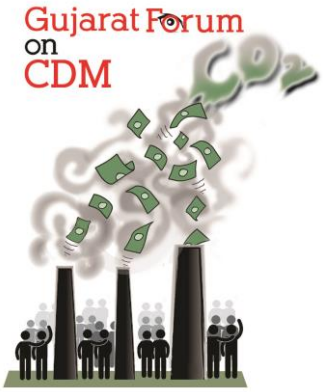
Glimpses from Ground: Analysis of selected CDM projects in India

A study by Gujarat Forum on CDM, India



11/1/2013

Acknowledgement

First and foremost, we would like to express our sincere gratitude to all local level NGOs, who helped us connect to local people. We extend our thankfulness to all the people at project sites, who came forward and provided us the adequate information.

We would also like to thank Eva Filzmoser and Andrew Coiley of Carbon Market Watch for their support and encouragement throughout this project. Without their assistance, this report would not have been commissioned and some ground realities on CDM, would not have been known.

We like to mention the continuous support we got from Mahesh Pandya of Paryavaran Mitra as an encouraging element during whole process.

We also thank our team - field staff, translators and designers – who have tirelessly worked on this project since its commencement to its conclusion. Special thanks are due to all the network members of Gujarat Forum on CDM* for their continuous support and encouragement.

Falguni Joshi & Hiral Mehta

gujaratforumoncdm@gmail.com

*The Gujarat Forum on CDM is a network of individuals and organizations working on environmental issues. It is also Carbon Market Watch Network's focal point in India. The Forum specifically monitors CDM projects and developments in Gujarat, India.

Table of content

Executive Summary

India is one of the top countries in implementation of CDM projects. The Indian CDM authority has stipulated a sustainable criterion for such CDM projects. As per the criteria, the proposed **CDM project should bring social, environmental, economic and technical well-being to the project site.**

Gujarat Forum on CDM prepared this study with the aim to check the ground reality of sustainable development criteria for selected CDM projects.

11 CDM projects were selected according to their scale, location, surrounding communities and their contribution to sustainable development during October 2012 to March 2013. They were analyzed based on available documents and field visits.

The findings from each project are eye opening and surprising. This analysis proved that sustainable development through CDM project is a myth. Some of the salient findings are highlighted below:

1) In all cases, there are severe discrepancies between the promises in the project documentation and the real impacts of the project implementation.
2) One common scenario has been observed: both, in industrial and renewable energy projects, no employment opportunities are created for local people so there is no monetary benefit for them due to these projects.
3) Industrial projects are getting benefits of CER revenue and they are generating income by using this money for manufacturing activities. This results in more production, more use of natural resources, more pollution and more impact on the environment due to limited carrying capacity of that particular area.
4) Many PDDs are similar because of copying work, since they seem to have been prepared from the same consultant who does not analyze the projects on a case by case basis, and thus misleads the EB and public.
5) Due to the increase of pollution, local people's health kept deteriorating their agriculture farms and grazing land are negatively affected, which in turn impacts their livelihood.
6) Due to a lack of a social monitoring, there are only very limited opportunities to assess the actual socio economic situation of the villages after the implementation of the projects.
7) Local people are not aware of company's contact details. Thus, they do not know whom to contact in case of emergency.
8) Yet, the CDM rules in place do not provide any remedy for local communities directly impacted by CDM projects. You can download the full report here.

Based on the observations made in this report, we recommended:

1) Monitoring

- Ongoing complaints must be heard by national authorities for any CDM project,
- In case of breach of conditions given in host country approval, DNA has to use their power to revoke the permission,
- There must be compulsory mechanism to monitor situation for respecting environmental laws of host country – local authority has to check and send report to the DNA.
- There must be some mechanism from which it could be checked whether CER revenue is not being used for more harmful industrial production which is then causing more pollution.

2) Contribution in Sustainable Development

- Social impact assessment should be an integral part of CDM registration process.
- CER revenue must not be used for more expansion of their existing manufacturing activities,
- There must be some legal bindings for project proponents to give employment for local people,
- There must be legal binding on project proponents to uplift social and infrastructural facility in surrounding area,
- Local people have to involve in a process to spend minimum 2% CER money for sustainable development work as per Indian DNA's provision.

3) Participation of Local People

- Stakeholder Consultation process has to be carried out transparently and with involvement of local authority and active participation from local people
- There must be some provision to accommodate complaints from public for registered CDM projects at national level, so that continuous scrutiny of the projects can be possible.

List of Acronyms

CDM	Clean Development Mechanism
CER	Certified Emission Reduction
EB	Executive Board
EC	Environmental Clearance
EIA	Environmental Impact Assessment
MoEF	Ministry of Environment & Forest, India
PDD	Project Design Document
PP	Project Participant
KLD	Kilolitres per Day
UNFCCC	United Nations Framework Convention on Climate Change

Glossary of Terms

CER	One unit of emission reduction which is equal to one tonne of Carbon dioxide emission
PDD	Project Design Document which is prepared as part of CDM project registration process at UNFCCC, containing all information related to CDM project
Panchayat	Local self-government bodies in villages of India whose members are elected in a democratic way
Sarpanch	Leader of local self-government body- Panchayat, in villages of India

Introduction

India is one of the biggest host countries for CDM projects in the world.

One of the fundamental goals of CDM projects is to deliver sustainable development benefits to the host communities. Even after the project's operation, it remains dubious whether these goals are ever fully achieved or not.

India's stipulated criterion for sustainable development of CDM projects aims to enhance environmental, ecological, social and technological well-being of the project site. This report analyses whether the selected projects have had the impact that was outlined in each Project Design Document (PDD).

Gujarat Forum on CDM decided to carry out a joint study on selected Indian CDM projects to check the operations and determine if and how the sustainable development targets have been realised.

This report's observations and analysis of selected CDM projects was conducted under the following parameters:

Scope of Work

Project Title	CDM Project Analysis of India
Project Timeline	October 2012 to March 2013
Project Location	Five states of India - Gujarat, Madhya Pradesh, Rajasthan, Haryana, Jharkhand

Work flow and its methodology

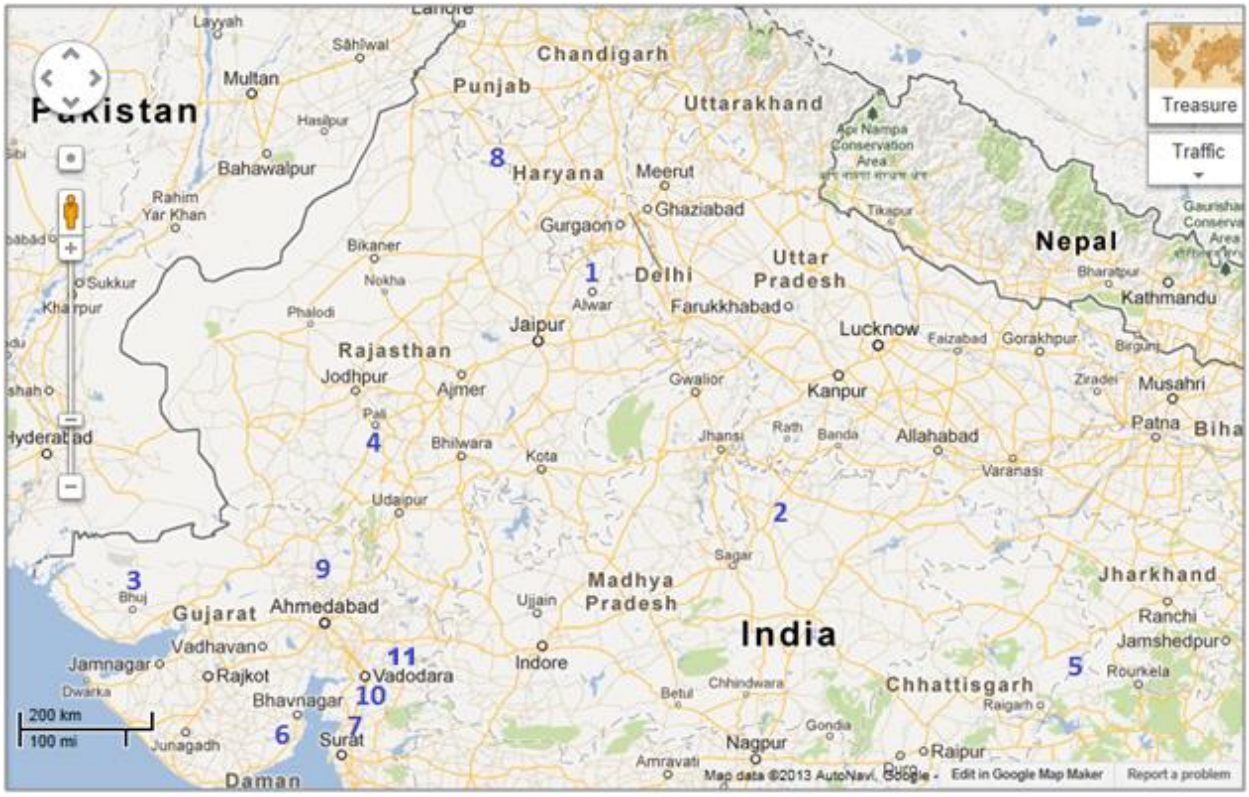
Serial number	**Operation**	**Methodology**
1	To select 11 CDM projects	Based on experience and desk research, 11 CDM projects were selected for analysis Criteria for the selection were location of project, amount of emission reduction by project, type of local communities and their contributions to sustainable development
2	To collect information on PDD, EIA, EC for those projects	Information on EC, EIA, Compliance reports, PDDs were collected from internet
3	To conduct field visits and interrogate local people	Field visits were conducted to the project sites to check the real situation and verify the claims made by the companies in PDDs
4	To draft a report based on analysis of collected information and observations	Conclusions were drawn based on available information and field visit observations

Project Analysis

The Following 11 projects had been selected based on their location, emission reduction potential, type of local communities and contribution to sustainable development.

Serial No.	Title of the project	Location	Annual Reductions of CER
1	GHG emission reduction by thermal oxidation of HFC 23 at refrigerant (HCFC-22) manufacturing facility of SRF Ltd.	Village Jhiwana, Tehsil Tijara, Rajasthan	38,33,566
2	Greenhouse Gas Emission Reductions through Super-Critical Technology - Sasan Power Ltd (subsidiary of Reliance Power Ltd.)	Sasan, Madhya Pradesh	22,45,875
3	150 MW grid connected Wind Power based electricity generation project in Gujarat, India by DLF India	Kutch, Gujarat	3,13,755
4	"Replacement of fossil fuel by biomass in Pyro-Processing" in Rajasthan by M/s JK Lakshmi Cement Limited (JKLCL)	Sirohi, Rajasthan	1,83,152
5	Substitution of clinker with fly ash in Portland Pozzolana Cement (Blended Cement) at Lafarge India Pvt. Ltd. - Arasmeta Cement	Gopalnagar, Chhatisgadh	69,359
6	10 MW Biomass Power Project	Amreli, Gujarat	50,203
7	Switching of fuel from Naphtha to Natural gas at United Phosphorus Limited (UPL)	Jhagadia, Gujarat	55,783
8	Small Scale Cooperative Afforestation CDM Pilot Project Activity on Private Lands Affected by Shifting Sand Dunes in Sirsa, Haryana	Sirsa, Haryana	1,763
9	Grid connected 25 MW P V solar power project at Charanka in Gujarat	Charanka, Patan, Gujarat	34,462
10	Process Waste Heat utilization for power generation at Phillips Carbon Black Limited, Gujarat	Bharuch , Gujarat	45,721
11	Solar steam for cooking and other applications.	Vadodra, Gujarat	562

Map of the selected projects



Map showing projects in blue numbers according to the serial no. mentioned on previous page are shown here.

Notification

Information available on environmental clearance (EC), environmental impact assessment (EIA) and compliance reports of the selected projects were either not accessible or not relevant. The websites of the Ministry of Environment & Forest, India (MoEF), other government and company's websites do not provide this information.

Consequently, most of the analysis mentioned here below is based on PDD and field visit observations.

1) SRF Ltd. - Thermal oxidation of HFC 23

Title	GHG emission reduction by thermal oxidation of HFC 23 at refrigerant (HCFC- 22) manufacturing facility of SRF Ltd
Location	Village Jhiwana, Tehsil: Tijara, Distt. Alwar, Rajasthan
Project description	SRF Ltd. manufactures refrigerant gases (HCFC 22, CFC -11 & CFC - 12) at their plant based at Alwar, Rajasthan since 1989. HFC 23 is generated as waste stream during manufacturing of HCFC - 22.
CO_2 reduction	3.83 million tons of COE per year
Crediting period	2004 to 2013

Analysis of PDD:

- PDDs of two similar projects of two different companies, in different areas (SRF & GFL) are identical in many sections. It seems that same consultant had been hired by these companies and he/she has drafted document containing same data for two different projects.

- There is no transparency about CER sale and revenue generated through it. On one hand the buyers claim that it was a confidential deal, while on other hand banks are not ready to reveal client's deal details.

- EB approved verifiers do their job on a limited scope. Important points like Sustainable development measures are not verified because it is not covered under their scope of

work.

- Excerpt of one of SRF's presentation on CDM success "SRF has an aggressive growth plan based upon the existing strengths, technology and capabilities in its leadership businesses viz. New generation Refrigerant Gases, Technical Textiles etc– Cash flows from CER sales will be ploughed back into the business to drive future growth– SRF is committed to high levels of corporate governance and financial prudence to strengthen balance sheet". This statement makes it clear that money earned through CER sales will be then used to generate more refrigerant gases, causing more pollution, which would be in turn beneficiary only to shareholders and not lead to sustainable development.

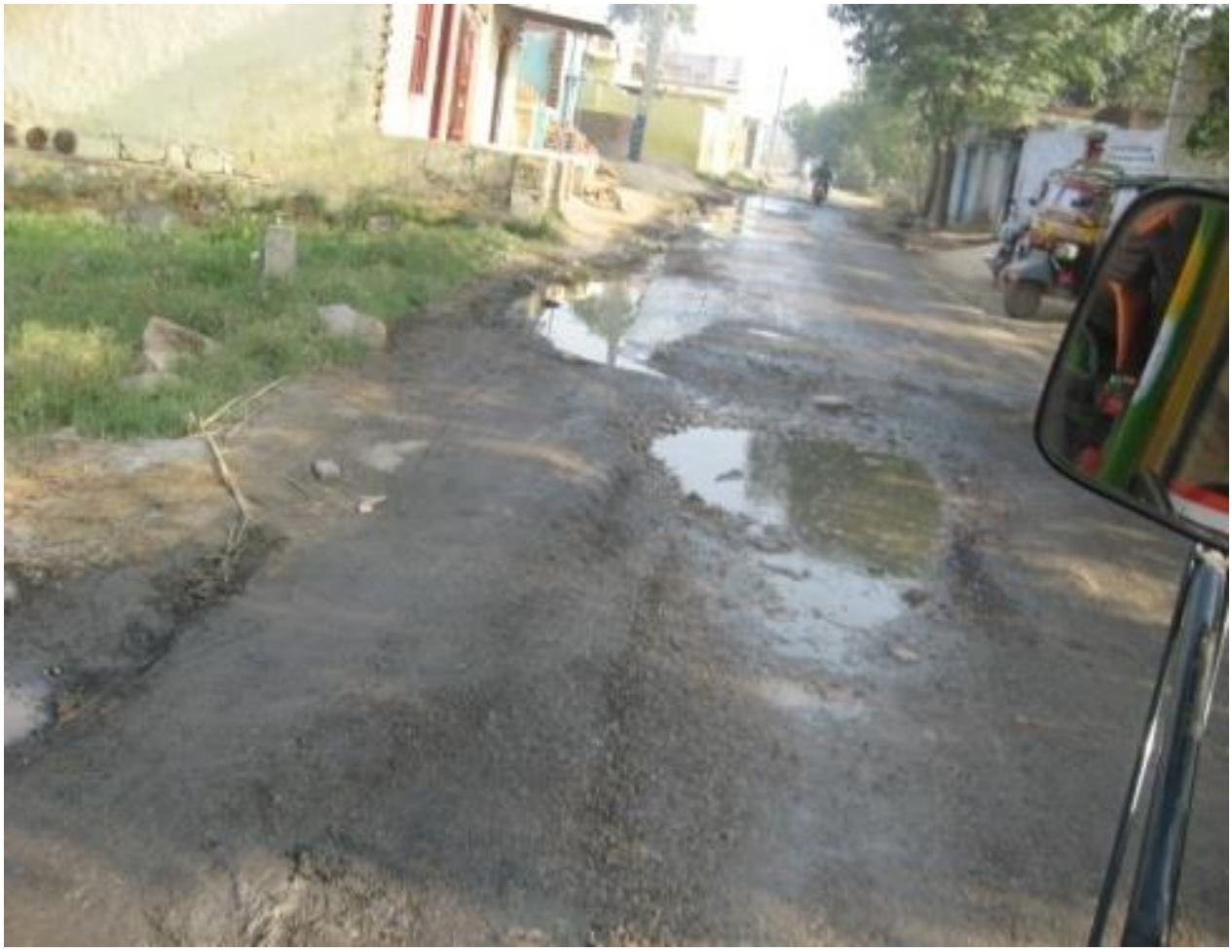
PDD claims and observations from field:

Claim 1:

SRF has committed fund of INR 100 million for sustainable development activities over the entire life of CDM project.

Observation at the field visit:

There are no such activities carried out by the company towards sustainable development at local level, and the crediting period deadline is only one year away.



Leading where? ……. Broken roads in surrounding villages

Claim 2:

The sponsors are carrying out Environmental Impact Assessment (EIA) and implementing Environmental Management Plan.

Observation at the field visit:

As inquired with the local people, gas leakage is very common from the SRF plant. Without any prior notice, the company releases poisonous gas early in the morning which adversely affects human health causing eye irritation, burning skin and burns the harvest. Company merely pays around INR 500 - 700 (USD 10 - 15) to farmers per leakage incident.

Four bore wells are situated within the company premises, from which 18 KLD water are withdrawn. Sometimes these bore wells are used to suppress the leaked gas.

The Effluent Treatment Plant is not efficient and mostly untreated water is discharged into nearby stream.

Claim 3:

The sponsors had contributed to water management structure like check dams in the past. The sponsors proposed to utilize part of the CDM revenue towards facilitating improved management of water & soil resources by local communities.

Observation at the field visit:

There is only 1 check dam in the village Jivana which was constructed some years ago. At present, there are no other measures initiated by the company.

Claim 4:

This project would generate direct and indirect employment to local people and provide income security.

This employment opportunity shall empower vulnerable communities of societies like agricultural and marginal laborers.

Observation at the field visit:

Only 1 person amongst the local population has got direct employment in the company. There are some temporary contracts made available for local people in limited numbers.

On the other hand, harvest in farm land gets destroyed due to shortage of ground water and occasional gas leakages caused by the company. Therefore, farming laborers' unemployment is a major issue at local level.

Sarpanch Mr. Khubi Khan in his office, photo taken during field visit of Alwar, Rajasthan

Claim 5:

Devote part of income for greenbelt development within premises, and if permitted, conduct afforestation in about 7,000 hectare area of waste land and explore other available area.

Observation at the field visit:

Company has started plantation on 100 acre of land in the last 1 - 2 years. 7,000 hectare of land are not available in the area. It was a misguiding statement.

Claim 6:

Improving existing educational infrastructure through strategic interventions.

Observation at the field visit:

4 - 5 teachers have been appointed in a primary school of the village. They are paid INR 4,000 per month by the company. 3 - 4 rooms have been constructed in the school by the company.

Claim 7:

Raising HIV/AIDS awareness in high risk groups and improving HIV/AIDS solution delivery.

Observation at the field visit:

No activity of such nature has been carried out by the company. One general medical camp has been organized by the company two years ago.

Summary:

SRF Ltd. has a CDM project which uses methodology of thermal oxidation of HCFC-22, by product in refrigeration gas manufacturing plant. It is a large scale activity earning a comparatively higher number of CERs than comparable projects.

As seen above from the analysis of the filed visits, it is clear that not much attention had been paid in PDD preparation process. The PDD submitted by the consultant is almost a duplicate copy of what he/she wrote for the PDD of a similar project of another company in an area near by.

It is clear from the Environmental Impact Analysis report, that the plant causes environmental degradation and that the situation is getting worse every day. The project proponent did not take any steps to control this situation.

The company itself has declared that the CER money is useful for the investment in new technology and the production of more refrigerent gases, increasing the production of by-products and the amount of money generated by the CDM project.

As observed in field report, the situation in the village has not been improved in terms of the level of environmental management, employment, water availability and prosperity.

In the PDD, Greenbelt promised to develop an 7,000 acre area, while only 100 acre land are available in the surrounding area.

Sustainable development criteria as set up by National CDM Authority (DNA) remain on paper, whereas the pollution level keeps on rising.

2) Sasan Power - Super Critical Technology

Title	Greenhouse Gas Emission Reductions through super critical technology, Sasan Power Ltd.
Location	Sasan Village, Singrauli district, Madhya Pradesh, India.
Project description	Sasan Power Limited (Ltd.), project participant, is implementing a new 3,960 MW (6 X 660 MW Each) project activity using higher efficiency super critical technology, coal based generation facility.
CO_2 reduction	2.24 Million per year
Crediting period	2011-2021

Analysis of PDD:

- Project area covers mainly five villages which consist of mostly low income families with very low education.
- Sasan Power Ltd. (company) has acquired huge land, part of which comprises of agricultural land and residential land of villagers. Villagers did not want to give their agricultural land, which was their main livelihood, but they were forced to confer their land.
- Very high compensation was promised initially for these lands, but promises were not fulfilled and even government guidelines were not followed in compensation process.
- Those who denied giving their land to company, were falsely blamed and harassed by the police and the government. In one or two cases, people were kidnapped and they were found missing.
- Acquisition of agriculture land has resulted in tremendous financial loss for farmers.
- Project's contribution to sustainable development as promised in the PDD, does not match with the-reality. Local socio economic situation has worsened since project has been implemented in the area.
- A residential colony had been made available for rehabilitation; however, this colony is 25 km away from the village and the farms. Also, the size of one residential unit is not bigger than 300 sq ft. It does not provide basic facilities like drinking water. For these reasons, people are not willing to move into the colony.

- There are no healthcare facilities provided by the company as mentioned in the PDD.
- There is no skill training provided for the local people by the company as promised in the PDD.

PDD claims and observations from the field:

Claim 1:
Monthly scholarship for students from Class 1 to 10. Approximately 1498 students will be benefited.

Observation at the field visit:
No such scholarship has been given to any student and local people are not aware about such scholarship program.

Claim 2:
Audio visual literacy awareness campaign will be carried out specially for women and adults.

Observation at the field visit:
No such audio visual awareness campaign has been carried out till date.

Claim 3:
Existing schools will be replaced by new schools with a complete new infrastructure and the capacity of 1000 students.

Observation at the field visit:
In Harawah village, there is one government secondary school which is soon going to be dismantled, however, there is no assurance that a new school will be built in its place.

One primary school has been built by the project proponent in the provided residential colony, which is 20-25 km away from the village. At present, about 1300 students are enrolled in this school. Parents have to pay an enrolment fee of INR 10,000.

Claim 4:
Free IT training course will be offered.
2500 students would benefit from the free distribution of text books and note books.

Observation at the field visit:
There is no such IT training course offered by the company.

Claim 5:

Development of a sports area for school children. At present, football and cricket fields are being developed. Necessary sports equipment is offered to school authorities.

Observation at the field visit:

Sports facilities are not available for local youth.

Claim 6:

Periodic health awareness camps will be organized.

Observation at the field visit:

There has not been a single health awareness camp organized till date.

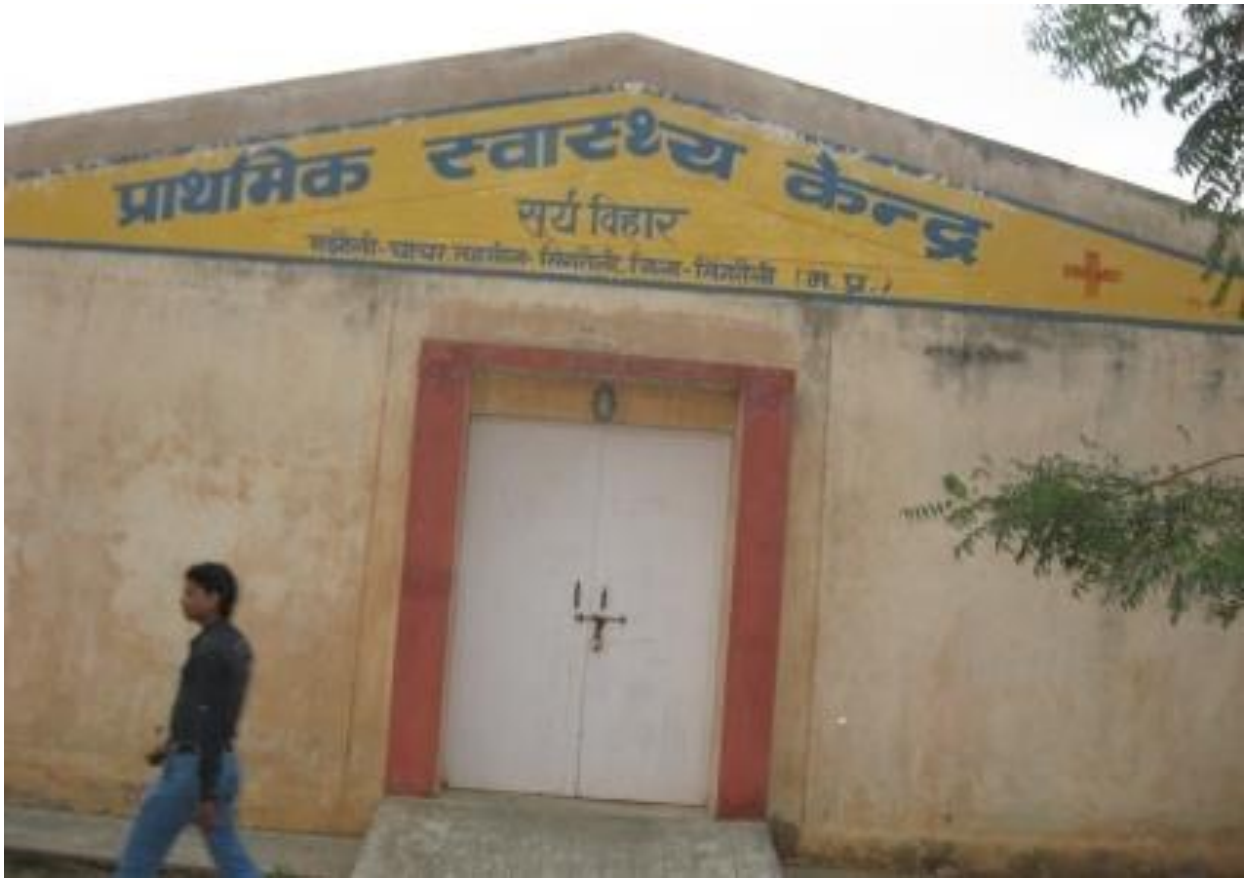
Claim 7:

New primary healthcare facilities in local community will be built up. A Mobile medical facility and specialized medical camps are already set up with newly hired medical and paramedical staff.

Observation at the field visit:

One healthcare facility has been built in residential colony by the project participant. However, working hours are vague. Due to the fact that the health care facility is located in the colony, it is not much of a help for the villagers.

No other mobile medical facility or specialized medical camps are operated.



No Emergency Please……Primary healthcare centre with uncertain opening hours

Claim 8:

Committed to ensure livelihood for local villagers whose life are impacted by vagaries of nature

Observation at the field visit:

Company has acquired land of farmers by harassing and frightening them. Farmers were told that they will get 3 times price of their land than market price. But after acquisition they were offered negligible amount which is not acceptable to farmers.

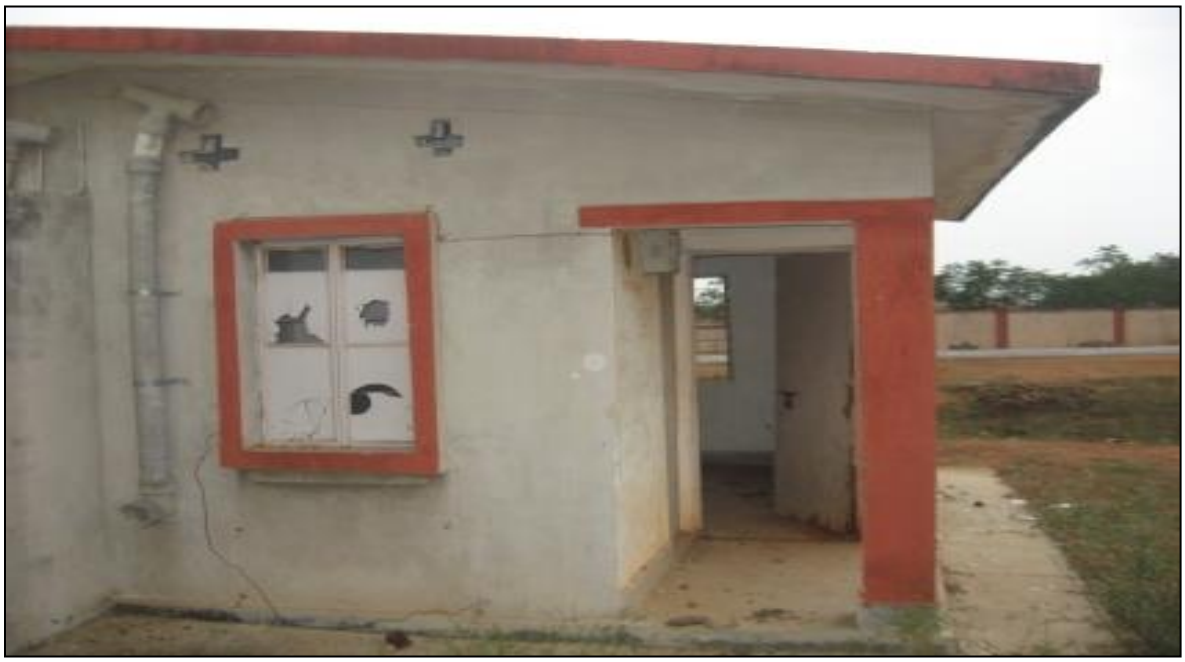
People who raised their voices against this illegal acquisition are being framed in wrong cases by police and being trapped in legal procedure so that they cannot raise their voice again. There is no security provided by government or police to local people against company's illegal destruction and acquisition.

Claim 9:

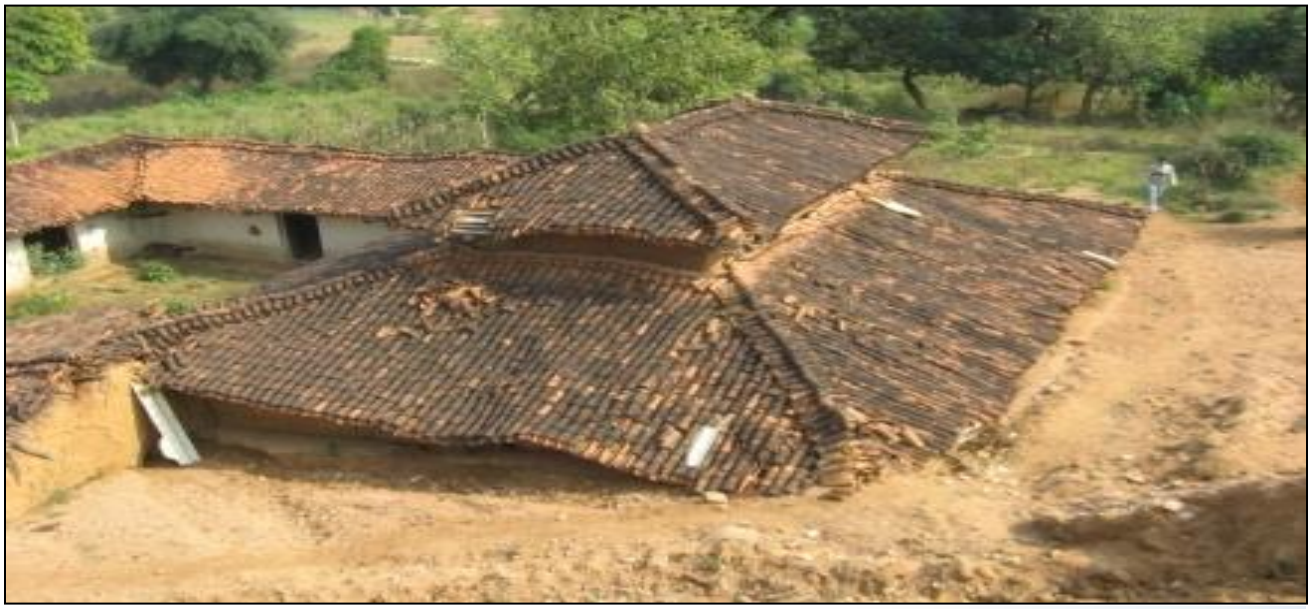
Local ITIs will be adopted for implementing training programs for improving skills. It will be beneficial for 1560 families.

Observation at the field visit:

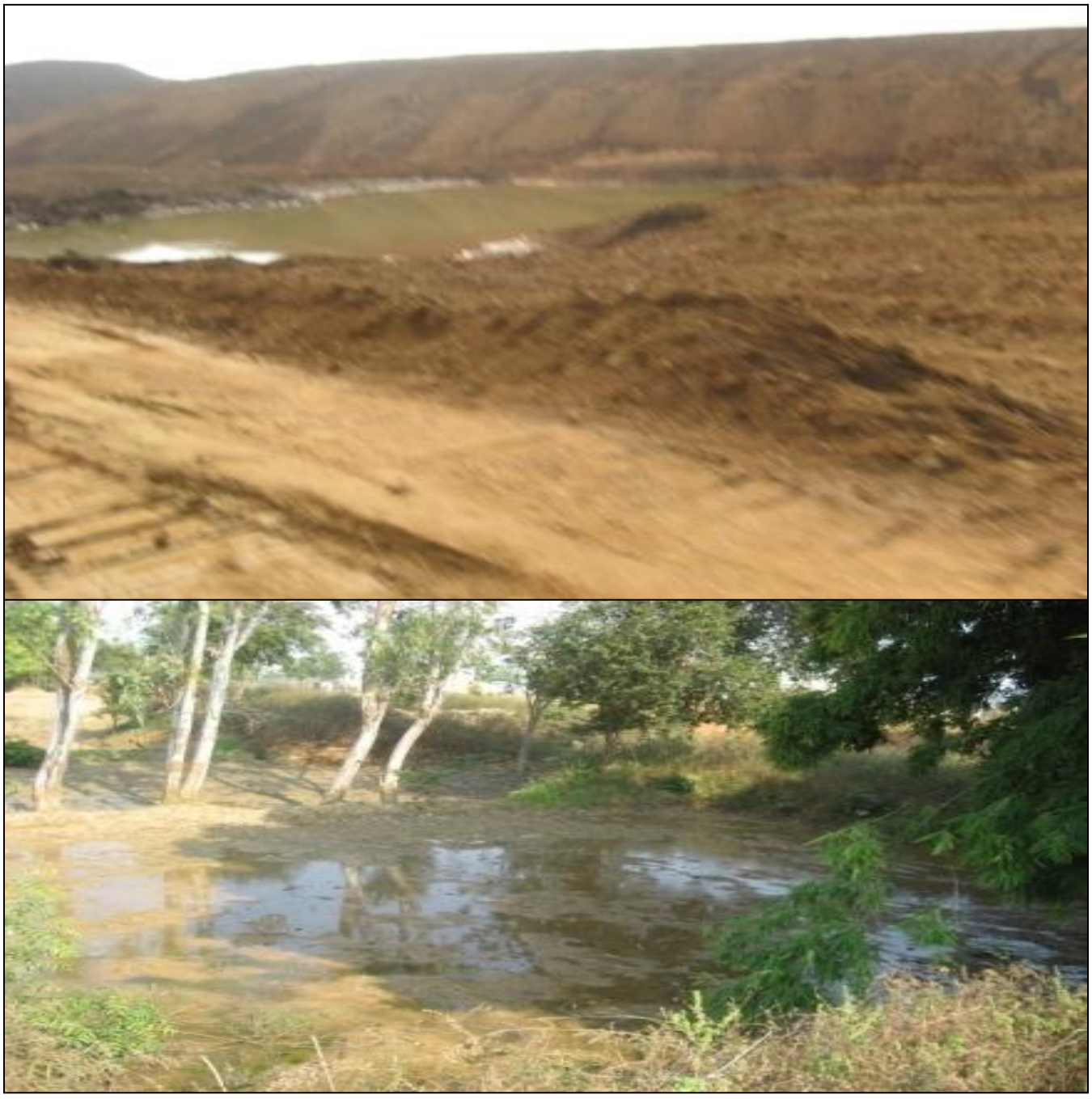
There is no such training programs given to local families.



Home…Not sweet! This is an example of one of the poor conditioned houses in the residential rehabilitation colony. The picture describes the true story of the condition of the colony. It is very small, less than 300 sq ft, without basic facilities like drinking water and sanitation.



Ready to go with mother Earth .... People, who denied giving their land and house, were framed in illegal cases. Furthermore, the company tried to bury the entire house, as shown in the picture, during the early hours of the morning as part of forced resettlement; people living in the house were forced to flee.



Challenging Nature… Mining in village areas has created local flooding in the village as shown in the picture. This has created many problems with fertility of land and agriculture activities have been affected seriously due to water flooding. This has ultimately affected the livelihood of the people who are dependent on agriculture.

Summary:

The PDD of the Sasan project has a description of a very structured CER expenditure action plan. But as mentioned above and verified from the field visit, nothing seems to be true on ground. The promises made by the project participant in form of action plan have been proven false.

In education and training area, no scholarships and IT trainings have been given to any student as per the action plan. The existing schools are being dismantled and a new one was built in residential colony area, which is 25 km away from the existing village. Ironically, donation of INR 10,000 is being asked for enrollment in this school, which as per the action plan is facility provided by the project participant.

In healthcare area, mobile or periodic healthcare awareness camps were not organized by the project participant. One primary healthcare facility was built by project participant but working hours are not fixed and it is 25 km away from the village so people are not able to take benefit of this facility.

In livelihood area, people are forced to flee from their own homes as a result of illegal acquisition by project participant. Very negligible amount has been paid to farmers against acquisition of their agriculture land. Also mining carried out by the project participant has created local flooding issues and fertility of agriculture land has been adversely affected. This has affected the livelihood of people who are dependent on this land.

No other trainings have been offered by project participant to local people to improve their skills.

Residential colony built by project participant is far away from the village, with very small area and without basic facilities like drinking water and sanitation. Due to these reasons, local people are not ready to move to this colony.

Some international reports have also been published about the irregularities observed in the Sasan Project. The International NGO 'Bank Track' has noted that about 6,000 people have lost their land and houses due to this project. (Report last updated on October 23, 2012)

Exim (Export Import Bank of USA) officials have expressed their concern of severe environmental impacts and pollution from this controversial coal based Ultra Mega Power project.
Reference link:
http://www.financialexpress.com/news/us-exim-bank-succumbed-to-rel-power/646401

3) DLF Wind Power Project

Title	GHG Emission reduction through 150 MW grid connected Wind Power based electricity generation project in Gujarat, India.
Location	Kutch, Gujarat
Project description	The DLF Limited is a leading real estate and infrastructure development company based in Gurgaon, India. The company has over 224 million sq. ft. of existing development and 738 million sq. ft. of planned projects. The project activity involves the establishment of a wind farm of 150 MW installed capacity enabling generation of electricity by state-of-art 1.5 MW capacity Wind Turbine Generators (WTGs) (One of the latest available technologies in the country developed by Suzlon Energy Limited) in the state of Gujarat. The electricity generation from this wind farm will contribute to annual GHG reductions estimated at 313755 tCO2e.
CO_2 reduction	3,13,755 tCO2e per year
Crediting period	2009 - 2015

Analysis of field visit information:

- Local people and local self -government bodies are not aware of company's contact details. They do not know who should be contacted, if any information is required or in case of complaint.

- Wind turbines are installed at random places without discussion with local people. It has affected water flowing to agriculture fields and disturbed the agriculture production.

- The electricity storage and supply system does not follow safety regulations. There are incidents of fire due to lack of safety measures at electricity storage place. In one such incident, huge fire erupted, which were under control 8 - 10 hrs after the accident happened and consequently, large quantity of grass was burnt which affected the cattle.

- Wild ass sanctuary is only one km away from this wind farm.

- The project proponent has not paid any sales tax to the local government till date.

PDD claims and observations from field:

CER expenditure action plan has been mentioned in the PDD in detail. Some of the claims of the action plan were verified by the field visit as mentioned below.

Claim 1:
Investment of about INR 8833 million (approx. 833 crore) in the area due to this project.

Observation at the field visit:
Local people are not aware of this type of huge investment in the area. There is no community welfare work carried out from this investment.

Claim 2:
Project provides employment opportunities for local villagers in construction of infrastructure, installation and management of wind farm.

Observation at the field visit:
There are not enough employment opportunities for local people in management of wind farm.

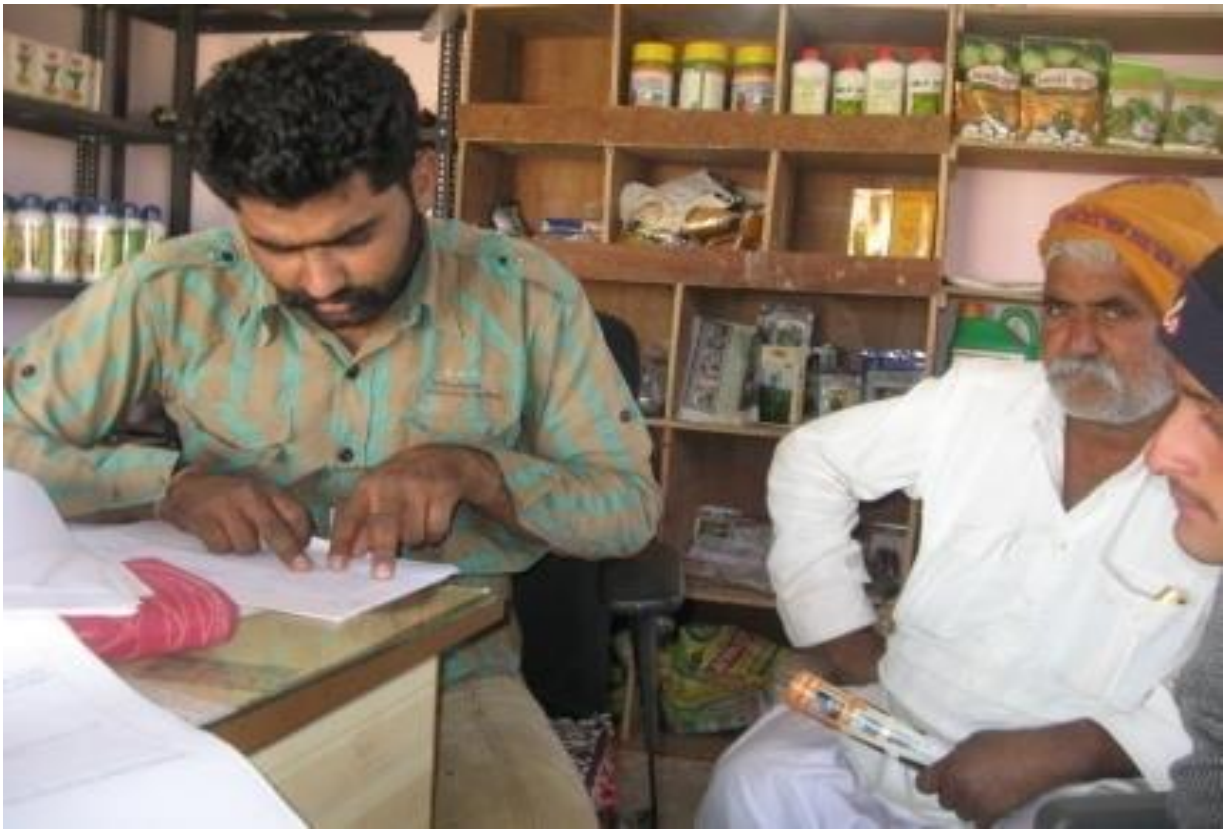
Some people are given security jobs, but they are being exploited. They are working for minimum wages and in 24 hours shifts.

One person is doing job of at least 5 people in security, so burden of work is very high compared to salaries paid.

Claim 3:
Project has contributed to improvement of overall quality of life of local people.

Observation at the field visit:
There is no improvement in quality of life of local people due to this project. The project has not provided any opportunity of development or training to local people which can improve their life.

Windy voice : Interview with local people discussing wind power project effects in local area



Sarpanch of Moti Sindhodi village where wind power plant is located.

Summary:

Wind based power plants which are renewable energy plants, are considered to be good projects without any negative impacts. But in the case of DLF wind power plant we found many loopholes in this so called 'harmless project'.

There was no proper local consultation on determining the location of the wind turbine, and all of the wind turbines are placed randomly. It has adversely impacted channel of flowing water and caused flooding which has then affected the agricultural practices.

Although promised in the PDD, not enough employment opportunities have been provided to local people, just some contractual security jobs are provided which are not sufficient for their livelihood.

An Environmental Impact Assessment has not been carried out for this project because it is not legally required, but a social impact assessment which should be done for every project, has also not been carried out. The lack of the social impact assessment has caused many problems to the people which are not reported on paper and can therefore not be challenged.

Village people do not have the contact details of the company for emergency contact. No safety regulations are being followed by electricity storage and supply facility which had once led to a fire incident.

Great Indian Bustard sanctuary (Lala Budiya Ghorad sanctuary) which is a protected area, is just 1 km away from this site, the project's operation might disturb it.

4) J K Lakshmi fossil fuel replaced by biomass

Title	"Replacement of fossil fuel by biomass in Pyro-Processing" in Rajasthan by M/s JK Lakshmi Cement limited. (JKLCL)
Location	Sirohi, Rajasthan
Project description	JK Lakshmi Cement Ltd. (JKLCL), a member of JK Organisation has its cement manufacturing facility at Jaykaypuram in Rajasthan in India. There are three kilns in the plant with an annual installed clinker production capacity of 1700, 4200 and 4200 TPD respectively. Kiln number 1, a four stage system was installed in the year 1982 and does not have any Pre calciner. Kiln number 2 and 3 are six stage systems which were commissioned in the year 1995 and 1996 respectively and are provided with parallel pre heaters and pre calciners. In pre project scenario JKLCL has been using pet coke as predominant fuel in its kilns for clinker production. The purpose of project activity is partial replacement of fossil fuel (Pet coke in present case) by an alternative fuel (Biomass) for burning in Kiln number 2 and 3 of cement manufacturing facility at Jaykaypuram.
CO_2 reduction	1,83,152 tons of CO2e per year
Crediting period	2007 to 2016

PDD claims and observations from field:

Claim 1 :
Biomass is collected by dealers and sent to collection yards.

Observation at the field visit:
Biomass is not being collected from local area. Local people are not involved in biomass collection.

Claim 2 :
Local villagers will get suitable monetary benefits for lifting of biomass from their fields.

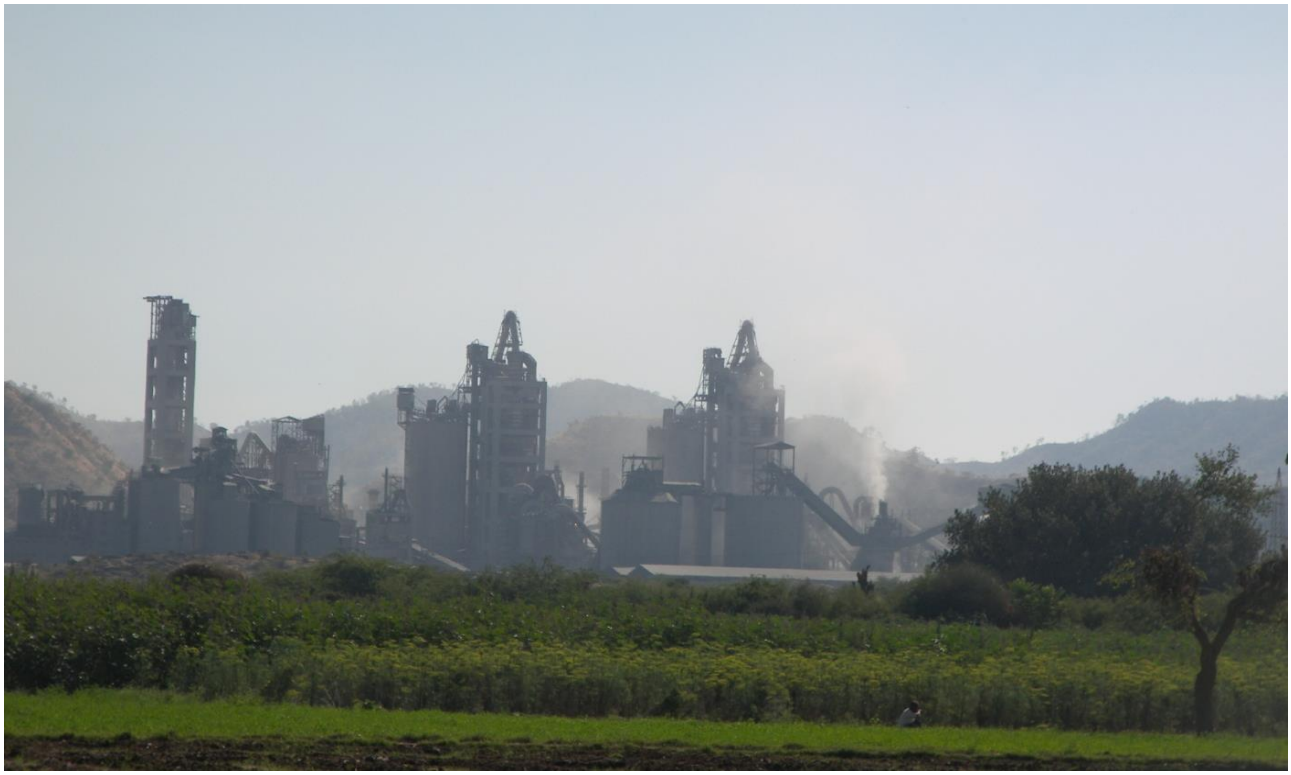
Observation at the field visit:
Local villagers are not involved in biomass collection so there are no monetary or other benefits for local people.

Claim 3:
The entire supply chain of biomass including collection, handling, and transportation will give employment opportunities to local people, farmers and biomass dealers improving the social and economic status of the community.

Observation at the field visit:
There is no such supply chain at local level for biomass collection, so there is no employment opportunities for local people from this activity. Some people get employment from indirect contracts in this activity.

Claim 4:
The stakeholder consultation process is conducted by pollution control board prior to giving the consent to establish or operate a project under Air (Prevention and Control) Pollution Act.

Observation at the field visit:
Air pollution is caused by SPM spread from cement manufacturing plant. Mining has affected the residential and agriculture area. Mining in nearby hilly region has impacted local water flowing pattern and quality. Sand and other minerals get mixed up with rain water which in turn adversely affects agricultural activities.



From field to fuel…..JK Laxmi Cement manufacturing plant near agriculture fields.

Summary:

J K Laxmi Cement is using biomass based energy for their cement manufacturing plant. As mentioned in the PDD, there is no supply chain set up of dealers and local people for collection and transportation of biomass. Thus, there are no monetary benefits or employment opportunities for local people from this project.

There is an increased amount of air pollution from SPM, generated because of cement manufacturing and mining. It has negatively affected agriculture fields in the local area.

5) Lafarge Cement substitution of clinker with fly ash

Title	Substitution of clinker with fly ash in Portland Pozzolana Cement (Blended Cement) at Lafarge India Pvt. Ltd. - Arasmeta Cement Plant
Location	Gopalnagar, Chhatisgadh
Project description	Lafarge India Private Limited is committed to its social and environmental responsibility and endeavours to create value for its stakeholders. When Lafarge India took over the Arasmeta Cement Plant (project plant - ACP) from Raymond Limited-Cement Division, in the year 2001, it decided to stop Ordinary Portland Cement (OPC) production at the ACP and add increasing quantities of additives in blended cement (Portland Porzolona Cement) to substitute clinker and thus reduce CO2 emissions from cement kilns. OPC production is highly GhG intensive and consumes excessive amounts of limestone1, fossil fuel and electricity. The decision to proactively introduce PPC blend is in line with Lafarge Group's commitment to reducing GhG emissions at the cement kilns by 20% per tonne of cement produced over the period of 1990-2010.
CO_2 reduction	69,359 tons of CO2e per year
Crediting period	2002 to 2011

Analysis of PDD & interview with local people:

- Most of land (70 to 80%) of Arasmeta and surrounding villages had been acquired for mining purpose by the company.
- The communities there have low level of income and education and lack of guidance regarding protection of their basic needs.
- Land acquisition has adversely affected the livelihood of people, since land is what they depend on.
- Mining is carried out only 500 meter away from villages, so houses have been affected due to continuous mining and blasting activities. Cracks are seen in houses

and noise pollution is a big issue in the village.

- Particle pollution created by mining activities has affected routine life in surrounding villages. Health and agriculture productivity has been affected by air pollution.

- The project participant is giving bus facilities for students who are studying at Bilaspur, a town in the neighbouring area. Apart from this, there is no other facility provided for education purposes.

- Under medical aid, doctors and nurses are available for 8 hours a week. They only do routine checkups, and do not provide any medicines to villagers.

Building of Rural development center

- Training on stitching skill improvement is given to ladies for the duration of 3 months, but later on there are no other support to improve their skills, so ultimately it is not very useful.

Gathered at Arasmeta Panchayat office with Sarpanch and local leaders.

Just across the river ……Arasmeta cement plant.

Mining carried out by Project Proponent just 500 meters away from village.

Summary:

Lafarge India's Cement plant is located in a very interior and relatively low educated rural area of India. Most of the land has already been acquired by the company, so people who were dependent on land and agricultural activities are now unemployed and without income.

Mining is carried out only 500 meters away from the village area which has badly impacted the village due to continuous blasting and mining activities. Air and noise pollution is also prevalent in the village area due to mining and cement plant.

Company has made some effort in providing skill trainings to women in the village in sewing and stitching. However, there are no opportunities for these women to develop further skills.

6) Amreli biomass based power plant

Title	10 MW Biomass Power Project in Amreli District, Gujarat, India
Location	Amreli, Gujarat
Project description	The purpose of the project activity is to use surplus biomass residues available in the Amreli District in the state of Gujarat. The power generated will be exported to the State grid. The technology employed is direct combustion of biomass in a boiler to generate high pressure steam to run a turbo generator. It is estimated that the annual energy export to state grid would be of about 63.072 GWh.
CO_2 reduction	50,203 tons of CO2e per year
Crediting period	2011 to 2017

PDD claims and observations from field:

Claim 1:

Allocation of 3% of revenue generated from sale of CERs in socio economic development activities in plant vicinity with consultation of local authorities and NGO.

Observation at the field visit:

No socio economic development activities has been carried out by company in the area.

Claim 2:

Large number of unemployed youth will be employed for collection & cutting- on field, loading & unloading and transportation to and from project site.

Observation at the field visit:

No employment is given to local people except one person named Bhuva is employed by the company.

Claim 3:

As there will be no discrimination of any kind, the project will contribute to removing social disparities, by providing employment, especially to the landless agricultural laborers, in the rural areas that tend to have only seasonal employment.

Observation at the field visit:

No employment is given to local people or landless agricultural laborers in nearby villages.

Claim 4:

The project activity will create value for waste biomass residues like cotton stalks and juli flora and provide additional income to the farmers.

Observation at the field visit:

Money given, INR 700 for 100 kg of biomass, for selling of biomass was not adequate and did not correspond to the market value, so some farmers stopped selling their biomass to the company and started using it for their own purpose.

Claim 5:

The project will contribute to the environment in a positive way.

Observation at the field visit:

There are water shortage issues for drinking and agricultural activities in the area, however, this project is operation with ground water.

Summary:

As per the PDD, this project will spend 3% of their CER revenue for socio economic development activities in the surrounding area, but no such activities have been carried out by the project proponent till date. No employment opportunities for local people have been created in the sectors of collection and transportation of biomass.

Biomass prices are not very lucrative for farmers so several farmers stopped selling their biomass and started using it for their own purpose which resulted in a question of continuous supply of biomass for the power plant.

7) UPL Fuel switching from Naphtha to Natural gas

Title	Switching of fuel from Naphtha to Natural gas at United Phosphorus Limited (UPL)
Location	Jhagadia, Gujarat
Project description	The project activity primarily aims at reducing GHG gas emission through switching Naphtha as a fuel to Natural Gas as a fuel for their power plant. While Naphtha was used as a continuous run regular fuel, HSD was the start up fuel. The consumption of Naphtha was around 50,000 Tons/year.
CO_2 reduction	55,783 CO2e per year
Crediting period	2002-2012

UPL unit located at Jhagadia.

PDD claims and observations from field:

Claim 1:

By demonstrating feasibility of adoption of a cleaner fuel, by taking recourse to innovative finance mechanism (Clean Development Mechanism), the project helps with the diffusion of the use of clean fuel in an industrial project.

Observation at the field visit:

The description of the social well-being criteria satisfied by project is very misleading. Local people in the nearby villages had many complaints against the company, some of them are mentioned below.

- Harmful gases are frequently discharged by the company which affects eyes, skin, lungs etc.

- Few people of the village are suffering from cancer.

- Water levels have gone down and ground water has become colorful which is a clear proof of pollution.

- Ground water is not good for agriculture purpose.

- The company uses high power pumps to illegally withdraw ground water.

- No community welfare work has been carried out by the company.

Claim 2:

The project activity has resulted in direct and indirect employment generation.

Observation at the field visit:

-Only one person from local area was given permanent employment in the company, all others are contract employees and so they are not able to raise their voice against any injustice evoked by the company.

Summary:

This CDM project is controversial since its registration process. At validation stage, questions had been raised on their financial barrier methodology because at that time, naphtha was cheaper fuel than natural gas so there was no financial opportunity in switching to natural gas.

Other than that local people have many complaints regarding pollution created by plant. Air pollution and water pollution have affected people's health as well as their agricultural activities. No employment preference is given to local people.

8) Haryana Sirsa Cooperative afforestation pilot project

Title	Small Scale Cooperative Afforestation CDM Pilot Project Activity on Private Lands Affected by Shifting Sand Dunes in Sirsa, Haryana
Location	Sirsa, Haryana
Project description	The purpose of the small-scale A/R CDM project activity proposed by Haryana C.D.M Variksh Kisan Samiti (Haryana CDM Tree Farmers Society), Ellenabad, Sirsa, is to establish mixed forest in 369.87 ha area, using seven tree species, i.e., Ailanthus excelsa, Acacia tortilis, Eucalyptus hybrid, Acacia nilotica, Dalbergia sissoo, Zizyphus mauritiana, Prosopis cineraria. The proposed small-scale A/R CDM project activity is a pilot project activity of its kind in the state of Haryana. Both the Project Developer (Haryana Forest Department) and the local farmers (Project Participants) expect that the success of the proposed small-scale A/R CDM project activity will promote A/R CDM activities in lands of low agricultural productivity in the state of Haryana and India.
CO_2 reduction	1,763 tons of CO2e per year
Crediting period	2008 to 2027

Name of the people interviewed:

1) Mr. Vrajlal, Sarpanch (local government head), Village Nimla

2) Mr. Balvarilal, member, Haryana CDM Vriksh Kisan Samiti (Project Proponent)

3) Mr. Subhash Chahran, Sarpanch (local government head), Village Pohraka

Even though this is a good CDM project initiated by local farmers and state forest department with anticipation of positive impacts and upliftment of farmers, field visit reveals that there are many problems at local level which are mentioned below.

Analysis of PDD & interviews with local farmers:

- After interviewing local farmers, it was revealed that there was no irrigation facility in the area before 2008, and that is why farmers agreed to contribute their land to this CDM project. But now, after registration of CDM project, irrigation facilities have

been made available in the area.

- Due to available irrigation facilities, farmers could get regular harvest of desired crops every year and can have a regular source of income. So farmers have no more interest in the CDM revenue and want to convert the forest land into farm land.

- There are many risks envisaged in the PDD report but risk of availability of irrigation land has never been discussed or mentioned. Due to this unexpected situation, the project is potentially in danger.

- Farmers were promised to be paid every five years for a span of 20 years under the project. The first Five years are almost completed, but they were neither being paid, nor explained the delay. This frustration forced the farmers to rethink their decisions of contributing land for this project.

- From field visit it is observed that almost 80% of project land has been converted back to farm land by farmers to get regular income.

- Some of the initially selected trees could not survive because of the weather conditions so they were replaced with more locally suitable plantation.

Summary:

This is an ideal example of community based forestry project registered under CDM project. But due to some unexpected risks and neglected facts, this project is in danger of closing before its official end.

Initially, when there was no irrigation water available, farmers gave their land for CDM projects in hope of CER revenue. But now, after 5-6 years, irrigation is easily available and so farmers can grow any crop they want, giving them better financial return than CER revenues. In this situation, farmers want their land back and covert into farm land.
Some species in the forest area also failed due to weather conditions.

9) Charnaka grid connected 25 MW solar power plant

Title	Grid connected 25 MW P V solar power project at Charanka in Gujarat
Location	Charanka, Patan, Gujarat
Project description	GMR Gujarat Solar Power Private Limited (GGSPPL) is a wholly owned subsidiary of GMR Energy Ltd (GEL). The company intends to develop a "Grid connected 25 MW P V solar power project at Charanka in Gujarat", under Phase-1 of Gujarat Solar Power Policy-2009. The proposed project activity is expected to come up in a solar park being developed by Gujarat Power Corporation Limited (GPCL). The entire power generated (approximately 36,330 MWh annually with an expected average emission reductions of 34,462 tCO2e annually) from the project activity will be sold to Gujarat Urja Vikas Nigam Limited (GUVNL) by connecting it to NEWNE grid through power purchase agreement (PPA) with GUVNL.
CO_2 reduction	34,462 CO2e per year
Crediting period	2012-2019

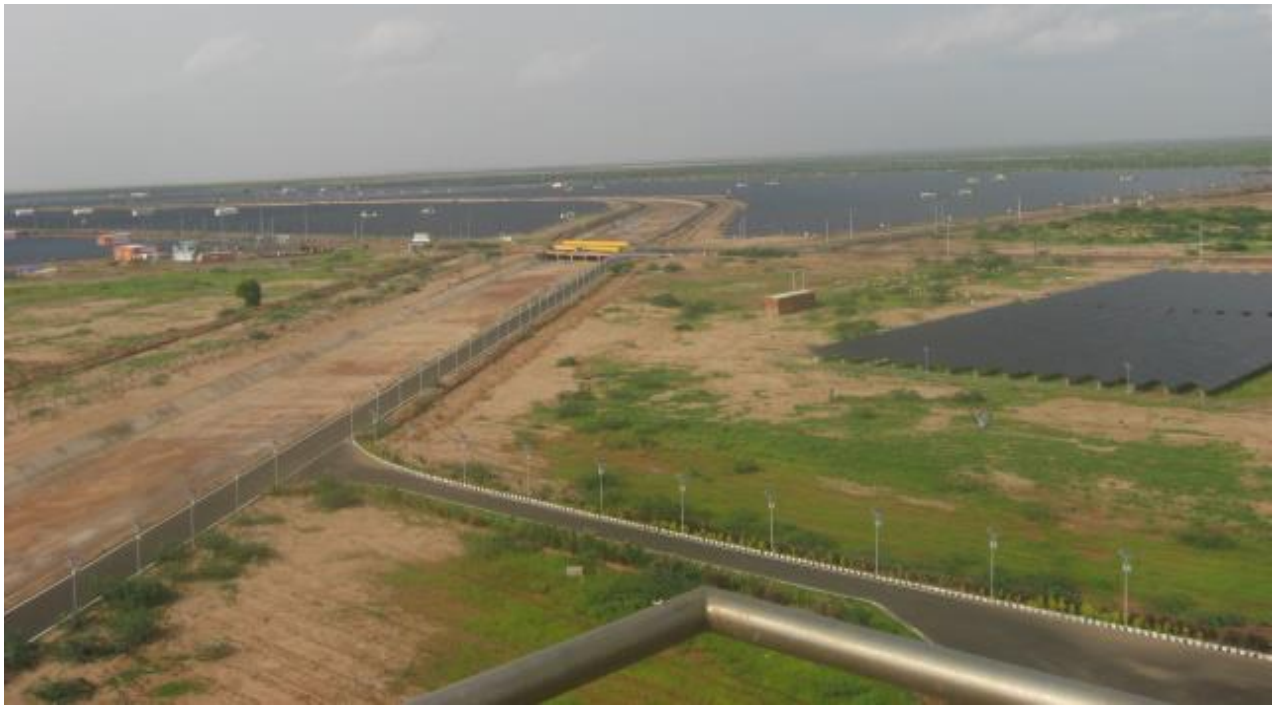
Analysis of PDD:

- Total 130 acre land for project development was acquired from private owners and government. Government land was of three types i.e. pond, grazing land and forest land. The plant has covered most of the grazing land and the existing ponds.

- Private land was sold willingly but grazing land was taken away without taking permission from village which caused lot of damage. Acquisition of the grazing land has affected cattle keepers and created a big problem for them. Now there is no source of fodder for cattle in the village, also 3 ponds have been taken away.

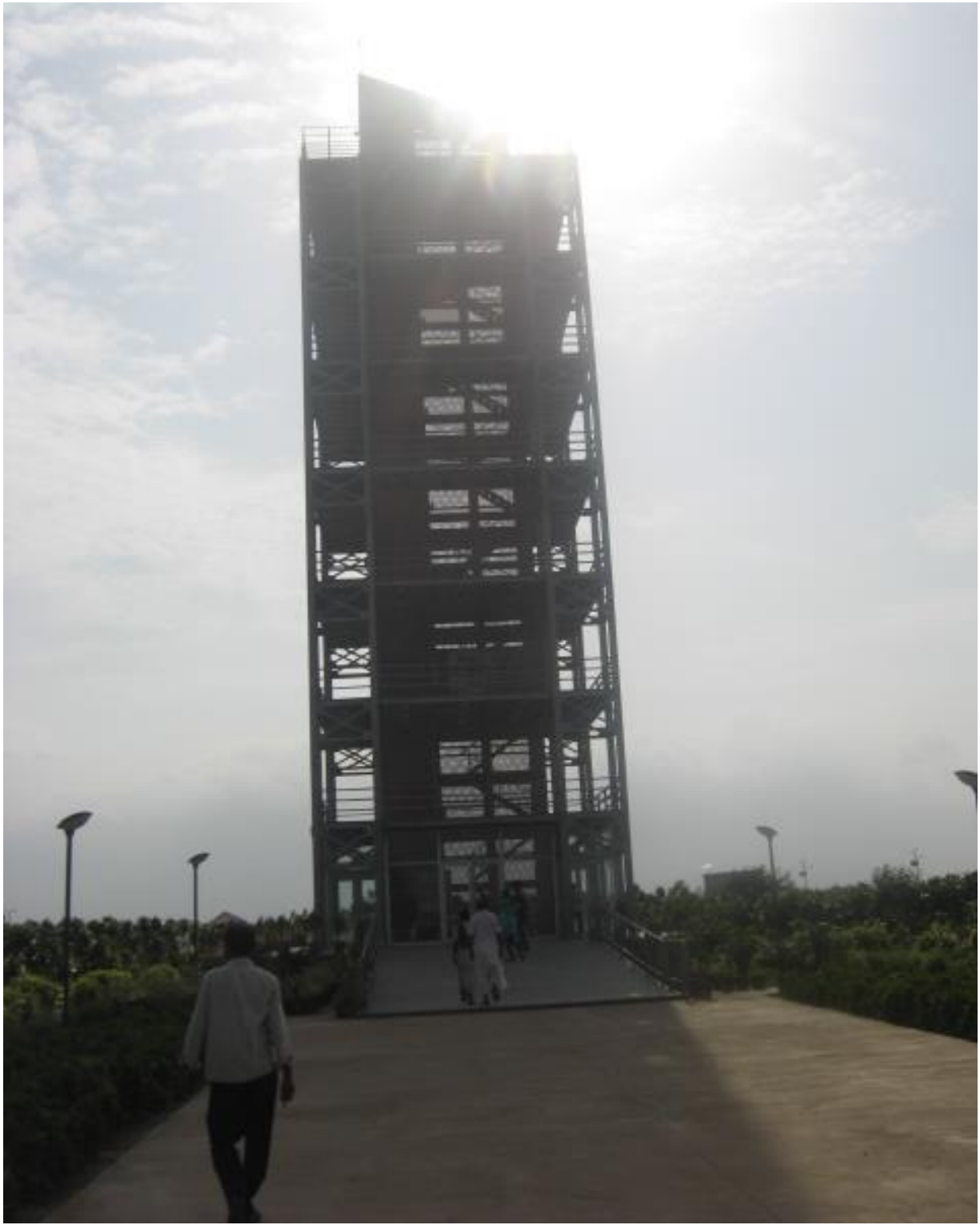
- The rain fall rates in the nearby areas have been decreased due to the implementation of the project which has adversely affected the agriculture.

- Before the project, 3 sources of water have been available. (Dam, pond for animal's drinking water and a pond for household usage). After the implementation of the project, all these 3 sources are covered by the project. Now, there is only one source left well from which they fulfilling their needs. Hence, drinking water is not easily available.



130 acre land for project development was acquired from private owners and government.

Solar panels at Charanka. Patan



Top to Bottom ……Shining through Solar

PDD claims and observations from field:

Claim 1:
The project activity would generate employment opportunities for the local people during the construction phase. Employment opportunities would occur for operation and maintenance of the project for its entire tenure.

Observation at the field visit:
There are no employment opportunities for local villagers.

Claim 2:
Building of a school and a hospital for local village.

Observation at the field visit:
No school or hospital has been built by the company till date.

Claim 3:
An artificial pond will be built in place of the existing one, which was destroyed during construction.
Observation at the field:
No effort has been made regarding construction of such pond.

Summary:

Solar power projects are again a good example of renewable and clean energy projects. But this project lacks meeting sustainable development criteria as stipulated by DNA.

In this project, government and private land was acquired by the proponent through an agent. Due to this arrangement, owners of the land got very low prices for their land. Government land comprised of grazing land with ponds and small area of forest land. Due to loss of grazing land, the livelihoods of cattle keepers are threatened.

There is no employment given to local people and no school or hospital has been built by the project proponent.

10) Philips Carbon process waste heat utilization for power generation

Title	Process Waste Heat utilization for power generation at Phillips Carbon Black Limited, Gujarat
Location	Bharuch, Gujarat
Project description	The project activity involves generation of electricity by utilizing process flue gases from carbon black manufacturing, such as fuel. Related energy saving and environmental benefits are the main drivers to initiate the project activity. The power generation process involves recovery and utilization of the thermal energy of the process waste gas (i.e. tail gas) being produced from carbon black manufacturing process, which was earlier getting lost in the atmosphere in the form of waste heat. This waste heat/ gas is utilized for generation of steam which in turn is used to generate electrical energy. The excess electricity available after meeting the in-house power demand of Phillips Carbon Black Limited (PCBL) plant, is exported to the GEB (Gujarat Electricity Board) grid.
CO_2 reduction	45,721 CO2e per year
Crediting period	2005-2015

PDD claims and observations from field:

Claim 1:
The company is providing education and health care facilities for employees, their families and community in general.

Observation at the field visit:
There are no such facilities provided for village communities.

Claim 2:
Some increase in local employment rate and creation of skilled jobs in the operation and maintenance sector under the project.

Observation at the field visit:
Very few jobs are offered to local people and most of them are on contractual basis.

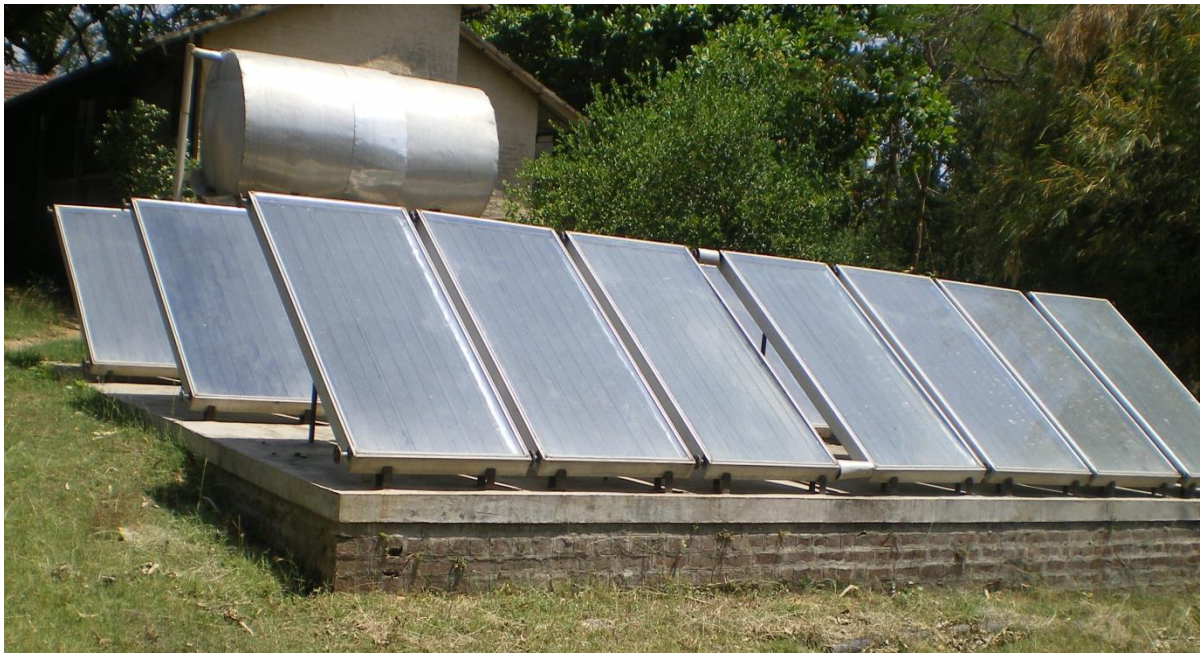
Summary:

The waste heat utilization for power generation is one of the major projects in the area. People have many complaints regarding air pollution created from company's product - carbon black. It has affected local air quality as well as the water supply system. Suspended particulate matters of carbon black have adversely affected agricultural field and crops. But rather than controlling air pollution, this CDM project and the electricity generated from it boosted the production activities of the plant.

Furthermore, this CDM project has failed to give employment opportunities to local people.

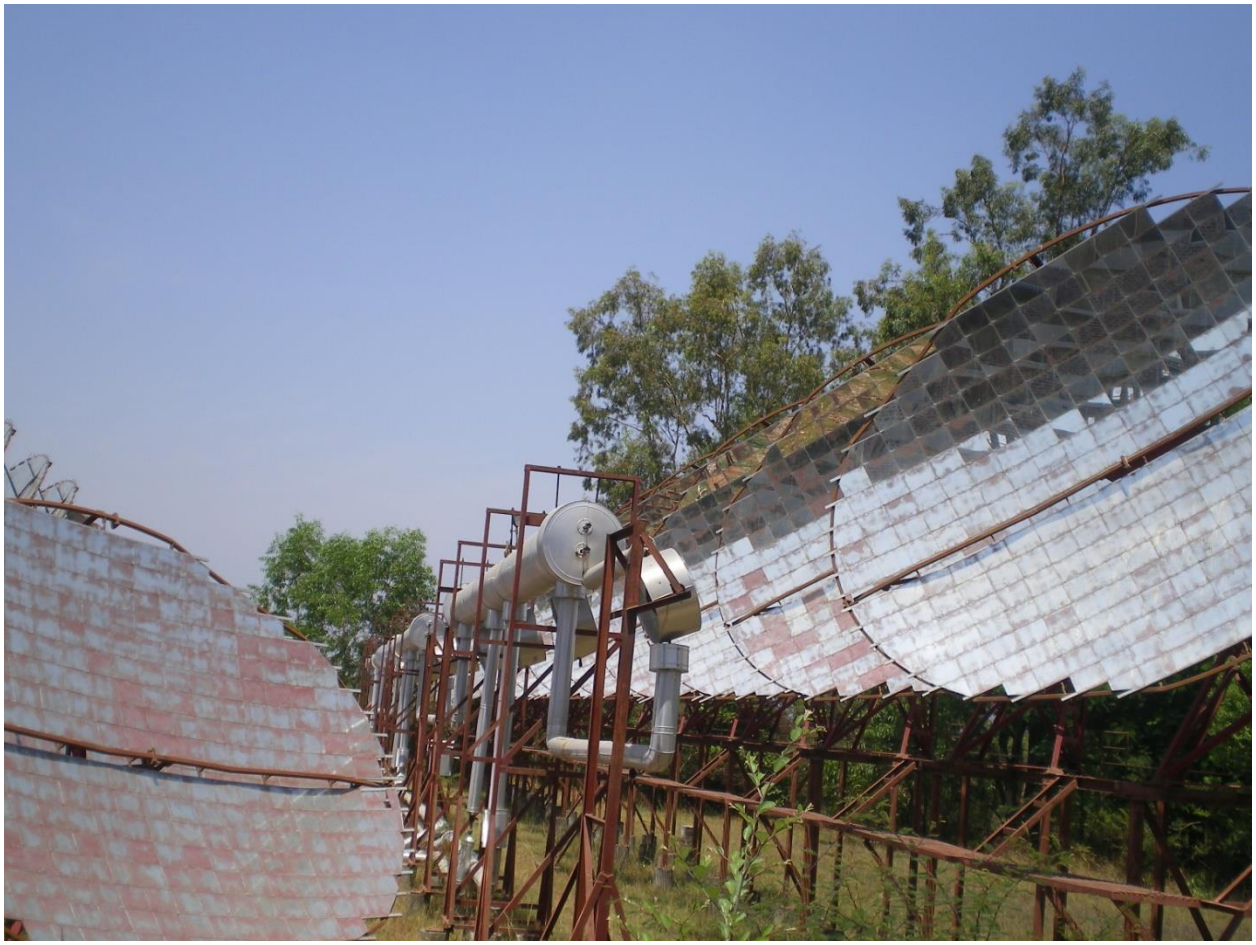
11)Muni Seva Ashram solar community kitchen

Title	Solar steam for cooking and other applications.
Location	Vadodra, Gujarat
Project description	The project activity includes the implementation and operation of solar community kitchens and similar solar steam applications in various regions in India. The project uses solar energy to prepare food and warm drinks for around 28'000 people on a regular basis. Solar Parabolic dishes are used for this technology. Doing so, the project substitutes conventional fossil fuel (wood & diesel). Total 18 projects across 6 states of India are part of this bundle project. Following are some of the projects which part of this bundle project. 1. Sangi Industies, Hyderabad for their industrial canteen to cook for 500 workers. 2. Rishi Samskruti Vidya Kendra near Bangalroe to cook for 500 students 3. Sri Saibaba Santhan Shirdi to cook for 3000 people per day 4. Tirumal Tirupati Devasthanams (TTD), Tirumala, Tirupati to cook for 15,000 people 5. Muni Seva Ashram, Vadodara The project has multiple direct contributions to sustainable development such as reduction of local air pollution, job creation, and improvement of working conditions
CO_2 reduction	562 tons
Crediting period	2006 to 2013



Solar water heater at Muni Ashram, Vadodra

Solar lamps at Muni Ashram, Vadodra



Shining the sustainable way

Analysis of PDD:

- This project is one of initial Gold Standard CDM project in renewable energy category in India.
- First of its kind, the solar community kitchen project was developed by the award winning solar entrepreneur Mr. Deepak Gadhia of Gadhia Solar Energy Ltd. which is based at Valsad, Gujarat.
- This project development was financed by German India Partnership, GTZ.
- Project replaces wood and diesel which are generally being used in community kitchens in India. It has great impact in reducing local air pollution and the dependence on fossil fuel. Practically it is a zero emission system, generating no GHG emissions.

- It has improved community kitchens inside working conditions for humans, producing zero emission.

- Products have been developed and manufactured in India so it improved the technological knowledge of people and created many jobs in the manufacturing and operation sector. Initial trainings and ongoing guidance are provided by Gadhia Solar Energy Ltd.

- Costs of installation can be recovered in 4 to 8 years depending upon type of fuel that has been used previously as well as the pricing of that fuel source in those years.

- Thus, it has contributed to all four sustainable development criteria set up by Indian CDM authority - Social, Economic, Environmental and Technological well-being has been supported by this solar power project.

- Gold Standard CERs have helped in getting higher values and confidence from buyers.

- Project is also able to generate VERs (Verified Emission Reductions).

Conclusion

We selected and analyzed few CDM projects on the basis of the PDD and facts observed from field visits. This analysis proved that sustainable development through CDM project is a myth, in fact, increases in pollution can be detected due to intensified industrial activities feed by CER revenue.

Some of the salient points which need to be highlighted are as below:

1) Industrial projects are getting benefits of CER revenue and they are generating income by using this money for manufacturing activities. This results in more production, more use of natural resources, more pollution and more impact on the environment due to limited carrying capacity of that particular area.

2) Many PDDs are similar because of copying work, since they seem to have been prepared from the same consultant who does not analyze the projects on a case by case basis, and thus misleads the EB and public.

3) Due to the increase of pollution, local people's health kept deteriorating their agriculture farms and grazing land are negatively affected, which in turn impacts their livelihood.

4) One common scenario has been observed: both, in industrial and renewable energy projects, no employment opportunities are created for local people so there is no monetary benefit for them due to these projects.

5) Due to a Lack of a social impact assessment, there are only very limited opportunities to assess the actual socio economic situation of the villages after the implementation of the projects.

6) Local people are not aware of company's contact details. Thus, they do not know whom to contact in case of emergency.

On this basis, we would like to recommend to the Authority that:

1) There must be some mechanism from which it could be checked whether CER revenue is not being used for more harmful industrial production which is then causing more pollution.

2) There must be some legal bindings for project proponent to give employment for local people and also for compensation to be made for the loss of people's livelihood.

3) Social impact assessment should be made compulsory for all CDM projects irrespective of their environmental positive/negative impacts.

4) There must be some provision to accommodate complaints from public for registered CDM projects at national level, so that continuous scrutiny of the projects can be possible.