

Sub: Site Visit by a sub-committee of Expert Appraisal Committee of MoEF from 16.10.2011 to 18.10.2011 for the project – "Integrated Cement Plant (Cement 3.0 MTPA & Clinker 2.0 MTPA) at Village DPF, Ghanger and Captive Limestone Mine (3.0 MTPA, 800 ha) at Village Alsindi, Tehsil Karsog, District Mandi, Himachal Pradesh by M/s Lafarge India Pvt. Ltd."- Report.

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1.0 BACKGROUND:

Environmental clearance to M/s Lafarge India Pvt. Ltd. for Integrated Cement Plant (Cement 3.0 MTPA & Clinker 2.0 MTPA) at Village DPF, Ghanger and Captive Limestone Mine (3.0 MTPA, 800 ha) at village Alsindi, Tehsil Karsog, District Mandi, Himachal Pradesh was accorded by MoEF on 8th June, 2009 after following the due process laid down in the EIA Notification, 2006. The Expert Appraisal Committee (EAC) (Industry-1), comprising of subject matter experts, which is a Statutory Committee of MoEF, had appraised the project and after assessing the environmental impacts due to the proposed project, addressing the concerns of the public during the public hearing and the representations received, and after a site inspection of the project site by a sub-committee, recommended the project for environmental clearance subject to stipulation of environmental safeguards for compliance by the project proponent (PP).

National Environment Appellate Authority (NEAA) quashed the environmental clearance accorded on 8.6.2009 vide its order dated 30.8.2010 in the Appeal No. 34 & 35 of 2009. M/s Lafarge India Pvt. Ltd. filed a Civil Writ Petition in the Hon'ble High Court of Himachal Pradesh praying to quash and set aside the aforesaid NEAA order of 30.8.2010. The Hon'ble High Court of Himachal Pradesh, vide its judgment dated 12.8.2011 has set aside the order dated 30.8.2010 of NEAA. The environmental clearance dated 8.6.2009 has also been set aside. The matter has been remanded to the EAC, with orders to direct sub-committee to visit the site and submit its report. Sufficient notice shall be given to the people of the area so that they can appear before the committee and put-forth their views. The EAC after considering the report of the sub-committee should decide the matter afresh. The EAC should ensure that it gives its finding within a period of two months from the date a copy of this order is produced before it by any of the parties. The PP has done so on 28.08.2011 and the two months period for the EAC to give their findings afresh come to 28.10.2011.

The matter was placed before the EAC (Industry-1) in its next meeting (28th), held on 26th -27th September, 2011. As per the order of the Hon'ble High Court, it was decided to constitute a sub-committee comprising of following members to visit the mine site and cement plant area and also issue notice to the concerned public through the District Admn. and the Himachal Pradesh State Pollution Control Board (HPSPCB) regarding the same:

Shri M.S. Nagar	-	Chairman
Professor Manju Mohan	-	Member
Professor C.S. Dubey	-	Member
Dr. K. Sankar	-	Member
Representative of the MoEF		

The report of the sub-committee's visit would be placed before the EAC (Industry- their October Meeting so as to be able to take a decision before the due date.

Thus, in compliance with the Hon'ble High Court's directions, the Deputy Commissioner, Mandi and the Member Secretary, HPSPCB were requested by MoEF vide their letter, email, fax dated 5.10.2011 to give sufficient notice to the people of the area including their Sarpanchs, Mahila Mandals & local NGOs if any and make all the necessary arrangements for the meeting of sub-committee with local people on 17.10.2011. The SDM, Karsog, Dist. Mandi vide his office letter dated 10.10.2011 informed the above and the local Govt. Officials about the sub-committee's visit and requested to participate in the same. The HPSPCB has also advertised about the sub-committee's visit in the local news paper on 15.10.2011.

2.0 SITE VISIT BY THE SUB-COMMITTEE

The sub-committee, namely Shri M.S. Nagar, Prof. C.S. Dubey, Dr. K.Sankar and Shri M. Ramesh (Scientist 'C' & Representative of MoEF) undertook the study tour as above from 16.0.2011 to 18.10.2011. Shri Surendra Kumar, Scientist 'F', MoEF Regional Office, Chandigarh and Shri Ravinder Sharma, AEE, HPSPCB accompanied & assisted the sub-committee.

On 16.10.2011, M/s Lafarge India Pvt. Ltd. (the Project Proponent - PP) made a presentation before the sub-committee, which was also attended by Shri A.K Gulati, PCCF (WL), Shri D.P Sinha, Nodal Officer CCF (FC), Shri Arun Sharma, State Geologist, Shri R.R. Patyal, Deputy Director (Industries), Shri Sanjay Sood, MS, HPSPCB, Shri K.K Sharma, SDM-Karsog, Shri H.K. Sarvata, DFO-Karsog and Shri D.K Sharma, SEE, HPSPCB. The sub-committee had detailed discussions about mining lease, diversion of forest area, the exact locations of various PFs, RFs, Majathal wild life sanctuary, people's rights to access into forest areas, infrastructural development, R&R etc.

The sub-committee visited the cement plant site and the captive limestone mining area **on 17.10.2011**. While the sparsely vegetated, nearly plain cement plant site (at a much lower altitude of around 800 meters above MSL), provided the desired over view from within the leasehold, the mining site (at a higher elevation of 1400 to 1800 meters above MSL) on more rugged, highly undulating terrain, required to be viewed from still higher altitude on surrounding ridges to get a clear picture of the lay of the lease area, its surface drainage pattern, density of tree cover, the mining configuration envisaged in the chosen lease area and the homesteads and other public buildings which are bound to be affected. So, the sub-committee chose such a vantage point on a ridge close by, which would serve the objectives of their site inspection, though this entailed trekking on foot for a couple of kilometers. The tell tale site photographs appended (**Appendix-1**) are taken from the chosen spot which enabled the sub-committee to clearly understand and

evaluate the issues involved about the proposed mining activity and down-hill transportation of limestone and their impacts on the neighborhood.

As expected, the sub-committee was met by groups of local people at several places on their way to the plant and mine sites. The local people appeared to have come fully prepared to present their views and sentiments and were fairly divided in their support or opposition to the project. In relative strength, the pro-development villagers apparently outnumbered those not in favour. The oral and written submissions were duly considered by the sub-committee and various issues raised by the project affected people (PAP) were also the subject matter during discussions with the State Govt. and Forest officials. An analysis of the written representations received is appended (**Appendix-2**) to this report, indicating the Panchayats and Mahila Mandals in favour and those which are not. On occasions, the same Village/Panchayat had people on either side. All the issues raised were carefully examined and their technical merits and remedial action plans, if any, taken note of for the purpose of deriving the sub-committee's recommendations to the EAC (Industry-1).

Besides the aforesaid Public Consultations in the presence of concerned State Admn. PCB and Forest officials, the sub-committee also undertook an in-depth exercise of evaluating the environmental impacts of the proposed project activities and to what extent the mitigative measures committed by the PP in their EMP would be effective to address the apprehensions of local people in the event the project gets approved by the competent authority. Based on the site inspection of the cement plant and limestone mines area and detailed discussions with the stake holders, the respective subject experts have also made some observations and additional recommendations, which should help the EAC (Industry-1) to take a fresh call on the subject. The study included socio-economic impacts on project neighborhood, as also the incremental heavy traffic on the transport infrastructure of the State.

On 18.10.2011, the sub-committee had a meeting in which Shri R.K Gupta, PCCF (FC), Shri D.P Sinha, Nodal Officer-CCF (FC), Shri Arun Sharma, State Geologist and Shri Sanjay Sood, MS, HPSPCB were present. In the light of the public consultations and site studies, the sub-committee sought certain additional information from the PP, which included Location of Wildlife Protected Area (PA) with respect to the proposed project site, reason for 'Revised Mining Plan' of Alsindi Limestone deposit, R & R Plan, Supplementary information to Approved Mining Plan by IBM dt. 23/3/2010, details of mine design from the points of view of Slope Stabilization, OB Management and Drainage Pattern of the mine, Belt Conveyor alignment for crushed ore transport etc.

Clarifications with supporting documents were also sought from the PP on several other aspects of detailed mine design, environmental protection measures, primary studies on Flora & Fauna in the Core and Buffer Zones, material movement, rehabilitation

packages and reasons for certain modifications in mine layout. These were required to address the apprehensions in the minds of the local public not favourably disposed towards the project under consideration and also to evaluate the pros and cons of finally approving or rejecting the EC. The written submissions from the PP have been taken on record.

This has been in addition to the information already available in the form of the final EIA/EMP, material submitted as the backgrounder for the site visit, detailed presentation made by the PP before the sub-committee on 16th Oct. etc. The minutes of the earlier EAC meetings on the subject, contents and recommendations of the previous sub-committee's report on their site visit were also perused and kept in view in formulating the following Site Observations and consequent Recommendations of the present sub-committee.

As stated earlier, the sub-committee took landscape photographs of the plant and mine sites which are appended (**Appendix-1**) to this Report to put their observations in the right perspective. Public Consultations are also in evidence in these photographs. A separate videograph of the site visit is also available on record, besides the attached Road and Rail Route Maps (**Appendix-3**).

3.0 OBSERVATIONS OF SUB-COMMITTEE ON SITE VISIT

During their site visit, the sub-committee kept in view the numerous objections raised by the local people and the directions from the Hon'ble High Court relating to project infrastructure, environmental protection and concerns of the project affected people (PAP). The following observations cover the cardinal issues involved as stated above and these issue-specific observations have been relied upon to formulate the sub-committee's recommendations to EAC, which follows at **4.0** below.

3.1 Issues relating to Raw Material and Product Transportation

The matter was discussed with the State Govt, Officials in The presence of M/s Lafarge, PP. It was informed that the raw material transportation to the plant (around a Million Tonnes per annum) and product transportation from the plant (around 3 MT/yr.) would be primarily by road. The Railway line is more relevant to the other cement plants in the nearby areas to the north west of the Lafarge Plant site and any progress or completion of the planned Rail route extension was not a condition priori for the Lafarge Project. The PP confirmed that it would be contributing their share of the road widening and development projects after obtaining the prior clearances for setting up the cement plant and captive mine. The main raw material, viz: limestone from the mine to the cement plant would be transported by covered conveyor belt, which is one of the most environment-friendly transportation modes.

It was informed that the heavier road transport across River Sutlej would be accomplished by a separate road bridge on the River at a convenient location which along with the proposed road widening, should largely obviate congestion on the existing road network. The second Bridge across Sutlej would also benefit all the villages in the vicinity. The conditions attached (in the impugned EC of June 2009 and further elaborated in the previous sub-committee report) to vehicular movement, as regards use of only covered, well maintained, less noisy vehicles, should ensure noise and dust pollution, from the increased level of road transport, to be within permissible limits. The suggestions from HPSPCB (introduction of vehicular parks with service facilities, canteens and rest shelters) for regulating and facilitating road transport would also go a long way in minimizing traffic congestion, safer and better utilization of trucks, drivers' and cleaners' comfort en-route. Thus, the voluminous inward movement of fly ash and coal and outward movement of cement would be well regulated.

As may be clearly seen from the Route Maps of Highways and Railway (**Appendix-3**), the Lafarge Unit would be far less dependent on Rail transport than the other Cement Plants in Mandi District. The commissioning of the Rail route at the earliest and its extension as per the development projects under way however, would bring considerable relief in this hilly Terrain by reducing pressure on the Road net work.

3.2 Issues Relating to Topography, Geo-morphology and Meteorology of the Mine and Plant Area

After careful examination of the deposit area and its surrounding buffer zone, the sub-committee felt that the chosen sites for the cement plant and first Phase of the captive mine and their sizes are quite optimum and well suited for their respective purposes. The plant site is at a lower elevation on flatter rocky terrain with least damage to crops or forest when the plant comes up. It is conveniently located vis-à-vis the highway for all the in-bound and out bound heavy road transport. The encircling hills would help contain the air pollution within the valley.

But then, the closeness (100 odd meters) to river Sutlej flowing in the southern and eastern part, as also the villages across the river and at a lower elevation, do warrant appropriate protective measures (particularly for air, water and noise pollution) and continuous monitoring. These also include a tree cover of at least 50 meters wide between the plant and the river and erecting the plants as much to the northern and western portions of the 100 ha. plot as practicable. Dust and gas concentrations across the river have to be kept below the prescribed limits and constantly watched, so that the villages and their agricultural fields lower down, across the river, are least impacted. The river water also needs to be monitored on both the upstream and downstream sides of the cement plant. The chimneys of the plants should have protective equipment to trap

pollutants in the gaseous emissions. *The EMP does provide for these measures, but emphasized here in view of the genuine concerns of the PAP.*

The Geology of the 800 ha. Mining lease shows that the area consists of North West South East trending rocks and the lime stone body is surrounded by dolomitic lime stone on both the hang wall and foot wall sides. The two ridges marked on the photograph shows the first phase mining site (around 360 ha.). The mining area varies from 25 to 45 degrees slope and the lower area, where the homesteads and a couple of public buildings are located, are at gentler 10 to 15 degrees slope.

As can be clearly seen, the morphology of the mining area is saucer shaped, whereby the dust and air pollution will be contained in the area itself. The first Phase mining area has but a few pine trees and sparse secondary vegetation comprised of shrub species. The seasonal first and second order water streams are spread all around, which are bound to be disturbed when the mining starts. *The remedial measures are covered under the next section 3.3 on mining impacts.*

The proposed Belt Conveyor alignment (6 to 8 Kms long, 50 meters wide) also passes through rugged terrain over varying density of vegetation, a few farm lands and a couple of homesteads. *Their rehabilitation needs to be included in the packages for the mining area R& R.*

The point to note about the *physiography of the area* is that the drop of around 1000 meters over a distance of about 6,000 meters is quite steep, imparting high velocities to all liquids and solids coming down the slopes. The design of the check dams, gully plugs etc have to reckon with such ground realities. *Solid liquid separation in the mining area and mineral or over burden dumps is necessary to minimize flow of ore and waste rocks with the fast flowing waters. Use of only paved and brick lined drains, and velocity reduction contraptions are helpful in control of excessive siltation.*

Watch out for Land slides is a must, as also for very heavy down pour spells which cause high velocity surface run-offs. Records need to be kept on episodal rainfalls of high intensity, as also the occasional cloud bursts. A good *net work of storm water-drains* helps divert fresh rain water from lose material, thereby reducing the silt loads on down stream farm land or fresh water storage points. Though the water table is way down, a number of seasonal water streams run criss cross the mining area. No muck should be dumped in their path.

Lastly, the roadways in the mining and conveyor routes are all likely to pass through unconsolidated hillsides and valleys, sensitive to vibrations generated by blasting. *Their care and maintenance will also have to be shouldered by the PP in collaboration with the State PWD.*

Being prone to Earth quakes, the Disaster management Plan should incorporate calamity specific ways and means of addressing them, some of which have been enumerated above.

3.3 Issues Relating To Mining And Hydrology Of The Area

Bulk of the opposition to the Project relates to the apprehended damage to the study area from the mining activity. Majority of those who want the project to see the light of the day also pin their hopes on mining of lime stone in that area to be finally approved. From an environmental stand point, *mining of any mineral in such a mountainous terrain* is beset with several environmental threats, which unless carefully understood and remedied, would make the fears expressed come true, as different from mining in flatter deposit areas in the planes.

The *rationale for the modification in mine plan* is stated to be to facilitate progressive forest diversion in phases, moving from lesser density in the 1400 meter height range to higher density higher elevation ranges in the north, covering the larger and longer east west ridge. In the first instant, around 360 ha would be diverted for mining to be followed by two more phases of 200 to 300 ha. each to cover the entire 800 ha lease area, earmarked for the Lafarge limestone mine. Such a phased progression of mining, stretching 60 years for the planned 3 MTPA production, has the advantage of better control on slope stabilization, water flows, Over burden dumping and dolomite storage. The initial 'Box Cut' being planned at a lower elevation would also enable creation of appropriate storage space for the stock piles of rocks and dolomite as the mine moves northwards after a couple of decades from now.

The *main environmental threats* of working at such high altitudes on steeply sloping mineral deposits, that too in a forest area, are a) down stream flow of silt, b) disturbing the equilibrium of water flows through the cracks and crevices and seepage, c) management of mineral stock piles and O.B. dumps on undulating surface, d) impacts of blasting spread out relatively further due to the sloping ground, e) design of the benches and haul roads rendered more difficult due to the undulating ground. What this implies is that *as compared to the conventional mechanized mining on flat terrains, many more precautions have to be built in to the method of mining.* The PP with their vast exposure to varying terrains must be aware of these Best Mining Practices (BMPs) in high altitude hilly terrains. *While the modified mines plan covers the pollution control measures in the mine in a general way, the site specific special techniques to be adopted should also be added to the detailed mine design.*

In response to the queries by the sub-committee, the PP furnished additional material consisting of the digitized slope studies and a host of other field data collected by them for accomplishing optimum mine design with built in environment protection measures. As

a confidence building measure, it is recommended that the BMP for the given conditions be spelt out with all the environment protection measures incorporated to address each of the afore said problem areas to be confronted at the present mine site.

As regards hydrology of the mining area, there is no room for any complacency on the plea that the mine is a few hundred meters above the general water table, which will not be intersected at all. The surface run off and the intricate labyrinth of sub-terrainian water flows, leading to the springs and seepages in the fertile agricultural fields down below would be impaired due to the mining activity, unless the BMPs for appropriate water management are put in place. B:oad details of how exactly the silt flows would be arrested and how water flows to lower stretches of agricultura! fields would be maintained should be spelt out.

Lastly, it is seen that the blasting techniques adopted, nature of explosives to be used are designed to keep the vibrations to the minimum. But considering that the mining is to be carried on highly sloping ground with higher susceptibility of slope failures and rolling stones, it is suggested that when regular mining with blasting commences, vibration studies are carried out and reported as to the zone of influence and impacts of blasting on the neighborhood. As a corollary, possibilities of use of Excavation Equipment, totally obviating use of explosives, may also be examined and reported.

3.4 Issues Relating to the Flora & Fauna in the Project Area and People's Rights in Surrounding Forests under Diversion.

The main issues being agitated by the Project Affected People (PAP) are their likely deprivation of Rights they have traditionally enjoyed in forest lands by way of grazing, fodder and fuel wood collection, enjoying wild forest produce including medicinal plants for own use. Also, some of the wild animals are reportedly destroying their crops. Destruction of forest cover in their neighbourhood and the plant activities would further worsen the means of their lively hood and peace.

The sub-committee carefully studied all the relevant bio-diversity and wild life related features of the study area and tried to work out how best the statutory requirements could be complied with and the problems likely to be faced by the local people could be mitigated. Sub-committee's observations in this regard are as follows :

- (i) It is learnt that the Forest Dept is verifying the distances to different demarcated forests and Protected Areas of Wild life. An important issue of whether the Majathal Wildlife Sanctuary is actually located within 10 km radius from the cement plant boundary is also being verified and would be resolved soon. The Project Proponent is requested to submit a map on a Survey of India Topo sheet giving details of the plant site location, mining

area, location of Protected Forests and Reserved Forests in the buffer zone (10 km radius from the boundary of lease area or core zone. Also they are requested to give the location of Majathal Wildlife Sanctuary in the same map. This map should be authenticated by the local Divisional Forest Officer and countersigned by the Chief Wildlife Warden, Himachal Pradesh. In case the Majathal Wildlife Sanctuary is seen to be located within 10 km radius of the plant site, then a conservation action plan for the Sanctuary needs to be prepared and submitted.

- (ii) The proposed plant site is comprised of secondary forest with exposed rocks including scrub vegetation with a few trees. Trees include *Acacia catechu* (Kher), *Cassia fistula* (Amaltas) and *Agele mormelos* (Bhel), shrubs include *Adathoda vasica*, *Carissa* sp, *Murraya koenigii*, *Opuntia* sp, *Dodonaea viscosa* and herbs include *Cassia tora*. Presence of goat pellets in the proposed plant site indicated the area use by goats and their feeding signs were observed on *Carissa* sp. Other herbs and shrubs found in the plant area are not utilized by the livestock as they are largely weeds.
- (iii) The proposed plant site comes under Protected Forest (108 ha) for which it is learnt that the State Forest Department has given approval for diversion for non forest use by M/s Lafarge. However necessary documents to support this should be submitted to MoEF by the proponent. The local people informed the sub-committee during the site visit that they have the rights to access this area largely for cattle grazing and also for minor forest produce collection (NTFP). The committee did not find any useful NTFP in the proposed plant site. However, it is learnt that local people use this area for livestock grazing (cattle and goats). Necessary alternative arrangements by the proponent in consultation with Forest Department to provide alternative areas for livestock grazing for the local people should be made. This shall be done by fodder development programme in the adjoining Protected Forests and Reserved Forests.
- (iv) On similar lines, the forest diversion proposals for 800 Ha for Mining and another 30 ha for the 6 km long 15 meters wide Belt Conveyor corridor have to be firmed up by quantifying forest vegetation (trees & shrubs) in these areas and working out details of replacement afforestation and the NPV to be paid.
- (v) Additionally, an action plan for progressive plantation of local trees and shrubs in and around the plant and mine sites should also be prepared.
- (vi) During discussions with local people, it was revealed that their minor forest produce collection (NTFP) in and around the proposed plant site and mine site largely includes wild pomegranate fruits and collection of wild marigold

(*Tagetes minuta*). Local people have the fear that their activities will be curtailed with regard to this NTFP collection once the plant comes to market. *Concerns of local people in this regard should be addressed by the project proponent.*

(vii) Regarding the *damage to crops by wild animals* in the study area, it was informed by the local farmers that largely the wild pigs come and eat the tubers and other farm produce. The forest department and the PP could provide assistance to control the menace.

(viii) No Endangered wild animals as per the Schedule I of Indian Wildlife Protection Act (1972) are reported to be found around the plant and mine sites. During the field visit, we encountered only Red Jungle Fowls (*Gallus gallus*) in the adjoining forest areas of the mine site. Some species of Vultures (*Gyps sp*) are also reportedly sited in and around 5 km radius of the plant site.

3.5 Issues Relating to Pollution Control Measures

Needless to say, the success of the proposed project (from an environmental view point) at the eco-sensitive mountainous region of H.P. would largely depend on the pollution prevention and control measures put in position at the project site, affective implementation of the conservation schemes for the Flora & Fauna and Regional Bio-diversity and of course, the meticulous care and sensitivity with which the R&R issues are handled and all affected human settlements are taken care of. These have been outlined in the EIA and EMP and also in the Records of the Public Hearing Reports. Each of the preceding subject specific Sections have also covered control measures germane to them.

What is being re-iterated/supplemented in this Section is a set of suggestions received from the Himachal Pradesh State Pollution Control Board (HPSPCB). From their experience in similar cement plants elsewhere in the State, continuous monitoring of the environmental parameters in the Industrial Areas, they have come out with a few important recommendations as follows:

- (i) The proposed cement plant may install the ESP in the cooling section *followed by bag house*.
- (ii) The Unit may explore the possibility of installation of *waste heat recovery system* especially from the preheater and cooler section.
- (iii) The Unit may develop the *parking facilities for all the associated vehicles* including trucks etc. along with providing the facilities like service stations, adequate washing facilities, drinking water and sanitation, bathing facilities, canteen to relax the pressure on existing public infrastructure including roads

- (iv) In the mining area, the Unit may be required to provide adequate no. of check-dams, retaining structures followed by settling ponds for the rain water from the catchment area, so that all the suspended particles are settled down.
- (v) The Unit may be required to take the matter with concerned authority of PWD/ Transport Deptt. for improving the shoulders of the roads with at least WBM/paved quality and explore the possibility of separate entry and exit for the trucks engaged in bulk transportation.

3.6 Issues Related to Concerns of Local People

Most of the issues which the local public seriously believes would harm them if the project is allowed to come up, had been put before Public Hearing Meeting held on -----
--The PP's responses to these concerns and other legitimate expectations about improvement in their living standards and infrastructural developments were found to be quite equitable and reasonable. The commitments made were quite substantive and befitting the size and stature of the Company. The conditions attached to the EC of June 2009 reflect the essential environmental protection and pollution control measures envisaged in the EIA/EMP or otherwise. These stipulations do bind the PP for effective implementation and monitoring of the same.

Yet the apprehensions remained and in fact grew unabated leading to contesting the EC before the Appellate Authority and so forth. This time around, the sentiments against the project were equally vehement, loud and clear and well presented. The sub-committee has carefully examined their technical merit and has no hesitation in admitting that in a eco-sensitive hilly terrain and predominantly rural and forest setting, the apprehended damages to land, water and air, flora and fauna would definitely take place if any of the time tested preventive measures are neglected or found inadequate. Therefore, they have critically reviewed, at site, the anticipated impacts and the likely effectiveness of the planned control mechanisms. These have been detailed in the preceding Sections of this report as well as the accompanying support documents. A Gist and Analysis of the written submissions received from the people who met the sub-committee is appended to this report. The main concerns are briefly as follows:

- (i) Public sentiments apprehend loss of traditional means of livelihood, rural but forest dependent lifestyle in peaceful clean environment. Impacts of the proposed project and compensations to be paid vary from village to village and those not covered under any of the packages are apparently crying foul and are alleging discriminatory treatment to certain villages. Suffice it to say that all such individual or collective complaints should be probed by the concerned neutral authorities and amicably resolved in the process of land acquisition and rehabilitation. It is important to ensure that not only the losers of farm land and

homesteads, but also the dependent landless labour are taken care of. Traditional lifestyle features such as their temples, community spaces and welfare measures like schools and hospitals are provided for at their relocation areas.

- (ii) The relocation of around 60 home steads, a temple and couple of public utility buildings in a time bound manner and in strict compliance with the agreed R&R plan is of paramount importance. The three no.s lift irrigation systems that would be destroyed will necessarily have to be substituted at the relocation site. Care and relocation of the draft animals, mainly goats, and mitigation of the menace of wild pigs have also to be included in the action plans of rehabilitation.
- (iii) The equally genuine apprehensions about increase in air borne dust levels and water borne silt, consequent drop in farm productivity, loss of grazing land and other forest rights have all been closely examined and adequacy of pollution control measures evaluated. Where necessary, additional safe guards have been recommended.

Juxtaposed against the above, the sub-committee could not but notice majority of the people in several villages in the study area, strongly expressing their support to the project, despite the fact that many of them were going to lose their land and homes. Implicit in such a posture is that the R&R package is quite attractive. The obvious *reason given for such unequivocal positive attitude* is that they have been waiting for appropriate developmental activity and growth of infrastructure in this part of Mandi District for over two decades. Endowed as they are with good quality limestone, water and reasonable road connectivity, they fully deserved a full fledged cement plant in their neighborhood and do not wish to be disappointed over again. Such overwhelming support of course, did not diminish the necessity for ensuring that all environmental protection measures would definitely accompany any mining and cement production activity, if so sanctioned.

4.0 Recommendations/Conclusion:

The issue specific Observations in the previous Section 3.0 lead to some obvious conclusions on the pros and cons of one more large cement plant and captive lime stone mine coming up in the eco-sensitive Mandi District of HP. The sub-committee finds (from the available information on record and considering all environmental aspects covered in the impugned original EIA and EMP for the project, supported and supplemented by the impugned recommendations of the sub-committee of the EAC (Industry-1), that these were on sound lines, but for the infirmities pointed out by the Hon'ble Appellate Authority and the High Court. The strong opposition to the project from part of the local people and their seeking legal redressal also came in the way of the aforesaid EC seeing light of the day and the project has been on hold for over two years.

The sub-committee's Terms of Reference included a fresh in-depth site study to verify the various environmental issues as also to have Public Consultation with the PAP regarding their concerns as well as aspirations, and make appropriate additional recommendations to enable the EAC to take a fresh call on the project.

Accordingly, the sub-committee, having undertaken the site tour, having secured clarifications from the Project Authorities, having ascertained the considered views of the State Admn., PCB., Regional Office of MoEF and the State Forest Dept., and having heard the local public and carefully studied their written submissions for and against the project; makes the following additional Recommendations, trying to avoid repetition (from previous clearances accorded and conditions attached thereto) to the extent possible. These have mainly arisen out of the developments that have taken place during the last two years and concerns expressed by the local people before the sub-committees visiting them.

(a) The pending requirements /conditions of the EC of June 2009 should be fulfilled forthwith. These are:

(i) Submission of authenticated map of the study area showing the location of Majathal WLS, RF, PF, Airport, Golf Course, Tourist Centers etc.

(ii) In the event the Majathal WLS is found to be within 10 kms (as the crow flies) between the boundary to boundary of the lease area and the WLS, then a wild life conservation plan for the scheduled fauna should be submitted, duly authorized by the prescribed authority, i.e. Chief Wild Life Warden of HP. This would be required before any EC is finally issued by the Ministry. Copy of the Application for this purpose from the PP in the prescribed format may be submitted now.

(iii) Submission of formal Application for consideration of the revised Mine Plan for 360 ha, as against the earlier Mine Plan for the entire 800 ha. Furnishing justification for the modifications in the Mine Plan.

(iv) Other time bound reports to MoEF as stipulated in the EC of June 2009 would also become due if the EC is decided to be revived and re-issued

(b) Once the above requirements are fulfilled, the EAC (Industry-I) may consider reviving the impugned EC with all the specific and general conditions stated there in and add the following additional conditions which are the outcome of the present sub-committee's site studies and the latest concerns put forth by the local people and remedial suggestions from HPSPCB, Reg. Office of MoEF, State Govt. Forest

and other concerned authorities and subject specialist Members of the committee.

- The Project Site falls under Seismic Zone IV and is prone to Earth Tremors and Quakes. Part of the upper rock formations are not consolidated and as competent as the Lime Stones or their lower host rocks. Therefore the sides of the Hills and broken ground in the mining area are prone to land slides, particularly when very heavy rainfall takes place. The flowing streams attain very high velocities carrying copious quantities of loose material with them. It is imperative therefore that the mandatory **Disaster Management Plan** should be comprehensive enough to incorporate calamity specific ways and means of addressing them. Such preparedness should also include water and airborne epidemics too.
- As regards cost sharing for widening and strengthening the Road net work, the PP confirmed that they would be contributing their share after obtaining the prior clearances for setting up the cement plant and captive mine. This should be done and the State Transport Dept/PWD consulted. The work involved is to improve the shoulders of the roads with at least WBM/Paved quality. Wherever possible, separate entry and exit for the vehicles /lane separation should be provided for on the widened Roads
- The Road Development Programme in the Public Private Partnership (PPP) mode, should include creation of parking facilities for all the associated vehicles including trucks etc. along with providing facilities like service stations, adequate washing facilities, drinking water and sanitation, bathing facilities, canteen to relax the pressure on existing public infrastructure including roads.
- The roadways inside the mining and conveyor routes are likely to pass through unconsolidated hillsides and valleys, sensitive to vibrations generated by blasting, if nearby. Their care and maintenance will also have to be shouldered by the PP in collaboration with the State PWD.
- The main environmental threats of working at such high altitudes on steeply sloping mineral deposits, that too in a forest area, are a) damage to down stream agricultural land from silt flows, b) drop in the supply of clean water through springs, cracks and crevices and seepage, c) difficulties in the management of mineral stock piles and O.B. dumps on undulating surface, as also in formation of benches and haul roads in the mine d) impacts of blasting spreading out relatively further due to the sloping ground. What this implies is that as compared to the conventional mechanized mining on flat terrains, many more precautions have to be built in to the method of

mining, it is recommended that the Best Mining Practice (BMP) for the given mining conditions be spelt out with all the environment protection measures incorporated to address each of the afore said problem areas to be confronted at the present mine site.

- Broad details of how exactly the silt flows would be arrested and how water flows to lower stretches of agricultural fields would be maintained should be spelt out. In the mining area, adequate no. of check-dams, retaining structures and settling ponds for the rain water from the catchment area should be provided, so that all the suspended particles are made to settle down.
- it is seen that the blasting techniques adopted, nature of explosives to be used are designed to keep the vibrations to the minimum. But considering that the mining is to be carried on highly sloping ground with higher susceptibility of slope failures and rolling stones, it is suggested that when regular mining with blasting commences, vibration studies are carried out and reported as to the zone of influence and impacts of blasting on the neighborhood. As a corollary, possibilities of use of Excavation Equipment, totally obviating use of explosives, may also be examined and reported.
- The proposed cement plant may install the ESP in the cooling section followed by bag house.
- The Unit may explore the possibility of installation of waste heat recovery system especially from the preheater and cooler section
- The Project Proponent is requested to submit a map on a Survey of India Topo sheet giving details of the plant site location, mining area, location of Protected Forests and Reserved Forests in the buffer zone (10 km radius from the boundary of lease area or core zone). Also they are requested to give the location of Majathal Wildlife Sanctuary in the same map. This map should be authenticated by the local Divisional Forest Officer and countersigned by the Chief Wildlife Warden, Himachal Pradesh. In case the Majathal Wildlife Sanctuary is seen to be located within 10 km radius of the plant site, then a conservation action plan for the Sanctuary needs to be prepared and submitted.
- Necessary alternative arrangements by the proponent in consultation with Forest Department to provide alternative areas for livestock grazing for the local people should be made. This shall be done by fodder development programme in the adjoining Protected Forests and Reserved Forests.

- On similar lines, the forest diversion proposals for 800 Ha for Mining and another 30 ha for the 6 km long 15 meters wide Belt Conveyor corridor to be firmed up by quantifying forest vegetation (trees & shrubs) in the affected areas and working out details of replacement afforestation and the NPV to be paid.
- Additionally, an action plan for progressive plantation of local trees and shrubs in and around the plant and mine sites should also be prepared. Concerns of local people in this regard should be addressed by the project proponent.
- Regarding the damage to crops by wild animals in the study area, it was informed by the local farmers that largely the wild pigs come and eat the tubers and other farm produce. The forest department and the PP could provide assistance to control the menace.
- Public sentiments apprehend loss of traditional means of livelihood, rural but forest dependent lifestyle in peaceful clean environment. Impacts of the proposed project and compensations to be paid vary from village to village and those not covered under any of the packages feel aggrieved. All such individual or collective complaints should be probed by the concerned neutral authorities and amicably resolved in the process of land acquisition and rehabilitation.
- It is important to ensure that not only the losers of farm land and homesteads, but also the dependent landless labour are taken care of and traditional lifestyle features such as their temples, community spaces and social welfare measures like schools and hospitals are provided for at their relocated areas.
- More specifically, the relocation of around 60 home steads, a temple and couple of public utility buildings in Talehan Village should be accomplished in a time bound manner and in strict compliance with the agreed R&R plan of the State Govt.
- The three no.s lift irrigation systems that would be destroyed will necessarily have to be substituted at the relocation sites. Care and relocation of the draft animals, mainly goats, and mitigation of the menace of wild pigs have also to be included in the action plans of rehabilitation.
- The equally genuine apprehensions about increase in air borne dust levels and water borne silt, consequent drop in farm productivity, loss of grazing land and other forest rights deserve careful consideration. Special attention shall be paid to the villagers of Sunni and the villages across the river, but in the windward direction, in Shimla District. These villages may also be

extended the benefits of the laudable CSR activities already being pursued by the PP.

- *It is informed by MoEF Regional Office that the State sponsored Local Area Development Authority (LADA) is expected to extend their social development schemes in the Study area for which they would be seeking assistance from the Industry. In and around their leaseholds, the PP is also conducting their CSR activities. The two Organizations could co-ordinate their contributions to avoid duplication and to maximize synergy.*

In conclusion, the sub-committee feels that taking an overall fresh view of the matter, it would be in the fitness of things to revive the impugned Env. Clearance of June 2009 and re-issue the same along with additional special conditions as indicated above. Some of these would have to be complied with prior to the issue of EC and the rest to be implemented and reported back, as the project construction and operation progresses.

As such a decision lies with MoEF, the present sub-committee submits this Report to the EAC (Industry-1) and offers to make a Presentation before them in their next Meeting on Oct. 24-25, 2011, to enable them to deliberate and arrive at an appropriate decision on this Court Reference, before forwarding their final Recommendations to the Ministry.