concern	Schedule
--	-----	---------------	----------

Little Egret <i>E. garzetta</i> IV-B	2000	Least Concern	Schedule
---	------	---------------	----------

Intermediate Egret IV-B <i>E. intermedia</i>	200	Least Concern	Schedule
--	-----	---------------	----------

Great Egret <i>E. alba</i> IV-B	300	Least Concern	Schedule
------------------------------------	-----	---------------	----------

Purple Heron IV-B <i>Ardea purpurea</i>	10	Least Concern	Schedule
---	----	---------------	----------

Grey Heron <i>A. cinerea</i> IV-B	15	Least Concern	Schedule
--------------------------------------	----	---------------	----------

STORKS

Painted Stork IV-B <i>Mycteria leucocephala</i>	150	Near Threatened	Schedule
---	-----	-----------------	----------

Asian Openbill IV-B <i>Anastomus oscitans</i>	500	Least Concern	Schedule
---	-----	---------------	----------

Black-necked Stork	2	Vulnerable	Schedule I
--------------------	---	------------	------------

IBISES & SPOONBILLS

Black-headed Ibis IV-B <i>Threskiomis melanocephalus</i>	50	Near Threatened	Schedule
Black Ibis IV-B <i>Pseudibis papillosa</i>	10	Least Concern	Schedule
Glossy Ibis IV-B <i>Plegadis falcinellus</i>	500	Least Concern	Schedule
Eurasian Spoonbill IV-B <i>Platalea leucorodia</i>	1500	Near Threatened	Schedule
FLAMINGOS			
Greater Flamingo <i>Phoenicopterus roseus</i>	2000	Least Concern	Schedule I
Lesser Flamingo <i>Phoeniconaias minor</i>	50	Near Threatened	Schedule I
GEESE & DUCKS			
Lesser Whistling-duck IV-B <i>Dendrocygna javanica</i>	8	Least Concern	Schedule
Ruddy Shelduck <i>Tadorna ferruginea</i>	20	Least Concern	
Common Shelduck <i>T. tadorna</i>	10	Least Concern	
Comb Duck <i>Sarkidiornis melanotos</i>	300	Least Concern	
Eurasian Wigeon <i>Anas Penelope</i>	2000	Least Concern	
Gadwall <i>A. strepera</i>	1500	Least Concern	
Common (Green-winged) Teal <i>A. crecca</i>	5000	Least Concern	
Spot-billed Duck <i>A. poecilorhyncha</i>	500	Least Concern	

Northern Pintail <i>A. acuta</i>	10000	Least Concern
Garganey <i>A. querquedula</i>	35	Least Concern
Northern Shoveler <i>A. clypeata</i>	5000	Least Concern
Common Pochard <i>Aythya ferina</i>	1000	Least Concern
CRANES		
Common Crane <i>Grus grus</i>	60	Least Concern
Unidentified cranes	2000	
RAILS, GALLINULES & COOTS		
Purple Swamphen <i>Porphyrio porphyrio</i>	700	Least Concern
Common Coot <i>Fulica atra</i>	10000	Least Concern
FINFOOT & JACANAS		
Pheasant-tailed Jacana <i>Hydrophasianus chirurgus</i>	60	Least Concern
SHOREBIRDS – WADERS		
Black-winged Stilt <i>Himantopus himantopus</i>	2000	Least Concern
Avocet <i>Recurvirostra avosetta</i>	80	Least Concern
Red-wattled Lapwing <i>Vanelus indicus</i>	900	Least Concern
Little Ringed Plover <i>Charadrius dubius</i>	1000	Least Concern
Kentish Plover <i>C. alexandrinus</i>	500	Least Concern
Black-tailed Godwit <i>Limosa limosa</i>	5000	Near Threatened
Greenshank <i>Tringa nebularia</i>	1700	Least Concern

Green Sandpiper <i>T. ochropus</i>	870	Least Concern
Wood Sandpiper <i>T. glareola</i>	500	Least Concern
Little Stint <i>Calidris minuta</i>	10000	Least Concern
Temminck's Stint <i>C. Temminckii</i>	5000	Least Concern
Ruff <i>Philomachus pugnax</i>	2000	Least Concern
Unidentified shorebirds	500	
<i>GULLS, TERNS & SKIMMERS</i>		
Slender-billed Gull <i>Larus genei</i>	200	Least Concern
Gull-billed Tern <i>Gelochelidon nilotica</i>	100	Least Concern
Indian River Tern <i>Sterna aurantia</i>	300	Least Concern
Black-bellied Tern	10	Near Threatened

Note: Although many birds are common and fall in the Least Concern category of the IUCN, they are found in great numbers. For example, 10,000 Little Stint and Common Coot were reported which is a significant percentage of their global population. Similarly, presence of 5,000 Black-tailed Godit, a globally Near Threatened species, is highly significant as this number is not found in many wetlands of India. Similarly finding 1,500 Eurasian Spoonbill in Samdhiala wetland is of global interest as this species is considered as Near Threatened by BirdLife International and IUCN as it has declined in many areas.

Samdhiala bhandara (wetland) easily qualifies the **Important Bird Area** criteria of BirdLife International, and **Ramsar Criteria** of Ramsar Bureau/Wetlands International. India is a signatory to the Ramsar Convention.

Faunal Diversity around Nirma Plant area, Mahuva

Taluka Mahuva is known for its mild weather and lush green crop fields, coconut groves and plantations. Due to its greenery, it is known as *Kashmir of Saurashtra*. A decade ago, it was very dry due to salinity ingress. Even drinking water was difficult to get as ground water was also saline. In order to check salinity ingress, the Government of Gujarat constructed bunds on the coast, locally called *bandharas*. First Nikol Bandhara was established in 2002, then Samdhiyala and Malan. These bandharas helped in preventing salinity ingress and also created water bodies of freshwater. Local people soon realized the benefit of these waterbodies for drinking and irrigation. Therefore, they started supporting these bandharas and the resultant water bodies. In order to increase the water holding capacity of these bandharas, farmers have joined them through water pipes and have voluntarily given their land.

Besides agriculture fields, the area is full of thorny vegetation of *Prosopis juliflora*, *Acacia* and other such plants and common grazing lands. Blackbuck (70+), Nilgai or Bluebull (100+), Chinkara, Cheetal and feral cows are present in large numbers. These are the food base of **Asiatic Lion**. According to the latest census, four (one female and three juveniles) are seen within Doliya where Nirma wants to establish the cement factory. Total lion population in Mahuva taluka is about 30 individuals. **Indian Wolf** *Canis lupus* (Schedule I), Indian Fox *Vulpes bengalensis* (Schedule I), Caracal (Schedule I) are also reported to be present in this area.

Almost all the local communities are vegetarian, hence shooting and hunting of wild animals is unheard off. The wetlands of bandharas, freshwater on one side and brackish water on the other, attract large number of waterbirds, including globally threatened and Schedule I species. According to winter estimate, nearly 1 lakh birds are seen in Samdhiyala, Malan and Nikol. Critically endangered **White-backed Vulture** *Gyps bengalensis* is also found in this area and a feeding centre is ongoing to provide them diclofenac-free food.

Annexure 6: Responses of the Expert Body to the Submissions made by Nirma Ltd and its consultants at the site on 18th April 2011

Responses of the Expert Body to the Submissions made by Nirma Ltd and its Consultants at the site on 18 April 2011

During the visit of the Expert Body to the Nirma Ltd's project site and Bandhara near Mahuva on 18th April 2011, the officials of Nirma Ltd made a brief presentation followed by presentations by their consultants/experts Prof. K.P. Sharma (Jaipur), Prof. A.K. Sinha (Jaipur) and Prof. K.S. Rao and Dr R.L. Semwal (Delhi). The text of their presentations was also submitted in hard copies.

The Expert Body evaluated their presentations and written documents and made the following observations:

Prof. K.P. Sharma dealt solely with the question whether the lands in question were wetlands/ water bodies. He supported the view of Nirma Ltd that the land allotted to them is a wasteland because it is classified as such in the Revenue Records.

First and foremost, Prof. K.P. Sharma ignores completely that the lands with Nirma Ltd lie within the elevation contour of 3.82 m above MSL and thus form an integral part of the Samadhiala Bandhara. The nature of this land cannot be delinked from that of lands under the remaining Bandhara.

Though Prof. Sharma reproduced the definition of wetlands by the Ramsar Convention that clearly includes words "*natural or artificial, permanent or temporary*", he ignored it totally by saying that "*the temporary submerge area does not fall within a scope for Ramsar definition*". Innumerable wetlands in arid and semi-arid areas of the world are seasonal and hold water for only one season (3-4 months).

Prof. K.P. Sharma (Jaipur) contended that the area under the project has the dominance of *Prosopis juliflora* - an exotic invasive species, along with a few plants of *Capparis*, *Zizyphus* and *Solanum surratense*. He did find patches of *Scirpus* sp. But ignored to recognise it as a

typical wetland species. Mere presence of *Prosopis* in the area does not qualify the lands to be wasteland. *Prosopis juliflora* was earlier planted in Keoladeo NP (Bharatpur) on especially raised mounds to provide roosting sites for birds and has now turned into a problem as it is spreading in that Park due to exposure of areas which once remained under water. One cannot declare the Keoladeo NP to be a wasteland only because of the occurrence of *Prosopis*.

Prof. K.P. Sharma invoked the Ramsar Convention's Criteria which refer only to the identification of wetlands of **International Importance**. This is totally irrelevant to the question whether the lands were wetlands or not.

Prof. K.P. Sharma reported the occurrence of only 40 to 75 water birds belonging to four species in water spread area near the project site. These appear to be casual observations because we have observed several hundred water birds of about 25 species within about two hours of noon time during our walk through the water spread area.

Prof. Sharma's conclusion of low species richness is absolutely wrong. He ignores the fact that worldwide the wetlands are often dominated by only one or two species (such as *Phragmites*, *Typha*, *Cyperus*, *Carex*, etc.). The species richness in the Samadhiala wetland is reasonably high and important for the area. He ignored the fact that the area in question was a saline marsh before it was converted into a fresh waterbody.

Prof. K.P. Sharma also observed that the temporary submergence of a small area in the project land allotted to Nirma Ltd has none of the benefits attributed to wetlands. The contribution to prevent and/or reduce salinity and to increase in groundwater recharge as well as support to livelihoods is in themselves a significant benefit.

Prof A.K. Sinha dealt in detail with the hydro-geo-environmental perspective to conclude that the project area is a salinised wasteland. His finding that the core project area does not show development of fluvial signature indicating the absence of rivulet or stream, is untenable because the 1969 toposheet clearly shows the drainage network of the area.

The area had been saline (affected by tides) only ten years ago, and therefore presence of salinity in the groundwater to some extent is expected. However, numerous plants and

animals depend entirely upon saline water and therefore, Prof. Sinha's statement that the salinity makes water unfit for fauna and flora in area is not only incorrect but unscientific.

Temporary lowering of the water table in a part of the project area, as claimed by Prof. Sinha, does not disqualify the area from being a wetland. There is no such international criterion.

Whereas the water chemistry has no bearing whatsoever on the lands being a wetland or not (and hence the data being irrelevant), some of the data presented by Prof. Sinha are entirely wrong. He has reported the elevation at Samadhiala dam downstream and upstream to be 16 m and 10 m respectively. Whereas the crest of the Samadhiala dam (bandhra) is officially fixed at 3.82 m above MSL that makes both the figures totally incorrect; it is incorrect to report that downstream elevation (16 m) is higher than upstream (10 m).

Prof. K.S. Rao and Dr R.L. Semwal have admitted that *"the topography of the land indicates that a natural runoff pathway is present in this area that used to carry surface runoff during rainy season coming from the area comprised of agricultural fields above project site"*. They also agree with the report of the Agriculture Department of Gujarat that *"the construction of banhara facilitated significant increase in groundwater recharge ranging from 1 to 4 m in the surrounding villages ... during post monsoon month of October between 2002 and 2008"*.

Prof. Rao and Dr Semwal support the project by calling it a win-win situation solely on the ground that the *construction of deep canals and the deepening of 192 ha area which includes both areas below and above 3.8 m would compensate the projected loss of the area of 100 ha*. They estimate an increase in the water storage from 62.31 mcft to 124.42 mcft as well as its residence time.

Their conclusion is self-contradictory as they do not explain how the runoff from the same catchment will increase by 100% under the same conditions of evapotranspiration and low rainfall that may not necessarily be sufficient for the Bandhara to overflow.

It is interesting to observe that Prof. Rao and Dr Semwal have not questioned the wetland status of the lands but simply tried to search for a compromise between the two opposing views.

Finally, we may respond to the contention of the Nirma Ltd that the pumping of water from the Bandhara and transfer of water through pipes from Malan Bandhara to Samadhiala by the villagers is illegal. While the issue can be decided only by the concerned authorities of the Government of Gujarat, we were told during our interaction with the officers of the Gujarat government that (a) these bandharas are a CPR (common property resource) for irrigation and that (b) the Gujarat Irrigation Dept has a well defined scheme of connecting the four bandharas - Malan, Samadhiala, Nikol and Kalsar through spreading channels. The Government had sanctioned a budget for constructing spreading channels from Malan Bandhara to Samadhiala Bandhara but somehow the works could not be taken up.

Annexures 7 & 8: List of Equipment already delivered and those ready for dispatch to Nirma's Cement Plant, besides Financial Summary of the Project, Construction Status and Status of other infrastructure established (information provided by Nirma Ltd.)

FINANCIAL SUMMARY OF CEMENT PROJECT BEING SET UP AT VILLAGE PADHIARKA, TALUKA MAHUVA

Sr. No.	Description	Basic Value in Rs.	Taxes in Rs.	Total with taxes in Rs.
1	Purchase Orders released so far.	278,04,15,494	23,39,60,051	301,43,75,545
2	Work Orders released so far	144,02,08,515	---	144,02,08,515
3	Miscellaneous Expenses	14,95,01,980	9,36,425	15,04,38,405
4	Cost of Fixed Assets	---	---	21,69,00,000
5	Pre-operative expenses (approx.)	---	---	9,20,00,000
6	Other Advances to certain parties	---	---	1,67,22,610
	GRAND TOTAL	437,01,25,989	23,48,96,476	493,06,45,075

The estimated Project cost is :

Rs.995 crores

Already committed cost for the Project is :

Rs.493 crores

Therefore, the percentage of the committed cost to the estimated Project cost is :

49%

Note:

In addition to the already committed cost mentioned above, there is lot of machineries which have already been manufactured on tailor-made basis and are lying at supplier's godown / bonded warehouses and at godown of the sub-contractors. This may attract heavy financial penalties in the form of rent, interest charges, demurrages, loss of profit, etc. This cost has not been taken into consideration.

EQUIPMENT STRUCTURE-WISE CONSTRUCTION STATUS

CONTRACTORS ENGAGED :M/S. GANNON DUNKERLEY CO. LTD.
M/S. QUALITY TECHNOCAST PVT. LTD.

SR. NO.	NATURE OF STRUCTURE	EXCAVATION		PCC		RCC	
		(M ³)		(M ³)		(M ³)	
		Job	Executed	Job	Executed	Job	Executed
1	PREHEATER TOWER	13280	13280	1900	1874	10612	7097
2	KILN PIER-I	3500	3500	1195	1195	1171	990
3	KILN PIER-II	4150	4150	1129	1129	784	784
4	KILN PIER-III	3860	3860	886	886	789	789
5	BLENDING SILO	6918	6918	239	239	5368	3635
6	CLINKER SILO	16000	15403	2280	2003	9968	6011
7	RAW MILL BUILDING	7340	7340	110	110	2651	2310
8	COAL MILL FOUNDATION	5200	5085	131	77	1985	1204
9	CEMENT MILL HOUSE	5000	1200	45	0	4235	0
10	RAW MATERIAL HOPPER	6730	6730	348	348	1591	801
11	CLINKER COOLER BUILDING	5500	5500	350	219	2417	1109
12	CEMENT SILO	19533	14325	326	255	9891	0
13	WORKSHOP AND STORES	2200	2012	92	81	1000	953
14	FIRE AND SAFETY BUILDING	400	400	20	22	185	155
15	TIME AND SECURITY OFFICE	150	150	36	6	55	53
16	CANTEEN BUILDING	1560	1560	92	92	950	357
	TOTAL	101321	91413	9179	8536	53652	26248

The percentage of excavation done up to 12.03.2011 : 89.8%
The percentage of RCC carried out up to 12.03.2011 : 48.92%

- Note: (i) This is based on the drawings released so far for the construction.
(ii) This does not include any work of CPP.
(iii) The work has been suspended from 12.03.2011.

LIST OF EQUIPMENTS, MACHINERIES ALREADY DELIVERED AT SITE

Equipment	Material description	Party Name	Date of Receipt	Receipt Qty.
RAW MILL	ROLLER SEGMENT FOR RAW MILL	GEBR. PFEIFFER (I) P. LTD.	25-May-10	1
RAW MILL	ROLLER SEGMENT FOR RAW MILL	GEBR. PFEIFFER (I) P. LTD.	25-May-10	1
RAW MILL	ROLLER SEGMENT FOR RAW MILL	GEBR. PFEIFFER (I) P. LTD.	25-May-10	1
RAW MILL	TABLE SEGMENT FOR RAW MILL	GEBR. PFEIFFER (I) P. LTD.	26-May-10	1
COAL MILL	GRINDING PLATE SEGMENT FOR COAL MILL	GEBR. PFEIFFER (I) P. LTD.	26-May-10	1
COAL MILL	ROLLER TYRE FOR COAL MILL	GEBR. PFEIFFER (I) P. LTD.	26-May-10	3
RAW MILL	TABLE SEGMENT FOR RAW MILL	GEBR. PFEIFFER (I) P. LTD.	26-May-10	1
RAW MILL	RAW MILL FOUNDATION FRAME	GEBR. PFEIFFER (I) P. LTD.	27-May-10	1
RAW MILL	RAW MILL GEAR BOX PLATE & FOUNDATION FRAME	GEBR. PFEIFFER (I) P. LTD.	27-May-10	1
COAL MILL	COAL MILL FOUNDATION FRAME & GEAR BOX PLATE	GEBR. PFEIFFER (I) P. LTD.	27-May-10	1
RAW MILL	MILL HOUSING BOTTOM PART	GEBR. PFEIFFER (I) P. LTD.	13-Jan-11	2
COAL MILL	MOTOR SLIDE RAIL AND SUPPORT	GEBR. PFEIFFER (I) P. LTD.	03-Feb-11	43
COAL MILL	NOZZLE RING WITH LINERS	GEBR. PFEIFFER (I) P. LTD.	26-Jan-11	17
COAL MILL	MILL HOUSING BOTTOM PART	GEBR. PFEIFFER (I) P. LTD.	23-Feb-11	2
COAL MILL	MILL HOUSING MIDDLE PART	GEBR. PFEIFFER (I) P. LTD.	22-Feb-11	2
COAL MILL	MILL HOUSING TOP PART	GEBR. PFEIFFER (I) P. LTD.	26-Feb-11	2
PYRO SYSTEM	GIRTH GEAR	THYSSENKRUP	22-Dec-10	1
PYRO SYSTEM	GIRTH GEAR	THYSSENKRUP	30-Dec-10	1
PYRO SYSTEM	BASE FRAME 500-1750-750	THYSSENKRUP	07-Jan-11	3
PYRO SYSTEM	BASE FRAME 500-1750-750	THYSSENKRUP	17-Jan-11	1
PYRO SYSTEM	BASE FRAME 550-1900-800	THYSSENKRUP	17-Jan-11	2
PYRO SYSTEM	FOUNDATION BOLT & HARDWARE ITEMS	THYSSENKRUP	17-Jan-11	1
PYRO SYSTEM	KILN SHELL	THYSSENKRUP (POLYSIUS CHINA)	05-Apr-11	7
BLENDING SILO	PART OF CEMENT MACHINERY	THYSSENKRUP	02-Feb-11	10
BLENDING SILO	PRESSUR RELIF COVER	THYSSENKRUP	03-Feb-11	414
BLENDING SILO	PRESSUR RELIF COVER	THYSSENKRUP	04-Feb-11	18
BLENDING SILO	PRESSUR RELIF COVER	THYSSENKRUP	04-Feb-11	18
CLINKER COOLER	225KW 690V 1480 RPM ILA7500-4 FRAME SIZE	BHARAT HEAVY ELEC LTD	31-Jan-11	1
CLINKER COOLER	200KW 690V 1480 RPM ILA7560-4 FRAME SIZE	BHARAT HEAVY ELEC LTD	31-Jan-11	2
CLINKER COOLER	250KW 690V 1480 RPM ILA7560-4 FRAME SIZE	BHARAT HEAVY ELEC LTD	31-Jan-11	1
CLINKER COOLER	160KW 690V 1480 RPM ILA7500-4 FRAME SIZE	BHARAT HEAVY ELEC LTD	31-Jan-11	3
CLINKER COOLER	280KW 690V 1480 RPM ILA7502-4 FRAME SIZE	BHARAT HEAVY ELEC LTD	31-Jan-11	1
ELECT CONST POWER	3000 KVA 11/0.433 K, DYN11 CONSTRUCTION POWER DIST. TRANSFORMER	CROMPTON GREAVES LTD.	04-Feb-11	1
COOLER ESP	325KW 690V 750 RPM ILA7566-8 FRAME SIZE	BHARAT HEAVY ELEC LTD	23-Feb-11	1
COAL MILL	300KW 690V 750 RPM ILA7566-8 FRAME SIZE	BHARAT HEAVY ELEC LTD	23-Feb-11	1
RAW MILL	275KW 690V 1000 RPM ILA7562-8 FRAME SIZE	BHARAT HEAVY ELEC LTD	23-Feb-11	1
CEMENT MILL	300KW 690V 990 RPM ILA7566-6 FRAME SIZE	BHARAT HEAVY ELEC LTD	23-Feb-11	1

LIST OF EQUIPMENTS READY FOR DISPATCH

Equipment	Party Name	Description	Unit	Quantity
Pyro System	TKIL India	Kiln Shells	Nos	2
Cooler ESP	TKIL India	Cyclones	Nos	1
Pyro System	TKIL India	Precalciner	Nos	1
Pyro System	Schenk Germany	Burners	Nos	4
Clinker Cooler	Polysius Germany	Clinker Cooler Complete	Set	1
Pyro System	TKIL India	Tyres for Kiln	Set	3
Pyro System	TKIL India	Rollers for Kiln	Nos	6
Pyro System	IBAU Germany	Screw Pump for Kiln	Nos	4
Pyro System	Schenk Germany	Coal Dosing System with geared motor	Nos	3
Pyro System	TKIL India	Motorised Diverter Gates of different sizes	Nos	10
Pyro System	TKIL India	Motorised Screw Sampler	Nos	1
Pyro System	TKIL India	Pneumatic Slide gate of different sizes	Nos	5
Pyro System	TKIL India	Induction Motor (3 phase)	Nos	12
Pyro System	TKIL India	FP Cylinder of different sizes	Nos	5
Pyro System	TKIL India	Solenoid Poppet valve	Nos	5
Pyro System	TKIL India	ID Fan	Nos	1
Pyro System	TKIL India	PA Fan	Nos	1
Clinker Cooler	TKIL India	Cooler fans	Nos	9
Kiln/Raw Mill/Cement Mill/ etc	BHEL India	HT Motors	Nos	9
Raw Mill	Pfeiffer India	Raw Mill Top housing	Set	3
Raw Mill	Pfeiffer India	Raw Mill Middle housing	Set	2
Raw Mill	Pfeiffer India	Raw Mill Classifier Bottom & top	Set	1 each
Raw Mill	Pfeiffer India	Raw Mill Grinding table assy parts and Hard ware	Lot	1
Raw Mill	Pfeiffer India	Raw Mill Bearing System	Nos	1
Raw Mill	Pfeiffer India	Raw Mill Pressure Frame and Socket Support	Set	1
Raw Mill	Pfeiffer India	Rotary Air Lock	Nos	4
Raw Mill	Pfeiffer India	Iner and Outer Roller Grinding Stop	Set	3
Raw Mill	Pfeiffer India	Bucket Elevators	Nos	2
Raw Mill	Pfeiffer India	Belt Conveyors	Nos	4
Coal Mill	Pfeiffer India	Coal Mill Classifier Housing bottom	Set	1
Coal Mill	Pfeiffer India	Coal Mill Classifier Housing top	Set	1
Coal Mill	Pfeiffer India	Coal Mill Louver	Set	1
Coal Mill	Pfeiffer India	Coal Mill Grit Cone	Set	1
Coal Mill	Pfeiffer India	Coal Mill outlet duct with drive duct	Set	1
Coal Mill	Pfeiffer India	Inner and Outer Roller Grinding Stop	Set	3

Equipment	Party Name	Description	Unit	Quantity
Coal Mill	Pfeiffer India	Mill and classifier assembly Hardware	Set	1
Raw/Coal Mill	Pfeiffer India	Bearing system	Nos	1
Raw Mill	Pfeiffer India	Rotary Air Lock	Nos	1
Coal Mill	Pfeiffer India	Belt Conveyor	Nos	1
Raw Mill	Pfeiffer Germany	Raw Mill main gear box	Nos	1
Coal Mill	Pfeiffer Germany	Coal Mill main gear box	Nos	1
Cement Mill	Loesche Germany	Clinker Grinding mill main gear box	Nos	1

LIST & THE STATUS OF OTHER INFRASTRUCTURE ESTABLISHED AT THE PLANT SITE

Sr. No.	Name of the Structure	Nature of Activity
1	Peripheral fencing work	Completed
2	11 kV construction Power Lines and Sub-station	Already established by GUVNL at the site.
3	Construction Power Distribution work	Approx. 8 km cables and erection of 10 distribution panels completed
4	Status of Narmada Water Pipeline	Approx. 2.5 km long Underground pipeline laid to bring the raw water from to the plant site
5	Work on three canals A, B, C	The work on all the three canals is in progress.
6	Status of WBM Roads on the plant site	Approx. 5 km of WBM constructed on the site.
7	Work on Weigh Bridge	Completed
8	Construction of Water Tank	Completed
9	Status of Compound Wall	Fencing completed. Extra works awarded to contractors and is in progress.
(a)	South Side	RCC pillar erected, work in progress
(b)	West Side	Work is in progress
(c)	North Side	Work is in progress
(d)	East Side	Work is in progress
10	Construction Power Switch Yard	Completed
11	DG Room	Completed
12	MCC Panel Room	Completed
13	Cement Godown	Completed
14	General Stores	Completed
15	Site offices including conference room	Completed
16	Labour quarters for 1000 labours	Completed
17	Ambulance	Purchased
18	Establishment of IT system and UPS room	Established
19	Street Lights	Completed
20	Security Office	Completed
21	Temporary Drains	Completed

Figures

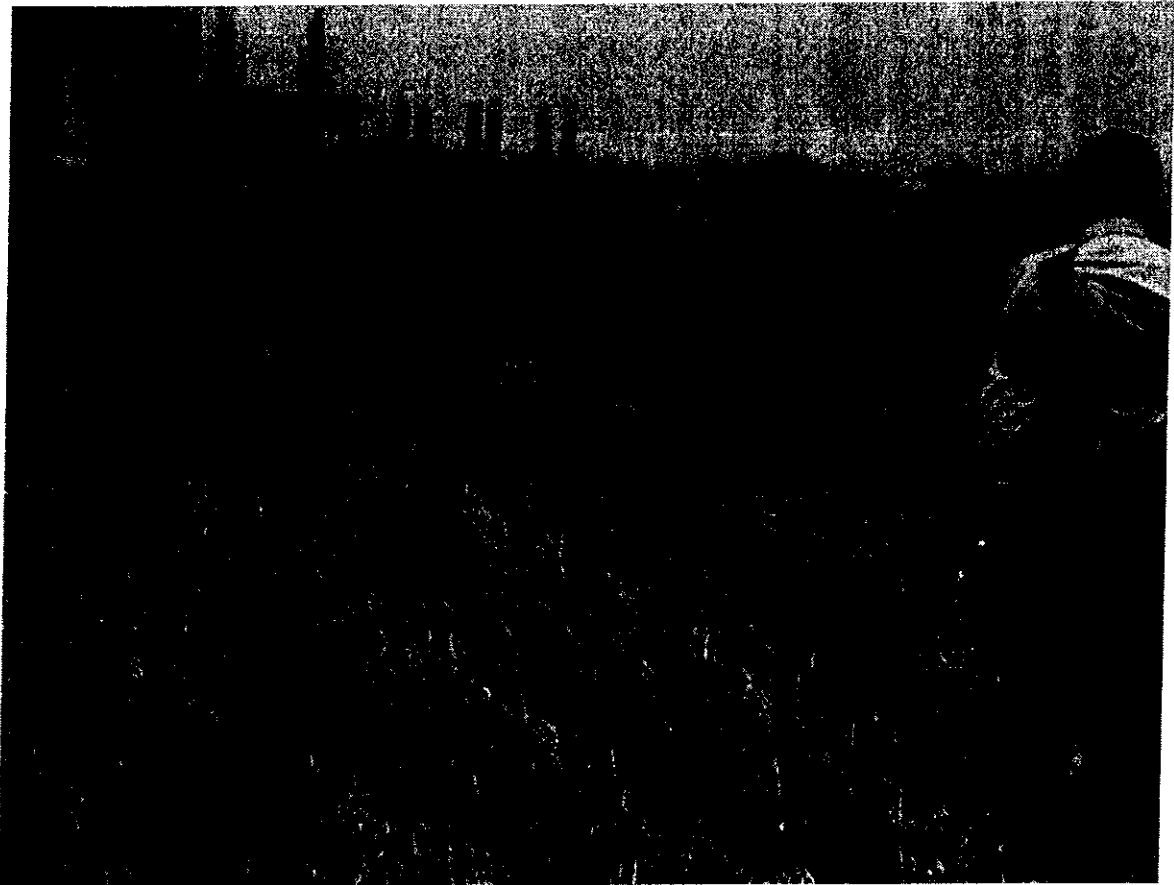


Figure 1: Civil works at the site of the Cement Plant located within the wetland. Note the presence of characteristic Blue Bull in the vegetation of the wetland



Figure 2: Stakeholders assembled at the site to meet the Expert Body



Figure 3: Stakeholders interacting with the members of Expert Body



Figure 4: Nirma officials and consultants meeting with the members of Expert Body

Figure 5: Malan Bandhara that will be connected with Samadhiala Bandhara



Figure 6: One group of stakeholders (pro project group) meeting with the members of Expert Body

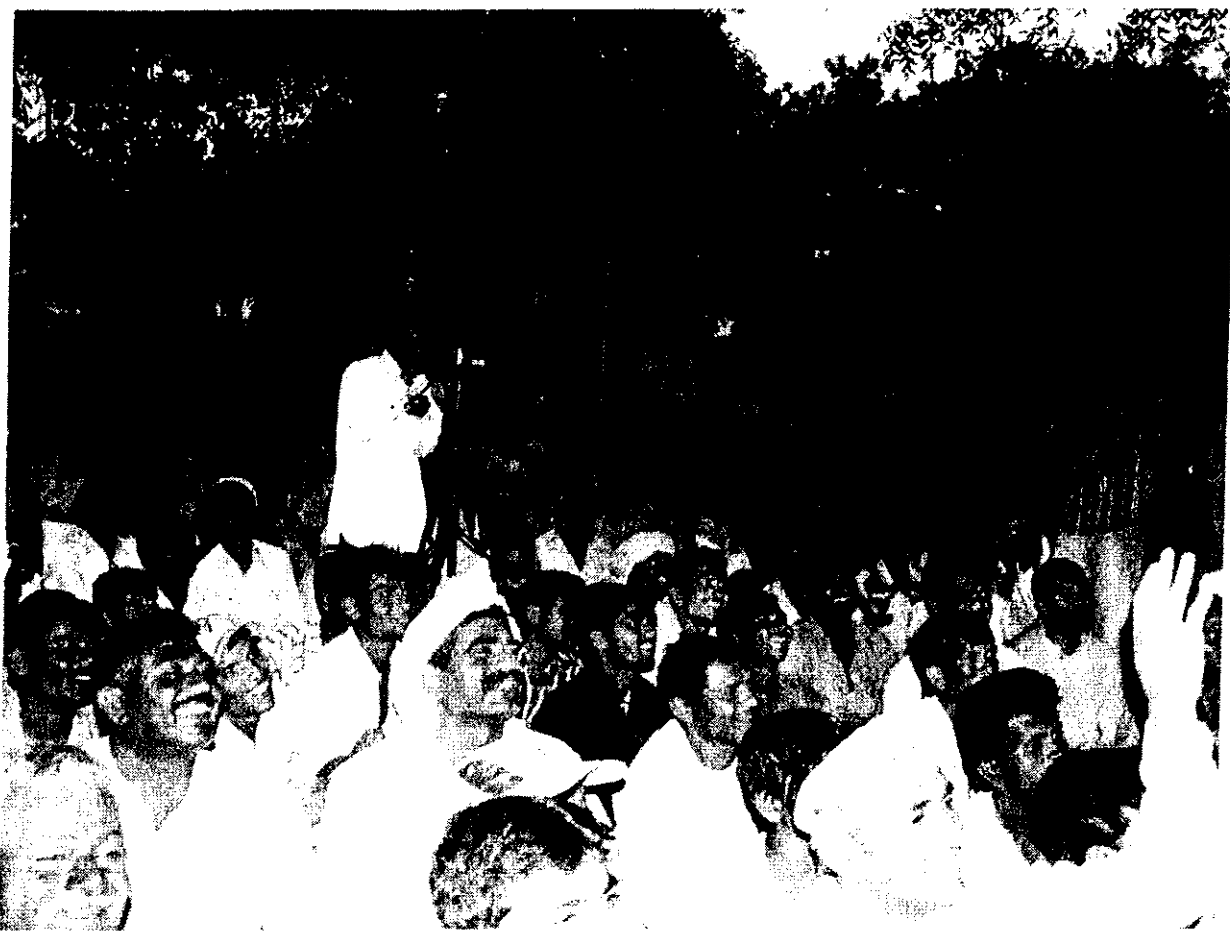


Figure 7: Group of stakeholders (against the project) meeting with the members of Expert Body

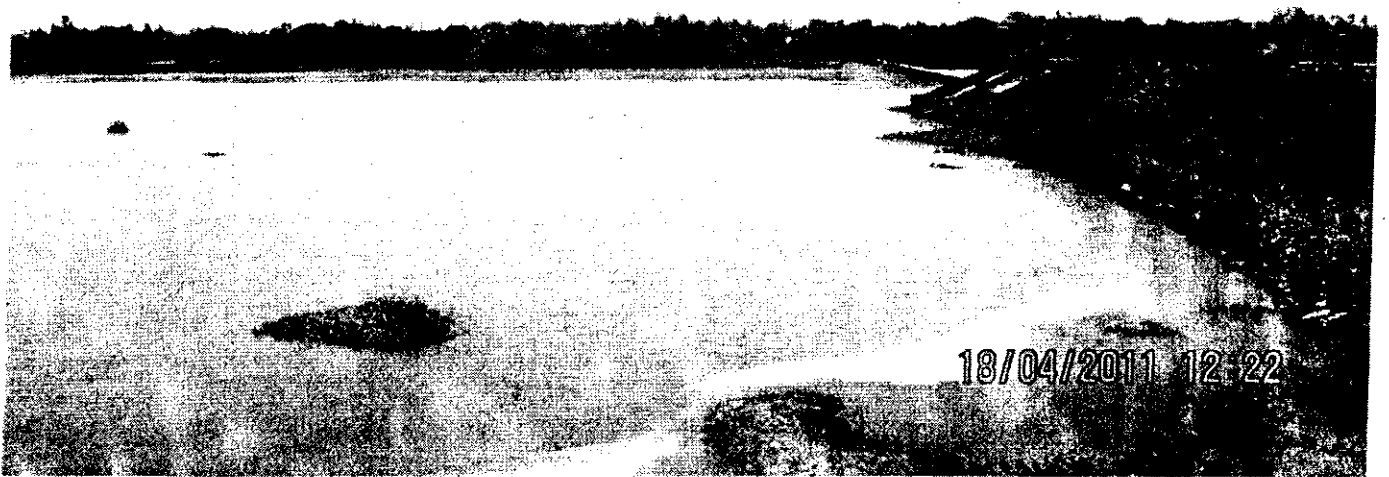


Figure 9: Samadhiala Bandhara showing water spread as on 18th April 2011

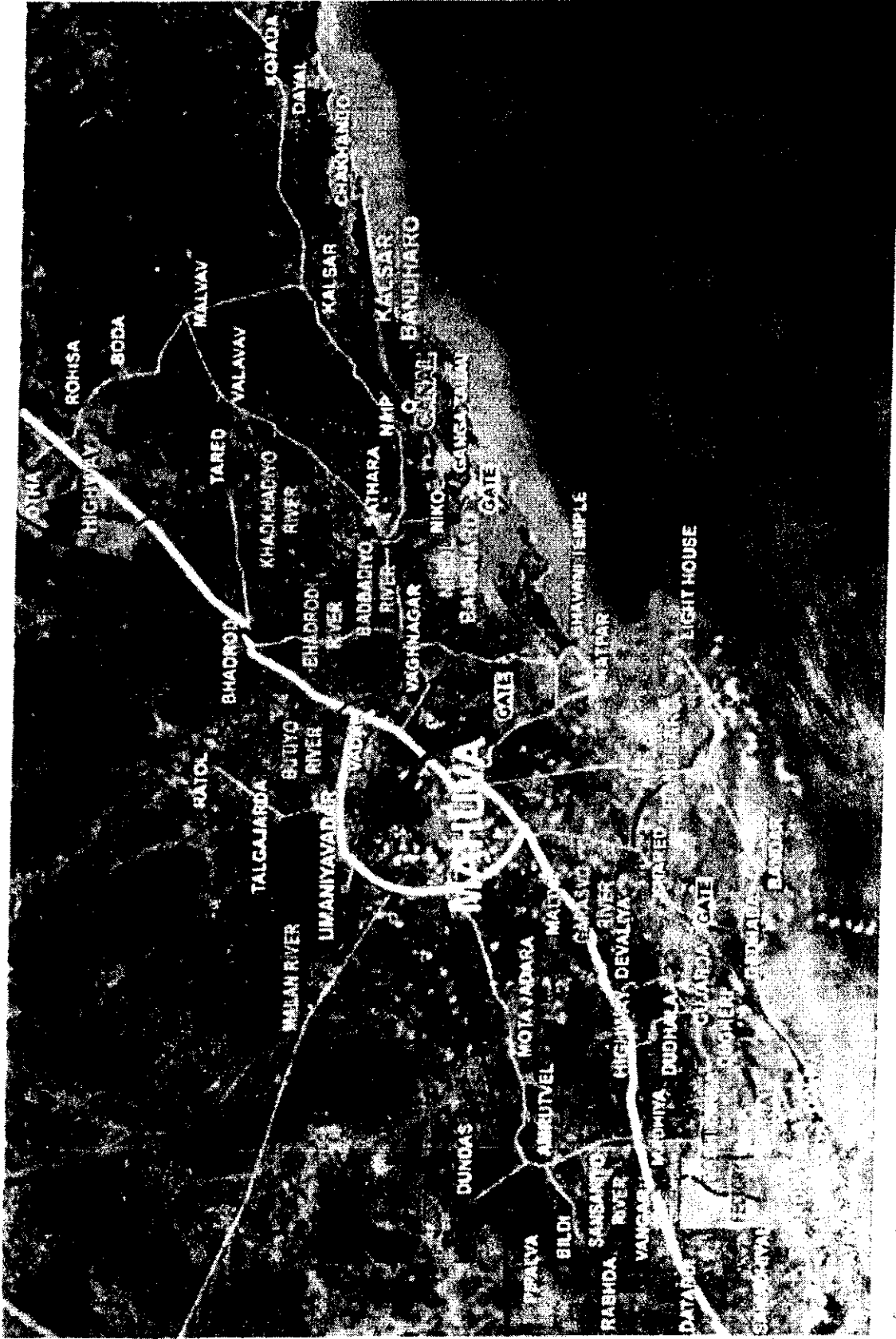


Figure 11: Map of Mahuva area showing different Bandharas including Samadhiala and Malan Bandharas.



Figure 12: Map Showing submergible area of the land allotted to the project, A, B and C drains and proposed deepening area.



Figure 13: Submergible part of the project showing characteristic wetland vegetation



Figure 14: Wetland vegetation showing dense growth of *Scirpus* species



Figure 15: Wetland vegetation showing dense growth of *Typha*

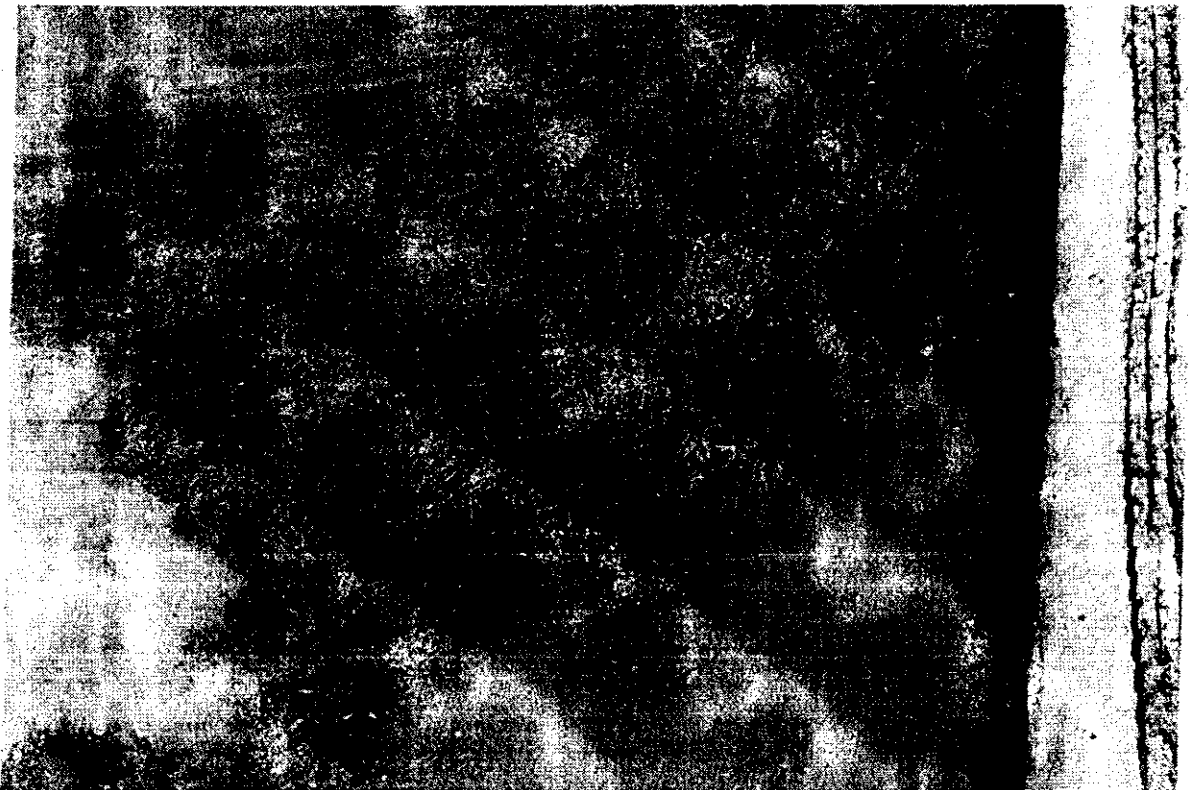


Figure 16: Wetland showing submerged aquatic vegetation represented by *Vallisneria*



Figure 17: Water body showing Flamingos



Figure 18: Water body showing Pelicans

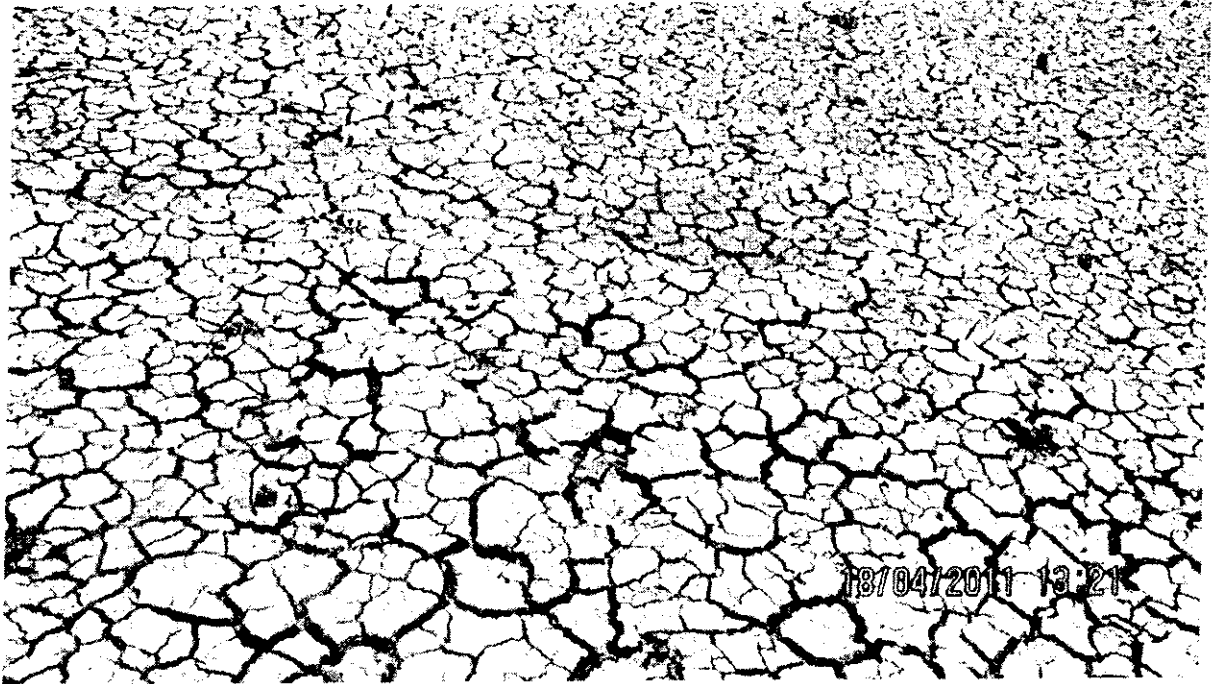


Figure 19: Sediment of wetland showing characteristics deep cracks after drying up flooded clayey soils.



Figure 20: Lift irrigation practiced by the farmers from Samadhiala Bandhara



Figure 21: Live stock grazing on the grasses and sedges grown after receding water in the submergible area of the water body.

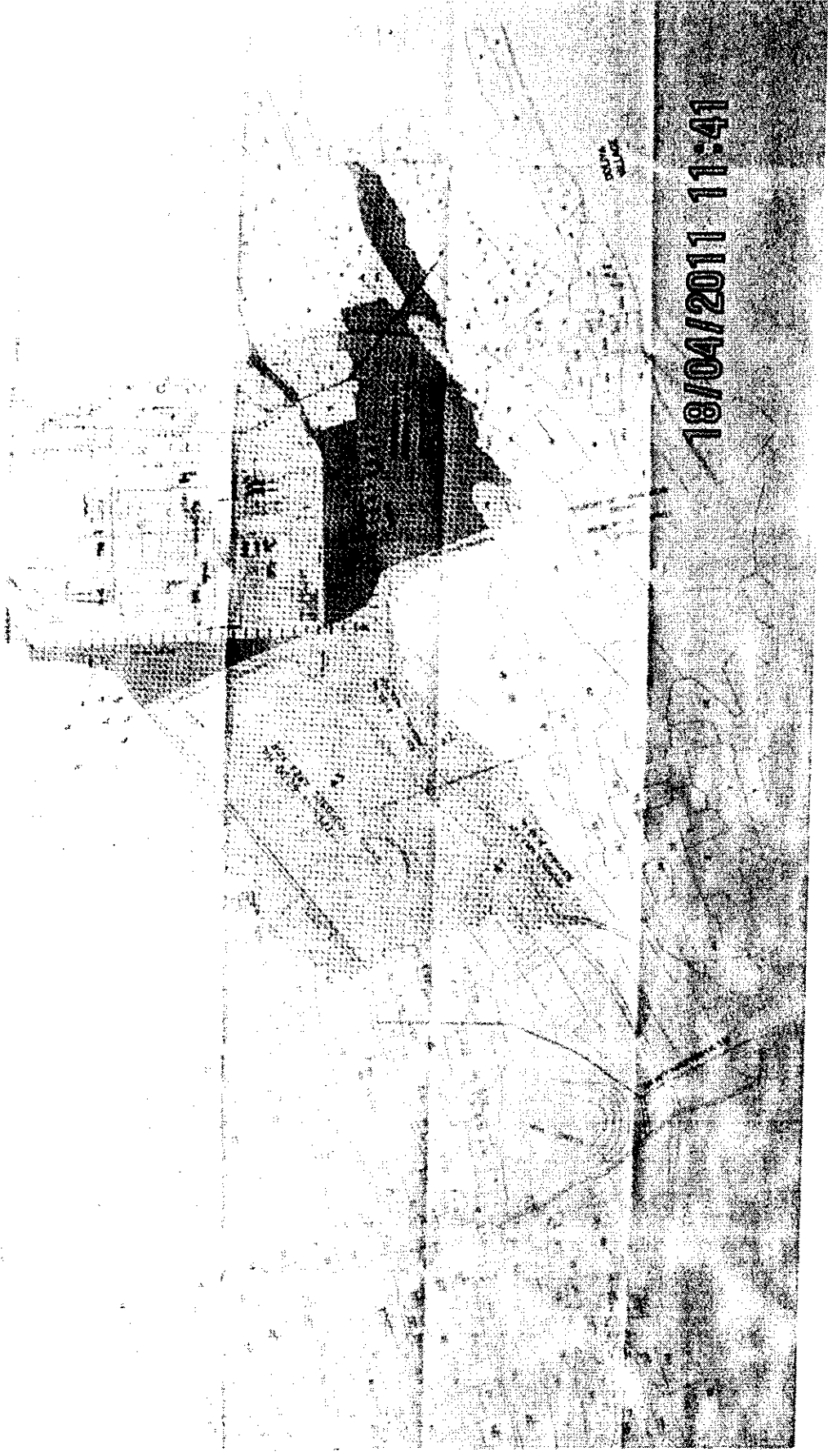


Figure 22: Map showing 70 to 75 ha out of the 125 ha of the proposed deepening area (marked as A1, A2 and A3) located within 3.82 m contour line.

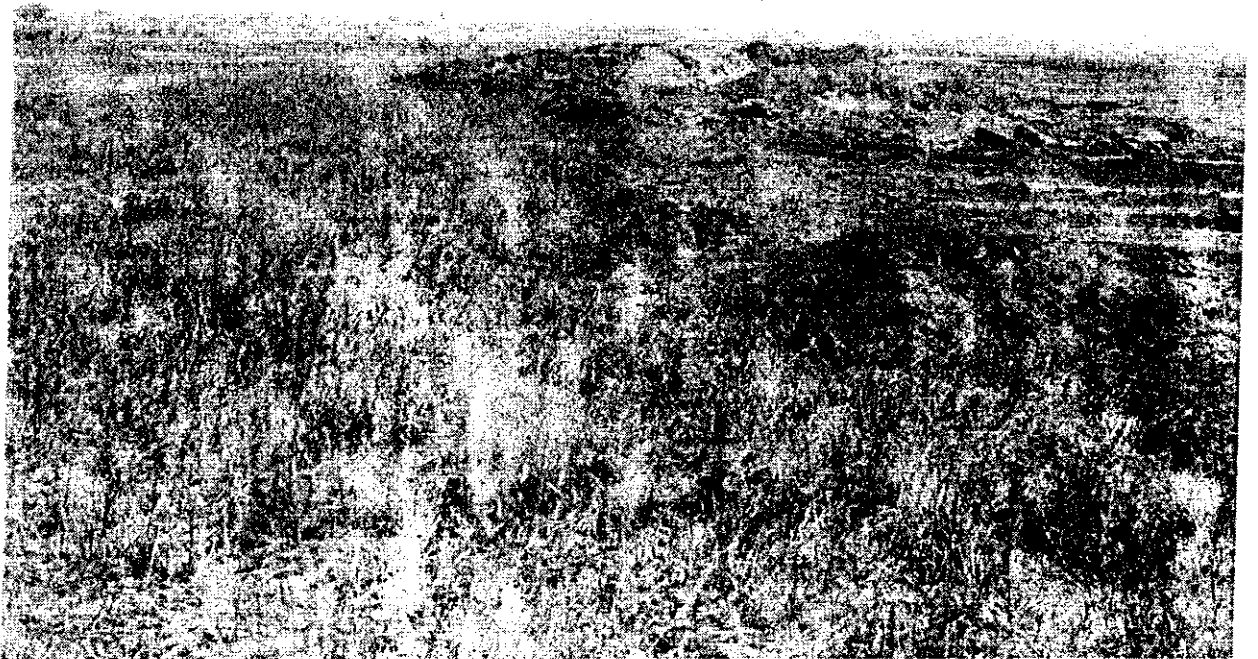


Figure 23: Leveling of the submergible area of the project to raise the ground level for preventing of flooding of the project site.



Figure 24: Map showing the mine lease area close to the project site.

IRS P5 : CARTOSAT 1 (BAND A) SHARPENED LISS III
IMAGE DATE : 14 NOV 2010 & 17 OCT 2010 RESOLUTION OF IMAGE : 2.5 MTR



Figure 25: Map showing Samadhiala Bandhara water body and the project site.

Minutes of Expert Appraisal Committee (Industry-1) at the Meeting held on 23rd February to consider approval accorded to Nirma Ltd to establish a Cement Plant at Padhiarka, District Bhavanagar, in Gujarat.

Papers pertinent to the application made by Nirma Ltd in 2008, consideration by EAC thereon, approval accorded thereto, events thereafter and Report of the Varshney Committee were placed before EAC at its meeting on 23rd February 2011 for opinion on verity, exactitude and scope of information that moved the EAC as constituted in 2008 to savour the proposal.

2. The company, Nirma Ltd., was invited by MOEF to place its views and arguments before the committee. The EAC afforded opportunity to Nirma Ltd to present its case in entirety. The views put forth by Nirma Ltd are summarized in the **Annexure-1**. On examining all relevant matters and taking into account the arguments adduced by Nirma Ltd, EAC concludes as set out in the succeeding paragraphs.

3. The site of 268 Ha allotted to Nirma Ltd in 2008 was culled out from a tract classified as 'wasteland' in land records that were obsolete and not current. The site was in fact 'wet land'. What is more, 222 Ha of this site fell within an extent of 400 Ha given by the Government to the Salinity Control Board and was taken from its possession for transfer to Nirma Ltd. The tract lies in the coastal boundary of Gujarat near the gulf of Khambat. The EAC has examined its nature at different times (including the plant site) using satellite imageries (**Annexure-2**). The imagery of 1998 (and also of earlier years) reveals the presence of dense vegetation and water bodies thereon. Areas such as these areas are known as 'Beela' in local parlance which means 'wet land' Thus, the site was 'wet land' and should have been officially recognized and re-classified as such even prior to 1998, amending patently incorrect records which describe the site as 'wasteland'. The original fault left uncorrected, only further follies could spring thereof. To preserve the eco-system of the area, Government of Gujarat constructed a dam in 2000 known as 'Samadhiyal Bhandhara' at the mouth of the river Shensur. This arrangement helped to rein in fresh water, recharge the aquifer, augment domestic water supply, propagate wetland ecosystem and repel saline ingress in the area. With the erection of the dam and storage of water in the reservoir the land stood transformed and distinctly confirmed as 'wet'. To have continued to

describe it as 'waste land' even thereafter was folly surmounted by misprision- palpable and gross.

4. Imageries of 2000 confirm that the area is 'wet land' and show vegetation seasonally varying, as is to be expected, from January to May. Imageries of 2003 and of 2006 depict flourishing vegetation. Significantly, the image of 2010 testifies to a decline in vegetation due to the Cement plant construction. What is more, a portion of the reservoir is seen made up with barren earth, reducing thereby the water spread and degrading the wet land. The imageries are shown in the attachment hereto and are from Selvam 2003 'Environmental classification of mangrove wetlands of India, *Current Science*' Vol. 84, No... 6 p. 757-765. According to this report, parts of the Gulf of Khambhat areas have been classified as degraded wetland constituted by degraded mangroves and saline encrusted mudflats. The rainfall is 800-900 mm annually.

5. The applicant in seeking Environment clearance submitted an interpretation diagram based on satellite imagery data and not the satellite imagery itself. The later alone could help determine precisely the state of the land. Satellite imageries ought to have been produced from 1970 itself and these would have indicated the true nature of the lands at any point of time.

6. Weighing the arguments adduced carefully and scanning facts since in evidence, EAC concludes that in the first instance matters of import have been withheld, excluded, omitted to be presented, or perchance not duly urged by parties concerned in time and proper measure. At the Public hearing held on 9th September 2002 by the GPCB, it was recorded that the company would 'deepen the salinity control bund area to enhance the water storage capacity by 19%' and that 'three canals would be constructed for smooth flow of incoming water'. It was surmised that these measures would allay all fears regarding salinity, the state of the land- wet or waste- having no bearing on the issue. Environment clearance was accorded on this basis. The resultant has been genuine misgivings, grievances, litigations, conflicts, contortions and commotion. The EAC might have reasonably recommended differently had facts had been placed before it in 2008 without misprision. The EAC does not normally approve diversion of 'wet' for accommodating industries

7. The EAC does and has in the past (2007-08) appointed a Sub Committee to inspect sites ante to its recommendations in the case of new, green field projects, if circumstances warranted recourse to the expedient. Herein no data of adverse import was furnished, apparent or traced, hence no pre-project site visit.

8. The Committee concludes that there could be alternative sites enough in the vicinity that breed no contention. No wet land, so secured in deed by the government for preserving eco systems, needs therefore to be razed to pitch a cement plant therein.

List of Satellite Images

Figure 1: Satellite Image of 1998 presents the plant site, (a) Full view and (b) Enlarged view of areas under vegetation in red and of water bodies in blue. This is prior to the construction of the 'Samadhiyala Bhandhara'

Figure 2: Satellite Image of January, 2000 furnishes (a) Full view and (b) Enlarged view of the plant site. The bright red area indicates rich vegetation and the light blue area, the water bodies

Figure 3: Satellite Image of May, 2000 depicts the plant site in summer with sparse vegetation.

Figure 3b: Sets out the reservoir with the dam in 2002 (ISRO)

Figure 4: Satellite Image of October, 2003 shows vegetation on the plant site and the reservoir

Figure 4b: Satellite Image reveals the dam, the reservoir (Blue) and the vegetation (green) (From Down to Earth, 2011)

Figure 5: Satellite Image of October, 2006 showing the plant site and changes in Reservoir area

Figure 5b: Satellite Image of October, 2006 reflects the plant site and changes in Reservoir area (From Down to Earth, 2011)

Figure 6 and Figure 6b: Satellite Images of 2010 showing the plant site.

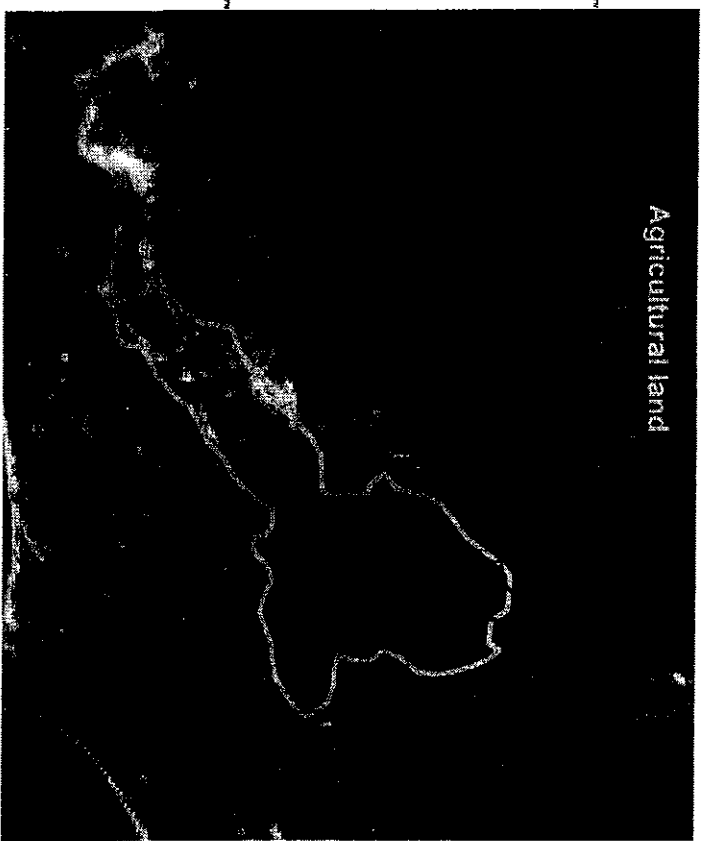
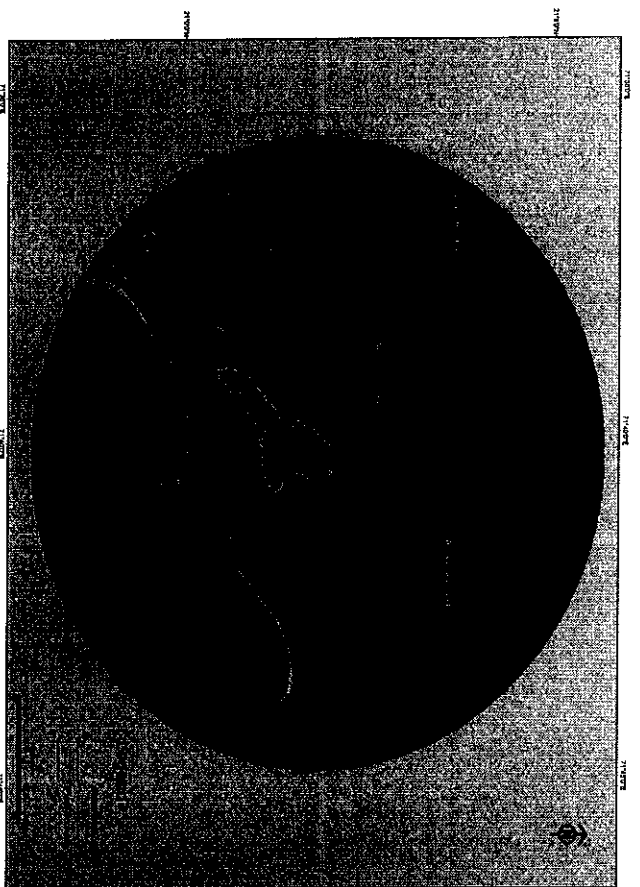


Figure 1: Satellite Image of 1998 presents the plant site, (a) Full view and (b) Enlarged view of areas under vegetation in red and of water bodies in blue. This is prior to the construction of the 'Samadhiyala Bhandhara'



Figure 2: Satellite Image of January, 2000 furnishes (a) Full view and (b) Enlarged view of the plant site. The bright red area indicates rich vegetation and the light blue area, the water bodies



Figure 3: Satellite Image of May, 2000 depicts the plant site in summer with sparse vegetation.



Figure 3 b: Sets out the reservoir with the dam in 2002 (ISRO)



Figure 4: Satellite Image of October, 2003 shows vegetation on the plant site and the reservoir

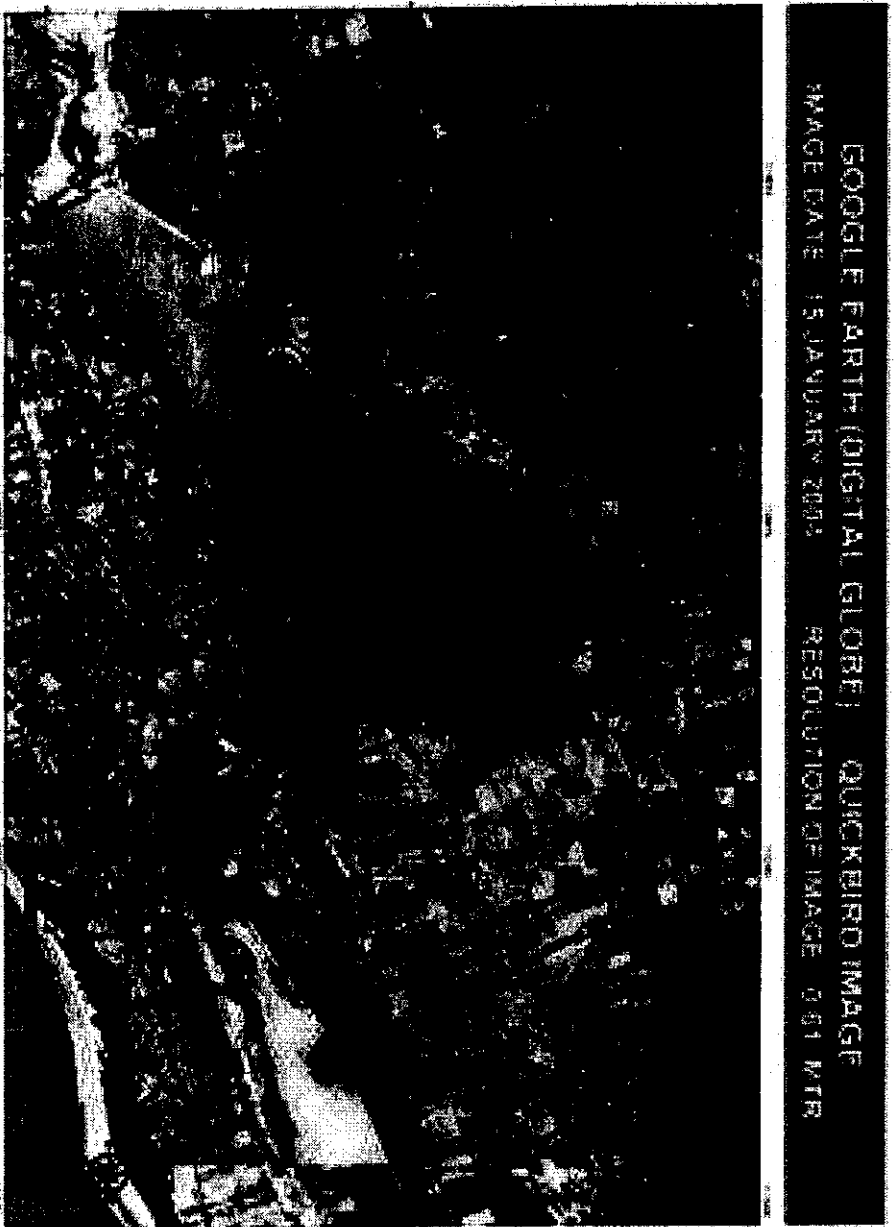


Figure 4b: Satellite Image reveals the dam, the reservoir (Blue) and the vegetation (green) (From Down to Earth, 2011)



Figure 5: Satellite Image of October, 2006 showing the plant site and changes in Reservoir area



Figure 5b: Satellite Image of October, 2006 reflects the plant site and changes in Reservoir area
(From Down to Earth, 2011)



Figure 6: Satellite Image of 2010 showing the plant site.



Figure 6b: Satellite Image of 2010 showing the plant site.

Record of facts and arguments adduced by M/s NIRMA Ltd. before the EAC (Industry-1) of MoEF on 23rd February 2011 in connection with the Proposed Cement Plant (1.9 MTPA; 1.50 MTPA Clinker), Captive Power Plant (50 MW), and Coke Oven Plant (1.5 LTPA) near Village Padihiark, Taluka Mahuva, District Bhavnagar, Gujarat

The Chairman EAC welcomed the officials of Nirma Ltd. and requested them to place their views before the Committee in the light of developments up to date. M.s Nirma was represented Shri Kalpesh Patel, Executive Director and Shri V.N. Desai, Vice President (Projects). The company presented written submissions and also went over the history of the case urging as under.

2. In 2002 the company approached the Government of Gujarat for allotment of Government wasteland for setting up a Cement Plant of capacity of 1.91 MT PA (Clinker of 1.5 MT PA) supported by a Captive Power Project. Land considered for allotment was 268 Ha of which 222 Ha fell within a spread of 400 Ha that was given by the government to the Salinity Department for construction a structure called Samdhiyala Bhandhara to prevent ingress of salinity on shore. Government of Gujarat conducted elaborate technical studies and consulted the Salinity Control Department before allotment of the land to Nirma. This was done to ensure that there is no adverse effect upon a Bhandhara that had been constructed in the area in 2000 to ward off salinity about 2.5 to 4 Km from the site sought. Certain conditions were laid down by the Salinity Control Department to protect Bandhara while according NOC for the allotment of land to Company. Details regarding the Salinity Bandhara were explained as under:

- (i) The structure is an 'Ungated Tidal Regulator' that prevents ingress of sea water on shore into an estuary or creek. It is situated 2.5 to 4 Km from the plant site.
- (ii) It was constructed on Motapak creek and is a 200-meter long concrete wall of 3.82-meter height above MSL in opposition to the maximum height of the tide of 2.8-meters. The concrete portion is connected with Earthen Bandhara
- (iii) Post Bandhara construction the seawater flow beyond Bandhara on the Eastern side was controlled. Topography of the area allows rainwater to accumulate on the landside as in a reservoir. The reservoir is thus rain fed, temporary, man-made and of capacity 62.31.Mcft. It is by no means a natural water-body, nor has it been notified as such.

3. In the opinion of the company, four Public hearings have taken place on the Project. The first was on 16.05.2006 prior to allotment of land. This was for eliciting opinion and consent of villagers to transfer 222 Ha out of 400 Ha held by the Salinity Control Department to the company. The land was transferred on 16-4-2008

4. The second Public hearing was held on 9.9.2008 by GPCB for in connection with environmental clearance. The attendance was about 400. Issues were raised and clarified relating specifically to salinity control and Samadhiyala Bandhara. Aspects concerning employment, social development, school, road, and the existing crematorium were also discussed satisfactorily. Public were assured that the project would in no way impact the salinity control bund existing or the reservoir. The Company undertook to deepen the salinity control reservoir area to make up for any loss of water-spread area due to the plant or other reasons. The holding capacity would be enhanced by 19% in consultation with Irrigation Department. Three canals will be constructed for unimpeded flow of incoming water into the reservoir. Educated people will be considered for employment as per Company Policy. The Company would improve facilities like crematorium, school, pond, etc.

5. The Company duly thereafter obtained requisite approvals such as; Environmental Clearance from MoEF, consent to establish (NOC) from Gujarat Pollution Control Board (GPCB), and CRZ Demarcation (the plant is outside CRZ boundary).

6. The third Public hearing according to the company was held at the behest of the local MLA on 17.12.2008 after Environmental clearance had been given by MoEF on 11th Dec. 2008. The Collector of Bhavnagar presided. It is stated that various concerns were discussed and answered.

7. The fourth Public Hearing according to the company was the progeny of a PIL filed against the project in Gujarat High court in March 2009. Consequent to the PIL Gujarat Government on 29-5-2009 appointed the Shelat Committee. This Committee obtained reports from consultants and experts such as Water and Power Consultancy Services (WAPCOS), National Environment Engineering Research Institute (NEERI), National Council for Cement and Building Material (NCCBM), Director Agriculture, Government of Gujarat and from the Gujarat Pollution Control Board. This Committee also conducted a Public Hearing on 6.6.2009 whereat out of 18 groups, 14 groups supported the setting up of the proposed Plant. The Shelat Committee submitted its report to the Government of Gujarat on 4.8.2009. Government referred to a Committee of four ministers and on its advice vide order dated 8.12.2009 directed the Company to

- ◆ surrender 54 hectares from Village Doliya,
- ◆ deepen 40 Hectares of the surrendered 54 hectares at its cost
- ◆ further deepen 62 hectares out of 75 Ha. of adjacent Government land.

These were precautionary measures to eliminate any threat of salinity in the area. Nirma surrendered 54 Ha. of land on 9-12-2009.

8. The High Court of Gujarat on 16-3-2010 granted a status quo order on the PIL pending before it. And finally disposed of the petition on 26-4-2010 ordering and observing as under

- The Bandhara is an artificial manmade reservoir. On the strength of opinion of various agencies and slew of measures taken, there is no danger of reduction of water carrying capacity of the reservoir or availability of water during rainy season being adversely affected.
- If 100 hectares rather than just 54 be surrendered (which was one of the alternatives suggested by Shelat Committee) the original status of the reservoir and terrain would be largely restored.
- That by preserving the reservoir, if industrial development can be achieved, in which substantial investment has already been made, the same should not be objected to.

The High Court imposed the following specific conditions:

- ◆ Company shall further surrender additional 46 hectares in addition to already surrendered 54 hectares and no part of this 46 surrendered land shall include any land to be occupied by the canals leading fresh water into the reservoir which Company is obliged to construct.
- ◆ Company shall construct three canals around the plant, as directed by the Government of Gujarat and shall further ensure that it is desilted periodically, so that the flow of rainwater from the surrounding area is not obstructed.
- ◆ Company shall excavate and deepen 75 hectares of Government wasteland.
- ◆ Company shall not use any water from the reservoir for its activities.
- ◆ Company shall ensure that its activities do not pollute or contaminate the water in any manner.
- ◆ The Government shall ensure that Company has complied with all the directions before issuing certificate of completion of construction or before granting permission to start the factory.
- ◆ The Government shall on basis of record of rainfall in the region and the total amount of water collected in the reservoir immediately after the monsoon, judge whether on account of setting up of the factory, there is any significant reduction in income of fresh water in the reservoir. Should this occur, Government shall require Company to take up such remedial measures, as may be found necessary.

9. The company thereafter explained the subsequent developments,- filing of SLPs in the Supreme Court and the Review Petition before the Gujarat High Court. The review petition filed before the Gujarat High court was dismissed.

10. Visit of the Varshney Committee appointed by MOEF is deemed by the Company to be the fifth public hearing.
11. The company has strongly urged the following facts as central to the issue:
- i) At no time was any detail withheld from the MoEF, the Public, State Government or the High Courts of Judicature.
 - ii) The land was classified as wasteland and is wasteland only. The Salinity control Board and the State Government have declared it to be none other. The land allotment order by the Collector also mentions the land as the wasteland.
 - iii) The Samadhilya Bandhara is not a notified water body.
 - iv) Environmental clearance has been duly granted.
 - v) Government of Gujarat had sought the opinion of their Advocate in transferring the land
 - vi) The company has been at great pains to ensure that no salinity ingress control measure is in the least affected
 - vii) On account of various measures such as deepening of surrendered land as well as deepening of the adjacent Government land, there will be an in storage of 293%.
 - viii) The EIA Report was carried out by Min Mec Consultancy. The land use submitted is based on satellite imagery and the area under land use has been tabulated in table-3.11, page no.3-20. The presence of Bandhara was discussed during the Public Hearing and the record of the Public Hearing was submitted to MoEF by GPCB.
 - ix) The Company has already committed Rs.493 crores which is about 49% of estimated project cost of Rs.995crores. Details have been furnished of the status of civil construction, list of equipments, machineries already delivered at site, list of equipment ready for despatch, list and the status of other infrastructure established at the site.
 - x) In regard to water bodies/ wetland the company stated that
 - a. The Samadhiyala Bandhara was constructed primarily for controlling salinity ingress.
 - b. After monsoon, the water on the landside of the Bandhara creates a temporary storage for 2-3 months. The plant land is situated at a distance of about 2.5 kms from this Bandhara.
 - c. The rainwater collection in the Bandhara is not permanent, continuous or consistent in nature. It is not notified water body; even revenue record does not show any entry as water body.
 - d. As per the Affidavit submitted by Government of Gujarat before Hon'ble High Court, the 100 Ha. had only temporary submergence in the year 2005 in last 10 years and the average water column was 1.11 ft. The rest of the land there is no issue of even temporary submergence.
 - e. The Govt. of Gujarat had obtained technical report of Salinity Control Dept regarding conservation of water of Bandhara. The Salinity Control Dept. had suggested measures like deepening, construing canals and had opined that with these steps, the capacity of the Bandhara will not only be preserved but increased.
 - f. The State Govt. had even sought opinion of Advocate General regarding the transfer of land.

- g. The water in Bandhara generally remains for 2-3 months post monsoon. Even the Govt. of Gujarat during proceeding before the Hon'ble Gujarat High Court had submitted the photographs taken in December 2009 showing the Bandhara totally dry. The water this year has been due to late rains as well as laying of illegal pipeline on behest of the local MLA.
- h. The Hon'ble High Court in its Order dated 26.04.2010 has stated that it is an artificial manmade reservoir.
- i. The issue of wetland has been raised for the first time by the Committee of MoEF which has visited the site. The Notification i.e. Wetland Conservation and Management Rules, 2010 has become legally enforceable rules only from 4th December 2010, whereas the Environmental Clearance by MoEF to the Project was granted on 11th December 2008. The plant land does not fall under notified wetlands either by the State Government or by the Central Government. The Wetland rules are prospective in nature and do not apply retrospectively.